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AIM/ARM, VT-ERIC MICROFICHE SET

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Abstracts of Instructional and Research Materials in

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Volume 9, Number 5

1976

The Center for Vocational Education
The Ohio State University
1960 Kenny Road, Columbus, Ohio 43210

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ABSTRACT: THIS STUDY GUIDE FOR A TELEVISION COURSE IN COMPUTER PROGRAMMING WAS DESIGNED FOR INDEPENDENT STUDY AND CONSISTS OF TWO LESSONS DEALING WITH FORTRAN PROGRAMMING CONCEPTS. LESSON ONE INTRODUCES PHASES NEEDED IN PROGRAM PREPARATION: ANALYSIS, BLOCK DIAGRAMMING, AND CODING. LESSON TWO EMPHASIZES TECHNIQUES REQUIRED TO PROCESS AND DEBUG A PROGRAM UTILIZING THE COMPUTER. THE STUDY GUIDE FOR EACH LESSON CONTAINS THESE SECTIONS: STUDY SEQUENCE, LESSON OVERVIEW, LEARNING OBJECTIVES, SELF-PRETEST, KEY TERMS, SUPPLEMENTARY MATERIALS, STUDY QUESTIONS, SELF-POSTTEST WITH ANSWER KEY, AND LESSON EVALUATION FORM. (NJ)

INSTITUTION NAME: TEXAS EDUCATION AGENCY, AUSTIN. DIV. OF OCCUPATIONAL RESEARCH AND DEVELOPMENT.; DALLAS COUNTY COMMUNITY COLL. DISTRICT, TEX.

VT 103 207

STUDY GUIDE

Computer Science

OCCUPATIONAL-TECHNICAL CURRICULUM DEVELOPMENT T V STUDY

Developed Jointly by the Division of Occupational Research and Development, Department of Occupational and Technical Education, Texas Education Agency and the Dallas County Community College District, Dallas, Texas.

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STUDY GUIDE

INTRODUCTION TO COMPUTER SCIENCE

FORTRAN PROGRAMMING CONCEPTS

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INTRODUCTION TO COMPUTER SCIENCE
FORTRAN PROGRAMMING CONCEPTS

ORIENTATION TO THE COURSE

INTRODUCTION

OVERVIEW OF COURSE

Introduction to Computer Science is a course designed for anyone who would like a familiarization with computers and their effect on society. The course covers the history of computer development, vocabulary, study of input/output devices, basic program concepts, and emphasis is placed upon applications of computers.

OVERVIEW OF LESSONS 1 & 2

The two lessons or modules to be covered in this study guide deal with FORTRAN programming concepts. Lesson 1 introduces the student to phases needed in program preparation: Analysis, Blockdiagramming, and Coding. Lesson 2 emphasizes techniques required to process and Debug a program utilizing the computer.

INDEPENDENT STUDY

MATERIALS AND ACTIVITIES

The Introduction to Computer Science course has been designed for independent study. All of the instructions, information and basic learning materials you should require are provided: Orientation materials, a Study Guide, and 2 fifteen minute television programs. In addition, opportunities will be scheduled for on-campus sessions, such as orientation, compiling and testing FORTRAN programs on the computer, and examinations. If additional information or tutorial assistance is needed, you can talk to your instructor by calling 746-2156.

KEYS TO SUCCESSFUL INDEPENDENT STUDY

The keys to successful independent-study are:

- a genuine desire to achieve the learning goals (objectives) of the course...considerable interest in the subject is also very helpful.

- the establishment of a weekly study routine, and sticking closely to it.

- following instructions, assignments and study-tips carefully and completely.

- calling the telephone number if you are really "stuck" and require tutorial help or information.

YOUR INSTRUCTIONAL MATERIALS

IMPORTANCE OF USING STUDY GUIDE

The key to your study of the FORTRAN Programming Concepts is your Study Guide. It has been specially designed to assist you in learning the material. You will find it very useful if you use it as described on the next page.

SECTIONS IN EACH LESSON OF THE STUDY GUIDE

The Study Guide for each Lesson or Module will have the following sections:

- Study Sequence
- Overview of the Lesson
- Learning Objectives for this Lesson
- Self Pretest of Learning Objectives for this Lesson
- Key Terms
- Supplementary Material
- Study Questions
- Self Post Test of Learning Objectives for this Lesson, with Answer Key
- Lesson Evaluation Form

HOW TO USE YOUR INSTRUCTIONAL MATERIALS

STUDY SEQUENCE

Study Sequence: The very first thing you should do before viewing the TV Program or studying any of the material for a lesson is read the Study Sequence. This is one of the most important sections in all of your material. It tells you what you should do, and in what order, so that your study time and other learning activities are most likely to be beneficial to you in achieving the learning objectives for each lesson, and most helpful in preparing for the examination.

The purpose of each section of the Study Guide follows.

OVERVIEW

Overview: This section for each lesson tells you the main ideas and purposes of the lesson, why you should study it, and how it fits in the overall picture of Introduction to Computer Science. In some cases, applications of the information contained in the lesson are indicated as well.

LEARNING OBJECTIVES

Learning Objectives: These statements are very important because they summarize the main concepts of the lesson. They tell you what you will be expected to be able to do with these concepts when you have completed your study of the lesson, and what topics will be tested on the examinations. Be sure to keep these Learning Objectives in mind when viewing the TV programs and when studying the lesson.

SELF PRETEST

Self Pretest: You may be unaccustomed to "taking-a-test" over a lesson before you study it, but this can be a very helpful study aid for you, if done conscientiously. Among the benefits of a Self Pretest are the following:

- Alerts you to the main concepts to be learned.

- Tells what you already know about these concepts, so you know what to concentrate on and what you might merely skim in your study of the lesson.

- When you compare your score on the Self Pretest with your score on the Self Post Test you will have some indication of how much you have learned as a result of your study of the module, a measure of "learning gain." (Note: Only you need know your scores as these are self-tests.)

KEY TERMS

Key Terms: These are words, technical terms, or phrases you should be able to define and use appropriately when writing and talking about the concepts in the particular lesson. It will aid your study if you "know" these terms in advance. Looking them up in the supplementary material or the dictionary, or watching for them in the TV Programs will aid you also in learning to use them correctly.

SUPPLEMENTARY MATERIAL

Supplementary Material: It has been considered necessary to supplement the information contained in the TV Programs in order to help you accomplish the learning objectives of a particular lesson. This supplementary information will be tested on the Self Pretest, the Self Post Test and on the course examination.

STUDY QUESTIONS

Study Questions: These questions are designed to help you organize your knowledge of the main ideas of the lesson and to assist you in reviewing for the Self Post Test and the course examination. Be sure to write out your answers to all questions thoughtfully and completely. Check your answers by referring to the Supplementary Material.

SELF POST TEST AND ANSWER KEY

Self Post Test: This self test should give you a good idea of how well you have accomplished the learning objectives of the lesson, and how well you are prepared to answer examination questions about the main concepts of the lesson. Further, your score on this Test, when compared with your score on the Self Pretest, will give you some indication of how much you have learned by studying the module. (For example, if your score on a Self Pretest is 10% and your score on the Self Post Test for that same module is 90%, your "learning gain" for the lesson is probably about 80%). The Self Post Test should prove very useful to you in preparing for the course examination. particularly since the questions on the course examination. will be based upon the Self Post Test questions. (Note that an Answer Key is provided for each Self Post Test.) Be sure to review carefully any questions you missed or were unable to answer.

LESSON EVALUATION

Lesson Evaluation Form: At the end of each lesson is a very important section--YOUR EVALUATION OF THIS LESSON. We need your help in identifying as soon as possible ways in which we might improve the learning effectiveness of this course. Major revisions of the printed materials and the TV Programs probably will not be possible until the Course is prepared for presentation again. We will, however, make what changes we can as soon as we have enough reliable information upon which to base the changes. Equally vital is the need for critical evaluation from each of you on all components of the Course, lesson by lesson, so that significant improvements can be made in the next edition of all the materials, including the TV Programs. You are urged to complete the lesson evaluation form as soon as possible after you have finished the lesson. Please submit these evaluation forms regularly and promptly, according to the directions you are given. You may be sure your assistance will be appreciated and your evaluations carefully considered.

SUGGESTIONS FOR VIEWING THE TV PROGRAM

Review the appropriate lesson in your Study Guide before viewing the TV Program. Be sure to schedule the times for the TV Program so that you will not be distracted during the presentation. Do not attempt to do other things while you are viewing the lesson, it needs your full attention. Keep paper and pencil handy so you can take notes.

During the presentation you may wish to write comments in your study guide while watching the program, or you may choose to do so immediately after the program. If you own a tape recorder, you may wish to tape the audio portion of the presentation. Be sure to review your Study Guide prior to and after watching the TV Program. It will be far easier to respond to the activities under Study Questions immediately after viewing the TV Program.

LESSON 1

STUDY SEQUENCE

1. Read the Overview and Learning Objectives.
2. Answer the Pretest questions and write the definition of the Key Terms. Check your answers as directed.
3. Read the Supplementary Material for Lesson 1 in the Study Guide.
4. Work through the Study Guide carefully answering all exercises and study questions <u>before</u> viewing TV Program for Lesson 1.
5. View the TV Program for Lesson 1.
6. Complete the Post Test on Lesson 1.
7. Review ideas tested by the questions you <u>missed</u> or were <u>unable</u> to answer. Then rewrite your answers to these particular questions.
8. After completing the exercises and questions in the Study guide and viewing the TV Program, flowchart and code the Lesson Assignment on page 21 of this Study Guide, using the FORTRAN programming language.

OVERVIEW

Lesson 1 introduces you to phases needed in program preparation: Analysis, Block Diagramming, and Coding. Statements of the FORTRAN language needed to code a program which reads and writes numeric data are discussed. Less than ten years ago it was rare for an individual to have direct contact with more than three or four computer applications, including payroll and retail store computerized billing systems. The ready accessibility of the computer has brought about the need for knowledge of computers for all enlightened citizens in this age of technology.

LEARNING OBJECTIVES

Upon successful completion of this lesson, you should be able to:

1. Discuss data organization and its inter-relationship.
2. Identify Integer data fields.
3. Identify Real data fields.
4. Assign names to variables to indicate mode of data (integer or real).
5. Analyze a sample problem using Real and Integer data.

6. Define each of the following FORTRAN Statements:

   FORMAT READ WRITE GO TO STOP END

7. Utilize the sample problem to illustrate the concepts explained in this lesson.

8. Successfully complete a problem which reads and writes numeric data by flowcharting and coding using the FORTRAN language.

9. Define the following key terms:

   Input Program Flowchart Instruction

   Output Programmer FORTRAN

SELF PRETEST OF LEARNING OBJECTIVES FOR LESSON 1

Before proceeding further in your study of this lesson and before viewing the TV Program, try to answer the following questions. Check your answers by referring to the Supplementary Material and by viewing the TV Program, as well as the answer key.

Match the following: (TV and supplement)

1. Character	a. Quantity Sold
2. Field	b. Set of invoices
3. Record	c. Invoice by item
4. File	d. 98 (number)

Identifying Integer Data Fields (Supplement)

Examine the following numerals and make appropriate changes so that they represent valid FORTRAN INTEGERS

5. 765. _____

6. 859,657 _____

7. 0. _____

Identifying Real Data Fields (Supplement)

Examine the following numerals and make appropriate changes so that they represent valid REAL NUMBERS

8. 9,268 _____

9. 5280 _____

10. 666,666,666 _____

Assigning Variable Names (Supplement)

Identify the following variable names as Integer or Real. If a variable name is invalid, state why.

Type of Variable Names	Why Invalid
11. JA _____	_____
12. X1.4 _____	_____
13. TOTAL _____	_____
14. KOUNT _____	_____
15. DISTANCE _____	_____

Matching (Supplement and TV)

Match the following FORTRAN statements with their purpose.

16. FORMAT	a. defines the end of the program to the compilier
17. READ	b. specifies the type and arrangement of data fields
18. WRITE	c. brings input data from an input device into memory
19. GO TO	d. terminates execution of the program
20. STOP	e. causes the computer to output the information placed in storage
21. END	f. causes control to transfer to statement number given

ANSWERS TO SELF PRETEST OF LEARNING OBJECTIVES

1. d	7. 0	13. Real	17. c
2. a	8. 9268.	14. Integer	18. e
3. c	9. 5280.	15. Invalid, too long	19. f
4. b	10. 6666666.	16. a	20. d
5. 765	11. Integer		21. a
6. 859657	12. Invalid, no decimal permitted		

KEY TERMS

Instructions: a. Write a short definition of each term.
b. Check your definition by referring to a dictionary as well as the answers below.
c. Write a short sentence using these terms properly, at least one term per sentence.

1. Input:

2. Output:

3. Program:

4. Programmer:

5. Flowchart:

6. FORTRAN:

7. Instruction:

DEFINITIONS OF KEY TERMS

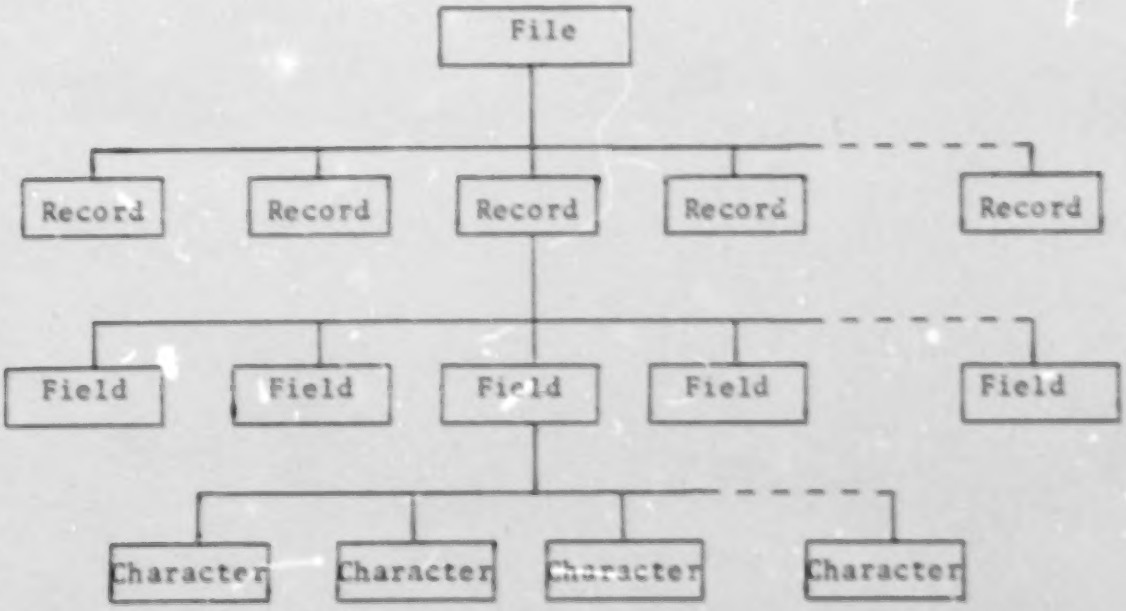
1. Input: any type of data going into the central processing unit for processing.
2. Output: the end result of processing sent from the central processing unit.
3. Program: a series of instructions which tells the computer in detail how to process data.
4. Programmer: one who writes or codes the program instructions.
5. Flowchart: a graphic representation of the sequential steps used to solve a problem.
6. FORTRAN: a high level language meaning Formula Translation.
7. Instruction: a step in a program telling the computer how to process data.

SUPPLEMENTARY MATERIAL

HISTORY OF FORTRAN

In 1954 IBM began study on a programming language that did not require a detailed knowledge of the internal characteristics of the computer system. The goal of the project was to aid the programmer in solving mathematical problems using a concise language like that of mathematics. The programming language that developed was called FORTRAN which was a contraction for FORMULA TRANSLATION. FORTRAN was designed to be relatively easy to learn. It soon gained wide acceptance by the mathematical and scientific programmer and today nearly all manufacturers of computer systems provide for utilization of the FORTRAN language.

Regardless of the programming language being used, the programmer must understand the hierarchy of data organization illustrated in the following chart.



HIERARCHY OF DATA ORGANIZATION

DATA ORGANIZATION

The terms used in regard to the organization of data are:

Character: a single letter, number, or symbol which a computer may read, write or store.

Field: one or more positions set aside for specific information such as Quantity Sold.

Record: a complete unit of information consisting of 1 or more fields such as Item Number, Quantity Sold, and Sales Amount.

File: a collection of related records for one particular DP application such as a set of invoices.

TYPE OF NUMBERS

There are two types of FORTRAN numbers:

Integer: a decimal number of 1 to 10 digits with no decimal point and no punctuation (corresponds to fixed point arithmetic numbers, such as 820)

Real: a decimal number of 1 to 7 digits with a decimal point but no punctuation (corresponds to floating point arithmetic numbers, such as 25.30)

Prior to actually coding the program, the programmer must analyze the input/output data fields, determine the type of data stored within them, and assign a unique name to each.

VARIABLE NAMES

Rules for Forming Variable Names

1. 1 to 6 alpha or numeric characters
2. Permissible characters:
   numeric (0 thru 9)
   alphabetic (A thru Z and $)
3. First character must be alphabetic
4. Integer Variables must begin with letter I, J, K, L, M, or N
5. Real Variables begin with alphabetic letters other than I thru N

The following are examples of acceptable integer and real variable names.

Integer Variable Names	Real Variable Names
I	A
JOB	PAY
LI	X8Y3

INPUT

A sample problem will be used to illustrate the concepts of FORTRAN programming for the input and output of numeric information.

INPUT is a file of Employee Time Cards. Each record contains the following fields: Employee number, columns 1 to 3; Hourly pay rate, columns 9 to 11. See Figure 1-1. Note that the decimal point in the Hourly Pay Rate and Hours Worked fields is not punched in the card. In the Rate field it is conceptually located between card columns 4 and 5 and thus expressing dollars and cents. In the Hours worked field it is conceptually located between card columns 10 and 11, thus representing hours and tenths of an hour.

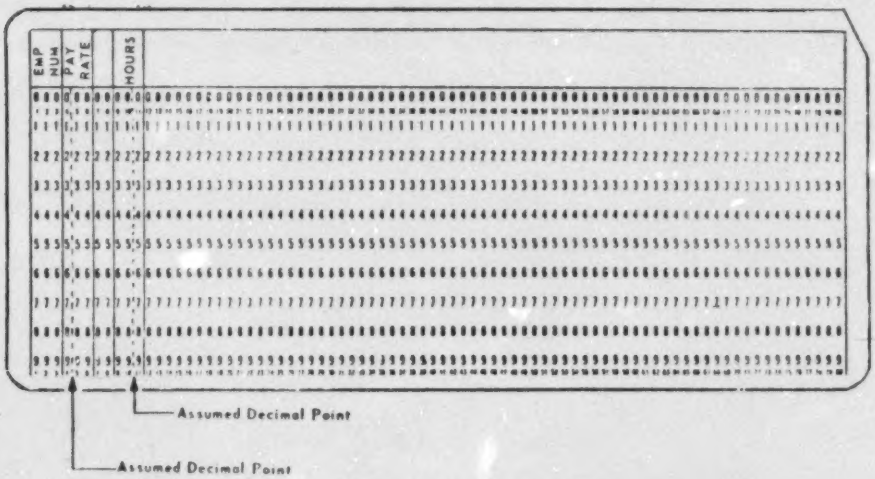
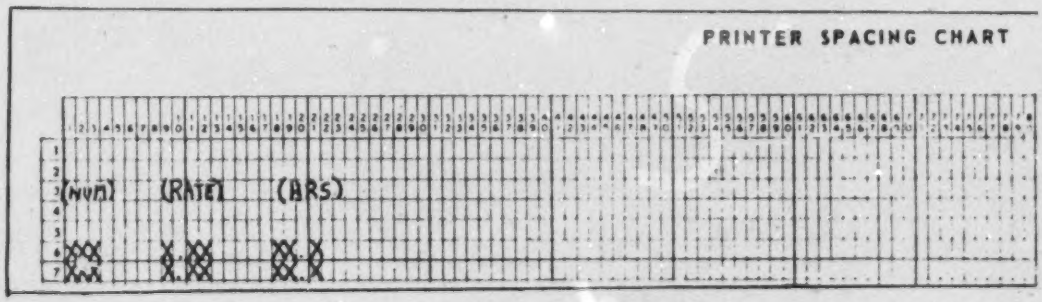


Figure 1-1 Input Data

OUTPUT

OUTPUT is to be a file creating a report listing the Employee Number, Pay Rate, and Hours Worked fields. Each record will be single spaced. Figure 1-2 illustrates the printer spacing chart and related output report. Note that there are 5 blank printing positions between each field. In addition, the Hourly Pay Rate and the Hours Worked field are to be edited with a decimal point.



8	4.75	40.0
15	2.15	42.5
110	7.50	39.6
123	5.40	40.0

Figure 1-2 Output

ANALYSIS

A programmer's first phase in problem preparation is to Analyze the problem definition he has been given. When he is certain that he understands all the processing needed to solve the problem, he then determines the logic required for the solution of the problem. The best way to express this logic is in terms of a block diagram or program flowchart. Using predefined symbols, we graphically represent the logic required to solve a defined problem. See Figure 1-3.

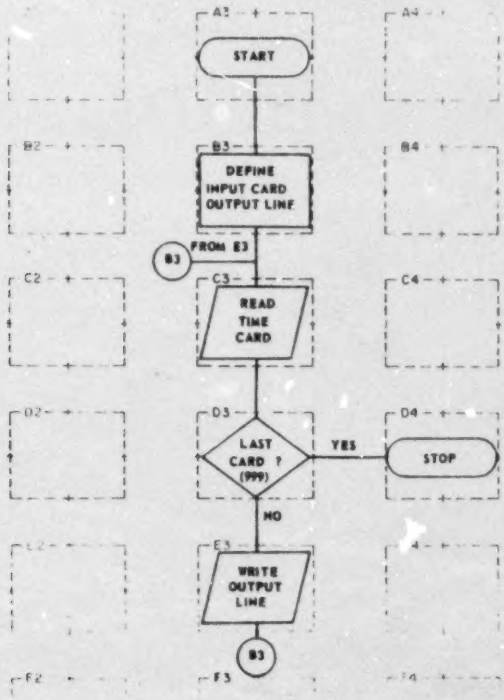


Figure 1-3 Program Flowchart

BLOCK DIAGRAMMING

The Start symbol in box A3 is used to indicate the beginning of the program. Input data must be described to the computer by means of a FORMAT statement prior to processing. The computer must be instructed as to which card columns are to be used, the type of data contained in the fields, and the printing positions required for the output report. This step is symbolized in B3. The step shown in C3 represents the operation whereby the contents of the input data cards are placed within the storage unit of the computer. D3 illustrates a logical decision that is performed after the input data has been read. If the card being read is not the last card, the program will execute the instructions specified in E3. If the card is the last card, control branches to D4, where processing is terminated by means of a STOP statement. E3 identifies the operation whereby the data from storage is sent to the output device, the printer, and a line is printed on the report. After the first data card has been read and printed, program control must be directed to the instruction which causes the next data card to be read.

CODING

This basic sequence of operations will be repeated until eventually the last card is tested and program control is terminated. This technique used which illustrates the repetition of instructions is commonly called a loop. Once the flowchart logic is determined, the next phase is coding the program. The FORTRAN language is composed of several types of statements. We will examine the general form and required entries for those statements needed in our program, and the purpose of each.

FORMAT STATEMENT

GENERAL FORM OF FORMAT STATEMENT

This statement specifies the type and arrangement of data fields to be entered as input or output. It is always referenced by a READ or WRITE statement within the program.

General form of a FORMAT statement:

XXXXX FORMAT (f1, f2, ...fn)

XXXXX is a statement number 1 to 5 digits

f1, f2, ...fn are descriptions of the type and arrangement of data fields from left to right on the input or output medium.

FORMAT () and, separating each entry are required

An Integer data field is specified by Iw — I meaning Integer; W indicated total number of columns in the field.

A Real data field is specified by Fw.d — F meaning Real; W indicates total number of columns in the field; d indicates the number of digits to the right of the decimal point.

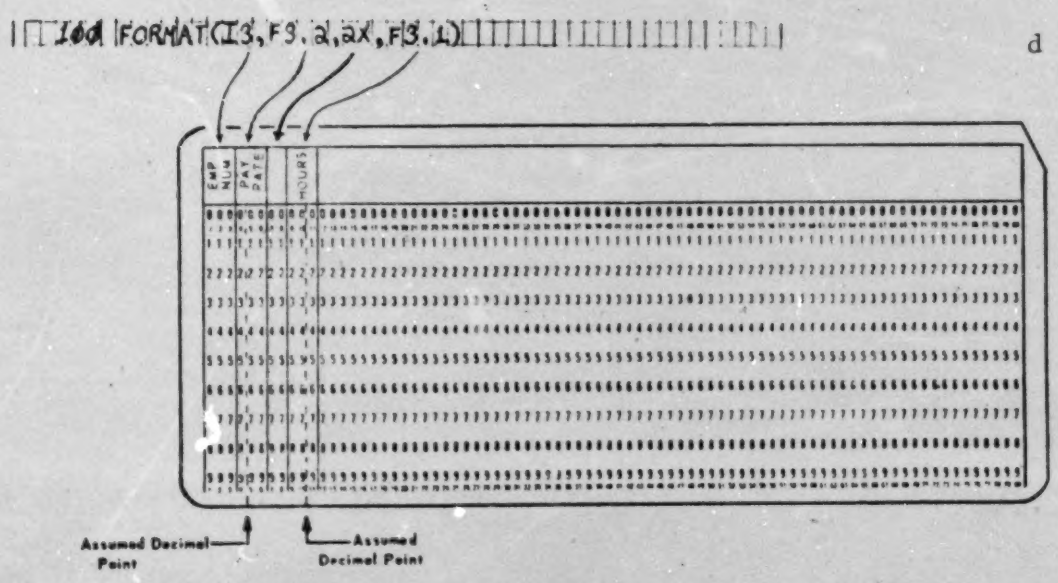
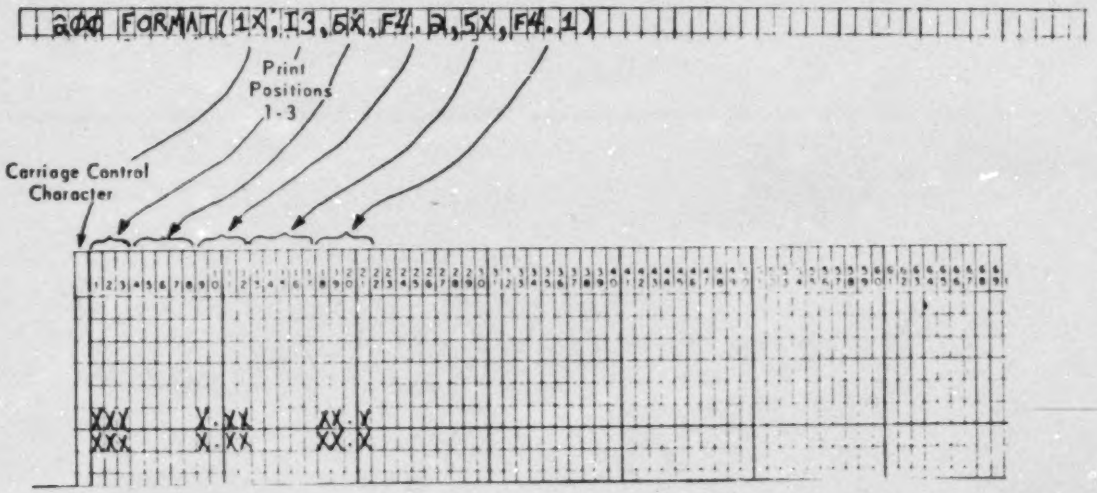


Figure 1-4 illustrates the Input FORMAT statement and the related input data record.

INPUT FORMAT STATEMENT

The statement number 100 was arbitrarily chosen by the programmer and will be used in the READ statement to reference this description of the input record. The first entry after the left parenthesis, 13, defined the Employee Number field. The next entry F3.2 defines the Pay Rate field. The 2X entry is necessary to designate that the two card columns following the Pay Rate field (columns 7 and 8) are unused in the problem. The X format notation is used to indicate blank spaces or unused card columns. The last entry F3.1 identifies the Hours Worked field. The comma is used to separate the entries.



OUTPUT FORMAT STATEMENT

Figure 1-5 illustrates the Output FORMAT statement and the related printer spacing chart.

The statement number 200 is used in the WRITE statement to reference this description. Whenever output is in the form of a printed report, a special code must be used as the first entry in the FORMAT statement to control the functions of single or double spacing, or skipping from one page to another. The entry, 1X, as the first entry in the FORMAT statement will cause single spacing to occur. It should be noted that this entry does not cause a blank space to appear on the printed report in printing position 1, as this is not a print position but a "carriage control" character. The entries which follow represent the printable positions of the report. 13 established that the 3 position Integer field will print in print positions 1, 2 and 3 (Employee Number). The entry 5X signifies that the next five printing positions are to contain five blank spaces. When a real number is to be printed, and the decimal point was not punched into the input field, an extra position is required for the printing of the decimal point. The FORTRAN compiler will supply the decimal point if space is provided. F4.2 describes the printing positions for the Pay Rate field. Again 5 blank spaces separate the entries. F4.1 designates the required printing positions for the Hours Worked

READ STATEMENT

This statement is used to bring input data from an input device into the memory of the computer. As each input record is read, a value is given to the fields referenced by variable names. An end of file test can also be made.

General form of a READ statement:

XXXXX READ(a, b, END=c) list

XXXXX is a statement number 1 to 5 digits

a is a number (1 thru 9) given to the input device. We will use the number 1 to designate the card reader in our program.

b references the number of the FORMAT statement that defined the fields in the record to be read as to type and arrangement.

END=c is the test for last card. The program will go to statement number c when the last card has been read. If it is not last card, the program executes the next sequential instruction.

list denotes the variable names assigned to fields in the input record (left to right order)
commas must separate each variable name

READ ( ) and , separating each entry are required

```
1 READ(1,100,END=3)NUM,RATE,HRS
```

Figure 1-6 illustrates the READ statement and related input data record

DATA CARDS WITH /*

The statement begins with a programmer selected number 1 that will be used in later statements for reference. Within the parenthesis the 1 references the card reader, the 100 references the FORMAT statement which described the fields on the input card to be read. One method of detecting the end of the input data file is by placing a card with a /* at the end of the input data deck. See Figure 1-7.

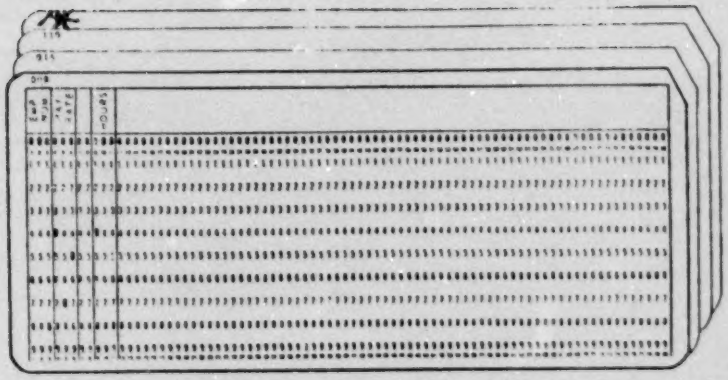


Figure 1-7 Data cards with /* following

When the program is executed, a test is made on each data card to determine if it is the card with the /*. If the card being read is a data card and does not contain /*, then processing is allowed to continue. When the card is read containing /*, the program directs control to a routine where processing is terminated. End=3 will send control to statement number 3 which is associated with the STOP statement in our program.

The next entries are the variable names that were assigned to each of the fields on the input data card. The selection of names followed the rules for forming variable names and are listed in the order in which the fields appear on the input record: NUM, RATE, HRS.

WRITE STATEMENT

WRITE STATEMENT

This statement causes the computer to output the information placed in storage by referencing its variable name.

General form of a WRITE statement:

WRITE (a,b) list

a is a number (1 thru 9) given to the output device. We will use the number 3 to designate the line printer in our program.

b references the number of the FORMAT statement that defined the fields on the printer spacing chart as to type and arrangement.

list denotes the variable names assigned to fields in the output line (left to right order)
commas must separate each variable name.

WRITE ( ) and, separating each entry are required

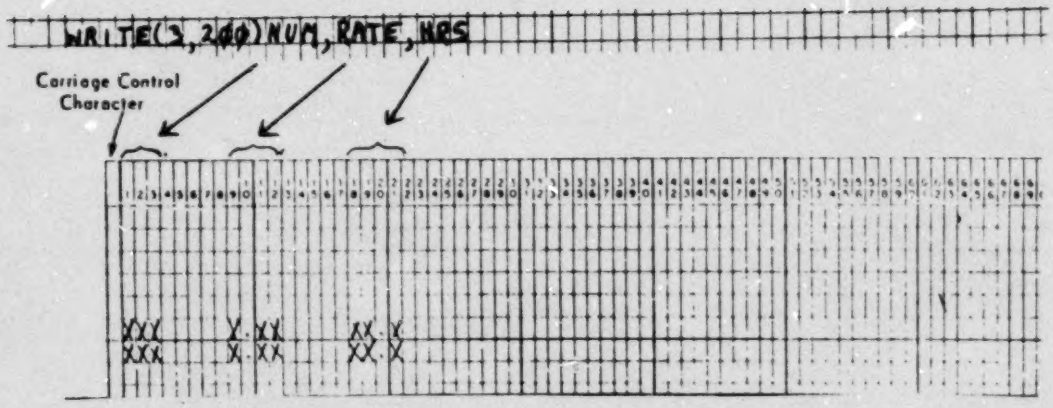


Figure 1-8 illustrates the WRITE statement and related printer spacing chart

The first entry contained within the parenthesis, 3, references a number designating the printer to the computer. 200 references the FORMAT statement which described the fields on the output line to be printed. The next entries in the statement are NUM, RATE, HRS, which are the variable names assigned to each of the data fields to be printed. These names must occur in the same sequence as described in the FORMAT statement.

GO TO STATEMENT

GO TO STATEMENT

This statement causes control to transfer to the statement number given.

General form of Unconditional GO TO statement:

GO TO XXXXX

XXXXX is a number of an executable statement such as READ or WRITE

Figure 1-9 illustrates the GO TO statement

LAST CARD TEST

When the GO TO statement is executed, program control is transferred to statement number 1, the READ statement. Therefore, every time a data card is read the card is tested to see if it is the last card. If it is not the last card containing /*, the information contained on the card is printed by the printer and another data card is read. A repetitious loop of instructions will continue until all data cards have been read.

STOP STATEMENT

STOP STATEMENT

This statement terminates execution of the program.

General form of the STOP statement: STOP

This statement is referenced in the READ statement. After the last card of the input data file has been read, (the card containing /*), the STOP statement is executed.

END STATEMENT

This statement defines the end of the program to the compiler. It must be the last statement in every FORTRAN program.

General form of the END statement: END

There is no statement number allowed in the statement.

```
3 STOP
  END
```

Figure 1-10 illustrates the STOP and END statements

CODING FORM

Each of the FORTPAN statements is placed on a coding form. Space is provided at the top of the form for general documentation purposes such as Program Name, Programmer, Date, and Punching instructions. A hand-written alphabetic "O" if mistaken for a numeric zero when keypunching or vice-versa, could cause a serious computer error when the program is eventually compiled. In Figure 1-10, it can be seen that the letter of the alphabet O, the open-faced character, is to be punched as an eleven and six punch in the card. The graphic character that contains the slashmark, Ø, is to be punched as a numeric zero, a single zero punch in the card.

MAIN PART OF CODING FORM

The main part of the coding form consists of four areas: STATEMENT NUMBER, CONTINUATION, FORTRAN STATEMENT, AND IDENTIFICATION SEQUENCE. Each horizontal line of coding in these graph-like areas corresponds directly with the card columns of an 80 column punched card. Position 1, found in the Statement Number field of the coding form refers to card column 1 on the punched card, etc. Each horizontal line of coding represents one program card to be keypunched. Examine Figure 1-11.

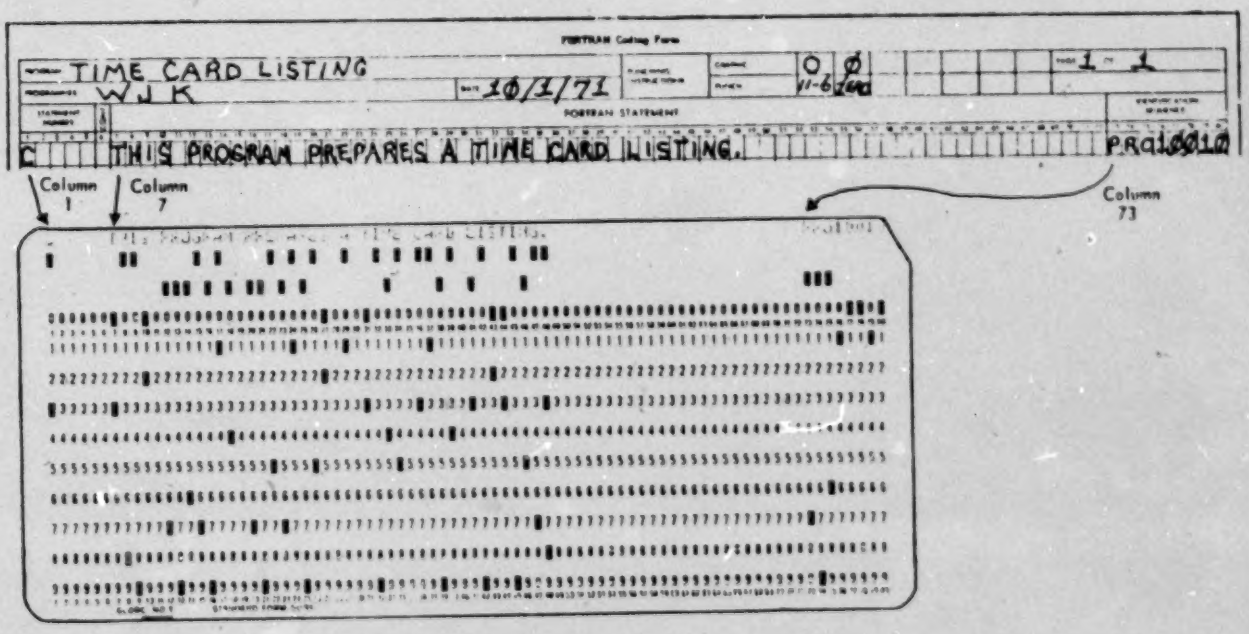


Figure 1-11 Card punched from Coding Sheet

STATEMENT NUMBER FIELD

STATEMENT NUMBER field, columns 1-5 may contain a number if the statement is referred to elsewhere in the program. Statement numbers are assigned by the programmer arbitrarily and need not be in sequence. No two statements may be given the same number. Column 1 of this field may contain an alphabetic "C" when it is desired to document the program with comments. CONTINUATION field, column 6, contains a zero or blank character is the statement to be contained on one line. If a FORTRAN statement is so long that it extends past column 72, an entry of any character other than blank or zero is required in column 6 for all continued lines. There may be up to 19 continuation lines in a FORTRAN statement. The FORTRAN STATEMENT field, columns 7-72, is used to record the FORTRAN program statements. (READ, WRITE, FORMAT, etc.) The IDENTIFICATION SEQUENCE field, columns 73-80, can be used to document each line of coding. It is suggested that a four character abbreviation be used to identify the program by recording the selected entry such PR01, in columns 73-76. In addition, a sequence number is recorded in positions 77-80 such as 0010. The sequence number usually advances by 10 for each line of coding. This technique allows up to nine additional lines of coding to be inserted between instructions if required. The entries in this field have no effect on the program and require no storage, but are simply a means of controlling the sequencing of the keypunched program cards if they should become out of order.

FORTRAN CODING FORM

Figure 1-12 illustrates the placement of our sample problem on the FORTRAN coding form. Note that 2 COMMENT lines have been added for documentation purposes.

IBM

FORTRAN Coding Form

GX28-7327-6 U/M 050
Printed in U.S.A.

TIME CARD LISTING

Bette Plog

DATE 5/17/74

PUNCHING INSTRUCTIONS: GRAPHIC O Ø; PUNCH 11-6 Zero

PAGE 1 OF 1

```
C     THIS PROGRAM PREPARES A TIME CARD LISTING                PRO1ØØ1Ø
C                                                                     2Ø
  1ØØ FORMAT (I3, F3, 2, 2X, F3, 1)                                   3Ø
  2ØØ FORMAT (1X, J3 5X, F4. 2, 5X, F4. 1)                            4Ø
    1 READ(1, 1ØØ, END=3)NUM, RATE, HRS                               5Ø
      WRITE(3, 2ØØ)NUM, RATE, HRS                                     6Ø
      GO TO 1                                                         7Ø
    3 STOP                                                            8Ø
      END                                                             9Ø
```

Figure 1-12 Sample FORTRAN program on Coding Form

STUDY QUESTIONS

Write out your answers carefully and completely. Use separate paper if necessary. Check your answers by referring back to the Supplementary Material and any notes you have on the TV Program.

1. Define the term "Integer Data". What is the rule for assigning a variable name to "Integer Data"?

2. Define the term "Real Data". What is the rule for assigning a variable name to "Real Data"?

3. What does the entry 14 represent in a FORMAT statement which defines a punched card?

4. What does the entry F5.2 represent in a FORMAT statement which defines a punched card?

5. What does the entry 5X indicate in a FORMAT statement representing a punched card?

6. How is single spacing specified when programming in FORTRAN?

SELF POST TEST OF LEARNING OBJECTIVES FOR LESSON 1

Answer the following questions carefully as this exercise is of great importance to you. It will give you some indication of how much you know about this lesson. If you can successfully answer these questions, you have probably mastered the content of the TV Program and the Supplementary Material in the Study Guide very well. If you need to refer to your Study Guide and notes often, reread the Study Guide completely, go over the Key Words, and review Pretest questions. Be sure to review any questions you missed or were unable to answer. You should score 75% or better to earn a passing grade.

MATCH

1. Character	a. Employee Time Cards
2. Field	b. Employee Number
3. Record	c. 1 (number)
4. File	d. Joe Blow's Time Card

Identifying Integer and Real Data Fields

Identify the following numeric data as Integer or Real

6. 298,765.257 _____

7. 5280 _____

8. 0. _____

9. 9999999 _____

Assigning Variable Names

Identify the following variable names as Integer or Real. If a variable name is invalid, state why.

	Type of Variable Name	Why Invalid
10. JA	_____	_____
11. X1.4	_____	_____
12. MINT	_____	_____
13. KOUNT	_____	_____
14. DISTANCE	_____	_____

Matching

Match the following FORTRAN statements with their purpose.

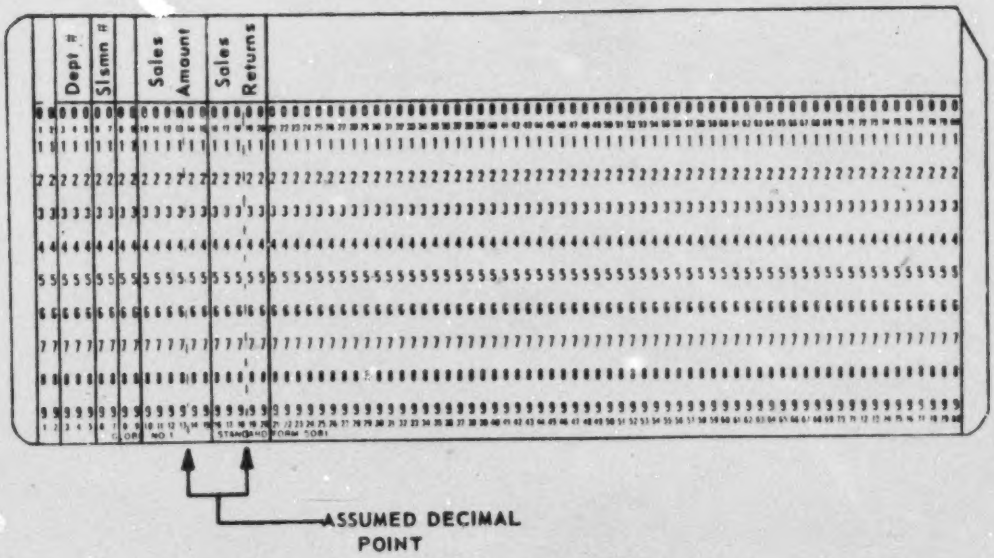
15. FORMAT	a. defines the end of the program to the compiler
16. READ	b. specifies the type and arrangement of data fields
17. WRITE	c. brings input data from an input device into memory
18. GO TO	d. terminates execution of the program
19. STOP	e. causes the computer to output the information placed in storage
20. END	f. causes control to transfer to statement number given

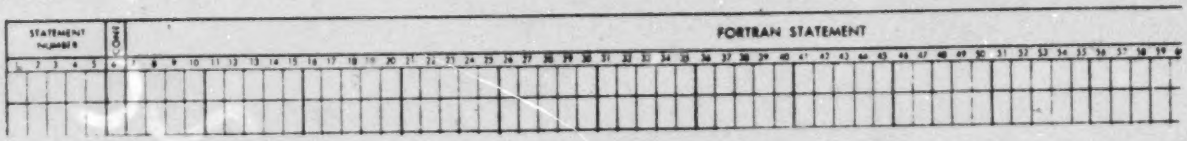
More Matching

Match the following key terms introduced in this lesson with an appropriate definition.

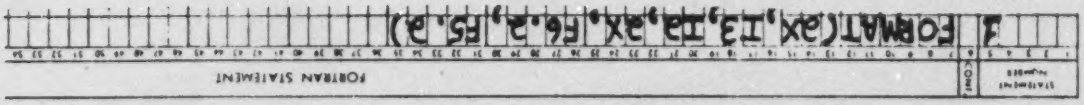
21. Input	a. a high level language meaning Formula Translation
22. Output	b. a graphic representation of the sequential steps used to solve a problem
23. Program	c. a step in a program telling the computer how to process data
24. Programmer	d. one who writes or codes the program instructions
25. Flowchart	e. the end result of processing sent from the central processing unit
26. FORTRAN	f. any type of data going into the central processing unit for processing
27. Instruction	g. a series of instructions which tells the computer in detail how to process data

28. Write the FORMAT statement to define the card illustrated below.





ANSWERS TO SELF POST TEST OF LEARNING OBJECTIVES FOR LESSON 1



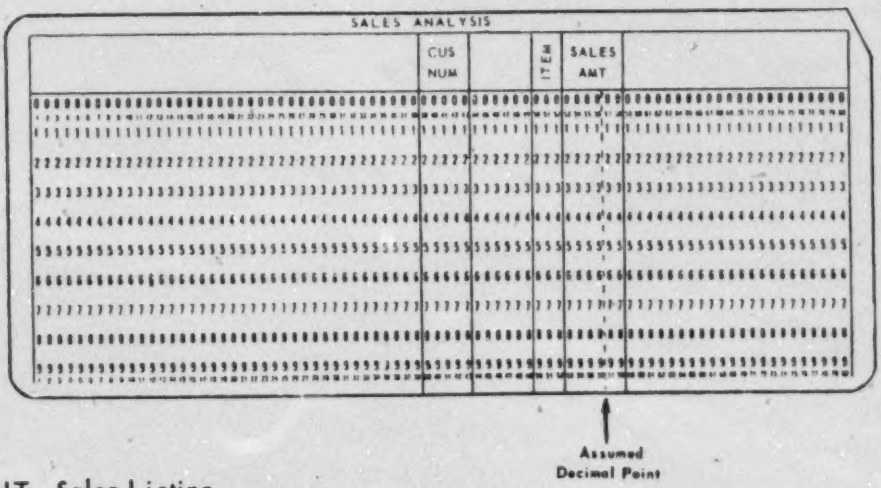
1. c
2. b
3. d
4. a
6. Real
7. Integer
8. Real
9. Integer
10. Integer
11. Invalid . not permitted
12. Real .
13. Integer
14. Invalid Too long - 7 characters
15. b
16. c
17. e
18. f
19. d
20. a
21. f
22. e
23. g
24. d
25. b
26. a
27. c

INSTRUCTIONS:

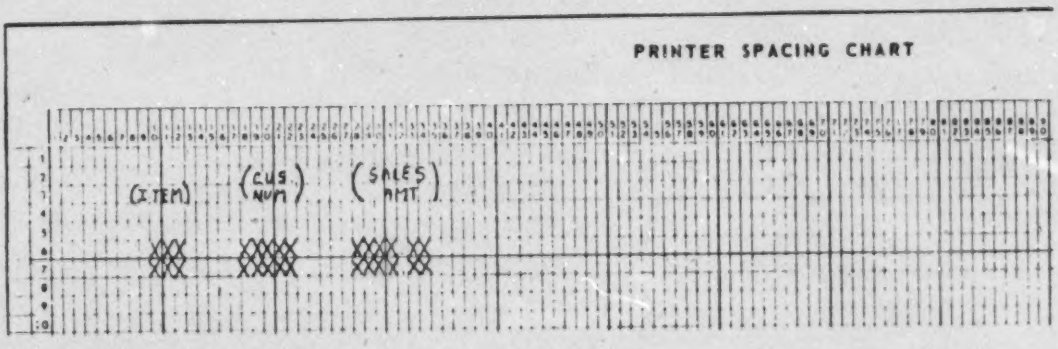
From the Sales Analysis cards a report is to be prepared listing the Item Number, Customer Number and the Sales Amount from each card.

NOTE: The decimal point is not punched on the card in the Sales Amount field, but does appear on the report.

INPUT: Sales Analysis Card



OUTPUT: Sales Listing



When you have completed your coding, mail to the following address:

El Centro College
Business Division
DP Department
Main at Lamar
Dallas, Texas 75202

INTRODUCTION TO COMPUTER SCIENCE
FORTRAN PROGRAMMING CONCEPTS

YOUR EVALUATION OF LESSON 1

Please complete this brief form as soon as possible after you have completed this Lesson. Then submit it according to the instructions you have received concerning these lesson evaluation forms. Your thoughtful evaluation will be of great help to us in making useful revisions both immediately and in the next edition of these modules.

Circle the most appropriate response for you.

1 - strongly disagree
2 - disagree
3 - uncertain, or no opinion
4 - agree
5 - strongly agree

1. The TV Program for this lesson was helpful in studying this lesson.

   1 2 3 4 5

2. The TV Program for this lesson caught and held my attention very well.

   1 2 3 4 5

3. On the whole, I was very impressed by the technical or professional quality of the TV Program.

   1 2 3 4 5

4. On the whole, the TV Program was very helpful in preparing me for the test and FORTRAN programming assignment.

   1 2 3 4 5

5. The learning objectives stated in the Study Guide were on the whole very useful to me.

   1 2 3 4 5

6. The Supplementary Material was very helpful in achieving the learning objectives of this lesson.

   1 2 3 4 5

7. The Supplementary Material was easy to understand.

   1 2 3 4 5

8. The methods of presentation of the subject matter were very appropriate for me.

   1 2 3 4 5

9. On the whole this lesson was well designed to help me accomplish the learning objectives.

1 2 3 4 5

10. In my opinion this lesson is an important one in an introduction to computer science study.

1 2 3 4 5

11. I believe I learned a lot, considering the time I spent on this lesson.

1 2 3 4 5

DISCUSSION QUESTIONS

Please record your answer to these questions on the attached blank sheets of paper.

1. What did you like best, or find most helpful in your study, regarding the TV Program?

2. What did you like least, or find of little help, regarding the TV Program?

3. What section, or sections, of Lesson 1 in the Study Guide did you find most helpful?

5. What section, or sections, of Lesson 1 in the Study Guide did you find least helpful?

5. What recommendations or suggestions do you have for improving the TV Program?

6. What recommendations or suggestions do you have for improving the lesson as a whole?

Please write any other comments that you might have about this lesson.

LESSON 2

STUDY SEQUENCE

1. Read the Overview and Learning Objectives.

2. Answer the Pretest questions and write the definition of the Key Terms. Check your answers as directed.

3. Read the Supplementary Material for Lesson 2 in the Study Guide.

4. Work through the Study Guide carefully answering all exercises and study questions before viewing TV Program for Lesson 2.

5. View the TV Program for Lesson 2.

6. Complete the Post Test on Lesson 2.

7. Review ideas tested by the questions you missed or were unable to answer. Then rewrite your answers to these particular questions.

8. After completing the exercises and questions in the Study Guide and viewing the TV Program, arrange a time to come to El Centro College, Main at Lamar, 7th floor, Room 715 to process your FORTRAN program on the computer.

9. You will be expected to keypunch the JCL cards listed in this lesson to COMPILE and COMPILE AND TEST your program; as well as the following test data:

TEST DATA:

	CUSTOMER NUMBER (cc 39-43)	ITEM NUMBER (cc 50-52)	SALES AMOUNT (cc 53-58)
CARD 1	05011	008	099987
CARD 2	16503	847	312546
CARD 3	34067	258	001351
CARD 4	45654	567	100895

10. Check your output against the following listing.

```
  8      5011      999.87
847     16503     3125.46
258     34067       13.51
567     45654     1008.95
```

11. When you are satisfied with your answer, submit the Compile and Test listing, with your name and a flowchart to the lab assistant.

OVERVIEW

Lesson 2 introduces the student to the procedures needed to process the program on the computer: These include Debugging, the act of correcting errors or mistakes in the program instructions; use of Job Control Language cards to indicate the type of processing desired; and operation of equipment to be used by the student in the laboratory. It is important that all programs be completely debugged prior to being used in an actual production run. It is the responsibility of the programmer to fully understand the problem being solved and the output being produced to insure that the correct answers are developed under all possible processing conditions.

LEARNING OBJECTIVES

Upon successful completion of Lesson 2, you should be able to:

1. Discuss basic concepts of analysis, block diagrams and coding phases of program preparation presented in Lesson 1.

2. Describe what occurs during the Compile and Testing phases of processing.

3. Give some examples of clerical errors produced during a Compile stage and corrections that are needed.

4. Give some examples of logical errors produced during the Test stage and corrections that are needed.

5. Discuss the use of JCL cards.

6. List the job set up necessary to Compile and Compile and Test a program on the DCCCD Computer system.

7. Discuss the steps students will take when they Compile and Test their programming assignment from Lesson 1.

    1. Job stream to Compile
    2. Readying the card reader
    3. Operating the console
    4. Removing paper from the printer
    5. Debugging and error correction
    6. Compiling again
    7. Checking for clerical errors
    8. Job stream to Compile and Test
    9. Checking for logical errors
    10. Submitting a problem for grading

8. Define the following key terms:

Bug	Console	I/O	Printer
Card Reader	Debug	Language Translator	Source Program
Compile	Execute	Object Program	Syntax
Central Processing Unit		Terminal	

SELF PRETEST OF LEARNING OBJECTIVES FOR LESSON 2

Before proceeding further in your study of this lesson and before viewing the TV Program, try to answer the following questions. Check your answers by referring to the Supplementary Material and by viewing the TV Program, as well as the answer key.

Match the following: (Supplement)

1. Source Program	a. The machine instructions produced by the language translator during the Compile stage.
2. Syntax	b. a part of the computer's operating system which converts the program language instructions into machine language instructions.
3. Language Translator	c. the general form and permissable entries of a FORTRAN statement.
4. Object Program	d. to process data with stored instructions-check for logical errors.
5. Compile	e. a set of program language instructions written by the programmer.
6. Compile and Test	f. to translate source program instructions into machine language instructions--checks for clerical and syntax errors.

7. List the ABCD stages of programming

A _____ C _____

B _____ D _____

True/False

8. The computer's memory has the ability to store both the data and the instructions needed to process that data.

9. If the programmer does not code his instructions in sequence the computer will put them in order for him.

10. FORTRAN is similar to English language in the use of words, sentences, and paragraphs.

Multiple Choice

11. Computer programming requires that:

    a. a programmer understands the problem to be programmed
    b. a programmer is skilled in operating the key punch
    c. all instructions be initially written in machine language
    d. all the above are correct

12. A high level language generally used in programming scientific applications:

    a. COBOL
    b. FORTRAN
    c. COMPILIER
    d. none of the above

13. A program is best defined as:

    a. a data deck
    b. a series of questions
    c. a series of conclusions
    d. a series of instructions

Debugging FORTRAN Programs

14. The following FORTRAN program contains errors which have occurred during compilation of the program. Circle each error and record the corrected entries directly on the listing. Explain the error and method of correction in the space provided below.

```
C     THIS PROGRAM PREPARES A TIME CARD LISTING.                          PR01
C                                                                         PR01
  100 FORMAT(I3,F3.2,2X,F3.1                                              PR01
                                                                        $
IEY013I SYNTAX*************************************************************
  200 FORMAT(1X,I3,5X,F4.1,5X,F3.1)                                       PR01
    1 READ(1,100,END=3),NUM,RATE,HRS                                      PR01
                        $
IEY013I SYNTAX*************************************************************
      WRITE(3,200)NUM,RATE HRS                                            PR01
                          $
IEY003I NAME LENGTH*******************************************************
      GO TO 100                                                           PR01
                $
IEY005I ILLEGAL LABEL*****************************************************
    3 STOP                                                                PR01
      END                                                                 PR01
```

Explanation: _____

_____

BEST COPY AVAILABLE

ANSWERS TO SELF PRETEST OF LEARNING OBJECTIVES

1. e
2. c
3. b
4. a
5. f
6. d
7. Analysis, Block diagramming, Coding, Debugging
8. T
9. F
10. F
11. a
12. b
13. d
14. Debugging FORTRAN programs

BEST COPY AVAILABLE

```
C     THIS PROGRAM PREPARES A TIME CARD LISTING.                          PR01
C                                                                         PR01
  100 FORMAT(I3,F3.2,2X,F3.1)  omitted                                    PR01
                                                                          $
IEY013I SYNTAX*****************************************************
  200 FORMAT(1X,I3,5X,F4.1,5X,F3.1)                                       PR01
    1 READ(1,100,END=3),NUM,RATE,HRS                                      PR01
                      $ Remove comma
IEY013I SYNTAX*****************************************************
      WRITE(3,200)NUM,RATE HRS                                            PR01
                          $ Comma to be inserted
IEY003I NAME LENGTH************************************************
      GO TO 100   Go To 1                                                 PR01
                  $
IEY005I ILLEGAL LABEL**********************************************
    3 STOP                                                                PR01
      END                                                                 PR01
```

EXPLANATION Missing Right Parenthesis in FORMAT 100

Unnecessary comma in READ statement

Comma omitted in WRITE statement

Statement number not an executable statement

KEY TERMS

Instructions: a. Write a short definition of each term.
b. Check your definition by referring to a dictionary as well as the answers below.
c. Write a short sentence using these terms properly, at least one term per sentence.

1. Bug:

2. Card Reader:

3. Central Processing Unit:

4. Compile:

5. Console:

6. Debug:

7. Execute:

8. I/O:

9. Language Translator:

10. Object Program:

11. Printer:

12. Source Program:

13. Syntax:

14. Terminal:

DEFINITION OF KEY TERMS

1. Bug: an error in a program instruction.
2. Card Reader: an input device that reads or senses coded data.
3. Central Processing Unit: the part of the computer containing the arithmetic, control, and in some cases, storage units.

4. Compile: to translate source program instructions into machine language instructions--checks for clerical and syntax errors.

5. Console: part of the computer used for manual control and observation by the operator.

6. Debug: to correct mistakes in the program instructions.

7. Execute: to process data with stored instructions--checks for logical errors. Same as Compile and Test.

8. I/O: a general term for Input and Output devices.

9. Language Translator: a part of the computer's operating system which converts the program language instructions into machine language instructions.

10. Object Program: the machine language instructions produced by the language translator during the Compile stage.

11. Printer: an output device for writing out computer results.

12. Source Program: the set of program language instructions written by the programmer.

13. Syntax: the general form and permissible entries of a FORTRAN statement.

14. Terminal: a point in a system or communications network at which data can enter or leave.

SUPPLEMENTARY MATERIAL

HISTORY OF PROGRAMMING LANGUAGE	When engineers design a computer system, they must determine the unique set of instructions that cause the computer to function. These instructions, which are coded in numeric form, are called MACHINE LANGUAGE INSTRUCTIONS, and consist of such operations as READ, WRITE, ADD, SUBTRACT, etc. Once the machine language instructions are recorded in the storage unit of the central processing unit each instruction can be executed sequentially one at a time at a tremendous rate of speed.
COMPILING	Computer programs written in machine language were difficult and tedious to write and subject to numerous errors. One of the first steps to improve the efficiency of writing computer programs was the introduction of SYMBOLIC symbols to represent the various operations in computer instructions.
SYMBOLIC LANGUAGE	Symbolic programming proved to be a significant improvement over machine language programming. However, it should be understood that the computer can only be instructed to perform a task by instruction that is in

its machine language form. Therefore, when a program is written in a symbolic language, it must first be translated into machine language before any of the instructions can be executed. This process of translating symbolic instructions into machine language instructions is called COMPILING. When translating a HIGH LEVEL programming language such as FORTRAN, a single symbolic instruction will generate one or more machine language instructions.

JOB CONTROL LANGUAGE CARDS

When a program is to be compiled, the proper LANGUAGE TRANSLATOR must first be stored within the computer and called for by JOB CONTROL LANGUAGE CARDS inserted with the program. Once the language translator is stored, the set of instructions written in symbolic language by the programmer is read into storage. This programmer-written set of instructions is called the SOURCE PROGRAM. The translation process or COMPILE can now take place and the generated machine language instructions called the OBJECT PROGRAM, can be stored on another auxiliary device such as disk until needed.

Job Control Language cards are placed around the program and communicate with the computer's operating system. They vary with each program language used and each computer system, however, the purposes are basically the same. They identify the program with a name; they call for the appropriate language translator; they identify the source program instructions; and they indicate which stage of processing is desired, Compile or Compile and Test.

Following are JCL cards which are needed to Compile a FORTRAN program in the DCCCD laboratory. Note the placement of the Source Program in the job stream.

Figure 2-1 JCL cards and job stream to COMPILE a FORTRAN program at DCCCD

EQUIPMENT USED

The laboratory that will be used to process the program on the computer used an I/O device called a TERMINAL. This terminal is connected to the central computer, located in another building, by telephone lines. The terminal consists of a CARD READER that reads or senses coded data on cards and inputs it to the central processing unit; a PRINTER which is an output device for writing out results from the central processing unit; and a CONSOLE which is used by the operator for manual control and observation.

OPERATION OF I/O DEVICES

After the program has been keypunched into cards and the appropriate job stream is set up, the following steps must be taken to process the program on the terminal.

1. Place program deck in Card Reader, Face down, 9 edge in.
2. Depress TRANSIT mode button on Console to alert the computer that we want to read cards from the reader. (all other lights should be off)
3. Depress the following buttons on the Card Reader in the order given.

   STOP START CLEAR FEED RUN

4. Depress INTERRUPT on the Console and cards should begin reading.

   After all the cards have been read, the Transmit light will go off automatically and the RECEIVE and END OF FILE indicators will come on. Approximately 30 seconds later the listing of the source program and errors will begin to print on the Printer.

5. To remove the listing from the Printer, depress CLEAR and HOME PAPER several times. The listing can then be removed from the rear of the printer.

DEBUGGING

When the compilation process is performed, errors are many times found in the coding due to improperly used statements, syntax, and key-punching or clerical errors. These errors must be corrected by the programmer. This process is referred to as DEBUGGING. Figure 2-2 illustrates a FORTRAN listing and related BUGS or errors.

```
C     THIS PROGRAM PREPARES A TIME CARD LISTING.
C
  1 READ(5,100)I,F3.2,2X,F3.1
                                                                        $
IEP1154 ERROR*****************************************************************
  2 FORMAT(I3,5X,F4.1,5X,F3.1)
    WRITE(6,101)I,EMPNO,RATE,HRS
                                  $
IEP1154 ERROR*****************************************************************
    WRITE(3,200)EMPNO,RATE HRS
                                  $
IEP1154 ERROR*****************************************************************
    GO TO 100
                  $
IEP1004 ILLEGAL LABEL*********************************************************
    STOP
    END
```

Figure 2-2 Sample FORTRAN listing with errors

The Compilier prints a row of asterisks below the statement in error, and identifies the type of error. A $ will print under the position in error if possible, or the $ will print at the extreme right of the FORTRAN statement field.

The first error is a SYNTAX error on FORMAT statement 100. The $ at the extreme right indicates that it was unable to find the position of error. In examining this form, we find that the right parenthesis has been omitted and must be added.

Another SYNTAX error appears in the READ statement with a $ printing under the comma following the right parenthesis, thus this comma should be omitted.

Next we find a $ printing under the HRS field and the type of error defined as NAME LENGTH. Maximum length for a variable name is 6 characters. RATE Hrs represents 8 characters. Actually this was not intended to be one field name, but the comma separating RATE and HRS was omitted by mistake. A comma needs to be inserted between the two variable names.

Last we find ILLEGAL LABEL error with a $ printing below 100. A GO TO statement must always be sent to an executable statement. 100 is the statement for a FORMAT statement which is not considered executable. This should go to 1 which returns to the READ statement where another record in the file is read and processing continues.

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CLEAN COMPILE

These errors must be corrected by the programmer by repunching the cards and inserting them back into the deck in the proper place. The program is again Compiled until there are no clerical or syntax errors in the source listing. This is commonly called a "Clean Compile." When this occurs, the operating system will print out a message stating there are "No diagnostics generated." See Figure 2-3.

```
FORTRAN IV G LEVEL  21                    MAIN                    DATE = 74134

*OPTIONS IN EFFECT*  ID,EBCDIC,SOURCE,NOLIST,NODECK,LOAD,NOMAP
*OPTIONS IN EFFECT*  NAME = MAIN    , LINECNT =       50
*STATISTICS*   SOURCE STATEMENTS =        7,PROGRAM SIZE =
*STATISTICS*   NO DIAGNOSTICS GENERATED
```

Figure 2-3 Message given for Clean Compile

PREPARATION OF TEST DATA

After a program has been successfully compiled, it must be tested in order to determine that the logic of the program is correct and that the data is being processed properly. Data must be prepared and punched like the fields we described in our program. See Figure 2-4 for the input data used to test our sample problem. Remember the decimal point is assumed and not punched in the test data card.

	EMPLOYEE NUMBER (cc 1-3)	PAY RATE (cc 4-6)	HOURS WORKED (cc 9-11)
CARD 1	008	4.75	40.0
CARD 2	015	2.15	42.5
CARD 3	110	7.50	39.6
CARD 4	120	5.40	40.0

Figure 2-4 Test data for Sample problem

COMPILE

This processing stage is called COMPILE AND TEST or EXECUTION. The language translator is again stored within the computer and called for by job control language cards inserted with the program. Symbolic language instructions are converted into machine language instructions to form the object program. The object program then instructs the computer how to process the incoming test data cards.

JCL CARDS TO COMPILE AND TEST

The following JCL cards are needed to Compile and Test a FORTRAN program in the DCCCD laboratory. Note the placement of the test data deck in the job stream.

```
STATEMENT NUMBER   YOUR INITIALS                    FORTRAN STATEMENT
//PXX176A JOB 522176,PLOG-TV,CLASS=G
//  EXEC FORTGCLG
//F.SYSIN DD *
                SOURCE PROGRAM
/*
//G.FT03F001 DD SYSOUT=A,DCB=(RECFM=A,BLKSIZE=133)
//G.FT01F001 DD *
                TEST DATA CARDS
/*
```

Figure 2-5 JCL cards and job stream to COMPILE AND TEST a FORTRAN program at DCCCD

COMPILE AND TEST ERRORS

Even though no bugs are indicated by the compiler there is still the possibility that logical errors exist within the program. Figure 2-6 illustrates a case in which there are no clerical or syntax errors but the output is incorrect.

```
C     THIS PROGRAM PREPARES A TIME CARD LISTING.
C
  100 FORMAT(I5,F3.2,2X,F3.1)
  200 FORMAT(I4,F3.5X,F4.2,5X,F3.1)
    1 READ(1,100,END=3) NUM,RATE,HRS
      WRITE(5,200) NUM,RATE,HRS
      GO TO 1
    3 STOP
      END

        5      4.75      *.*
       15      2.15      *.*
      110      7.50      *.*
      120      5.40      *.*
```

Figure 2-6 Listing with errors during Compile and Test

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ERROR ASTERISKS

Again the asterisks point out an error. This time they indicate that the field size defined in the FORMAT statement for the HRS field is not large enough to print the entire field. FORMAT 200 described the output line. The description for HRS field is F3.1 and should be F4.1 to allow for an extra printing position to print the decimal point on the printed report. This correction must be made and another Compile and Test run performed.

NUMBER OF TEST RUNS TO DEBUG

The number of test runs which will be required to completely debug a program normally depends on the size and complexity of the program. Other logical errors that occur often include the first position not printing due to failure to specify the carriage control character as the first entry in the FORMAT statement to return to READ another record for processing; and other error messages sent from the compilier due to improper coding of logical statements within the program, or JCL errors.

RESPONSIBILITY OF THE PROGRAMMER

It is the responsibility of the programmer to fully understand the problem being solved and the output being produced to insure that the correct answers are developed under all possible processing conditions. A review of the problem definition provides an effective way of determining this.

SAMPLE PROBLEM SOLUTION

Figure 2-7 illustrates the correct solution for our sample problem used in Lessons 1 and 2. This program can now be classified as ready for use in an actual production run.

```
C     THIS PROGRAM PREPARES A TIME CARD LISTING
C
  100 FORMAT (I3,F5.2,2X,F3.1)
  200 FORMAT (1X,I5,5X,F4.2,5X,F4.1)
    1 READ(1,100,END=3)NUM,RATE,HRS
      WRITE(5,200)NUM,RATE,HRS
      GO TO 1
    3 STOP
      END
```

```
    3    4.75    40.0
   15    2.15    42.5
  110    7.50    39.5
  120    5.40    40.0
```

Figure 2-7 Listing of sample problem with no errors

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STUDY QUESTIONS

Write out your answers carefully and completely. Use separate paper if necessary. Check your answers by referring back to the Supplementary Material and any notes you have on the TV Program.

1. What is the purpose of Job Control Language cards?

2. What is meant by "high-level" programming language?

3. What is the purpose of a language translator?

4. What is a Source Program?

5. What is an Object Program?

SELF POST TEST OF LEARNING OBJECTIVES FOR LESSON 2

Answer the following questions carefully as this exercise is of great importance to you. It will give you some indication of how much you know about this lesson. If you can successfully answer these questions, you have probably mastered the content of the TV Program and the Supplementary Material in your Study Guide very well. If you need to refer to your Study Guide and notes often, reread the Study Guide completely, go over the Key Words, and review the Pretest questions. Be sure to review any questions you missed or were unable to answer. You should score 75% or better to earn a passing grade.

Match

Match the following key terms introduced in this lesson with an appropriate definition.

1. Bug:	a. to process data with stored instructions--checks for logical errors. Same as Compile and Test.
2. Card Reader:	b. an error in a program instruction.
3. Central Processing Unit:	c. part of the computer used for manual control and observation by the operator.
4. Compile:	d. to translate source program instructions into machine language instructions--checks for clerical and syntax errors.
5. Console:	e. the part of the computer containing the arithmetic, control, and in some cases, storage units.
6. Debug	f. to correct mistakes in the program instructions.
7. Execute:	g. a general term for Input and Output devices.
8. I/O:	h. an input device that reads or senses coded data.
9. Printer	i. a point in a system or communications network at which data can enter or leave.
10. Terminal:	j. an output device for writing out computer results.

45

11. Debugging FORTRAN Programs

The following FORTRAN program contains an error which occured during execution of the program. Circle the error and record the corrected entries directly on the listing. Explain the error and method of correction in the space provided below.

```
C     THIS PROGRAM PREPARES A TIME CARD LISTING
C
  100 FORMAT (I3,F3.2,2X,F3.1)
  200 FORMAT (1X,I3,5X,F4.2,5X,F3.1)
    1 READ(1,100,END=3)NUM,RATE,HRS
      WRITE(3,200)NUM,RATE,HRS
      GO TO 1
    3 STOP
      END
```

3	4.75	***
15	2.15	***
110	7.50	***
120	5.40	***

Explanation _____

_____

1. b
2. h
3. e
4. d
5. c
6. f
7. a
8. g
9. j
10. i

11. Debugging FORTRAN programs

```
C     THIS PROGRAM PREPARES A TIME CARD LISTING
C
  100 FORMAT (A3,F3.2,2X,F3.1)
  200 FORMAT (1X,I5,5X,F4.2,5X,F3.1)  F4.1
    1 READ(1,100,END=3)NUM,RATE,HRS
      WRITE(3,200)NUM,RATE,HRS
      GO TO 1
    3 STOP
      END
```

5	4.75	***
15	2.15	***
110	7.50	***
120	5.40	***

Explanation Extra printing position is required in the HRS field for the decimal point to print.

ANSWERS TO SELF POST TEST OF LEARNING OBJECTIVES FOR LESSON 2

INTRODUCTION TO COMPUTER SCIENCE
FORTRAN PROGRAMMING CONCEPTS

YOUR EVALUATION OF LESSON 2

Please complete this brief form as soon as possible after you have completed this Lesson. Then submit it according to the instructions you have received concerning these lesson evaluation forms. Your thoughtful evaluation will be of great help to us in making useful revisions both immediately and in the next edition of these modules.

Circle the most appropriate response for you.

1 - strongly disagree
2 - disagree
3 - uncertain, or no opinion
4 - agree
5 - strongly agree

1. The TV Program for this lesson was helpful in studying this lesson.

   1 2 3 4 5

2. The TV Program for this lesson caught and held my attention very well.

   1 2 3 4 5

3. On the whole, I was very impressed by the technical or professional quality of the TV Program.

   1 2 3 4 5

4. On the whole, the TV Program was very helpful in preparing me for the test and FORTRAN programming assignment.

   1 2 3 4 5

5. The learning objectives stated in the Study Guide were on the whole very useful to me.

   1 2 3 4 5

6. The Supplementary Material was very helpful in achieving the learning objectives of this lesson.

   1 2 3 4 5

7. The Supplementary Material was easy to understand.

   1 2 3 4 5

8. The methods of presentation of the subject matter were very appropriate for me.

   1 2 3 4 5

9. On the whole this lesson was well designed to help me accomplish the learning objectives.

1 2 3 4 5

10. In my opinion this lesson is an important one in an introduction to computer science study.

1 2 3 4 5

11. I believe I learned a lot, considering the time I spent on this lesson.

1 2 3 4 5

DISCUSSION QUESTIONS

Please record your answer to these questions on the attached blank sheets of paper.

1. What did you like best, or find most helpful in your study, regarding the TV Program?

2. What did you like least, or find of little help, regarding the TV Program?

3. What section, or sections, of Lesson 2 in the Study Guide did you find most helpful?

4. What section, or sections, of Lesson 2 in the Study Guide did you find least helpful?

5. What recommendations or suggestions do you have for improving the TV Program?

6. What recommendations or suggestions do you have for improving the lesson as a whole?

Please write any other comments that you might have about this lesson.

CE 028 575

ACCESSION NUMBER: VT103208

TITLE: RADIOGRAPHIC POSITIONING. STUDY GUIDE. OCCUPATIONAL-TECHNICAL CURRICULUM DEVELOPMENT TV STUDY.

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ABSTRACT: THIS STUDY GUIDE FOR A TELEVISION COURSE IN RADIOGRAPHIC POSITIONING CONSISTS OF TWO MODULES PLUS COURSE ORIENTATION. MODULE I IS ENTITLED ANTEROPOSTERIOR TOWNE'S POSITION OF THE SKULL; MODULE II, ANTERIOR OBLIQUE LUMBAR-SACRAL APOPHYSEAL JOINTS PROJECTION. THE GUIDE IS DESIGNED TO ALLOW THE STUDENT TO PRODUCE A DIAGNOSTIC TOWNE'S POSITION OF THE SKULL AND AN OBLIQUE LUMBOSACRAL SPINE PROJECTION. THE STUDENT RADIOLOGIC TECHNOLOGIST IS INTRODUCED TO THE DIFFERENT BODY PROJECTIONS OR POSITIONS REQUIRED TO PROPERLY DEMONSTRATE INTERNAL BODY STRUCTURES. EACH MODULE CONTAINS THE FOLLOWING SECTIONS: STUDY SEQUENCE, OVERVIEW OF THE LESSON, LEARNING OBJECTIVES, SELF-PRETEST, KEY TERMS, SUPPLEMENTARY MATERIAL, STUDY QUESTIONS, SELF-POSTTEST WITH ANSWER KEY, AND LESSON EVALUATION FORM. (AUTHOR/NJ)

INSTITUTION NAME: TEXAS EDUCATION AGENCY, AUSTIN. DIV. OF OCCUPATIONAL RESEARCH AND DEVELOPMENT.; DALLAS COUNTY COMMUNITY COLL. DISTRICT, TEX.

VT 103 208

STUDY GUIDE

Radiographic Positioning

OCCUPATIONAL-TECHNICAL CURRICULUM DEVELOPMENT T V STUDY

Developed Jointly by the Division of Occupational Research and Development, Department of Occupational and Technical Education, Texas Education Agency and the Dallas County Community College District, Dallas, Texas.

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VT 103 208

STUDY GUIDE

RADIOGRAPHIC POSITIONING

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CE 008 976

RADIOGRAPHIC POSITIONING

ORIENTATION TO THE COURSE

INTRODUCTION

OVERVIEW OF COURSE

The student radiologic technologist is introduced to the different body projections or positions required to properly demonstrate internal body structures very early in his training. Because each structure in the body must be projected from different angles, Radiographic Positioning is usually presented as a five-semester course in most programs. The student must learn the theory behind each projection, must observe a demonstration of each projection and must practice in a laboratory setting until he can correctly obtain the projection on the finished radiograph. The final test is, of course, to be able to duplicate the projection on a patient in the hospital setting.

The human skull and spinal column are the most difficult and challenging parts of the body to radiograph. It therefore behooves every instructor to try to devise methods which will quickly and accurately enable every student regardless of his learning abilities to radiograph these parts with ease and accuracy.

It is the hope of this instructor that the study guide along with the TV presentation will allow any student to produce a diagnostic Towne's position of the skull and an oblique lumbosacral spine projection. With this approach each student may repeat the lesson as many times as he desires and until he feels comfortable he can perform the positions in the hospital setting.

OVERVIEW - LESSON 1

The Towne's position of the skull primarily demonstrates the posterior portion of the skull. The x-ray beam is projected in such a way as to project the anterior facial bones inferior to the area of interest.

This module identifies the skull bones to be demonstrated, the relationship between the skull, x-ray film and x-ray beam required to demonstrate the structures of interest and how to evaluate the final product.

RADIOGRAPHIC POSITIONING

ORIENTATION TO THE COURSE

INTRODUCTION

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The Towne's position of the skull primarily demonstrates the posterior portion of the skull. The x-ray beam is projected in such a way as to project the anterior facial bones inferior to the area of interest.

This module identifies the skull bones to be demonstrated, the relationship between the skull, x-ray film and x-ray beam required to demonstrate the structures of interest and how to evaluate the final product.

OVERVIEW - LESSON 2

The anterior oblique lumbar-sacral projection primarily demonstrates the apophyseal or interarticular joints which are located on the posterior portion of the lower spine. The body is rotated to a certain degree until the joints are projected perpendicular to the film.

This module identifies the parts of the lumbar vertebrae to be demonstrated, the relationship between the five lumbar vertebrae, x-ray film, and x-ray beam required to demonstrate the structures of interest and how to evaluate the final product.

INDEPENDENT STUDY

MATERIALS AND ACTIVITIES

The Radiographic Positioning course has been designed for independent study. All of the instructions, information and basic learning materials you should require are provided: Orientation materials, a Study Guide, and 2 fifteen minute television programs. In addition, opportunities will be scheduled for on-campus sessions, such as orientation and examinations. If additional information or tutorial assistance is needed, you can talk to your instructor by calling 746-2392.

KEYS TO SUCCESSFUL INDEPENDENT STUDY

The keys to successful independent-study are:

- a genuine desire to achieve the learning goals (objectives) of the course...considerable interest in the subject is also very helpful.

- the establishment of a weekly study routine, and sticking closely to it.

- following instructions, assignments and study tips carefully and completely.

- calling the telephone number if you are really "stuck" and require tutorial help or information.

YOUR INSTRUCTIONAL MATERIALS

IMPORTANCE OF USING STUDY GUIDE

The key to your study of Radiographic Positioning is your Study Guide. It has been specially designed to assist you in learning the material. You will find it very useful if you use it as described on the next page.

SECTIONS IN EACH LESSON OF THE STUDY GUIDE

The Study Guide for each Lesson or Module will have the following sections:

- Study Sequence
- Overview of the Lesson
- Learning Objectives for this Lesson
- Self Pretest of Learning Objectives for this Lesson
- Key Terms
- Supplementary Material
- Study Questions
- Self Post Test of Learning Objectives for this Lesson, with Answer Key
- Lesson Evaluation Form

HOW TO USE YOUR INSTRUCTIONAL MATERIALS

STUDY SEQUENCE

Study Sequence: The very first thing you should do before viewing the TV Program or studying any of the material for a lesson is read the Study Sequence. This is one of the most important sections in all of your material. It tells you what you should do, and in what order, so that your study time and other learning activities are most likely to be beneficial to you in achieving the learning objectives for each lesson, and most helpful in preparing for the examination.

The purpose of each section of the Study Guide follows.

OVERVIEW

Overview: This section for each lesson tells you the main ideas and purposes of the lesson, why you should study it, and how it fits in the overall picture of Radiographic Positioning. In some cases, applications of the information contained in the lesson are indicated as well.

LEARNING OBJECTIVES

Learning Objectives: These statements are very important because they summarize the main concepts of the lesson. They tell you what you will be expected to be able to do with these concepts when you have completed your study of the lesson, and what topics will be tested on the examinations. Be sure to keep these Learning Objectives in mind when viewing the TV programs and when studying the lesson.

SELF PRETEST

Self Pretest: You may be unaccustomed to "taking-a-test" over a lesson before you study it, but this can be a very helpful study aid for you, if done conscientiously. Among the benefits of a Self Pretest are the following:

- Alerts you to the main concepts to be learned.
- Tells what you already know about these concepts, so you know what to concentrate on and what you might merely skim in your study of the lesson.
- When you compare your score on the Self Pretest with your score on the Self Post Test you will have some Indication of how much you have learned as a result of your study of the module, a measure of "learning gain." (Note: Only you need know your scores as these are self-tests.)

KEY TERMS

Key Terms: These are words, technical terms, or phrases you should be able to define and use appropriately when writing and talking about the concepts in the particular lesson. It will aid your study if you "know" these terms in advance. Looking them up in the supplementary material or the dictionary, or watching for them in the TV Programs will aid you also in learning to use them correctly.

SUPPLEMENTARY MATERIAL

Supplementary Material: It has been considered necessary to supplement the information contained in the TV Programs in order to help you accomplish the learning objectives of a particular lesson. This supplementary information will be tested on the Self Pretest, the Self Post Test and on the course examination.

STUDY QUESTIONS

Study Questions: These questions are designed to help you organize your knowledge of the main ideas of the lesson and to assist you in reviewing for the Self Post Test and the course examination. Be sure to write out your answers to all questions thoughtfully and completely. Check your answers by referring to the Supplementary Material.

SELF POST TEST AND ANSWER KEY

Self Post Test: This self test should give you a good idea of how well you have accomplished the learning objectives of the lesson, and how well you are prepared to answer examination questions about the main concepts of the lesson. Further, your score on this Test, when compared with your score on the Self Pretest, will give you some indication of how much you have learned by studying the module. (For example, if your score on a Self Pretest is 10% and your score on the Self Post Test for that same module is 90%, your "learning gain" for the lesson is probably about 80%). The Self Post Test should prove very useful to you in preparing for the course examination, particularly since the questions on the course examination will be based upon the Self Post Test questions. (Note that an Answer Key is provided for each Self Post Test.) Be sure to review carefully any questions you missed or were unable to answer.

LESSON EVALUATION

Lesson Evaluation Form: At the end of each lesson is a very important section--YOUR EVALUATION OF THIS LESSON. We need your help in identifying as soon as possible ways in which we might improve the learning effectiveness of this course. Major revisions of the printed materials and the TV Programs probably will not be possible until the Course is prepared for presentation again. We will, however, make what changes we can as soon as we have enough reliable information upon which to base the changes. Equally vital is the need for critical evaluation from each of you on all components of the Course, lesson by lesson, so that significant improvements can be made in the next edition of all the materials, including the TV Programs. You are urged to complete the lesson evaluation form as soon as possible after you have finished the lesson. Please submit these evaluation forms regularly and promptly, according to the directions you are given. You may be sure your assistance will be appreciated and your evaluations carefully considered.

SUGGESTIONS FOR VIEWING THE TV PROGRAM

Review the appropriate lesson in your Study Guide before viewing the TV Program. Be sure to schedule the times for the TV Program so that you will not be distracted during the presentation. Do not attempt to do other things while you are viewing the lesson, it needs your full attention. Keep paper and pencil handy so you can take notes.

During the presentation you may wish to write comments in your study guide while watching the program, or you may choose to do so immediately after the program. If you own a tape recorder, you may wish to tape the audio portion of the presentation. Be sure to review your Study Guide prior to and after watching the TV Program. It will be far easier to respond to the activities under Study Questions immediately after viewing the TV Program.

MODULE I. ANTEROPOSTERIOR TOWNE'S POSITION OF THE SKULL

STUDY SEQUENCE

1. Read Overview and Learning Objectives

2. Answer the Self Pretest questions and write the definitions for the Glossary terms. Check your answers as directed.

3. View the TV Program for this module

4. Study Volume 2, pp. 318, 327, 336, 337 in the Atlas of Roentgenographic Positions.

5. Work through Module I Study Guide, carefully following all instructions and answering all questions.

6. Complete the Self Post Test for Module I.

7. Reread areas which you missed on the Self Post Test. Answer related questions again.

8. Using x-ray equipment do an AP Towne's position on a phantom and have your instructor check the position.

9. Develop the x-ray film and evaluate the film.

10. If the film is not 100% accurate, repeat the position until it is perfect.

11. Have your instructor check your positioning on a patient in the hospital setting.

12. Take instructor administered test on complete routine skull unit.

OVERVIEW

The Towne's position of the skull primarily demonstrates the posterior portion of the skull. The x-ray beam is projected in such a way as to project the anterior facial bones inferior to the area of interest.

This module identifies the skull bones to be demonstrated, the relationship between the skull, x-ray film and x-ray beam required to demonstrate the structures of interest and how to evaluate the final product.

LEARNING OBJECTIVES FOR THIS MODULE

Upon successfully completing this module, you should be able to:

1. Identify and locate the occipital bone, petrous ridges, foramen magnum, dorsum sella and posterior clinoid processes.

2. Identify and locate the median sagittal plane and infraorbital-meatal line.

3. Choose the correct cassette size required for a Towne's projection and properly place it in the film tray.

4. Position the patient's body and skull to the radiographic table.

5. Position the cassette to the skull.

6. Set the proper focal-film distance and angle the tube.

7. Direct the x-ray beam to the foramen magnum and film.

8. Choose the proper exposure technique.

9. Check the film quality and identify the structures of interest on the radiograph.

SELF PRETEST OF LEARNING OBJECTIVES FOR THIS MODULE

Before proceding further in your study of this module and before viewing the TV Program, try to answer the following questions. Check your answers by referring to the textbook, the Supplementary Material and by viewing the TV Program.

1. The occipital bone is located inferior to the:

   (a) frontal bone
   (b) maxillary bone
   (c) parietal bones
   (d) nasal bones

2. Another name for the petrous ridges is:

   (a) petrous apices
   (b) petrous pyramids
   (c) pars petrous
   (d) all of the above

3. The _____ _____ passes through the foramen magnum into the vertebrae column.

4. The posterior portion of the sella turcica is the ventral sella.

True or False

5. The two points at each end of the posterior portion of the sella turcica are the middle clinoid processes. True or False

6. The median sagittal plane:

(a) is a horizontal plane dividing the body into upper and lower sections.

(b) is a diagonal plane with its axis in the region of the heart.

(c) is a longitudinal plane dividing the body into left and right halves.

(d) is a vertical plane dividing the body into upper and lower sections.

7. The infraorbitomeatal line is formed by an imaginary line passing from the external auditory meatus to the:

(a) outer canthus
(b) acanthion
(c) glabella
(d) infraorbital margin

8. Adult Towne's projections of the skull require _____ cassettes:

(a) 8" x 10"
(b) 14" x 17"
(c) 10" x 12"
(d) 7" x 17"

9. In order to center the AP skull to the table the (a) _____ is centered to the midline of the table:

(a) median sagittal plane
(b) longitudinal plane
(c) vertical plane
(d) each of the above would be conest

10. In order that the cassette may be centered to the foramen magnum, the center of the cassette should be placed at or near the:

(a) mastoid tip
(b) ear lobe
(c) top of the auricle of the ear
(d) pinna

11. After angling the central ray to the desired angle, the vertical distance is set at:

(a) 32" F.F.D.
(b) 30" F.F.D.
(c) 36" F.F.D.
(d) 40" F.F.D.

12. The central ray must be directed to the:

(a) right petrous ridge
(b) left petrous ridge
(c) foramen magnum
(d) E.A.M.

13. The average skull measuring 21 cm. for a Towne's projection would call for what mAs and K.V.P. factors?

14. The Towne's projection primarily demonstrates what three structures?

GLOSSARY

Instructions: a. Write a short definition for each term.
b. Check each term by referring to your Medical Dictionary or Atlas of Roentgenographic Positions.

1. F.F.D.:

2. Caudad:

3. Median Sagittal Plane:

4. Transverse:

5. Perpendicular:

6. Infraorbitalmeatal Line:

7. Petrous Ridges:

8. Foramen Magnum:

9. Vertex:

10. Vertical:

11. E.A.M.:

12. Calipher:

13. Centimeter:

14. Latent Image:

15. Pars Petrose:

16. Density (radiographic):

17. Long Scale Contrast:

18. Semiaxial:

SUPPLEMENTARY MATERIAL

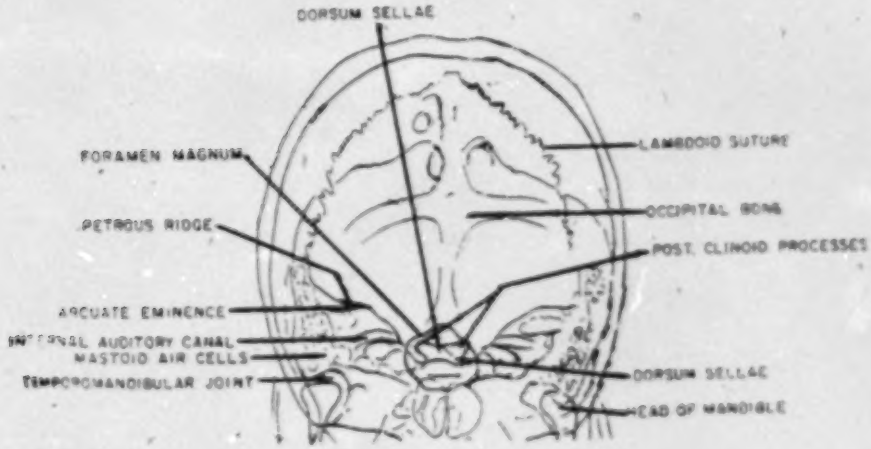
PROCEDURE

POSTERIOR PORTION OF SKULL

When you view the posterior portion of the skull from a superior semiaxial projection, the major bone visualized is the occipital bone which makes up approximately half of the base of the skull. The occipital bone you might remember articulates with the parietal bones superiorly, the temporal bones laterally, and the sphenoid anteriorly.

The foramen magnum is the large opening located on the occipital bone through which the spinal cord passes into the spinal column. In the semiaxial projection the dorsum sella, the posterior wall of the sella turcica, is projected onto the foramen magnum making it easy to see the posterior clinoid processes at each end of the superior border of the dorsum sella.

On each side of the foramen magnum you can see the petrous pyramids (par petrous, petrous ridges or petrous apices) which are a portion of the temporal bone. Within the petrous pyramid is the internal auditory meatus. The highest point of the petrous ridges is the arcuate eminence.



MEDIAN SAGITTAL PLANE

The median sagittal plane is a longitudinal, vertical or perpendicular plane which divides the skull symetrically in half.

INFRAORBITAL-MEATAL LINE

The Infraorbitalmeatal line, Reid's Base Line, Anatomical Base Line, or Anthropological Base Line is a horizontal or transverse line passing from the external auditory meatus (E.A.M.) to the inferior margin of the orbit.

PROPER CASSETTE SIZE IN FILM TRAY

The average human skull is much longer than it is wide. Therefore, a cassette 10" x 12" in size usually is sufficient for a normal skull. You should place the cassette lengthwise in the tray with the identification marker to be projected towards the mandibular area.

ALIGNMENT OF BODY TO TABLE

Align the patient's median sagittal plane to the midline of the table making sure the body is straight. Place the arms along side the body. Adjust the shoulders to lie in the same transverse plane.

Adjust the patient's head so that its median sagittal plane is perpendicular to the midline of the cassette (or midline of the table since the cassette is center to the midline of the table).

Flex the head enough to place the Infraorbitalmeatal line perpendicular to the plane of the cassette.

ALIGNMENT OF CASSETTE TO SKULL

Adjust the film so that its upper margin is at the level of the highest point to the cranial vertex. The center of the cassette should be at the bottom of the ear lobe; it will be centered at or near the level of the foramen magnum.

F.F.D. AND ANGULATION OF TUBE

The vertical focal film distance (F.F.D.) is set at 32" on the distance indicator. Angle the tube caudad until it indicates 37° to the vertical plane. When the tube is angled the vertical F.F.D. is reduced correspondly to maintain the conventional 40" F.F.D. after angulation.

The same results obtained above may be obtained by angling the tube only 30° caudad provided the orbitomeatal line is perpendicular to the cassette. When using the orbitomeatal line the patient must depress the chin more than when using the infraorbital-meatal line. This is uncomfortable and some patients are unable to depress the chin excessively.

For some patients with short necks, it might become necessary to use a combination of tube tilt and part-film tilt. This can only be accomplished in an upright head unit. The cassette holder is inclined 15° posterior and the tube is angled 15° caudad. For a total of 30° angulation.

C.R. DIRECTION

Direct the 37° angled central x-ray (C.R.) to enter at the hairline, passing through the foramen magnum and projecting to the center of the cassette.

Recheck the position of the skull and suspend respiration before making the exposure.

EXPOSURE FACTORS

An average sized skull measured in the semiaxial projection usually measures around 21 centimeters. Utilizing 95 KVP and hi speed screens as mAs factor of 30 would most likely prove to be sufficient. Par speed screens would need an increase of 50% in mAs and detail screens 4x as much mAs as par speed screens.

FILM EVALUATION

Using the film provided by your instructor compare your film for proper density, contrast and definition. If long scale contrast is present, all anatomical details should be well visualized.

The occipital bone, foramen magnum, dorsum sella and petrous pyramids should be well defined. The shadows of the interal auditory canal which lie within the petrous pyramids are well demonstrated. The mastoid air cells are also seen on the Towne's view.

STUDY QUESTIONS

Instructions: Write out your answers carefully and completely---use separate paper. Check your answers by referring back to the Atlas, the procedure, and any notes you have on the TV program.

1. What are the major structures demonstrated on the Towne's Projection?

2. What portion of the sphenoid bone projects right over the foramen magnum in the Towne's Projection?

3. The internal auditory meatus is within what bone?

4. What is the arcuate eminence?

5. List the different names for the petrous pyramids.

6. What is the median sagittal plane?

7. Give the three other names for the infraorbitomeatal line.

8. Why is the 10" x 12" cassette placed lengthwise on the film tray?

9. When angling the C.R. 37° what meatal line must be perpendicular to the cassette?

10. When angling the C.R. 30° what meatal line must be perpendicular to the cassette?

11. Why is the vertical F.F.D. reduced to 32" for the 37° C.R. angle Towne's position.

12. What can be done if your patient has a short neck and you cannot follow the usual procedure?

13. A good topographic point to direct the entering ray to is the _____.

14. What factors change the exposure technique you may use.

15. What kind of film contrast usually demonstrates more details?

STUDY EXERCISES

Instructions: The following questions represent situations which you might encounter with patients who cannot be x-rayed as explained in the procedure. Answers may be found in texts; on some you might have to ask an experienced technologist.

1. Can the Towne's projection be duplicated with the patient on the P.A. position.

2. What does the term nuchofrontal mean?

3. If the patient cannot be examined in the AP or PA position, how would you do a Towne's position?

4. Is the Grashey position the same as the Towne's position.

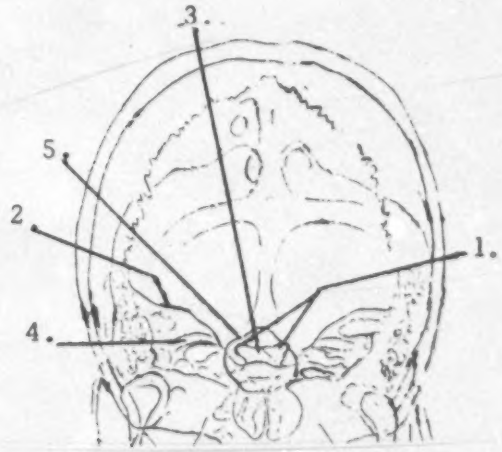
5. How is a Reverse Towne's done?

6. What is the disadvantage in trying to duplicate a semiaxial view with the patient PA.

SELF POST TEST OF LEARNING OBJECTIVES FOR THIS MODULE

Instructions: This exercise is of great importance to you, so answer the following questions carefully. It will give you some indication of how well you know this module. If you can successfully answer these questions, you have followed instructions well and mastered the content of the TV Program, and text. If you need to refer to the textbook, or your notes often, reread pages 318, 327, 336, 337 in the Atlas completely and go back to the Glossary and review the Pretest questions. Be sure to review any questions you missed or were unable to answer. You should score 80% or better to earn a "passing grade" and continue to the next module.

Match the following:



1. _____ a. foramen magnum

2. _____ b. dorsum sella

3. _____ c. posterior clinoid processes

4. _____ d. petrous ridge

5. _____ e. internal auditory canal

f. arcuate eminence

6. The AP projection of the skull with a 37° caudal angulation demonstrates primarily the:

(a) sphenoid bone
(b) frontal bone
(c) petrous bone
(d) parietal bone

7. The occipital bone is located inferior to the:

(a) frontal bone
(b) maxillary bone
(c) parietal bone
(d) nasal bones

8. Another name (s) for the petrous ridge is (are):

(a) petrous apices
(b) petrous pyramids
(c) pars petrous
(d) nasal bones

9. In the Chamberlain - Towne position the C.R. is directed so that the orbitomeatal line forms an angle with the central ray of:

(a) 60°
(b) 30°
(c) 20°
(d) 45°

10. The _____ _____ passes through the foramen magnum into the vertebral column.

11. The posterior portion of the sella turcica is the ventral sella. True or False

12. The two points at each end of the posterior portion of the sella turcica are the middle clinoid processes. True or False

13. The foramen magnum is best demonstrated by using the:

(a) Water's Position
(b) Stenver's Position
(c) Law Position
(d) Towne's Position

14. The median sagittal plane:

(a) is a horizontal plane dividing the body into upper and lower sections.
(b) is a diagonal plane with its axis in the region of the heart.
(c) is a longitudinal plane dividing the body into left and right halves.
(d) is a vertical plane dividing the body into upper and lower sections.

15. The infraorbitomeatal line is formed by an imaginary line passing from the external auditory meatus to the:

(a) outer canthus
(b) acanthion
(c) glabella
(d) infraorbital margin

16. Adult Towne's projections of the skull require _____ cassettes:

(a) 8" x 10"
(b) 14" x 17"
(c) 10" x 12"
(d) 7" x 17"

17. In the AP half axial projection of the petrous portion of the temporal bone, when using the infraorbitomeatal line, it is necessary to use a caudad angulation of:

(a) 37°
(b) 17°
(c) 30°
(d) 45°

18. In order to center the AP skull to the table the (a)_____ is centered to the midline of the table:

(a) median sagittal plane
(b) longitudinal plane
(c) vertical plane
(d) each of the above would be correct

19. In order that the cassette may be centered to the foramen magnum, the center of the cassette should be placed at or near the:

(a) mastoid tip
(b) ear lobe
(c) top of the auricle of the ear
(d) pinna

20. After angling the C.R. to the desired angle, the vertical distance is set at:

(a) 32" F.F.D.
(b) 30" F.F.D.
(c) 36" F.F.D.
(d) 40" F.F.D.

21. The C.R. must be directed to the:

(a) right petrous ridge
(b) left petrous ridge
(c) foramen magnum
(d) E.A.M.

22. The average skull measuring 21 cm. for a Towne's projection would call for what mAs and K.V.P. factors?

23. The Towne's projection primarily demonstrates what three structures?

ANSWERS TO SELF POST TEST

4. (c), 3. (b), 2. (d), 1. (c)
12. (False), 11. (False), 10. (Spinal cord), 9. (b), 8. (d), 7. (c), 6. (c), 5. (a),
21. (c), 20. (a), 19. (b), 18. (a), 17. (a), 16. (c), 15. (d), 14. (c), 13. (d),
23. (Foramen Magnum, Petrous Apices, Occipital bone), 22. 30 mAs, 95 KVP or close to,

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1. V. Merrill, Atlas of Roentgenographic Positions, Vol. 2; C.V. Mosby Co.

2. A. Diaz, C. Parera, Radiography of the Skull, E.I. du Pont de Nemours & Co.

3. Paranasal Sinuses and Temporal Bones; United States Radium Corporation

4. I. Meschan, Normal Radiographic Anatomy; W.B. Saunders Company

5. J. Cahoon, Formulating X-Ray Techniques; Duke University Press

YOUR EVALUATION OF LESSON 1

Please complete this brief form as soon as possible after you have completed this Lesson. Then submit it according to the instructions you have received concerning these lesson evaluation forms. Your thoughtful evaluation will be of great help to us in making useful revisions both immediately and in the next edition of these modules.

Circle the most appropriate response for you.

1 - strongly disagree
2 - disagree
3 - uncertain, or no opinion
4 - agree
5 - strongly agree

1. The TV Program for this lesson was helpful in studying this lesson.

   1 2 3 4 5

2. The TV Program for this lesson caught and held my attention very well.

   1 2 3 4 5

3. On the whole, I was very impressed by the technical or professional quality of the TV Program.

   1 2 3 4 5

4. On the whole, the TV Program was very helpful in preparing me for the test and assignment.

   1 2 3 4 5

5. The learning objectives stated in the Study Guide were on the whole very useful to me.

   1 2 3 4 5

6. The Supplementary Material was very helpful in achieving the learning objectives of this lesson.

   1 2 3 4 5

7. The Supplementary Material was easy to understand.

1 2 3 4 5

8. The methods of presentation of the subject matter were very appropriate for me.

1 2 3 4 5

9. On the whole this lesson was well designed to help me accomplish the learning objectives.

1 2 3 4 5

10. In my opinion this lesson is an important one in this course.

1 2 3 4 5

11. I believe I learned a lot, considering the time I spent on this lesson.

1 2 3 4 5

DISCUSSION QUESTIONS

Please record your answer to these questions on the attached blank sheets of paper.

1. What did you like best, or find most helpful in your study, regarding the TV Program?

2. What did you like least, or find of little help, regarding the TV Program?

3. What section, or sections, of Lesson 1 in the Study Guide did you find most helpful?

4. What section, or sections, of Lesson 1 in the Study Guide did you find least helpful?

5. What recommendations or suggestions do you have for improving the TV Program?

6. What recommendations or suggestions do you have for improving the lesson as a whole?

Please write any other comments that you might have about this lesson.

MODULE II. ANTERIOR OBLIQUE LUMBAR-SACRAL APOPHYSEAL JOINTS PROJECTION

STUDY SEQUENCE

1. Read Overview and Learning Objectives.

2. Answer the Self Pretest questions and write the definitions for the Glossary terms. Check your answers as directed.

3. View the TV Program for this Module.

4. Study Volume 1, pp. 214, 215, 256 in the Atlas of Roentgenographic Positions.

5. Work through Module II Study Guide, carefully following all instructions and answering all questions.

6. Complete the Self Post Test for Module II.

7. Reread areas which you missed on the Self Post Test. Answer related questions again.

8. Using x-ray equipment do an anterior oblique Lumbar-Sacral Spine Projection on a phantom and have your instructor check the position.

9. Develop the x-ray film and evaluate the film.

10. If the film is not 100% accurate, repeat the position until it is perfect.

11. Have your instructor check your positioning on a patient in the hospital setting.

12. Take instructor administered test on complete Lumbar-Sacral Spine Unit.

OVERVIEW

The anterior oblique lumbar-sacral projection primarily demonstrates the apophyseal or interarticular joints which are located on the posterior portion of the lower spine. The body is rotated to a certain degree until the joints are projected perpendicular to the film.

This module identifies the parts of the lumbar vertebrae to be demonstrated, the relationship between the five lumbar vertebrae, x-ray film, and x-ray beam required to demonstrate the structures of interest and how to evaluate the final product.

LEARNING OBJECTIVES FOR THIS MODULE

Upon successfully completing this module you should be able to:

1. Locate the lumbar region of the spinal column.
2. Identify the apophyseal joint, pars interarticularis, transverse process, pedicle, superior articular process, spinous process, inferior articular processes, and vertebrae body.
3. Select and properly place a cassette in the film tray.
4. Position the lumbar sacral region to the x-ray table.
5. Position the cassette to the lumbar region.
6. Set the proper F.F.D.
7. Direct the C.R. to L-3 and film.
8. Measure the lumbar region, choose the proper technic and make the exposure.
9. Analyze the film for proper film quality and identify the structures of interest on the radiograph.

SELF PRETEST OF LEARNING OBJECTIVES FOR THIS MODULE

Before proceding further in your study of this module and before viewing the TV Program, try to answer the following questions. Check your answers by referring to the textbook, the Supplementary Material and by viewing the TV Program.

1. The lumbar region is composed of _____ articulating vertebrae:

   (a) 2. (b) 3. (c) 5. (d) 4.

2. L-1 does not have a _____ attached to it, easily distinguishing it from a thoracic vertebrae.

(a) transverse process.
(b) rib.
(c) cartilage.
(d) sternum.

3. The following structure(s) is (are) seen in the oblique lumbar projection:

(a) transverse process.
(b) pedicles.
(c) apophyseal joints.
(d) all of the above.

4. The lumbar spine is located between the:

(a) thoracic and sacral vertebrae.
(b) skull and cervical vertebrae.
(c) cervical and thoracic vertebrae.
(d) sacral and coccygeal vertebrae.

5. The apophyseal or interarticular joints are formed by the:

(a) superior and inferior pedicles.
(b) superior and inferior vertebral notches.
(c) superior and inferior articular facets.
(d) superior and inferior laminae.

6. An adult anterior oblique lumbar-sacral projection requires a _____ cassette.

(a) 8" x 10"
(b) 14" x 17"
(c) 10" x 12"
(d) 7" x 17"

7. The usual degree of rotation for the oblique lumbar-sacral projection is:

(a) 35°
(b) 45°
(c) 30°
(d) 25°

8. The lumbar vertebrae are centered to the midline of the table by placing a (the) _____ over the midline of the table.

(a) coronal plane 2" anterior to the mid axillary plane
(b) longitudinal plane 2 1/2" medial to the upper A.S.I.S.
(c) frontal plane
(d) transverse plane

9. In order that the cassette may be centered to L-3, the center of the cassette should be placed:

   (a) 2" above the top of the iliac crest.
   (b) 2" below the top of the iliac crest.
   (c) 3" above the top of the iliac crest.
   (d) 3" below the top of the iliac crest.

10. The focal-film is set at _____ inches.

   (a) 30"
   (b) 32"
   (c) 36"
   (d) 40"

11. The C. R. is directed to the center of the _____.

12. Where do you measure the patient in order to arrive at the proper technique for an oblique lumbar-sacral spine projection?

13. Primarily what structure is demonstrated on the posterior oblique lumbar-sacral spine view?

GLOSSARY

Instructions: a. Write a short definition of each term.
b. Check your definitions by referring to a medical dictionary or Atlas of Roentgenographic Positions.

1. Interarticular Joints:

2. Apophyseal Joints:

3. Lordosis:

4. Cephalad:

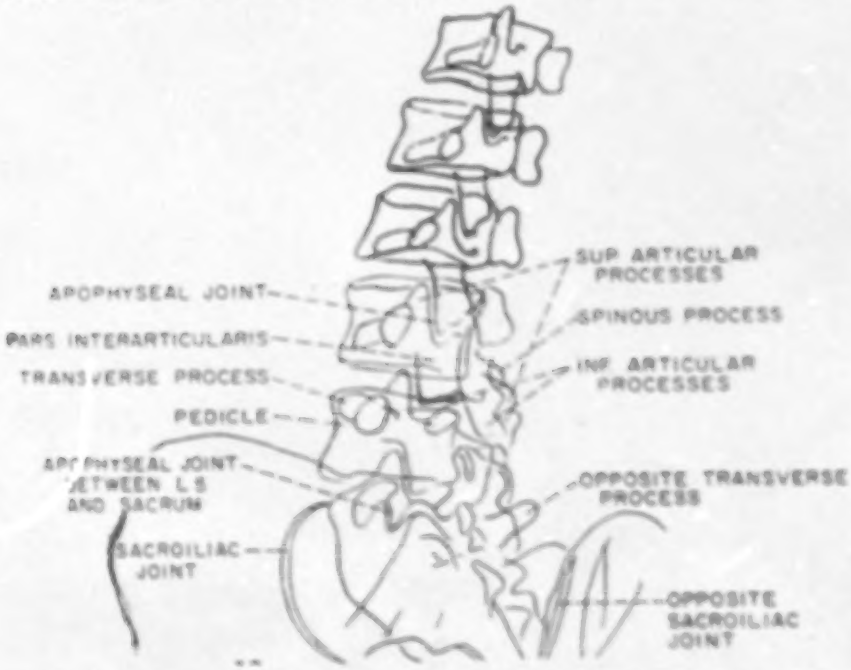
5. Oblique:

6. Anterior superior iliac spine:

7. Right Anterior Oblique Projection:

SUPPLEMENTARY MATERIAL

	PROCEDURE
LUMBAR REGION OF THE SPINE	The lumbar region of the spine is composed of five articulating vertebrae located between the dorsal and sacral vertebrae. The first lumbar vertebrae (L-1) is easily distinguished from the twelfth thoracic vertebrae (T-12) articulating above L-1 because it has no rib attached to it. The fifth lumbar vertebrae (L-5) is easily distinguished from the first sacral (S-1) vertebrae because S-1 articulates with the pelvis.
ANATOMICAL PARTS	The posterior oblique view demonstrated by the anterior oblique projection of the lumbar-sacral spine demonstrates the apophyseal joints in profile projected in the region of the vertebral body. The transverse processes are projected medial to the apophyseal joint and the spinous process appear laterally to the body. The pedicles are the round details visualized in the midline of the body. The inferior articular process of one vertebra is seen articulating with the superior articular process of another vertebra.



PROPER CASSETTE SIZE IN FILM TRAY	The individual lumbar vertebra are small but the five articulating lumbar vertebrae are rather long requiring a 10" x 12" cassette placed lengthwise in the tray. An 11" x 14" cassette may be used on certain occasions. The identification is directed cephalad and your code marker (left or right) is used to identify the side of the body nearest the film and should be placed on the proper side of the cassette.
ALIGNMENT OF PART TO TABLE	Start with the patient supine on the table. (At this point we will assume you are radiographing the right apophyseal joints). Rotate the patient 45° up on his right side. This places the coronal plane of the body at a 45° angle to the table top. Ask the patient to place his right arm along side the body and grasp the edge of the table with his left hand for better support. Flex the right leg 90° and place it under the left leg. This allows the patient support and balance. The patient's right side is closest to the table. This is a right anterior oblique projection. Center the lumbar sacral spine to the table by placing a longitudinal plane 2 1/2" medial to the upper-most left anterior superior iliac spine right over the midline of the table. Adjust the patient's body until the longitudinal plane is right over the center of the table. This will assure that the spine is right over the center of the film. Check to make sure the spine is rotated 45°; use a 45° sponge to maintain the right degree of obliquity.
ALIGNMENT OF CASSETTE TO SPINE	Center the 10" x 12" cassette to L-3 by placing the center of the cassette 2" above the top of the iliac crest. This assures that the bottom of the cassette is projected 2 - 2 1/2" below the top of the iliac crest showing the articulation between L-5 and S-1 and superior part of the sacroiliac joints.
SETTING F.F.D.	Set the focal-film distance at 40". Adjust the collimator shutters to allow radiation to interact only with a region 10" x 12" in size. This prevents radiating parts which are not of interest.

C.R. DIRECTION	The central ray is directed to the center of the cassette. Since the cassette was previously centered to the level of L-3, the C. R. should now be centered to the cassette.
EXPOSURE FACTORS	In order to arrive at the proper exposure factors, measure the patient at the lower margin of the anterior ribs with a calipher. Although the C. R. falls right over the umbilicus, the measurement is made at a thicker region in order to guarantee penetration of L-1 and L-2. Select the mAs and kVp called for on the technic chart. Recheck the position of the spine, and make the exposure on expiration.
FILM EVALUATION	Using the film provided by your instructor compare your film for proper density, contrast and definition. If long scale contrast is present, all anatomical details should be well visualized. The primary structures of interest in the posterior oblique view of the lumbar-sacral spine are the apophyseal joints or interarticular joints. Other structures visualized are the superior and inferior articular facets, transverse processes, pedicles, and spinous processes.

STUDY QUESTIONS

Instructions: Write out your answers carefully and completely --- use separate paper. Check your answers by referring back to the Atlas, the procedure, and any notes you have on the TV Program.

1. How many vertebrae make up the lumbar spine?

2. How can you distinguish a lumbar vertebra from a thoracic vertebra?

3. In the oblique projection, what structures are demonstrated?

4. Why is the 10" x 12" cassette placed lengthwise on the film tray?

5. The patient is rotated _____ for the anterior oblique lumbar-sacral spine projection.

6. How can you be sure the spine is over the midline of the table when the patient is obliqued?

7. How is the 10" x 12" cassette centered to the lumbar vertebrae?

8. What F.F.D. is used for the oblique lumbar-sacral spine projection?

9. How is the C. R. centered to the cassette?

10. Where is the patient measured for proper thickness?

STUDY EXERCISES

Instructions: The following questions will review and enrich your knowledge on the lumbar spine. Answers may be found in textbooks.

1. Draw a superior-inferior view of a lumbar vertebra and label the following parts:

   (a) vertebral body
   (b) vertebral foramen
   (c) lamina
   (d) pedicle
   (e) transverse process
   (f) spinous process
   (g) superior articular process

2. Draw a lateral lumbar vertebra and label the following parts:

   (a) vertebral body
   (b) intervertebral foramen
   (c) intervertebral joint
   (d) intervertebral disc
   (e) vertebral notches
   (f) superior articular process
   (g) inferior articular process
   (h) spinous process
   (i) pars interarticularis

3. What is the congenital anomaly "spina bifida"?

4. What is spondylolisthesis?

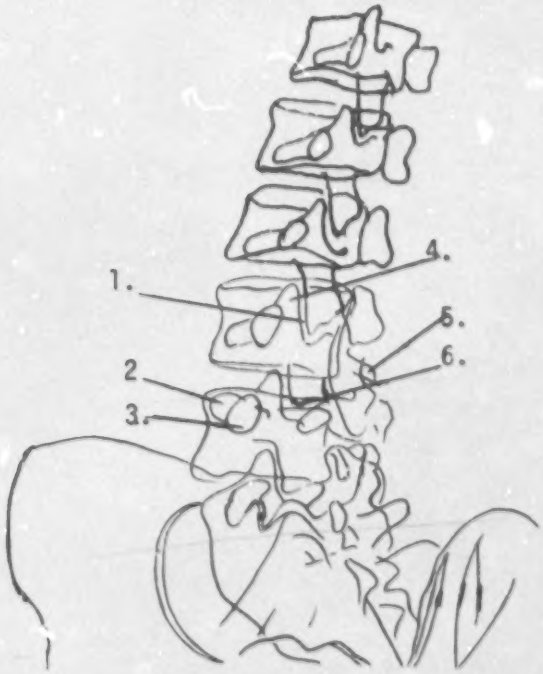
5. What is a laminectomy?

SELF POST TEST OF LEARNING OBJECTIVES FOR THIS MODULE

Instructions: This exercise is of great importance to you so answer the following questions carefully. It will give you some indication of how well you know this module. If you can successfully

answer these questions, you have followed instructions well and mastered the content of the TV Program and text. If you need to refer to the textbook, or your notes often, reread pages 214, 215, and 256 in the Atlas completely and go back to the Glossary and review the Self Pretest questions. Be sure to review any questions you missed or were unable to answer. You should score 80% or better to earn a "passing grade" and continue to the next Module.

MATCH THE FOLLOWING:



1. _____
2. _____
3. _____
4. _____
5. _____
6. _____

a. pedicle
b. superior articular facet
c. spinous process
d. transverse process
e. inferior articular process
f. apophyseal joint
g. lamina

7. The lumbar region is composed of _____ articulating vertebrae:

(a) 2. (b) 3. (c) 5. (d) 4.

8. L-1 does not have a _____ attached to it, easily distinguishing it from a thoracic vertebrae.

(a) transverse process
(b) rib
(c) cartilage
(d) sternum

9. The following structure (s) is (are) seen in the oblique lumbar projection:

(a) transverse process.
(b) pedicle.
(c) apophyseal joints.
(d) all of the above.

10. The best projection to show the articular facets is the:

(a) oblique
(b) AP
(c) lateral
(d) PA

11. The lumbar spine is located between the:

(a) thoracic and sacral vertebrae.
(b) skull and cervical vertebrae.
(c) cervical and thoracic vertebrae.
(d) sacral and coccygeal vertebrae.

12. The apophyseal or interarticular joints are formed by the:

(a) superior and inferior pedicles.
(b) superior and inferior vertebral notches.
(c) superior and inferior articular facets.
(d) superior and inferior laminae.

13. An adult anterior oblique lumbar-sacral projection requires a _____ cassette.

(a) 8" x 10"
(b) 14" x 17"
(c) 10" x 12"
(d) 7" x 17"

14. The most satisfactory oblique projection of the lumbar vertebrae may be accomplished by rotating the body from the true lateral so that the coronal plane forms an angle with the table top of:

(a) 35°
(b) 45°
(c) 15°
(d) 25°

15. The lumbar vertebrae are centered to the midline of the table by placing a (the) _____ over the midline of the table:

(a) coronal plane 2" anterior to the mid-axillary plane.
(b) longitudinal plane 2 1/2" medial to the upper A.S.I.S.
(c) frontal plane.
(d) transverse plane.

16. In order that the cassette may be centered to L-3, the center of the cassette should be placed:

(a) 2" above the top of the iliac crest.
(b) 2" below the top of the iliac crest.
(c) 3" above the top of the iliac crest.
(d) 3" below the top of the iliac crest.

17. The focal-film distance is set at _____ inches:

(a) 30" (b) 32" (c) 36" (d) 40'

18. The C. R. is directed to the center of the _____.

19. That portion of a typical vertebrae that is situated anteriorly is called the:

(a) pedicle
(b) body
(c) lamina
(d) transverse process

20. Where do you measure the patient in order to arrive at the proper technique for an oblique lumbar-sacral spine projection?

21. Primarily, what structure is demonstrated on the posterior oblique lumbar-sacral spine view?

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YOUR EVALUATION OF LESSON 2

Please complete this brief form as soon as possible after you have completed this Lesson. Then submit it according to the instructions you have received concerning these lesson evaluation forms. Your thoughtful evaluation will be of great help to us in making useful revisions both immediately and in the next edition of these modules.

Circle the most appropriate response for you.

1 - strongly disagree
2 - disagree
3 - uncertain, or no opinion
4 - agree
5 - strongly agree

1. The TV Program for this lesson was helpful in studying this lesson.

1 2 3 4 5

2. The TV Program for this lesson caught and held my attention very well.

1 2 3 4 5

3. On the whole, I was very impressed by the technical or professional quality of the TV Program.

1 2 3 4 5

4. On the whole, the TV Program was very helpful in preparing me for the test and assignment.

1 2 3 4 5

5. The learning objectives stated in the Study Guide were on the whole very useful to me.

1 2 3 4 5

6. The Supplementary Material was very helpful in achieving the learning objectives of this lesson.

1 2 3 4 5

7. The Supplementary Material was easy to understand.

1 2 3 4 5

8. The methods of presentation of the subject matter were very appropriate for me.

1 2 3 4 5

9. On the whole this lesson was well designed to help me accomplish the learning objectives.

1 2 3 4 5

10. In my opinion this lesson is an important one in this course.

1 2 3 4 5

11. I believe I learned a lot, considering the time I spent on this lesson.

1 2 3 4 5

DISCUSSION QUESTIONS

Please record your answer to these questions on the attached blank sheets of paper.

1. What did you like best, or find most helpful in your study, regarding the TV Program?

2. What did you like least, or find of little help, regarding the TV Program?

3. What section, or sections, of Lesson 2 in the Study Guide did you find most helpful?

4. What section, or sections, of Lesson 2 in the Study Guide did you find least helpful?

5. What recommendations or suggestions do you have for improving the TV Program?

6. What recommendations or suggestions do you have for improving the lesson as a whole?

Please write any other comments that you might have about this lesson.

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TITLE: A STUDY OF CONSTRUCTION TECHNOLOGY CURRICULUMS AND CONSTRUCTION INDUSTRY NEEDS WITH A SUGGESTED APPROACH TO CURRICULUM DEVELOPMENT IN BUILDING CONSTRUCTION TECHNOLOGY PROGRAMS IN TEXAS COMMUNITY COLLEGES.

DESCRIPTOR: COMMUNITY COLLEGES; *CURRICULUM GUIDES; *CURRICULUM DEVELOPMENT; POST SECONDARY EDUCATION; *HOUSING INDUSTRY; *BUILDING TRADES; *CONSTRUCTION MANAGEMENT; TEACHING GUIDES; TRADE AND INDUSTRIAL EDUCATION

EDRS PRICE: MF AND HC AVAILABILITY WILL BE ANNOUNCED IN VOL. 10, NO. 2.

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ABSTRACT: DESCRIBED IN THE REPORT IS A STUDY TO ANALYZE THE EDUCATION AND TRAINING NEEDS OF THE BUILDING CONSTRUCTION INDUSTRY AND TO DETERMINE WHETHER OR NOT EXISTING PROGRAMS ARE ADEQUATELY FULFILLING THOSE NEEDS. BASED UPON AN ANALYSIS OF THE INDUSTRY AND AN OVERVIEW OF CURRENT PROGRAMS, CURRICULUM GUIDES FOR TWO COMMUNITY COLLEGE PROGRAMS WERE DEVELOPED AND ARE INCLUDED IN THE DOCUMENT. THE GUIDE FOR RESIDENTIAL CONSTRUCTION MANAGEMENT (257 PAGES) IS A TWO-YEAR PROGRAM DESIGNED TO PREPARE STUDENTS FOR CAREERS IN RESIDENTIAL CONSTRUCTION ENTERPRISES AS MEMBERS OF THE MANAGEMENT TEAM. EMPHASIS IS ON BUSINESS, FINANCE, OFFICE PROCEDURES, AND GENERAL MANAGEMENT CONSIDERATIONS AS THEY SPECIFICALLY RELATE TO THE RESIDENTIAL CONSTRUCTION BUSINESS. THE TWO-YEAR RESIDENTIAL CONSTRUCTION TECHNOLOGY PROGRAM (253 PAGES) FOCUSES ON TECHNICAL KNOWLEDGE AND OPERATIONS AND INCLUDES COOPERATIVE TRAINING. STUDENTS MAY EXIT TO POSITIONS IN INDUSTRY WITHOUT COMPLETING THE ENTIRE PROGRAM. FOR EACH COURSE LISTED IN THE GUIDES, INFORMATION PROVIDED INCLUDES: THE COURSE OBJECTIVE, COURSE DESCRIPTION, SUGGESTED TEXT, COURSE OUTLINE, INSTRUCTIONAL RECOMMENDATIONS/SUGGESTIONS, AND ADDITIONAL INSTRUCTIONAL MATERIALS AND REFERENCES. STUDENT HANDOUTS AND TESTS ARE ALSO INCLUDED. THE DOCUMENT CONTAINS TWO EVALUATION INSTRUMENTS--A PRETEST/POSTTEST ON PRINCIPLES OF RESIDENTIAL CONSTRUCTION AND A STUDENT FOLLOWUP QUESTIONNAIRE. (AUTHOR/RG)

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VT 103 209

A STUDY OF CONSTRUCTION TECHNOLOGY CURRICULUMS AND CONSTRUCTION INDUSTRY NEEDS WITH A SUGGESTED APPROACH TO CURRICULUM DEVELOPMENT IN BUILDING CONSTRUCTION TECHNOLOGY PROGRAMS IN TEXAS COMMUNITY COLLEGES

This Research Project was conducted for the Division of Occupational Research and Development, Texas Education Agency, under the terms of a research contract funded jointly by the Texas Education Agency and Paris Junior College, Paris, Texas.

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FOREWORD

There can be little argument that the construction industry plays an increasingly important role in the economy of the United States. Its product currently represents approximately fourteen percent of the gross national product and by 1976 the dollar volume of construction is expected to exceed $150 billion per year. In terms of invested dollars and of numbers of people employed, construction is larger than steel, oil, automobiles, food products, textiles, or any other economic activity (with the exception of the vast "service" and "agriculture" industries as referred to in publications of the U. S. Bureau of Labor Statistics).

Since demand for construction generally follows population trends, the high rates of population growth and economic expansion forecast for the State of Texas would seem to portend an expanding requirement for manpower, both in construction and in construction-related business enterprises. The purpose of this study has been to analyze the education and training needs of the industry and to determine whether or not existing programs are adequately fulfilling these needs. In order to restrict the scope of this study to an area of manageable proportions, the main research effort has been directed to the sector of the construction industry normally referred to as "building construction". Activities occurring under this more restrictive heading are performed on a continuing basis in every community throughout the state. Because of this widespread distribution of activity, building construction becomes of

special interest under the community college concept of providing educational service to the local community.

Curriculum guides developed during the course of this research effort are a direct outgrowth of a pilot program which was operated by Paris Junior College, Paris, Texas, in conjunction with the research. It is not intended that these suggested guides should be considered as a "standard" program. They are furnished to reflect actual program experience to those considering the initiation of new programs in building construction or the revision of existing ones. In each case, they should be modified to meet the needs of implementing institutions and the localities which they serve. Their principal function is to present a detailed description of "one way" in which needed educational support can be provided to a sector of the industry which has been somewhat neglected in the development of previous programs; their principal value lies in the fact that they have been tested and frequently revised during almost two years of actual operations. Used judiciously in the implementation of similar programs, they should be helpful in preventing many false starts and in getting new programs underway in the most expeditious manner possible.

Many educational institution administrators, technician educators, construction industry employers and craftsmen, and other persons acquainted with the educational and training needs of the industry have contributed to the development of this research study. While all suggestions

for content were considered in putting this study into final form, not all the suggestions offered could be completely incorporated into the study in their original form. For this reason, it should be recognized that this study may not receive the complete endorsement of all those persons and organizations who have contributed to it.

A list of the persons and organizations who made some form of contribution to this research effort is included under the heading of "Acknowledgements". Thanks are due to all of them for the valuable help they gave. A special expression of appreciation is due each member of the Building Trades Advisory Committee, Paris Junior College, Paris, Texas, for their invaluable assistance in providing the voice of experience which was so necessary throughout this project. Special appreciation is also extended to the following personnel of Paris Junior College who provided me with their unfailing enthusiasm, generous assistance and encouragement always:

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While gratefully acknowledging the contributions made by others, it must also be noted that the writer of this study accepts full responsibility

for any errors whether of omission or commission. The final views expressed are those of the author and should be charged to no other person, institution or organization.

Gerald G. Rambo

Project Director

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INTRODUCTION AND SUMMARY OF FINDINGS

Purpose of the Study

The purpose of this study is to advance knowledge of the education and training needs of the building construction industry, and to develop a suggested approach to curriculum development in building construction technology programs in Texas community colleges.

The construction industry is one of the largest industries operating in the United States today, and is of enormous importance to the nation's economy. Building construction constitutes a highly significant part of the total construction activity accomplished under the general heading of contract construction. There is a positive correlation between the level of building construction activity and population growth patterns. Thus the continuing high rates of economic and population growth which are forecast for the state of Texas indicate a corresponding long range requirement for qualified technicians and managers who can erect high quality structures at economically attractive unit costs to accomodate the anticipated expansion.

This study will analyze the education and training needs of the building construction industry and will attempt to determine whether or not existing programs are effectively filling these needs. Suggested curriculum guides will be developed for supplemental programs which the research indicates may be needed.

Major Educational and Training Problems In the Building Construction Industry

The cyclical nature of business activity is perhaps the most significant single factor effecting manpower development and utilization in the construction industry. The widespread instability stemming from this industry characteristic results in high personnel turnover rates, insufficient numbers of qualified personnel, and a wide range of other associated inefficiencies. Despite the determined efforts of various governmental agencies and numerous industry related organizations there appears to be little likelihood that this persistent problem will be significantly reduced in the near future. The major problem for education and training therefore is the deve opment of programs which improve the ability of the industry to cope with this cyclical phenomenon. The programs needed fall into two broad categories:

1. Programs designed to provide a relatively rapid response to cyclical demands over the short term, and
2. Programs designed to dampen or reduce the impact of such cycles over the long term.

Scope of the Analyses

The main focus of this study is directed to an examination of the educational and training needs of the building construction industry and a review of the various programs currently being operated to meet these needs. The study is limited geographically to the state of Texas, and its principal concern is with programs operating at the post-secondary level of education. Information gathered during the conduct of the research provides the fundamental base for development of a suggested approach to curriculum development in building construction technology programs in Texas community colleges.

Methodology

The materials utilized in the development of this study were obtained from published data, private surveys, and personal interviews. Consultations were held with key industry leaders, recognized specialists in vocational and technical education, instructors and administrators of vocational technical schools, executive officers and administrators of numerous organizations and societies pertinent to the building construction industry, and with members of the Building Trades Advisory Committee, Paris Junior College, Paris, Texas. A pilot program, designed to test the validity of training concepts and to refine the curriculum content of two new programs proposed for supplemental support of the residential construction sector of the of the industry was conducted as an extension of the original research

project. The experience and knowledge gained through operation of the pilot program has been incorporated directly into many of the various aspects of this study and has made a positive contribution to the overall quality of the final product.

Plan of the Study

The main body of this study begins with Chapter 2 which presents a profile of the construction industry. Definitions and relationships are discussed with the view of furnishing added insight into the role and function of the various industry sectors which combine to produce the total product of construction. This chapter also contains a brief description of the most commonly used routes of entry for persons seeking employment in the industry. Chapter 3 contains a discussion of some of the more important considerations which should be applied to manpower development and training for the industry. The considerations developed then become the foundation on which a suggested approach to curriculum development at the post-secondary level of education is formulated. A brief analysis of the principle programs of education and training currently operating in support of the industry is provided in Chapter 4. Recommended supplemental programs for support of the residential construction sector of the industry are described in Chapter 5. An overview of supporting curriculums suggested for the new programs with brief descriptions of courses are contained in Chapter 6.

The need for development of effective program evaluation procedures is discussed in Chapter 7. Some suggestions regarding facilities, equipment, and costs necessary to the implimentation of the recommended programs are furnished in Chapter 8. Curriculum guides, developed through the operation of the pilot program and designed to serve as models for implimentation by other interested institutions, are contained in Appendixes A and B. A listing of some of the more widely recognized professional and technical societies and associations concerned with the development of building construction technology programs is provided in Appendix C. The classifications of construction as developed by the U. S. Bureau of the Budget and published in the Standard Industrial Classification Manual is contained in Appendix D.

The remainder of this chapter summarizes the findings and suggests areas that merit more intensive study.

Summary of Findings

1. Development of educational programs for building construction according to the ladder concept is a valid overall objective, but must be pursued with clearly established reservations. Individual program objectives must not be subordinated to the ladder objective to the extent that the principal purpose of any program is invalidated.

2. Programs currently operating in support of the building construction industry are, without exception, achieving the objectives for which they were designed.

3. Additional education and training programs are needed in support of the residential construction sector of the building construction industry. The supplemental programs should be established within the community junior college system.

4. A related finding of potentially serious consequence for vocational occupational education involves program awareness. Failure to fully implement career education in the public school system seriously limits the ability of young people to make informed decisions regarding programs and careers. This finding is more fully developed in Chapter 3, "Suggested Approach to Curriculum Development in Building Construction Technology Programs" and in Chapter 5, "Recommended Supplemental Programs."

PROFILE OF THE CONSTRUCTION INDUSTRY

Introduction[1]

Recent studies indicate that construction activity in the United States currently exceeds 100 billion dollars per year and it is expected that by 1976 construction volumn will exceed $150 billion annually. The combined output of construction represents approximately 14% of the gross national product. More than 4,000,000 people are employed by the 870,000 firms presently doing business in construction. In terms of invested dollars and numbers of people employed construction is larger than steel, oil, automobiles, food products, textiles, or any other economic activity.

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[1] In the development of this chapter the writer has leaned heavily on the reference materials cited below and wishes to hereby acknowledge the contribution these documents have made to this research study:

P. Cassimatis, "Economies of Scale in Construction," Fairleigh Dickenson University Business Review, Winter 1967.

"Economics of the Construction Industry," The Conference Board, National Industrial Conference Board, Inc. New York, 1969.

"Manpower in Construction: A Profile of the Industry and Projections to 1975." Report of the President's Committee on Urban Housing: Technical Studies, Vol. 2, Washington, D. C., 1968.

Howard G. Foster, "The Labor Market in Nonunion Construction," Industrial and Labor Relations Review, 26, 4 (July 1973), pp. 1071-1085.

Definitions

The term "construction" refers to all of the various types of construction activity associated with the erection and repair of immobile structures and facilities, such as buildings of all types, highways and streets, ports and airports, dams and conservation projects, railroad lines and canals, and other similar types of work. Mobile home and travel trailer construction are not, however, included in construction because they are considered to be products of manufacturing.

"Contract Construction," as opposed to the general term, "construction," refers to an industry consisting of a large number of firms who perform construction work for others. It is estimated that between 85 and 90% of all construction activity is accomplished by elements of the contract construction industry. The remaining 10 to 15% is performed by other than construction enterprises (notably public utilities, military and other governmental departments, etc.) utilizing their own in-house labor resources. This type of activity is referred to as "force-account" construction.

According to the statistical series of the Census Bureau, new construction activity is divided into three broad categories, usually referred to as industry sectors:

1. Private residential construction
2. Private nonresidentail construction
3. Public construction.

Private residential construction is composed of all of the activity related to the production of various types of housing units (single family, multi-family, condominuims, apartments, etc.). Private nonresidential construction includes industrial and commercial construction such as facilities used in support of all types of manufacturing activity, and the offices, warehouses, stores, etc., required for the operation of private industry and its associated service functions. Public construction consists of such things as the buildings and facilities used by all branches of local, state, and federal governments, including military facilities and conservation and development projects. Highways, streets, and other public works are also included in this category of construction.

It is a common practice that firms engaged in construction tend to specialize by type of product. Thus the construction activity reported within the statistical series as private residential construction and private nonresidential construction would be performed almost without exception by firms classified as "building construction" enterprises. Buildings erected within the public construction sector of the industry would also be built by the same type of firms. Other types of construction activity such as highways, dams, and airports (reported under the public construction sector) would be performed by construction firms operating under the general classification of "Heavy Construction." A major operational distinction between the two types of

firms lies in the kind and quantity of equipment employed. Heavy construction contractors ordinarily have a high capital investment in equipment and perform most of the work themselves, using their own equipment. Building contractors on the other hand either subcontract large parts of the work (thereby minimizing equipment requirements) or rent construction equipment for the duration of each project.

A more comprehensive breakdown of construction activities occurring under the general classification of "Contract Construction" may be found in The Standard Industrial Classification Manual (SIC), compiled by the U. S. Bureau of the Budget, Executive Office of the President. Selected portions of the manual have been extracted and are contained in Appendix D of this report.

Since the main concern of this study is with activity performed under the heading of building construction, all future references to construction should be assumed to pertain to the type of functional organization thus described, except in cases where qualifying words or statements clearly indicate otherwise.

Operating Characteristics

A well established system of contracting and sub-contracting is one of the most distinctive characteristics of the building construction industry. At the construction site level work is performed by a multitude of independent firms organized along the lines of the building trades crafts. Basically the business of these firms is to furnish the skills of their craft in the accomplishment of the construction project. For the most part each craft operates within its own functional channel and communications flow up and down through vertical channels of organization (i.e., painting contractor to painting foreman to journeyman painter to apprentice painter, etc.). The same basic pattern is repeated for each craft operating on the site. Work flow processes and overall coordination is affected by a general contractor who obtains the specialized services of the crafts through a series of subcontracts.

The traditional concepts of rugged individualism and private enterprise continue to prevail to an exceptionally high degree throughout the industry. Homebuilding in particular is marked by large numbers of small-volumn contractors and sub-contractors who prefer to operate their own businesses as owner-managers and remain small enough to exercise personal control over every part of their operation. This industry characteristic is further evidenced by the fact that more than 75% of the 870,000 firms engaged in construction employ fewer than eight employees. Only about 1% employ more than one hundred employees.

Another factor which encourages the entry of vast numbers of small firms into construction is the relatively low capital investment requirement. Plant investment is, in most cases, virtually nonexistent, because construction activity occurs at the site of each project. Ease of entry of firms into construction is evidenced by recent statistical data which shows that approximately 13% of all firms entered the industry during the reporting year. The high rate of entry is balanced by data which indicates that more than 14% of all firms left the industry during the same reporting period. These high rates of entry and exit can also be explained in part by practices peculiar to the construction industry. It is a frequent practice to organize a firm for the construction of a single project (i.e., large scale apartment complex, major housing development, etc.) and to then dissolve the firm on completion of the project.

A characteristic of special significance is the "boom-or-bust" nature of construction activity. National and international business cycles, local business conditions, and the normal seasonality of construction combine to create an exceptional degree of instability and insecurity for all elements of construction.

Organization of the Industry

Most of the firms engaged in construction are relatively small both in numbers of employees and in annual dollar volumn of work performed. Consequently these firms tend to operate within a limited market area, normally ranging no more than 100 miles from their

headquarters. Since construction demand in any given area is highly correlated to population the geographic distribution of construction firms is quite similar to the geographic distribution of population. A phenomenal growth in the total number of firms in construction has occurred during the last 20 years. While the number of partnerships and sole proprietorships has continued to grow this same time period has disclosed a tendency for relatively more firms to incorporate. This can be attributed to the increasing complexity of certain types of contract construction work requiring more versatile management and larger financial resources which the corporate structure seems better able to supply. The trend toward the corporate structure is even more dramatically emphasized by the shifts in relative shares of the market. Data compiled by the U. S. Internal Revenue Service, and published in "Statistics of Income, U. S. Business" shows that the relative share of sole proprietorships declined from 39% to 24% of the industry's output. Partnerships experienced a decline from 22.5% to 9% of the industry total, while at the same time corporations increased their share of the market from 38% to approximately 68%. The increasing competitive pressures which prevail throughout the industry today are likely to cause a continuation of the trend toward incorporation.

Degree of Unionization

Within the contract construction industry there appears to be a direct relationship between the degree of unionization and the size of construction projects: as the type of construction becomes lighter, from heavy construction (where the highest degree of unionization prevails) to industrial and commerical (high degree) to public and private building (relatively high) to housing developments (moderate) to home building (relatively low). The strength of union organization among construction workers in residential construction also shows a direct correlation between the degree of unionization and the size of the city or location. In cities with populations of more than 500,000 union strength is estimated to range from 75% upward. As the size of the city decreases the degree of unionization drops rapidly from a maximum of approximately 80% down to 0% in the smaller less urbanized localities.

Routes of Entry into Construction

Persons seeking employment in construction enter the industry through both formal and informal training routes. Formal training is perhaps best exemplified by the widely known apprenticeship system. Training apprentice workers under a journeyman's supervision is a centuries old tradition in construction. The central objective of apprenticeship is to maintain the high quality of skill required by the craft. In the building trades formal apprenticeship programs are organized along craft lines and are operated by the respective unions. While in times

past apprenticeship involved little more than informal on-the-job training this is far from true in modern apprenticeship programs. Formal apprenticeship programs today involve a systematic program of instruction including the following elements:

1) A formal syllabus of instruction,
2) On-the-job training,
3) Related instruction off the job site, and
4) Indenture to a joint labor-management committee responsible for the apprentice's progress.

Contrary to popular opinion, however, apprenticeship is not the only route to journeyman status, nor even to union membership. Far greater numbers of workers enter construction through informal means of training than enter through formal programs.

Informal training in the crafts originates primarily in non-unionized areas and consists almost totally of on-the-job training under the tutelage of a journeyman in the craft.

Because of the inferior nature of informal training, formal apprenticeship appears to serve as the principal source of key journeymen, foremen, supervisors, and even contractors in most trades. In this sense apprenticeship may be viewed as being as much a management training mechanism in some trades as a means of training journeymen.

To this point entry into construction has been concerned with entry from the bottom. Quantitatively this is,of course,the main point of entry. By tradition persons enter one of the crafts through either

formal or informal training and, after completing the required periods of experience, are then elevated to journeyman status. Smaller numbers of other persons enter at the top as owner-managers. Usually, if they are to be successful, these persons have received formal training in architectural or engineering degree programs or have had extensive experience in related construction enterprises. Because of the high degree of specialization by function,there is little lateral movement into the industry at the intermediate levels.

A SUGGESTED APPROACH TO CURRICULUM DEVELOPMENT IN BUILDING CONSTRUCTION TECHNOLOGY PROGRAMS

Introduction

The President of the United States has emphasized the urgent need for vocational education and training in support of the construction industry. Although indexes of current economic activity show that the industry has moved from a period of "boom" to a period of "bust" during the time that has transpired since his statement was released, the concerns voiced by the President remain as valid today as they were on the date the statement was first published. Selected excerpts from the President's statement are reprinted as follows:

> "Today, as the result of five years of inflation, America is not building the housing that is needed to provide adequate shelter for her people . . .
>
> Our most urgent need is for homes that middle and lower income Americans can afford. Yet today, the average price of all new houses offered for sale is $27,000.
>
> . . . The basic problem is quite simply that the nation's needs for construction outran the industry's ability to expand its productive resources. . .

The cost of construction is basically the cost of money, the cost of materials, the cost of labor, the cost of management, and the cost of improved land . . .

To moderate severe increases in the cost of labor we must increase the supply to meet the demand. This means that we must assure equal employment opportunity for all in the industry, increase productivity through vocational training, adopt innovative techniques, and reduce seasonality . . .

Between now and 1978 almost 2 million new jobs will be created in the construction industry. The normal operation of the labor market will supply many of these workers, but new training and apprentice programs will be required and access to the skilled labor market must be eased to meet heavy demands of the 1970's.

Training and apprentice programs also must be developed to take advantage of technological opportunities in the home building industry. The nature of skills required may be modified by shifting part of the production and assembly of housing units to off-site industrial plants . . .

There is clearly a demand for the kind of housing that new low-cost production techniques could bring."[1]

In January, 1968, the Coordinating Board, Texas College and University System, adopted a "Statement of Role and Scope" for community colleges which reads, in part, as follows:

"The public community college in Texas will have a multiple responsibility which involves:

1) Programs in general college education,

2) Technical programs of varying length . . . to train students for skilled employment.

3) Continuing education."[2]

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[1] "Excerpts from the President's Statement on Combating Construction Inflation and Meeting Future Construction Needs." Earl M. Bowler, Comp., Division of Vocational and Technical Education, Department of Health, Education, and Welfare, U. S. Office of Education, 17 March 1970.

[2] The Coordinating Board, Texas College and University System. The Development of Community Junior Colleges in Texas. Statement of Role and Scope. Adopted: January 1968.

The Texas Advisory Council on Vocational-Technical Education has also gone on record as favoring programs both at the secondary and the community college level which provide the student with both academic training and an acquired job skill.

> "It is felt that every student should leave the system with at least job-entry skills and with sufficient preparation in basic academic subjects to enable entry into further education. The student is thus equipped to continue his formal education to a baccalaureate degree or to enter the labor market at the time he chooses with some kind of saleable skill."[3]

Within the context of the goals and objectives contained in the above cited publications, curriculum development for programs operat- in support of the construction industry becomes a completely valid concern for post-secondary vocational education in Texas community colleges.

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[3] Advisory Council for Vocational-Technical Education, News, Vol. 2, No. 7, August 1971.

General Considerations

The construction industry is characterized by a plethora of small independent business firms operating within a well established system of contracting and subcontracting. More than 75% of these firms have less than eight employees. Relative ease of entry into construction contributes to the large number of firms in construction. Ease of entry is evidenced by the high percentage of new firms entering construction each year (approximately 13%). A correspondingly high rate of exit (about 14% annually) testifies to the severity of competition which prevails through-out the industry. An additional indicator of the competitive nature of the industry is the fact that construction consistently leads all other industries in percentage of annual business failures. Studies disclose that more of these firms fail because of poor management practices than for any other reason. This observation is not inconsistent with prior comments on the severity of competition, but serves to better explain the reasons why some firms in the construction industry are unable to survive.

Volumn of annual output is often used to identify different categories of builders. Those who complete 1 to 10 housing units per year are classified as small-volumn builders. About 90% of all builders in the United States today are in this category. Together these builders account for about one-third of all the houses produced each year. The medium volumn builder completes from 10 to 50 houses per year.

Approximately 8% of all builders fit into this category and they account for 20 to 25% of the annual housing product. Large-volumn builders are those who construct more than 50 houses per year. While only about 2% of all builders are included in this category they produce almost 50% of all the housing built in the United States each year. Despite overall industry trends toward the corporate organizational structure and larger scale business enterprises, there is no argument but that for the foreseeable future the small-volumn operative builder will continue to play an important role in the total construction picture.

The relative small size of firms operating in construction seriously limits the ability of the industry to train new employees. Because of the small size of the average firm and high prevailing rates of pay, the wages of one non-productive employee can often mean the difference in whether a job is completed at a profit or at a loss. The contractor who includes the wages of such an employee in the development of his bid decreases his chances of being awarded the contract; the one who does not, and who subsequently is awarded the contract, decreases his chances of completing the job at a profit. Contractors often describe such untrained employees as being "worth considerably less than nothing" - meaning that not only is the untrained employee non-productive in his own right, but that he also decreases the productivity of the trained employee who must devote a part of his time to the training process.

The problem of training new employees is particularly acute for residential construction firms in small to medium size cities. The absence of formal apprenticeship programs in this non-unionized environment leaves a gap in training requirements which local firms are unable to fill. Only the larger construction firms which characteristically operate in larger metropolitan areas are capable of absorbing the training costs associated with developing new personnel. Thus potential employees from smaller cities must migrate to the larger metropolitan areas to enter construction, whether by formal apprenticeship or by means of informal training. Working associations developed during training, coupled with generally greater job opportunities, serve to effectively discourage the return of such persons to smaller cities subsequent to completion of their training.

Wide cyclical swings in construction activity have a devastating impact on manpower development and utilization. Many persons who exit the industry during periods of reduced building activity will not, for a variety of reasons, be available for re-employment when the cycle starts up again. Persons leaving the industry take with them the training and experience acquired during the course of their employment. Thus when an upturn in construction activity occurs the industry is forced to hire large numbers of untrained, inexperienced workers to replace personnel lost during the downturn. This repeating pattern not only results in a duplicity of training costs but also causes decreased levels of productivity throughout the industry.

Major economic studies disclose that the construction industry's performance is adversely effected by the separation of design from production, by the absence of vertical integration with the suppliers of building materials, and by the prevalence of building code and labor union restrictions on innovations.[4]

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[4]For a detailed discussion of the factors effecting construction industry productivity, see the following:

Earnest L. Buckley, Construction Management. (Ft. Worth: University of Texas Press, October 1972).

P. Cassimatis, "Economies of Scale in Construction," Fairleigh Dickenson University Business Review, Winter 1967.

"Economics of the Construction Industry." The Conference Board, National Industrial Conference Board, Inc. N.Y., 1969.

Suggested Approach

The development of curriculums for the building construction industry must evolve through a conceptual approach having as its central guiding objective the need to provide buildings and facilities for our society at the lowest possible cost in terms of financial, material, and human resources. To this end post-secondary vocational programs operating in support of construction must be promulgated on the degree to which their curriculums expand the ability of the industry to:

1) Develop improved means by which to cope with the cyclical phenomenon of construction; in terms of both

a) reductions in the extremes of cyclical activity, and

b) more effective response to cyclical demands.

2) Explore all possible avenues for increasing productivity through greater integration of the functions of design and production.

3) Identify the increases in effectiveness which may be obtained through greater vertical integration with the suppliers of materials.

4) Eliminate restrictions on innovation resulting from outdated and unrealistic building codes, and from non-productive union attitudes toward innovation.

5) Provide alternative means of training for persons to whom formal apprenticeship is not now available.

6) Adapt organizational structures through which maximum economies of scale may be realized.

AN OVERVIEW OF CURRENT PROGRAMS

Introduction

A wide array of educational and training programs is currently being operated in support of the construction industry. These programs range from the industry orientation type programs recently implemented on a pilot basis in selected junior high schools through 5-year professional degree programs conducted by major institutions with the Texas College and University System. Additional programs are provided within the established secondary and post-secondary public educational systems, and numerous formal apprenticeship programs are conducted by the various unions representing the building trades crafts. Two other sources known to be providing programs of limited scope are: proprietary schools, and agencies of the federal government.

Proprietary schools conduct skill development courses for selected crafts within the building trades group. These courses are conducted by private business organizations with profit to the sponsoring institution being the dominant motive. Total output of such programs is insignificant in terms of overall manpower requirements in construction.

Programs operated by agencies of the federal government are primarily those originating through authorizations contained in the Manpower Development and Training Act, of 1963. The five major federally funded occupational training programs are: MDTA

institutional, MDTA On-the-Job Training, Concentrated Employment Program (CEP), Jobs in the Business Sector (JOBS), and the Work Incentive Program (WIN). These are special purpose programs which operate to relieve unemployment among persons displaced by automation (through means of various retraining programs), provide improved employment opportunities for the hard-core unemployed, and to improve racial balance in skilled occupations having a history of disproportionate minority race representation.[1] Programs operated to provide for the internal manpower needs of agencies of the Department of Defense are currently of decreasing importance (as a potential source for construction manpower in the civilian economy), due to expiration of the Selective Service Act and the longer term enlistments encouraged by the all-volunteer military force concept. These special purpose programs are considered to be outside the scope of this study and are only mentioned here to round out the total picture of current programs.

The remainder of this chapter will be directed to a more detailed discussion of programs having a special relationship to post-secondary education, and to implications for future requirements which may be derived from the analysis.

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[1] "Building New Carpenters." Manpower, U. S. Department of Labor, 3, 10 (Oct. 1971) pp. 13-18.

Secondary School Programs

Programs relating to the construction industry, at the secondary school level, are generally within the Building Trades courses or the General Construction Trades cluster of the Coordinated Vocational-Academic Education Program (CVAE). These programs are operated in pursuit of the following objectives:

1) Providing sufficient training to the student to encourage elevation of his apprenticeship entrance level should he choose immediate employment upon completion of the course, and

2) Providing a substantial foundation for further study in post-secondary programs dealing with construction technology, for those who desire to continue their formal educational development.

Although not a part of the normal secondary school curriculum many high schools (especially in larger metropolitan areas) also provide training opportunities in construction related skills through their Community Services and Adult Trade Extension Programs. Apprenticeship classes in the building trades fall into this category and are generally developed as cooperative programs between the industry, the United States Department of Labor, and the school conducting the training. Such courses are normally restricted to persons already employed in the trade. These courses are developed under the presumption that students will be getting laboratory or practical work experience

on the job while related theory and background information pertaining to the trade can be presented by the school in an established training facility.

Post-Secondary Programs

Post-secondary programs operating in support of the construction industry have developed along two distinct lines; (a) those operated by technical schools and (b) those operated by community colleges.

By tradition the primary role of technical schools has been to provide opportunities for the development of occupationsl skills through "hands on" training in the tools of the trade. Extensive laboratory facilities are provided to accomodate this type of training. A main campus is provided which serves as a focal point for administration of several subordinate campuses located in other geographic areas of the state. In addition to skills development training technical schools in Texas currently provide some management skills development for the construction industry through a 2-year Construction Technology Program. The major Technical School contribution, however, remains the 1-year Construction Craftsman program which is offered on the home campus and on several subordinate campuses.

The primary area of interest for community/junior colleges, in terms of support to construction, has been in the direction of management skills development. The relatively recent emphasis on improving employment opportunities, however, has resulted in the introduction of a number

of program offerings in the Construction Trades which are almost totally skills development oriented. Construction oriented programs currently operating in Texas community colleges include:

a) one 2-year degree program in Construction Management and Technology

b) one 2-year degree program in Homebuilding Technology

c) three 2-year Architectural Technology Programs, and

d) two programs in Residential Construction developed during the conduct of this research. These programs are being continued as regular program offerings by the piloting institution.

College and University Level Programs

In addition to the traditional professional degree programs in engineering and architecture two new 4-year degree programs have recently been implemented within the Texas College and University System. These are:

a) a 4-year program in Construction Technology leading to the Bachelor of Science Degree in Industry and Technology

b) a 4-year Homebuilding Program offering the following options: a Bachelor of Science degree in Construction, a Bachelor of Science degree in Urban Development, and two Bachelor of Arts degrees in Design --- Design I and Design II. The latter of the two is pointed toward

qualification of the student for post-graduate study in Architecture. Design I is calculated to satisfy the needs of students who desire to specialize in the design of family housing.

Formal Apprenticeship Programs

Apprenticeship programs operating in construction related skills areas have developed largely along craft lines. Each of the building trades crafts has its own union organization and each of these unions is dedicated to protection of the interests of its membership. Formal apprenticeship programs are operated by the craft unions and have as their central objective maintenance of the high skill qualities demanded by the craft. Modern apprenticeship programs include a formal syllabus of instruction, on-the-job training, related instruction off-the-job site, and indenture to a joint labor-management committee responsible for the apprentice's progress. Strict journeyman/apprentice ratios are maintained within each craft to assure that the number of apprentices is kept to the level which the available journeyman can effectively train. Apprenticeship appears to supply a core of key journeymen, foremen, supervisors and even contractors in most trades. In this sense apprenticeship may be viewed as being as much a management training mechanism as a means of training journeymen.[2]

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[2] For an in-depth analysis of the role of apprenticeship in construction see John T. Dunlop and D. Q. Mills, Manpower Development and Utilization in the Contract Construction Industry (Cambridge: Harvard University Press, 1972); see also Roger H. Comer and Herbert J. Lahne, Admission and Apprenticeship in the Building Trades Unions (Washington, D.C.: Department of Labor, April 1971).

Informal Training

In non-union areas an informal type of training is carried out which is sometimes erroneously referred to as "informal apprenticeship." Laborers or helpers are hired by contractors and are encouraged to improve their skills to the journeyman level under the tutelage of a journeyman. These programs lack the formal development and control which characterize union sponsored programs, and have no specific provision for related training and background development.

Implications Derived Through Analysis of Current Programs

1. As regards program development utilizing the ladder concept certain limitations must be recognized:

The established pattern of programs at each major educational level encourages program development geared to the ladder concept. Each program should effectively serve as a stepping stone to comparable programs at the next higher level. This pattern can be said to be a general characteristic of the total system of programs relating to construction. There are specific limitations, however, in the degree to which the ladder concept can be accommodated within each major program area. Perhaps the best example can be made by describing some of the special aspects of the Architectural Technology program. A recently published study of curriculum requirements for the program contains the following observations:

"Basically, the technicians training programs are not designed for transfer to the universities. The concept of the program is to provide the student with the skills required to enter the architectural profession and gain immediate employment. For those desiring to become architects it is recommended that they either study pre-architecture or enter directly a university offering a course leading to the architectural degree."[3] This strong stand on the need to remain focused on basic program objectives stems directly from the job tasks and functions which architectural technicians must be prepared to perform. The range and breadth of skills required simply does not leave room for concern with transferability characteristics in this highly technical program. In this case the building of foundations in mathematics and science, which characterizes the first two years of architectural degree programs, must yield to development of the more practical skills required by post-program employment. The time limitations imposed by a two-year program cannot accommodate both objectives.

On the other hand excellent course and program transfer arrangements have been worked out between individual community colleges and 4-year universities in the Construction Technology, Home Building, and Residential Construction programs. For the most part the

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[3] J. Carter Howald and James B. Boggs, Architectural Technology. A Research Study Prepared For Division of Occupational Research and Development, Texas Education Agency, Austin, Texas (Corpus Christi: Del Mar College Press, June 1972).

4-year institutions grant block credit to graduates of comparable community college programs. They do, however, review individual student transcripts and prepare degree plans on the basis of the student's personal needs and achievements. In some cases this may mean that the so-called 4-year program is extended by one or more additional semesters.

The most important single consideration in terms of transferability between programs is to insure that the primary objective of each program is not jeopardized by the desire to alter courses or curriculums to make them more transferable.

2. Legal and regulatory restrictions effectively limit programs operating at the secondary school level:

Restrictions on hiring employees under 18 years of age virtually eliminates any possibility for secondary school students to complete the construction related programs with any accompanying degree of job experience. Lack of a work record makes employment in construction extremely difficult to obtain especially during slack building periods.

3. The fundamental orientations of building trades apprenticeship programs are directed more toward the needs of the craft than to the needs of the industry:

This basic orientation does not encourage the highly innovistic management attitudes required by the trend toward larger more

complex business organizations within the industry. The ability of the industry to adopt new materials and new techniques is restricted by the high degree of influence exercised by craft unions in the operation of formal apprenticeship programs.

4. The ability of the construction industry to attract the quality of supervisory and management personnel needed for staffing modern organizations is limited by lack of a well developed career education in the public school system:

In the present system information regarding construction industry careers, and appropriate preparatory programs, seldom reaches students other than those already participating in the building trades courses. These programs frequently do not contain the high achievers who will be needed in the more complex organizations now emerging within the industry.[4]

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[4]An exemplary comprehensive program designed to improve career education in the public schools in Texas entitled " Coordinated Effort for Career Education (CECE), is described in a research study recently prepared for the Division of Occupational Research and Development, Texas Education Agency. For a complete discussion see An Analysis of Fifteen Occupational Clusters Identified by the U.S. Office of Education, ed. Theodore M. Vestal and Neal A. Baker, Jr. (Sherman/Denison, Texas: Grayson County College Press, 1972).

RECOMMENDED SUPPLEMENTAL PROGRAMS

Introduction

Studies of the construction industry consistently indicate long range requirements for new manpower inputs in excess of that which can be supplied by existing education and training programs.[1] Chief among the factors which have combined to create this situation are:

1) Vast increases in the number of firms operating in construction during the last 20 years, and

2) Failure of supporting systems to adequately identify and respond to changing manpower needs.

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[1] Long range manpower needs of the industry are especially well defined in the following studies:

L. A. Lecht, "Manpower Requirements for National Objectives in the 1970's," Report to the Office of Manpower Policy, Evaluation, and Research, U. S. Department of Labor, 1968.

"The Pursuit of National Goals and Career Opportunities in the Construction Crafts in the 1970's." Working paper prepared by John Teeple and Berdj Kanadjian. Center for Priority Analysis. National Planning Association, U. S. Office of Education, April 1969.

John T. Dunlop and D. Q. Mills, Manpower Development and Utilization in the Contract Construction Industry. (Cambridge, Mass: Harvard University Press, 1972).

William F. Hahn, "Construction Manpower Needs by 1980," Monthly Labor Review, 94, 1 (January 1971), pp. 12-18.

Building construction has been classified in economic studies as a labor intensive industry. It follows therefore that development of adequate manpower resources is of special concern to both the private residential construction and private nonresidential construction sectors of the industry.

Traditional routes of entry into construction are supported by formal apprenticeship programs and informal training measures which place primary emphasis on the needs of the various crafts. Technological advancements and the trend toward larger more complex organizations has imposed new demands for supervisors and middle managers well beyond the scope of the training provided by formal apprenticeship. The increased complexity of modern management tasks, as opposed to the high rates of pay which experienced craftsmen are currently able to command, serves to effectively discourage many of these experienced persons from leaving their craft for positions in management. As a result, there has tended to be a drying-up of this traditional source of supervisors and managers. The lack of general educational development characteristic of informal training measures virtually eliminates the possibility of advancement, in today's environment, for persons who have entered the industry through informal training programs.

The appropriate role for post-secondary vocational education in supplementing the efforts of the industry to meet its future manpower needs is evidenced by the following statement:

It would be unrealistic to expect a neat balance between training completions and job openings in construction or elsewhere. Formal job training is not always necessary for successful performance in a skilled job, and in some instances it may not be the most efficient way of preparing young persons for employment in the building trades. It is still possible in many of these crafts to begin as a laborer, and to progress to semi-skilled work such as a carpenter's helper, and to become qualified, with experience, as a journeyman without the benefit of specific training programs. However, in a world of increasingly complex technology and reliance on credentials as a prerequisite for employment, participation in vocational programs can reduce the time required for attaining the journeyman's status, and it can provide the credentials needed for admission to employment or to more specialized training programs.[2]

Identification of Building Construction Industry Needs

Consultations with industry leaders, interview and discussions with contractors, supervisors, and workers, and detailed research studies consistently point up two problem areas for manpower development in the building construction industry:

1) There is a persistent shortage of potential employees with an entry level skill in at least one of the building crafts who have an understanding of working relationships at the construction site level.

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[2] Underscoring provided. Statement extracted from "The Pursuit of National Goals and Career Opportunities in the Construction Crafts in the 1970's." Working paper prepared by John Teeple and Berdj Kanadjian. Center for Priority Analysis, National Planning Association, U. S. Office of Education, April 1969.

2) There is a continuing need for experienced personnel who have the technical education and the supervisory/management skills to function effectively at the lower and middle management levels.

Creating programs to assist in meeting these needs involves development of four specific types of skills:

1) Manipulative skills. These are the motor skills associated with the need for acquisition of an entry level skill in the construction crafts. Programs in this area necessarily involve highly repetitive training processes.
2) Technical skills. The knowledge of and proficiency in construction processes and techniques.
3) Human skills. The ability to interact effectively with people and to build teamwork in construction enterprises.
4) Conceptual skills. The skills which enable a manager to deal successfully with abstractions, to set up models, and to devise plans.[3]

The functional nature of construction frequently requires the development of manipulative skills in one of the crafts for initial employment in the industry. Thus programs should include skill training

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[3]Simon Marcson, "Role Concept of Engineering Managers." IRE Transactions on Engineering Management, March 1960, pp. 30-33.

to the entry level in one of the crafts. Skill development beyond the entry level is considered to be more appropriately a function of the craft and outside the scope of vocational education.

The remainder of the skills described above are referred to as management skills. Different types of functions and different levels of management require different mixes of these skills -- from a primary emphasis on technical skills, at the lowest management levels, to a greater emphasis on conceptual skills at higher levels. It is important, therefore, that vocational programs concerned with career development (as opposed to job qualification) make positive provision for appropriate foundations in each.

Program Requirements By Industry Sector

The term "building construction" includes all of the construction activities occurring under the headings of both "private residential construction" and "private nonresidential construction." In common usage these two sectors are more often referred to as "residential construction" - or "home building," and "light commercial construction." An important distinguishing feature between the two is the degree of unionization which prevails in each; light commercial construction operates in a highly unionized environment whereas residential construction is almost totally free of union influence. The degree of unionization has a direct effect on the type of educational and training support needed by each of the two sectors.

In the highly unionized light commercial sector, well established formal apprenticeship programs provide a solid base whereby relatively large numbers of new personnel enter the crafts and progress to journeymen status. The larger size of construction firms operating in this sector also provides a greater capability for accommodating informal training measures where formal programs are not available. The principle post-secondary support needed for this industry sector lies in the areas of technical knowledge and the development of management skills. An exemplary program for providing these skills has been developed through the cooperative efforts of elements of the Texas education system and representatives of the light commercial construction industry.[4] This program is strongly recommended for adoption by other post-secondary institutions servicing large metropolitan areas. An additional major source of support for light commercial construction is provided through architectural technology programs conducted by various community colleges within the Texas College and University System and by the state technical institute. These well developed programs can readily be expanded to meet

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[4]Dallas County Community College District, with the cooperation and support of the Associated General Contractors of America (Dallas Chapter), has developed an excellent program in Construction Management and Technology, designed specifically to help in meeting the needs of this industry sector. Continued cooperative efforts by the AGC has aided in the establishment of a 4-year Bachelor of Science Degree program in Construction Technology at neighboring East Texas State University. Through arrangements between the two institutions the ladder concept of program development has been fully incorporated into these programs.

future increased needs which may arise from greater integration of design and production within the industry. Architectural technology programs are designed to provide practical job skills within specific functional areas and as such are not adaptable to any significant degree of integration into professional architectural degree programs.

Programs operating in support of the residential construction sector of the industry must provide for development of both manipulative and management skills. The non-unionized environment of residential construction seriously curtails support by formal apprenticeship programs. The small size of typical firms effectively limits the development of informal training within the industry. In the residential construction sector, as in the light commercial construction sector, an outstanding example of cooperation in program development has occurred. The result is a highly commendable program in Home Building Technology designed to impart both usable skills and a general knowledge of the construction business.[5] The program is especially suitable for presentation in the larger metropolitan areas for which it was designed.

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[5] The Home Building Technology program was developed jointly by San Antonio College and the Greater San Antonio Builders Association. Through mutual arrangements a modified ladder concept for transfer of credits has been worked out with nearby Trinity University. Trinity University was the first university in the U. S. to offer the Bachelor of Science degree with a major in home building.

The Need For Supplemental Programs

The principle requirement for supplemental programs in support of the building construction industry resides in the residential construction sector. Small-volumn and medium-volumn builders constitute approximately 98% of all residential construction contractors and this important target group operates extensively in geographic areas not served by formal apprenticeship or the limited home building technology programs presently in operation. Nowhere in the industry has the effective span of managerial control served as a greater constraint than in the domain of the medium-volumn builder; and no other area of the industry offers greater potential for increased effectiveness through improved management skills.[6]

To effectively serve small-volumn and medium-volumn builders programs must be developed which can be implemented by post-secondary institutions serving the small- to medium-size cities in which these builders are frequently located. It goes without saying that programs developed along these guidelines can also be adapted to the needs of institutions serving larger areas and program graduates can effectively serve throughout the industry.

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[6]See Ewan Claque, "The Economics of Construction," Constructor, February 1965; and, P. J. Cassimatis, "Economies of Scale in Construction," Fairleigh Dickenson University Business Review, Winter 1967.

An excellent discussion of Sources of Economies of Scale in House Construction is also contained in "Economics of the Construction Industry," The Conference Board, National Industrial Conference Board, Inc. New York, 1969.

Proposed Supplemental Programs

Supplemental programs proposed for support of the residential construction sector of the building construction industry fall into two distinct program categories; residential construction technology and residential construction management. Both program areas have been developed within the broad guidelines contained in Chapter 3, "A Suggested Approach to Curriculum Development in Building Construction Technology."

Three closely related supplemental programs are proposed under the general heading Residential Construction Technology; they are:

1) A 2-year cooperative work study program leading to the Associate of Applied Sciences Degree in Residential Construction Technology.
2) A 1-year Certificate program in Residential Construction Technology.
3) Continuing and adult education courses designed for rapid response to basic skills development on an area demand basis.

The 2-year Residential Construction Technology program is designed to equip the successful graduate with technical knowledge, a practical outlook, and management ability as applied to the residential construction industry. Development of basic/entry level skill in one of the principal occupational areas of residential construction (i.e., carpentry, plumbing, electrical) is made possible through the cooperative training phase.

Relatively long-term exposure to the construction site, in an actual working employee status, affords an opportunity to observe the inter-relationships which exist among the various crafts operating on a construction site. Practical experience is gained in understanding construction site problems, how they develop and how they are resolved. Primary objectives of the program are:

1) To provide enhanced employment opportunity through development of entry level skills in an industry related skill area.

2) To prepare students to assume supervisory/management positions in the residential construction industry following appropriate periods of experience.

Suggested supporting curriculums for this program are outlined in Chapter 6 of this study. Expanded curriculum guides along with suggested instructional materials are contained in Appendix A. Functions which graduates of this program may be expected to perform are:[7]

1) Help plan, supervise, or inspect construction of residential structures.

2) Help plan construction processes, work as a member of the management team; assume responsibility for the efficient use of manpower, materials, and equipment on the construction site.

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[7]Adapted from "Occupational Criteria and Preparatory Curriculum Patterns in Technical Education Programs (OE-80015), U.S. Office of Education, Washington, D. C. 20202.

3) Advise, plan, and estimate the cost of selected operations.

4) Assume responsibility for supervision or inspection of residential construction projects; prepare technical reports covering supervision or inspection.

5) Design, develop, or plan modifications of residential construction procedures, techniques, or processes.

6) Prepare or interpret engineering drawings and sketches, or write detailed specifications relating to certain phases of construction.

7) Analyze and interpret information obtained from site inspections. Make decisions based on these evaluations.

8) Select, compile, and use technical information from references such as engineering standards, handbooks, specifications, and technical digests.

Examples of some of the jobs which may be available to graduates of the Residential Construction Technology program are: construction foreman, construction site coordinator, construction site manager or assistant, building supplies salesman, estimator, inspector, or contractor.

The 1-year Certificate program in Residential Construction Technology consists of both the cooperative training phase, (or practicum), and the technical courses prescribed for the first two semesters of the Residential Construction Technology curriculum. The objective of the 1-year option is to prepare the graduate to become a productive employee

at the entry level in the construction industry. Practical work experience and manipulative skill development are attained on the job in the cooperative training phase. Related learning experiences are provided through classroom instruction and outside study. This program is designed to serve as a suitable alternative to formal apprenticeship for persons to whom apprenticeship is not available.

The third program suggested under the heading of Residential Construction Technology is concerned with minimal skill development only. The objective of this program is to provide improved response to the short-term manpower needs typically associated with cyclical construction requirements. Programs of the type required have been developed by the various military services (Army, Navy, Air Force) for the purpose of providing quick response to manpower needs. Complete packaged programs for minimal skill development in any of the building trades can be obtained by request to the appropriate military departments. These packaged courses can be presented, on a demand basis, through programs in continuing and adult education. A suggested alternative is that these courses be offered in area vocational schools or in local high schools in cases where these institutions are better equipped to provide the necessary facilities.

The Residential Construction Management program is designed to prepare students for careers in residential construction enterprises as members of the management team. It has been developed as a parallel

to the 2-year Residential Construction Technology program, and leads to the Associate of Applied Sciences Degree in Residential Construction Management. Although many aspects of the programs are identical distinct differences exist in the objectives which the two programs seek to serve: the Residential Construction Technology program is tailored to the needs of persons planning to enter the operations side of the residential construction business while emphasis in the Residential Construction Management program is on business, finance, office procedures, and general management conditions as they specifically relate to residential construction enterprises. Graduates of this program will be qualified for employment as contractor's assistants, estimators, quality control inspectors, contractors, office managers, construction site coordinators, etc. The primary objective of this program is to provide the necessary background upon which graduates can build successful careers in the management of residential construction enterprises.

The total number of training stations available for the practicum in small cities will sometimes determine the number of students that can be accepted in the Residential Construction Technology program. Since experience on the construction site is absolutely essential to this program every effort should be made to obtain sufficient training stations to accommodate the student load. When sufficient stations are not available excess Technology applicants may enroll in the Management program. This important dual role for Residential Construction Management should not be overlooked by institutions considering implementation of residential construction programs.

A Related Problem in Program Awareness

A problem of potentially serious consequence for post-secondary vocational education is becoming increasingly evident as new programs are entered into the total program inventory. The problem involves program awareness. Without effective procedures for getting program information to potential users no program can fully serve the purposes for which it is intended.

The infusion of large sums of money into vocational education in recent years has resulted in the development and implementation of a wide range of new programs. In vocational education programs are directed toward development of the practical knowledge required in specific occupational areas. The overall objective is to enhance the ability of the student to obtain employment in a clearly defined area of employment, and to provide a sound base for successful career development within a chosen career field. The Dictionary of Occupational Titles currently describes more than 18,000 separate occupations and the list is still growing. While vocational programs will obviously not be developed for each of these separate occupations the total number of possibilities can be used to effectively illustrate the potential magnitude of the problem. Vocational programs cannot achieve their goals without the development of adequate program information systems. There is considerable evidence that present systems have reached their effective limits.

Implementation of new programs increases the competition for top quality students. As greater numbers of institutions seek to provide students with information on a wider range of program offerings related problems are generated for public school administrators. The multitude of program promoters has expanded beyond the time limits which public school officials can accommodate. The reaction has ranged from the complete closing of some high school campuses to such presentations through the resort to such innovations as "Career Days" and "Senior Days." None of these approaches solve the problem of getting adequate information to appropriate students in order that they can make better informed decisions regarding the important matter of careers.

The problem of program awareness is of sufficient significance to vocational education to warrant a high priority committment in terms of formal research effort. The study should be sufficiently broad in scope to provide for a concurrent development of the appropriate media for support of the recommended program information system.

SUGGESTED SUPPORTING CURRICULUMS

Introduction

The curriculums described herein have been developed specifically to accommodate the program objectives identified in Chapter 5 of this report, "Recommended Supplemental Programs."

The three principal components around which the curriculums have been designed are:

1) The training should prepare the graduate to be a productive employee in an entry level job.
2) The broad technical training, together with a reasonable amount of experience, should enable the graduate to advance to positions of increasing responsibility.
3) The foundations provided by the training should be broad enough to enable the graduate to do further study within his field. In addition to reading and understanding technical journals, texts, and other reference materials, the foundation should be sufficient to support and encourage enrollment in other formal courses and programs in the pursuit of professional competence.

In each of the curriculums the sequence of courses is of critical importance. The subject matter is carefully coordinated so that the student may progress smoothly from one level of understanding to the next. Another major consideration has been the desire to arrange the

courses in such a way that any student who departs the program at any point prior to graduation will have improved his potential for employment within the industry as a direct consequence of the portion of the program which he has completed.

Expanded curriculum guides, developed during conduct of the pilot program, have been prepared for both Residential Construction Technology and Residential Construction Management. Instructional aids such as suggested primary texts, course outlines, training films, additional reference materials, and transparency masters are included, as appropriate, for individual courses contained in each of the curriculums. The curriculum guides are contained in Appendix A and Appendix B of this report.

The remainder of this chapter contains an overview of the suggested curriculums and a brief description of the courses contained in each.

RESIDENTIAL CONSTRUCTION TECHNOLOGY

SUGGESTED CURRICULUM

First Semester	Semester Hours
Principles of Residential Construction	3
Blueprint Reading	3
Fundamentals of Mathematics	3
Construction Surveying	4
Construction Practicum I	6
	19

Second Semester	
Introduction to Estimating	3
Residential Construction Materials and Processes	3
Communication Skills	3
Introduction to Business	3
Construction Practicum II	6
	18

Third Semester	
Residential Construction Estimating	4
Business Mathematics	3
Introduction to Architectural Drawing	4
Elements of Structural Design	3
Contracts, Codes, Specifications, and Office Practices	3
	17

Fourth Semester	
Construction Planning and Controls	3
Business Speech	3
History of Architecture and Construction	3
Business Communication	3
Elective	3
	15

Program Total	69 hours

RESIDENTIAL CONSTRUCTION TECHNOLOGY

DESCRIPTION OF COURSES

FIRST SEMESTER

Principles of Residential Construction

This course entails a study of the basic principles involved in residential construction. It introduces the student to the principal factors which must be considered during each of the major phases of the residential construction process from bare lot to the finished structure. Topics include: location and excavation, concrete and masonry, framing, exterior and interior finish, roofing, wall and floor coverings, electrical, heating, and air conditioning systems and plumbing.

Blueprint Reading

This course is designed to acquaint the student with the purpose, function and proper use of blueprints. Topics include: working drawings, reading drawings, elevations, floor plans, symbols, scales and dimensions, structural information, reading detail drawings and plot plans.

Special emphasis is placed on such subjects as: How blueprints reflect architectural progress, how specifications amplify blueprints, how blueprints vary with the purpose of the structure, and how material variations affect blueprints.

Fundamentals of Mathematics

This course provides an in-depth review and additional refinement of the use of whole numbers, fractions, percentages, ratio and proportion, areas and volumes. It introduces various short methods for rapid calculations and explains the advantages and disadvantages of their use in construction-related activities. It provides a basic review of algebra and the algebraic functions used in construction. Emphasis throughout the course is on the understanding of basic processes.

Construction Surveying

This is an introductory course in the principles of surveying which focuses on the elements of surveying most directly related to residential construction. Some of the major areas of concern in this course are: principles and use of the engineer's transit, theory and practice of leveling, the proper maintenance and use of field notebooks, field layout of structures and field staking for earth-work.

Construction Practicum I

The Construction Practicum is designed to provide students with an opportunity to gain first-hand knowledge of work processes as they actually occur in residential construction. Satisfactory completion of both Practicum I and Practicum II should be a positive program requirement for all students electing the Technology option, either in the Certificate program or the Associate Degree program. The Practicum also serves as the skill development phase of the Certificate program

and the Associate Degree programs in Residential Construction Technology. Through the use of on-the-job training measures, the Practicum provides an opportunity for each student to develop a basic entry-level skill in one of the principal crafts of the residential construction industry.

SECOND SEMESTER

Introduction to Estimating

This course introduces the student to the basic methods of estimating and develops a system for doing quantity surveys. The course also prepares the student to make some of the kinds of estimates that are commonly used in residential construction.

Residential Construction Materials and Processes

This course is a broad survey of the materials used in the various processes of residential construction. It is designed to familiarize the student with the components of modern construction so that he can select the materials best suited for the application, whether from the standpoint of durability and serviceability or from that of appearance, or both.

Communication Skills

A study of the basic skills of writing; foundation work in the principles of grammar, punctuation, and sentence structure. Includes drills in spelling, exercises in vocabulary development, and practice

in writing effective sentences. The course should provide analysis of each student's strengths and weaknesses, and instruction should be aimed at remedying the most serious deficiencies.

Introduction to Business

This is a survey-type course which examines the characteristics of business organization, the records of business, problems of marketing, personnel, finance, decision making, and the legal and regulatory environment of business. Special emphasis is placed on defining the responsibilities of business in regard to such nonprofitable activities as employing the disadvantaged, promoting civic and educational projects and fighting pollution.

Construction Practicum II

This course is a continuation of the student development concepts initiated in Construction Practicum I. The work experiences gained during Construction Practicum I and II should result in student acquisition of an entry-level skill in one of the principal areas of employment in residential construction, and serve as a base for further individual development as each student acquires additional experience within the industry.

THIRD SEMESTER

Residential Construction Estimating

This course requires that the student utilize knowledge gained in previous courses to develop realistic estimates of the cost factors which will ordinarily be experienced in the residential construction process. It provides for the study of estimating from the viewpoint of the general contractor, sub-contractor, general superintendent, and the professional construction estimator.

Business Mathematics

A study of the fundamental processes, common and decimal fractions, bank statement reconciliations, aliquot parts percentage, cash and trade discounts, simple and compound interest, notes and drafts, billing procedures, mark-up, commissions, profit and loss, payrolls, social security and other taxes. Emphasis is on practical problems in the various fields of business.

Introduction to Architectural Drawing

This course intorduces representation in residential construction. It covers the fundamentals of drafting, including projection, sectioning, pictorial drawings, and architectural representation. It is comprised of both lecture (or classroom) periods, wherein fundamentals and principles are introduced, and laboratory periods which provide opportunity to participate in exercises involving these principles.

Elements of Structural Design

This course intorduces the student to the basic principles of statics and to the effects of loads and loading on building elements and frames. Methods are developed for determining preliminary sizes of certain key building elements, knowledge of which is essential to proper building layout and design.

Contracts, Codes, Specifications and Office Practices

This course explains the organization and operation of a typical small- to medium-size residential construction contractor's office. It includes the study of office practices, bookkeeping and accounting methods, and general office administration. Considerable attention is devoted to the study of the codes, restrictions, standards, and the legal documents governing construction. Students are introduced to the interpretation and preparation of specifications, and to the application of CPM as a method for controlling construction projects.

FOURTH SEMESTER

Construction Planning and Control

A course in residential construction planning and control which deals with information on the materials, labor, and equipment necessary in the proper operation of a construction project. The course covers building construction procedures from preliminary site planning to

final job inspection and introduces the most frequently used methods of construction job scheduling. The course shows how the proper combination of men, materials, and machines can be used to construct residential structures successfully.

Business Speech

This is designed to be a practical and general course in the basic principles of oral communication. Includes use of body and voice, the speaker-listener relationship, oral reading of literature, group discussion, and parliamentary procedure. Diagnostic testing of students should be included and instruction should be planned to help students improve skills in which they are weak. Stress should be placed on interpersonal relationships, technical reports, speeches to promote sales and services, and business and job interviews.

History of Architecture and Construction

This course is designed to afford the student an opportunity to survey all of the major styles of architecture which have been used in residential construction from early times to the present. It focuses special attention on styles which are in current use, and encourages detailed study of residential construction developments in the geographical area where the course is being presented. Opportunity is provided for students to make in-depth studies of selected architectural design or structural methods.

Business Communication

A detailed study of business communications from the standpoint of arrangement and content of letters of inquiry, orders, credit, applications, sales, claims and adjustments. Emphasis on grammar and mechanics of writing.

RESIDENTIAL CONSTRUCTION MANAGEMENT

SUGGESTED CURRICULUM

First Semester	Semester Hours
Principles of Residential Construction	3
Blueprint Reading	3
Fundamentals of Mathematics	3
Construction Surveying	4
Introduction to Business	3
	16

Second Semester	
Introduction to Estimating	3
Residential Construction Materials and Processes	3
Communication Skills	3
Business Mathematics	3
Business Speech	3
Management Processes	3
	18

Third Semester	
Residential Construction Estimating	4
Introduction to Architectural Drawing	4
Elements of Structural Design	3
Contracts, Codes, Specifications and Office Practices	3
Principles of Accounting I	4
	18

Fourth Semester	
Construction Planning and Control	3
Business Communication	3
History of Architecture and Construction	3
Principles of Accounting II	4
Elective	3
	16

Program Total	68 hours

RESIDENTIAL CONSTRUCTION MANAGEMENT

DESCRIPTION OF COURSES

FIRST SEMESTER

Principles of Residential Construction

This course entails a study of the basic principles involved in residential construction. It introduces the student to the principal factors which must be considered during each of the major phases of the residential construction process; from bare lot to the finished structure. Topics include: location and excavation, concrete and masonry, framing, exterior and interior finish, roofing, wall and floor coverings, electrical, heating, and air conditioning systems and plumbing.

Blueprint Reading

This course is designed to acquaint the student with the purpose, function and proper use of blueprints. Topics include: working drawings, reading drawings, elevations, floor plans, symbols, scales and dimensions, structural information, reading detail drawings and plot plans.

Special emphasis is placed on such subjects as: how blueprints reflect architectural progress, how specifications amplify blueprints, how blueprints vary with the purpose of the structure, and how material variations affect blueprints.

Fundamentals of Mathematics

This course provides an in-depth review and additional refinement of the use of whole numbers, fractions, percentages, ratio and

proportion, areas and volumes. It introduces various short methods for rapid calculations and explains the advantages and disadvantages of their use in construction-related activities. It provides a basic review of algebra and the algebraic functions used in construction. Emphasis throughout the course is on the understanding of basic processes.

Construction Surveying

This is an introductory course in the principles of surveying which focuses on the elements of surveying most directly related to residential construction. Some of the major areas of concern in this course are: principles and use of the engineer's transit, theory and practice of leveling, the proper maintenance and use of field notebooks, field layout of structures and field staking for earth-work.

Introduction to Business

This is a survey-type course which examines the characteristics of business organization, the records of business, problems of marketing, personnel, finance, decision making, and the legal and regulatory environment of business. Special emphasis is placed on defining the responsibilities of business in regard to such nonprofitable activities as employing the disadvantaged, promoting civic and educational projects and fighting pollution.

SECOND SEMESTER

Introduction to Estimating

This course introduces the student to the basic methods of estimating and develops a system for doing quantity surveys. The course also prepares the student to make some of the kinds of estimates that are commonly used in residential construction.

Residential Construction Materials and Processes

This course is a broad survey of the materials used in the various processes of residential consruction. It is designed to familiarize the student with the components of modern construction so that he can select the materials best suited for the application, whether from the standpoint of durability and serviceability or from that of appearance, or both.

Communication Skills

A study of the basic skills of writing; foundation work in the principles of grammar, punctuation, and sentence structure. Includes drills in spelling, exercises in vocabulary development, and practice in writing effective sentences. The course should provide analysis of each student's strengths and weaknesses, and instruction should be aimed at remedying the most serious deficiencies.

Business Mathematics

A study of the fundamental processes, common and decimal fractions, bank statement reconciliations, aliquot parts percentage, cash and trade discounts, simple and compound interest, notes and drafts, billing procedures, mark-up, commissions, profit and loss, payrolls, social security and other taxes. Emphasis is on practical problems in the various fields of business.

Business Speech

This is designed to be a practical and general course in the basic principles of oral communication. Includes use of body and voice, the speaker-listener relationship, oral reading of literature, group discussion, and parliamentary procedure. Diagnostic testing of students should be included and instruction should be planned to help students improve skills in which they are weak. Stress should be placed on interpersonal relationships, technical reports, speeches to promote sales and services, and business and job interviews.

Management Processes

This is a basic course in the principles of management. It is designed to familiarize the student with the role of the manager in modern business enterprises. Provides instruction in organizational designs, human relations, decision making, communications, leadership techniques, and enterprise control. Emphasizes initiative, individual research, and group discussion.

THIRD SEMESTER

Residential Construction Estimating

This course requires that the student utilize knowledge gained in previous courses to develop realistic estimates of the cost factors which will ordinarily be experienced in the residential construction process. It provides for the study of estimating form the viewpoint of the general contractor, sub-contractor, general superintendent, and the professional construction estimator.

Introduction to Architectural Drawing

This course introduces representation in residential construction. It covers the fundamentals of drafting, including projection, sectioning, pictorial drawings, and architectural representation. It is comprised of both lecture (or classroom) periods, wherein fundamentals and principles are introduced, and laboratory periods which provide opportunity to participate in exercises involving these principles.

Elements of Structural Design

A course which familiarizes the student with the mechanical properties of materials and the relationship and use of these materials in residential and construction processes. Subjects include stress, deformation, member size and investigation, and connections. Typical members used

in residential frameworks are studied, analyzed, and discussed. The material presented makes it possible for the student to understand the interaction of the various elements used in a framing system.

Contracts, Codes, Specifications and Office Practices

This course explains the organization and operation of a typical small- to medium-size residential construction contractor's office. It includes the study of office practices, bookkeeping and accounting methods, and general office administration. Considerable attention is devoted to the study of the codes, restrictions, standards, and the legal documents governing construction. Students are introduced to the interpretation and preparation of specifications, and to the application of CPM as a method for controlling construction projects.

Principles of Accounting I

An introductory accounting course designed to furnish a general knowledge of accounting principles and procedures. Examination of present-day accounting theory and practices with application to the sole proprietorship. This is the first of a two-course series in basic accounting procedures.

FOURTH SEMESTER

Construction Planning and Control

A course in residential construction planning and control which deals with information on the materials, labor, and equipment necessary in the proper operation of a construction project. The course covers the building construction procedures from preliminary site planning to final job inspection and introduces the most frequently used methods of construction job scheduling. The course shows how the proper combination of men, materials, and machines can be used to construct residential structures successfully.

Business Communication

A detailed study of business communications from the standpoint of arrangement and content of letters of inquiry, orders, credit, applications, sales, claims and adjustments. Emphasis on grammar and mechanics of writing.

History of Architecture and Construction

This course is designed to afford the student an opportunity to survey all of the major styles of architecture which have been used in residential construction from early times to the present. It focuses special attention on styles which are in current use, and encourages detailed study of residential construction developments in the geographical

area where the course is being presented. Opportunity is provided for students to make in-depth studies of selected architectural design or structural methods.

Principles of Accounting II

A continuation of "Principles of Accounting I." This course extends the application of accounting theory andpractice to partnerships and corporations, manufacturing operations, cost determination, and financial statement analysis.

PROGRAM EVALUATION

A vast amount of interest in the evaluation of vocational and occupational programs has developed in recent times. As the amount of public funds expended on such programs increases, there will likely occur a corresponding increase in the need to assure that the money is spent with the greatest efficiency for society's ultimate welfare. Program evaluation at the state and national levels will undoubtedly be expanded significantly in years to come. Quite obviously the data for such evaluation must originate at the institutional level. For this reason, as well as for other more commonly accepted reasons, it becomes important that institutions implementing new vocational programs develop plans for the accumulation of certain student and program data concurrently with planning for the new program. At the institutional level evaluation is important because it provides evidence about the relative merits of programs thus enabling administrators to make more rational decisions about the theories and practices of program development and operation. In the Texas community college system institutions are committed to providing for the educational needs of the locality which they serve, thus programs are quite often modified to better serve local objectives. It follows therefore that program evaluation must be conducted on the same basis. In the development of local program

evaluation procedures, however, attention should be directed toward a concurrent accumulation of the types of data which can be anticipated as a reporting requirement in state or federal program evaluation systems which may be implemented in the future. For the most part such systems will be concerned with the student and what has happened to him since he left the program, and with the program itself; what did the program contribute to the students' development?

Although admittedly rudimentary in concept two separate evaluation instruments are included at the end of this Chapter which can well serve as a starting point for this important function. Each interested institution can build from this base within the limits of its requirements and capabilities. The evaluation instruments contained herein are:

1. Pre-Tests and Post-Tests For Residential Construction Programs. The purpose of this two-part instrument is to provide information on the increase in technical knowledge which may be attributable to participation in the program.
2. A Follow-Up Survey of Former Students. The objective of this instrument is to obtain feedback on how well the program has served the expectations of students who have left the program, whether as drop-outs, by transfer to other programs, or as program graduates.

The pre-test/post-test should be administered to each new student at the time of admittance to the program, and again at the time the student leaves the program. The information obtained can provide much useful data on the effectiveness of the program in terms of increased technical knowledge. In addition, data obtained from individual students can be compared to that obtained later through the follow-up survey.

It is suggested that the follow-up survey be administered at the 90 day, 1 year, and 5 year intervals subsequent to departure from the program. This practice will provide a more expanded time frame on which to evaluate the program's contribution to student development.[1]

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[1] For persons interested in the development of more sophisticated program evaluation procedures the following documents should prove especially helpful:

Jerome Moss, Jr., "The Evaluation of Occupational Education Programs." A Technical Report. Research Coordination Unit in Occupational Education. University of Minnesota, May 1971.

David N. Wheeler, "The Measurement of Job Relatedness For Vocational Program Evaluation." Research Coordination Unit For Vocational Education. University of Minnesota, April 1969.

Harold Starr, "A System For State Evaluation of Vocational Education." A Research Report. Research Series No. 45. Ohio State University Center for Vocational and Technical Education, August 1969.

FOLLOW-UP SURVEY OF FORMER STUDENTS, RESIDENTIAL CONSTRUCTION PROGRAMS, PARIS JUNIOR COLLEGE PARIS, TEXAS

This survey is being conducted to obtain first-hand information on which to base decisions as to the direction the Residential Construction programs should take in the future. Your answers can be of critical importance to future enrollees. We would greatly appreciate your responses to the questions contained in this survey and would be equally appreciative of your constructive criticisms at any time. If you have information or experiences which you feel would be of value to us in the conduct of this program, please get in touch--we will make the necessary arrangements to get the data into a usable format.

STUDENT AND PROGRAM IDENTIFICATION

_____ _____ _____
LAST NAME FIRST NAME MIDDLE INITIAL

Social Security Number _____

Address _____
Number and Street or Rural Route

_____
City, Town or Post Office State Zip Code

Program Pursued at PJC:

/_/ Residential Construction Technology, Associate Degree (2-year)

/_/ Residential Construction Technology, Certificate Program (1-year)

/_/ Residential Construction Management, Associate Degree (2-year)

Is the information concerning student and program identification correct as printed on page one? Yes /_/ No /_/ If your answer is "No", please enter corrected information in the spaces provided below:

STUDENT AND PROGRAM IDENTIFICATION

Social Security Number _____

_____ _____ _____
LAST NAME FIRST NAME MIDDLE INITIAL

Address _____
Number and Street or Rural Route

_____
City, Town or Post Office State Zip Code

Program Pursued at PJC:

/_/ Residential Construction Technology, Associate Degree (2-year)

/_/ Residential Construction Technology, Certificate Program (1-year)

/_/ Residential Construction Management, Associate Degree (2-year)

Directions: Please use an "X" in the appropriate box to indicate your response to the following questions.

1. Did you complete the indicated program while a student at PJC?
   /_/ Yes /_/ No

2. If your response to Question #1 was "No", why did you leave the program?
   /_/ To enter another program at PJC
   /_/ Changed schools
   /_/ Dropped out of school
   /_/ Other. Please explain: _____

   _____

3. Since you left this program, did you seek full-time employment (30 or more hours per week)?
   /_/ Yes /_/ No

4. If you did not seek full-time employment when you left this program, please indicate the reason:
   /_/ Entered another school
   /_/ Physical or other handicap
   /_/ Not interested in job at that point in time
   /_/ Desired only part-time employment (less than 30 hours per week)
   /_/ Became self-employed
   /_/ Other (Specify.) _____

   _____

5. Did you seek part-time employment (less than 30 hours per week) when you left this program?
   /_/ Yes /_/ No

6. If you sought part-time employment instead of full-time employment when you left this program, please indicate the reason:
   /_/ Entered another program at PJC
   /_/ Entered another school
   /_/ Physical or other handicap
   /_/ Not interested in a full-time job
   /_/ Unable to find a full-time job
   /_/ Other (Specify.) _____

   _____

7. How many full-time jobs (30 or more hours per week) have you held since you left this program?
   /_/ None
   /_/ One full-time job
   /_/ Two full-time jobs
   /_/ Three to five full-time jobs
   /_/ Six or more full-time jobs

NOTE: If your answer to Question #7 was "None", skip to Question #15.

8. If you got a full-time job when you left this program:
   What was your job? _____

   _____

9. How closely did your first full-time job (30 or more hours per week) after leaving this program relate to the training you received? (Check only one.)
   /_/ I was employed in the occupation for which I was trained by this program.
   /_/ I was employed in a related occupation.
   /_/ I was employed in a completely different occupation.

10. Did this program adequately prepare you for your first full-time job after leaving this training?
/_/ Yes /_/ No

11. What was your beginning hourly wage on your first full-time job since leaving this program?
(Check only one.)
/_/ $2.00 or less per hour
/_/ $2.00 to $3.00 per hour
/_/ $3.00 to $4.00 per hour
/_/ $4.00 to $5.00 per hour
/_/ $5.00 to $6.00 per hour
/_/ $6.00 or more per hour
/_/ Salaried position

12. What is the most you have earned on a full-time job since leaving this program?
(Check only one.)
/_/ $2.00 or less per hour
/_/ $2.00 to $3.00 per hour
/_/ $3.00 to $4.00 per hour
/_/ $4.00 to $5.00 per hour
/_/ $5.00 to $6.00 per hour
/_/ $6.00 or more per hour
/_/ Monthly wage or salary. Amount per month _____

13. How did you get your first full-time job after leaving this program?
(Check appropriate box or boxes below.)
/_/ I got the job myself.
/_/ My family or friends helped me get the job.
/_/ The job placement services provided by the school helped me get the job.
/_/ A state employment service helped me get the job.
/_/ A private employment agency helped me get the job.
/_/ Other (Specify.) _____

_____

14. Indicate below the location of your present or more recent full-time employment.

_____
Village, Town, or City

_____
County State

15. What is your current employment status?
(Check the appropriate box or boxes below.)

/_/ I am employed
  /_/ full-time (30 or more hours per week)
  /_/ part-time (less than 30 hours per week)
/_/ I am unemployed,
  /_/ but looking for work
  /_/ and not looking for work
/_/ I am in the military service

16. If you are presently working:
What is your job? _____

_____

17. What wages are you presently earning?
(Check one box below.)

/_/ $2.00 or less per hour
/_/ $2.00 to $3.00 per hour
/_/ $3.00 to $4.00 per hour
/_/ $4.00 to $5.00 per hour
/_/ $5.00 to $6.00 per hour
/_/ $6.00 or more per hour
/_/ Monthly wages or salary

18. As best you know, what type(s) of job placement service(s) were provided by the school and the vocational program in which you were enrolled?

/_/ School had no placement services
/_/ A school placement service coordinated with the State Employment Service
/_/ Vocational Teachers helped place students in jobs by making referrals
/_/ Guidance Counselors helped students find jobs.
/_/ Other (Specify.) _____

_____

19. Were you satisfied with the vocational training you received in this program?

/_/ Yes /_/ No

20. Would you recommend this vocational program to others?

/_/ Yes /_/ No

21. Since you left this vocational program, have you enrolled in any additional education program(s)?

/_/ Yes /_/ No

If yes, check type(s) and purpose(s) below:

/_/ General education program(s)

/_/ To raise my general education level

/_/ Informal, noncredit course(s)

/_/ Vocational program(s)

/_/ To upgrade the vocational skills previously learned in this program

/_/ To learn a new occupation

22. If you did enroll for additional education after leaving this vocational program, have you received (or do you expect to receive) one or more of the following:

/_/ Yes /_/ No

If yes, check type(s):

/_/ A certificate (type) _____

/_/ A diploma (type) _____

/_/ A two-year associate degree (major) _____

_____

/_/ A four-year college degree (major) _____

_____

/_/ Other (Specify.) _____

_____

23. Are you now enrolled in a vocational program?

/_/ Yes /_/ No

24. Are you now enrolled in any educational program(s) other than vocational?

/_/ Yes /_/ No

25. Are you interested in getting more vocational training?

/_/ Yes /_/ No

26. Are you interested in getting more general education?

/_/ Yes /_/ No

27. If you are interested in getting more training of any kind, indicate the type you are interested in:

_____

_____

28. How much effect would you say this program has had on your ability to get and hold a job?
    /_/ Greatly improved my chances
    /_/ Somewhat improved my chances
    /_/ No noticeable effect

29. Of what value do you feel this program has been in helping you to establish some realistic long-range employment goals?
    /_/ Extremely helpful
    /_/ Somewhat helpful
    /_/ No noticeable effect

30. Based on your personal observations to date, which courses in the program do you think have contributed the most to your chances for long-range success?
    /_/ Technical courses
    /_/ General academic courses
    /_/ Other related courses

31. While enrolled in this program did you participate in the "practicum"?
    /_/ Yes /_/ No
    If yes, how important would you say the practicum was in preparing you for your present employment?
    /_/ Extremely helpful
    /_/ Somewhat helpful
    /_/ No noticeable effect
    For achieving your long-range objectives?
    /_/ Extremely helpful
    /_/ Somewhat helpful
    /_/ No noticeable effect

PRE-TEST/POST-TEST

PRINCIPLES OF RESIDENTIAL CONSTRUCTION

1. The two-slope roof is called: (A) hip (B) mansard (C) gambrel (D) flat.

2. A true Cape Code-style house is a low, simple house with the major rooms on the first floor and a (A) hip roof (B) low gable roof that may have dormers (C) mansard roof (D) high-pitched roof with massive chimney.

3. Present-day windows which are divided into small panes are (A) easier to clean than single panes (B) imitation of windows of days gone by when large sheets of glass were hard to get (C) less expensive than wi-dows with a single pane.

4. The type of house most frequently built today is the (A) split-level house (B) two-story house (C) one-and-a-half story house (D) one-story house.

5. The house that costs less per sq. ft. of living space to build is the (A) split-level house (B) one-story house (C) two-story house (D) house with a basement.

PRE-TEST/POST-TEST
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Figure A
(To be used in answering questions 6, 7, 8, 9 and 10)

Figure A

6. The lot slopes down to the (A) Northeast (B) Northwest (C) Southeast (D) Southwest corner.

7. If the city datum point in this area has an elevation of 100 feet, then the first floor of the finished house will be (A) 14' (B) 13' (C) 114' (D) 10' above the city datum point.

8. The location and grade level is shown for what number of trees? (A) 8 (B) 9 (C) 10 (D) 11.

9. The southeast corner of the completed driveway will be (A) 1.4' higher (B) 0.6' higher (C) 1.4' lower (D) 0.6' lower than the existing grade level at that spot.

PRE-TEST/POST-TEST
PRINCIPLES OF RESIDENTIAL CONSTRUCTION
page 3

10. Both the existing and the new contour lines are at elevation intervals of (A) one foot (B) two feet (C) ten feet (D) fifty feet.

11. The point of known elevation or height from which a surveyor works is known as a (A) standard city elevation (B) city datum point (C) average elevation point.

12. The curved, numbered lines showing elevations on a survey drawing are called (A) contour lines (B) datum lines (C) elevation lines.

13. The footing acts as a base for the foundation and transmits the superimposed load to the (A) sill (B) studs (C) soil (D) mud sill.

14. A good rule for determining the width of the footing is (A) 2" wider than the foundation wall (B) as wide as the foundation wall is tall (C) twice as wide as the foundation wall.

15. In a full basement the walls are approximately (A) 10 ft. high (B) 6 ft. high (C) 7 ft. high.

16. Step footing is used when (A) you have a basement (B) on all two-story buildings (C) when the building is built on a slope.

17. Reinforcing rods are one way to tie wall and footing together; the other method is (A) key way (B) race way (C) run way.

18. Which of the following types of foundation is the most economical? (A) full basement foundation (B) crawl-space foundation (C) slab on grade foundation.

19. Brick ledges are usually how wide? (A) 5" (B) 5 1/2" (C) 6".

20. Concrete is usually figured by (A) cu. ft. (B) cu. yd. (C) sq. yd.

21. Vapor barrier is used under slab to (A) keep ground dry if a water pipe leaks (B) keep moisture in the ground from reaching the concrete slab (C) keep concrete from curing too fast.

22. All reinforcements should be covered by at least (A) 1/2" (B) 1" (C) 1 1/2" of concrete.

PRE-TEST/POST-TEST
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page 4

23. Control joints in concrete (A) keep concrete from cracking (B) keep cracks small (C) create weak places so as to control place of cracking of slab.

24. Reinforcing steel in concrete (A) prevents concrete from cracking (B) helps prevent cracks from opening (C) is used to keep concrete from sagging in center of building.

25. The generally-accepted best method of anchoring sill to concrete wall or slab is (A) lead anchors and screws (B) concrete nails (C) anchor bolts (C) shoot down.

26. Subflooring laid diagonally over wood joists gives the floor (A) less strength (B) more strength (C) makes no difference.

27. If a girder or beam is used in a pocket in a foundation wall, an air space should be left so that the girder (A) will go in easy (B) will come out easy (C) can dry out in case it picks up moisture.

28. Bridging is used in floor joists to (A) help take care of knots in lumber (B) take care of joists that are not the same width (C) stiffen joists and help distribute weight.

29. In wet areas, water around the footing can be removed by (A) use of footing drain tile laid in a bed of gravel (B) extending brick down to bottom of footing (C) compacting soil so no water can seep in.

30. To add strength to concrete, you (A) add lots of water (B) let it start to set up before placing (C) place with the proper amount of water for mixing.

31. Batter boards are (A) used to locate outside of foundation (B) used to prevent lumber from being stacked where building is to be constructed (C) always 18" above finish grade.

32. If the legs of a right triangle measure 6' and 8', then the hypoteruse will measure (A) 9' (B) 10' (C) 10' 6".

33. The corners of a rectangle are 90 degrees when (A) the opposite sides measure the same (B) opposite sides are parallel (C) if the diagonal distances are the same.

PRE-TEST/POST-TEST
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page 5

34. Which of the following climatic areas is best suited for pier construction? (A) very cold climate (B) wet, mild climate (C) very windy areas.

35. In platform framing, the subfloor (A) stops at the inside edge of bottom plate (B) goes under bottom plate 1/2 width of bottom plate (C) extends to outside edge of bottom plate.

36. Platform framing is easier to erect because (A) there is only one top plate (B) the studs are longer (C) you have a flat surface to work on.

37. In platform construction you have (A) one bottom and two top plates (B) two bottom and one top plates (C) one bottom and one top plates.

38. In which of the following ways are platform construction and slab construction most similar? (A) from slab or subfloor up (B) both have box sill (C) both have floor joists.

39. In Balloon Construction the studs sit on (A) bottom plate (B) sill (C) directly on foundation.

40. In Balloon Construction the second-floor joists rest on (A) two top plates (B) a ribbon set in edge of studs (C) a 2x12 beam going all around building.

41. In making one type of standard outside corner, you use (A) three studs and blocks (B) only two studs (C) all studs are shorter than standard.

42. In Balloon Construction of a two-story house (A) the studs are not cut at second floor (B) the studs have to be 4"x4" (C) twice as many studs are used as are used in platform construction.

43. In nailing bridging to floor joists, you use (A) two 8D nails at each end of bridging (B) two 16D nails at one end, and two 8D nails at other end (C) one 16D nail at each end.

44. A "T" is used (A) where two walls join together at ends (B) where one wall intersects another at a right angle (C) where wall and the roof intersect.

PRE-TEST/POST-TEST
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page 6

45. Headers over windows and doors should always be 2x4. True or False.

46. Nails hold best when stress is applied (A) at right angle to nail (B) parallel to nail.

47. Sheathing applied diagonally is (A) more rigid (B) of no value to walls (C) less expensive to install.

48. 2x6 studs are used in some interior walls to (A) add strength to support roof (B) take care o. plumbing (C) make doors stronger.

49. Post-and-beam construction requires (A) less interior wall (B) more interior walls (C) that no windows be installed in gable end of house.

50. In post-and-beam construction, planking is used as decking (A) because of the distance to be spanned (B) for appearance (C) because planking is 12" wide.

51. Shrinkage is less in two-story balloon framing than in platform framing because (A) studs rest on sill (B) studs cover both floors (C) ceiling joists are longer.

52. In rough-door buck, the header is supported on each end by (A) cripples or trimmers (B) regular studs (C) does not rest on anything.

53. In post-and-beam construction, ceiling beams are (A) not over 2 ft. apart (B) as much as 10 ft. apart (C) always 2x6.

54. The shed roof (A) sheds water two ways (B) sheds water one way (C) has no pitch at all.

55. Lookout rafters are used to (A) support ridge board (B) support roof that extends beyond outside wall (C) support hip rafters.

56. Which type of roof has a double pitch? (A) hip (B) gable (C) gambrel (D) shed.

57. Jack rafters are used in connection with hip and valley roof construction. True or False.

PRE-TEST/POST-TEST
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page 7

58. Solid sheathing which is not end matched must (A) joint over rafter or trusses (B) joint between rafter or trusses (C) be parallel to rafter or trusses.

59. Name four types of rafters:

A.

B.

C.

D.

60. What is the total rise of a roof if the pitch is 1/3 and span is 36'?

_____

61. The distance from outside to outside of the top plates is called (A) run (B) span (C) rise.

62. When 2x6s are used, the seat cut of rafters should be at least (A) 3" (B) 5" (C) 2".

63. The plumb cuts of a rafter are made at tail, at ridge board, and at the birds mouth. True or False.

64. Collar beams help to stiffen (A) studs (B) ceiling joists (C) rafters.

65. Trusses require More Less bearing wall partitions.

66. In regard to 1x4 sheathing, it is used for (A) asphalt shingles (B) wood shingles (C) it is never used.

67. Asphalt shingles are packaged (A) 3 (B) 4 (C) 5 bundles to the square.

68. Wood shakes and shingles should be butted as close together as possible. True or False.

69. Asphalt shingles can be laid on flat roofs. True or False.

70. What is meant by "235 lb." roofing material?

PRE-TEST/POST-TEST
PRINCIPLES OF RESIDENTIAL CONSTRUCTION
page 8

71. Asphalt square tab shingles are usually laid (A) 3" (B) 5" (C) 7" exposed to weather.

72. Asphalt and wood shingles should have a starter course. True or False.

73. Explain difference between wood shingles and wood shakes.

74. Mastic tab on asphalt shingles helps to make a better roof. True or False.

75. What is the advantage of a wide cornice over a narrow cornice?

76. Which size of electrical wiring is most commonly used in 110v circuits in residential construction?
#10, #14, or #12 wire _____

77. Which size wire is most commonly used for Switch Legs?
#12, #14, or #10 wire _____

78. If you use large enough wire, you can install two 220v air conditioners on the same circuits and still meet the electrical code. True or False.

79. A three-way switch allows control of a light by use of:
two, three, or four switches _____.

80. Switches are always connected in the hot line. True or False.

81. In regard to wire size, the larger the wire number, the smaller the wire. True or False.

82. All major plumbing fixtures have to be vented. True or False.

83. What is the purpose of a "P" trap?

84. The part of the roof which overhangs at the end of the rafters is called _____.

PRE-TEST/POST-TEST
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Page 9

85. The part of the roof which overhangs the gable end is called _____.

86. In hip roof construction, the cornice goes completely around the house horizontally. True or False.

87. Explain the difference between open and closed cornices.

88. In brick veneer construction, the board that fills the space between the top of soldier course and soffit is called _____ _____.

89. What is a brick pocket?

90. What is the purpose of ventilating an attic?

91. How are most attics ventilated?

92. Explain the difference between porches, patios, and atriums.

93. In present-day construction, what are the two main functions of windows?

94. Name the three classifications of windows and give examples of each.

95. Explain the difference between casement, hopper and awning windows.

96. What is a jalousie window?

97. When used with jalousie windows, are screens installed on the inside or outside? _____

98. To assure proper lighting in a room, the window area should be a minimum of what percentage of the floor space? _____%

99. Which of the following windows permits deeper penetration of light in a room? A 3x5 window placed (A) one foot from the floor (B) 2 1/2 feet from the floor.

100. What makes a hinged door a left- or right-hand door?

101. What is a flush door?

102. What is insulating glass as used in windows or doors?

103. What is usually the maximum overhang in a narrow box cornice? 8", 12", or 18" _____

104. What is the disadvantage of narrow cornice as compared to wide cornice?

105. List three disadvantages of corner windows.

PRE-TEST/POST-TEST
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page 11

106. What is a skylight?

107. What is the purpose of mullions in window installation?

108. Where are drip caps used in connection with windows?

109. What is a storm sash?

110. Name ten materials used for exterior wall coverings.

(1) (6)
(2) (7)
(3) (8)
(4) (9)
(5) (10)

111. How far above finish grade should all wood of a frame house be?
(A) 6" (B) 4" (C) 8" (D) 10"

112. Name three of the four methods of making outside corners on wood beveled siding.

(1)
(2)
(3)

113. Explain the proper method in nailing cedar vertical siding and give the reason for using this method. (Boards and Battens)

114. What is the name of the wood member used where vertical and horizontal siding join? _____

115. What is meant by textured plywood siding?

PRE-TEST/POST-TEST
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page 12

116. Explain the reason for venting the crawl space.

117. If concrete blocks are used as the exterior wall, what can be done to improve their appearance (other than painting)?

118. What are the advantages and disadvantages of asbestos cement siding?

119. On the average, (A) 600 (B) 400 (C) 1,000 face brick are required to lay a square of wall in brick veneer construction.

120. (A) 300 (B) 450 (C) 550 SCR brick will cover a square of wall space.

121. In brick veneer construction, about (A) 6 cu. ft. (B) 10 cu. ft. (C) 14 cu. ft. of mortar will lay one square of wall.

122. In Early American construction, what were the two most common interior wall coverings?
(1)
(2)

123. Which type of edge is most frequently used on gypsum board (sheetrock) today? (A) square (B) tapered (C) beveled.

124. What is used in drywall finish to protect the corner and make the corner straight?

125. Name five materials used for interior wall coverings.
(1) (4)
(2) (5)
(3)

126. Name four types of insulation used in residential construction.
(1) (3)
(2) (4)

PRE-TEST/POST-TEST
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page 13

127. Describe one of the most commonly-used methods of fastening paneling to masonry walls.

128. Vapor barrier is placed on which side of the wall? (A) cold (B) warm

129. Which type of insulation is best suited for use in insulating ceilings? Why?

130. Blanket insulation used between staggered studs will reduce sound transmission by what percentage? (A) 30% (B) 54% (C) 75%

131. For best results, where should the flange of batt insulation be nailed on the studs? Explain answer.

132. Explain briefly the method used to cover joints in drywell construction.

133. A staircase is a complete stairway consisting of treads, risers, handrail, and other stair parts. True or False.

134. A staircase is always made of wood. True or False.

135. A shaft through one or more floors in a house through which a staircase is constructed is called a _____.

136. In stair construction, there is always one more riser than tread. True or False.

137. If three or more risers are used in a stairway, you should always have a handrail for safety. True or False.

138. According to standards established by National Workman's Compensation Bureau, stairs should be no more than (A) 40 (B) 50 (C) 60 degrees and no less than (A) 10 (B) 20 (C) 30 degrees steep.

139. The sum of one tread and one riser should be not more than 18", or not less than (A) 15" (B) 16" (C) 17".

140. If hinges are on the right and the door opens toward the key side, is it a (A) right-hand door or (B) right-hand reverse bevel door?

141. In reference to casement windows, if you are standing inside the room and the hinges are on the right, is it a (A) right-hand window or (B) left-hard window?

142. Locks, door stops, shelf brackets, and nails are operative hardware. True or False.

143. Bolts, glue, and building paper are holding hardware. True or False.

144. What type of hinges are most common for hanging doors in residences?

145. A semi-visible cabinet hinge is screwed to the face of cabinet doors. True or False.

146. Which is the larger nail? (A) 8D (B) 6D.

147. Which nail has a larger head? (A) finish nail (B) box nail.

148. Which is the larger screw? (A) #6 (B) #8.

149. In truss construction, joints are held together by metal truss plates or wood _____.

150. What is the most common wood used for strip hardwood flooring?

151. How is strip flooring applied over concrete slab?

152. What is the most important thing to consider when selecting flooring?

153. Asphalt tile can be laid below grade. True or False.

154. If two fireplaces are in the same chimney, they can be vented in the same flue successfully. True or False.

155. The flue need not extend above the ridge of a house if it is less than 10 feet from the ridge. True or False.

156. What is the purpose of flashing around a chimney?

FACILITIES, EQUIPMENT, AND COSTS

A maximum of flexibility in terms of facility requirements has been a guiding principle in the development of the residential construction programs described in Chapter 5.

As a function of economic activity residential construction occurs to some degree in every city, community and locality throughout the state. Thus the target element to which the residential construction programs are directed will often be located in small to medium size cities served by community colleges who simply do not have the necessary financial resources to support programs which require expensive sophisticated facilities and equipment. The wide range of program options which can be effected by interested institutions should afford the opportunity to implement either or both of the programs with a minimum of expenditure for facilities. The residential construction management program, in its most basic form, can be presented in a standard classroom equipped with sufficient work tables (approximately 2-1/2' x 4-1/2' in size) to accommodate the number of students in the program. The minimum requirements for the residential construction technology program are only slightly higher; the difference being due to the drawing laboratory and equipment, and the surveying equipment, which are absolutely essential for this program. It should be noted that the construction site itself provides the most effective laboratory possible for many of the learning activities in the technology program and does so at zero cost to the institution.

The program configuration which is ultimately adopted by each interested institution should be determined in large measure by the extent to which existing facilities can be used to satisfy the needs of the residential construction programs. Many institutions will, as an example, be able to accommodate the need for drawing laboratories and surveying equipment through a sharing arrangement with other existing programs. The facilities planning committee should be brought into the program planning function at the earliest possible stage in order that all such possibilities can be included in the overall plan. The industry advisory committee should also play an important role in developing the program configuration and in defining the technical considerations pertinent to the supporting facilities and equipment.

Institutions adopting program configurations which require the purchase of significant quantities of laboratory equipment should not overlook the possibility of effecting worthwhile cost savings through the acquisition of surplus property. The appropriate channels for obtaining information on the availability of such property, and the procedures which must be followed, have already been established by most educational institutions. Experience has shown, however, that judgment and care should be exercised in acquiring surplus property. Specific plans for its use and sound justification for need should be clearly established before any piece of surplus property is obtained. A careful analysis should be made of its total cost, transportation, space required, cost

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of installation, repair or parts replacement, and of the maintenance requirements to be expected. The probable usable life of such equipment should also be investigated.

Only technically competent, responsible, and imaginative persons directly concerned with the program should select surplus equipment and then only after thorough on-site inspection. Such persons can better avoid the tempation to acquire equipment that is attractive, but obsolete, irrelevant, bulky, or in excessive quantities to the requirements of the program.

The following publications should be especially helpful to persons or groups responsible for planning the necessary supporting facilities:

Nerden, Joseph T. Vocational-Technical Facilities for Secondary Schools: A Planning Guide. Washington, D. C.: Office of Education, 1970.

Guide For Planning Educational Facilities (Current Ed.), Council of Education Facility Planners, Columbus, Ohio.

Frank P. Merlo, Guide for Planning Community College Facilities. (New Brunswick: Rutgers, The State University).

APPENDIXES

APPENDIX A

Curriculum Guides for Residential Construction Management

RESIDENTIAL CONSTRUCTION MANAGEMENT

A RECOMMENDED PROGRAM

This program is designed to prepare students for careers in residential construction enterprises as members of the management team. It has been developed as a parallel to the Residential Construction Technology Program. While many aspects of the programs are identical, distinct differences exist in the end objectives which the two programs seek to serve. The Residential Construction Technology Program is tailored principally to the needs of those persons planning to enter into the operations side of the residential construction business, while the emphasis in the Residential Construction Management Program is on business, finance, office procedures, and general management considerations, as they specifically relate to the residential construction business. Graduates of this program will be qualified for employment as Contractor's Assistants, Estimators, Quality Control Inspectors, Office Managers, Construction Site Coordinators, etc.

PRIMARY OBJECTIVE

To provide the necessary background upon which students can build successful careers in the management of residential construction enterprises.

RESIDENTIAL CONSTRUCTION MANAGEMENT

SUGGESTED CURRICULUM

First Semester	Semester Hours
Principles of Residential Construction	3
Blueprint Reading	3
Fundamentals of Mathematics	3
Construction Surveying	4
Introduction to Business	3
	16

Second Semester	
Introduction to Estimating	3
Residential Construction Materials and Processes	3
Communication Skills	3
Business Mathematics	3
Business Speech	3
Management Processes	3
	18

Third Semester	
Residential Construction Estimating	4
Introduction to Architectural Drawing	4
Elements of Structural Design	3
Contracts, Codes, Specifications and Office Practices	3
Principles of Accounting I	4
	18

Fourth Semester	
Construction Planning and Control	3
Business Communication	3
History of Architecture and Construction	3
Principles of Accounting II	4
Elective	3
	16

Program total	68 hours

RESIDENTIAL CONSTRUCTION MANAGEMENT

Name of Course: Principles of Residential Construction

Course Objectives: To equip the student with a basic understanding of the principles of construction, the tools and terminology of the building trades, and the relationships between the crafts involved in residential construction processes.

Course Description: This course entails a study of the basic principles involved in residential construction. It introduces the student to the principal factors which must be considered during each of the major phases of the residential construction process; from bare lot to the finished structure. Topics include: location and excavation, concrete and masonry, framing, exterior and interior finish, roofing, wall and floor coverings, electrical, heating, and air conditioning systems and plumbing.

Suggested Primary Text: Burbank, Nelson L., and Pfister, Herbert R. House Construction Details, 6th ed. New York: Simmons-Boardman Publishing Corp., 1968.

Course Outline:

I. Design of a House
   A. One story
   B. Two story
   C. Split level
   D. Traffic through house
   E. How to locate house on lot
   F. Plot plan

II. Excavation and Foundation
   A. Layout of house
      1. Batter boards
      2. How to square a house
   B. Types of soil
      1. Wet line
      2. Frost line
   C. Types of foundations
      1. Equipment used to excavate
   D. Forming
      1. Materials
      2. Types of forms
      3. Basement
      4. Slab
   E. Foundations
      1. Concrete
      2. Brick
      3. Concrete blocks
      4. Pier and beams

III. Sills, Girders, Joists and Subflooring
   A. Types of sills
      1. Box
      2. Balloon framing sill
      3. Platform framing sill
   B. Girders
      1. Use
      2. How to construct
      3. Strength

III. Sills, Girders, Joists and Subflooring (Continued)
- C. Joists
  - 1. Wood
  - 2. Steel
  - 3. Concrete
  - 4. Use of each
  - 5. Bridging
    - a. Types
    - b. How to install
    - c. Purpose
- D. Subflooring
  - 1. Types of material used
  - 2. How to install
  - 3. Size of materials

IV. Wall Construction (Framing)
- A. Material used
  - 1. Size of materials
- B. Balloon framing
- C. Platform framing
- D. Post and beam construction
- E. "Ts" and corners
- F. Door and window bucks
  - 1. Trimmers
  - 2. Headers
- G. Wind braces
  - 1. Cut in
  - 2. Let in
- H. Sheathing

V. Roof Construction
- A. Type of roof design
- B. Rafters
- C. Trusses
- D. Dormers
- E. Roofing materials

VI. Exterior Trim
- A. Cornices
- B. Door and window trim
- C. Porch and patio trim
- D. Atriums

VII. Windows
- A. Types
  - 1. Wood
  - 2. Aluminum
  - 3. Glass blocks

VIII. Doors
- A. Exterior
- B. Interior
- C. Pockets
- D. Sliding glass
- E. Garage doors

IX. Exterior Wall Covering
- A. Wood
- B. Brick
- C. Stone
- D. Stucco
- E. Plywood
- F. Asbestos siding
- G. Simulated stone and brick
- H. Aluminum
- I. Glass block

X. Interior Wall and Ceiling Covering
- A. Lath and plaster
- B. Sheetrock
- C. Paneling
- D. Wall paper and vinyl
- E. Tiles--wall and ceiling
- F. Suspended ceilings

XI. Insulation
- A. Purpose
- B. Types and use of each type
- C. Advantages of types

XII. Stair Construction
- A. Open
- B. Closed
- C. Disappearing
- D. Winding

XIII. Hardware
- A. Hinges
- B. Locks
- C. Door checks
- D. Special hardware
- E. Holding hardware
  - 1. Nails
  - 2. Screws and bolts
  - 3. Corrugated fasteners
  - 4. Split-ring fasteners

XIV. Closets and Shelves
- A. Clothes closets
- B. Storage closets
- C. Cabinets
  - 1. Kitchen
  - 2. Bath

XV. Floor Covering
- A. Wood
- B. Vinyl
- C. Carpet

XVI. Chimneys and Fireplaces
- A. Materials

XVII. Scaffolding
- A. Safety
- B. Types

XVIII. Heating and Air Conditioning
- A. Hot water
- B. Hot air
- C. Cold air

XIV. Electricity
- A. Circuits
- B. Wire
- C. Devices
- D. Service panel

XX. Plumbing
- A. Hot water
- B. Cold water
- C. Sewer

Instructional Recommendations/ Suggestions:

During the conduct of this course continuous emphasis should be placed on describing the relationships between the classroom topics and the work experiences occurring in the "Construction Practicum" course.* The text suggested for use with this course is excellent. It contains a wealth of photographs, illustrations, and drawings which are used to emphasize and reinforce the ideas and concepts involved in the various topics presented. It is suggested that the instructor augment these materials with 35MM color slides made up from actual photographs of local construction which are representative of the construction processes being studied. Transparencies for use with an overhead projector should be made from illustrations contained in the text (or from other reference books) to support classroom presentations. The course outline developed for this course follows the sequence of the normal construction process from the initial planning and design of a residence through completion of the final product. Materials contained in chapters of the text which are not reflected in the course

*NOTE: The "Construction Practicum" is not a program requirement for Residential Construction Management students.

outline have been incorporated into other lesson topics as appropriate (i.e., "Building Materials" . . . this topic is of such importance that it is tied into the main subject matter of each class period throughout the course rather than attempting to treat it as a separate lesson topic). The course outline should be modified to provide special opportunity for the thorough study of building materials and processes which are of special interest to the geographic area in which the course is presented (i.e., types of foundations used in the local area, basements, two-story construction, etc.). It is suggested that plumbing and electrical installation be taught along with inside wall and ceiling framing (Chapter Five, text), since this is the point in the actual construction process where these two functions normally are begun.

Because of the importance of materials contained in this course for persons planning to be engaged in residential construction, a "Pre-Test/Post-Test" has been developed, and its use is strongly recommended. Test items included in the examination

are designed to evaluate the students' understanding of the principles and fundamentals as described in the classroom instruction, and practical application as actually used in the construction industry. It is recommended that the test be administered to each student at the beginning of the course and again at the close of the semester. Analysis of test results can provide excellent indicators of both class achievement and individual student development. A copy of the suggested "Pre-Test/Post-Test" is included.

It is recommended that the suggested primary text for this course (House Construction Details) be retained by each student for use as a principal reference during the remainder of the Residential Construction program.

Additional Instructional Materials:

1. Transparencies:

   a. Building Construction Transparencies, DCA Educational Products Inc., Philadelphia, 1970. A set of 24 transparencies depicting various phases of construction processes.

   b. Locally-developed transparencies

      (1) Typical Wall Section, Brick Veneer Residence on Slab Foundation. For use with Chapters Two, Four, and Ten, text.

Additional Instructional Materials (Continued):

b. Locally-developed transparencies (Continued)

(2) Water Pipe Installation, Concrete Slab Foundations. For use with Chapters Two and Five, text.

2. 16MM Films:

a. "Foundation and Concrete", 26 min. (MN6719-A) Available from: National Archives and Records Service, National Audiovisual Center, Washington, D. C. 20409 for approximately $48.

b. "Framing Floor Joists and Walls", 25 min. (MN6719-B) Available from: National Archives and Records Service, National Audio-visual Center, Washington, D. C. 20409 for approximately $44.

c. "Framing Rafters", 15 min. (MN6719-C) Available from: National Archives and Records Service, National Audio-visual Center, Washington, D. C. 20409 for approximately $27.

d. "Interior and Exterior Walls", 12 min. (MN6719-E) Available from: National Archives and Records Service, National Audiovisual Center, Washington, D. C. 20409 for approximately $23.

e. "Fundamentals of Stair Layout", 11 min. (MN6719-F) Available from: National Archives and Records Service, National Audio-visual Center, Washington, D. C. 20409 for approximately $20.

Additional Instructional Materials (Continued):

3. Film Loops (Motion Pictures):

a. The Third Wire Can Save Your Life. 4 min., 8MM. Fairfield Associates. Released by Jam Handy School Service, 1968.

b. Wiring an Attachment Plug. 4 min., 8MM, Fairfield Associates. Released by Jam Handy School Service, 1968.

c. Outlet Box Installation. 4 min., 8MM, Fairfield Associates. Released by Jam Handy School Service, 1968.

d. Basic Wiring: Receptacles and Fixture Circuits. 4 min., 8MM, Moreland-Latchford Productions, Toronto. Released in the U.S. by Universal Education and Visual Arts, 1971.

e. Basic Wiring: Household Service. 4 min., 8 MM, Moreland-Latchford Productions, Toronto. Released in the U.S. by Universal Education and Visual Arts, 1971.

f. Basic Wiring: Domestic Distribution Systems. 4 min., 8MM, Moreland-Latchford Productions, Toronto. Released in the U.S. by Universal Education and Visual Arts, 1971.

g. Basic Wiring: Low Voltage Circuits. 4 min., 8MM, Moreland-Latchford Productions, Toronto. Released in the U.S. by Universal Education and Visual Arts, 1971.

Additional Instructional Materials (Continued):

h. Basic Wiring: Domestic Service Conductors. 2 motion pictures, 4 min. each, 8MM, Moreland-Latchford Productions, Toronto. Released in the U.S. by Universal Education and Visual Arts, 1971.

i. Connecting Wires in an Outlet Box. 4 min., 8MM, Fairfield Associates. Released by Jam Handy School Service, 1968.

j. Basic Wiring: Switch Wiring. 4 min., 8MM, Moreland-Latchford Productions, Toronto. Released in the U. S. by Universal Education and Visual Arts, 1971.

4. Building Materials Samples. Available through local building materials centers, manufacturers, representatives, etc.

5. Recommended "Pre-Test/Post-Test". (See attachment.)

Additional References:

Anderson, L. O. How to Build a Wood-Frame House. New York: Dover Publications, 1973.

Bruce, Leroy F., and Meyer, Leo. Sheet Metal Shop Practice, 3rd ed. Chicago: American Technical Society, 1965.

Huntington, Whitney C. Building Construction: Materials and Types of Construction, 3rd ed. New York: John Wiley and Sons, Inc., 1963.

Jones, Raymond P., Sr. Framing, Sheathing, and Insulation. Albany, N. Y.: Delmar Publishers, Inc., 1964.

Additional References (Continued):

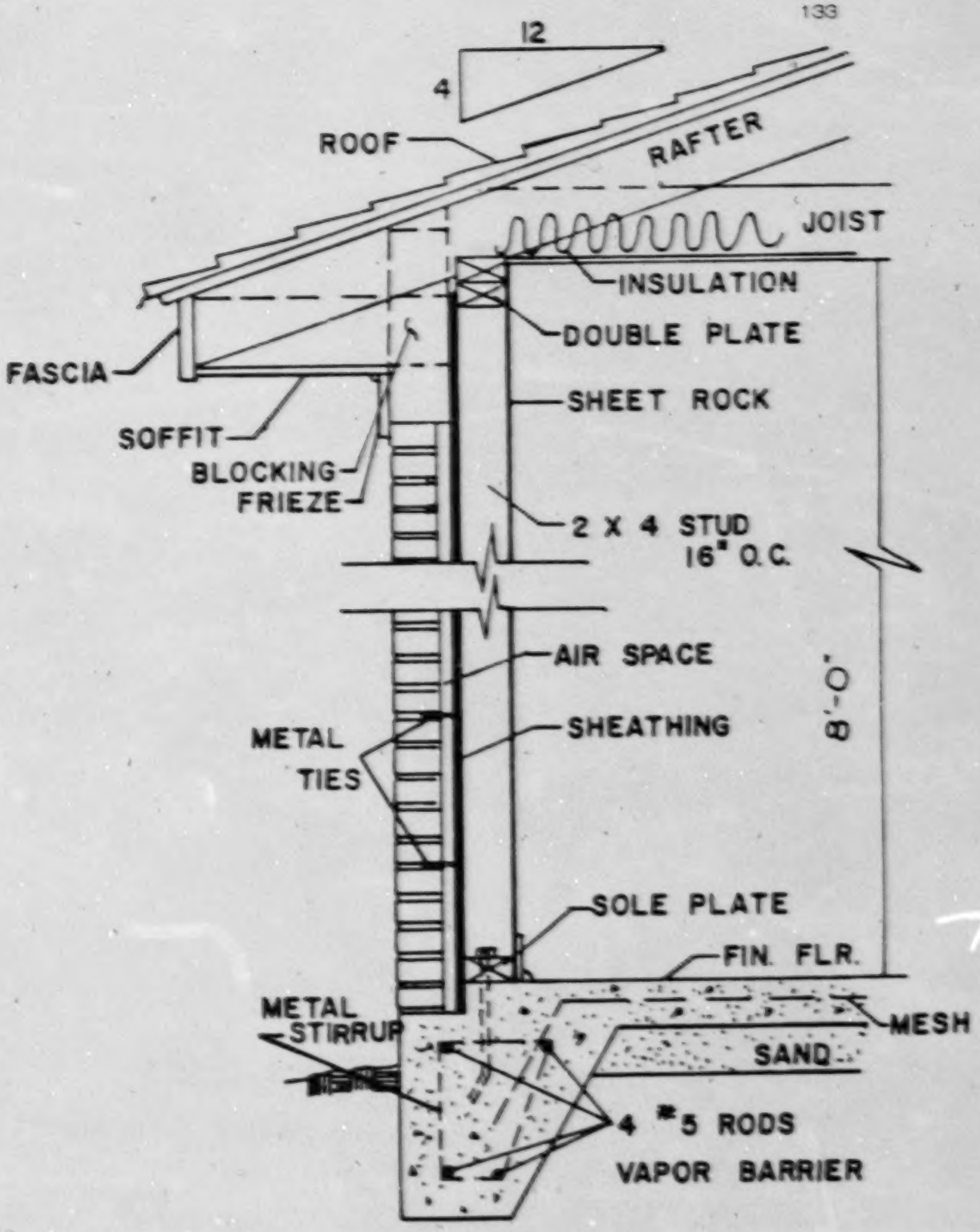
Matthias, A. J., Jr., Smith, Esles, Sr.; et al. How to Design and Install Plumbing, 4th ed. Chicago: American Technical Society, 1971.

Merritt, Frederick S., ed. Building Construction Handbook, 2nd ed. New York: McGraw-Hill Book Co., 1965.

Richter, Herbert P. Practical Electrical Wiring, Residential, Farm, and Industrial, 9th ed. New York: McGraw-Hill Book Co., 1972.

Rufus, Gary O. Practical Rafter Calculator. Los Angeles: Craftsman Book Co., 1972. [A handy pocket reference which contains tables of data describing pitch, angles, lengths, etc., needed in cutting rafters.]

Weaver, Michael K., and Kirkpatrick, James M. Environmental Control. New York: Harper and Row, 1974.



TYPICAL WALL SECTION

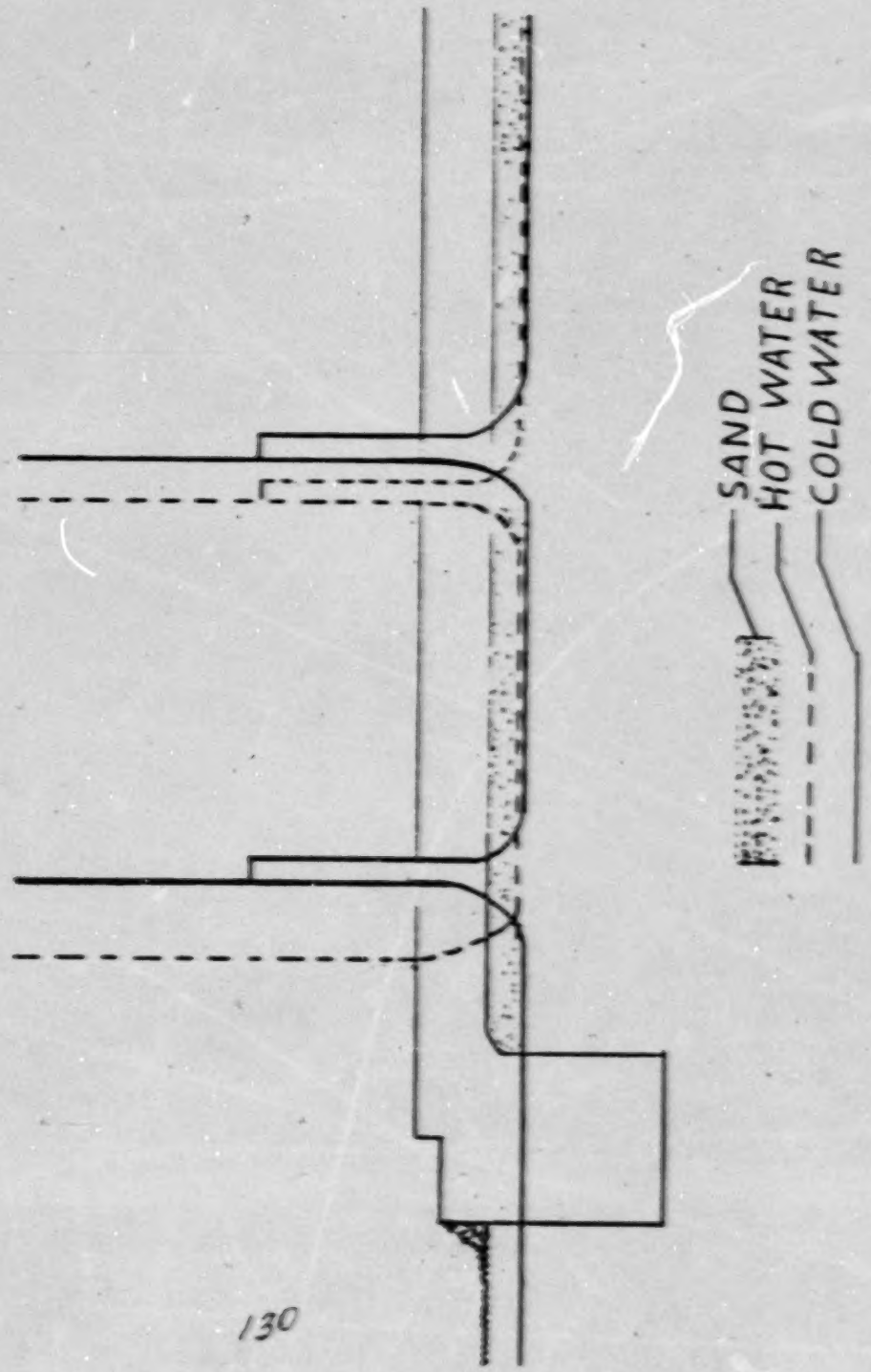
BRICK VENEER

129

SCALE: 1" = 1'-0"

WATER PIPE INSTALLATION

CONCRETE SLAB FOUNDATIONS



PRE-TEST/POST-TEST

PRINCIPLES OF RESIDENTIAL CONSTRUCTION

1. The two-slope roof is called: (A) hip (B) mansard (C) gambrel (D) flat.

2. A true Cape Code-style house is a low, simple house with the major rooms on the first floor and a (A) hip roof (B) low gable roof that may have dormers (C) mansard roof (D) high-pitched roof with massive chimney.

3. Present-day windows which are divided into small panes are (A) easier to clean than single panes (B) imitation of windows of days gone by when large sheets of glass were hard to get (C) less expensive than windows with a single pane.

4. The type of house most frequently built today is the (A) split-level house (B) two-story house (C) one-and-a-half story house (D) one-story house.

5. The house that costs less per sq. ft. of living space to build is the (A) split-level house (B) one-story house (C) two-story house (D) house with a basement.

PRE-TEST/POST-TEST
PRINCIPLES OF RESIDENTIAL CONSTRUCTION
page 2

Figure A
(To be used in answering questions 6, 7, 8, 9 and 10)

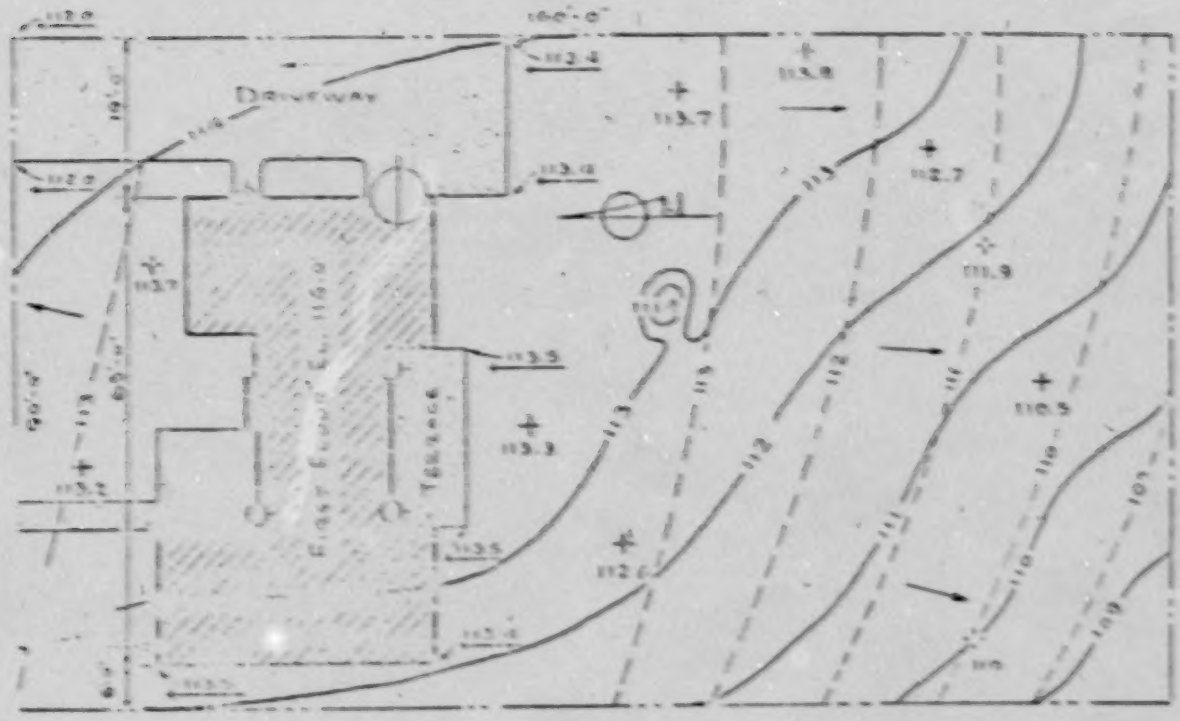


Figure A

6. The lot slopes down to the (A) Northeast (B) Northwest (C) Southeast (D) Southwest corner.

7. If the city datum point in this area has an elevation of 100 feet, then the first floor of the finished house will be (A) 14' (B) 13' (C) 114' (D) 10' above the city datum point.

8. The location and grade level is shown for what number of trees? (A) 8 (B) 9 (C) 10 (D) 11.

9. The southeast corner of the completed driveway will be (A) 1.4' higher (B) 0.6' higher (C) 1.4' lower (D) 0.6' lower than the existing grade level at that spot.

PRE-TEST/POST-TEST
PRINCIPLES OF RESIDENTIAL CONSTRUCTION
page 3

10. Both the existing and the new contour lines are at elevation intervals of (A) one foot (B) two feet (C) ten feet (D) fifty feet.

11. The point of known elevation or height from which a surveyor works is known as a (A) standard city elevation (B) city datum point (C) average elevation point.

12. The curved, numbered lines showing elevations on a survey drawing are called (A) contour lines (B) datum lines (C) elevation lines.

13. The footing acts as a base for the foundation and transmits the superimposed load to the (A) sill (B) studs (C) soil (D) mud sill.

14. A good rule for determining the width of the footing is (A) 2" wider than the foundation wall (B) as wide as the foundation wall is tall (C) twice as wide as the foundation wall.

15. In a full basement the walls are approximately (A) 10 ft. high (B) 6 ft. high (C) 7 ft. high.

16. Step footing is used when (A) you have a basement (B) on all two-story buildings (C) when the building is built on a slope.

17. Reinforcing rods are one way to tie wall and footing together; the other method is (A) key way (B) race way (C) run way.

18. Which of the following types of foundation is the most economical? (A) full basement foundation (B) crawl-space foundation (C) slab on grade foundation.

19. Brick ledges are usually how wide? (A) 5" (B) 5 1/2" (C) 6".

20. Concrete is usually figured by (A) cu. ft. (B) cu. yd. (C) sq. yd.

21. Vapor barrier is used under slab to (A) keep ground dry if a water pipe leaks (B) keep moisture in the ground from reaching the concrete slab (C) keep concrete from curing too fast.

22. All reinforcements should be covered by at least (A) 1/2" (B) 1" (C) 1 1/2" of concrete.

PRE-TEST/POST-TEST
PRINCIPLES OF RESIDENTIAL CONSTRUCTION

23. Control joints in concrete (A) keep concrete from cracking (B) keep cracks small (C) create weak places so as to control place of cracking of slab.

24. Reinforcing steel in concrete (A) prevents concrete from cracking (B) helps prevent cracks from opening (C) is used to keep concrete from sagging in center of building.

25. The generally-accepted best method of anchoring sill to concrete wall or slab is (A) lead anchors and screws (B) concrete nails (C) anchor bolts (C) shoot down.

26. Subflooring laid diagonally over wood joists gives the floor (A) less strength (B) more strength (C) makes no difference.

27. If a girder or beam is used in a pocket in a foundation wall, an air space should be left so that the girder (A) will go in easy (B) will come out easy (C) can dry out in case it picks up moisture.

28. Bridging is used in floor joists to (A) help take care of knots in lumber (B) take care of joists that are not the same width (C) stiffen joists and help distribute weight.

29. In wet areas, water around the footing can be removed by (A) use of footing drain tile laid in a bed of gravel (B) extending brick down to bottom of footing (C) compacting soil so no water can seep in.

30. To add strength to concrete, you (A) add lots of water (B) let it start to set up before placing (C) place with the proper amount of water for mixing.

31. Batter boards are (A) used to locate outside of foundation (B) used to prevent lumber from being stacked where building is to be constructed (C) always 18" above finish grade.

32. If the legs of a right triangle measure 6' and 8', then the hypotenuse will measure (A) 9' (B) 10' (C) 10' 6".

33. The corners of a rectangle are 90 degrees when (A) the opposite sides measure the same (B) opposite sides are parallel (C) if the diagonal distances are the same.

34. Which of the following climatic areas is best suited for pier construction? (A) very cold climate (B) wet, mild climate (C) very windy areas.

35. In platform framing, the subfloor (A) stops at the inside edge of bottom plate (B) goes under bottom plate 1/2 width of bottom plate (C) extends to outside edge of bottom plate.

36. Platform framing is easier to erect because (A) there is only one top plate (B) the studs are longer (C) you have a flat surface to work on.

37. In platform construction you have (A) one bottom and two top plates (B) two bottom and one top plates (C) one bottom and one top plates.

38. In which of the following ways are platform construction and slab construction most similar? (A) from slab or subfloor up (B) both have box sill (C) both have floor joists.

39. In Balloon Construction the studs sit on (A) bottom plate (B) sill (C) directly on foundation.

40. In Balloon Construction the second-floor joists rest on (A) two top plates (B) a ribbon set in edge of studs (C) a 2x12 beam going all around building.

41. In making one type of standard outside corner, you use (A) three studs and blocks (B) only two studs (C) all studs are shorter than standard.

42. In Balloon Construction of a two-story house (A) the studs are not cut at second floor (B) the studs have to be 4"x4" (C) twice as many studs are used as are used in platform construction.

43. In nailing bridging to floor joists, you use (A) two 8D nails at each end of bridging (B) two 16D nails at one end, and two 8D nails at other end (C) one 16D nail at each end.

44. A "T" is used (A) where two walls join together at ends (B) where one wall intersects another at a right angle (C) where wall and the roof intersect.

PRE-TEST/POST-TEST
PRINCIPLES OF RESIDENTIAL CONSTRUCTION
page 6

45. Headers over windows and doors should always be 2x4. True or False.

46. Nails hold best when stress is applied (A) at right angle to nail (B) parallel to nail.

47. Sheathing applied diagonally is (A) more rigid (B) of no value to walls (C) less expensive to install.

48. 2x6 studs are used in some interior walls to (A) add strength to support roof (B) take care of plumbing (C) make doors stronger.

49. Post-and-beam construction requires (A) less interior wall (B) more interior walls (C) that no windows be installed in gable end of house.

50. In post-and-beam construction, planking is used as decking (A) because of the distance to be spanned (B) for appearance (C) because planking is 12" wide.

51. Shrinkage is less in two-story balloon framing than in platform framing because (A) studs rest on sill (B) studs cover both floors (C) ceiling joists are longer.

52. In rough-door buck, the header is supported on each end by (A) cripples or trimmers (B) regular studs (C) does not rest on anything.

53. In post-and-beam construction, ceiling beams are (A) not over 2 ft. apart (B) as much as 10 ft. apart (C) always 2x6.

54. The shed roof (A) sheds water two ways (B) sheds water one way (C) has no pitch at all.

55. Lookout rafters are used to (A) support ridge board (B) support roof that extends beyond outside wall (C) support hip rafters.

56. Which type of roof has a double pitch? (A) hip (B) gable (C) gambrel (D) shed.

57. Jack rafters are used in connection with hip and valley roof construction. True or False.

PRE-TEST/POST-TEST
PRINCIPLES OF RESIDENTIAL CONSTRUCTION
page 7

58. Solid sheathing which is not end matched must (A) joint over rafter or trusses (B) joint between rafter or trusses (C) be parallel to rafter or trusses.

59. Name four types of rafters:

A.

B.

C.

D.

60. What is the total rise of a roof if the pitch is 1/3 and span is 36'?

_____

61. The distance from outside to outside of the top plates is called (A) run (B) span (C) rise.

62. When 2x6s are used, the seat cut of rafters should be at least (A) 3" (B) 5" (C) 2".

63. The plumb cuts of a rafter are made at tail, at ridge board, and at the birds mouth. True or False.

64. Collar beams help to stiffen (A) studs (B) ceiling joists (C) rafters.

65. Trusses require More Less bearing wall partitions.

66. In regard to 1x4 sheathing, it is used for (A) asphalt shingles (B) wood shingles (C) it is never used.

67. Asphalt shingles are packaged (A) 3 (B) 4 (C) 5 bundles to the square.

68. Wood shakes and shingles should be butted as close together as possible. True or False.

69. Asphalt shingles can be laid on flat roofs. True or False.

70. What is meant by "235 lb." roofing material?

PRE-TEST/POST-TEST
PRINCIPLES OF RESIDENTIAL CONSTRUCTION

71. Asphalt square tab shingles are usually laid (A) 3" (B) 5" (C) 7" exposed to weather.

72. Asphalt and wood shingles should have a starter course. True or False.

73. Explain difference between wood shingles and wood shakes.

74. Mastic tab on asphalt shingles helps to make a better roof. True or False.

75. What is the advantage of a wide cornice over a narrow cornice?

76. Which size of electrical wiring is most commonly used in 110v circuits in residential construction?
#10, #14, or #12 wire _____

77. Which size wire is most commonly used for Switch Legs?
#12, #14, or #10 wire _____

78. If you use large enough wire, you can install two 220v air conditioners on the same circuits and still meet the electrical code. True or False.

79. A three-way switch allows control of a light by use of:
two, three, or four switches _____.

80. Switches are always connected in the hot line. True or False.

81. In regard to wire size, the larger the wire number, the smaller the wire. True or False.

82. All major plumbing fixtures have to be vented. True or False.

83. What is the purpose of a "P" trap?

84. The part of the roof which overhangs at the end of the rafters is called _____.

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85. The part of the roof which overhangs the gable end is called _____.

86. In hip roof construction, the cornice goes completely around the house horizontally. True or False.

87. Explain the difference between open and closed cornices.

88. In brick veneer construction, the board that fills the space between the top of soldier course and soffit is called _____ _____.

89. What is a brick pocket?

90. What is the purpose of ventilating an attic?

91. How are most attics ventilated?

92. Explain the difference between porches, patios, and atriums.

93. In present-day construction, what are the two main functions of windows?

94. Name the three classifications of windows and give examples of each.

95. Explain the difference between casement, hopper and awning windows.

96. What is a jalousie window?

97. When used with jalousie windows, are screens installed on the inside or outside? _____

98. To assure proper lighting in a room, the window area should be a minimum of what percentage of the floor space? _____%

99. Which of the following windows permits deeper penetration of light in a room? A 3x5 window placed (A) one foot from the floor (B) 2 1/2 feet from the floor.

100. What makes a hinged door a left- or right-hand door?

101. What is a flush door?

102. What is insulating glass as used in windows or doors?

103. What is usually the maximum overhang in a narrow box cornice? 8", 12", or 18" _____

104. What is the disadvantage of narrow cornice as compared to wide cornice?

105. List three disadvantages of corner windows.

106. What is a skylight?

107. What is the purpose of mullions in window installation?

108. Where are drip caps used in connection with windows?

109. What is a storm sash?

110. Name ten materials used for exterior wall coverings.

(1)	(6)
(2)	(7)
(3)	(8)
(4)	(9)
(5)	(10)

111. How far above finish grade should all wood of a frame house be?
(A) 6" (B) 4" (C) 8" (D) 10"

112. Name three of the four methods of making outside corners on wood beveled siding.
(1)
(2)
(3)

113. Explain the proper method in nailing cedar vertical siding and give the reason for using this method. (Boards and Battens)

114. What is the name of the wood member used where vertical and horizontal siding join? _____

115. What is meant by textured plywood siding?

PRE-TEST/POST-TEST
PRINCIPLES OF RESIDENTIAL CONSTRUCTION

116. Explain the reason for venting the crawl space.

117. If concrete blocks are used as the exterior wall, what can be done to improve their appearance (other than painting)?

118. What are the advantages and disadvantages of asbestos cement siding?

119. On the average, (A) 600 (B) 400 (C) 1,000 face brick are required to lay a square of wall in brick veneer construction.

120. (A) 300 (B) 450 (C) 550 SCR brick will cover a square of wall space.

121. In brick veneer construction, about (A) 6 cu. ft. (B) 10 cu. ft. (C) 14 cu. ft. of mortar will lay one square of wall.

122. In Early American construction, what were the two most common interior wall coverings?
(1)
(2)

123. Which type of edge is most frequently used on gypsum board (sheetrock) today? (A) square (B) tapered (C) beveled.

124. What is used in drywall finish to protect the corner and make the corner straight?

125. Name five materials used for interior wall coverings.
(1) (4)
(2) (5)
(3)

126. Name four types of insulation used in residential construction.
(1) (3)
(2) (4)

127. Describe one of the most commonly-used methods of fastening paneling to masonry walls.

128. Vapor barrier is placed on which side of the wall? (A) cold (B) warm

129. Which type of insulation is best suited for use in insulating ceilings? Why?

130. Blanket insulation used between staggered studs will reduce sound transmission by what percentage? (A) 30% (B) 54% (C) 75%

131. For best results, where should the flange of batt insulation be nailed on the studs? Explain answer.

132. Explain briefly the method used to cover joints in drywell construction.

133. A staircase is a complete stairway consisting of treads, risers, handrail, and other stair parts. True or False.

134. A staircase is always made of wood. True or False.

135. A shaft through one or more floors in a house through which a staircase is constructed is called a _____.

136. In stair construction, there is always one more riser than tread. True or False.

137. If three or more risers are used in a stairway, you should always have a handrail for safety. True or False.

138. According to standards established by National Workman's Compensation Bureau, stairs should be no more than (A) 40 (B) 50 (C) 60 degrees and no less than (A) 10 (B) 20 (C) 30 degrees steep.

139. The sum of one tread and one riser should be not more than 18", or not less than (A) 15" (B) 16" (C) 17".

140. If hinges are on the right and the door opens toward the key side, is it a (A) right-hand door or (B) right-hand reverse bevel door?

141. In reference to casement windows, if you are standing inside the room and the hinges are on the right, is it a (A) right-hand window or (B) left-hand window?

142. Locks, door stops, shelf brackets, and nails are operative hardware. True or False.

143. Bolts, glue, and building paper are holding hardware. True or False.

144. What type of hinges are most common for hanging doors in residences?

145. A semi-visible cabinet hinge is screwed to the face of cabinet doors. True or False.

146. Which is the larger nail? (A) 8D (B) 6D.

147. Which nail has a larger head? (A) finish nail (B) box nail.

148. Which is the larger screw? (A) #6 (B) #8.

149. In truss construction, joints are held together by metal truss plates or wood _____.

150. What is the most common wood used for strip hardwood flooring?

151. How is strip flooring applied over concrete slab?

152. What is the most important thing to consider when selecting flooring?

153.. Asphalt tile can be laid below grade. True or False.

154. If two fireplaces are in the same chimney, they can be vented in the same flue successfully. True or False.

155. The flue need not extend above the ridge of a house if it is less than 10 feet from the ridge. True or False.

156. What is the purpose of flashing around a chimney?

RESIDENTIAL CONSTRUCTION MANAGEMENT

Name of Course: Blueprint Reading

Course Objectives: To provide a basic understanding of the standard symbols, abbreviations, format, and other data contained in blueprints. To enable the student to interpret working drawings and visualize the finished product intended by the architect.

Course Description: This course is designed to acquaint the student with the purpose, function and proper use of blueprints. Topics include: Working drawings, reading drawings, elevations, floor plans, symbols, scales and dimensions, structural information, reading detail drawings and plot plans.

Special emphasis is placed on such subjects as: How blueprints reflect architectural progress, how specifications amplify blueprints, how blueprints vary with the purpose of the structure, how material variations affect blueprints.

Suggested Primary Text: Sundberg, Elmer W., et al. Building Trades Blueprint Reading, 5th ed., Part I: Fundamentals. Chicago: American Technical Society, 1973.

Supplemental Text: Sundberg, Elmer W., et al. Building Trades Blueprint Reading, 2nd ed., Part II: Residential and Light Commercial Construction. Chicago: American Technical Society, 1974.

Course Outline:

I. Working Drawings and Blueprints
   A. How blueprints are made

II. Reading Elevation Drawings
   A. Information depicted on elevation drawings
   B. Building design
   C. Roof design
   D. Openings
   E. Dimensions
   F. Exterior finishes
   G. Exterior materials

III. Reading Floor Plans
   A. Importance of floor plan
   B. How to read floor plans
   C. Dimensions depicted on floor plans

IV. Symbols and Notations Used on Floor Plans
   A. Symbols for materials
   B. Symbols for parts of building
   C. Abbreviations

V. Scaling and Dimensions
   A. How to use the architect's scale
   B. Use of folding rule to scale blueprint
   C. Types of construction

VI. Reading Blueprints for Structural Information
   A. Finding structural information on blueprints
   B. Types of construction

VII. Reading Detail Drawings
   A. Scales used for details
   B. How to locate details

VIII. Plot Plan
- A. The survey plot
- B. Scale used by surveyor
- C. Elevations
- D. Contour lines
- E. The plot plan

IX. Reading Blueprints for Trade Information
- A. Electrical
- B. Plumbing
- C. Masonry
- D. Concrete
- E. Heating and air conditioning

Instructional Recommendations/ Suggestions:

The two texts recommended for use in this course were designed by the author to be used in conjunction with each other in developing an ability to read and understand blueprints. Principles and fundamentals are presented in Part I. Extensive opportunity to actually apply these principles and fundamentals is afforded by the exercises contained in Part II. The texts are flexible and may be used for individual study or for several distinct classroom organizational formats. Four distinct methods of presenting the course material are described for the convenience of prospective instructors.

House Construction Details (suggested for use as the primary text in "Principles of Residential Construction") provides an excellent reference source for

understanding the details of construction as depicted in the blueprints to be studied in this course.

In the interest of competency testing, it is recommended that the final examination in the course be developed through use of an actual blueprint which the students will not have had an opportunity to study or review prior to the testing period. (Copies of such blueprints can be obtained from local architects and/or home builders.) This procedure will provide a more valid measure of the students' ability to apply the concepts and principles of blueprint reading to a realistic work situation. An example of a suggested final examination, constructed along the lines of this recommendation, is included. The answers shown on the sample examination should be changed, as necessary, to correspond to the blueprint ultimately selected for testing purposes.

Additional Instructional Materials:

1. Supplemental blueprint for final examination purposes. May be obtained through local architects or home builders.

2. Selected Transparencies. To be developed locally. From the List of Transparencies suggested for use in the course entitled "Principles of Residential Construction".

Additional References:

Burbank, Nelson L., and Pfister, Herbert R. House Construction Details, 6th ed. New York: Simmons-Boardman Publishing Corp., 1968.

Spence, William P. Architecture: Design-Engineering-Drawing, 2nd ed. Bloomington, Ill.: McKnight and McKnight Publishing Co., 1972.

FINAL EXAMINATION

BLUEPRINT READING

(Questions 1-68 based on general information.)

1. Blueprints are copies of working drawings made by placing tracings over light-sensitive paper and exposing them to light. T F

2. A tracing can only be used a few times to make blueprints. T F

3. Orthographic projection is another name for the three-view concept. T F

4. Working drawings for a building are made to scale because it would be impossible to draw them full size. T F

5. Dimensions should be shown in each room on a floor plan giving its exact size. T F

6. A dimension should only be shown once on the same sheet. T F

7. A center line and a cutting plane line are drawn with the same symbol. T F

8. All of the basic window types are included among swinging and sliding windows. T F

9. Awning windows swing outward. T F

10. Package doors include the door frames and hardware. T F

11. Door dimensions 2'8" x 6'8" x 1 3/8" indicate width, height and thickness in that order. T F

12. Hollow core doors have a core of wood blocks. T F

13. Straight stairs are preferred to winding stairs for safety. T F

14. A steep stair would have a wide tread and low riser height. T F

15. Provisions for the disposal of storm water from the roof is decided by the builder. T F

16. Anyone who can assemble pipe is qualified to do plumbing work. T F

FINAL EXAMINATION

BLUEPRINT READING

17. The electrician working on a small building makes his own sketch to show arrangement of circuits. T F

18. The electrician must be familiar with the electrical code. T F

19. The craftsman should never guess about the meaning of an abbreviation. T F

20. Working drawings include floor plans, elevations, section views and detail views. T F

21. Concrete walks and drives should be shown on plot plans. T F

22. The architect shows details on the blueprints for the rough framing around windows and doors. T F

23. A 2x6 plank actually measures 1 1/2" x 5 1/2". T F

24. Concrete footings vary in size according to the bearing properties of the soil and the weight of the building. T F

25. All footings and foundation walls have steel reinforcing bars in them. T F

26. A brick window sill laid in rowlock fashion shows the 2x4 inch (nominal size) end of the brick arranged in a vertical row. T F

27. A brick veneer wall is ventilated by a one-inch air space. T F

28. Common concrete block has nominal dimensions of 8" x 8" x 16". T F

29. Steel is the only metal of any importance in the construction industry. T F

30. Aluminum structural shapes are supplied in various sizes. T F

31. All reinforcing bars are the same except for diameter. T F

32. Electric wires are carried through special steel pipe called conduit. T F

33. A built-up roof is made of several layers of saturated felt with tar or asphalt spread over each layer. T F

34. The working drawings show how the rough openings for windows should be framed. T F

35. Dimensions for interior partitions are nominal dimensions to the face of studs. T F

36. Chimney footing needs no reinforcing bars. T F

37. Cross-bridging and solid bridging are the same thing. T F

38. Windows are moved by the builder to fall in line with stud spacing. T F

39. Clearance is allowed between the rough-frame opening and the window frame to permit adjustment. T F

40. Siding can be nailed directly to plywood sheathing. T F

41. Members of platform framing are always placed on 16 inch centers. T F

42. The A frame can only be used for plans with single floor. T F

43. The mix of concrete is varied for different applications. T F

44. Steel reinforcing bars are used in concrete footings. T F

45. Voids in concrete are filled with the aid of a vibrator. T F

46. Cavity walls are brick walls made of two wythes with an air space between. T F

47. Brick veneer is combined with wood platform framing. T F

48. The brick part of a brick veneer wall supports the rafters or trusses. T F

49. Earthquake damage can be minimized by making the framework as rigid as possible. T F

50. Snow and ice damage to roofs can be counteracted by increasing the strength of roof supports. T F

FINAL EXAMINATION

BLUEPRINT READING

51. Regarding the three-view concept,
    A. a set of working drawings is based on the idea of three views: top, front and side, or plan views and elevation views.
    B. each drawing is worked out to show information in three dimensions.
    C. a floor plan is a slice through a building taken a few inches above the floor.
    D. pictorial drawings are included in the working drawings to show details of very complex problems.

52. The word scale is used correctly as follows:
    A. a triangular scale is a ruler with six faces and twelve types of graduations.
    B. an architect can draw everything in a set of working drawings using a scale of 1/4 inch equals one foot.
    C. in order to be meaningful, preliminary sketches should be drawn to scale (in proportion).
    D. using a scale, such as 1/4 inch equals one foot, will automatically bring about good proportions and design in a drawing.

53. Scales used in making drawings include:
    A. six inches per foot for moldings.
    B. 1/4 inch per foot for elevation and plan views.
    C. 1 1/2 inch per foot for section views through exterior walls.
    D. 3/4 inch foot for details to be drawn 3/4 size.

54. Regarding dimensioning,
    A. a dimension for the same measurement can be shown twice or on two sheets if it will make it easier to locate.
    B. 4-inch and 6-inch partition thickness dimensions are actual measurements.
    C. buildings should be built with such precision that dimensions should be given in feet, inches and fractions of an inch.
    D. dimensions should be shown in a continuous row, whenever possible, with the figures shown above the dimension line.

55. Regarding symbols
    A. all architects use the same symbols.
    B. symbols are used because the scale is too small to show the object in complete detail, and they save drafting time.
    C. all lines on plan and elevation views are shown as object lines.
    D. a break line shows where cuts are to be made.

56. Regarding the alphabet of lines,
    A. cutting plane line shows where the cutting plane passes and the direction in which the section view is to be viewed.
    B. the architect may devise his own alphabet of lines.
    C. all lines on plan and elevation views are shown as object lines.
    D. a break line shows where cuts are to be made.

57. Regarding types of windows,
    A. there are three basic types of windows--casement, hoppe and awning.
    B. all swinging windows swing outward.
    C. hopper windows have hinges at the bottom of the sash.
    D. screens are on the outside of all windows which have screens.

58. Regarding door types,
    A. the three basic types are flush, hollow core, and solid core.
    B. accordion doors are the same as bi-fold doors.
    C. panel doors are only used as interior doors.
    D. solid-core doors are used for exterior doors.

59. A floor plan shows
    A. a designation such as 14 R Down, which means 14 risers from the floor of the plan to the floor below.
    B. both the top and bottom riser of a flight of stairs.
    C. how two flights above one another have starting points which line up.
    D. construction details for rough structural members around stairwells.

60. Regarding plumbing and electrical work for residences,
    A. the working drawings show plumbing fixtures and piping for the water supply.
    B. the plumber makes his own layout of drainage piping, including venting through the roof.
    C. electrical and plumbing symbols resemble the units they represent.
    D. electrical circuits are shown on floor plans.

61. Regarding verbal information,
    A. specifications are of minor importance for verbal information.
    B. the title block serves mainly to identify the building.
    C. specific notes are shown near where they apply.
    D. mistakes due to misreading verbal information are not the fault of the craftsman.

FINAL EXAMINATION

BLUEPRINT READING

62. Regarding abbreviations,
    A. abbreviations are all standardized.
    B. abbreviations should be used everywhere to save time.
    C. abbreviations should have meaning even when not associated to parts of a drawing with an arrow or by its location.
    D. when two abbreviations may be used for the same thing, the architect can use either as long as the description is clear.

63. The relationship between the house and the lot include:
    A. the use of an official survey which gives a legal description of the property.
    B. the use of a plot plan which only has value for town or city property.
    C. the use of a city datum point or bench mark which is located on the property.
    D. compliance with zoning ordinances which specify details of construction.

64. The plot plan
    A. shows a point of beginning which is used to find the bench mark or city datum point.
    B. shows lot dimensions and angles at each corner.
    C. shows contour lines which help the concrete workers decide on the depth of the foundation.
    D. shows designations such as +4' 0", which means that the elevation is 4' 0" above sea level.

65. Regarding structural lumber,
    A. the craftsman chooses the right size members to be used to support floors and roofs.
    B. the actual size of a 2x4 is 1" x 3", arrived at by subtracting 1/2 inch from each surface.
    C. structural lumber is sold in two-foot intervals within certain lengths and described by nominal dimensions such as 2x4 or 2x8.
    D. the architect and the builder together decide on how openings shall be framed.

66. Regarding plywood,
    A. finish wood paneling is actually plywood.
    B. plywood is excellent for covering large surfaces but has little strength.
    C. the glue used in plywood is waterproof.
    D. the main use of plywood in light construction is for wall sheathing.

67. Concrete
    A. in monolithic form is reinforced concrete.
    B. symbol consists of small dots.
    C. with a mix of 1:3 1/2:5 means that one part cement, 3 1/2 parts sand, and five parts gravel are used.
    D. reaches full strength in three days.

68. Regarding roofing,
    A. shingles can be used on a roof which has any slope.
    B. most asphalt shingles are single-tab shingles.
    C. roll roofing is used exclusively for built-up roofs.
    D. a square of roofing covers 100 square feet when it is laid.

(Questions 69-143, based on information contained in blueprint.)

69. The kitchen has
    A. a pass-through opening to the family room.
    B. a soffit all around the room at the ceiling.
    C. horizontal slider window
    D. stock cabinets to be fitted by the carpenter on the job.

70. The family room has
    A. a pair of sliding glass doors, both of which open.
    B. three warm air registers and no return air register.
    C. two sets of casement windows which are alike in size.
    D. a doorway leading to the kitchen.

71. Regarding the bedroom wing, (bedrooms 18 and 22)
    A. each bedroom has a closet with bi-fold doors.
    B. the bathrooms are identical but reversed, except for the placement of the doors and switches.
    C. the bedroom doors are all sliding doors.
    D. warm air is supplied to the bathroom by a ceiling fan.

72. Regarding doors,
    A. the front entrance door is a wood panel door with nine lights.
    B. doors are all 6' 8" tall--except doors 1 and 6.
    C. the basement door is a wood panel door with six lights.
    D. closet doors in bedrooms and hall are either sliding or bi-fold doors.

FINAL EXAMINATION

BLUEPRINT READING

73. Regarding brick veneer walls,
   A. the brick veneer part of the wall is erected before the frame part.
   B. a one-inch air space is provided for ventilation.
   C. the brick veneer is set back one inch from the face of the foundation.
   D. anchors on two-foot centers between each course hold the brick tight against the sheathing.

74. Regarding the fireplace and chimney,
   A. flue liners are not permitted to extend above the top of the chimney masonry.
   B. a fireplace ash drop opens into the carport.
   C. the round flue shown on the floor plan is for the furnace.
   D. details to build the chimney are given in vertical and plans section through fireplace.

75. The plot plan (sheet 1) shows:
   A. a point of beginning which is also a local bench mark.
   B. a difference in elevation of 1.33 feet between the grade at the northwest corner of the building and the first-floor elevation.
   C. the length of each side of the lot, and angles at the corners.
   D. the location of the driveway and walks.

76. The foundation plan and details on sheet 2 show:
   A. information about steel reinforcing bars in the footings under the house and in the pad under the fireplace.
   B. dimensions for the size and location of the footings under the retaining wall.
   C. dimensions locating the stepped footings.
   D. location of the depressed slabs for brick floors and areas for tubs.

77. The south elevations (sheet 6) show:
   A. the living-room windows as fixed glass.
   B. the footing for the chimney with hidden lines.
   C. that both doors of the pair of glass doors slide open.
   D. dimensions of the fascia member.

78. The door schedule on sheet 1 shows:
   A. that the doors are typical 6' 8" doors (except doors 1 and 6).
   B. that doors are either swinging or sliding.
   C. that window sills for plate-glass windows are at the floor level.
   D. interior wall finish held back 1/2 inch from the door jambs.

BLUEPRINT READING

79. Electrical plan (sheet 9) shows:
    A. a 200 amp service.
    B. a gas outlet in the utility room.
    C. three-way switches to control the electric garage-door operator.

80. Regarding carpentry,
    A. joists over the garage and those over the kitchen and bedroom No. 22 have the same length.
    B. the wall studs are eight feet long.
    C. window and door openings in exterior walls are framed to exactly fit the window and door frames.
    D. cross bridging is unnecessary for the roof joists because of the 3/4-inch plywood sheathing.

81. Regarding interior finish (sheet 1),
    A. a vinyl tile floor is required in the bath and linen closets.
    B. interior door jambs are flush with the wall surface.
    C. wood trim base is specified for all rooms except bathrooms and kitchen.
    D. gypsum board wall finish on exterior walls is applied over furring strips.

82. What type of roof does the house have?
    A. hip roof.
    B. gable roof.
    C. shed roof.
    D. shed and hip roof.

83. The house has
    A. a full basement
    B. no basement.
    C. a half basement.
    D. two levels.

84. The living room
    A. is separated from the dining room by a room divider.
    B. has direct access to the kitchen.
    C. has a fireplace on the west wall.
    D. is part of a living-dining room area.

FINAL EXAMINATION

BLUEPRINT READING

85. The dining area
    A. has direct access to the breezeway.
    B. has a swinging door to the kitchen.
    C. has glass sliding doors to the patio.
    D. has fixed windows.

86. The kitchen
    A. has cabinets on three sides.
    B. has two doors.
    C. has an exit to the patio.
    D. serves also as a laundry.

87. The hallway
    A. opens to all of the rooms but bath #2 and dining room.
    B. has no door which swings outward into it.
    C. is L-shaped.
    D. has all sliding doors.

88. Regarding closets,
    A. bedroom No. 11 has three closets.
    B. the linen closet has a sliding door.
    C. bedrooms No. 18 and 22 have closets of equal size.
    D. no closet is provided in the kitchen.

89. Regarding plumbing,
    A. all of the plumbing fixtures in the bathrooms are arranged along the same wall.
    B. bath #21 has a shower.
    C. the kitchen sink is located under the kitchen window.
    D. the washing machine is located on the east kitchen wall.

90. The south elevation will have what type of windows?
    A. sliding and fixed sash.
    B. awning type and horizontal sliding.
    C. hopper and casement.
    D. double hung and casement.

91. The east elevation will have what type of windows?
    A. single hung and fixed.
    B. casement.
    C. awning.
    D. horizontal sliding.

92. The north elevation will have what type of windows?
    A. horizontal sliding and double hung.
    B. horizontal sliding and casement.
    C. single hung and fixed.
    D. awning and double hung.

93. Exterior doors for the house (excluding garage doors)
    A. are all alike.
    B. are two flush doors and one pair of sliding doors.
    C. are flush doors which have the same light arrangement.
    D. all swing in the same direction.

94. Regarding interior doors,
    A. all are swinging or sliding.
    B. all closet doors are sliding.
    C. all closet doors are swinging, sliding, or bi-fold.
    D. all doors to rooms from the hall are swinging.

95. Regarding floor levels,
    A. the living and garage areas are the same level.
    B. the garage floor is lower than the living area.
    C. the garage and entry passage floor levels are the same.

96. Closets
    A. have louvered doors.
    B. have shelves and rods.
    C. have shelves.
    D. have lights with pull switches.

97. The kitchen
    A. has a drop-in range.
    B. has ceramic tile floor and base.
    C. has a gas oven.
    D. has upper cabinets on two walls only.

98. The dimensions of the lot are _____ x _____.

99. The corners are each _____ degrees.

100. The long dimension of the lot is in a _____ compass direction.

101. The greatest dimensions of the house are _____ x _____.

FINAL EXAMINATION

BLUEPRINT READING

102. The house is located _____ from the west property line.

103. It is located _____ from the south property line.

104. The greatest difference in the natural grade elevations of all points on the lot is_____.

105. The floor elevation is _____.

106. What type of roof does this house have? _____

107. What material is used for roofing? _____

108. What is the slope of the roof? _____

109. How far does cornice project beyond face of brick? _____

110. What type window is window A? _____

111. What type window is window E? _____

112. What type exterior wall covering is used on garage? _____

113. How many hose bibs are shown? _____

114. How many amps is main disconnect? _____

115. How many light circuits in this house? _____

116. Total circuits used _____

117. How many spare slots for future circuits? _____

118. How many three-way switches? _____

119. How many water-proof plugs are shown? _____

120. How high above floor is wall plug on circuit #2? _____

121. Where are the lights on circuit #1? _____

122. How many switches control circuit #6? _____

123. How many freeze-proof water hydrants are shown? _____

BLUEPRINT READING

124. How many cleanouts are shown? _____

125. How many 4" stacks are shown and what do they vent? _____

_____ _____

126. How many hot-air supply ducts in living room? _____

127. How many cold-air return ducts are shown? _____

128. What is size of master bedroom? _____

129. What is the size of garage in east-west direction? _____

130. How thick is wall where commode and bathtub is vented in bathroom #21? _____

131. What size and how thick are doors #9? _____

132. What type is door #3? _____

133. What materials are window sills made of? _____

134. Describe the material used to trim out the eaves: _____

135. Describe the material used in soffit: _____

136. What size material is used for collar beams? _____

137. What type of material is used in gable ends? _____

138. How many windows are shown on the north elevation? _____

139. What type of windows are shown on the north elevation? _____

140. What room does the skylight open into? _____

141. Where is the outside opening to the ash pit? _____

142. How large is the flue? _____

143. How many drawers are in the desk shown on detail 7? _____

RESIDENTIAL CONSTRUCTION MANAGEMENT

Name of Course: Fundamentals of Mathematics

Course Objectives: To emphasize the importance of a thorough understanding of the mathematics of the construction trades for students planning careers in construction. To encourage maximum development of student skills in the practical application of the mathematical processes used in residential construction.

Course Description: This course provides an in-depth review and additional refinement of the use of whole numbers, fractions, percentages, ratio and proportion, areas and volumes. It introduces various short methods for rapid calculations and explains the advantages and disadvantages of their use in construction-related activities. It provides a basic review of algebra and the algebraic functions used in construction. Emphasis throughout the course is on the understanding of basic processes.

Suggested Primary Text: To be determined locally.

Course Outline: To be determined locally.

Instructional Recommendations/ Suggestions: This course is basically an intensive review of the fundamental mathematical processes. Because of the wide variations which normally exist in the mathematical background of individual students in classes of this type, testing procedures should be developed to allow accelerated progress for more advanced students. Recommend student evaluation be based on demonstrated proficiency in the required processes. Most post-secondary institutions will have comparable course offerings within their regular curriculum which can satisfy the requirements of this course.

Additional Instructional Materials: To be developed locally.

Additional References: To be developed locally.

RESIDENTIAL CONSTRUCTION MANAGEMENT

Name of Course: Construction Surveying

Course Objectives: To provide the student with a working knowledge of the fundamentals of surveying and to develop basic skills in the use of surveying information as applied to the home-building industry.

Course Description: This is an introductory course in the principles of surveying which focuses on the elements of surveying most directly related to residential construction. Some of the major areas of concern in this course are: principles and use of the engineer's transit, theory and practice of leveling, the proper maintenance and use of field notebooks, field layout of structures and field staking for earthwork.

Suggested Primary Text: Brinker, Russell C. Elementary Surveying, 5th ed. Scranton, Pa.: Intext Educational Publishers, 1969.

Course Outline:

I. Angles, Bearings, and Azimuths
   - A. General
   - B. Units of angle measurement
   - C. Measurement of angles
   - D. Measurement of distance
   - E. Calculations of bearings

II. Traversing
- A. Methods of running a traverse
- B. Traversing by deflection angles
- C. Traversing by azimuths
- D. Measurement of lengths
- E. Angle closure
- F. Sources of error

III. Leveling
- A. Curvature and refraction
- B. Methods of determining differences of elevation
- C. Types of leveling instruments
- D. Theory of leveling
- E. Profile leveling
- F. Cross sectioning
- G. Signals

IV. The Transit
- A. Upper plate, lower plate, and leveling head
- B. Method of reading a vernier
- C. Operation of the transit
- D. Laying off an angle
- E. Deflection angles and azimuths
- F. Measurement of a vertical angle

V. Area
- A. Methods of measuring
- B. Area by division into triangles
- C. Area by offsets
- D. Area by double meridian distances
- E. Area by coordinates
- F. Area by planimeter

VI. Topographic Surveys
- A. Control for topographic surveys
- B. Topographic details
- C. Locating points in the field
- D. Contours and method of obtaining
- E. Transit tape method
- F. Coordinate squares
- G. Sources of errors in topographic surveys

VII. Construction Surveys
- A. General
- B. Pipelines
- C. Staking out a roadway
- D. Staking out a building
- E. Sources of error

VIII. Parabolic Curves
- A. General
- B. Computations for an equal-tangent curve
- C. Computations for an unequal-tangent curve
- D. Vertical curves
- E. Sight distance
- F. Sources of error

IX. Mapping
- A. General
- B. Mapping agencies
- C. Map drafting
- D. Plotting the traverse
- E. Plotting details
- F. Plotting contours
- G. Topographic symbols
- H. Locating the traverse on the map sheet
- I. Title
- J. Notes
- K. Sources of error in mapping

Instructional Recommendations/ Suggestions: Surveying is an outside activity and field work is an absolutely essential requirement for this course. In geographic areas where extreme or inclement weather conditions can be expected during certain portions of a semester, instructors may need to alter the sequence of subject matter depicted in the suggested course outline. Field

work should approximate industrial practice with special emphasis being placed on the degrees of precision required in good surveying practice. Field notebooks should be kept according to good professional practice and field notes should be reduced to a convenient form for the plotting or calculation of distances and volumes. It is recommended that laboratory/field survey periods comprise a minimum of three hours, once each week, with a one-hour period for class lectures and problem solving.

Additional Instructional Materials:

Surveying equipment normally used in residential construction practice (engineer's transits, surveying rods and chains, stakes, etc.); quantities commensurate with size of class.

Surveyor's field notebooks. Obtainable through retail bookstores, printing and office supply outlets.

Additional References:

American Society of Civil Engineers, Committee of the Surveying and Mapping Division on Definition of Surveying Terms. Definitions of Surveying, Mapping, and Related Terms. New York: American Society of Civil Engineers, 1954.

Additional References (Continued):

Davis, Raymond E., et al. Surveying: Theory and Practice, 5th ed. New York and London: McGraw-Hill Book Co., 1966.

RESIDENTIAL CONSTRUCTION MANAGEMENT

Name of Course: Introduction to Business

Course Objectives: To familiarize the student with the economic, social, and legal environments in which business is conducted in our present-day society. To provide an opportunity for the student to learn what capitalism is and how it functions. To encourage the student to acquire a usable vocabulary of business terms and to gain an understanding of the methods and procedures used by businessmen to arrive at decisions.

Course Description: This is a survey-type course which examines the characteristics of business organization, the records of business, problems of marketing, personnel, finance, decision making, and the legal and regulatory environment of business. Special emphasis is placed on defining the responsibilities of business in regard to such nonprofitable activities as employing the disadvantaged, promoting civic and educational projects and fighting pollution.

Suggested Primary Text: Glos, Raymond E., and Baker, Harold A. Business: Its Nature and Environment; An Introduction, 7th ed. Cincinnati, Ohio: South-Western Publishing Co., 1972.

Course Outline:

I. Business and Society
   A. Nature of business
   B. Economic business environment
   C. Ethics and social responsibilities

II. Ownership, Organization, and Management
   A. Unincorporated businesses
   B. Incorporated businesses
   C. Organization for management
   D. Management activities

III. Marketing
   A. Marketing--nature and scope
   B. Wholesaling and retailing
   C. Prices and pricing
   D. Advertising
   E. International trade

IV. Personnel
   A. Employee selection and training
   B. Employee compensation
   C. Labor problems and legislation

V. Production
   A. Materials management
   B. Production problems

VI. Finance
   A. Short-term financing
   B. Long-term financing
   C. Financial problems and policies
   D. Security markets and financial news
   E. Risks and insurance

VII. Quantitative Controls
   A. Accounting and financial statements
   B. Data processing
   C. Business statistics and reports
   D. Forecasting and budgeting

VIII. Legal and Regulatory Environment of Business
   A. Business law
   B. Governmental regulation of business
   C. Business and taxes

Instructional Recommendations/ Suggestions: The text suggested for use in this course is designed to provide a general familiarization with the whole area of activity known as business. This complete view will provide a framework into which the student can fit the segments he subsequently studies in greater detail (Business Mathematics, Accounting, Management, etc.). The stress on environmental factors is considered to be of special importance for those students planning careers in construction. The suggested text is well suited to the purposes of this course. It also serves as the nucleus around which the authors have developed a complete teaching materials package. The various parts of the total package are listed in the section on Additional Instructional Materials, below.

Additional Instructional Materials:

"Student Supplement" to suggested primary text (Questions, Problems, Readings, Incidents). Available through the publisher.

"Instructor's Manual" for use with suggested text. Available through the publisher.

"Transparency Masters" for use with the suggested text. Contains a series of several masters for each chapter of the text. Available through the publisher.

Additional Instructional Materials (Continued):

"Objective Tests" for use with the suggested text. Contains a set of ten complete objective examinations over materials contained in the text. Available through the publisher.

Additional References

Bjork, Gordon C. Private Enterprise and Public Interest: The Development of American Capitalism. Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1969.

Gruchy, Allen G. Comparative Economic Systems: Competing Ways to Stability and Growth. Boston: Houghton Mifflin Co., 1966.

Poe, Jerry B. An Introduction to American Business Enterprises: Introductory Text and Cases, rev. ed. Homewood, Ill.: Richard D. Irwin, Inc., 1972.

Russel, Robert R. A History of the American Economic System. New York: Appleton-Century-Crofts, 1964.

RESIDENTIAL CONSTRUCTION MANAGEMENT

Name of Course: Introduction to Estimating

Course Objectives: To introduce the student to the techniques and procedures used in determining the probable cost of any given construction project. To provide a basic understanding of bidding procedures and the interrelationships between contract documents and the quantity take-off of materials.

Course Description: This course introduces the student to the basic methods of estimating and develops a system for doing quantity surveys. The course also prepares the student to make some of the kinds of estimates that are commonly used in residential construction.

Prerequisites:

1. "Principles of Residential Construction"
2. "Blueprint Reading"

Suggested Primary Text: Dagostino, Frank R. Estimating in Building Construction. Reston, Va.: Reston Publishing Co., Inc., 1973.

Course Outline:

I. Estimating and the Estimator
   - A. What is estimating?
   - B. Kinds of estimating
   - C. How to prepare an estimate

II. Specifications
   A. Format

III. Excavation Estimating
   A. Cubic yard
   B. Plot plan

IV. Estimating Concrete
   A. Cubic yard
   B. Reinforcement steel
   C. Form work
      (a) Materials used

V. Estimating Wall Framing
   A. Studs (spacing)
   B. Plates
   C. Door and window bucks
   D. Board feet of lumber

VI. Estimating Ceiling Joist
   A. Spacing
   B. Size of materials
   C. Board feet of lumber
   D. Stiff back (strong back)

VII. Roof Framing
   A. Spacing of rafters
   B. Length of rafters
   C. Collar beam
   D. Purlings
   E. Decking

VIII. Exterior Wall Covering
   A. Brick
   B. Siding wood

IX. Interior Wall and Ceiling Covering
   A. Sheet rock
   B. Paneling
   C. Wall paper
      (a) Vinyl
   D. Tiles

X. Electrical
   A. Size of wire
   B. Electrical devices
   C. Circuits
   D. Appliance circuits

XI. Plumbing
   A. Water lines
      (a) Hot
      (b) Cold
   B. Sewer systems

Instructional Recommendations/ Suggestions: The fundamental concepts of construction estimating should be developed during an introductory series of classroom presentations. It is recommended that blueprints be obtained from local architects or building contractors for use in presenting the portions of this course which deal with quantity take-offs of material. These same blueprints should be used to develop the materials take-off for units of work reflected in the course outline. Care should be taken to insure that the introductory nature of this course is given positive consideration in selection of class projects. Suggested lesson plans and student handout materials for each phase contained in the course outline have been prepared and are included for use, as appropriate, by other instructors. (Note: Some items of information on these handouts will have to be altered to

correspond to the actual data depicted in the blue-

prints selected for use by other instructors.)

Satisfactory completion of the courses entitled "Principles of Residential Construction" and "Blueprint Reading" should be an absolute prerequisite for admitting students to this course.

Additional Instructional Materials:

1. Residential blueprints for use in determining materials requirements, types of work to be performed, etc. Obtainable through local area architects or building contractors. Individual copies of the complete set of blueprints should be provided to each student.

2. Lesson plans and Student Handouts, Lessons Two through Eight (copies attached).

Additional References:

Bruce, Leroy F., and Meyer, Leo. Sheet Metal Shop Practice, 3rd ed. Chicago: American Technical Society, 1965.

Godfrey, Robert S., ed. Building Construction Cost Data (Published annually). Duxbury, Mass.: Robert Snow Means Co., Inc., 1974.

Jones, Raymond P., Sr. Construction Estimating. Albany, N. Y.: Delmar Publishers, Inc., 1964.

Matthias, A. J., Jr.; Smith, Eslee, Sr.; et al. How to Design and Install Plumbing, 4th ed. Chicago: American Technical Society, 1971.

Moselle, Gary, and Paxton, Albert S. National Construction Estimator. (Published annually.) Los Angeles: Craftsman Book Co., 1974.

Richter, Herbert P. Practical Electrical Wiring, Residential, Farm and Industrial, 9th ed. New York: McGraw-Hill Book Co., 1971.

Steinberg, Joseph, and Stempel, Martin. Estimating for the Building Trades, 2nd ed. Chicago: American Technical Society, 1973.

Weaver, Michael K., and Kirkpatrick, James M. Environmental Control. New York: Harper and Row, 1974.

Lesson Plan: Building Construction Estimating, Chapters One through Four, text, "Introduction to Estimating".

Time: 90 minutes (one and one-half one-hour periods)

References:

Dagostino, Frank R. Estimating in Building Construction. Reston, Va.: Reston Publishing Co., Inc., 1973.

Steinberg, Joseph, and Stempel, Martin. Estimating for the Building Trades, 2nd ed. Chicago: American Technical Society, 1973.

Instructional Aids: Set of blueprints and specifications.

Lesson Objective: To introduce the student to the purpose and type of estimates used in residential construction. To acquaint the student with the various forms, documents, and contractor data used in developing estimates.

Lesson Outline:

I. General Introduction
   - A. Building construction estimating
   - B. Estimating cost before construction begins
   - C. Estimate prepared from working drawings and specifications
   - D. Variables in estimating

II. The Estimator
   - A. Quantity take-off estimator
   - B. The complete estimator
     1. Cannot be taught experience and judgement
     2. Can be taught principles.

III. Cost Analysis Methods
   - A. Detail Method
   - B. Preliminary method

IV. Contract Documents
- A. Working drawings
- B. General conditions
- C. Supplementary to general conditions
- D. Specifications
- E. Agreements
- F. Addenda

V. Bidding Information
- A. Public advertising
- B. Dodge Reports

VI. Availability of Contract Documents

VII. Sources of Estimating Information

VIII. Computers

IX. Review Questions (each chapter, text)
- A. Discuss each question in detail.

Lesson Plan: Excavation Requirements. Chapter Eight, "Excavation".

Time: 240 minutes (four one-hour periods)

References:

Burbank, Nelson L., and Pfister, Herbert R. House Construction Details, 6th ed. New York: Simmons-Boardman Publishing Corp., 1968.

Dagostino, Frank R. Estimating in Building Construction. Reston, Va.: Reston Publishing Co., Inc., 1973.

Steinberg, Joseph, and Stempel, Martin. Estimating for the Building Trades, 2nd ed. Chicago: American Technical Society, 1973.

Instructional Aids: Set of blueprints for each student. Student Handout, "Excavation Requirements".

Lesson Objective: To enable the student to locate and properly utilize information contained in blueprints and specifications on which to base development of the materials take-off for excavation requirements.

Lesson Outline:

I. General

II. Specifications

III. Soil

IV. Excavation (Unit of Measure)
   A. Shrinkage
   B. Swell
      1. Fig. 8-1

V. Equipment

VI. Perimeters and Areas
- A. The perimeter
- B. The area
- C. Discuss example in text.

VII. Topsoil Removal
- A. Depth
- B. 5' to 10' beyond building
- C. 3' to 5' beyond driveways and walk ;
- D. Discuss example in text.

VIII. General Excavation
- A. Review example.

IX. Special Excavation
- A. Review example.

X. Backfill
- A. Explain example.

XI. Earthwork
- A. New site grading
  - 1. Rough grading
- B. Explain example in text in detail.

XII. Excess and Borrow

XIII. Spreading Topsoil, Finish Grade

XIV. Landscaping

XV. Pumping

XVI. Rock Excavation

XVII. Subcontracting

XVIII. Overhead and Profit

XIX. Check List

XX. Review Questions

XXI. Distribute Student Handout, "Excavation Requirements".

STUDENT HANDOUT

"EXCAVATION REQUIREMENTS"

Item 1: Remove topsoil 6" deep 10' beyond building line.

Item 2: Figure amount of soil in all grade beams as shown on blueprint.

Item 3: Spread 6" of topsoil from building to 10' beyond building.

Item 4: Topsoil to be hauled away.

Item 5: 4" sandfill under slab.

Summary:

Item 1 _____ cu. yd.

Item 2 _____ cu. yd.

Item 3 _____ cu. yd.

Item 4 _____ cu. yd.

Item 5 _____ cu. yd.

Lesson Plan: Concrete Requirements, Chapter Nine, "Concrete . . .

Time: 480 minutes (eight one-hour periods)

References:

Burbank, Nelson L., and Pfister, Herbert R. House Construction Details, 6th ed. New York: Simmons-Boardman Publishing Corp., 1968.

Dagostino, Frank R. Estimating in Building Construction. Reston, Va.: Reston Publishing Co., Inc., 1973.

Steinberg, Joseph, and Stempel, Martin. Estimating for the Building Trades, 2nd ed. Chicago: American Technical Society, 1973.

Instructional Aids: Blueprints and information from specifications. Student Handout, "Concrete Requirements".

Lesson Objective: To enable the student to locate and properly utilize information contained in blueprints and specifications on which to base the development of materials take-off for concrete requirements.

Lesson Outline:

I. Concrete Work
   A. Ready mixed
   B. Mixed on the job

II. Estimating Concrete
   A. Cubic yard
   B. Explain and discuss examples used in text.

III. Reinforcing Steel
   A. Size of rods
   B. Weight of rods
   C. Splice requirements
   D. Explain example in text.

IV. Vapor Barrier
   A. Size of rolls
   B. Estimating vapor barriers
      1. Explain example in text.

V. Accessories
   A. Expansion joint covers
   B. Expansion joint fillers
   C. Waterstops

VI. Concrete Finishes
   A. Patch-up work
   B. Types of finishes
   C. Estimating concrete finishes
      1. Man-hours required for different types of finishes

VII. Curing
   A. Time required
   B. How to cure

VIII. Transporting Concrete

IX. Forms
   A. Wood forms
   B. Metal forms
   C. Miscellaneous forms
   D. Estimating forms
      1. Concrete contact area

X. Form Liners
   A. For different patterns
   B. Estimating form liners

XI. Check List for Concrete

XII. Review Questions, text.

XIII. Distribute Student Handout, "Concrete Requirements".

STUDENT HANDOUT

"CONCRETE REQUIREMENTS"

Item 1: Forms required, Bd. ft. of material.

a. Brace at each corner and two feet on centers (one 8-ft. 2x4 needed for each brace)

Item 2: Vapor barrier needed under slab

Item 3: Reinforcing rods

#3

#4

#5

Item 4: Amount of concrete needed for slab

Summary:

Item 1 _____ B.F.

Item 2 _____ sq. ft.

Item 3 _____ ft. _____ lb. #3

_____ ft. _____ lb. #4

_____ ft. _____ lb. #5

Item 4 _____ cu. yds.

Lesson Plan: Masonry Requirements, Chapter 10, "Masonry".

Time: 360 minutes (six one-hour periods)

References:

Dagostino, Frank R. Estimating in Building Construction. Reston, Va.: Reston Publishing Co., Inc., 1973.

Steinberg, Joseph, and Stempel, Martin. Estimating for the Building Trades, 2nd ed. Chicago: American Technical Society, 1973.

Burbank, Nelson L., and Pfister, Herbert R. House Construction Details, 6th ed. New York: Simmons-Boardman Publishing Corp., 1968.

Instructional Aids: Set of blueprints, and information from specifications. Student Handout, "Masonry Requirements".

Lesson Objective: To enable the student to locate and properly utilize information contained in blueprints and specifications on which to base development of the materials take-off for masonry requirements.

Lesson Outline:

I. General
   A. Description of masonry materials, tasks, and responsibilities.

II. Specifications

III. Bonds (Patterns)

IV. Concrete Masonry
   A. Concrete blocks

V. Estimating Concrete Masonry
   A. Explain examples in book.

VI. Specifications Concrete Masonry

VII. Clay Masonry

VIII. Estimating Brick
- A. Explain example in book.

IX. Specifications Brick

X. Mortar
- A. Explain example.

XI. Accessories
- A. Control joints
- B. Wall ties
- C. Flashing
- D. Weep holes

XII. Review Questions (text)

XIII. Student Handout, "Masonry Requirements".

STUDENT HANDOUT

"MASONRY REQUIREMENTS"

Item 1: Figure number of bricks as shown on blueprint.

Item 2: Mortar for item 1.
7 cu. ft. of mortar for every sq. of brick face

Item 3: Wall ties. One for every 3 sq. ft. of wall, item 1.

Item 4: Masonry wall reinforcing bars. One every four courses of brick.

Summary:

Item 1 _____ Bricks

Item 2 _____ cu. yd. mortar

Item 3 _____ wall ties

Item 4 _____ masonry wall reinforcing bars

Lesson Plan: Requirements, Wood Frame Construction. Chapter Seventeen, "Wood Frame Construction".

Time: 600 minutes (ten one-hour periods)

References:

Dagostino, Frank R. Estimating in Building Construction. Reston, Va.: Reston Publishing Co., Inc., 1973.

Steinberg, Joseph, and Stempel, Martin. Estimating for the Building Trades, 2nd ed. Chicago: American Technical Society, 1973.

Burbank, Nelson L., and Pfister, Herbert R. House Construction Details, 6th ed. New York: Simmons-Boardman Publishing Corp., 1968.

Instructional Aids: Set of blueprints and specifications. Student Handout, "Wood Frame Construction Requirements".

Lesson Objective: To enable the student to locate and properly utilize information contained in blueprints and specifications on which to base development of the materials take-off for wood frame construction requirements.

Lesson Outline:

I. Frame Construction

II. Board Measure

III. Studs (Wall Framing)
- A. Plates
- B. Studs
- C. Door and window headers
- D. Tees and corners
- E. Trimmers
- F. Sills (window)
- G. Fire blocks
- H. Wind braces

IV. Joists, Ceiling
- A. Size
- B. Spacing
- C. Span
- D. Direction of run
- E. Bridging
- F. Stiff or strong back

V. Rafters
- A. Size
- B. Spacing
- C. Span (length of rafters)
- D. Purlings
- E. Collar beams
- F. Facier backing
- G. Barge rafters

VI. Sheathing (Decking and Wall)
- A. Solid Lumber
  - 1. 1x2
  - 2. 1x4 T&G
  - 3. 1x8 T&G
  - 4. 1x6 and 1x8 Shiplap
- B. Plywood Sheathing
  - 1. Size
  - 2. Thickness
  - 3. Joints on rafter
  - 4. Joints between rafter
- C. Wall Sheathing
  - 1. Lumber
  - 2. Plywood
  - 3. Insulating
    - (a) Structural
    - (b) Non-structural
  - 4. Gyp rock

VII. Insulation
- A. Roll
- B. Batt
- C. Rigid
- D. Blown

VIII. Trim
- A. Exterior
  1. Facier board
  2. Corner boards
  3. Soffits
- B. Interior
  1. Door trim
  2. Base and base shoe
  3. Ceiling molding

IX. Check List

X. Student Handout, "Wood Frame Construction Requirements".

STUDENT HANDOUT

"WOOD FRAME CONSTRUCTION REQUIREMENTS"

Item 1: Wall Framing

a. Studs 16" on center
b. Plates. Two top, one bottom
c. Headers. 2x6 double headers
d. Tees
e. Corners
f. Trimmers
g. Sills. 2x4. Double under window.
h. Fire block, all outside walls. Two rows where vertical siding is used.
i. Wind braces at each corner, where appropriate.

Item 2: Joists, Ceiling. 16" on center. 2x8 ceiling joist. No bridging required.

Item 3: Rafters. 2' centers. Overhang as required on blueprint. One purling if rafter is over 12' long. Collar beam every 4 ft. 2x6 facier backers.

Item 4: Decking
4x8 - 5/8 in. exterior plywood

Item 5: Gyp Wall Sheathing (2x8), Installed Horizontally

Item 6: Insulation (Roll)
3" thick between studs on all outside walls.

Item 7: Trim

Exterior: Facier 1x6 yellow pine
Soffit 3/8 in. exterior plywood

Interior: Base
Ceiling Molding

Summary:

Item 1: Studs _____ B.F.

Plates _____ B.F.

Headers _____ B.F.

Tees _____ B.F. _____ No.

Corners _____ B.F. _____ No.

Trimmers _____ B.F.

Headers _____ B.F.

Sills _____ B.F.

Item 2: Joist _____ B.F.

Stiff back _____ B.F.

Item 3: No. _____ length _____ B.F. _____.

Purling _____ B.F.

Collar beams _____ B.F.

Facier backer _____ B.F.

Item 4: Plywood _____ No. Sheets

Item 5: Gyp rock _____ No. pieces

Item 6: Insulation _____ sq. ft.

Item 7: Trim

Exterior

Facier _____ B.F.

Soffit _____ sq. ft.

200

Item 7: Trim

Interior

Base _____ L.F.

Ceiling Modling _____ L.F.

Lesson Plan: Roofing Requirements. Chapter Sixteen, "Roofing".

Time: 180 minutes (three one-hour periods)

References:

Dagostino, Frank R. Estimating in Building Construction. Reston, Va.: Reston Publishing Co., Inc., 1973.

Steinberg, Joseph, and Stempel, Martin. Estimating for the Building Trades, 2nd ed. Chicago: American Technical Society, 1973.

Burbank, Nelson L., and Pfister, Herbert R. House Construction Details, 6th ed. New York: Simmons-Boardman Publishing Corp, 1968.

Instructional Aids: Set of blueprints and specifications. Student Handout, "Roofing Requirements".

Lesson Objective: To enable the student to locate and properly utilize information contained in blueprints and specifications on which to base development of the materials take-off for roofing requirements.

Lesson Outline:

I. Roofing
   A. Types of roofing materials

II. Roof Shapes
   A. Roof area

III. Shingles
   A. Asphalt
      1. Size
      2. Weight
      3. Coverage
      4. Exposure
      5. Felt
      6. Nails

B. Asbestos
   1. Size
   2. Weight
   3. Nails
   4. Felt

C. Wood Shingles and Shakes
   1. Size (length)
   2. Sold by square, 10" exposure
   3. Nails

D. Other Roofs
   1. Built-up
   2. Corrugated sheets
   3. Metal roof
   4. Slate
   5. Tile

IV. Check List

V. Student Handout, "Roofing Requirements".

STUDENT HANDOUT

"ROOFING REQUIREMENTS"

Item 1: Shingles
a. Asphalt sningles, square tab, 5" exposure to weather

Item 2: 30 lb. felt
2" lab edge
1' lap end

Item 3: Metal edging

Summary:

Item 1 Shingles _____ sq.

Nails _____ lb.

Item 2 Felt _____ sq.

Nails _____ lb.

Item 3 Metal edging _____ len. ft.

Lesson Plan: Requirements, Drywall and Wetwall Construction. Chapter Thirteen, "Drywall and Wetwall Construction".

Time: 180 minutes (three one-hour periods)

References:

Dagostino, Frank R. Estimating in Building Construction. Reston, Va.: Reston Publishing Co., Inc., 1973.

Steinberg, Joseph, and Stempel, Martin. Estimating for the Building Trades, 2nd ed. Chicago: American Technical Society, 1973.

Burbank, Nelson L., and Pfister, Herbert R. House Construction Details, 6th ed. New York: Simmons-Boardman Publishing Corp., 1968.

Instructional Aids: Set of blueprints and specifications. Student Handout, "Drywall and Wetwall Requirements".

Lesson Objective: To enable the student to locate and properly utilize information contained in blueprints and specifications on which to base development of the materials take-off for drywall and wetwall construction requirements.

Lesson Outline:

I. Drywall Construction
   A. Sheet Rock
      1. Tape and bed
   B. Wood Paneling
      1. How installed
      2. Types of paneling

II. Student Handout, "Drywall and Wetwall Construction Requirements".

III. Discuss review questions, text.

STUDENT HANDOUT

"DRYWALL AND WETWALL CONSTRUCTION REQUIREMENTS"

Item 1: Sheet rock: 4x8 sheets.
1/2" sheet rock required on all walls and ceilings

Item 2: Paneling: 4x8 sheets.
1/4" paneling on wall in family room and study

Summary:

Item 1 _____ pieces of sheetrock

Item 2 _____ pieces of paneling

Lesson Plan: Requirements for Finishes. Chapter Fifteen, "Finishes".

Time: 360 minutes (six one-hour periods)

References:

Dagostino, Frank R. Estimating in Building Construction. Reston, Va.: Reston Publishing Co., Inc., 1973.

Steinberg, Joseph, and Stempel, Martin. Estimating for the Building Trades, 2nd ed. Chicago: American Technical Society, 1973.

Burbank, Nelson L., and Pfister, Herbert R. House Construction Details, 6th ed. New York: Simmons-Boardman Publishing Corp., 1968.

Instructional Aids: Set of blueprints and specifications. Student Handout, "Requirements for Finishes".

Lesson Objective: To enable the student to locate and properly utilize information contained in blueprints and specifications on which to base development of the materials take-off for finishing requirements.

Lesson Outline:

I. Flooring
   A. Types
   B. Where used

II. Wood Flooring
   A. Types of wood
   B. Strip flooring
   C. Block flooring
   D. Estimating
   E. Specifications

III. Resilient Flooring
   A. Types
   B. Where used
   C. Estimating
   D. Specifications
   E. Adhesives
      1. Coverage

IV. Carpet
- A. Types
- B. Estimating
- C. Specifications

V. Tiles
- A. Types and sizes
- B. Estimating
- C. Specifications

VI. Painting Interior
- A. Types of paints
- B. Where used
- C. Estimating
- D. Specifications
- E. Take-off of areas
  1. Walls
  2. Ceiling
  3. Doors
  4. Trim

VII. Check List

VIII. Review Questions, text.

IX. Student Handout, "Requirements for Finishes".

STUDENT HANDOUT

"REQUIREMENTS FOR FINISHES"

Item 1: Floorcovering
a. Vinyl Resilient Tile in kitchen, dinette, utility and baths

Item 2: Carpet remainder of house (except garage).

Item 3: Paint Interior
a. Sheet rock walls and ceilings in kitchen and bath. Doors and trim Latex Enamel (three coats).
b. All other sheet rock, Latex (three coats).

Item 4: Tile wainscots, 4 ft. high in baths.

Summary:

Item 1 _____ boxes tile floor covering

_____ gals. mastic

Item 2 _____ sq. yds. carpet

Item 3 _____ gals Latex Enamel

_____ gals. Latex

Item 4 _____ sq. ft. ceramic tile

Lesson Plan: Subcontractor Functions. Chapters Eighteen, Nineteen, and Twenty, "Electrical", "Plumbing", and "HVAC".

Time: 360 minutes (six one-hour periods)

References:

Dagostino, Frank R. Estimating in Building Construction. Reston, Va.: Reston Publishing Co., Inc., 1973.

Steinberg, Joseph, and Stempel, Martin. Estimating for the Building Trades, 2nd ed. Chicago: American Technical Society, 1973.

Burbank, Nelson L., and Pfister, Herbert R. House Construction Details, 6th ed. New York: Simmons-Boardman Publishing Corp., 1968.

Richter, Herbert P. Practical Electrical Wiring, Residential, Farm, and Industrial, 9th ed. New York: McGraw-Hill Book Co., 1972.

Matthias, A. J., Jr.; Smith, Esles, Sr.; et al. How to Design and Install Plumbing, 4th ed. Chicago: American Technical Society, 1971.

Instructional Aids: Set of blueprints and specifications.

Lesson Objective: To acquaint the student with methods used in developing rough cost estimates for functions which are normally subcontracted in residential construction practices.

Lesson Outline:

I. Electrical
   A. Contractor-subcontractor relationships and procedures

II. Plumbing
   A. Contractor-subcontractor relationships and procedures

III. Heating, Ventilating and Air Conditioning

A. Contractor-subcontractor relationships and procedures.

RESIDENTIAL CONSTRUCTION MANAGEMENT

Name of Course: Residential Construction Materials and Processes

Course Objectives: To provide an in-depth study of the materials used in residential construction, and a basic understanding of how these materials are assembled into finished residential units.

Course Description: This course is a broad survey of the materials used in the various processes of residential construction. It is designed to familiarize the student with the components of modern construction so that he can select the materials best suited for the application, whether from the standpoint of durability and serviceability or from that of appearance, or both.

Suggested Primary Text: Watson, Donald A. Construction Materials and Processes. New York: McGraw-Hill Book Co., 1972.

Course Outline:

I. Selection of Materials
   - A. Materials evaluation
   - B. References
   - C. Trade associations
   - D. Reference standards
   - E. Testing laboratories

II. Soils, Site Work, Foundations, and Paving
- A. Soil classification
- B. Soil behavior
- C. Soil investigation
- D. Soil modification
- E. Foundations and piles
- F. Paving and surfacing materials

III. Concrete
- A. Cement
- B. Aggregate
- C. Admixtures
- D. Water
- E. Design of mix
- F. Placing concrete
- G. Joints
- H. Finishing and curing concrete
- I. Reinforced concrete
- J. Precast concrete
- K. Prestressed concrete

IV. Masonry
- A. Stone
- B. Stone masonry
- C. Brick
- D. Brickwork
- E. Structural clay tile
- F. Concrete block
- G. Gypsum block
- H. Glass block

V. Wood and Related Products
- A. Characteristics of wood
- B. Defects in wood
- C. Preparation of lumber
- D. Characteristics of softwoods and hardwoods
- E. Lumber grades
- F. Treated lumber
- G. Glued-laminated timber
- H. Structural plywood
- I. Hardwood plywood
- J. Pressed boards
- K. Composite boards
- L. Wood fasteners

VI. Ferrous Metals and Steel Framing
- A. Iron
- B. Cast iron
- C. Wrought iron
- D. Steel
- E. Shaping steel
- F. Steel pipe, tubing, and wire
- G. Steel castings
- H. Classifications of steels
- I. Steel construction
- J. Steel fasteners
- K. Steel floor and roof framing

VII. Nonferrous Metals and Alloys
- A. Aluminum and aluminum alloys
- B. Aluminum products
- C. Lead
- D. Zinc and zinc coatings
- E. Copper and copper alloys
- F. Nickel, chromium, cadmium, and titanium

VIII. Lath, Plaster, and Accoustical Materials
- A. Plaster
- B. Gypsum plasters
- C. Portland cement plasters
- D. Lath
- E. Lath-and-plaster construction
- F. Accoustics
- G. Accoustical materials

IX. Roofing, Sheet Metal, Dampproofing, and Thermal Insulation
- A. Roofing materials
- B. Bituminous roofing materials
- C. Shingles, tiles, and slate
- D. Wood shingles and shakes
- E. Membrane roofing
- F. Metals
- G. Weatherproofing and drainage
- H. Dampproofing and waterproofing
- I. Thermal insulation

X. Floor and Wall Coverings
- A. Floor coverings
- B. Wood flooring
- C. Resilient flooring
- D. Seamless resilient flooring
- E. Terrazzo
- F. Wall and floor tile
- G. Tilesetting
- H. Wall coverings

XI. Doors, Windows, and Hardware
- A. Doors
- B. Wood doors
- C. Sliding and folding doors
- D. Metal and metal-covered doors
- E. Windows
- F. Glazed walls
- G. Builders' hardware
- H. Cabinet hardware

XII. Glass, Glazing, and Sealants
- A. Glass
- B. Sheet glass
- C. Plate glass
- D. Safety glass
- E. Tinted and coated glass
- F. Mirrors
- G. Plastic glazing materials
- H. Glazing

XIII. Paints and Finishes
- A. Properties of paint
- B. Pigments
- C. Vehicles
- D. Solvents
- E. Clear coatings and stains
- F. Primers and sealers
- G. Special-purpose paints

XIV. Mechanical Equipment
- A. The mechanical trades
- B. Water-distribution systems
- C. Drainage systems
- D. Drain pipe and fittings
- E. Fuel-gas piping
- F. Plumbing fixtures
- G. Heating systems
- H. Air conditioning systems

XV. Electrical Equipment
- A. Electrical energy
- B. Power generation
- C. Services and service equipment
- D. Wiring materials and methods
- E. Junction boxes, outlets, and switches
- F. Lighting

Instructional Recommendations/ Suggestions: The suggested text is abundantly illustrated with photographs and drawings depicting the materials and processes of construction. It is organized in accordance with the sixteen divisions of the Uniform System For Construction Specifications. During the early stages of this course the student should be thoroughly indoctrinated in the content and proper usage of Sweet's Architectural Catalogue File. A virtually unlimited range of supplemental instructional aids and materials is available through building materials manufacturers and distributors. These aids run the gamut from product sample boards through film strips and transparencies (including manufacturers' representatives and guest lecturers). Each major

section of the text includes discussion questions which can well be used to develop a test item bank for examination purposes. This course covers an extremely broad subject area. The instructor, in preparing daily lesson outlines, should plan for limiting discussion to the major aspects of each topic, so as to insure a wider general orientation into the various materials of construction, rather than specific details of selected items.

Additional Instructional Materials:

Manufacturers' Sample Boards, Film Strips, 16MM Films, Product Representatives (for guest lecture purposes), etc. All available through various building materials manufacturers.

Sweet's Architectural Catalogue Files. Outdated copies of these publications (suitable for instructional purposes) may be obtained in sufficient quantities for classroom use through local architects and building contractors (recommend as a minimum one complete set of files for each four students in the class).

Additional References:

Merritt, Frederick S., ed. Building Construction Handbook, 2nd ed. New York: McGraw-Hill Book Co., 1965.

Wass, Alonzo. Methods and Materials of Residential Construction. Reston, Va.: Reston Publishing Co., Inc., 1973.

In addition to the general references cited above, a detailed topical listing of references is included at the end of each major section of the recommended text.

RESIDENTIAL CONSTRUCTION MANAGEMENT

Name of Course: Communication Skills

Course Objectives: To encourage student understanding of the critical importance of each of the various communication processes in residential construction activities. To provide an opportunity for individual student development of verbal and non-verbal communication skills.

Course Description: A study of the basic skills of writing; foundation work in the principles of grammar, punctuation, and sentence structure. Includes drills in spelling, exercises in vocabulary development, and practice in writing effective sentences. The course should provide analysis of each student's strengths and weaknesses, and instruction should be aimed at remedying the most serious deficiencies.

Suggested Primary Text: To be determined locally.

Course Outline:

I. Communication in Construction Processes
   A. Summary of the technical specialist's need for proficiency in communication
   B. Discussion of written communication as an essential skill
      1. Statements of facts
      2. Expression of ideas
      3. Technical reporting
         a. Formal
         b. Informal
      4. Use of graphics in written communication
   C. Discussion of oral communications as an essential skill
      1. Person-to-person expression of ideas and thoughts
      2. Verbal reporting
   D. Diagnostic testing of students

II. Sentence Structure
   A. Review of basic parts of speech
   B. Study of complete, clear, and correct sentences
   C. Use and placement of modifiers, phrases, and clauses
   D. Study of sentence conciseness
   E. Exercises in sentence structure

III. Written Expression (emphasis on student exercise)
   A. Diagnostic testing of students
   B. Study of paragraph construction
      1. Development
      2. Topic sentence
      3. Unity; coherence
   C. Study of types of expression
      1. Narration, description, exposition
      2. Inductive and deductive reasoning
      3. Figures of speech; analogies; comparisons and contrasts
      4. Cause-and-effect reasoning
      5. Other
   D. Written exercises in paragraph construction

III. Written Expression (emphasis on student exercise) (Continued)
- E. Study of descriptive reporting
  - 1. Organization and planning
  - 2. Emphasis on sequence, continuity, and delimitation to pertinent data or information
- F. Study of letter writing
  - 1. Business letters
  - 2. Personal letters
- G. Review of mechanics
  - 1. Grammar (reviewed as required)
  - 2. Punctuation--when to use
    - a. Period, question mark, exclamation mark
    - b. Comma
    - c. Semicolon
    - d. Colon
    - e. Dash
    - f. Parentheses
    - g. Apostrophe
  - 3. Capitalization
  - 4. Spelling
    - a. Word division--syllables
    - b. Prefixes and suffixes
    - c. Word analysis and meaning--context, clues, and phonetics
- H. Exercises in mechanics of written expression

IV. Talking and Listening (emphasis on student exercises)
- A. Diagnostic testing of students
- B. Organization of topics or subjects
- C. Directness in speaking
- D. Gesticulation and use of objects to illustrate
- E. Conversation courtesies
- F. Listening faults
- G. Taking notes
- H. Understanding words through context clues
- I. Exercises in talking and listening

V. Improving Reading Efficiency
   A. Diagnostic testing of students
   B. Improving reading habits
      1. Correct reading posture
      2. Light sources and intensity
      3. Developing proper eye-span and movement
      4. Developing speed and comprehension appropriate to the purpose
      5. Scanning; sentence reading
      6. Taking notes for careful study
   C. Footnotes, index, bibliography, and cross references
   D. Developing skill in summarizing
      1. Outline
      2. Digest or brief
      3. Criticism
   E. Exercises in reading improvement
      1. Reading for comprehension
      2. Reading for speed

Instructional Recommendations/ Suggestions: This course is basically an intensive review of the fundamental communication processes. Because of the wide differences in levels of individual student development normally found in classes of this type, the use of testing procedures which encourage accelerated progress for the more advanced students is strongly recommended. Most post-secondary institutions will have established courses within the regular curriculum which satisfy the developmental objectives of this course.

Additional Instructional Materials: To be developed locally.

Additional References: To be developed locally.

RESIDENTIAL CONSTRUCTION MANAGEMENT

Name of Course: Business Mathematics

Course Objectives: To develop a thorough understanding of the mathematics used in business and in construction-related activities. To build increased student confidence in the practical application of mathematical processes through the experience gained in completing classroom exercises and assignments.

Course Description: A study of the fundamental processes, common and decimal fractions, bank statement reconciliations, aliquot parts percentage, cash and trade discounts, simple and compound interest, notes and drafts, billing procedures, mark-up, commissions, profit and loss, payrolls, social security and other taxes. Emphasis is on practical problems in the various fields of business.

Suggested Primary Text: To be determined locally.

Course Outline: To be developed locally.

Instructional Recommendations/ Suggestions: Most post-secondary institutions will have comparable course offerings within their regular curriculum. It is suggested that these established

courses be utilized to satisfy this requirement for student proficiency in the application of arithmatic processes.

Additional Instructional Materials:	To be developed locally.
Additional References:	To be developed locally.

RESIDENTIAL CONSTRUCTION MANAGEMENT

Name of Course: Business Speech

Course Objectives: To develop student proficiency in the basic oral communication skills necessary to those operating in supervisory and management roles. To provide an opportunity to improve speech efficiency, poise, and self-confidence in situations most common to business and professional people.

Course Description: This is designed to be a practical and general course in the basic principles of oral communication. Includes use of body and voice, the speaker-listener relationship, oral reading of literature, group discussion, and parliamentary procedure. Diagnostic testing of students should be included and instruction should be planned to help students improve skills in which they are weak. Stress should be placed on interpersonal relationships, technical reports, speeches to promote sales and services, and business and job interviews.

Suggested Primary Text: To be determined locally.

Course Outline: To be developed locally.

Instructional Recommendations/ Suggestions: Most post-secondary institutions will be able to substitute established courses from within their general curriculum to satisfy the developmental objectives of this course.

Additional Instructional Materials: 16MM Film Series. National Television Film Service, Audio Visual Center, Indiana University, Bloomington, Indiana 47405.

"The Definition of Language", 29 minutes. Produced by Henry Lee Smith (Language in Linguistics Series).

"Dialects", 29 minutes. Produced by Henry Lee Smith (Language in Linguistics Series).

"How to Say What You Mean", 29 minutes. Produced by S. I. Hayakawa (Language in Action Series).

"The Task of the Listener", 29 minutes. Produced by S. I. Hayakawa (Language in Action Series).

Additional References: To be developed locally.

RESIDENTIAL CONSTRUCTION MANAGEMENT

Name of Course: Management Processes

Course Objectives: To acquaint the student with the various aspects of planning, organizing, leadership, decision making, and controlling in the conduct of business operations.

Course Description: This is a basic course in the principles of management. It is designed to familiarize the student with the role of the manager in modern business enterprises. Provides instruction in organizational designs, human relations, decision making, communications, leadership techniques, and enterprise control. Emphasizes initiative, individual research, and group discussion.

Suggested Primary Text: Massie, Joseph L., and Douglas, John. Managing: A Contemporary Introduction. Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1973.

Course Outline:

I. The Manager in the Modern World
   A. Forces shaping the manager's job
   B. Defining the manager's job

II. Management Fundamentals: The Knowledge Base
   A. Human motivation
   B. Individual behavior processes
   C. Human groups
   D. Organization structure
   E. Technology, information, and systems
   F. The management of change

III. Management Fundamentals: The Processes for Managing
   A. The decision-making process
   B. Analytical aids for decision-making
   C. Setting objectives
   D. Planning and policy-making
   E. Organizing and staffing: relating people to job structure
   F. Communicating
   G. Leadership
   H. Controlling

IV. Management Fundamentals: The Reality of Managing
   A. The manager in the world of power and politics
   B. Managers in practice: lessons from the leaders
   C. Managerial strategy and tactics

V. The Manager in a Changing World
   A. Organizational and personal value conflicts
   B. The managerial response to value conflict
   C. Managing forces in change

Instructional Recommendations/ Suggestions: The text suggested for use in this course is written in language which can be readily understood by students who have not had prior courses in management. In straightforward terms it defines the

Instructional Recommendations/ Suggestions (Continued):

things managers do, problems managers face, and the knowledge managers need. It identifies specific learning objectives at the beginning of each chapter and provides study questions at the conclusion of the chapter through which the student can determine how well he has achieved the stated objectives. These study questions can serve also as an excellent text item bank for major examination purposes. Numerous 16MM films and sets of transparencies are available which can be effectively used to reinforce the textbook materials. Many of these various teaching aids will be found under functional titles in libraries and learning resource centers (i.e., management . . . leadership . . . communications . . . motivation . . . etc.). Many post-secondary institutions will have introductory management courses in their established curriculums which can satisfy the developmental requirements of this course.

Additional Instructional Materials:

Transparencies:

"The Hawthorn Experiments". San Jose, California: Lansford.

"Industrial Psychology". San Jose, California: Lansford.

Additional Instructional Materials (Continued):

Transparencies (Continued):

"Management by Objectives". San Jose, California: Lansford.

"The Motivation to Work". San Jose, California: Lansford.

Wassenaar, Dirk J. "The Behavioral Aspects of Management, Part B". San Jose, California: Lansford, 1972.

_____. "Formal Aspects of Management". San Jose, California: Lansford.

Williams, Patrick. "Leadership of Complex Organizations". San Jose, California: Lansford, 1973.

16MM Films:

"The Challenge of Leadership". BNA Films.

"Effective Communication". A series of five films, 24 min. each. BNA Films.

"Employing the Disadvantaged". 45 min. BNA Films.

"Instructions or Obstructions". 12 min. BNA Films.

"Labor Relations: Do Not Fold, Staple, Spindle, or Mutilate". 50 min. McGraw-Hill Films.

"The Management of Human Assets". 28 min. BNA Films.

"Motivation Through Job Enrichment". 28 min. BNA Films.

"Overcoming Resistance to Change". 30 min. Roundtable Films.

"Styles of Leadership". 26 min. Roundtable Films.

Additional Instructional Materials (Continued):

16MM Films (Continued):

"Theory X and Theory Y: The Work of Douglas McGregor". Two parts, 25 min. ea. BNA Films.

"Understanding Motivation". 28 min. BNA Films.

"The Yes-Man Conference". 12 min. IMS Film 8040.

Additional References:

Davis, Keith. Human Behavior at Work, 4th ed. New York: McGraw-Hill Book Co., 1972.

Hicks, Herbert G. The Management of Organizations. New York: McGraw-Hill Book Co., 1967.

McFarland, Dalton E. Management: Principles and Practices, 4th ed. New York: The Macmillan Co., 1974.

Sisk, Henry L. Principles of Management; A Systems Approach to the Management Process. Cincinnati, Ohio: South-Western Publishing Co., 1969.

RESIDENTIAL CONSTRUCTION MANAGEMENT

Name of Course: Residential Construction Estimating

Course Objectives: To afford the student an opportunity to gain practical experience in preparing material and labor quantity surveys and in developing the types of estimates used in residential construction. To develop student understanding of the relationships between contracts, codes, specifications and working drawings, and how these documents are used in the estimating process.

Course Description: This course requires that the student utilize knowledge gained in previous courses to develop realistic estimates of the cost factors which will ordinarily be experienced in the residential construction process. It provides for the study of estimating from the viewpoint of the general contractor, sub-contractor, general superintendent, and the professional construction estimator.

Prerequisites:

1. "Principles of Residential Construction"
2. "Blueprint Reading"
3. "Introduction to Estimating"

Suggested Primary Text: Dagostino, Frank R. Estimating in Building Construction. Reston, Va.: Reston Publishing Co., Inc., 1973.

Course Outline:

I. Introduction to Estimating
   A. General introduction
   B. The estimator
   C. Cost analysis methods
   D. The contract documents
   E. Bidding information
   F. Availability of contract documents
   G. Sources of estimating information
   H. Computers

II. Contracts, Bonds and Insurance
   A. The contract system
   B. Types of agreement
   C. Lump-sum agreement
   D. Unit-price agreement
   E. Cost-plus-fee
   F. Agreement provisions
   G. Bonds
   H. Bid bonds
   I. Performance bonds
   J. Labor and material bonds
   K. Miscellaneous bonds
   L. Obtaining bonds
   M. Insurance

III. Specifications
   A. Specifications
   B. Invitation to bid
   C. Instructions to bidders
   D. Bid (Proposal) forms
   E. Form of owner-contractor agreement
   F. General conditions
   G. Supplementary general conditions
   H. Technical trade sections
   I. Alternates
   J. Addenda
   K. Errors in specifications

IV. The Estimate
   A. Organization
   B. Daily log
   C. Notebook
   D. To bid or not to bid
   E. The estimate
   F. Site investigation
   G. Subcontractors

IV. The Estimate (continued)
- H. Materials
- I. Work-up sheets
- J. Summary sheets
- K. Errors and omissions

V. Overhead and Contingencies
- A. Overhead
- B. General overhead
- C. Job overhead
- D. Contingencies
- E. Checklist

VI. Labor
- A. General
- B. Unions--wages and rules
- C. Field reports
- D. Pricing labor
- E. Labor diagrams

VII. Equipment
- A. General
- B. Operation costs
- C. Depreciation
- D. Interest
- E. Ownership costs
- F. Rental costs
- G. Miscellaneous tools
- H. Cost accounting
- I. Mobilization
- J. Checklist

VIII. Excavation
- A. General
- B. Specifications
- C. Soil
- D. Excavation--Unit of Measure
- E. Equipment
- F. Perimeters and areas
- G. Topsoil removal
- H. General excavation
- I. Special excavation
- J. Backfilling
- K. Earthwork
- L. Excess and borrow
- M. Spreading topsoil

VIII. Excavation (continued)
- N. Landscaping
- O. Pumping (De-Watering)
- P. Rock excavation
- Q. Subcontractors
- R. Overhead and profit
- S. Excavation checklist
- T. Piles
- U. Pile checklist
- V. Asphalt paving

IX. Concrete
- A. Concrete work
- B. Estimating concrete
- C. Reinforcing
- D. Vapor barrier
- E. Accessories
- F. Concrete finishing
- G. Curing
- H. Transporting concrete
- I. Forms
- J. Form liners
- K. Concrete checklist

X. Masonry
- A. General
- B. Specifications
- C. Bonds (Patterns)
- D. Concrete masonry
- E. Estimating--concrete masonry
- F. Specifications--concrete masonry
- G. Clay masonry
- H. Estimating brick
- I. Specifications--brick
- J. Estimating tile
- K. Specifications--tile
- L. Stone masonry
- M. Estimating stone
- N. Specifications--stone
- O. Mortar
- P. Accessories
- Q. Reinforcing bars
- R. Cleaning
- S. Equipment
- T. Cold weather
- U. Labor
- V. Subcontractors
- W. Checklist

XI. Waterproofing and Dampproofing
- A. Waterproofing
- B. Membrane waterproofing
- C. Estimating--membrane
- D. Integral method
- E. Metallic method
- F. Dampproofing
- G. Painting method
- H. Estimating--painting
- I. Parging (Plastering)
- J. Estimating--parging
- K. Checklist

XII. Structural Systems
- A. Precast concrete
- B. Estimating
- C. Specifications
- D. Precast tees
- E. Precast slabs
- F. Precast columns and beams
- G. Miscellaneous precast
- H. Precast costs
- I. Precast checklist
- J. Structural steel
- K. Structural steel framing
- L. Steel joists
- M. Steel decking
- N. Miscellaneous structural steel
- O. Steel erection subcontractors
- P. Steel checklist
- Q. Wood systems
- R. Wood trusses
- S. Laminated beams and arches
- T. Wood decking
- U. Plywood systems
- V. Wood checklist

XIII. Drywall and Wetwall Construction
- A. General
- B. Supporting construction
- C. Suspended ceiling systems
- D. Drywall
- E. Types of assemblies
- F. Wallboard types
- G. Column fireproofing
- H. Accessories

XIII. Drywall and Wetwall Construction (continued)
- I. Wetwall construction
- J. Plaster
- K. Lath
- L. Accessories
- M. Checklist

XIV. Windows, Curtainwalls, Doors, and Hardware
- A. Window and curtainwall frames
- B. Accessories
- C. Doors
- D. Fire-rated doors
- E. Acoustical doors
- F. Overhead doors
- G. Folding doors and partitions
- H. Prefitting and machining (premachining)
- I. Prefinishing
- J. Door frames
- K. Hardware
- L. Accessories
- M. Checklist for doors and frames
- N. Glass

XV. Finishes
- A. Flooring
- B. Wood flooring
- C. Resilient flooring
- D. Carpeting
- E. Tile
- F. Painting
- G. Checklist

XVI. Roofing
- A. Roofing
- B. Roof areas
- C. Shingles
- D. Built-up roofing
- E. Corrugated sheets
- F. Metal roofing
- G. Slate
- H. Tile
- I. Sheet, tiles, and shingles formula
- J. Liquid roofing
- K. Flashing
- L. Insulation
- M. Roofing trim
- N. Labor
- O. Equipment
- P. Checklist

XVII. Wood Frame Construction
- A. Frame construction
- B. Board measure
- C. Studs
- D. Wood joists
- E. Rafters
- F. Sheathing
- G. Insulation
- H. Trim
- I. Checklist

XVIII. Electrical
- A. Electrical work
- B. Single contracts
- C. Separate contracts
- D. Coordination requirements
- E. Checklist

XIX. Plumbing
- A. Plumbing work
- B. Single contracts
- C. Separate contracts
- D. Coordination requirements
- E. Checklist

XX. Heating, Ventilating, and Air Conditioning
- A. HVAC work (Heating, Ventilating, and Air Conditioning)
- B. Single contracts
- C. Separate contracts
- D. Coordination requirements
- E. Checklist

XXI. Profit
- A. Profit

Suggested References:

Burbank, Nelson L., and Pfister, Herbert R. House Construction Details, 6th ed. New York: Simmons-Boardman Publishing Corp., 1968.

Jones, Raymond P., Sr. Construction Estimating. Albany, N. Y.: Delmar Publishers, Inc., 1967.

Suggested References (continued):

Steinberg, Joseph, and Stempel, Martin. Estimating for the Building Trades, 2nd ed. Chicago: American Technical Society, 1973.

Instructional Recommendations/ Suggestions:

A basic requirement for conducting a course in estimating is the development of data for use in practice problems. Since production factors vary considerably between geographic areas, the use of approximations is suggested in the completion of simulation exercises. A compilation of the various factors necessary for conducting a simulation exercise in residential construction estimating is included for consideration by other instructors (see attachment, "Simulation Exercise Data"). This data should be used by each student to complete all entries in the "Quantity Survey" (sample format attached) and both the "Simulation Exercise Data" and the completed "Quantity Survey" should be retained for later use in the course entitled "Construction Planning and Control".

The suggested text is arranged according to the sixteen major divisions of the Uniform System for Construction Specifications. The text should be supplemented by use of a set of residential blueprints obtainable through local architects or builders. Sepia

copies of blueprints can frequently be obtained without cost and can be used to reproduce additional copies for individual student distribution. These same blueprints should be retained for later use in the course entitled "Construction Planning and Control".

The first seven chapters of the text deal with general information and are self-explanatory. Chapters Eight through Twenty pertain directly to the divisions used in standard specifications. Suggested practice exercises have been locally developed (copies attached) and may be used by students as an aid in completing the "Quantity Survey".

Additional Instructional Materials:

1. "Simulation Exercise Data". Locally produced. Copy attached.
2. "Quantity Survey". Locally produced. Sample format attached.
3. Residential blueprints. Available through local architects or home builders. Recommend sepia copy for reproduction purposes.

Additional Instructional Materials (Continued):

4. Standard Estimating Pads. Recommended for individual student distribution. Available through local printing and office supply outlets.

5. Suggested "Practice Exercises", Chapters Eight through Seventeen. Locally produced. Copies attached.

Additional References:

Burbank, Nelson L., and Pfister, Herbert R. House Construction Details, 6th ed. New York: Simmons-Boardman Publishing Corp., 1968.

Godfrey, Robert S., ed. Building Construction Cost Data (Published annually). Duxbury, Mass.: Robert Snow Means Co., Inc., 1974.

Jones, Raymond P., Sr. Construction Estimating. Albany, N. Y.: Delmar Publishers, Inc., 1967.

Moselle, Gary, and Paxton, Albert S., eds. National Construction Estimator (Published annually). Los Angeles: Craftsman Book Co., 1974.

Steinberg, Joseph, and Stempel, Martin. Estimating for the Building Trades, 2nd ed. Chicago: American Technical Society, 1973.

SIMULATION EXERCISE DATA

Rough Grading

Labor and Equipment .75 per C.Y. of soil to be moved.
A tractor and one operator will move about 275 yd. of soil per day.
Rent on tractor $20.00 per hr.
Operator's pay $5.00 per hr.

Lay Out

Labor for Laying Out .02 per S.F. of floor space.
Material Cost $150.00 M.F.B.M.
Crew. Two concrete men at $6.00 per hr. ea.

Forming Slab

Labor for forming .05 per S.F. of floor space.
Material Cost $180.00 M.F.B.M.
Material Waste 5%
Crew. Two concrete men at $6.00 per hr. ea.; two laborers at $3.00 per hr. ea.

Filling

Labor for filling .02 per S.F. of floor space.
Material Cost $3.00 C.Y.
Material allowed for tamping 12%
Crew. Two laborers at $3.00 per hr. ea.

Trenching for Beams

Labor and Equipment Cost .03 per S.F. of floor space.
Equipment Rent $6.25 per hr.
Operator's Labor $5.00 per hr.

Fine Grading

Labor for Fine Grading .02 per S.F. of floor space.
Crew. Two laborers at $3.00 per hr. ea.

Vapor Barrier

Labor for Installing Vapor Barrier .005 per S.F. of floor space.
Material Cost _____ S.F.
Material Extra 20% for laps and beams.
Crew. Two laborers at $3.00 per hr. ea.

SIMULATION EXERCISE DATA

Reinforcing Steel

Labor for Installing .05 per S.F. of floor space.
Material Cost _____ lb.
Crew. Two concrete men at $6.00 per hr. ea.; two laborers at $3.00 per hr. ea.
Material Extra 15% for laps.

Weight of Reinforcing Rods.

#3 - 3/8" rods	0.376 lb. per ft.
#4 - 1/2" rods	0.668 lb. per ft.
#5 - 5/8 " rods	1.043 lb. per ft.

Pouring and Finishing Concrete

Labor for Pouring and Finishing Concrete .08 per S.F. of floor space
Curing Time 5 days
Material Cost $18.00 C.Y.
Material Extra 5%
Crew. Two concrete men at $6.00 per hr. ea.; two laborers at $3.00 per hr. ea.

Framing Walls

T and Corners Make Up

Labor .08 per B.F. of material
Crew for all Framing of Walls: Two carpenters at $6.00 per hr. ea.
One carpenter's helper at $4.00 per hr.

Rough Door and Window Bucks (Make Up)

Labor .08 per B.F. of material
Crew. Same.

Beam

Labor .096 per B.F. of material
Crew. Same.
Material Cost $210.00 M.F.B.M.

Plates Out and Lay Out

Labor .12 per B.F. of material
Material Cost $180.00 M.F.B.M.
Material Waste 5%
Crew. Same.

SIMULATION EXERCISE DATA

Studs (Wall Assembly)

Labor .08 per B.F. of material used in wall studs.
Material Cost $180.00 M.F.B.M.
Crew. Same.
Material Waste 5%

Fire Blocks

Labor .24 per B.F. of material
Material Cost $180.00 M.F.B.M.
Crew. Same.

Wind Braces

Labor .48 per B.F. of material
Material Cost $160.00 M.F.B.M.
Crew. Same.

Dead Wood

Labor .096 per B.F. of material
Material Cost $160.00 M.F.B.M.
Crew. Same.

Ceiling Framing

Ceiling Joist

Labor .106 per B.F. of material
Material Cost $180.00 M.F.B.M.
Crew. Same.
Material Waste 10%

Stiff Back

Labor .096 per B.F. of material
Material Cost $180.00 M.F.B.M.
Crew. Same.
Material Waste 2%

Roof Framing

Rafters

Labor .10 per B.F. of material
Material Cost $180.00 M.F.B.M.
Crew. Same.
Material Waste 5%

Purlings
- Labor .096 per B.F. of material
- Material Cost $180.00 M.F.B.M.
- Crew. Same.
- Material Waste 2%

Bracing
- Labor .096 per B.F. of material
- Material Cost $180.00 M.F.B.M.
- Crew. Same.
- Material Waste 2%

Collar Beams
- Labor .096 per B.F. of material
- Material Cost $180.00 M.F.B.M.
- Crew. Same.
- Material Waste 5%

Cornice and Gable End Framing

Cornice Framing
- Labor .14 per B.F. of material
- Material Cost $180.00 M.F.B.M.
- Crew. Same.
- Material Waste 5%

Gable End Framing
- Labor .12 per B.F. of material
- Material Cost $180.00 M.F.B.M.
- Crew. Same.
- Material Waste 10%

Decking
- Labor .06 per S.F. of material
- Material cost _____ S.F.
- Crew. Same.
- Material Waste 10%

Roofing, Including Dry In
- Labor $4.00 per Sq. of roof
- Material Cost $14.50 Sq.
- Crew. Two roofers at $6.00 per hr. ea.; one helper at $4.00 per hr. Crew average, 4 Sq. per hr.
- Material Waste 20%

SIMULATION EXERCISE DATA

Wall Sheathing (Gyp Rock)

Labor .10 per S.F. of wall
Material Cost _____ S.F.
Crew. Carpentry crew.
Material Waste 5%

Insulation

Wall Insulation

Labor .02 per S.F. of wall
Material Cost _____ S.F.
Crew. Two laborers at $3.00 per hr. ea.

Ceiling Insulation

Labor .025 per S.F. of ceiling
Material Cost _____ S.F.
Crew. Two laborers at $3.00 per hr. ea.

Exterior Trim

Doors, Complete

Labor 9.60 ea.
Material Cost $35.00 ea.
Crew. One carpenter at $6.00 per hr.

Windows

Labor 2.25 ea.
Material Cost _____ ea.
Crew. One carpenter at $6.00 per hr. and one laborer at $3.00 per hr.

Windows Fixed

Labor 18.00 ea.
Material Cost $60.00 ea.
Crew. One carpenter at $6.00 per hr. and one laborer at $3.00 per hr.

Facier

Labor .38 per L.F.
Material Cost _____ M.F.B.M.
Crew. Same as soffit.
Material Waste 15%

SIMULATION EXERCISE DATA

Gable End

Labor .16 per S.F. to be covered.
Material Cost _____ B.F./S.F.
Crew. Same as soffit.
Material Waste 10%

Exterior Wall Finish

Brick

Labor $80.00 per M.B.
Material Cost
Brick $80.00 per M
Mortar $30.00 cu. yd.
Wall ties _____ ea.
Wall ties, one every 3 sq. ft.
Crew. Two brick masons at $7.50 per hr. ea. and one laborer at $4.00 per hr. 617 bricks per Sq.; 1/3 yd. of mortar per Sq. of brick. Two masons and one helper lay 1,900 per day. 21 bricks to C.F. of fireplace. 40 hrs. average fireplace. 40 hrs. for helper. Use equal amount face brick and common brick.

Siding

Vertical Siding
Labor .16 per S.F. to be covered.
Material Cost _____ M.F.B.M.
Crew. Two carpenters at $6.00 per hr. ea. and one carpenter's helper at $4.00 per hr.
Material Waste 10%

Interior Wall Finish

Sheet Rock

Labor .04 per S.F. of wall and ceiling.
Material Cost _____ S.F.
Crew. Two sheet rock men at $5.00 per hr. ea.
Material Waste 5%

SIMULATION EXERCISE DATA

Tape and Bed and Texture

Labor .025 per S.F. of walls and ceilings.
Material Cost _____ S.F. of coverage
Crew. Two painters at $4.00 per hr. ea.
Material needed to cover 608 S.F. of walls and ceiling:
1/2 roll tape, cost _____ roll
2 1/2 gal. mud, cost _____ 5 gal.
1 sack texture, cost _____ sack

Paint

Labor .15 per S.F. of walls and ceilings.
Material Cost _____ gal.
Crew. Same as tape and bed.
One gal. paint covers 350 S.F., one coat.

Paneling

Labor 3.00 per sheet.
Material Cost _____ per sheet
Crew. One carpenter at $6.00 per hr.
Material Waste openings

Wall Paper

Labor _____ per double roll
Material Cost _____ per roll
One roll covers 33 sq. ft.

Interior Doors and Windows

Doors, Interior (Complete)

Labor 8.00 ea.
Material Cost _____ ea.
Crew. Two carpenters, at $6.00 per hr. ea.

Window Trim, Interior

Labor 3.00 ea.
Material Cost _____ ea.
Crew. Same as doors.

Base

Labor .075 per L.F.
Material Cost _____ L.F.
Crew. Same as doors.

SIMULATION EXERCISE DATA

Crown and Cove Molding

Labor .08 per L.F.
Material Cost _____ L.F.
Crew. Same as doors.

Cabinets

Lump sum
Kitchen Cabinet $45.00 L.F.
Bath Vanity $20.00 L.F.
Linen Closets $30.00 ea.
Time to set cabinets 2 days

Floor Covering

Lump sum
Carpet installed $6.75 - $12.50 S.Y.
Tile installed .32 - .68 S.Y.
Time to install floor covering 2 days

Electrical

Lump sum
110 V. outlets $ 5.50 ea.
220 V. circuits $20.00 ea.
Service panel $80.00
Time to install electrical
2 days to rough in
1 day to trim out

Plumbing

Lump sum
Material and Labor Cost .95 per sq. ft. living area
1 day - sewer lines
1 day - rough in
1 day - trimming out

Heat and Air

Lump sum
Material and Labor Cost .45 per sq. ft. living area
2 days - rough in
1 day - trimming out

QUANTITY SURVEY

Item of Work	Quantity	Unit	Labor	Material	Price (unit)	Total	20% OH Prorated
Foundations							
Rough grading		C.Y.					
Lay out		S.F.					
Forming		S.F.					
Filling		S.F.					
Trenching (Beams)		S.F.					
Fine grading		S.F.					
Vapor barrier		S.F.					
Reinforcing steel		S.F.					
Pouring and finishing concrete		S.F.					
Framing (make up)							
T and corner make up		B.F.					
Rough buck make up		B.F.					
Beams make up		B.F.					
Wall Framing							
Plates		B.F.					
Studs (wall framing)		B.F.					
Fire blocks		B.F.					
Wind braces		B.F.					
Dead wood		B.F.					
Ceiling Framing							
Ceiling joist		B.F.					
Stiff back		B.F.					
Roof Framing							
Rafters		B.F.					
Purlings		B.F.					
Bracing		B.F.					
Collar beam		B.F.					

QUANTITY SURVEY
page 2

Item of Work	Quantity	Unit	Labor	Material	Price (unit)	Total	20% OH Prorated
Cornice and Gable End Framing							
Cornice		B.F.					
Gable end		B.F.					
Decking		S.F.					
Gyp rock walls		S.F.					
Roofing (including dry in)		Sq.					
Insulation							
Walls		S.F.					
Ceilings		S.F.					
Exterior Trim							
Door units, complete		ea.					
Windows		ea.					
Soffit		S.F.					
Fascier		L.F.					
Gable end		B.F.					
Exterior Wall Finish							
Brick		1,000 brick					
Mortar		"					
Wall ties		ea.					
Vertical siding		B.F.					
Interior Wall Finish							
Sheet rock		S.F.					
Tape and bed		S.F.					
Texture		S.F.					
Paint		S.F.					
Wall paper		S.F.					
Paneling		S.F.					

QUANTITY SURVEY
page 3

Item of Work	Quantity	Unit	Labor	Material	Price (unit)	Total	20% OH Prorated
Interior Trim							
Base board	_____	L.F.	_____	_____	_____	_____	_____
Ceiling molding	_____	L.F.	_____	_____	_____	_____	_____
Doors, complete	_____	ea.	_____	_____	_____	_____	_____
Windows, trim	_____	ea.	_____	_____	_____	_____	_____
Cabinets		lump sum				_____	_____
Floor covering		lump sum				_____	_____
Mechanical							
Plumbing		lump sum				_____	_____
Heat and air		lump sum				_____	_____
Electrical							
Electrical wiring		lump sum				_____	_____

PRACTICE EXERCISE
STUDENT HANDOUT #1
Chapter Eight (ten one-hour periods)

From information contained in Simulation Exercise Data, blueprints and specifications, prepare estimates for items one through four, below.

Item 1: Grade lot to elevation of 103'.
- a. Cu. yd. of dirt to be moved
- b. Cu. yd. of dirt over or needed
- c. Labor for rough grading
- d. Machine cost for rough grading

Item 2:
- a. Determine cu. yd. of sand fill needed to fill forms to bottom of slab.
- b. Labor to fill forms

Item 3:
- a. Determine cu. yd. of dirt to be moved in trenching for beams.
- b. Labor for trenching

Item 4:
- a. Figure the cost of fine grading for the slab.
- b. Labor for fine grading

Summary

Item 1:
- a. _____ cu. yd. of dirt to be moved
- b. _____ cu. yd. of dirt over or needed (to grade to 103')
- c. _____ labor to rough grade
- d. _____ machine cost to rough grade

Item 2:
- a. _____ cu. yd. of sand to fill form to bottom of concrete slab
- b. _____ labor to fill forms

PRACTICE EXERCISE
STUDENT HANDOUT #1
Chapter Eight (ten one-hour periods)
(Continued)

Item 3: a. _____ cu. yd. of dirt to be moved in trenching beams

b. _____ labor for trenching

c. _____ machine cost

Item 4: a. _____ cost of fine grading (labor)

After responses have been checked for accuracy, enter corrected answers in appropriate blocks of the Quantity Survey.

PRACTICE EXERCISE
STUDENT HANDOUT #2
Chapter Nine (twelve one-hour periods)

From information contained in Simulation Exercise Data, blueprints, and specifications, prepare estimates for items one through five, below.

Item 1: Layout. Labor and material. Batter boards will be eight feet long

Item 2: Forming. Labor and material to build forms. Two stakes and kicker will require a 2 x 4 - 8. One stake at each corner and 2' on centers.

Item 3: Vapor Barrier. Labor and material. To install vapor barrier.

Item 4: Reinforcing Steel. Labor and materials. To be used using quantity of steel required.

Item 5: Concrete. Labor and materials. Quantity required.

Summary

Item 1: Layout

_____ B.F. material

_____ Sq. ft. in house

_____ labor to install

_____ cost of material

PRACTICE EXERCISE
STUDENT HANDOUT #2
Chapter Nine (twelve one-hour periods)
(Continued)

Item 2: _____ B.F. material

_____ cost of material

_____ Sq. ft. in house

_____ labor

Item 3: _____ Sq. ft. material

_____ cost of material

_____ Sq. ft. in house

_____ labor

Item 4: Reinforcing Steel

_____ ft. of #3

_____ ft. of #4

_____ ft. of #5

_____ lbs. total of all sizes

_____ cost of materials

_____ Sq. ft. of house

_____ labor

PRACTICE EXERCISE
STUDENT HANDOUT #2
Chapter Nine (twelve one-hour periods)
(Continued)

Item 5: _____ cu. yd. of concrete

_____ cost of concrete

_____ sq. ft. of house

_____ labor

After responses have been checked for accuracy, enter corrected answers in appropriate blocks of the Quantity Survey.

PRACTICE EXERCISE
STUDENT HANDOUT #3
Chapter Seventeen (sixteen one-hour periods)

From information contained in Simulation Exercise Data, blueprints, and specifications, prepare estimates for items one through twelve below.

Item 1: T & Corner Make up. Estimate labor and materials to make up T and Corners.

Item 2: Rough Buck Make up. Estimate labor and materials to make up rough bucks for doors and windows.

Item 3: Beam Make up. Estimate labor and materials to make up all beams.

Item 4: Wall plates. Two top, one bottom plate. Estimate labor and materials required.

Item 5: Studs (Wall Framing). Estimate labor and materials required.

Item 6: Fire Blocks, Wind Braces, and Deadwood. Estimate labor and materials required.

Item 7: Ceiling Joists and Stiff Back. Estimate labor and materials required.

Item 8: Roof Framing. Estimate labor and materials required for rafters, purlings, braces, and collar beams. Collar beams and braces every four feet. Purling if rafter is over twelve feet long.

Item 9: Cornice and Gable End Framing. Estimate labor and materials required to frame cornice and gable end.

Item 10: Decking. Estimate labor and materials used to deck house.

Item 11: Insulation. Estimate amount of materials and labor to insulate walls and ceiling.

Item 12: Gyp Rock. Estimate labor and materials required.

PRACTICE EXERCISE
STUDENT HANDOUT #3
Chapter Seventeen (sixteen one-hour periods)
(Continued)

Summary

Item 1:

_____ number of T

_____ number of corners

_____ B.F. material in T and corners

_____ cost of material

_____ labor to make up T and corners

Item 2:

_____ number of door bucks

_____ number of window bucks

_____ B.F. of material in door and window bucks

_____ cost of material

_____ labor used to make up door and window bucks

Item 3:

_____ len. ft. of beams

_____ B.F. of material in beams

_____ cost of material

_____ labor to make up beams

Item 4:

_____ len. ft. of plates

_____ B.F. of plates

_____ cost of material

_____ labor to install plates

PRACTICE EXERCISE
STUDENT HANDOUT #3
Chapter Seventeen (sixteen one-hour periods)
(Continued)

Item 5: _____ number of studs

_____ B.F. of studs

_____ number of studs less studs in T and corners and door and window bucks

_____ B.F. of studs after deductions

_____ cost of material after deductions

_____ labor using total number of studs

Item 6: _____ B.F. in fire blocks

_____ cost of material

_____ labor

_____ B.F. in windbraces

_____ cost of material

_____ labor

_____ B.F. in deadwood

_____ cost of material

_____ labor

Item 7: _____ B.F. of material ceiling joist

_____ cost of material

_____ labor

_____ B.F. of material stiff back

_____ cost of material

_____ labor

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PRACTICE EXERCISE
STUDENT HANDOUT #3
Chapter Seventeen (sixteen one-hour periods)
(Continued)

Item 8:

_____ B.F. in rafters (include ridge board and facier nailer)

_____ cost of material

_____ labor

_____ B.F. in collar beams

_____ cost of material

_____ labor

_____ B.F. in bracing

_____ cost of materials

_____ labor

_____ B.F. in purlings

_____ cost of materials

_____ labor

Item 9:

_____ B.F. of material in cornice

_____ cost of material

_____ labor

_____ B.F. to frame gable ends

_____ cost of material

_____ labor

PRACTICE EXERCISE
STUDENT HANDOUT #3
Chapter Seventeen (sixteen one-hour periods)
(Continued)

Item 10: _____ B.F. of material

_____ cost of material

_____ labor

Item 11: _____ Sq. ft. of materials for walls

_____ cost of material

_____ labor

_____ Sq. ft. of materials for ceiling

_____ cost of material

_____ labor

Item 12: _____ Sq. ft. of material

_____ cost of material

_____ labor

After responses have been checked for accuracy, enter corrected answers in appropriate blocks on the Quantity Survey.

PRACTICE EXERCISE
STUDENT HANDOUT #4

Chapter Ten (ten one-hour periods)

From information contained in Simulated Exercise Data, blueprints, and specifications, prepare estimates for items one through three below.

Item 1: Estimate labor and material required to lay brick.

Item 2: Estimate cu. yd. of mortar required to lay brick.

Item 3: Estimate number and cost of wall ties required.

Summary

Item 1: _____ M brick

_____ cost of brick

_____ labor to lay brick

Item 2: _____ cu. yd. of mortar

Item 3: _____ wall ties

_____ cost of wall ties

After responses have been checked for accuracy, enter corrected answers in appropriate blocks of the Quantity Survey.

PRACTICE EXERCISE
STUDENT HANDOUT #5
Chapter Seventeen (six one-hour periods)

From information contained in Simulation Exercise Data, blueprints, and specifications, prepare estimates for items one through three below.

Item 1: Estimate labor and materials required to erect soffit.

Item 2: Estimate labor and materials used to install facier around house.

Item 3: Estimate labor and materials required to trim out gable ends of house.

Summary

Item 1: _____ sq. ft. material

_____ cost of material

_____ labor

Item 2: _____ B.F. of material

_____ cost of material

_____ labor

Item 3: _____ B.F. of material

_____ cost of material

_____ labor

After responses have been checked for accuracy, enter corrected answers in appropriate blocks of the Quantity Survey.

PRACTICE EXERCISE
STUDENT HANDOUT #6
Chapter Sixteen (two one-hour periods)

From information contained in Simulation Exercise Data, blueprints, and specifications, prepare estimates for items one through four below.

Item 1: Estimate number of squares and cost of shingles.

Item 2: Estimate number of squares and cost of felt.

Item 3: Estimate number of pounds and cost of nails (figure two lbs. per sq. of shingles).

Item 4: Estimate number of feet and cost of metal edging.

Summary

Item 1: _____ sq. shingles

_____ cost of shingles

_____ labor to install shingles

Item 2: _____ sq. of felt

_____ cost of felt

Item 3: _____ lbs. of nails

_____ cost of nails

Item 4: _____ ft. of metal edging

_____ cost of metal edging

After responses have been checked for accuracy, enter corrected answers in appropriate blocks of the Quantity Survey.

PRACTICE EXERCISE
STUDENT HANDOUT #7
Chapter Thirteen (eight one-hour periods)

From information contained in Simulation Exercise Data, blueprints, and specifications, prepare estimates for items one and two below.

Item 1: Figure sq. ft. of walls and ceiling for each room.

Living room	_____	sq. ft. walls
	_____	sq. ft. ceiling
Dining room	_____	sq. ft. walls
	_____	sq. ft. ceiling
Service	_____	sq. ft. walls
	_____	sq. ft. ceiling
Kitchen	_____	sq. ft. walls
	_____	sq. ft. ceiling
Family room	_____	sq. ft. walls
	_____	sq. ft. ceiling
Bed Room Right Front	_____	sq. ft. walls
	_____	sq. ft. ceiling
Bed Room Left Front	_____	sq. ft. walls
	_____	sq. ft. ceiling
Master bath and dressing	_____	sq. ft. walls
	_____	sq. ft. ceiling
Bath A	_____	sq. ft. walls
	_____	sq. ft. ceiling

PRACTICE EXERCISE
STUDENT HANDOUT #7
Chapter Thirteen (eight one-hour periods)
(Continued)

Middle Bed Room	_____	sq. ft. walls
	_____	sq. ft. ceiling
Back Bed Room	_____	sq. ft. walls
	_____	sq. ft. ceiling
Halls	_____	sq. ft. walls
	_____	sq. ft. ceiling
Garage	_____	sq. ft. walls
	_____	sq. ft. ceiling

Total sq. ft. walls _____

Total sq. ft. ceiling _____

Item 2: Tape, bed and texture all walls and ceilings.

_____ sq. ft. of walls

_____ sq. ft. of ceilings

_____ Total sq. ft. to be taped, bedded and textured.

PRACTICE EXERCISE
STUDENT HANDOUT #7
Chapter Thirteen (eight one-hour periods)
(Continued)

Summary

Item 1: _____ pieces of sheet rock in walls and ceilings, all rooms

_____ cost of sheet rock

_____ labor to install

Item 2: _____ rolls of tape

_____ cost of materials

_____ gallons of mud

_____ cost of materials

_____ sacks of texture

_____ cost of materials

_____ labor to tape, bed, and texture

Total tape and bed _____ materials

_____ labor

Total texture _____ materials

_____ labor

After responses have been checked for accuracy, enter corrected answers in appropriate blocks of the Quantity Survey.

PRACTICE EXERCISE
STUDENT HANDOUT #8
Chapter Fifteen (six one-hour periods)

From information contained in Simulation Exercise Data, blueprints, and specifications, prepare estimates for items one through five below.

Item 1: Paint all ceilings in house except garage, kitchen and baths with latex. Three coats on all surfaces.

_____ sq. ft. of area

_____ no. of gallons of paint

Item 2: Paint ceilings and walls in baths, kitchen, and garage with latex enamel paint. Three coats on all surfaces.

_____ sq. ft. of area

_____ gallons of paint

Item 3: Paint all remaining walls with latex wall paint (three coats). Exclude living room and master bedroom.

_____ sq. ft. of area

_____ no. of gallons of paint

Item 4: Cover walls in living room and master bedroom with vinyl wall covering.

_____ sq. ft. of area to be covered.

Item 5: Carpet all floors except garage. (Includes bathrooms, kitchen, utility room, etc.)

_____ sq. ft. of floor space

Carpet cost $10.00 sq. yd., installed.

PRACTICE EXERCISE
STUDENT HANDOUT #8
Chapter Fifteen (six one-hour periods)
(Continued)

Summary

Item 1: _____ gallons of latex (for all surfaces included in items one and three)

_____ cost of materials

_____ labor

Item 2: _____ gallons of latex enamel (for surfaces in item 2)

_____ cost of materials

_____ labor

Item 4: _____ no. of double rolls of vinyl wall covering

_____ cost of materials

_____ labor to hang vinyl

Item 5: _____ sq. yd. of carpet

_____ cost of carpet

After responses have been checked for accuracy, enter corrected answers in appropriate blocks of the Quantity Survey.

RESIDENTIAL CONSTRUCTION MANAGEMENT

Name of Course: Introduction to Architectural Drawing

Course Objectives: This course is designed to impart to the student basic skills in general drafting techniques such as lettering, line work, and architectural representation. The student also gains experience in the use of structural tables and manufacturers' literature.

Course Description: This course introduces representation in residential construction. It covers the fundamentals of drafting, including projection, sectioning, pictorial drawings, and architectural representation. It is comprised of both lecture (or classroom) periods, wherein fundamentals and principles are introduced, and laboratory periods which provide opportunity to participate in exercises involving these principles.

Suggested Primary Text: Spence, William P. Architecture: Design-Engineering-Drawing, 2nd ed. Bloomington, Ill.: McKnight and McKnight Publishing Co., 1972.

Course Outline:

I. Course Objectives
   A. Materials needed to draw house plans
   B. Kinds of media used

II. Rough Floor Plan
- A. Drawing exterior walls
- B. Drawing interior walls
- C. Drawing door openings
- D. Drawing areas of living

III. Finishing Floor Plan
- A. Electrical Plan
  - 1. Outlets
  - 2. Lights
  - 3. Special electrical devices
- B. Doors
- C. Door schedules
- D. Windows
- E. Window schedules
- F. Fire places
- G. Dimensioning
- H. Room schedules
- I. North arrows
- J. Title block

IV. Foundations
- A. Perimeter beams
- B. Intermediate longitudinal
- C. Intermediate transverse
- D. House - Porch
- E. House - Garage
- F. House - Perimeter
- G. House - Patio
- H. Footings
- I. Details
  - 1. FHA
  - 2. Other
  - 3. Special

V. Elevations
- A. North
  - 1. Slab thickness
  - 2. Exterior walls
    - a. Type materials
  - 3. Windows
    - a. Fixed
    - b. Sliding
    - c. Hinged
  - 4. Roof
    - a. Type materials
    - b. Overhang
    - c. Pitch
  - 5. Chimney

V. Elevations (Continued)
   B. East
   C. South
   D. West
   E. Special

VI. Special Details
   A. Cabinets
      1. Kitchen
      2. Baths
   B. Skylights
   C. Fireplace
   D. Wall

Instructional Recommendations/ Suggestions: This introductory course should be structured around one central goal: to enable the student to graphically communicate ideas and concepts involving residential construction processes. Within minor limitations, the suggested primary text is ideally suited to this purpose. Actual blueprints should be used to supplement the text in developing the principles described. Instructors in this course should be thoroughly familiar with the principles of residential construction, construction materials and methods, and the data contained in architectural blueprints. Laboratory exercises should include practice in locating specifications of materials depicted in working drawings, and the proper use of data included in structural tables and manufacturers' literature. This course should be planned to accommodate varying rates of individual

student progress. To this end it is desirable that the lecture/laboratory periods be consecutively scheduled whenever possible, and that the same instructor conduct both the lecture and the laboratory periods. Transparencies depicting details of construction normally contained in working drawings can be developed locally and used to excellent advantage in presenting this course.

Additional Instructional Materials:

1. Copies of residential blueprints and working drawings. Available through local architects or home builders.
2. Sweet's Architectural Catalogue Files, F. W. Dodge Corp., New York, N. Y., 1974.
3. Copies of architectural specifications. Available through local architects or home builders.
4. Minimum Property Standards for One and Two Family Living Units, U. S. Federal Housing Administration, U. S. Government Printing Office, Washington, D. C.

Additional Instructional Materials (Continued): Transparencies depicting details normally contained in working drawings. To be developed locally (sufficient illustrations available in texts and manuals listed under Additional References, this course).

Additional References:

Buss, Truman C., Jr. Simplified Architectural Drawing; With Examples and Graded Problems. Chicago: American Technical Society, 1948.

Housing and Home Finance Agency. Wood Roof Trusses for Small Buildings. Washington, D. C.: U. S. Government Printing Office, 1950.

Ramsey, Charles G., and Sleeper, Harold R. Edited by Harold D. Hauf and Joseph N. Boas. Architectural Graphic Standards, 6th ed. New York: John Wiley and Sons, Inc., 1970.

Ray, J. Edgar. Graphic Architectural Drafting. Bloomington, Ill.: McKnight and McKnight Publishing Co., 1960.

Salwey, Jasper. Sketching in Lead Pencil; For Architects and Others. New York: Charles Scribner's Sons, 1926.

Sundberg, Elmer W., et al. Building Trades Blueprint Reading, 5th ed., Part I: Fundamentals. Chicago: American Technical Society, 1973.

_____. Building Trades Blueprint Reading, 2nd ed., Part II: Residential and Light Commercial Construction. Chicago: American Technical Society, 1974.

U. S. Department of Commerce, National Bureau of Standards. Plumbing Manual. Washington, D. C.: U. S. Government Printing Office.

Additional References (Continued): U. S. Department of Health, Education, and Welfare. Wood-Frame House Construction. Washington, D. C.: U. S. Government Printing Office.

RESIDENTIAL CONSTRUCTION MANAGEMENT

Name of Course: Elements of Structural Design

Course Objectives: This course introduces the student to the basic principles of statics and to the effects of loads and loading on building elements and frames. Methods are developed for determining preliminary sizes of certain key building elements, knowledge of which is essential to proper building layout and design.

Course Description: A course which familiarizes the student with the mechanical properties of materials and the relationship and use of these materials in residential construction processes. Subjects include stress, deformation, member size and investigation, and connections. Typical members used in residential frameworks are studied, analyzed, and discussed. The material presented makes it possible for the student to understand the interaction of the various elements used in a framing system.

Suggested Primary Text: Bassin, Milton G., et al. Statics and Strength of Materials, 2nd ed. New York: McGraw-Hill Book Co., 1969.

Course Outline:

I. Materials, Stress and Deformation
   A. Units of Instruction
      1. Properties of construction materials
      2. Types of stresses in members
      3. Ultimate and allowable stresses
      4. Direct stress; deformation
      5. Elasticity and Hooke's law
      6. Stress-strain diagram

II. Properties of Sections
   A. Units of Instruction
      1. Centroids and moments of area
      2. First moment of area
      3. Second moment of area
      4. Parallel axis theorem
      5. Radius of gyration
      6. Section modulus

III. Gravity Loads on Building Frames
   A. Units of Instruction
      1. Basic framework types
      2. Live loads
      3. Dead loads
      4. Floor and roof loads
      5. Wall and partition loads
      6. Equipment loads
      7. Application of loads to framing members
      8. Uniformly distributed loads
      9. Concentrated loads
      10. Loading diagrams

IV. Shear and Bending in Beams--Statically Determinate
   A. Units of Instruction
      1. Reactions and shear
      2. Symmetrical loading
      3. Nonsymmetrical loading
      4. Shear diagrams
      5. Moment diagrams
      6. Cantilever and overhanging members
      7. Critical sections for moment and shear

V. Stresses in Beams and Beam Sizes
   A. Units of Instruction
      1. Tensile and compressive stresses
      2. Shear stresses
      3. Allowable loads on beams
      4. Timber beam selection
      5. Steel beam selection
      6. Beams without proper lateral support

VI. Beam Deflection
   A. Units of Instruction
      1. Elastic curve, stress, and moment
      2. Moment diagrams by parts
      3. Moment-area principles
      4. Deflection equations by moment-area
      5. Use of deflection equations

VII. Shear and Bending in Beams—Statically Indeterminate
   A. Units of Instruction
      1. Definitions
      2. Three-moment equation
      3. Use of three-moment equation
      4. Fixed-end beams
      5. Reactions and shear
      6. Shear and moment diagrams
      7. Positive and negative moments

VIII. Stresses in Columns and Column Sizes
   A. Units of Instruction
      1. Rolled steel column sections
      2. Builtup column sections
      3. Column-end conditions
      4. Effective length
      5. Allowable stresses for timber columns
      6. Allowable stresses for steel columns
      7. Timber column selection
      8. Steel column selection
      9. Eccentrically loaded columns

IX. Riveted and Welded Connections

A. Units of Instruction

1. Types of riveted connections
2. Allowable stress in shear
3. Allowable stress in bearing
4. Load capacity of riveted connections
5. Number of rivets required
6. Eccentrically loaded riveted connections
7. Types of welds used in connections
8. Allowable stresses in welds
9. Required length of welds

Instructional Recommendations/ Suggestions:

Care should be taken to insure that the focus of this course remains centered on how the principles can be applied in everyday usage in residential construction processes. This is not intended to be a course in physics. Its purpose is to familiarize the student with the need for giving due consideration to the fundamental principles of stress and strength of materials.

Reduced-scale wood members can be locally developed by which to demonstrate principles being investigated. Scale models of standard-dimension wood beams and trusses can be loaded to the bend or break point at a much lower cost than would be required for testing their full-scale counterparts. Scale-model members should be fabricated from materials typical of the full-size components which

they represent. A Conversion Table (based on a scale of 1 1/2" to 1') has been developed to show the scale sizes for commonly used units of dimension lumber (see Conversion Table - Dimension Lumber, attached). Use of these model members should be limited to the demonstration of principles, since they may not be completely representative of the full-scale counterpart item in terms of shearing and bending moments and stress loads.

Additional Instructional Materials:

Conversion Table - Dimension Lumber. Produced locally. Copy attached.

Reduced-Scale Lumber. To be produced locally. Sufficient quantities of sizes representative of standard-dimension lumber for classroom demonstration exercises.

Additional References:

American Institute of Steel Construction. Manual of Steel Construction. New York: The Institute, 1963.

American Institute of Timber Construction. Timber Construction Manual. New York: John Wiley and Sons, Inc., 1966.

Levinson, Irving J. Mechanics of Materials, 2nd ed. New York: Prentice-Hall, Inc., 1970.

Parker, Harry. Simplified Mechanics and Strength of Materials, 2nd ed. New York: John Wiley and Sons, Inc., 1961.

Timber Engineering Co. Timber Design and Construction Handbook. New York: McGraw-Hill Book Co., 1956.

CONVERSION TABLE - DIMENSION LUMBER

(SCALE: $1\frac{1}{2}$" EQUALS 1')

Actual Size	Volume	Scale Size	Volume	Percent
2/4 = $1\frac{1}{2}$ x $3\frac{1}{2}$ =	5.25 sq. in. =	3/16 x 7/16 =	.082 sq. in. =	01.6%
2/6 = $1\frac{1}{2}$ x $2\frac{1}{2}$ =	8.25 sq. in. =	3/16 x 11/16 =	.192 sq. in. =	01.6%
2/8 = $1\frac{1}{2}$ x $7\frac{1}{4}$ =	10.875 sq. in. =	3/16 x 29/32 =	.170 sq. in. =	01.6%
2/10 = $1\frac{1}{2}$ x $9\frac{1}{4}$ =	13.875 sq. in. =	3/16 x 15/32 =	.217 sq. in. =	01.6%
2/12 = $1\frac{1}{2}$ x $11\frac{1}{4}$ =	16.875 sq. in. =	3/16 x 1 13/32 =	.264 sq. in. =	01.6%

Actual Size	Scale Size
$1\frac{1}{2}$"	3/16"
$3\frac{1}{2}$"	7/16"
$5\frac{1}{2}$"	11/16"
$7\frac{1}{4}$"	20/32"
$9\frac{1}{4}$"	1 5/32"
$11\frac{1}{4}$"	1 13/32"

Note: An approximation of the breaking point of the full-scale member can be found by dividing the breaking point of the model by .016. Example: Breaking point of scale model = 40 lbs.

40 ÷ .016 = 2,500

Approximate breaking point, full-scale member = 2,500 lbs.

RESIDENTIAL CONSTRUCTION MANAGEMENT

Name of Course: Contracts, Codes, Specifications and Office Practices

Course Objectives: To develop an appreciation for the importance of effective office practices in the coordination and control of construction activities. To familiarize the student with the various legal documents which combine to regulate residential construction practices and procedures.

Course Description: This course explains the organization and operation of a typical small- to medium-size residential construction contractor's office. It includes the study of office practices, bookkeeping and accounting methods, and general office administration Considerable attention is devoted to the study of the codes, restrictions, standards, and the legal documents governing construction. Students are introduced to the interpretation and preparation of specifications, and to the application of CPM as a method for controlling construction projects.

Suggested Primary Text: Royer, King. The Construction Manager. Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1974.

Course Outline:

I. The Construction Firm
   A. Construction management
   B. The contractor's organization
   C. Span of control
   D. Characteristics of supervisors
   E. Sales
   F. Production
   G. Purchasing and subcontracting
   H. Personnel records and hiring

II. The Construction Project
   A. Wages
   B. Theft
   C. Cost control
   D. Function of the cost control system
   E. Cost control and accounting
   F. Identification and classification of cost items
   G. The work order
   H. Accumulation of costs
   I. Action on costs above estimates

III. Estimating
   A. Precision and accuracy
   B. Cost of estimating
   C. Courtesy bids
   D. Collusion
   E. Estimating safety margins
   F. Ethics
   G. Nature of errors
   H. Estimate sheets
   I. Subcontractor's bids
   J. Cutting subcontractor bids
   K. Stipulated subcontractors
   L. Improving industry relationships
   M. Contractors' alternates

IV. Construction Contracts
   A. Essentials of a construction contract
   B. Clauses to avoid
   C. Competitive bidding
   D. Cost-plus contract
   E. Letter of intent
   F. Withdrawal of erroneous bids
   G. Builders' risk insurance
   H. Extra and additional work

IV. Construction Contracts (Continued)
- I. Subcontracts
- J. Owner's liability
- K. Hold-harmless clauses
- L. Breach of contract
- M. Changed conditions
- N. Liquidated damages and delay
- O. Performance and payment bonds
- P. Arbitration
- Q. Final payment
- R. Unit prices
- S. Change orders
- T. Liens
- U. Other payment rights of subcontractors and suppliers
- V. Appeals in disputes
- W. Material and workmanship guarantees

V. Purchasing
- A. Sources of information
- B. The purchase order
- C. Clauses recommended for purchase orders
- D. Purchase order copies
- E. Purchasing subcontracts
- F. Clerical procedure
- G. Billing methods
- H. Delivery slips
- I. The superintendent's purchases
- J. Invoice approval
- K. Subcontract payments
- L. Owner-builder contract
- M. Withholding subcontract payments
- N. Bankruptcy
- O. Recognition of the insolvent firm
- P. Avoiding bankruptcy

VI. Accounting
- A. Bookkeeping and accounting
- B. Income taxes
- C. The necessity for accounts
- D. Accounting terminology
- E. Equipment valuation
- F. The balance sheet
- G. Expense and receipts accounts

VI. Accounting (Continued)
- H. Overhead, profit, and distributed expenses
- I. Sample monthly statement
- J. Cash requirements
- K. Weekly cost items by months
- L. Summary of cash flow by months
- M. Paying monthly bills
- N. Terminology in tax accounting
- O. Influence of depreciation rates on operations
- P. Equipment accounts and replacement
- Q. Fraud
- R. Payroll accounting

VII. Planning and Scheduling
- A. Purposes and types of job plans
- B. Time schedules
- C. The bar chart
- D. Preparing the Gantt chart
- E. The critical path method
- F. CPM nomenclature
- G. CPM and manpower scheduling
- H. Variation in completion time

VII. Labor Unions
- A. Basic policies toward unions
- B. The purposes of union organization
- C. Organizing
- D. The union hiring hall
- E. Training
- F. Licensing
- G. Requirements on U. S. Government construction
- H. Union shops versus closed shops
- I. Support between trades
- J. Recent growth of open-shop work

Instructional Recommendations/ Suggestions: The use of technical specialists and guest lecturers is strongly recommended in the development of material contained in this course. Use of such specialists should be planned and coordinated

well in advance of expected time of presentation. Guest lecturers should, in all cases, be made fully aware of the course and lesson objectives, technical level of competence of the class, and any other special information which would assist in focusing on the central purposes of the instructional unit. The suggested text is divided into eight sections, which makes it readily adaptable to the standard sixteen-week semester. A listing of in-depth discussion questions may be found at the conclusion of each major section of the text. A teacher's manual has been developed for use with the suggested text and is available through the publisher. It should be kept in mind that this is an introductory course and that it is not designed to develop specialists in any of the topic areas covered. Serious students should plan additional specialized personal development in each of these important phases of the construction business. OSHA should be fully developed during presentation of this course.

Additional Instructional Materials: Royer, King. Teacher's Manual, The Construction Manager. Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1974.

Additional Instructional Materials (Continued):

Copies of architectural specifications. Available through local architects or home builders.

U. S. Federal Housing Authority. Minimum Property Standards. Washington, D. C.: U. S. Government Printing Office.

Various city codes. Office of city engineer.

Sample copies of standard insurance policies, as used in construction. Independent insurance agents.

Copies of various bonds (i.e., performance, liquidation, completion, etc.) used in construction. Available through independent insurance agents and regular bonding agencies.

Additional References:

Clough, Richard H. Construction Contracting, 2nd ed. New York: Wiley-Interscience, 1969.

Deatherage, George E. Construction Company Organization and Management. New York: McGraw-Hill Book Co., 1964.

_____. Construction Estimating and Job Preplanning. New York: McGraw-Hill Book Co., 1965.

_____. Construction Office Administration. New York: McGraw-Hill Book Co., 1964.

_____. Construction Scheduling and Control. New York: McGraw-Hill Book Co., 1965.

Additional References (Continued): Sweet's Architectural Catalogue File. New York: F. W. Dodge Corp., 1974.

RESIDENTIAL CONSTRUCTION MANAGEMENT

Name of Course: Principles of Accounting I

Course Objectives: To provide an introduction to the basic concepts of elementary accounting. To provide practical training in the use of modern bookkeeping and accounting forms and procedures.

Course Description: An introductory accounting course designed to furnish a general knowledge of accounting principles and procedures. Examination of present-day accounting theory and practices with application to the sole proprietorship. This is the first of a two-course series in basic accounting procedures.

Suggested Primary Text: To be determined locally.

Course Outline: To be developed locally.

Instructional Recommendations/ Suggestions: A good working knowledge of accounting principles is of critical importance to almost every job in which graduates of the Residential Construction Management program can expect to become employed. While this course must be viewed as a

non-professional course in basic concepts and principles, the level of competence needed by program graduates is sufficiently high to require a minimum of eight semester hours in principles of accounting. Normally, this should be broken down into two four-hour courses. This introductory course should concentrate on an examination of accounting theory and practices, with applications to the sole proprietorship, since the preponderance of residential construction operations fall into this broad category. The second course should be directed to the application of accounting theory and practice in partnerships and corporations. Most post-secondary institutions will have accounting courses within their standard curriculums which can satisfactorily provide for the developmental needs of the Residential Construction Management program.

Additional Instructional Materials: To be developed locally.

Additional References: To be developed locally.

RESIDENTIAL CONSTRUCTION MANAGEMENT

Name of Course: Construction Planning and Control

Course Objectives: To develop an appreciation for the importance of planning and control to the successful completion of construction activities. To provide a working acquaintance with the types of planning and control systems most commonly used in small- to medium-size residential construction enterprises.

Course Description: A course in residential construction planning and control which deals with information on the materials, labor, and equipment necessary in the proper operation of a construction project. The course covers the building construction procedures from preliminary site planning to final job inspection and introduces the most frequently used methods of construction job scheduling. The course shows how the proper combination of men, materials, and machines can be used to construct residential structures successfully.

Suggested Primary Text: Benson, Ben. Critical Path Methods in Building Construction. Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1970.

Course Outline:

I. Preliminary Considerations
   A. Topography of the site
   B. Buildings near the site
   C. Base lines, reference marks, and levels
   D. Fuel, power, and water supplies
   E. Equipment planning and selection
   F. Local ordinances
   G. Bonds and insurance

II. Job Planning and Organization
   A. Field organization
   B. Office organization
   C. Local material and labor supply
   D. Coordination of subcontractors
   E. Types of contracts
   F. Materials delivery and storage
   G. Safety during construction
   H. Public relations
   I. Job supervision
   J. Accounting procedures and forms

III. Earthwork and Excavation
   A. Types of earthwork equipment and costs
   B. Air-operated equipment
   C. Capacity and operation of tractor-type equipment
   D. Operations with clamshell, drag-line, and hoe
   E. Operations with bulldozer and scraper
   F. Excavating-and-hauling units
   G. Recordkeeping on excavation
   H. Soil exploration and types of soil
   I. Compaction and stabilization of soil

IV. Subsurface Work
   A. Pumps and drainage equipment
   B. Cofferdams and caissons
   C. Piles and pile-driving
   D. Sheet piling
   E. Wellpoints
   F. Rock excavation
   G. Underpinning

V. Materials Handling and Placement
- A. Elevator and conveyor systems
- B. Hoisting equipment
- C. Steel frame erection and alignment
- D. Riveting, bolting, and welding equipment
- E. Concrete mixing and batching
- F. Transporting; placing; vibrating equipment
- G. Bending, placing, and supporting reinforcement

VI. Cost Estimating
- A. Preliminary estimates and unit costs
- B. Job analysis and work requirements
- C. Labor and equipment requirements
- D. Labor costs
- E. Equipment costs
- F. Materials and small tool costs
- G. Overhead and other costs

VII. Construction Scheduling
- A. General procedures
- B. Master schedule
- C. Progress reports and charts
- D. Labor schedules
- E. Equipment schedules
- F. Materials schedules
- G. Rescheduling
- H. Job communication

VIII. Introduction to CPM Scheduling
- A. General considerations and application
- B. Comparison with bar charts
- C. Arrow diagrams
- D. Network diagrams
- E. Elapsed time
- F. Float time
- G. Determining critical path
- H. Time related to cost
- I. Setting up a CPM network
- J. Using the CPM network

IX. Job Inspection
- A. Duties and responsibilities
- B. Authority
- C. Inspector's reports
- D. Equipment requirements
- E. Relations with labor and other contractors
- F. Limitations

Instructional Recommendations/ Suggestions: This course is a general survey of the factors which must be considered in the operation of a construction project. The nature of the course material is such that knowledge acquired to date in other courses in this program can be effectively brought into perspective. It is strongly recommended that the same blueprints utilized during the "Residential Construction Estimating" course be continued in use with this course. This will permit utilization of "Quantity Survey" data which students previously developed (materials and labor take offs, etc.). See Instructional Recommendations/Suggestions for the course entitled "Residential Construction Estimating" for details on the development of standardized quantities of materials, unit costs, size and composition of various work crews, etc. ("Simulation Exercise Data"). Emphasis should be placed

on how CPM can most effectively be used for planning and control in small- to medium-size construction operations. Students should be required to demonstrate a working knowledge of the correct use of CPM in the construction of a residence by preparing and explaining a complete CPM chart for the residence described in the previously-mentioned blueprints. Transparencies made from charts depicted in the text can be used to good advantage in developing student understanding of materials covered in this course.

Additional Instructional Materials:

1. Residential blueprints. Recommend continued use of blueprints utilized in the "Residential Construction Estimating" course.
2. Quantity Surveys. See suggested format attached. Details to be filled in from data developed in the "Residential Construction Estimating" course.
3. Transparencies. To be developed from selected illustrations contained in the text and other reference materials.

Additional Instructional Materials (Continued):

4. Residential Critical Path Diagram. Locally developed. Copy attached.

5. Job Logic and Activity Table. Locally developed. Copy attached.

Additional References:

Clough, Richard H. Construction Contracting, 2nd ed. New York: Wiley-Interscience, 1969.

Deatherage, George E. Construction Scheduling and Control. New York: McGraw-Hill Book Co., 1965.

Merritt, Frederick S., ed. Building Construction Handbook, 2nd ed. New York: McGraw-Hill Book Co., 1965.

O'Brien, James J. CPM in Construction Management; Project Management with CPM, 2nd ed. New York: McGraw-Hill Book Co., 1971.

Priluck, Herbert M., and Hourihen, Peter M. Practical CPM for Construction. Duxbury, Mass.: Robert Snow Means Co., Inc., 1974.

QUANTITY SURVEY

Item of Work	Quantity	Unit	Labor	Material	Price (unit)	Total	20% OH Prorated
Foundations							
Rough grading		C.Y.					
Lay out		S.F.					
Forming		S.F.					
Filling		S.F.					
Trenching (beams)		S.F.					
Fine grading		S.F.					
Vapor barrier		S.F.					
Reinforcing steel		S.F.					
Pouring and finishing concrete		S.F.					
Framing (make up)							
T and corner make up		B.F.					
Rough buck make up		B.F.					
Beams make up		B.F.					
Wall Framing							
Plates		B.F.					
Studs (wall framing)		B.F.					
Fire blocks		B.F.					
Wind braces		B.F.					
Dead wood		B.F.					
Ceiling Framing							
Ceiling joist		B.F.					
Stiff back		B.F.					
Roof Framing							
Rafters		B.F.					
Purlings		B.F.					
Bracing		B.F.					
Collar beam		B.F.					

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QUANTITY SURVEY
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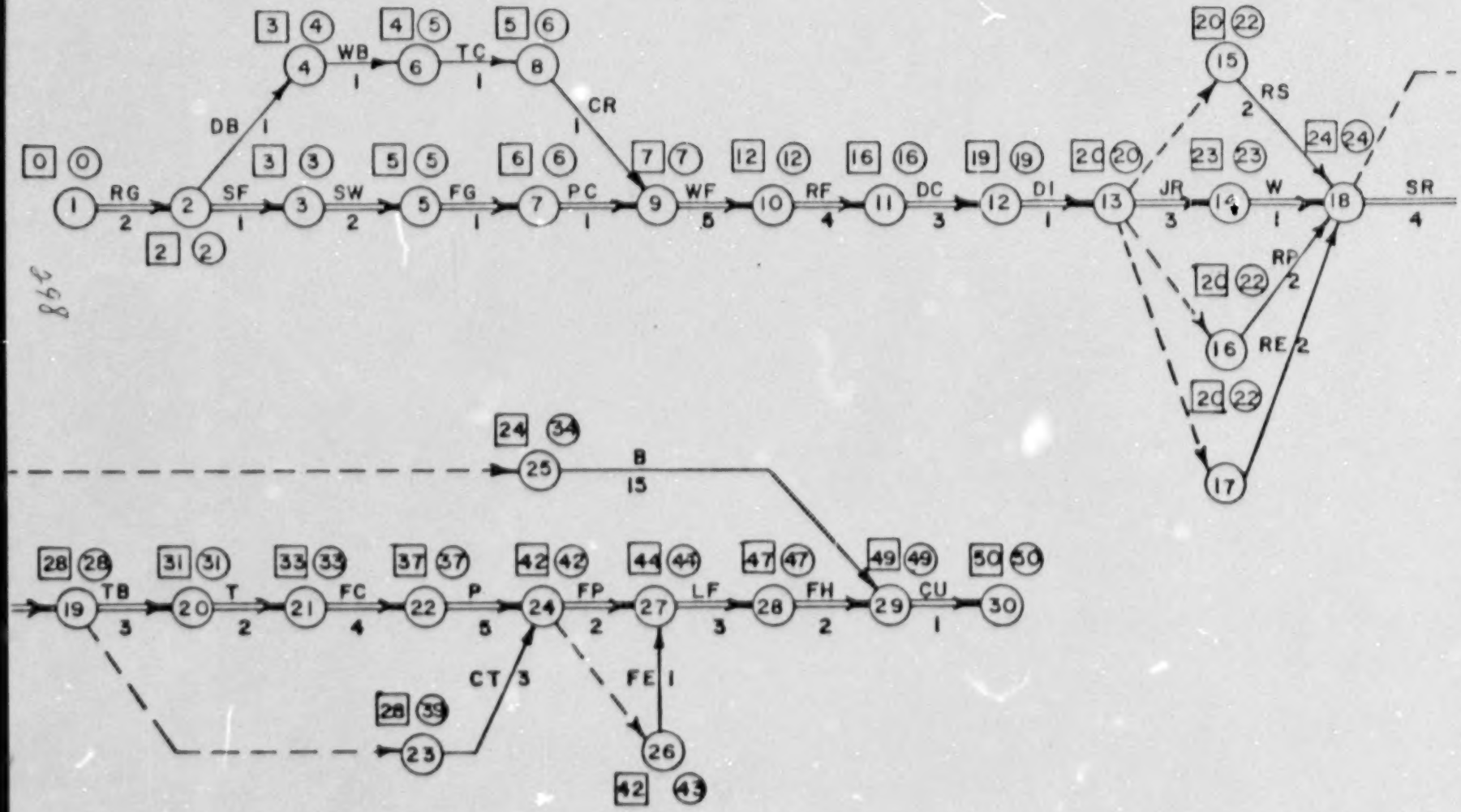
Item of Work	Quantity	Unit	Labor	Material	Price (unit)	Total	20% OH Prorated
Cornice and Gable End Framing							
Cornice		B.F.					
Gable end		B.F.					
Decking		S.F.					
Gyp rock walls		S.F.					
Roofing (including dry in)		Sq.					
Insulation							
Walls		S.F.					
Ceilings		S.F.					
Exterior Trim							
Door units, complete		ea.					
Windows		ea.					
Soffit		S.F.					
Fascier		L.F.					
Gable end		B.F.					
Exterior Wall Finish							
Brick		1000 brick					
Mortar		"					
Wall ties		ea.					
Vertical siding		B.F.					
Interior Wall Finish							
Sheet rock		S.F.					
Tape and bed		S.F.					
Texture		S.F.					
Paint		S.F.					
Wall paper		S.F.					
Paneling		S.F.					

Item of Work	Quantity	Unit	Labor	Material	Price (unit)	Total	20% OH Prorated
Interior Trim							
Base board	_____	L.F.	_____	_____	_____	_____	_____
Ceiling molding	_____	L.F.	_____	_____	_____	_____	_____
Doors, complete	_____	ea.	_____	_____	_____	_____	_____
Windows, trim	_____	ea.	_____	_____	_____	_____	_____
Cabinets		lump sum				_____	_____
Floor covering		lump sum				_____	_____
Mechanical							
Plumbing		lump sum				_____	_____
Heat and air		lump sum				_____	_____
Electrical							
Electrical wiring		lump sum				_____	_____

RESIDENTIAL CRITICAL PATH DIAGRAM



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JOB LOGIC AND ACTIVITY TABLE

ACTIVITIES	SYMBOL	DURATION (WORKING DAYS)	ACTIVITY IMMEDIATELY FOLLOWING
Rough grading	RG	2	SF
Set forms	SF	1	SW
Door bucks	DB	1	WB
Sewer and water	SW	2	FG
Window bucks	WB	1	TC
Finish grade	FG	1	PC
Tees and corners	TC	1	CR
Placing concrete	PC	1	WF
Cut rafters	CR	1	WF
Wall framing	WF	5	RF
Fireplace	FP	2	DI
Roof framing	RF	4	DC
Deck and cornice	DC	3	DI
Dry in	DI	1	RS, JR, RP, RE
Gyp rock	GR	3	WI
Roof shingles	RS	2	SR
Rough plumbing	RP	2	SR
Rough electrical	RE	2	SR
Windows and insulation	WI	1	SR
Sheet rock	SR	4	TB
Lay brick	B	15	CU
Tape and bed	TB	3	T
Tile	CT	3	FP, FE
Texture	T	2	FC
Finish carpentry	FC	4	P
Paint	P	5	FP, FE
Finish plumbing	FP	2	LF
Finish electrical	FE	1	FH
Lay floor	LF	3	CU
Finish hardware	FH	2	--
Clean up	CU	1	

RESIDENTIAL CONSTRUCTION MANAGEMENT

Name of Course: Business Communication

Course Objectives: To familiarize the student with current trends in business correspondence. To provide experience in composing the various types of written communications commonly used in business--such as business letters, reports, bulletins, memoranda, telegrams, etc.

Course Description: A detailed study of business communications from the standpoint of arrangement and content of letters of inquiry, orders, credit, applications, sales, claims and adjustments. Emphasis on grammar and mechanics of writing.

Suggested Primary Text: To be determined locally.

Course Outline: To be developed locally.

Instructional Recommendations/ Suggestions: It is recommended that this course be adapted from one of the regular departmental offerings of the institution.

Additional Instructional Materials: To be developed locally.

Additional References: To be developed locally.

RESIDENTIAL CONSTRUCTION MANAGEMENT

Name of Course: History of Architecture and Construction

Course Objectives: To acquaint the student with the various architectural styles which have been developed in residential construction, and to create an appreciation for the main advantages and disadvantages of each.

Course Description: This course is designed to afford the student an opportunity to survey all of the major styles of architecture which have been used in residential construction from early times to the present. It focuses special attention on styles which are in current use, and encourages detailed study of residential construction developments in the geographical area where the course is being presented. Opportunity is provided for students to make in-depth studies of selected architectural design or structural methods.

Suggested Primary Text: Fletcher, Sir Banister F. A History of Architecture, 17th ed., rev. New York: Charles Scribner's Sons, 1967.

Course Outline:

I. Introduction: The Science of Architecture
   A. Objectives of course
   B. Influences in architecture
      1. Geographical
      2. Geological
      3. Climatic
      4. Religious
      5. Social
   C. Basic principles of construction
      1. Post and lintel
      2. Corbel and cantilever
      3. Arch and vault
      4. Truss
   D. Architecture as a science as well as an art
      1. Esthetics
      2. Convenience, strength, and beauty
   E. Four categories of religious buildings
      1. Temple
      2. High place
      3. Tomb-like shrine
      4. Meeting place

II. Prehistoric and Tigro-Euphrates Valley civilization
   A. Kinds of shelters built by prehistoric man
   B. Babylonian Period: temples, canals, and irrigation
   C. Hittites: use of stone in architecture and royal palaces
   D. Assyrian Period: house, palace, and temple forms, along with surface decorations
   E. Babylonian Empire: marvels of Babylon
      1. Hanging gardens
      2. Ziggurat
      3. Banks, storehouses, and commercial buildings
   F. Persian Period
      1. Palace platforms at Persopolis
      2. Columns

III. Egyptian Architecture
- A. Egyptian dynasty history
  - 1. Ancient Kingdom
  - 2. Middle Kingdom
  - 3. New Empire
  - 4. Ptolemaic Period
  - 5. Roman Period
- B. Column development
- C. Tombs
  - 1. Mastabas
  - 2. Pyramids
  - 3. Rock-hewn tombs
- D. Temples

IV. Greek Architecture
- A. An order in classic architecture
  - 1. Doric
  - 2. Ionic
  - 3. Corinthian
- B. Proportion of the orders; module
- C. Temples and the Acropolis
  - 1. Parthenon
  - 2. Erechtheum
- D. Civil buildings
- E. Agora
- F. Theatres
- G. Tombs

V. Roman Architecture
- A. Proportions of the orders by Vignola
- B. Etruscan temples and tombs
- C. Roman forums
- D. Roman rectangular temples
- E. Roman circular and polygonal temples
- F. Basilicas
- G. Roman baths
- H. Roman theatres and amphitheatres
- I. Circuses
- J. Triumphal arches
- K. Roman palaces and houses
- L. Aqueducts, bridges, and fountains

VI. Early Christian, Byzantine, and Romanesque Architecture
- A. Development of the pendentive system in dome construction
- B. Santa Sophia, Constantinople
- C. St. Mark's, Venice
- D. Feudal system and structures built
- E. Monastic system and structures built
- F. The Romanesque church

VII. Islamic Architecture
- A. Mohammed's influence in styles of architecture
- B. Mosque architecture
  1. Domes
  2. Arches
- C. Tomb architecture
- D. Surface development on structures

VIII. Gothic Architecture
- A. Departure from classic lines and development of the pointed arch
- B. Stability of Gothic cathedrals
- C. Notre Dame, Paris
- D. Amiens Cathedral
- E. Salisbury Cathedral, Britain
- F. Gothic architecture in Germany; Belgium, Holland, Spain, and Italy

IX. Renaissance Architecture
- A. The dawn of the Renaissance
  1. The dome of the Florence Cathedral
  2. Palaces and churches
- B. The high Renaissance
  1. Leon Batista Alberti: "Beautiful architecture is that from which nothing can be taken away and to which nothing can be added without harming it."
  2. St. Peter's Cathedral, Rome. Architects who worked on this cathedral:
     - a. Bramante
     - b. Peruzzi

c. Sangallo
d. Bernini
e. Michelangelo
f. Others
3. City palaces and villas
C. Renaissance in France
D. Renaissance in Northern Europe
E. Renaissance in Spain

X. Revivals of Architecture
A. The Early Classic Revival
B. Classic Revival ideas
C. Classic Revival in the United States

XI. Eclecticism, Beaux Arts, and Architecture of Today
A. Influence of the Beaux Arts School
B. Science and art of city planning
C. National variations (eclecticism)
1. Germany
2. England
3. France
4. United States
D. Early architects of Modern Architecture and their work
1. Louis Sullivan--"Chicago School"
2. Frank Lloyd Wright--"Organic Architecture"
3. Le Corbusier--"Geometrical Composition"
4. Walter Gropius
5. Mies van der Rohe
6. Eero Saarinen
7. Pier Luigi Nervi
8. Edward Durrell Stone
9. Others

Instructional Recommendations/ Suggestions: One of the main functions of this course should be to provide an opportunity for individual exploration of selected topics within the student's technical field. It is suggested that each student be required to choose a minimum of two topics on which to develop

detailed oral and written reports. Topics for study should be restricted to one or more of the major architectural styles of residential construction, or to one or more of the major construction processes identified with each of these styles of architecture. Reports by students can be an especially effective aid in achieving the fundamental course objective of developing a working knowledge of the advantages and disadvantages of the various styles of architecture used in residential construction. Class discussion periods can be very effectively reinforced by use of the suggested additional instructional materials. The film strip series on the history of architecture developed by Educational Dimensions Corporation is considered to be an exceptionally valuable instructional aid for this course.

Additional Instructional Materials:

1. Transparencies. See locally-developed 60-part series attached. Series depicts architectural styles and significant structural features.

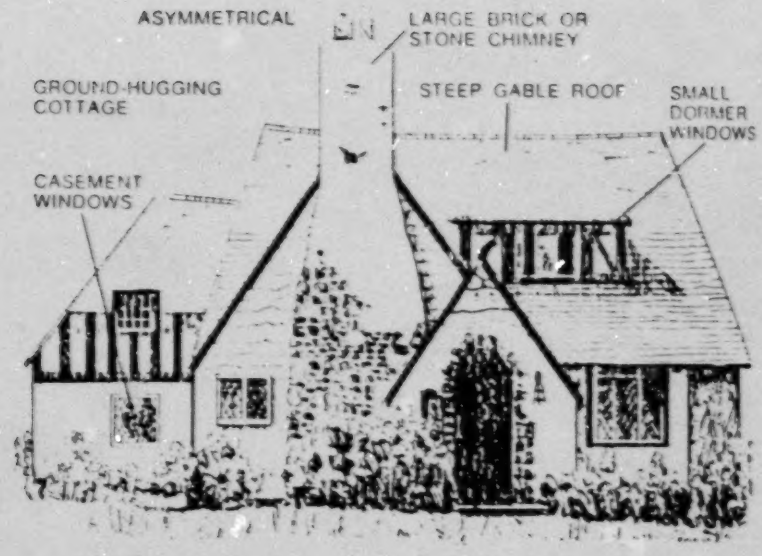
Additional Instructional Materials (Continued):

2. 35MM slides. Three sets of 20 slides each. Teacher's manual available with each set. Developed by Educational Dimensions Corp., Stanford, Conn., 1973:
   a. Survey of World Architecture
   b. 200 Years of American Architecture
   c. Architectural Forms, Origin, and Use
3. 35MM film strips. Developed by Educational Dimensions Corp., Stanford, Conn., 1973. Four sets:
   a. Set 1. American Architecture, three parts:
      (1) 17th and 18th Century
      (2) 19th Century
      (3) 20th Century Trends
   b. Set 2. The New American Architecture
   c. Set 3. Modern Architecture
   d. Set 4. Understanding World Architecture

Additional References:

Forman, Henry C. The Architecture of the Old South: The Medieval Style. New York: Russell and Russell Publishers, 1967.

Waterman, Thomas T., and Barrows, John A. Domestic Colonial Architecture of Tidewater, Virginia. New York: Dover Publications, 1969.



English Styles

COTSWOLD COTTAGE

Key Distinguishing Characteristics

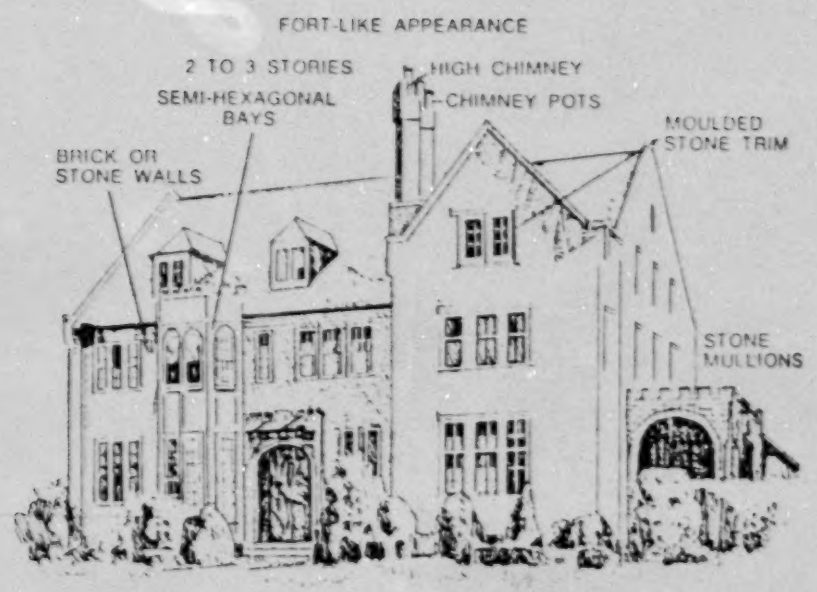
The smallest of the English styles, the Cotswold, is sometimes described as an Ann Hathaway or Hansel and Gretel Cottage. It is a ground-hugging, always asymmetrical style with a prominent brick or stone chimney in the front or on the side that appears to be very large in relation to the overall size of the house.

Other Distinguishing Characteristics

Walls of the originals were built of materials of the area – brick, stone, wood siding, half timbers
Steep gable roof with complex lines
Casement windows
Dormer windows smaller than other windows
Rooms tend to be small and irregularly shaped
Layout often necessitates walking through one room to get to another (even the bedrooms)
Upper story bedrooms have steep walls and need dormers

History

The Cotswold Cottage was first built in the Cotswold Hills of Gloucester, Hereford and Worcester, England starting about the time of the Norman conquest in 1066. The name is derived from "cot"-cottage and "wold"-wood – cottage in a wood. The romantic design was very popular throughout the U.S. in the 1920's and 1930's.



English Styles

TUDOR

Key Distinguishing Characteristics

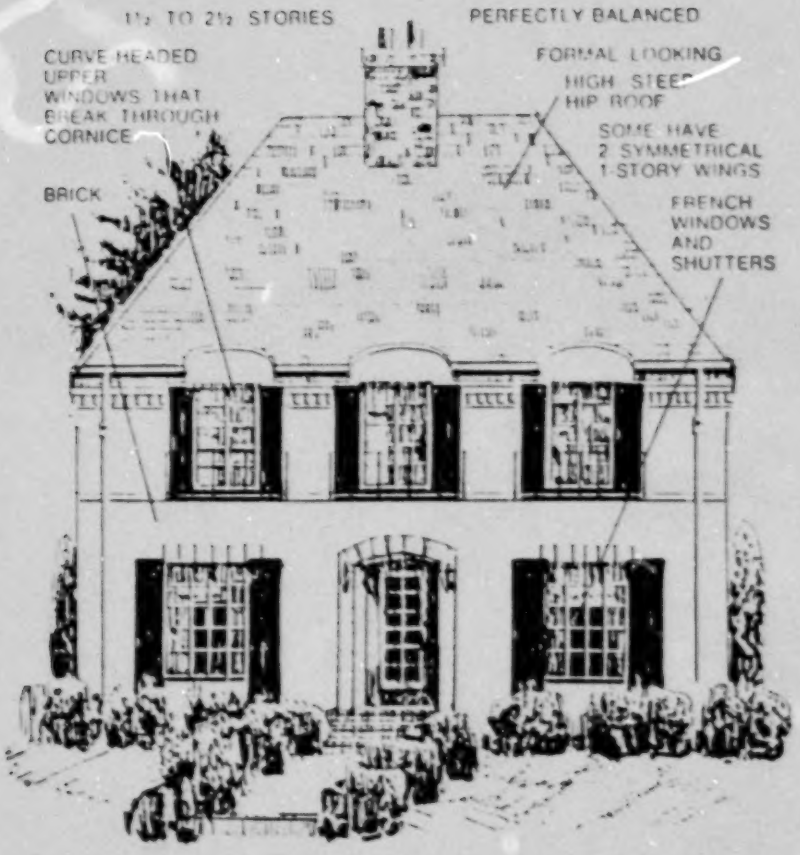
The Tudor is an imposing looking house with fortress-like lines. Siding is chiefly stone and brick with some stucco and half timbers. Windows and doors have moulded cement or stone trim around them.

Other Distinguishing Characteristics

Usually 2½ stories
Stone or cement window mullions and transoms
Casement windows with leaded glass (often diamond-shaped)
High, prominent chimneys with protruding chimney pots
Semi-hexagonal bays and turrets
Interior often layed out with odd shaped rooms full of nooks and crannies, large fireplaces, beamed ceilings and rough plaster walls

History

The style started in England in the late 15th century during the reign of the House of Tudor. It did not become popular in the U. S. until the late 1800's.



French Styles

FRENCH PROVINCIAL

Key Distinguishing Characteristics

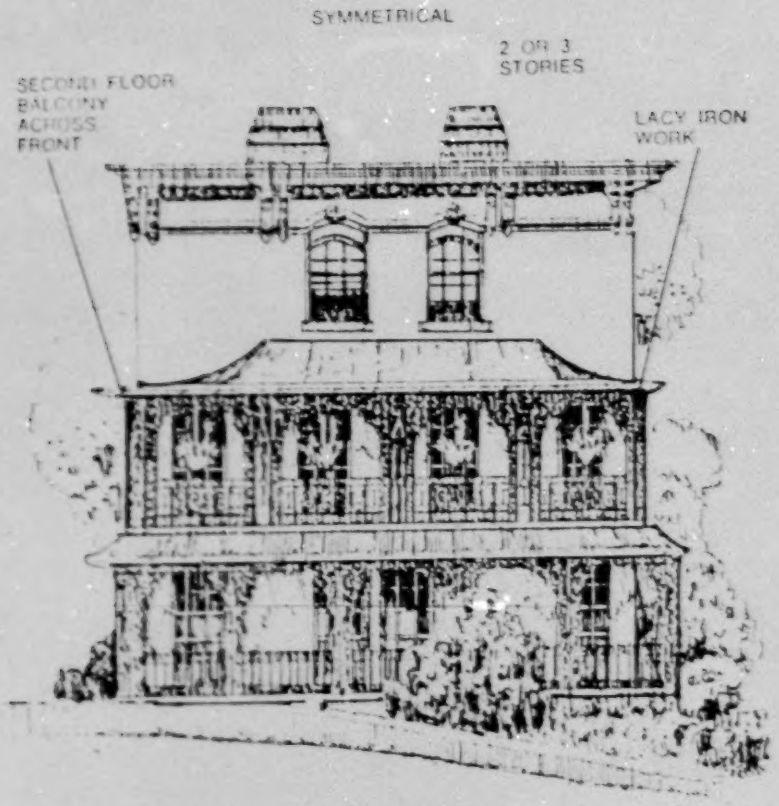
The French Provincial is a perfectly balanced, formal 1½ to 2½ story house with a high steep hip roof and curved-headed upper windows that break through the cornice.

Other Distinguishing Characteristics

- French windows or shutters on first floor
- Two symmetrical 1 story wings
- Usually made of brick

History

The style originated in France during the reign of Louis XIV (1643-1715) by the rich who wanted showplace homes



French Styles

CREOLE OR LOUISIANA OR NEW ORLEANS

Key Distinguishing Characteristics

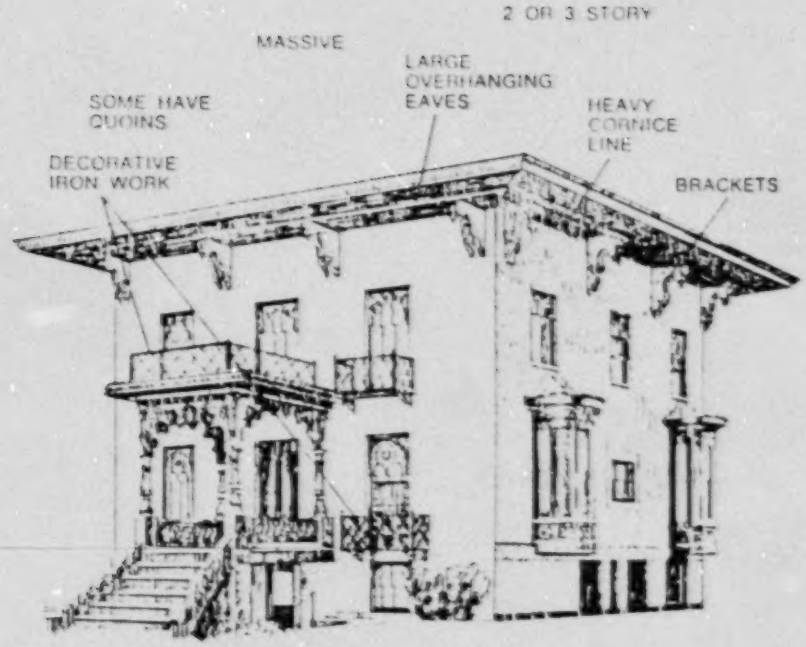
A balcony with extensive lacy iron work running across the entire front at the second story level distinguishes this style.

Other Distinguishing Characteristics

Symmetrical
2 to 3 stories

History

The style originated around New Orleans. Although it appears to have been influenced by French, Spanish and West Indian styles, it is not found in these places. Many of these houses were built in the late 1700's and 1800's.



Latin Styles

ITALIAN VILLA

Key Distinguishing Characteristics

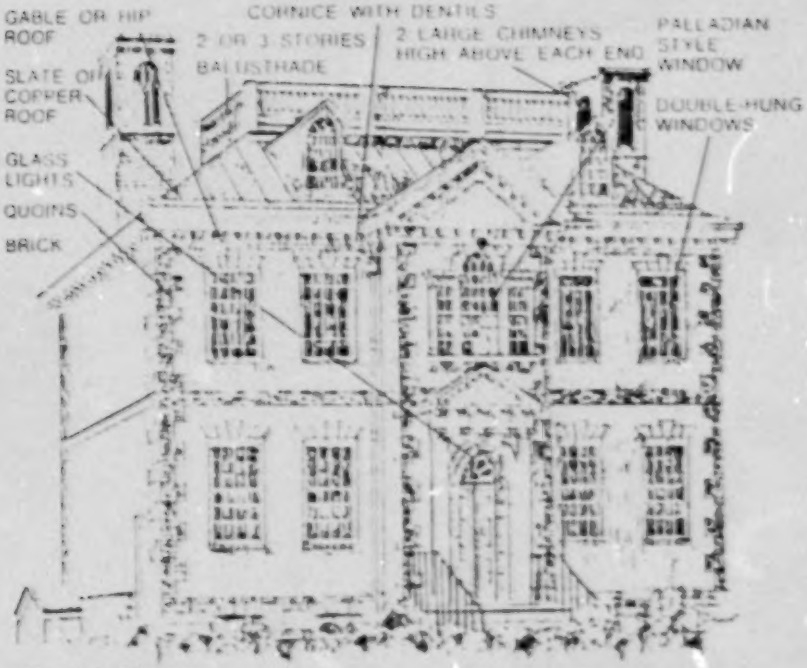
This is a massive, 2 or 3 story house of masonry with large overhanging eaves.

Other Distinguishing Characteristics

Many have square or octagonal towers
Quoins at corners
Heavy cornice line with supporting brackets
Decorative iron work

History

First built in the U.S. in 1837, this style was popularized by architect Andrew Jackson Downing in the middle 1800's. Architects Henry Austin and Richard Upjohn used the style extensively. The Bristol House pictured was designed by Austin and built in New Haven, Connecticut in 1845.



English Styles

GEORGIAN

Key Distinguishing Characteristics

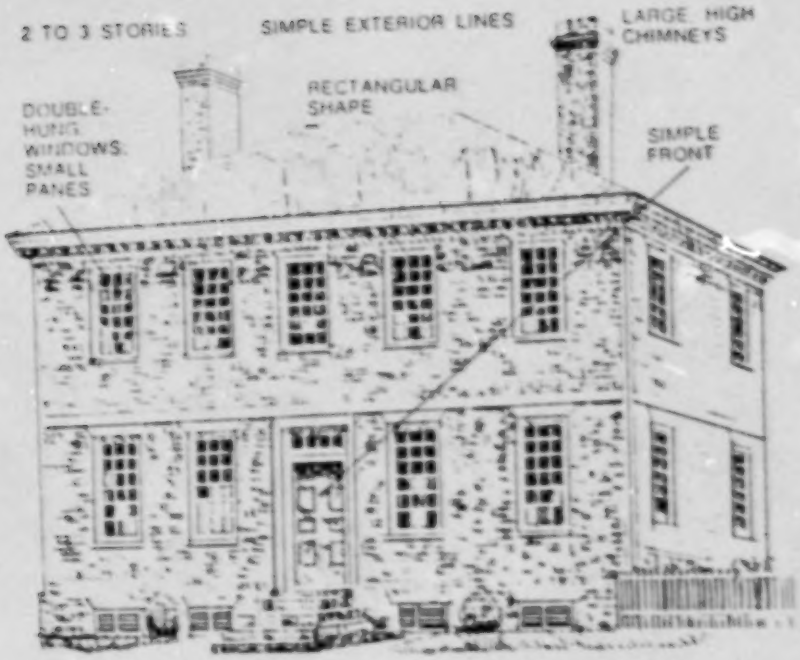
The Georgian is a large, formal 2 or 3 story rectangular house characterized by its classic lines and ornamentation.

Other Distinguishing Characteristics

Traditional material is brick.
Some made of masonry, clapboard or shingles.
Gable or hip roof.
Slate shingles or copper roofing.
Two large chimneys rising high above the roof at each end.
A Palladian style set of three windows on the second floor over the front entrance or at each end.
Front entrance with Greek columns.
Glass lights on side and above front entrance door.

History

The style became popular in England during the reign of the four King Georges. They were built in large numbers here in the 1700's and 1800's. The house pictured is Mount Pleasant built in 1750 in Philadelphia. It contained a large number of the features that would be traditionally included in the Georgian style.



English Styles

WILLIAMSBURG GEORGIAN OR EARLY GEORGIAN

Key Distinguishing Characteristics

The houses built in Williamsburg were representative of the early Georgian houses built in America throughout the early 1700's. They had simple exterior lines and generally fewer of the decorative devices characteristic of the later Georgian houses. Most were 2 or 3 story rectangular houses with two large chimneys rising high above the roof at each end.

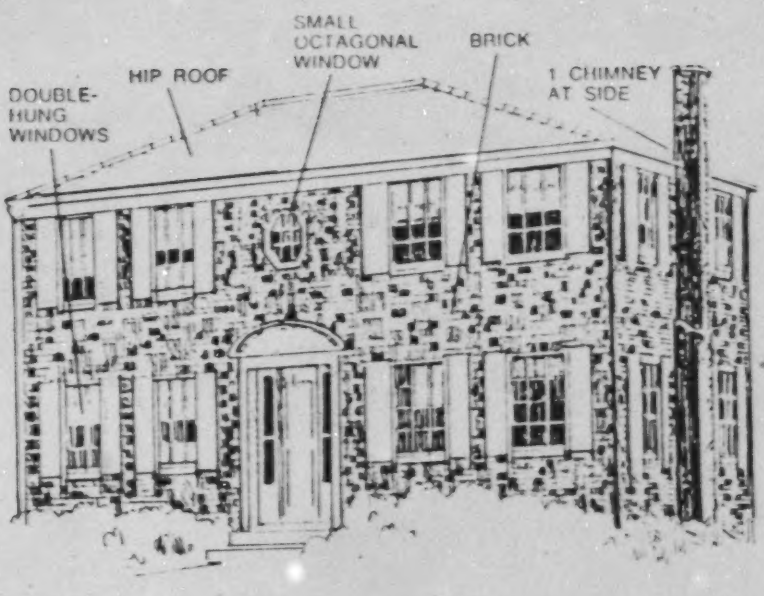
Other Distinguishing Characteristics

Sliding double hung windows with small panes
Simple front entrances

History

Williamsburg, Virginia was the cultural and political capital of the colonies during most of the 1700's. The houses here were based on the styles developed in England during the reign of the four King Georges. The Williamsburg houses were built in the early 1700's. With gifts of about $40 million, John D. Rockefeller, Jr. has restored the community.

SIMPLE, INFORMAL STYLE



English Styles

REGENCY

Key Distinguishing Characteristics

This is a 2 or 3-story, symmetrical house with a hip roof. A small octagonal window over the front door is traditional.

Other Distinguishing Characteristics

Almost always brick, often painted white
One chimney on side
Double-hung windows
Shutters same size as windows
A simple informal style without the classic lines of the Georgian

History

The style reached its peak of popularity in England between 1810 and 1820. Many of these houses were built in the U.S. in the late 1800's, throughout the 1900's and are still being built today.

Latin Styles

SPANISH VILLA

Key Distinguishing Characteristics

This is an asymmetrical, 1 to 3-story house with painted stucco exterior walls and red tile roof.

Other Distinguishing Characteristics

Oval top windows and doors
Wrought iron exterior decorations
Patio completely enclosed by exterior walls

History

American architecture has been influenced by Spanish styles since the days of the Spanish conquistadores. It is widespread throughout the warm parts of the U.S. and also appears in the north surprisingly frequently considering its basic unsuitability for cold climates.

French Styles

FRENCH FARM HOUSE

Key Distinguishing Characteristics

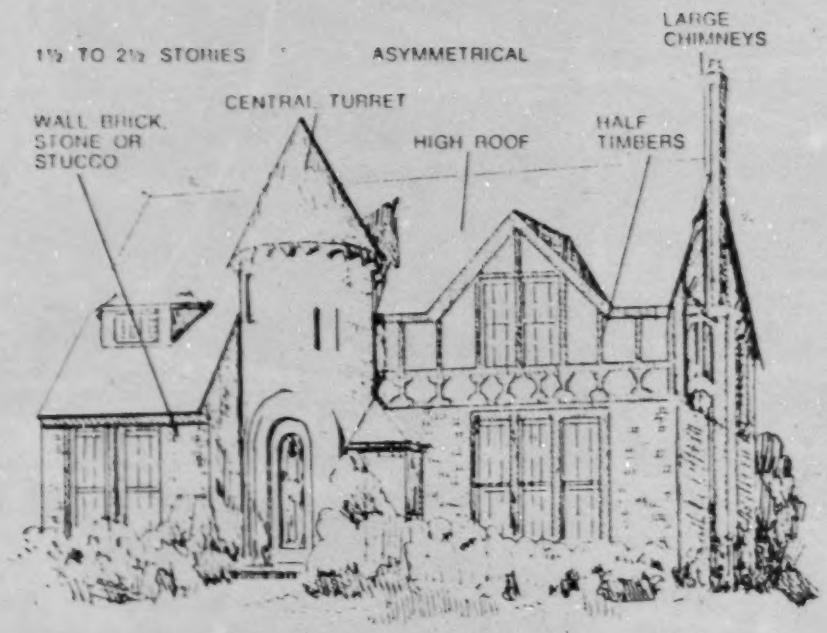
An informal 1½ to 2-story house made of a variety of building materials, this house has a high hip or gable type roof with steep slopes.

Other Distinguishing Characteristics

Large chimney
Half timbers used as decorative accent
Dormers that break through the cornice
Another common variation of this design (not pictured) is a house built around a courtyard with two symmetrical wings protruding towards the front

History

The style is based on the farm houses found in the various, widespread provinces of France. Because of this, the style varies widely. They were most popular in America in the early 1900's



French Styles

FRENCH NORMANDY

Key Distinguishing Characteristics

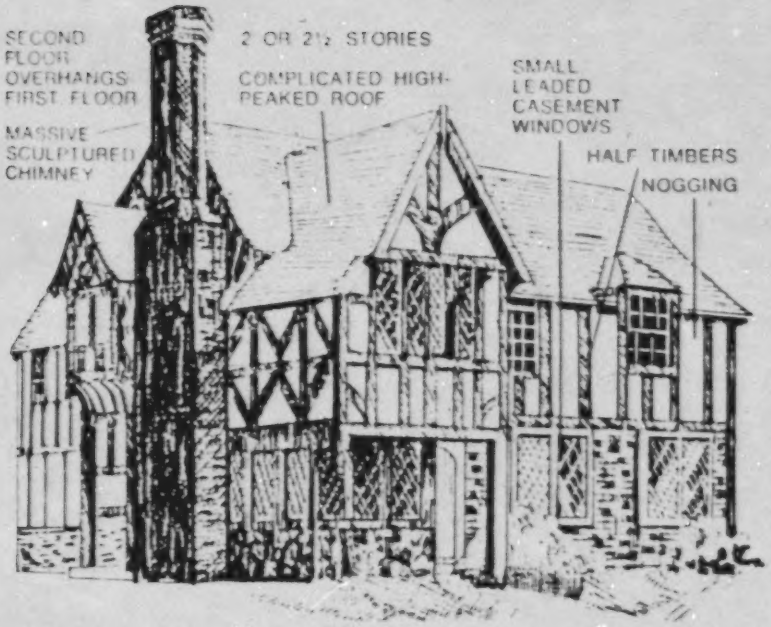
The main characteristic of this style is the central turret which is usually a staircase.

Other Distinguishing Characteristics

- 1½ to 2½ stories
- Exterior walls usually brick, stone or stucco
- Asymmetrical shape
- Large chimneys
- High, complicated roofs
- Half timbers for decoration

History

This house style originated in the Normandy area of France where house and barn were one building. The turret was used for storage of grain or ensilage.



English Styles

ELIZABETHAN OR HALF TIMBER

Key Distinguishing Characteristics

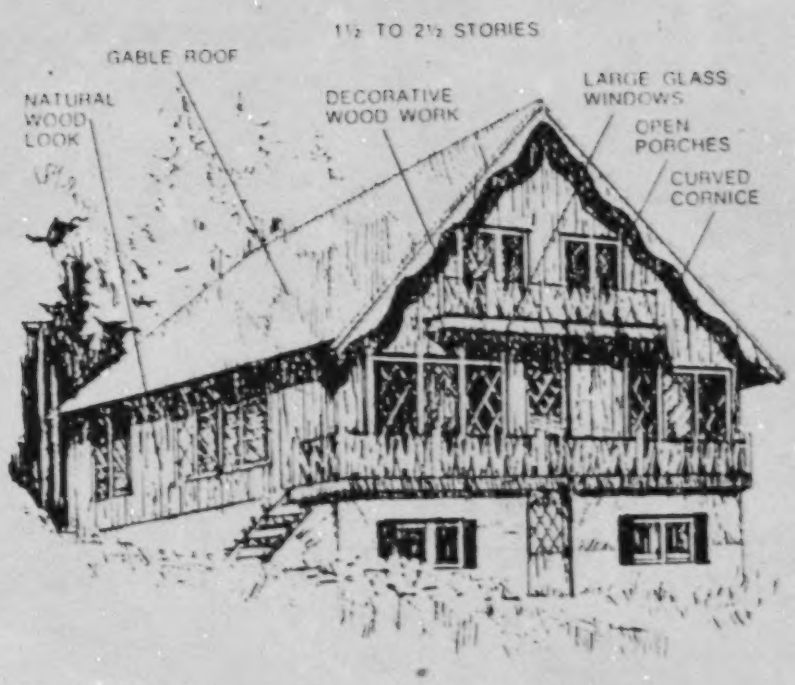
This is a 2 or 2½-story house, often with part of the second story overhanging the first. It has less stone work and is less fort-like than the Tudor. Stone and stucco walls with half timbers are most common.

Other Distinguishing Characteristics

Massive sculptured chimneys.
Used brick between half timbers is called "nogging"; when not covered with stucco it is "exposed nogging"
Complicated high peaked roofs which are expensive to install and subject to leaks because of complex valleys.
Small leaded glass casement windows.
Interior often has large halls and a spacious living room with a large fireplace and beamed ceilings.
Bedrooms are on second floor.

History

These houses were erected in England throughout the prosperous reign of Queen Elizabeth (1558-1603), particularly in the London area. The characteristic protruding second story supported by wooden brackets is a carry over from narrow London lots where extra space could be obtained by overhanging the street.



Swiss Style

SWISS CHALET

Key Distinguishing Characteristics

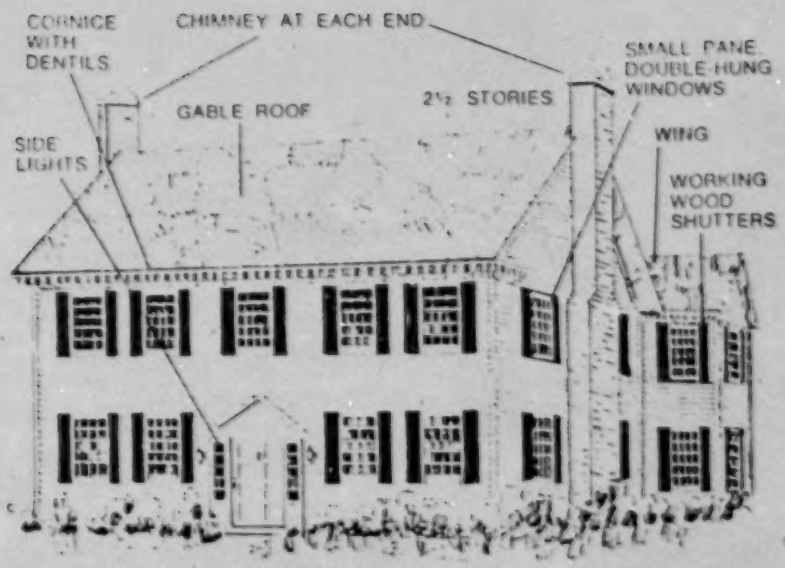
The Swiss Chalet is a 1½ to 2½ story, gable roof house with extensive natural decorative woodwork on the exterior

Other Distinguishing Characteristics

- Open porches
- Large glass windows
- Natural wood look
- Curved cornice

History

The style is a direct copy of the mountain chalets of Switzerland. In this country too, they are built mostly in the mountain areas as ski lodges. The house pictured was designed and built by Paul Manchester.



Early American

NEW ENGLAND COLONIAL

Key Distinguishing Characteristics

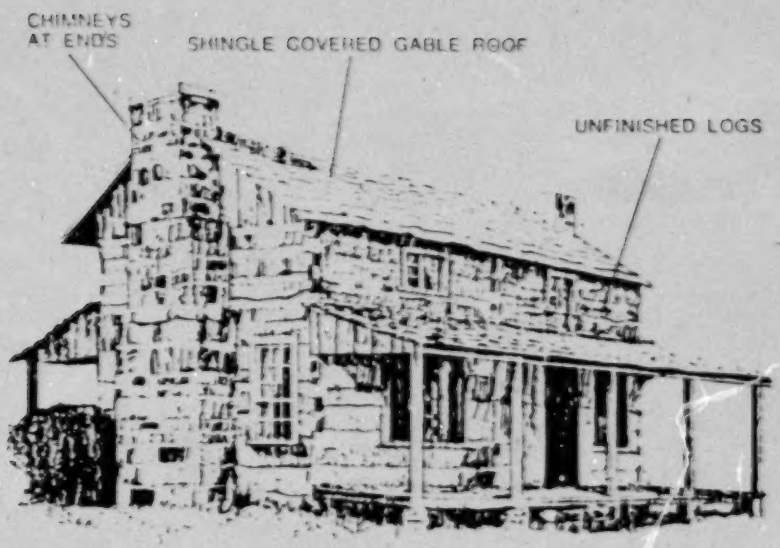
The New England Colonial is a 2½-story, generally symmetrical, square or rectangular box-like house with side or rear wings. The traditional material is narrow clapboard siding. The roof is usually the gable type covered with shingles.

Other Distinguishing Characteristics

Originals had chimneys at each end for heating
Modern versions have only one chimney at end or in center
Windows are double-hung type with small glass panes
Shutters same size as windows
Central entrance door often has side lights and a fan light
Elaborate cornice with dentils
First floor has central hallway running from front to rear
Bedrooms are on the second floor

History

These large, roomy houses evolved from the Cape Cod style.



Early American

LOG CABIN

Key Distinguishing Characteristics

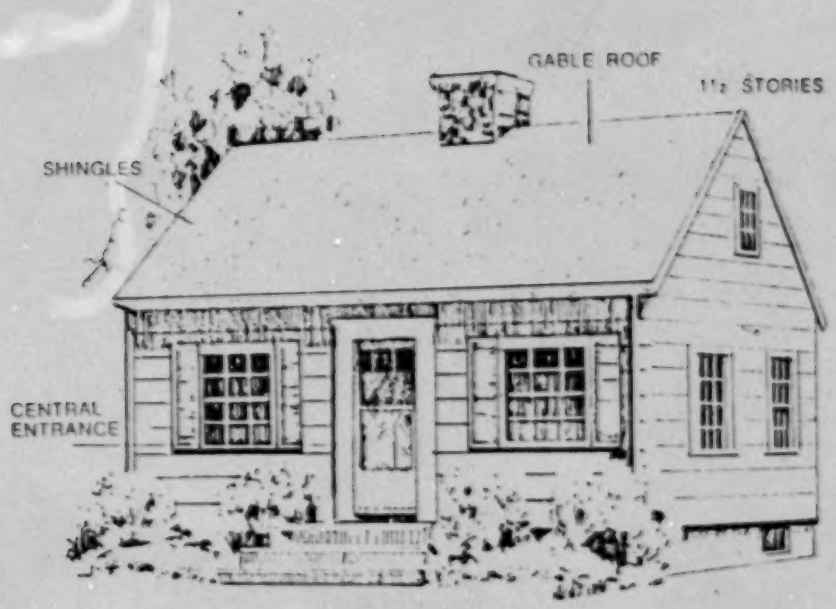
This is a house built of unfinished logs.

Other Distinguishing Characteristics

Rectangular shape
Usually one story
Shingle covered gable roof
Chimneys at ends
Few windows
Windows covered with oil soaked paper or small panes of glass

History

The first extensive use of the log cabin in America was by the Swedish immigrants. The log cabin eventually became the favorite house of the early pioneers. There are two basic types of log cabins. One is built with round logs like the traditional Lincoln cabin and the other is built with squared-off logs like the cabin pictured here. The illustration is of the Latta house in Arkansas. Several companies are producing reproductions today.



Early American

CAPE COD COLONIAL

Key Distinguishing Characteristics

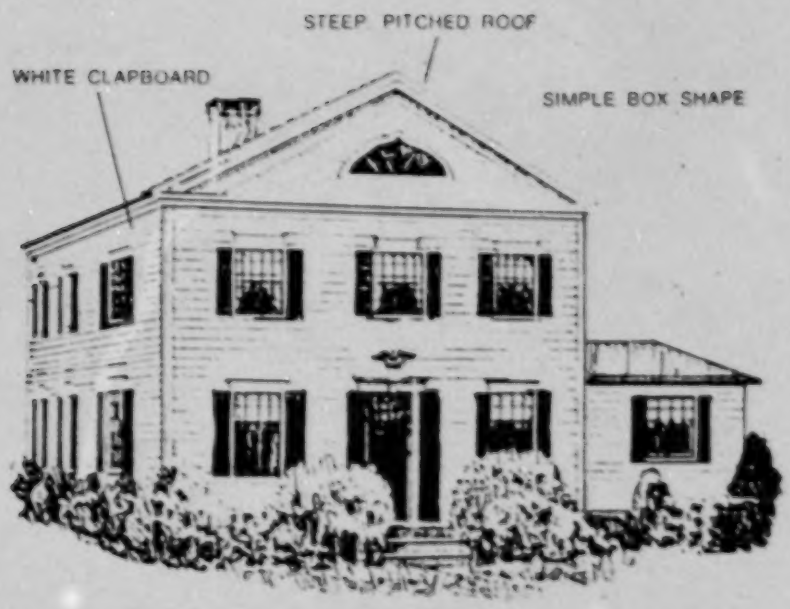
This is a small, symmetrical, 1½-story, compact house with a central entrance. The roof is the steep gable type covered with shingles. The authentic types have low central chimneys, but end chimneys are very common in the new versions. Bedrooms are on the first floor. The attic may be finished into additional bedrooms and a bath. A vine covered picket fence is traditional.

Other Distinguishing Characteristics

- Traditionally, exterior walls were white clapboard, natural shingles or brick; modern versions have exterior walls of a wide variety of materials
- Simple double-hung windows
- Shutters same length as windows
- Simple cornice with gutters immediately above first floor windows
- Easy to build, maintain and heat
- Inherent in the design is the necessity to walk through one room to reach another

History

The Cape Cod Colonial is the earliest dwelling type built by the American colonists that is still popular today. The early Cape Cods were very crude. They usually had one room on the first floor and a sleeping loft above. The modern version was the most popular house style in the U.S. from the 1920's through the 1950's.



Early American

NEW ENGLAND FARM HOUSE

Key Distinguishing Characteristics

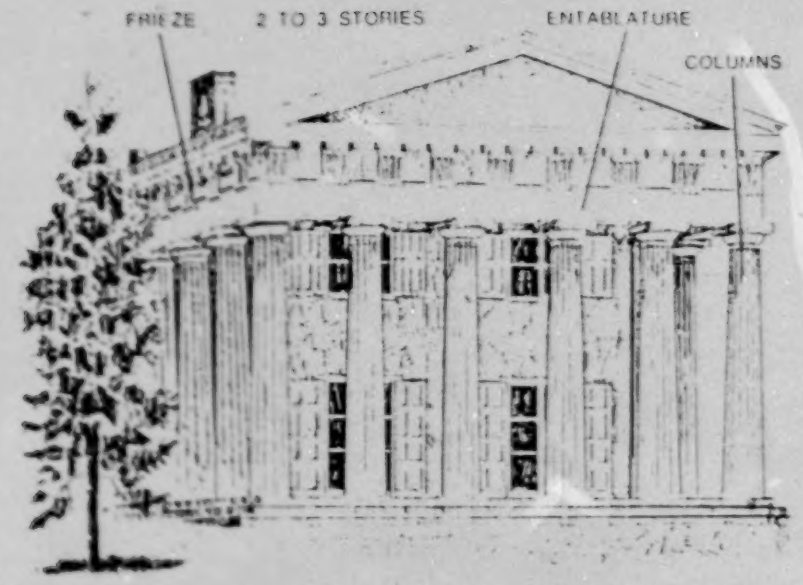
This is a simple, box-shaped house. The traditional material for the exterior siding is white clapboard. A steep pitched roof is used to shed heavy snow.

Other Distinguishing Characteristics

Central chimney used to support frame
Two square rooms on each floor is typical layout
Interior layout poor by today's standards

History

These simple houses were built in the 1700's and 1800's throughout the New England countryside. They were the favorite style among the farmers who could not afford the more elaborate styles of the times. Simple to construct and maintain, they were designed to use the building materials and techniques of the period.



Early American

GREEK REVIVAL

Key Distinguishing Characteristics

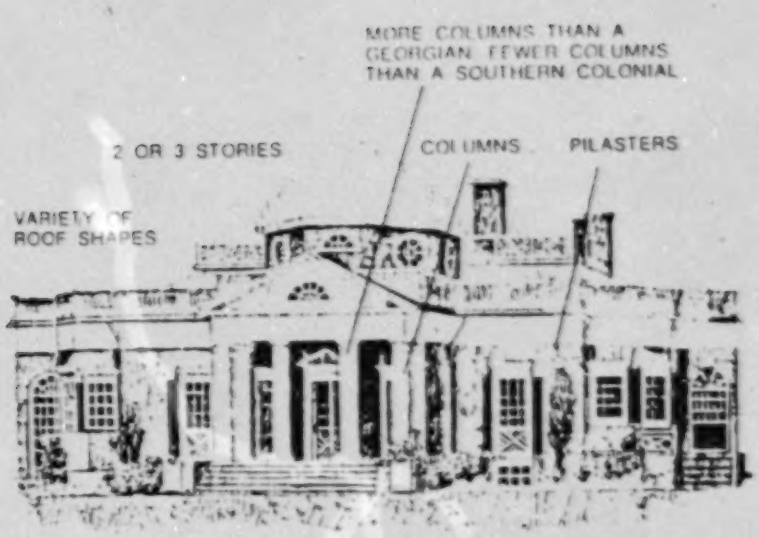
The Greek Revival style is a 2 or 3-story, symmetrical house that is a copy of a Greek temple complete with columns, architraves, friezes and cornices.

Other Distinguishing Characteristics

Windows small and hidden as they are not part of Greek temple architecture.
The interior design is sacrificed for exterior design.

History

There is little difference between a Greek Revival and a Classic Colonial. Many architectural historians consider them to be the same style. For clarity of identification, the houses that look like the traditional Greek temple are generally called Greek Revival. The style became popular in the U.S. in the early 1800's, especially for public buildings.



Early American

CLASSIC COLONIAL

Key Distinguishing Characteristics

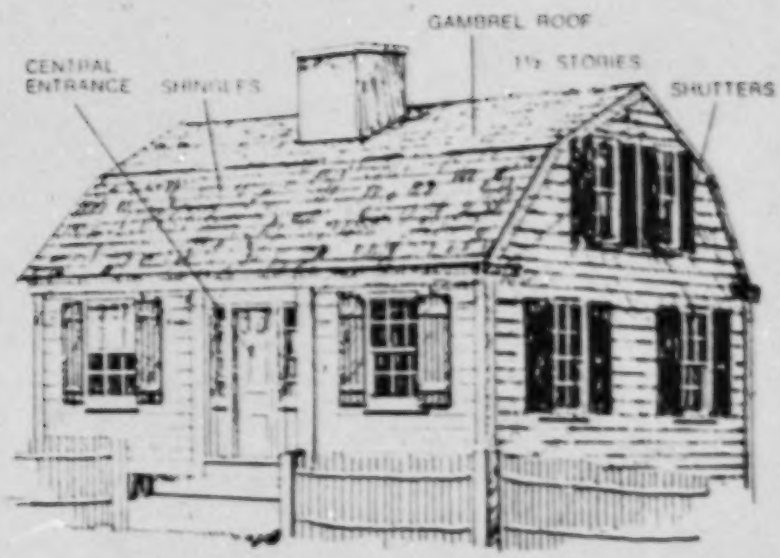
A large, impressive showplace, the Classic Colonial is a 2 or 3-story house with a columned exterior. It has more columns than a Georgian Colonial and fewer columns than a Southern Colonial.

Other Distinguishing Characteristics

- Columns have Doric, Ionic or Corinthian capitals
- Pilasters in the walls are common
- Porticos at vehicular entrance with roof supported by columns
- Variety of roof shapes on same house

History

Based on classic Greek architecture, the style was introduced by Thomas Jefferson who built Monticello in 1772 and remodeled it several times up to 1803. There is very little difference between a Classic Colonial and a Greek Revival and many architectural historians use the terms synonomously.



Early American

CAPE ANN COLONIAL

Key Distinguishing Characteristics

A small, symmetrical, 1½ story, compact house with a central entrance, the Cape Ann is distinguished from the Cape Cod style by its gambrel roof. The bedrooms are on the first floor. The attic may be finished into additional bedrooms and a bath.

Other Distinguishing Characteristics

Shingle-covered roof.

Traditionally, the exterior walls are white clapboard or natural shingles.

Simple double hung windows.

Shutters the same length as the windows.

Simple cornice with gutters immediately above the first floor windows.

Easy to build, maintain and heat.

Inherent in the design is the necessity to walk through one room to reach another.

History

A variety of the Cape Cod that started in the Cape Ann area of Massachusetts, it is not nearly as popular as the gable-roofed Cape Cod style.

Early American

PENNSYLVANIA DUTCH COLONIAL OR PENNSYLVANIA GERMAN FARM HOUSE

Key Distinguishing Characteristics

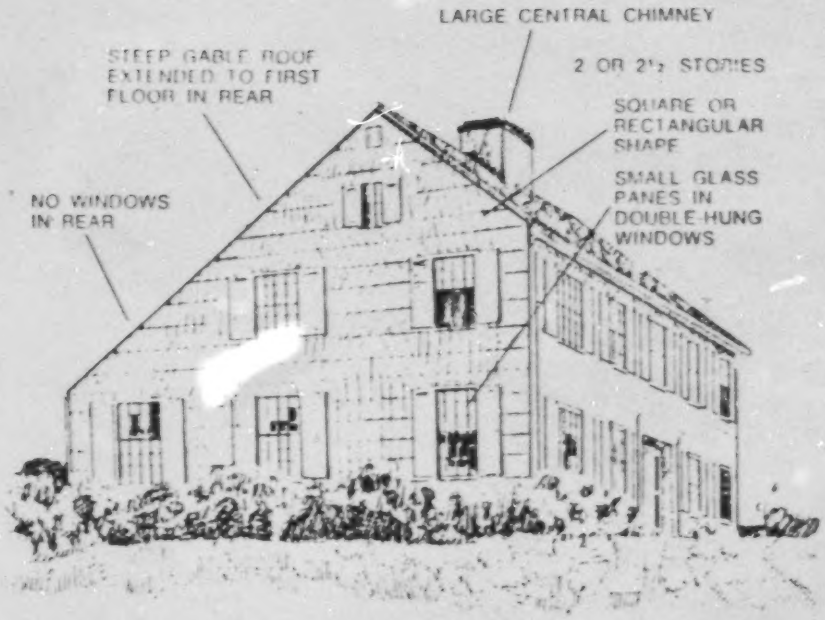
This is a massive 2½-story, gray ledge stone house with a steep gable roof. An unsupported hood over the front entrance is traditional. When wings are added they are usually partly clapboard.

Other Distinguishing Characteristics

Shingle roof
Double hung windows with small panes of glass
Ledge stone siding is long lasting and requires little care

History

The style was first built in the 1600's west of Philadelphia on the Main Line and in Lancaster, Pennsylvania. The name came from the mispronunciation of the word "Deutsch" since those who first built them were of German origin.



Early American

SALT BOX COLONIAL OR CATSLIDE (IN SOUTH)

Key Distinguishing Characteristics

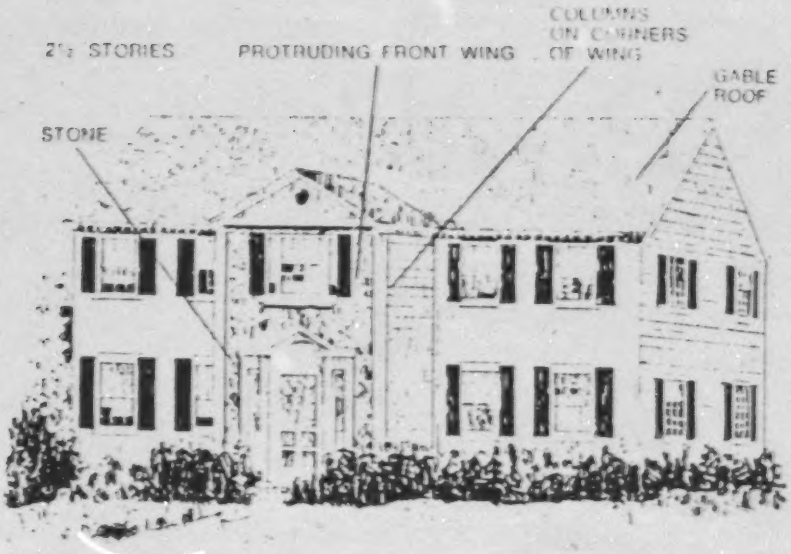
This is 2 or 2½-story square or rectangular house with a steep gable roof that extends down to the first floor in the rear.

Other Distinguishing Characteristics

Exterior walls usually clapboard or shingles
Large central chimney
Large double hung windows with small panes of glass
No windows in rear
Shutters the same size as windows
In order to obtain traditional lean-to look, headroom in the rear must be sacrificed

History

The Salt Box is a Colonial New England farm house that grew in the form of a lean-to shed or room added to the rear of the house. The rear was oriented to the north to ward off cold winter winds. Its name comes from the resemblance to the salt box found in old country stores.



Early American

FRONT GABLE NEW ENGLAND COLONIAL OR CHARLESTON COLONIAL OR ENGLISH COLONIAL

Key Distinguishing Characteristics

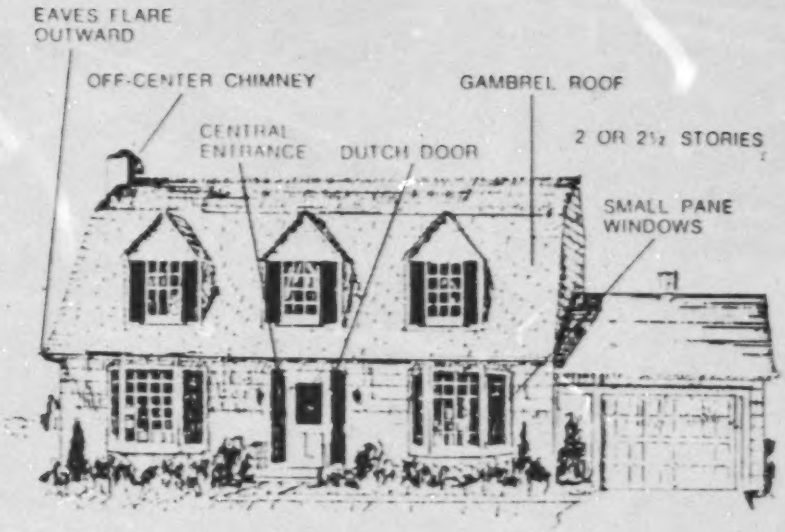
This is a 2½-story, symmetrical square or rectangular box-like house with a protruding front wing which distinguishes the style from a New England Colonial.

Other Distinguishing Characteristics

House and wing have gable roofs.
Basic house is usually clapboard.
Wing front is often cut stone.
Cornice on front or on all four sides.
Double-hung windows with small panes of glass.
Shutters same size as windows.
Central entrance in front wing has side light and a fan light.
Wing has stone columns on four corners.
Central hallway runs from wing to rear of house.
Bedrooms on second floor.

History

Like the New England Colonial, this style evolved from the Cape Cod. The first houses of this style were built in the 1700's.



Early American

DUTCH COLONIAL

Key Distinguishing Characteristics

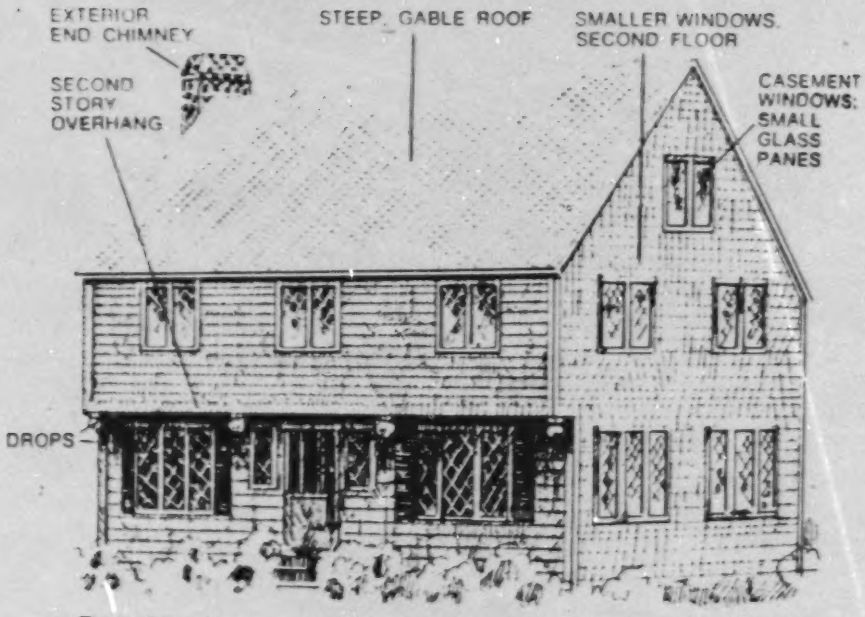
The Dutch Colonial is a moderate sized, 2 to 2½-story house with a gambrel roof and eaves that flare outward.

Other Distinguishing Characteristics

Central entrance
Dutch entrance door
Double-hung windows with small panes of glass
Exterior may be made of a wide variety of material such as clapboard, shingles, cut stone, brick or stucco
Second story dormers through roof are common
Chimney rarely in the center

History

This is an indigenous American style that did not originate in Holland as is commonly believed. The Dutch settlers built them in Pennsylvania starting in the 1600's and soon after in New York.



Early American

GARRISON COLONIAL

Key Distinguishing Characteristics

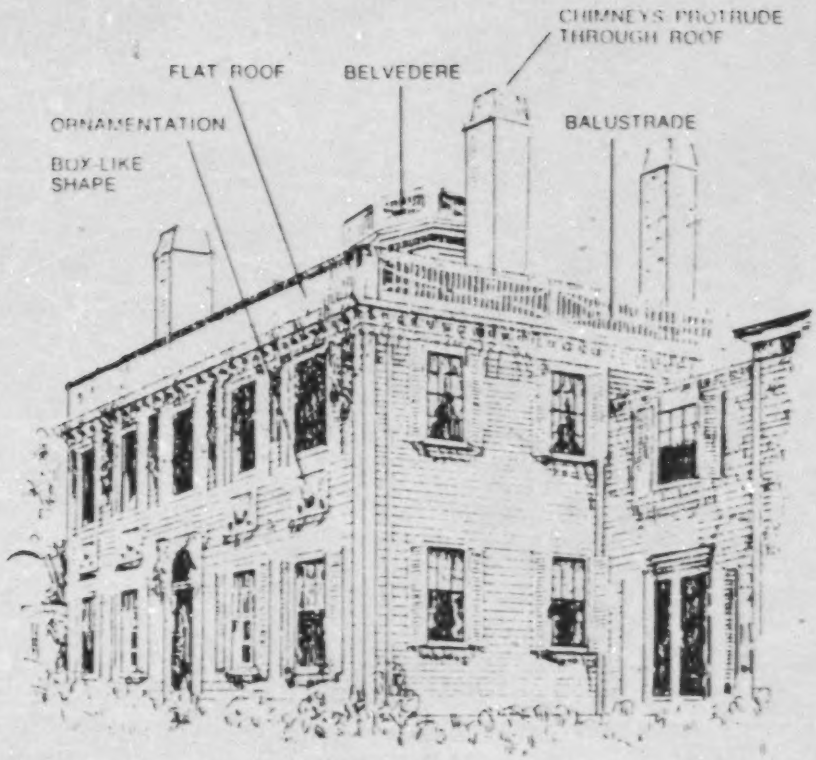
This is a 2½ story, symmetrical house with the second story overhang in the front. The traditional ornamentation is four carved drops (pine-apple or acorn shape) below the overhang.

Other Distinguishing Characteristics

Exterior chimney at end
Older versions have casement windows with small panes of glass
Later versions have double-hung windows
Second story windows often smaller than those on first floor
Steep gable roof covered with shingles
Dormers often break through the cornice line

History

The Garrison Colonial is reputed to be patterned after colonial block-houses used to fend off Indians, but it is probably an outgrowth of the overhang style of the Elizabethan townhouse. The style probably has been perpetuated because of its pleasant appearance. The carved drops were the ends of the framing beams on early versions of the house. Later they were added on for decoration. Examples of this style built in the 1600's are still standing today.



Early American

FEDERAL

Key Distinguishing Characteristics

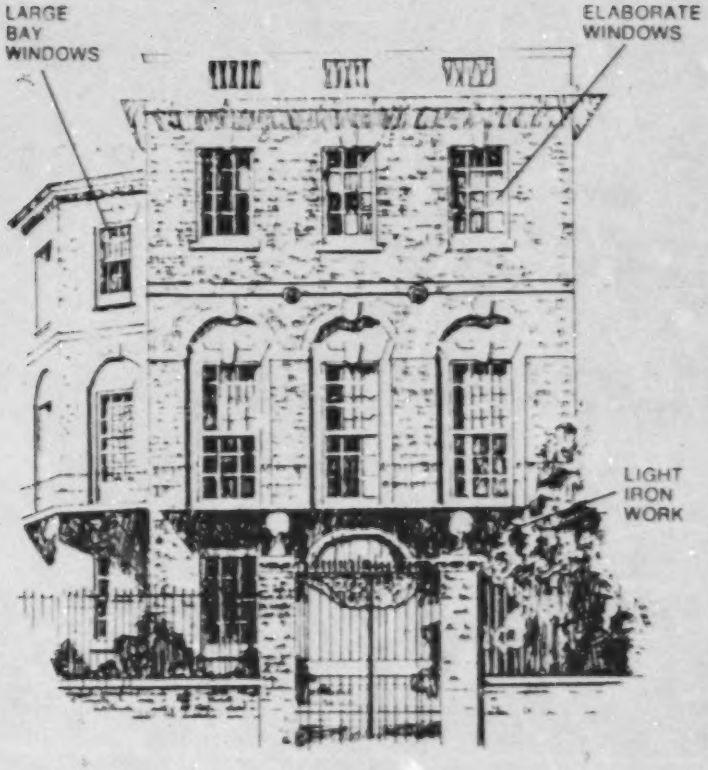
The Federal is a multi-story, symmetrical, box-shaped house with a flat roof.

Other Distinguishing Characteristics

Clapboard or brick exterior walls
One or more chimneys protruding through roof.
Windows with small glass panes
Beautiful ornamentation
Belvedere
Balustrade

History

Prevalent throughout the cities in the East in the 1700's, this style takes on many forms. Some consider this and the Adams style to be the same.



Early American

ADAMS COLONIAL

Key Distinguishing Characteristics

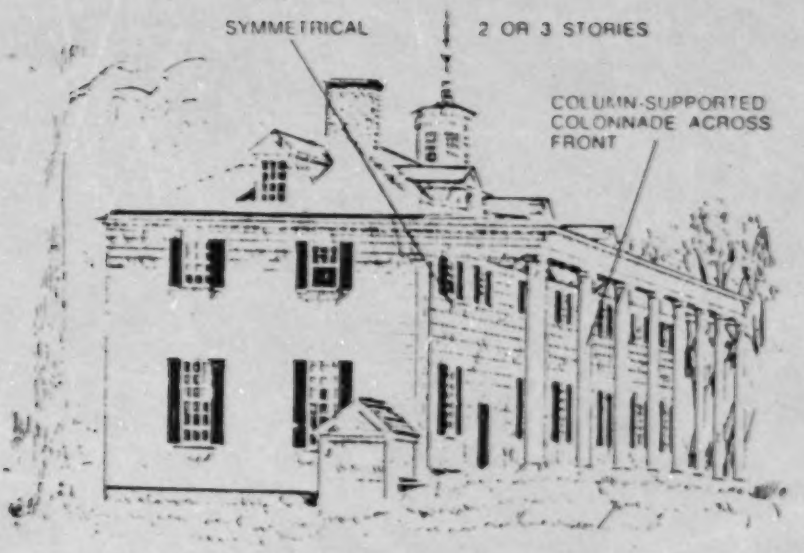
A rectangular shaped, multi-story house of classic beauty, the Adams Colonial has large bay windows and a flat roof topped with a balustrade. The overall effect is one of lightness and delicacy.

Other Distinguishing Characteristics

Elaborate windows with small glass panes
Fantail windows on each side and above front entrance door
Chimneys protruding through roof
Carved steps with light iron rails

History

Introduced by Robert Adam in 1759 upon his return from a trip to Europe, the style was launched in New England when it was promoted by Charles Bulfinch and Samuel McIntire, two of America's famous early architects.



Early American

SOUTHERN COLONIAL

Key Distinguishing Characteristics

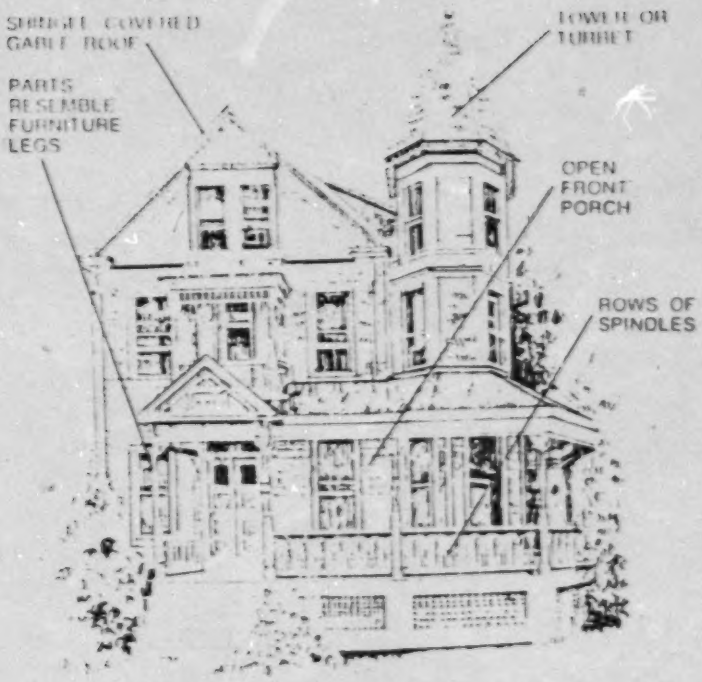
The Southern Colonial is a large 2 or 3-story, frame house with a characteristic colonnade extending across the front. The roof extends over the colonnade.

Other Distinguishing Characteristics

Hip or gable roof covered with shingles
Symmetrical
Second-story balcony
Balustrade
Belvedere
Double-hung windows with small panes of glass
Shutters same size as windows
Cornices with dentils

History

The style is a southern conception of the New England Colonial and Georgian Colonial modified to suit the warmer climate. The classic example pictured here is Mount Vernon, built in the 1700's.



Nineteenth Century

EASTLAKE

Key Distinguishing Characteristics

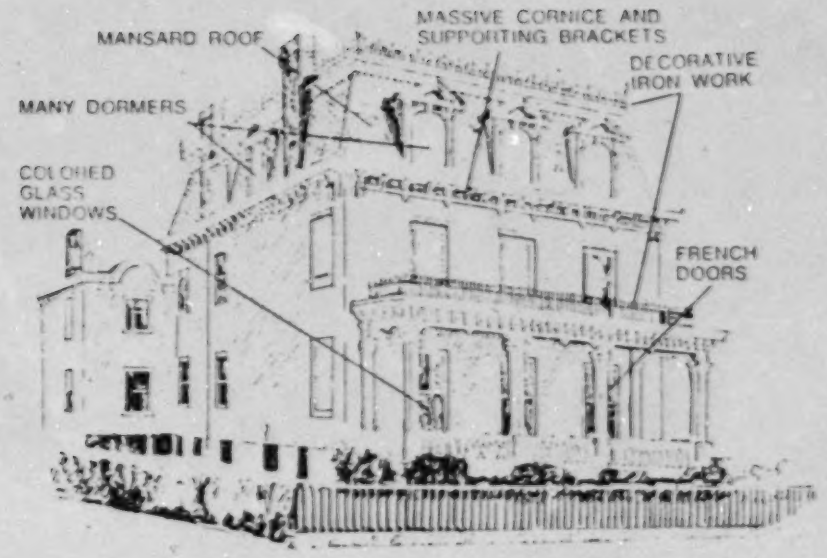
The distinctive Eastlake type of ornamentation is the major characteristic of this style. Otherwise these houses look like a Queen Anne or Carpenter Gothic. The ornamentation is very three-dimensional, having been made with a chisel, gouge and lathe rather than the scroll saw. Many of the parts resemble furniture legs and knobs.

Other Distinguishing Characteristics

Rectangular shape
Open front porch
Tower or turret
Gable roof covered with shingles

History

Charles Lock Eastlake, an English architect, wrote a book, *Hints on Household Taste*, first published here in Boston in 1872. The designs in the very popular book became the basis of Eastlake style furniture and houses. The houses, however, were not designed by Eastlake and it was said that he did not like them.



Nineteenth Century

AMERICAN MANSARD OR SECOND EMPIRE STYLE

Key Distinguishing Characteristics

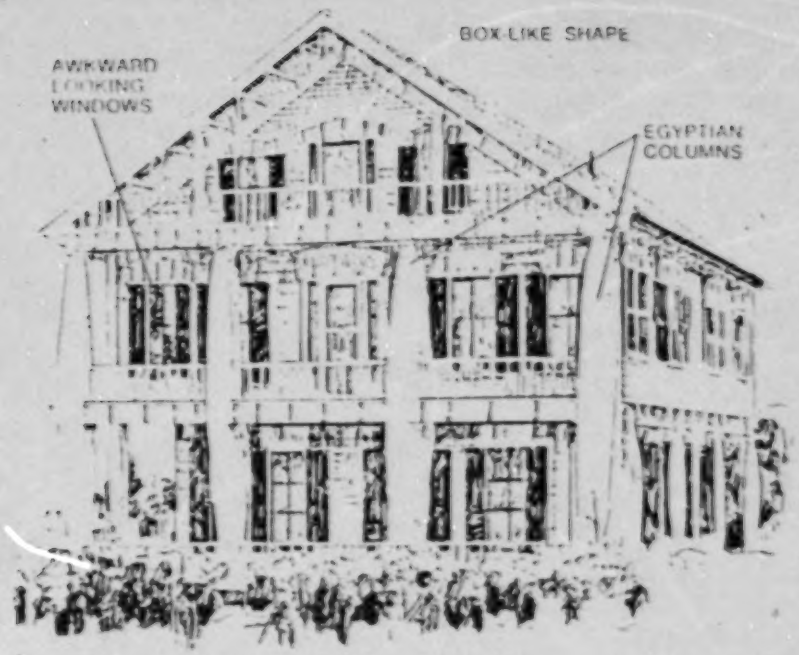
The main and distinguishing characteristic of this style is the roof design. The mansard roof slopes gently back from the wall line and then is topped with an invisible (from the street) section resembling a conventional hip roof. Through the roof protrude multiple dormers.

Other Distinguishing Characteristics

- Decorative iron work
- Decorative mouldings
- Quoins on corners
- Brackets supporting massive cornices
- Colored glass in windows
- Iron castings
- Deep porches
- French doors opening onto the porches

History

The French Second Empire (the reign of Napoleon III from 1852 to 1870) was the period in which the style was popular in the U.S. The mansard roof was originally developed in France in the 1600's by Francois Mansart. It enjoyed wide popularity when revived in the 1800's and now in the 1970's.



Nineteenth Century

EGYPTIAN REVIVAL

Key Distinguishing Characteristics

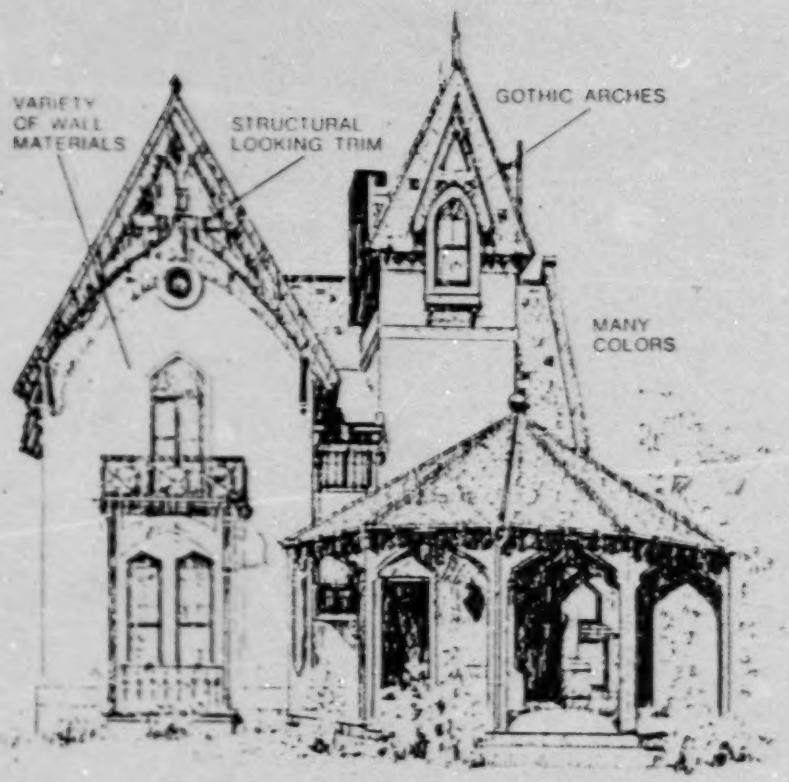
This is a box-like house with Egyptian columns in the front.

Other Distinguishing Characteristics

Windows appear awkward since they are not part of authentic Egyptian architecture

History

Egyptian architecture was never very popular in America, even in the early 1800's when the fad of copying foreign styles was at its height. The best examples of Egyptian architecture are found in cemetery gates built during the same period.



Nineteenth Century

HIGH VICTORIAN GOTHIC

Key Distinguishing Characteristics

Like the early Gothic architecture, High Victorian Gothic can be identified as being Gothic by the pointed arch which is used extensively over the windows and doors. It is much more elaborate than the early Gothic with a great many colors and materials being visible. The decorative details give an appearance of solidity.

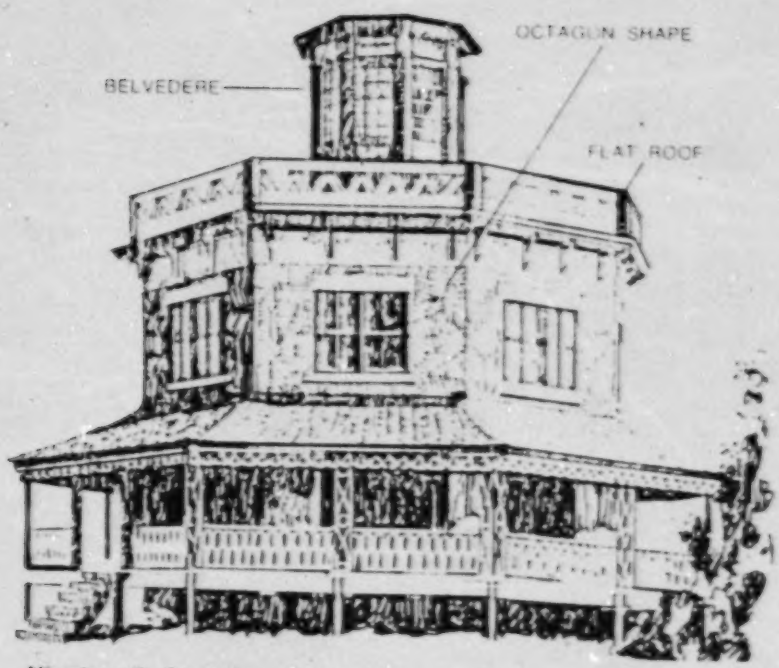
Other Distinguishing Characteristics

Multi-color effect of exterior walls obtained by the use of stone, wood, brick

Exterior wood trim appears to be structural rather than merely trim

History

Most of the High Victorian Gothic houses were built after the Civil War and were based on European Gothic styles popular at the time. The house pictured is the Converse House in Norwich, Connecticut, built in 1870.



Nineteenth Century

OCTAGON HOUSE

Key Distinguishing Characteristics

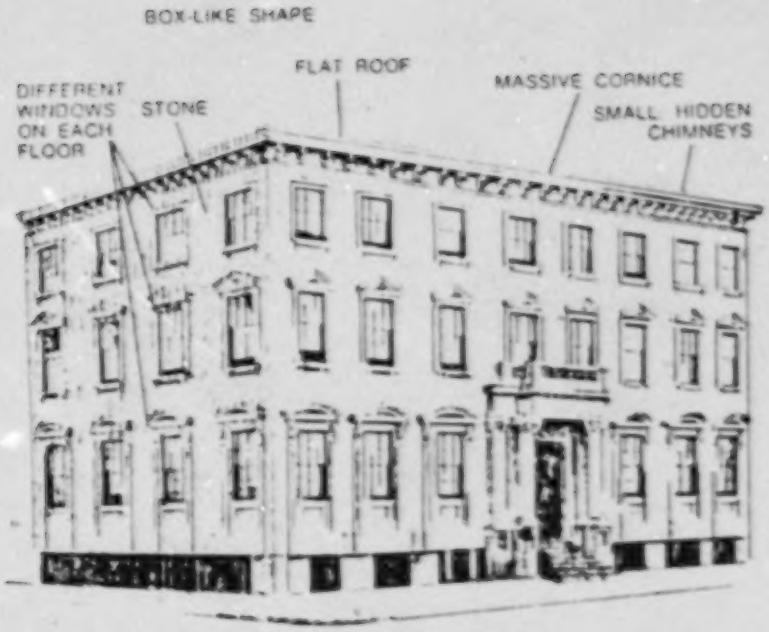
The most distinguishing characteristic of this style is the octagonal shape.

Other Distinguishing Characteristics

Stone, wood or concrete walls
Flat roofs
Chimney or belevedere in the center
Variety of window and door types used

History

Most of these houses were built around 1850. They were a result of an idea put forth by Orson Squire Fowler, a popular author of the time who wrote about love, marital happiness, sex and phrenology. In several of his popular books he expounded the theory of a happy life in an octagon shaped house. He thought that this design made for good interior circulation, heating and lighting. Octagon houses were built throughout the U.S. and several hundred are still lived in today. The house was explained in detail in his book, *A Home for All, or the Gravel Wall and Octagon Mode of Building, New, Cheap, Convenient, Superior and Adapted to Rich and Poor.*



Nineteenth Century

ROMAN TUSCAN MODE

Key Distinguishing Characteristics

A house in this style is box-like and fills an entire lot, leaving no yard area. Windows on each floor are treated differently. The roof is flat with a massive cornice.

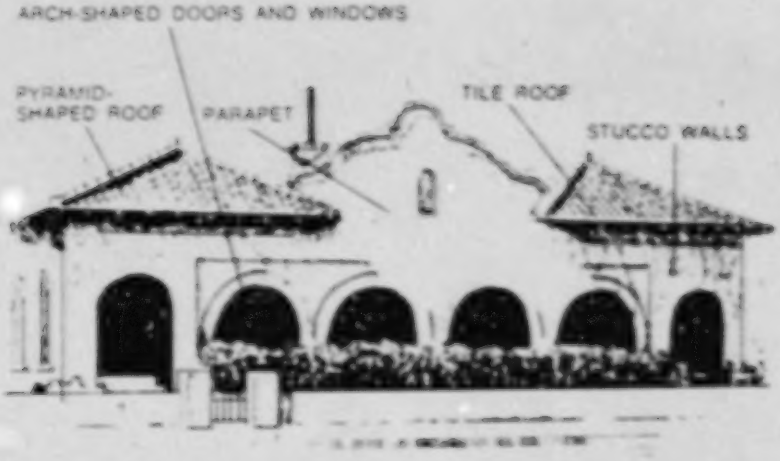
Other Distinguishing Characteristics

Chimneys small and hidden.
Built of stone.

History

The style was brought from Italy in the 1800's and used for several important public buildings and a few houses.

LOOKS LIKE OLD MISSION CHURCH



Nineteenth Century

MISSION

Key Distinguishing Characteristics

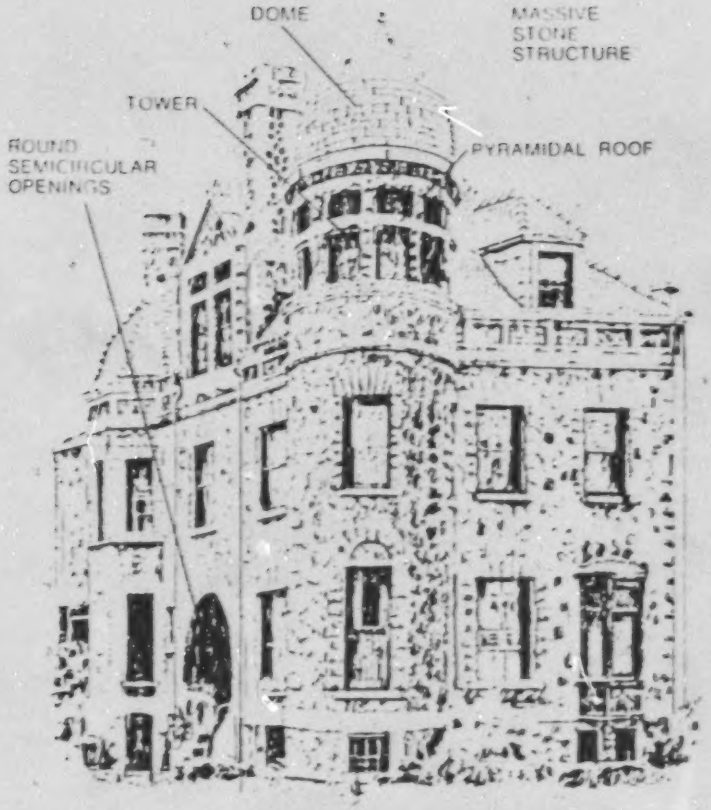
These houses look like the old mission churches and houses of Southern California. The doors and windows are arch-shaped.

Other Distinguishing Characteristics

No sculptural ornamentation
Roof often hidden by the parapets
Towers and turrets with pyramid-shaped roofs
Exterior walls made of stucco

History

This is the style developed in the West in the 1800's when the people became aware of their architectural past. It was popularized as a reaction against the conventional custom styles that were being built in the West at the time.



Nineteenth Century

ROMANESQUE

Key Distinguishing Characteristics

This is a massive, stone structure with round, semicircular arched openings.

Other Distinguishing Characteristics

One or more towers topped with a dome
Pyramidal roof

History

This style was very popular in the 1800's for public buildings and churches. Only a few Romanesque houses were ever built in the U.S. Architect Henry Hobson Richardson used the style extensively. The house pictured is the Ayer House in Chicago which, unfortunately, was demolished in 1966.

Nineteenth Century

MONTEREY

Key Distinguishing Characteristics

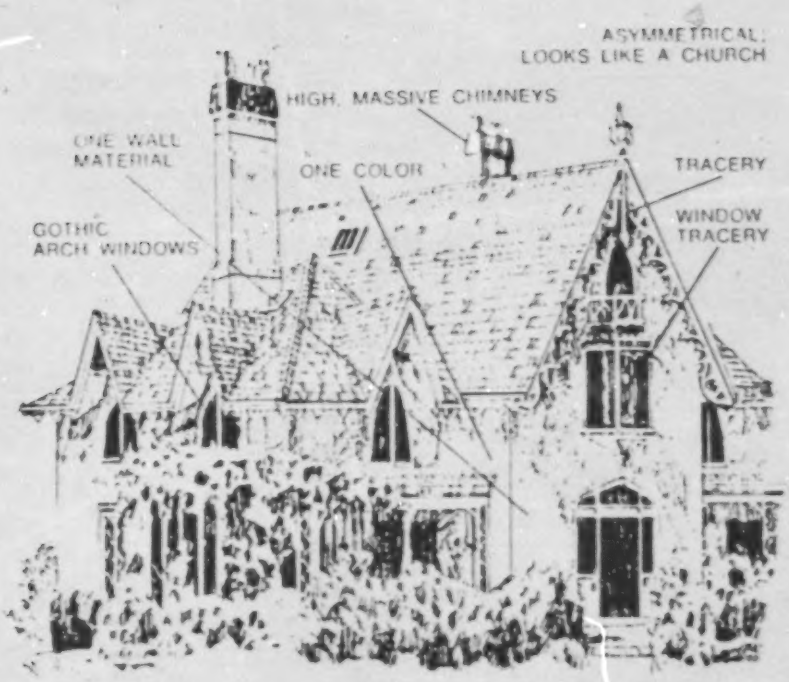
A 2 story house with a balcony across the front at the second floor level.

Other Distinguishing Characteristics

Asymmetrical shape.
Balcony rail is simple iron work or wood as contrasted with lacy iron work of Creole style.

History

Thomas Larkin, a Boston merchant, moved to Monterey, California and in 1835 built his version of a New England Colonial out of adobe brick. Most of the other houses in Monterey at that time were 1-story. In addition to the second story, his house also introduced to the area the second floor porch, roof shingles and the fireplace. The house was widely copied throughout the West and became known as the Monterey style.



Nineteenth Century

EARLY GOTHIC REVIVAL

Key Distinguishing Characteristics

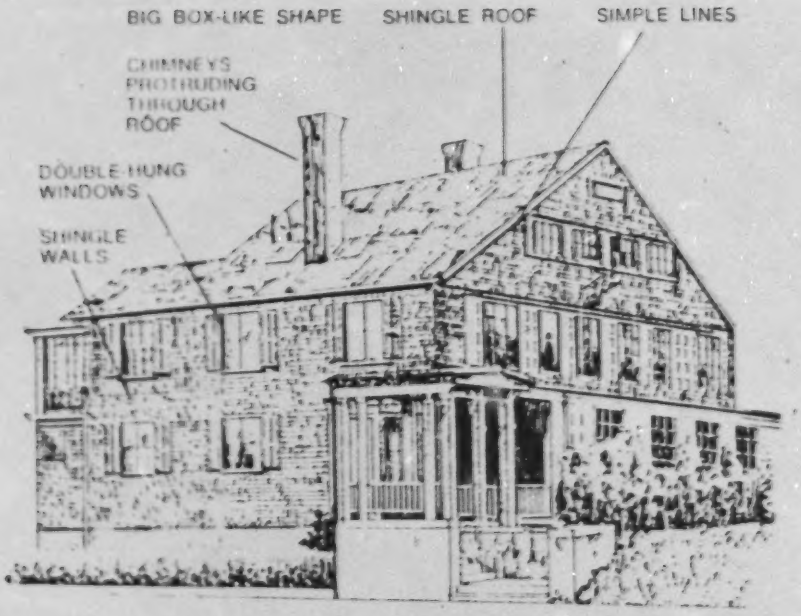
Gothic architecture can easily be identified by the pointed arch. The windows and doors are often this same pointed shape. Early Gothic revival might have only a few true Gothic characteristics. The house has a Gothic, church like appearance and is asymmetrical. Usually only one color and one material are used.

Other Distinguishing Characteristics

Wood the most common material
Some built of stucco or brick
Fragile appearance, especially tracery and moulding
Pinnacles and battlements
High, massive chimneys

History

Gothic architecture was popular through Europe from the 12th to the 15th centuries. Many great Gothic churches are still standing today. It was one of the many styles copied in the U.S. as part of the fad of the 1700's and 1800's. The house pictured is the Rotch House in New Bedford, Massachusetts, designed by Alexander Jackson Davis in 1846.



Nineteenth Century

SHINGLE STYLE

Key Distinguishing Characteristics

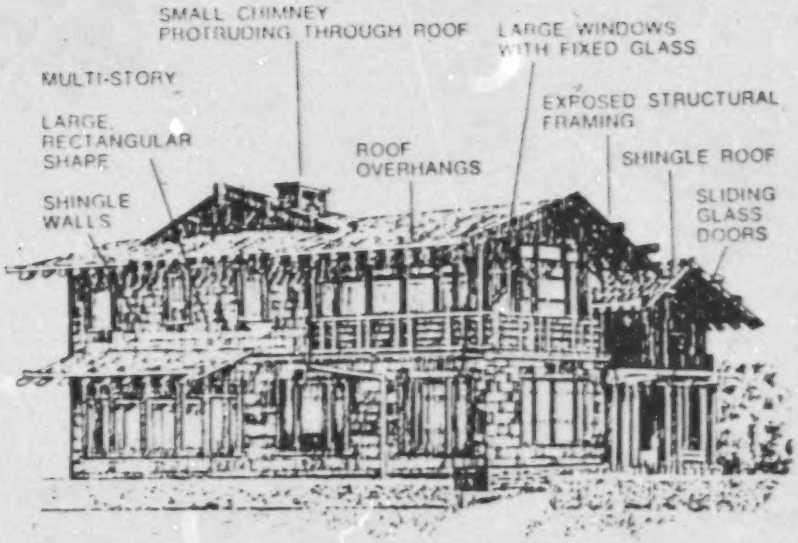
The Shingle Style house is big and box-like with simple lines. The roof and exterior walls are covered with shingles usually stained or painted a dark color.

Other Distinguishing Characteristics

Gable roof
Double-hung windows
Shutters same size as windows
Several chimneys protruding through roof

History

This style developed in New England in the 1880's. It became very popular and many thousands were built. It eventually spread throughout the U.S. and many are in good condition and being lived in today.



Nineteenth Century

WESTERN STICK

Key Distinguishing Characteristics

The Western Stick is a large rectangular house with exposed structural framing.

Other Distinguishing Characteristics

Exterior walls and roof covered with shingles
Many windows have large fixed panes of glass
Roof overhangs the house to take advantage of the sun angles
Sliding glass doors
Small chimney that protrudes through the roof at the end of the house

History

This is a regional version of the Shingle Style that appeared in the late 1800's. One can detect both Oriental and Swiss influence in the design.

Nineteenth Century

WESTERN ROW HOUSE OR WESTERN TOWNHOUSE

Key Distinguishing Characteristics

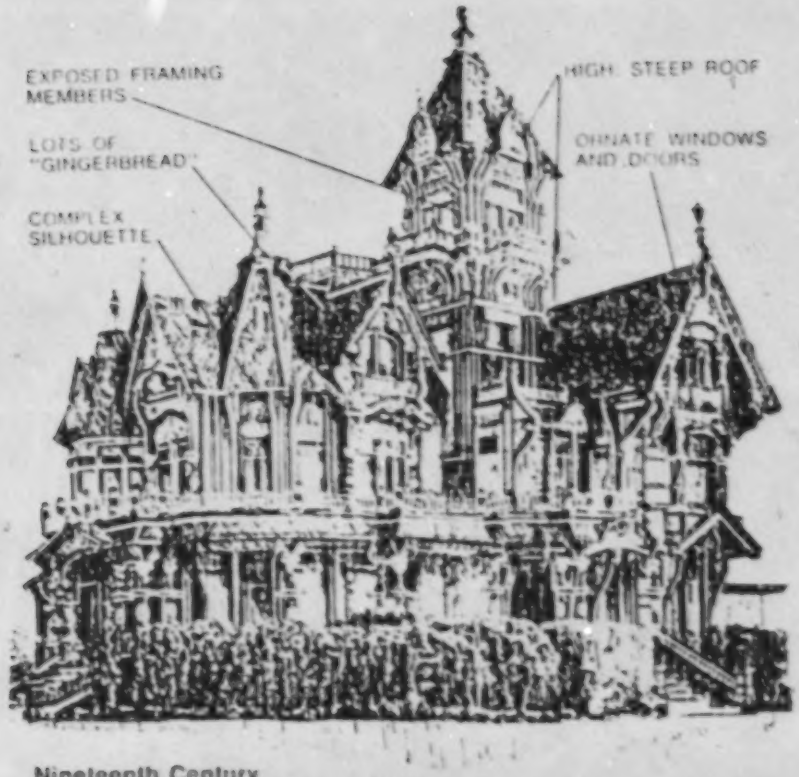
Like the eastern version of the townhouse, these houses are usually built to cover an entire street or block. They have common side walls with the house on either side.

Other Distinguishing Characteristics

2 or 3 stories
Exterior walls may be wood, stucco or brick
Bay windows
Heavily decorated and painted exteriors
Pitched roof

History

This style is the West's answer to the eastern row house. The main difference is that each unit has its own individual, unique design. They were built starting in the late 1800's and are still popular today. Thousands of these units have been built in San Francisco and other large western cities.



Nineteenth Century

STICK STYLE OR CARPENTER GOTHIC

Key Distinguishing Characteristics

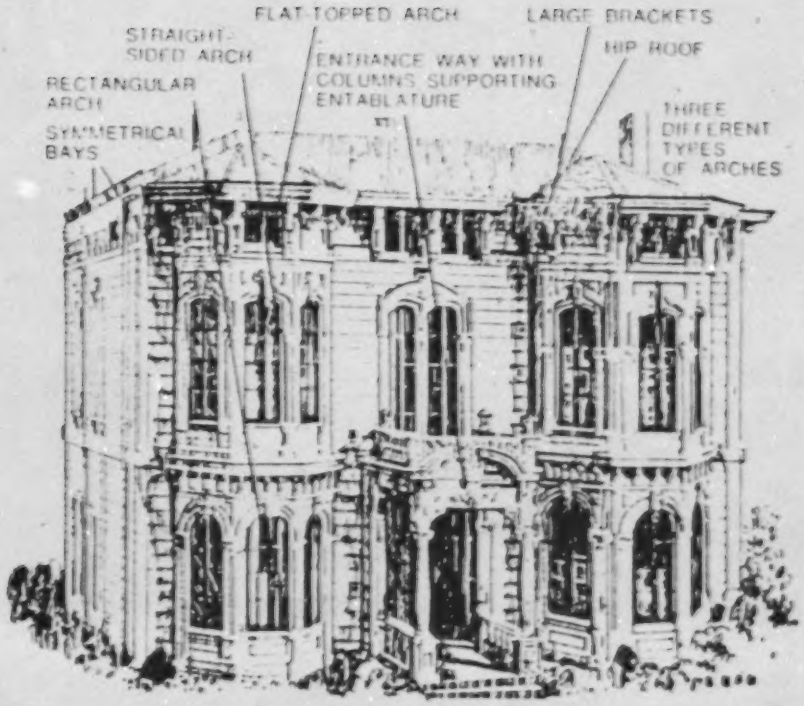
Exposed framing members, high steep roofs, complex silhouettes, diagonal braces and lots of gingerbread trim give this house style its characteristic look.

Other Distinguishing Characteristics

Clapboard siding overlayed with additional boards running horizontally, vertically and diagonally
Complex and ornate windows and doors

History

This style is the result of the advance in the technology of the 1800's. The public had become fascinated with what could be produced cheaply on the automatic bandsaw and they used these mill-cut ornate parts in great abundance on the houses of the period. The name applies to the many gingerbread scrolled houses of the 1800's. It is a very loosely defined style. The culmination of this fad took place in the construction of the house pictured, in Eureka, California, known as the Carson Mansion.



Nineteenth Century

HIGH VICTORIAN ITALIANATE

Key Distinguishing Characteristics

The use of three different kinds of window arches is the primary distinguishing characteristic of this style. They are the straight-sided arch, flat-topped arch and rectangular arch.

Other Distinguishing Characteristics

Square shape
Symmetrical bays in the front
Hip roof
Small chimneys protruding through roof in irregular locations
Entrance way has columns supporting an entablature
Cornice supported with over-size brackets
Exterior appears to be cut up and ornate

History

The style seems to have come to this country from Italy by way of England, where the style was popular in the early 1800's. The house pictured is in Portland, Oregon and was built by Mark Morris in 1882.

Nineteenth Century

QUEEN ANNE

Key Distinguishing Characteristics

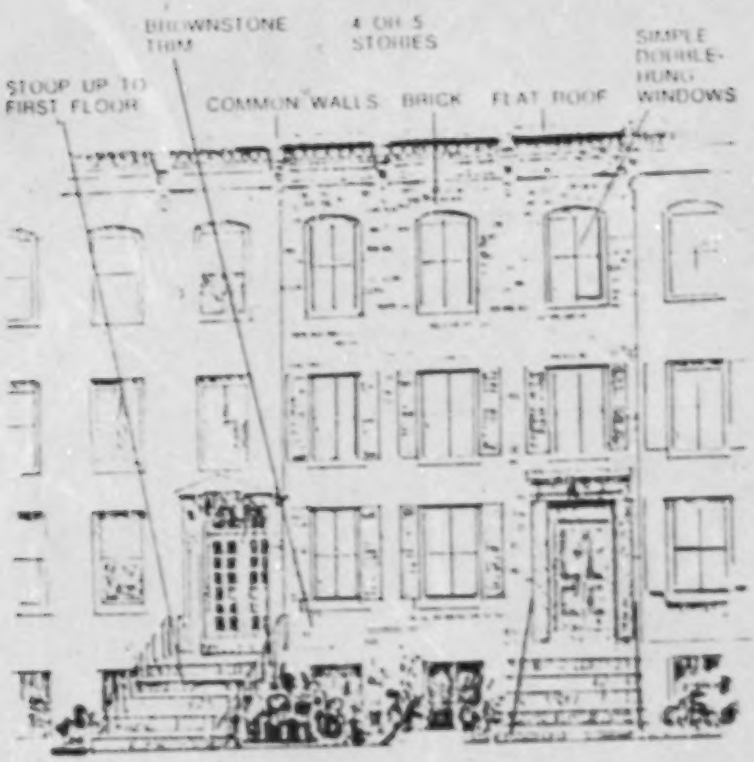
Queen Anne has come to be applied to any Victorian house that cannot be otherwise classified. They are all unique looking, multi story houses, irregular in shape with a variety of surface textures, materials and colors.

Other Distinguishing Characteristics

- Half timbering
- Windows of various forms
- Upper stories that project over the lower ones
- Bay windows
- Turrets
- Big chimneys

History

First designed in England by Richard Norman Shaw. Queen Anne was started here as a style by architect Henry Hobson Richardson in the early 1870's.



Nineteenth Century

BROWNSTONE OR BRICK ROW HOUSE OR EASTERN TOWNHOUSE

Key Distinguishing Characteristics

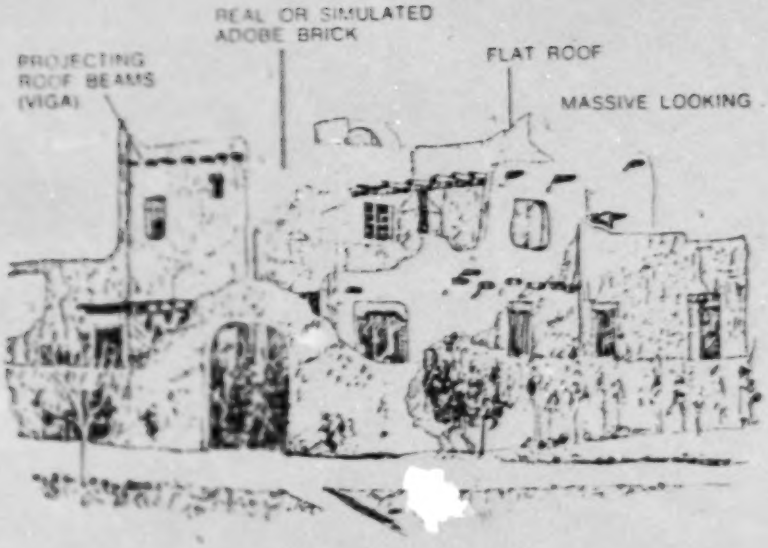
These houses usually cover an entire city block. Most are 4 or 5 stories with a stoop leading up to the first floor. They have common side walls with the house on either side.

Other Distinguishing Characteristics

Built of brick
Often faced or trimmed with chocolate sandstone called brownstone
Flat roof
Simple double-hung windows

History

Brownstones became popular in the late 1800's in New York and other large eastern cities. They tend to develop their individual characteristics in each different city.



Early Twentieth Century

PUEBLO OR ADOBE

Key Distinguishing Characteristics

This house is made of adobe brick or some other material that is made to look like adobe brick. The characteristic projecting roof beams are called vigas.

Other Distinguishing Characteristics

The houses are massive looking
They rarely have arches
Roofs are flat
Long rain water gutters called "canales"

History

Based on the design of the houses of the Indians of New Mexico and Arizona, this became a popular style throughout the Southwest in the early 1900's.

SMALL, COMPACT SHAPE 1 STORY

Early Twentieth Century

CALIFORNIA BUNGALOW

Key Distinguishing Characteristics

A 1-story, small compact house

Other Distinguishing Characteristics

Usually made of wood
Traces of south seas, Spanish and Japanese influences on many

History

At the peak of the Bungalow's popularity, from 1900 to 1920, the name Bungalow and California Bungalow were often used synonymously although one writer of the time classified Bungalows into nine different types. The name comes from the Indian word "bangla" – of Bengal.

Early Twentieth Century

PRAIRIE HOUSE

Key Distinguishing Characteristics

A long, low roof line, continuous row of windows and an unornamented exterior distinguish this house. Designed to satisfy the physical and psychological needs of the inhabitants, it is unlike the traditional concept of a house that is *a* box subdivided into smaller boxes (rooms) each with some doors and windows.

Other Distinguishing Characteristics

Made up of individual areas in size, lighting and function, yet all under one roof

Many feel it is housing at its best

History

Frank Lloyd Wright, the designer of this house, dominated the architectural scene for the first half of the 20th century. His total impact is yet to be fully measured. Unlike many contemporary architects, he was vitally interested in humn design. His principal concern was the organization of space. The Robie House pictured here was built in Chicago in 1909 and is one of the most famous Frank Lloyd Wright houses.

Early Twentieth Century

INTERNATIONAL

Key Distinguishing Characteristics

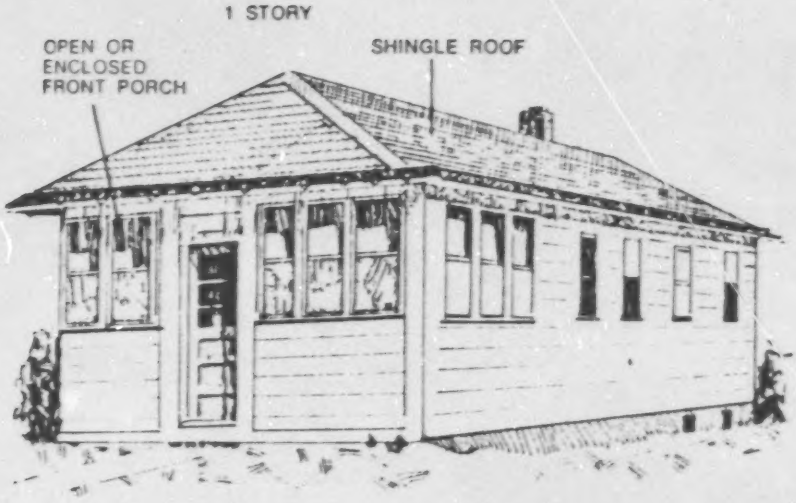
This design is very simple, with no ornamentation. The windows appear to be continuous rather than appearing to be holes in the walls.

Other Distinguishing Characteristics

Flat roofs.
Smooth, uniform wall surfaces.
Windows that turn the corner of the house.

History

The style was started in Europe in the 1920's by Walter Gropius, Ludwig Mies van der Rohe and the architects of the Bauhaus. It was introduced in the U.S. in the 1930's and is the basis of much modern architecture.



Early Twentieth Century

BUNGALOW

Key Distinguishing Characteristics

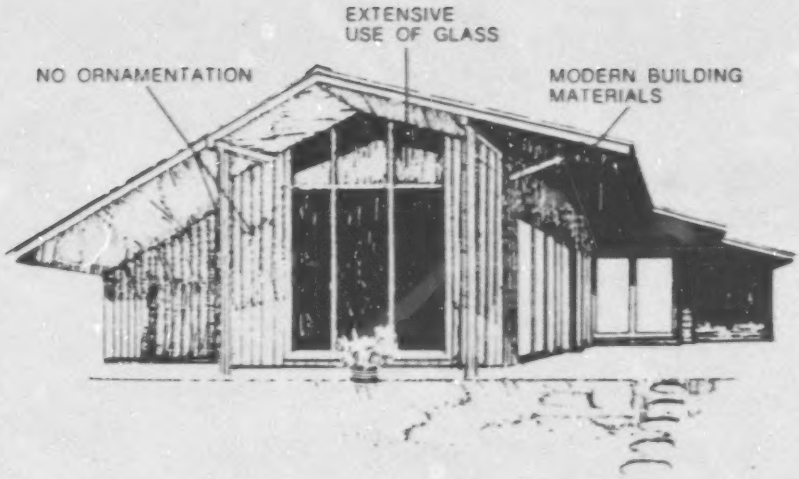
A Bungalow is a small, 1-story house that usually has an open or enclosed front porch.

Other Distinguishing Characteristics

Siding usually wood
Roof usually shingled
Many different regional types

History

Most Bungalows were built in the early 1900's and their popularity reached its peak around 1920. The terms, Bungalow and California Bungalow, were often used synonymously. Many Bungalow style houses are now called Ranch style. They are very popular in the shore communities of the east and west coasts.



Post World War II

FUNCTIONAL MODERN OR CONTEMPORARY

Key Distinguishing Characteristics

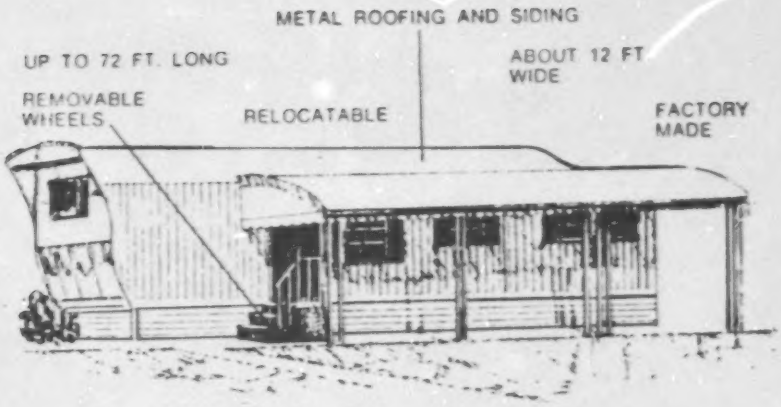
The exterior style of a contemporary house is an integral part of the overall design. Its function is to enclose some living areas with modern materials yet integrate the indoor and outdoor space into one unit.

Other Distinguishing Characteristics

Modern building materials
Extensive use of glass
Lack of ornamentation

History

The Contemporary is today's version of the revolution in house styles started by the great American architects Frank Lloyd Wright and Henry Hobson Richardson, the German architects of the Bauhaus and other architects around the world in the past 100 years.



Post World War II

MOBILE HOME

Key Distinguishing Characteristics

This is a relocatable house that averages 12 feet wide and 60 feet long. It is produced in a factory and towed by truck or shipped by flat car to the site and often installed upon a prepared base.

Other Distinguishing Characteristics

Wheels and axles used to transport it are removed after installation
Siding and roof often metal

History

During the past 25 years the camping trailer has evolved into today's mobile home. The ongoing argument of whether the mobile home is a trailer or a house is still not settled. Whatever they are, their look is unique and they are considered here to be an architectural style. The American housing industry, for a variety of complex reasons, has failed to provide adequate housing for all Americans at a reasonable cost. This gap has been filled in part by the mobile home industry which produced about 600,000 mobile homes in 1972.

Post World War II

SOLAR HOUSE

Key Distinguishing Characteristics

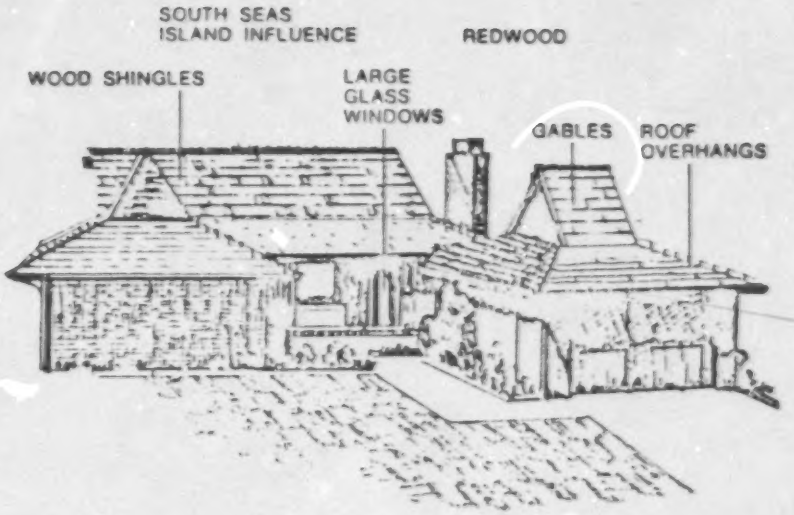
This house has large overhanging eaves over the windows on both floors. A great portion of the exterior walls consists of large glass windows and doors. The house is positioned on the site to take advantage of the high summer sun and the low winter sun.

Other Distinguishing Characteristics

Some have eyebrow eaves that can be removed in the winter
Some experimental models have machinery that turns them so the front always faces the sun

History

The idea of a house that would utilize the changing position of the sun became popular after World War II. Several books and many articles were written on the subject. Many Solar Houses were built throughout the country and the principles of their design are still being used today by many architects.



Post World War II

NORTHWESTERN OR PUGET SOUND

Key Distinguishing Characteristics

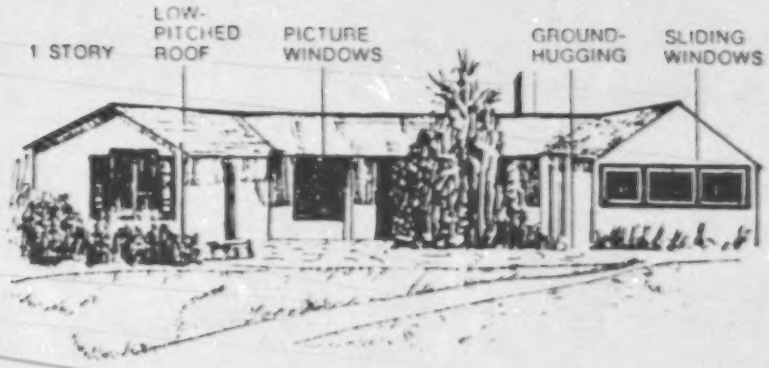
This is a low ranch type house with generous overhangs at eaves and gables. The exterior walls are often redwood.

Other Distinguishing Characteristics

Roof shape reflects south sea island influence
Large glass windows
Wood shingle roof covering

History

The style was first developed in 1908 by Ellsworth Storey, a young architect who designed a group of these cottages. The style did not really become popular until after World War II.



Post World War II

CALIFORNIA RANCH

Key Distinguishing Characteristics

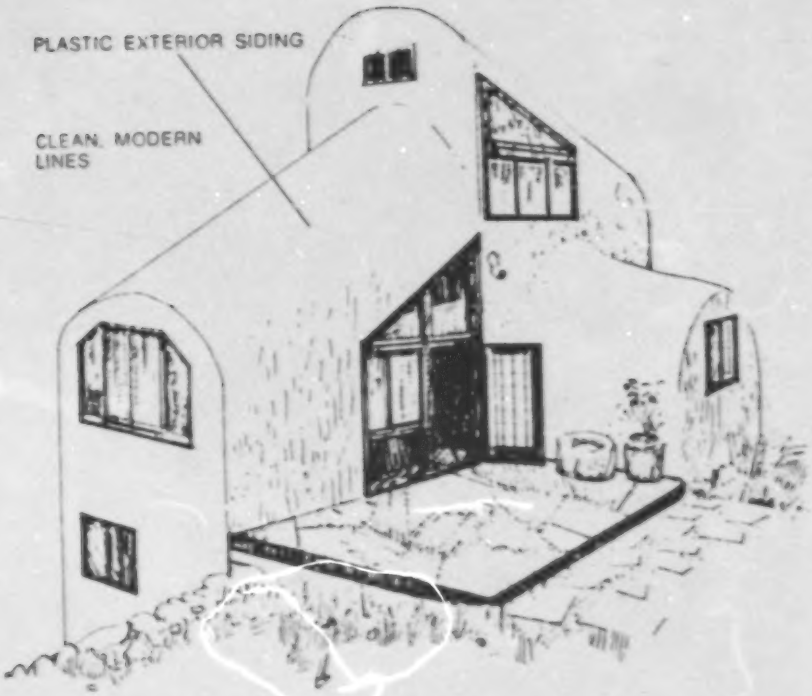
A California Ranch is a 1-story, ground-hugging house with a low, pitched roof.

Other Distinguishing Characteristics

Large double-hung, sliding and picture windows
Sliding glass doors leading onto patios

History

The ranch house of the West has spread in popularity throughout the U. S. Today the term is commonly used to describe a wide variety of 1-story houses including many smaller ones which used to be called Bungalows.



Post World War II

PLASTIC HOUSE

Key Distinguishing Characteristics

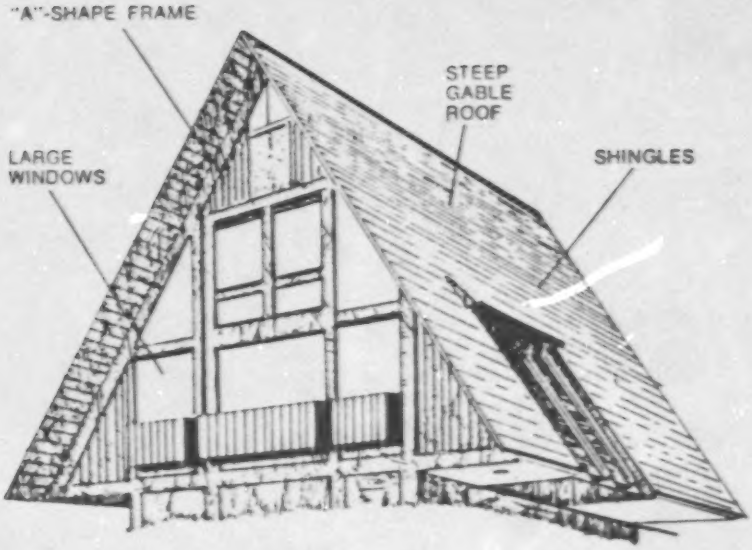
A major portion of the exterior siding of this house is fiberglass or other plastic material.

Other Distinguishing Characteristics

Moulded lines and new shapes
Use of new materials
Little or no ornamentation

History

The Plastic House is not an architectural style in the traditional concept. Many new styles may develop using plastic, but the experimental plastic houses being built today do look different from the traditional styles. This house is included to represent them all. The house pictured was designed by architect Valerie Batorewicz of New Haven, Connecticut.



Post World War II

"A" FRAME

Key Distinguishing Characteristics

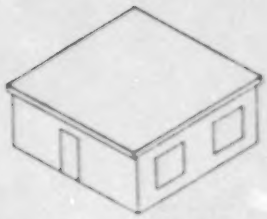
In this style, the frame is the shape of one or more "A's".

Other Distinguishing Characteristics

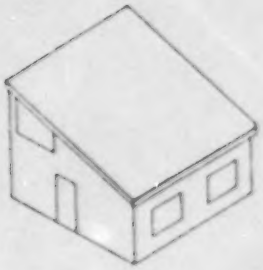
Steep gable roof covered with shingles
Front and rear have large glass windows
Interior often only roughly finished
Sleeping area often is semi-enclosed or sometimes is a loft area

History

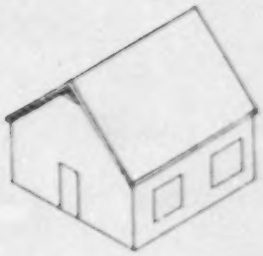
With the explosive growth in vacation homes since World War II, millions of families now own second homes that are used primarily for recreational purposes. The simple "A" frame style has been popular in the mountains and near lakes and oceans for this purpose.



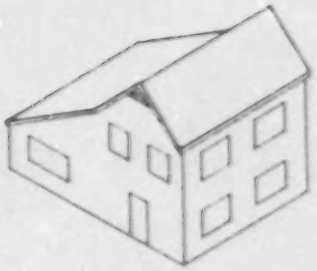
FLAT



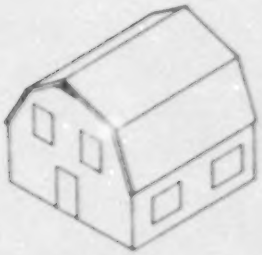
SHED



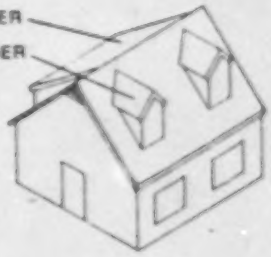
GABLE



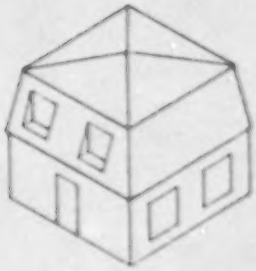
SALT BOX



GAMBREL



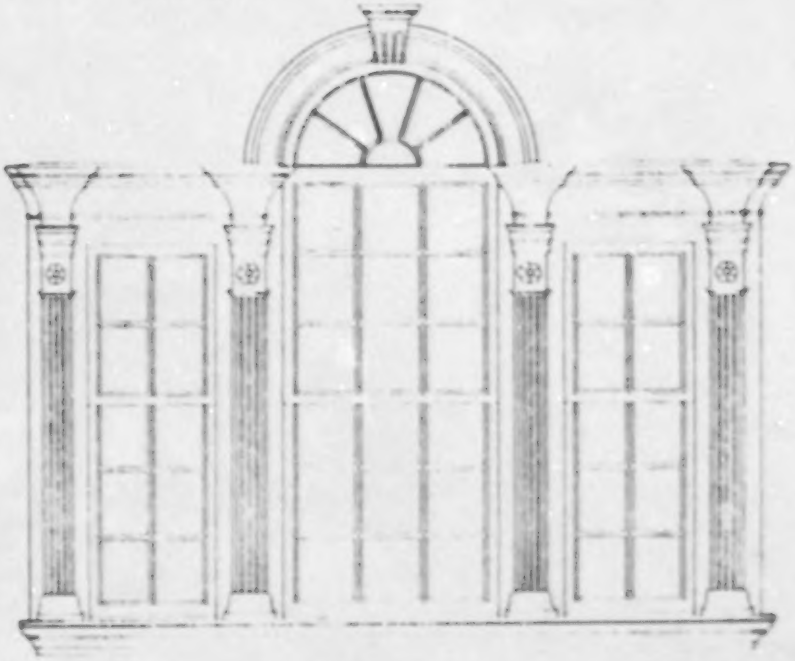
HIP



MANSARD

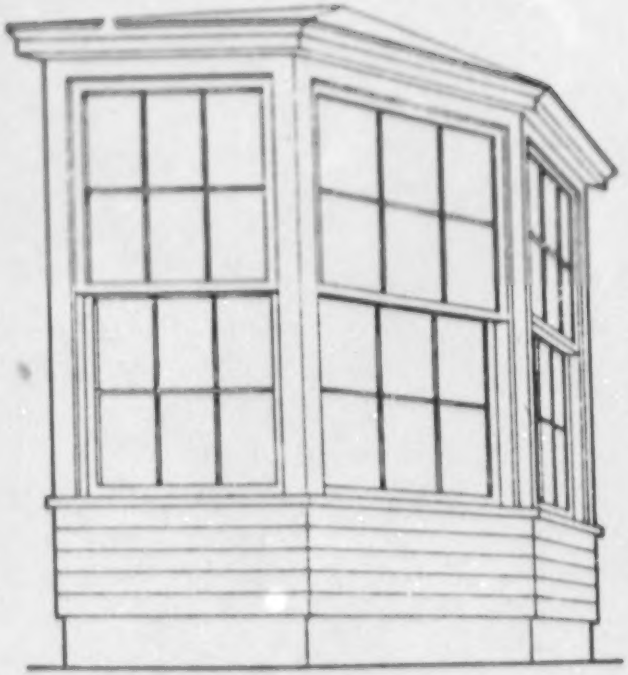
ROOF TYPES

365

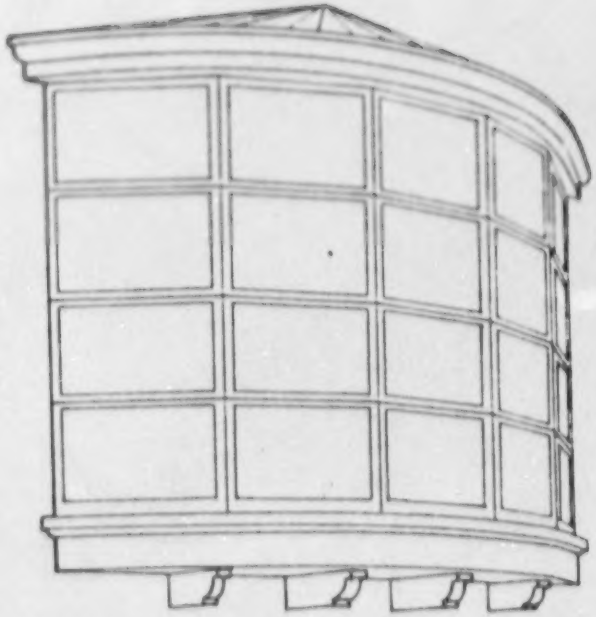


PALLADIAN WINDOW

WINDOW STYLES



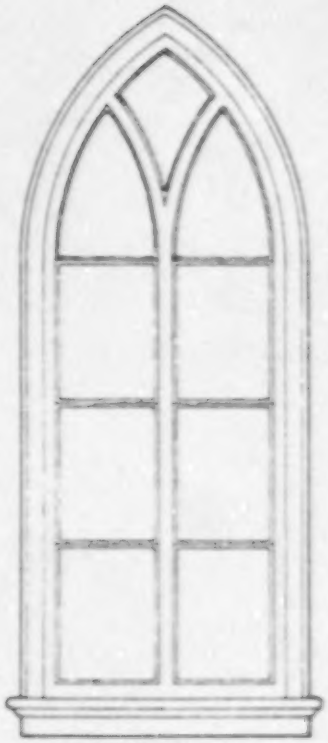
BAY WINDOW



ORIEL WINDOW

WINDOW STYLES

367

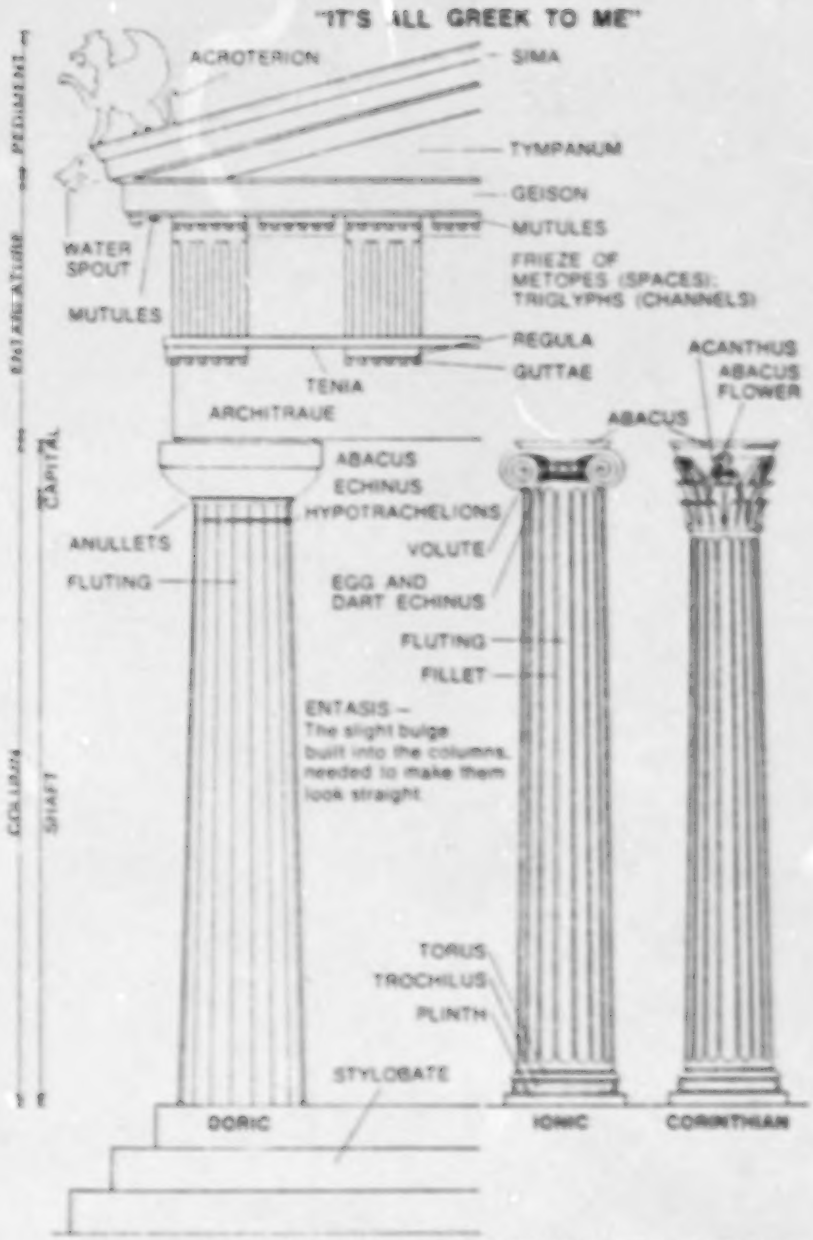


GOTHIC WINDOW

FAN WINDOW

CIRCLE HEAD WINDOW

WINDOW STYLES



A great many Classic Colonial, Greek Revival and other house styles exhibit Greek columns, capitals, entablatures and other Greek ornamentations. This illustration is a simple guide to Greek architecture and terminology.

RESIDENTIAL CONSTRUCTION MANAGEMENT

Name of Course: Principles of Accounting II

Course Objectives: To afford an opportunity for further development of accounting principles and practices initiated in "Principles of Accounting I". To acquaint the student with the function of accounting practices in the management of larger-scale business enterprises.

Course Description: A continuation of "Principles of Accounting I". This course extends the application of accounting theory and practice to partnerships and corporations, manufacturing operations, cost determination, and financial statement analysis.

Prerequisite: "Principles of Accounting I"

Suggested Primary Text: To be determined locally.

Course Outline: To be developed locally.

Instructional Recommendations/ Suggestions: See comments, this heading, "Principles of Accounting I".

Additional Instructional Materials:	To be developed locally.
Additional References:	To be developed locally.

APPENDIX B

Curriculum Guides for Residential Construction Technology

RESIDENTIAL CONSTRUCTION TECHNOLOGY

A RECOMMENDED PROGRAM

The Residential Construction Technology program is designed to equip the successful graduate with technical knowledge, a practical outlook, and management ability as applied to the residential construction industry. Development of basic/entry level skill in one of the principal occupational areas of the residential construction industry (carpentry, plumbing, electrical) is made possible through the cooperative training phase. Relatively long-term exposure to the construction site, in an actual working employee status, affords an opportunity to observe the inter-relationships which exist among the various crafts operating on a construction site. Practical experience is gained in understanding construction site problems, how they develop and how they are resolved.

PRIMARY OBJECTIVES

Provide enhanced employment opportunities through the development of basic/entry level skills which are directly related to the residential construction industry.

Prepare students to assume supervisory/management positions in the residential construction industry upon completion of commensurate periods of experience.

RESIDENTIAL CONSTRUCTION TECHNOLOGY

SUGGESTED CURRICULUM

First Semester	Semester Hours
Principles of Residential Construction	3
Blueprint Reading	3
Fundamentals of Mathematics	3
Construction Surveying	4
Construction Practicum I	6
	19

Second Semester	
Introduction to Estimating	3
Residential Construction Materials and Processes	3
Communication Skills	3
Introduction to Business	3
Construction Practicum II	6
	18

Third Semester	
Residential Construction Estimating	4
Business Mathematics	3
Introduction to Architectural Drawing	4
Elements of Structural Design	3
Contracts, Codes, Specifications, and Office Practices	3
	17

Fourth Semester	
Construction Planning and Controls	3
Business Speech	3
History of Architecture and Construction	3
Business Communication	3
Elective	3
	15

Program total	69 hours

RESIDENTIAL CONSTRUCTION TECHNOLOGY

Name of Course: Principles of Residential Construction

Course Objective: To equip the student with a basic understanding of the principles of construction, the tools and terminology of the building trades, and the relationships between the crafts involved in residential construction processes.

Course Description: This course entails a study of the basic principles involved in residential construction. It introduces the student to the principal factors which must be considered during each of the major phases of the residential construction process from bare lot to the finished structure. Topics include: location and excavation, concrete and masonry, framing, exterior and interior finish, roofing, wall and floor coverings, electrical, heating, and air conditioning systems and plumbing.

Suggested Primary Text: Burbank, Nelson L., and Pfister, Herbert R. House Construction Details, 6th ed. New York: Simmons-Boardman Publishing Corp., 1968.

Course Outline:

I. Design of a House
   A. One story
   B. Two story
   C. Split level
   D. Traffic through house
   E. How to locate house on lot
   F. Plot plan

II. Excavation and Foundation
   A. Layout of house
      1. Batter boards
      2. How to square a house
   B. Types of soil
      1. Wet line
      2. Frost line
   C. Types of foundations
      1. Equipment used to excavate
   D. Forming
      1. Materials
      2. Types of forms
      3. Basement
      4. Slab
   E. Foundations
      1. Concrete
      2. Brick
      3. Concrete blocks
      4. Pier and beams

III. Sills, Girders, Joists and Subflooring
   A. Types of sills
      1. Box
      2. Balloon framing sill
      3. Platform framing sill
   B. Girders
      1. Use
      2. How to construct
      3. Strength

III. Sills, Girders, Joists and Subflooring (Continued)
- C. Joists
  - 1. Wood
  - 2. Steel
  - 3. Concrete
  - 4. Use of each
  - 5. Bridging
    - a. Types
    - b. How to install
    - c. Purpose
- D. Subflooring
  - 1. Types of material used
  - 2. How to install
  - 3. Size of materials

IV. Wall Construction (Framing)
- A. Material used
  - 1. Size of materials
- B. Balloon framing
- C. Platform framing
- D. Post and beam construction
- E. "Ts" and corners
- F. Door and window bucks
  - 1. Trimmers
  - 2. Headers
- G. Wind braces
  - 1. Cut in
  - 2. Let in
- H. Sheathing

V. Roof Construction
- A. Type of roof design
- B. Rafters
- C. Trusses
- D. Dormers
- E. Roofing materials

VI. Exterior Trim
- A. Cornices
- B. Door and window trim
- C. Porch and patio trim
- D. Atriums

VII. Windows
- A. Types
  - 1. Wood
  - 2. Aluminum
  - 3. Glass blocks

VIII. Doors
- A. Exterior
- B. Interior
- C. Pockets
- D. Sliding glass
- E. Garage doors

IX. Exterior Wall Covering
- A. Wood
- B. Brick
- C. Stone
- D. Stucco
- E. Plywood
- F. Asbestos siding
- G. Simulated stone and brick
- H. Aluminum
- I. Glass block

X. Interior Wall and Ceiling Covering
- A. Lath and plaster
- B. Sheetrock
- C. Paneling
- D. Wall paper and vinyl
- E. Tiles--wall and ceiling
- F. Suspended ceilings

XI. Insulation
- A. Purpose
- B. Types and use of each type
- C. Advantages of types

XII. Stair Construction
- A. Open
- B. Closed
- C. Disappearing
- D. Winding

XIII. Hardware
- A. Hinges
- B. Locks
- C. Door checks
- D. Special hardware
- E. Holding hardware
  - 1. Nails
  - 2. Screws and bolts
  - 3. Corrugated fasteners
  - 4. Split-ring fasteners

XIV. Closets and Shelves
- A. Clothes closets
- B. Storage closets
- C. Cabinets
  - 1. Kitchen
  - 2. Bath

XV. Floor Covering
- A. Wood
- B. Vinyl
- C. Carpet

XVI. Chimneys and Fireplaces
- A. Materials

XVII. Scaffolding
- A. Safety
- B. Types

XVIII. Heating and Air Conditioning
- A. Hot water
- B. Hot air
- C. Cold air

XIV. Electricity
- A. Circuits
- B. Wire
- C. Devices
- D. Service panel

XX. Plumbing
- A. Hot water
- B. Cold water
- C. Sewer

Instructional Recommendations/ Suggestions:

During the conduct of this course continuous emphasis should be placed on describing the relationships between the classroom topics and the work experiences occurring in the "Construction Practicum" course. The text suggested for use with this course is excellent. It contains a wealth of photographs, illustrations, and drawings which are used to emphasize and reinforce the ideas and concepts involved in the various topics presented. It is suggested that the instructor augment these materials with 35MM color slides made up from actual photographs of local construction which are representative of the construction processes being studied. Transparencies for use with an overhead projector should be made from illustrations contained in the text (or from other reference books) to support classroom presentations. The course outline developed for this course follows the sequence of the normal construction process from the initial planning and design of a residence through completion of the final product. Materials contained in chapters of the text which are not reflected in the course

outline have been incorporated into other lesson topics as appropriate (i.e., "Building Materials" . . . this topic is of such importance that it is tied into the main subject matter of each class period throughout the course rather than attempting to treat it as a separate lesson topic). The course outline should be modified to provide special opportunity for the thorough study of building materials and processes which are of special interest to the geographic area in which the course is presented (i.e., types of foundations used in the local area, basements, two-story construction, etc.). It is suggested that plumbing and electrical installation be taught along with inside wall and ceiling framing (Chapter Five, text), since this is the point in the actual construction process where these two functions normally are begun.

Because of the importance of materials contained in this course for persons planning to be engaged in residential construction, a "Pre-Test/ Post-Test" has been developed, and its use is strongly recommended. Test items included in the examination

are designed to evaluate the students' understanding of the principles and fundamentals as described in the classroom instruction, and practical application as actually used in the construction industry. It is recommended that the test be administered to each student at the beginning of the course and again at the close of the semester. Analysis of test results can provide excellent indicators of both class achievement and individual student development. A copy of the suggested "Pre-Test/Post-Test" is included.

It is recommended that the suggested primary text for this course (House Construction Details) be retained by each student for use as a principal reference during the remainder of the Residential Construction program.

Additional Instructional Materials:

1. Transparencies:

   a. Building Construction Transparencies, DCA Educational Products Inc., Philadelphia, 1970. A set of 24 transparencies depicting various phases of construction processes.

   b. Locally-developed transparencies

      (1) Typical Wall Section, Brick Veneer Residence on Slab Foundation. For use with Chapters Two, Four, and Ten, text.

Additional Instructional Materials (Continued):

b. Locally-developed transparencies (Continued)

(2) Water Pipe Installation, Concrete Slab Foundations. For use with Chapters Two and Five, text.

2. 16MM Films:

a. "Foundation and Concrete", 26 min. (MN6719-A) Available from: National Archives and Records Service, National Audiovisual Center, Washington, D. C. 20409 for approximately $48.

b. "Framing Floor Joists and Walls", 25 min. (MN6719-B) Available from: National Archives and Records Service, National Audio-visual Center, Washington, D. C. 20409 for approximately $44.

c. "Framing Rafters", 15 min. (MN6719-C) Available from: National Archives and Records Service, National Audio-visual Center, Washington, D. C. 20409 for approximately $27.

d. "Interior and Exterior Walls", 12 min. (MN6719-E) Available from: National Archives and Records Service, National Audiovisual Center, Washington, D. C. 20409 for approximately $23.

e. "Fundamentals of Stair Layout", 11 min. (MN6719-F) Available from: National Archives and Records Service, National Audio-visual Center, Washington, D. C. 20409 for approximately $20.

Additional Instructional Materials (Continued):

3. Film Loops (Motion Pictures):

a. The Third Wire Can Save Your Life. 4 min., 8MM. Fairfield Associates. Released by Jam Handy School Service, 1968.

b. Wiring an Attachment Plug. ¾ min., 8MM, Fairfield Associates. Released by Jam Handy School Service, 1968.

c. Outlet Box Installation. 4 min., 8MM, Fairfield Associates. Released by Jam Handy School Service, 1968.

d. Basic Wiring: Receptacles and Fixture Circuits. 4 min., 8MM, Moreland-Latchford Productions, Toronto. Released in the U.S. by Universal Education and Visual Arts, 1971.

e. Basic Wiring: Household Service. 4 min., 8 MM, Moreland-Latchford Productions, Toronto. Released in the U.S. by Universal Education and Visual Arts, 1971.

f. Basic Wiring: Domestic Distribution Systems. 4 min., 8MM, Moreland-Latchford Productions, Toronto. Released in the U.S. by Universal Education and Visual Arts, 1971.

g. Basic Wiring: Low Voltage Circuits. 4 min., 8MM, Moreland-Latchford Productions, Toronto. Released in the U.S. by Universal Education and Visual Arts, 1971.

Additional Instructional Materials (Continued):

h. Basic Wiring: Domestic Service Conductors. 2 motion pictures, 4 min. each, 8MM, Moreland-Latchford Productions, Toronto. Released in the U.S. by Universal Education and Visual Arts, 1971.

i. Connecting Wires in an Outlet Box. 4 min., 8MM, Fairfield Associates. Released by Jam Handy School Service, 1968.

j. Basic Wiring: Switch Wiring. 4 min., 8MM, Moreland-Latchford Productions, Toronto. Released in the U. S. by Universal Education and Visual Arts, 1971.

4. Building Materials Samples. Available through local building materials centers, manufacturers, representatives, etc.

5. Recommended "Pre-Test/Post-Test". (See attachment.)

Additional References:

Anderson, L. O. How to Build a Wood-Frame House. New York: Dover Publications, 1973.

Bruce, Leroy F., and Meyer, Leo. Sheet Metal Shop Practice, 3rd ed. Chicago: American Technical Society, 1965.

Huntington, Whitney C. Building Construction: Materials and Types of Construction, 3rd ed. New York: John Wiley and Sons, Inc., 1963.

Jones, Raymond P., Sr. Framing, Sheathing, and Insulation. Albany, N. Y.: Delmar Publishers, Inc., 1964.

Additional References (Continued):

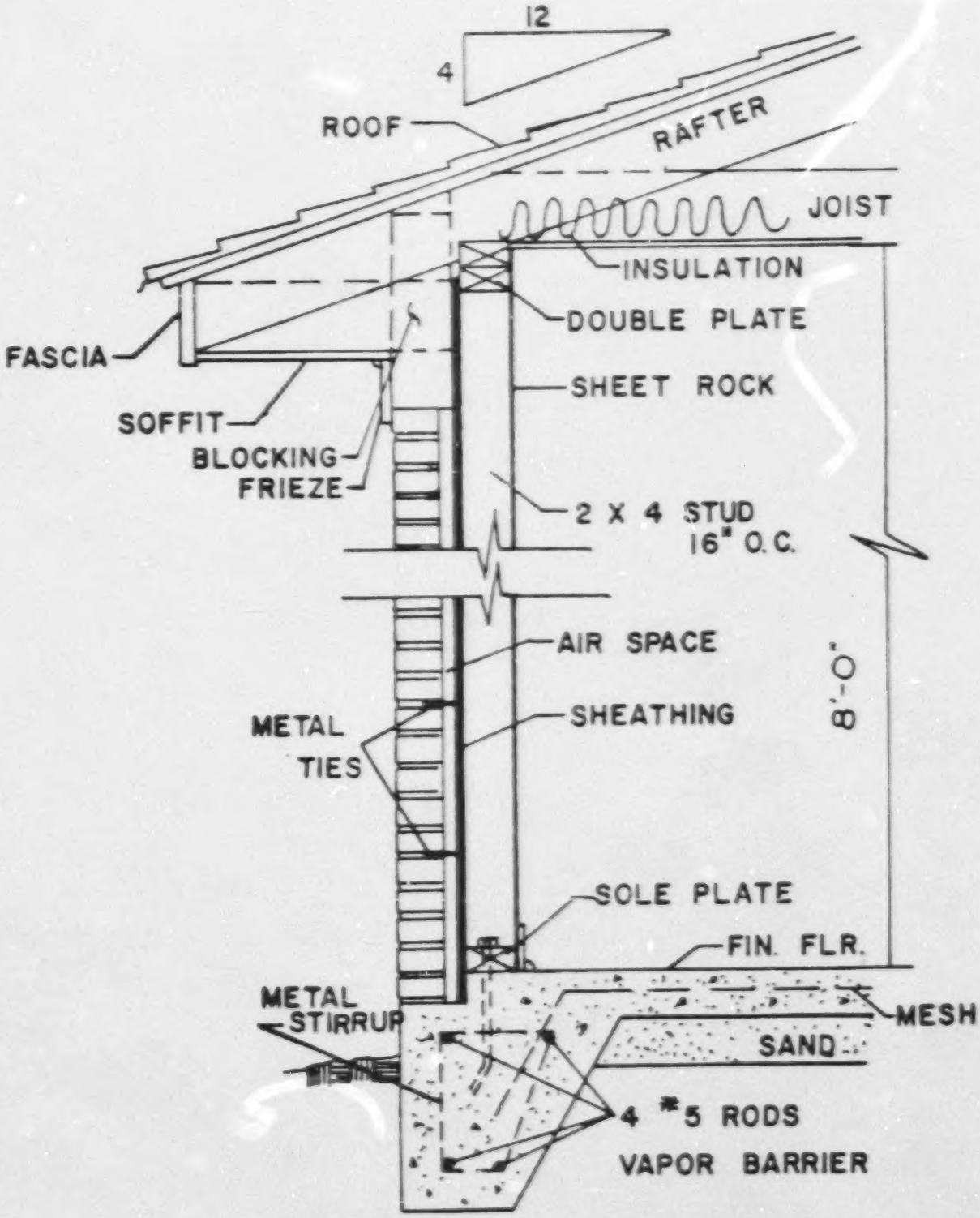
Matthias, A. J., Jr., Smith, Esles, Sr.; et al. How to Design and Install Plumbing, 4th ed. Chicago: American Technical Society, 1971.

Merritt, Frederick S., ed. Building Construction Handbook, 2nd ed. New York: McGraw-Hill Book Co., 1965.

Richter, Herbert P. Practical Electrical Wiring, Residential, Farm, and Industrial, 9th ed. New York: McGraw-Hill Book Co., 1972.

Rufus, Gary O. Practical Rafter Calculator. Los Angeles: Craftsman Book Co., 1972. [A handy pocket reference which contains tables of data describing pitch, angles, lengths, etc., needed in cutting rafters.]

Weaver, Michael K., and Kirkpatrick, James M. Environmental Control. New York: Harper and Row, 1974.



TYPICAL WALL SECTION

BRICK VENEER

SCALE: 1" = 1'-0"

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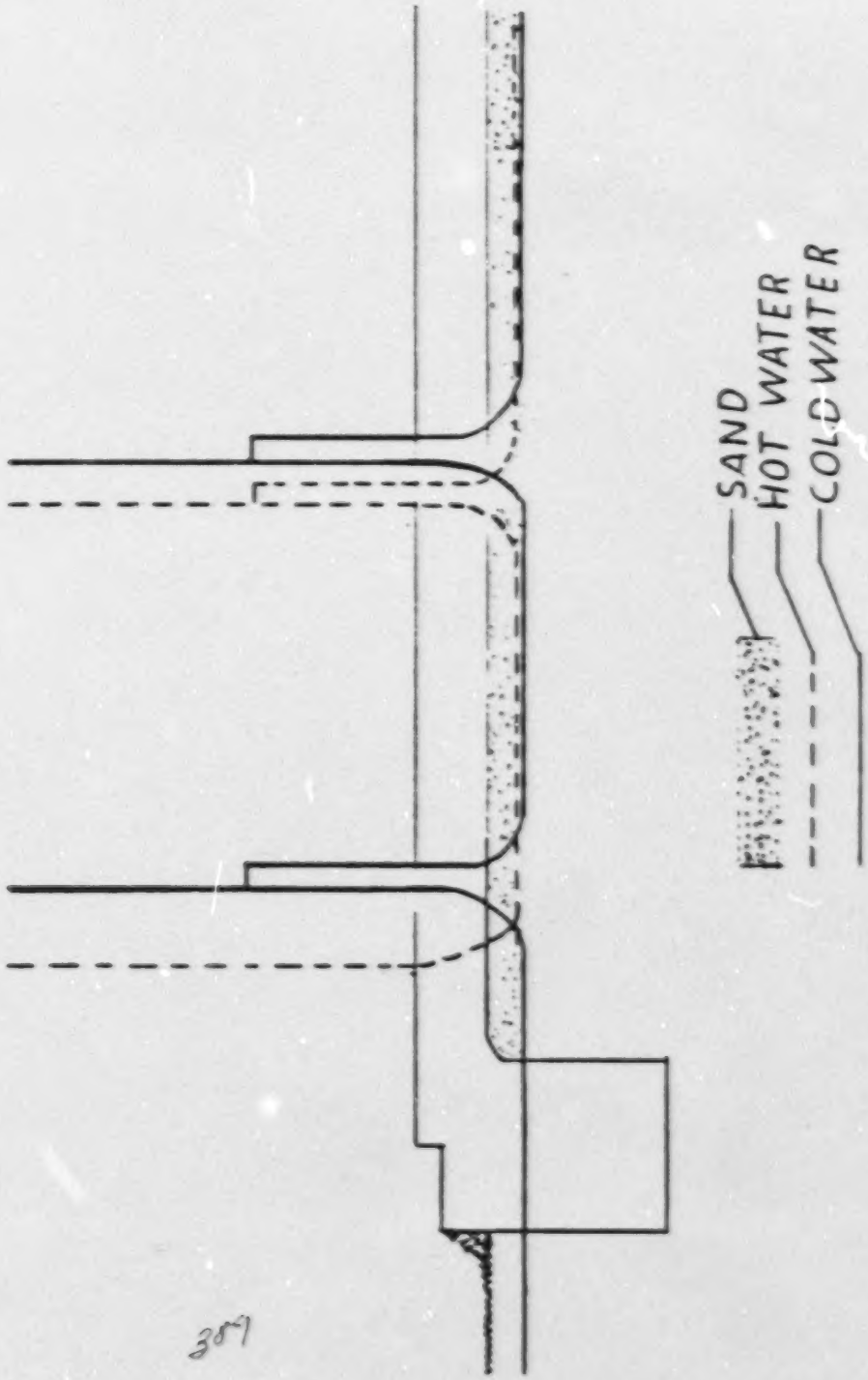
WATER PIPE INSTALLATION

CONCRETE SLAB FOUNDATIONS



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RESIDENTIAL CONSTRUCTION TECHNOLOGY

Name of Course: Blueprint Reading

Course Objectives: To provide a basic understanding of the standard symbols, abbreviations, format, and other data contained in blueprints. To enable the student to interpret working drawings and visualize the finished product intended by the architect.

Course Description: This course is designed to acquaint the student with the purpose, function and proper use of blueprints. Topics include: Working drawings, reading drawings, elevations, floor plans, symbols, scales and dimensions, structural information, reading detail drawings and plot plans.

Special emphasis is placed on such subjects as: How blueprints reflect architectural progress, how specifications amplify blueprints, how blueprints vary with the purpose of the structure, how material variations affect blueprints.

Suggested Primary Text: Sundberg, Elmer W., et al. Building Trades Blueprint Reading, 5th ed., Part I: Fundamentals. Chicago: American Technical Society, 1973.

Supplemental Text: Sundberg, Elmer W., et al. Building Trades Blueprint Reading, 2nd ed., Part II: Residential and Light Commercial Construction. Chicago: American Technical Society, 1974.

Course Outline:

I. Working Drawings and Blueprints
   A. How blueprints are made

II. Reading Elevation Drawings
   A. Information depicted on elevation drawings
   B. Building design
   C. Roof design
   D. Openings
   E. Dimensions
   F. Exterior finishes
   G. Exterior materials

III. Reading Floor Plans
   A. Importance of floor plan
   B. How to read floor plans
   C. Dimensions depicted on floor plans

IV. Symbols and Notations Used on Floor Plans
   A. Symbols for materials
   B. Symbols for parts of building
   C. Abbreviations

V. Scaling and Dimensions
   A. How to use the architect's scale
   B. Use of folding rule to scale blueprint
   C. Types of construction

VI. Reading Blueprints for Structural Information
   A. Finding structural information on blueprints
   B. Types of construction

VII. Reading Detail Drawings
   A. Scales used for details
   B. How to locate details

VIII. Plot Plan
- A. The survey plot
- B. Scale used by surveyor
- C. Elevations
- D. Contour lines
- E. The plot plan

IX. Reading Blueprints for Trade Information
- A. Electrical
- B. Plumbing
- C. Masonry
- D. Concrete
- E. Heating and air conditioning

Instructional Recommendations/ Suggestions:

The two texts recommended for use in this course were designed by the author to be used in conjunction with each other in developing an ability to read and understand blueprints. Principles and fundamentals are presented in Part I. Extensive opportunity to actually apply these principles and fundamentals is afforded by the exercises contained in Part II. The texts are flexible and may be used for individual study or for several distinct classroom organizational formats. Four distinct methods of presenting the course material are described for the convenience of prospective instructors.

House Construction Details (suggested for use as the primary text in "Principles of Residential Construction") provides an excellent reference source for

understanding the details of construction as depicted in the blueprints to be studied in this course.

In the interest of competency testing, it is recommended that the final examination in the course be developed through use of an actual blueprint which the students will not have had an opportunity to study or review prior to the testing period. (Copies of such blueprints can be obtained from local architects and/or home builders.) This procedure will provide a more valid measure of the students' ability to apply the concepts and principles of blueprint reading to a realistic work situation. An example of a suggested final examination, constructed along the lines of this recommendation, is included. The answers shown on the sample examination should be changed, as necessary, to correspond to the blueprint ultimately selected for testing purposes.

Additional Instructional Materials:

1. Supplemental blueprint for final examination purposes. May be obtained through local architects or home builders.

2. Selected Transparencies. To be developed locally. From the List of Transparencies suggested for use in the course entitled "Principles of Residential Construction".

Additional References:

Burbank, Nelson L., and Pfister, Herbert R. House Construction Details, 6th ed. New York: Simmons-Boardman Publishing Corp., 1968.

Spence, William P. Architecture: Design-Engineering-Drawing, 2nd ed. Bloomington, Ill.: McKnight and McKnight Publishing Co., 1972.

FINAL EXAMINATION

BLUEPRINT READING

(Questions 1-68 based on general information.)

1. Blueprints are copies of working drawings made by placing tracings over light-sensitive paper and exposing them to light. T F

2. A tracing can only be used a few times to make blueprints. T F

3. Orthographic projection is another name for the three-view concept. T F

4. Working drawings for a building are made to scale because it would be impossible to draw them full size. T F

5. Dimensions should be shown in each room on a floor plan giving its exact size. T F

6. A dimension should only be shown once on the same sheet. T F

7. A center line and a cutting plane line are drawn with the same symbol. T F

8. All of the basic window types are included among swinging and sliding windows. T F

9. Awning windows swing outward. T F

10. Package doors include the door frames and hardware. T F

11. Door dimensions 2'8" x 6'8" x 1 3/8" indicate width, height and thickness in that order. T F

12. Hollow core doors have a core of wood blocks. T F

13. Straight stairs are preferred to winding stairs for safety. T F

14. A steep stair would have a wide tread and low riser height. T F

15. Provisions for the disposal of storm water from the roof is decided by the builder. T F

16. Anyone who can assemble pipe is qualified to do plumbing work. T F

FINAL EXAMINATION

BLUEPRINT READING

17. The electrician working on a small building makes his own sketch to show arrangement of circuits. T F

18. The electrician must be familiar with the electrical code. T F

19. The craftsman should never guess about the meaning of an abbreviation. T F

20. Working drawings include floor plans, elevations, section views and detail views. T F

21. Concrete walks and drives should be shown on plot plans. T F

22. The architect shows details on the blueprints for the rough framing around windows and doors. T F

23. A 2x6 plank actually measures 1 1/2" x 5 1/2". T F

24. Concrete footings vary in size according to the bearing properties of the soil and the weight of the building. T F

25. All footings and foundation walls have steel reinforcing bars in them. T F

26. A brick window sill laid in rowlock fashion shows the 2x4 inch (nominal size) end of the brick arranged in a vertical row. T F

27. A brick veneer wall is ventilated by a one-inch air space. T F

28. Common concrete block has nominal dimensions of 8" x 8" x 16". T F

29. Steel is the only metal of any importance in the construction industry. T F

30. Aluminum structural shapes are supplied in various sizes. T F

31. All reinforcing bars are the same except for diameter. T F

32. Electric wires are carried through special steel pipe called conduit. T F

33. A built-up roof is made of several layers of saturated felt with tar or asphalt spread over each layer. T F

FINAL EXAMINATION

BLUEPRINT READING

34. The working drawings show how the rough openings for windows should be framed. T F

35. Dimensions for interior partitions are nominal dimensions to the face of studs. T F

36. Chimney footing needs no reinforcing bars. T F

37. Cross-bridging and solid bridging are the same thing. T F

38. Windows are moved by the builder to fall in line with stud spacing. T F

39. Clearance is allowed between the rough-frame opening and the window frame to permit adjustment. T F

40. Siding can be nailed directly to plywood sheathing. T F

41. Members of platform framing are always placed on 16 inch centers. T F

42. The A frame can only be used for plans with single floor. T F

43. The mix of concrete is varied for different applications. T F

44. Steel reinforcing bars are used in concrete footings. T F

45. Voids in concrete are filled with the aid of a vibrator. T F

46. Cavity walls are brick walls made of two wythes with an air space between. T F

47. Brick veneer is combined with wood platform framing. T F

48. The brick part of a brick veneer wall supports the rafters or trusses. T F

49. Earthquake damage can be minimized by making the framework as rigid as possible. T F

50. Snow and ice damage to roofs can be counteracted by increasing the strength of roof supports. T F

FINAL EXAMINATION

BLUEPRINT READING

51. Regarding the three-view concept,
    A. a set of working drawings is based on the idea of three views: top, front and side, or plan views and elevation views.
    B. each drawing is worked out to show information in three dimensions.
    C. a floor plan is a slice through a building taken a few inches above the floor.
    D. pictorial drawings are included in the working drawings to show details of very complex problems.

52. The word scale is used correctly as follows:
    A. a triangular scale is a ruler with six faces and twelve types of graduations.
    B. an architect can draw everything in a set of working drawings using a scale of 1/4 inch equals one foot.
    C. in order to be meaningful, preliminary sketches should be drawn to scale (in proportion).
    D. using a scale, such as 1/4 inch equals one foot, will automatically bring about good proportions and design in a drawing.

53. Scales used in making drawings include:
    A. six inches per foot for moldings.
    B. 1/4 inch per foot for elevation and plan views.
    C. 1 1/2 inch per foot for section views through exterior walls.
    D. 3/4 inch foot for details to be drawn 3/4 size.

54. Regarding dimensioning,
    A. a dimension for the same measurement can be shown twice or on two sheets if it will make it easier to locate.
    B. 4-inch and 6-inch partition thickness dimensions are actual measurements.
    C. buildings should be built with such precision that dimensions should be given in feet, inches and fractions of an inch.
    D. dimensions should be shown in a continuous row, whenever possible, with the figures shown above the dimension line.

55. Regarding symbols
    A. all architects use the same symbols.
    B. symbols are used because the scale is too small to show the object in complete detail, and they save drafting time.
    C. all lines on plan and elevation views are shown as object lines.
    D. a break line shows where cuts are to be made.

BLUEPRINT READING

56. Regarding the alphabet of lines,
    A. cutting plane line shows where the cutting plane passes and the direction in which the section view is to be viewed.
    B. the architect may devise his own alphabet of lines.
    C. all lines on plan and elevation views are shown as object lines.
    D. a break line shows where cuts are to be made.

57. Regarding types of windows,
    A. there are three basic types of windows--casement, hopper and awning.
    B. all swinging windows swing outward.
    C. hopper windows have hinges at the bottom of the sash.
    D. screens are on the outside of all windows which have screens.

58. Regarding door types,
    A. the three basic types are flush, hollow core, and solid core.
    B. accordion doors are the same as bi-fold doors.
    C. panel doors are only used as interior doors.
    D. solid-core doors are used for exterior doors.

59. A floor plan shows
    A. a designation such as 14 R Down, which means 14 risers from the floor of the plan to the floor below.
    B. both the top and bottom riser of a flight of stairs.
    C. how two flights above one another have starting points which line up.
    D. construction details for rough structural members around stairwells.

60. Regarding plumbing and electrical work for residences,
    A. the working drawings show plumbing fixtures and piping for the water supply.
    B. the plumber makes his own layout of drainage piping, including venting through the roof.
    C. electrical and plumbing symbols resemble the units they represent.
    D. electrical circuits are shown on floor plans.

61. Regarding verbal information,
    A. specifications are of minor importance for verbal information.
    B. the title block serves mainly to identify the building.
    C. specific notes are shown near where they apply.
    D. mistakes due to misreading verbal information are not the fault of the craftsman.

FINAL EXAMINATION

BLUEPRINT READING

62. Regarding abbreviations,
    A. abbreviations are all standardized.
    B. abbreviations should be used everywhere to save time.
    C. abbreviations should have meaning even when not associated to parts of a drawing with an arrow or by its location.
    D. when two abbreviations may be used for the same thing, the architect can use either as long as the description is clear.

63. The relationship between the house and the lot include:
    A. the use of an official survey which gives a legal description of the property.
    B. the use of a plot plan which only has value for town or city property.
    C. the use of a city datum point or bench mark which is located on the property.
    D. compliance with zoning ordinances which specify details of construction.

64. The plot plan
    A. shows a point of beginning which is used to find the bench mark or city datum point.
    B. shows lot dimensions and angles at each corner.
    C. shows contour lines which help the concrete workers decide on the depth of the foundation.
    D. shows designations such as +4' 0", which means that the elevation is 4' 0" above sea level.

65. Regarding structural lumber,
    A. the craftsman chooses the right size members to be used to support floors and roofs.
    B. the actual size of a 2x4 is 1" x 3", arrived at by subtracting 1/2 inch from each surface.
    C. structural lumber is sold in two-foot intervals within certain lengths and described by nominal dimensions such as 2x4 or 2x8.
    D. the architect and the builder together decide on how openings shall be framed.

66. Regarding plywood,
    A. finish wood paneling is actually plywood.
    B. plywood is excellent for covering large surfaces but has little strength.
    C. the glue used in plywood is waterproof.
    D. the main use of plywood in light construction is for wall sheathing.

FINAL EXAMINATION

BLUEPRINT READING

67. Concrete
    A. in monolithic form is reinforced concrete.
    B. symbol consists of small dots.
    C. with a mix of 1:3 1/2:5 means that one part cement, 3 1/2 parts sand, and five parts gravel are used.
    D. reaches full strength in three days.

68. Regarding roofing,
    A. shingles can be used on a roof which has any slope.
    B. most asphalt shingles are single-tab shingles.
    C. roll roofing is used exclusively for built-up roofs.
    D. a square of roofing covers 100 square feet when it is laid.

(Questions 69-143, based on information contained in blueprint.)

69. The kitchen has
    A. a pass-through opening to the family room.
    B. a soffit all around the room at the ceiling.
    C. horizontal slider window
    D. stock cabinets to be fitted by the carpenter on the job.

70. The family room has
    A. a pair of sliding glass doors, both of which open.
    B. three warm air registers and no return air register.
    C. two sets of casement windows which are alike in size.
    D. a doorway leading to the kitchen.

71. Regarding the bedroom wing, (bedrooms 18 and 22)
    A. each bedroom has a closet with bi-fold doors.
    B. the bathrooms are identical but reversed, except for the placement of the doors and switches.
    C. the bedroom doors are all sliding doors.
    D. warm air is supplied to the bathroom by a ceiling fan.

72. Regarding doors,
    A. the front entrance door is a wood panel door with nine lights.
    B. doors are all 6' 8" tall--except doors 1 and 6.
    C. the basement door is a wood panel door with six lights.
    D. closet doors in bedrooms and hall are either sliding or bi-fold doors.

FINAL EXAMINATION

BLUEPRINT READING

73. Regarding brick veneer walls,
   A. the brick veneer part of the wall is erected before the frame part.
   B. a one-inch air space is provided for ventilation.
   C. the brick veneer is set back one inch from the face of the foundation.
   D. anchors on two-foot centers between each course hold the brick tight against the sheathing.

74. Regarding the fireplace and chimney,
   A. flue liners are not permitted to extend above the top of the chimney masonry.
   B. a fireplace ash drop opens into the carport.
   C. the round flue shown on the floor plan is for the furnace.
   D. details to build the chimney are given in vertical and plans section through fireplace.

75. The plot plan (sheet 1) shows:
   A. a point of beginning which is also a local bench mark.
   B. a difference in elevation of 1.33 feet between the grade at the northwest corner of the building and the first-floor elevation.
   C. the length of each side of the lot, and angles at the corners.
   D. the location of the driveway and walks.

76. The foundation plan and details on sheet 2 show:
   A. information about steel reinforcing bars in the footings under the house and in the pad under the fireplace.
   B. dimensions for the size and location of the footings under the retaining wall.
   C. dimensions locating the stepped footings.
   D. location of the depressed slabs for brick floors and areas for tubs.

77. The south elevations (sheet 6) show:
   A. the living-room windows as fixed glass.
   B. the footing for the chimney with hidden lines.
   C. that both doors of the pair of glass doors slide open.
   D. dimensions of the fascia member.

78. The door schedule on sheet 1 shows:
   A. that the doors are typical 6' 8" doors (except doors 1 and 6).
   B. that doors are either swinging or sliding.
   C. that window sills for plate-glass windows are at the floor level.
   D. interior wall finish held back 1/2 inch from the door jambs.

FINAL EXAMINATION

BLUEPRINT READING

79. Electrical plan (sheet 9) shows:
    A. a 200 amp service.
    B. a gas outlet in the utility room.
    C. three-way switches to control the electric garage-door operator.

80. Regarding carpentry,
    A. joists over the garage and those over the kitchen and bedroom No. 22 have the same length.
    B. the wall studs are eight feet long.
    C. window and door openings in exterior walls are framed to exactly fit the window and door frames.
    D. cross bridging is unnecessary for the roof joists because of the 3/4-inch plywood sheathing.

81. Regarding interior finish (sheet 1),
    A. a vinyl tile floor is required in the bath and linen closets.
    B. interior door jambs are flush with the wall surface.
    C. wood trim base is specified for all rooms except bathrooms and kitchen.
    D. gypsum board wall finish on exterior walls is applied over furring strips.

82. What type of roof does the house have?
    A. hip roof.
    B. gable roof.
    C. shed roof.
    D. shed and hip roof.

83. The house has
    A. a full basement
    B. no basement.
    C. a half basement.
    D. two levels.

84. The living room
    A. is separated from the dining room by a room divider.
    B. has direct access to the kitchen.
    C. has a fireplace on the west wall.
    D. is part of a living-dining room area.

BLUEPRINT READING

85. The dining area
    A. has direct access to the breezeway.
    B. has a swinging door to the kitchen.
    C. has glass sliding doors to the patio.
    D. has fixed windows.

86. The kitchen
    A. has cabinets on three sides.
    B. has two doors.
    C. has an exit to the patio.
    D. serves also as a laundry.

87. The hallway
    A. opens to all of the rooms but bath #2 and dining room.
    B. has no door which swings outward into it.
    C. is L-shaped.
    D. has all sliding doors.

88. Regarding closets,
    A. bedroom No. 11 has three closets.
    B. the linen closet has a sliding door.
    C. bedrooms No. 18 and 22 have closets of equal size.
    D. no closet is provided in the kitchen.

89. Regarding plumbing,
    A. all of the plumbing fixtures in the bathrooms are arranged along the same wall.
    B. bath #21 has a shower.
    C. the kitchen sink is located under the kitchen window.
    D. the washing machine is located on the east kitchen wall.

90. The south elevation will have what type of windows?
    A. sliding and fixed sash.
    B. awning type and horizontal sliding.
    C. hopper and casement.
    D. double hung and casement.

91. The east elevation will have what type of windows?
    A. single hung and fixed.
    B. casement.
    C. awning.
    D. horizontal sliding.

FINAL EXAMINATION

BLUEPRINT READING

92. The north elevation will have what type of windows?
    A. horizontal sliding and double hung.
    B. horizontal sliding and casement.
    C. single hung and fixed.
    D. awning and double hung.

93. Exterior doors for the house (excluding garage doors)
    A. are all alike.
    B. are two flush doors and one pair of sliding doors.
    C. are flush doors which have the same light arrangement.
    D. all swing in the same direction.

94. Regarding interior doors,
    A. all are swinging or sliding.
    B. all closet doors are sliding.
    C. all closet doors are swinging, sliding, or bi-fold.
    D. all doors to rooms from the hall are swinging.

95. Regarding floor levels,
    A. the living and garage areas are the same level.
    B. the garage floor is lower than the living area.
    C. the garage and entry passage floor levels are the same.

96. Closets
    A. have louvered doors.
    B. have shelves and rods.
    C. have shelves.
    D. have lights with pull switches.

97. The kitchen
    A. has a drop-in range.
    B. has ceramic tile floor and base.
    C. has a gas oven.
    D. has upper cabinets on two walls only.

98. The dimensions of the lot are _____ x _____.

99. The corners are each _____ degrees.

100. The long dimension of the lot is in a _____ compass direction.

101. The greatest dimensions of the house are _____ x _____.

FINAL EXAMINATION

BLUEPRINT READING

102. The house is located _____ from the west property line.

103. It is located _____ from the south property line.

104. The greatest difference in the natural grade elevations of all points on the lot is_____.

105. The floor elevation is _____.

106. What type of roof does this house have? _____

107. What material is used for roofing? _____

108. What is the slope of the roof? _____

109. How far does cornice project beyond face of brick? _____

110. What type window is window A? _____

111. What type window is window E? _____

112. What type exterior wall covering is used on garage? _____

113. How many hose bibs are shown? _____

114. How many amps is main disconnect? _____

115. How many light circuits in this house? _____

116. Total circuits used _____

117. How many spare slots for future circuits? _____

118. How many three-way switches? _____

119. How many water-proof plugs are shown? _____

120. How high above floor is wall plug on circuit #2? _____

121. Where are the lights on circuit #1? _____

122. How many switches control circuit #6? _____

123. How many freeze-proof water hydrants are shown? _____

BLUEPRINT READING

124. How many cleanouts are shown? _____

125. How many 4" stacks are shown and what do they vent? _____

_____

126. How many hot-air supply ducts in living room? _____

127. How many cold-air return ducts are shown? _____

128. What is size of master bedroom? _____

129. What is the size of garage in east-west direction? _____

130. How thick is wall where commode and bathtub is vented in bathroom #21? _____

131. What size and how thick are doors #9? _____

132. What type is door #3? _____

133. What materials are window sills made of? _____

134. Describe the material used to trim out the eaves: _____

135. Describe the material used in soffit: _____

136. What size material is used for collar beams? _____

137. What type of material is used in gable ends? _____

138. How many windows are shown on the north elevation? _____

139. What type of windows are shown on the north elevation? _____

140. What room does the skylight open into? _____

141. Where is the outside opening to the ash pit? _____

142. How large is the flue? _____

143. How many drawers are in the desk shown on detail 7? _____

RESIDENTIAL CONSTRUCTION TECHNOLOGY

Name of Course: Fundamentals of Mathematics

Course Objectives: To emphasize the importance of a thorough understanding of the mathematics of the construction trades for students planning careers in construction. To encourage maximum development of student skills in the practical application of the mathematical processes used in residential construction.

Course Description: This course provides an in-depth review and additional refinement of the use of whole numbers, fractions, percentages, ratio and proportion, areas and volumes. It introduces various short methods for rapid calculations and explains the advantages and disadvantages of their use in construction-related activities. It provides a basic review of algebra and the algebraic functions used in construction. Emphasis throughout the course is on the understanding of basic processes.

Suggested Primary Text: To be determined locally.

Course Outline: To be determined locally.

Instructional Recommendations/ Suggestions: This course is basically an intensive review of the fundamental mathematical processes. Because of the wide variations which normally exist in the mathematical background of individual students in classes of this type, testing procedures should be developed to allow accelerated progress for more advanced students. Recommend student evaluation be based on demonstrated proficiency in the required processes. Most post-secondary institutions will have comparable course offerings within their regular curriculum which can satisfy the requirements of this course.

Additional Instructional Materials: To be developed locally.

Additional References: To be developed locally.

RESIDENTIAL CONSTRUCTION TECHNOLOGY

Name of Course: Construction Surveying

Course Objective: To provide the student with a working knowledge of the fundamentals of surveying and to develop basic skills in the use of surveying information as applied to the home-building industry.

Course Description: This is an introductory course in the principles of surveying which focuses on the elements of surveying most directly related to residential construction. Some of the major areas of concern in this course are: principles and use of the engineer's transit, theory and practice of leveling, the proper maintenance and use of field notebooks, field layout of structures and field staking for earthwork.

Suggested Primary Text: Brinker, Russell C. Elementary Surveying, 5th ed. Scranton, Pa.: Intext Educational Publishers, 1969.

Course Outline:

I. Angles, Bearings, and Azimuths
   - A. General
   - B. Units of angle measurement
   - C. Measurement of angles
   - D. Measurement of distance
   - E. Calculations of bearings

II. Traversing
- A. Methods of running a traverse
- B. Traversing by deflection angles
- C. Traversing by azimuths
- D. Measurement of lengths
- E. Angle closure
- F. Sources of error

III. Leveling
- A. Curvature and refraction
- B. Methods of determining differences of elevation
- C. Types of leveling instruments
- D. Theory of leveling
- E. Profile leveling
- F. Cross sectioning
- G. Signals

IV. The Transit
- A. Upper plate, lower plate, and leveling head
- B. Method of reading a vernier
- C. Operation of the transit
- D. Laying off an angle
- E. Deflection angles and azimuths
- F. Measurement of a vertical angle

V. Area
- A. Methods of measuring
- B. Area by division into triangles
- C. Area by offsets
- D. Area by double meridian distances
- E. Area by coordinates
- F. Area by planimeter

VI. Topographic Surveys
- A. Control for topographic surveys
- B. Topographic details
- C. Locating points in the field
- D. Contours and method of obtaining
- E. Transit tape method
- F. Coordinate squares
- G. Sources of errors in topographic surveys

VII. Construction Surveys
- A. General
- B. Pipelines
- C. Staking out a roadway
- D. Staking out a building
- E. Sources of error

VIII. Parabolic Curves
- A. General
- B. Computations for an equal-tangent curve
- C. Computations for an unequal-tangent curve
- D. Vertical curves
- E. Sight distance
- F. Sources of error

IX. Mapping
- A. General
- B. Mapping agencies
- C. Map drafting
- D. Plotting the traverse
- E. Plotting details
- F. Plotting contours
- G. Topographic symbols
- H. Locating the traverse on the map sheet
- I. Title
- J. Notes
- K. Sources of error in mapping

Instructional Recommendations/ Suggestions: Surveying is an outside activity and field work is an absolutely essential requirement for this course. In geographic areas where extreme or inclement weather conditions can be expected during certain portions of a semester, instructors may need to alter the sequence of subject matter depicted in the suggested course outline. Field

work should approximate industrial practice with special emphasis being placed on the degrees of precision required in good surveying practice. Field notebooks should be kept according to good professional practice and field notes should be reduced to a convenient form for the plotting or calculation of distances and volumes. It is recommended that laboratory/field survey periods comprise a minimum of three hours, once each week, with a one-hour period for class lectures and problem solving.

Additional Instructional Materials:

Surveying equipment normally used in residential construction practice (engineer's transits, surveying rods and chains, stakes, etc.); quantities commensurate with size of class.

Surveyor's field notebooks. Obtainable through retail bookstores, printing and office supply outlets.

Additional References:

American Society of Civil Engineers, Committee of the Surveying and Mapping Division on Definition of Surveying Terms. Definitions of Surveying, Mapping, and Related Terms. New York: American Society of Civil Engineers, 1954.

Additional References (Continued): Davis, Raymond E., et al. Surveying: Theory and Practice, 5th ed. New York and London: McGraw-Hill Book Co., 1966.

RESIDENTIAL CONSTRUCTION TECHNOLOGY

Name of Course: Construction Practicum I

Course Objective: To provide practical on-the-job experience in an actual employment status on the construction site. To encourage development of an entry-level skill in one of the principal crafts of residential construction.

Course Description: The Construction Practicum is designed to provide students with an opportunity to gain first-hand knowledge of work processes as they actually occur in residential construction. Satisfactory completion of both Practicum I and Practicum II should be a positive program requirement for all students electing the Technology option, either in the Certificate program or the Associate Degree program. The Practicum also serves as the skill development phase of the Certificate program and the Associate Degree programs in Residential Construction Technology. Through the use of on-the-job training measures, the Practicum provides an opportunity for each student to develop a basic entry-level skill in one of the principal crafts of the residential construction industry.

Suggested Primary Text: Textbooks and reference materials suggested for use in other courses comprising the Residential Construction Technology Program should serve as continuous cross-references during both semesters of the Construction Practicum.

Course Outline: Individual training guides should be used by on-the-job supervisors to insure that essential skill requirements are included in student development. Examples of suggested training guides for Carpentry, Electrical, and Plumbing crafts are included in the Additional Instructional Materials Section.

Instructional Recommendations/ Suggestions: The construction practicum is designed specifically for the student who plans to be engaged in the physical processes of construction. Successful completion of both semesters of the practicum should provide enhanced employment opportunity in two key ways:

1. Through the development of an entry-level skill in one of the principal crafts of construction, and
2. Through the development of an actual employment record for future job reference purposes.

Students should be in an actual paid-employee status during both semesters of the practicum. Training on the construction site should be under the direct supervision and tutelage of a fully-qualified craftsman. Training guides for each craft should be used on the job to ensure that the student is afforded an opportunity to acquire the necessary level of skill in the various tasks of his craft. Suggested Training Guides have been prepared for Carpentry, Plumbing, and Electrical, and are attached. Training guides for other crafts should be prepared locally, as required.

In furtherance of usable skill development, each student should elect to specialize in one of the primary crafts serving the industry and should pursue that same craft during both semesters of the practicum. This is considered necessary in order to provide sufficient time for the student to develop his skill to a productive level. (The first-year apprentice level is considered to be a realistic minimum goal.)

A member of the Residential Construction faculty should serve as Program Coordinator and should work with the on-the-job supervisor to assure that training

requirements listed on the training guide are satisfactorily completed by each student. Visits by the Coordinator to the construction site should be planned so as not to interfere with normal work progress. Satisfactory skill acquisition and/or knowledge of required job functions will be noted on the student training guide by the on-the-job supervisor. Determination of course grades for each student should be a responsibility of the Program Coordinator/Instructor.

Additional Instructional Materials:

Student Training Guides: Locally developed.

Suggested Training Guides attached for:

A. Carpentry

B. Plumbing

C. Electrical

Additional References:

Anderson, L. O. How to Build a Wood-Frame House. New York: Dover Publications, 1973.

Burbank, Nelson L., and Pfister, Herbert R. House Construction Details, 6th ed. New York: Simmons-Boardman Publishing Corp., 1968.

Local Building Codes. Available at City Engineer's office.

Matthias, A. J., Jr.; Smith, Esles, Sr.; et al. How to Design and Install Plumbing, 4th ed. Chicago: American Technical Society, 1971.

Richter, Herbert P. Practical Electrical Wiring, Residential, Farm, and Industrial, 9th ed. New York: McGraw-Hill Book Co., 1972.

STUDENT TRAINING GUIDE AND PROGRESS RECORD

FOR CARPENTRY

NOTE TO ON-THE-JOB SUPERVISORS: This form should be used to ensure that each student has developed the skill or understanding required of a "First-Year Apprentice" carpenter. After the student has acquired the necessary level of competency in each task, please place a check-mark in the appropriate column indicating the manner in which his qualification was attained.

Student's Name _____ Supervisor's Name _____

WORK PROCESSES PERFORMED/OBSERVED	Performed	Observed
I. Modern Carpentry Tools		
a. Electric saws		
b. Electric sanders		
c. Air & Electric nailers		
II. Job-Made Equipment		
a. Door jack		
b. Meter box		
c. Saw horses		
III. Framing Square		
a. Use to square corners		
b. Use to cut rafters		
c. Use for plate layout		
d. Use in cutting braces		
IV. Principal Woods		
a. Types		
b. Sizes		
c. Grades		
V. Insulation		
a. Thickness		
b. How to install		

STUDENT TRAINING GUIDE AND PROGRESS RECORD

FOR CARPENTRY - page 2.

WORK PROCESSES PERFORMED/OBSERVED	Performed	Observed
VI. Wood Fastenings		
a. Nails		
b. Screws		
c. Bolts		
d. Anchors		
e. Dowells		
f. Glues		
g. Gussets		
VII. Types of Joints and Use		
a. Butt joint		
b. Mitered joint		
VIII. Foundation Forming		
a. Layout of building lines		
b. Establish grade levels		
c. Erect batter boards		
d. Construct forms		
e. Square forms using 6-8-10 method		
f. Plumb level and brace forms		
IX. Wall Framing		
a. Cut studs		
b. Build corners		
c. Build tees		
d. Layout and cut sole plate to length		
e. Layout and cut top plates to length		
f. Layout sole and top plate for studs		
g. Layout for doors and windows		
h. Frame doors and windows (rough buck)		
i. Headers		
j. Trimmers		
k. Sills, window		
l. Nail wall section		
m. Raise wall section		
n. Plumbing and temporary brace, wall sections		
o. Wind braces		
p. Cut and nail ceiling joists		

STUDENT TRAINING GUIDE AND PROGRESS RECORD

FOR CARPENTRY - page 3.

WORK PROCESSES PERFORMED/OBSERVED	Performed	Observed
IX. Wall Framing (continued)		
q. Solid bridging		
r. Strip bridging		
s. Stiff back (strong back)		
X. Roof Framing		
a. Types of roofs		
b. Valleys		
c. Hips		
d. Gambrel roof		
e. Common rafters		
f. Jack rafters		
g. Hip rafters		
h. Valley rafters		
i. Collar beam		
j. Ridge board		
k. Tail		
l. Install rafters		
m. Brace rafters		
n. Decking		
o. Framing gable		
p. Framing dormer windows		
XI. Exterior Finish		
a. Install gyp rock		
b. Install exterior doors and windows		
c. Brick molding		
d. Wood siding		
XII. Cornices		
a. Open cornices		
b. Box cornices		
c. Facier board		
d. Soffit		
e. Frieze board		

STUDENT TRAINING GUIDE AND PROGRESS RECORD

FOR CARPENTRY - page 4.

WORK PROCESSES PERFORMED/OBSERVED	Performed	Observed
XIII. Interior Trim		
a. Cut and fit sheet rock to wall and ceiling		
b. Install interior doors and trim out		
c. Install paneling		
d. Install base and base shoe		
e. Install picture mold		
f. Install ceiling mold		

STUDENT TRAINING GUIDE AND PROGRESS RECORD

FOR PLUMBING

NOTE TO ON-THE-JOB SUPERVISORS: This form should be used to ensure that each student has developed the skill or understanding required of a "First-Year Apprentice" plumber. After the student has acquired the necessary level of competency in each task, please place a check-mark in the appropriate column indicating the manner in which his qualification was attained.

Student's Name _____ Supervisor's Name _____

WORK PROCESSES PERFORMED/OBSERVED	Performed	Observed
A. Drainage and Ventilation		
I. House Drain		
a. Waste pipe as part of drainage system		
b. How to cut soil pipe		
c. Care and use of gasoline furnace		
d. Care and use of plumbing tools		
e. Safety precautions		
f. Purpose of oakum		
g. Use of caulking and yarning irons		
h. Cut soil pipe		
i. Yarn joints		
j. Pour leaded joints—vertical, horizontal		
II. Ventilation		
a. Safety precautions		
b. Location of cleanouts		
c. Kinds of fittings		
d. Rough-in specification		
e. Soil and vent stacks		
f. Methods of installation		
g. Code requirements		
h. Roof flashings for stacks		
i. Kinds of vents:		
1. Branch		
2. Loop		
3. Continuous		

STUDENT TRAINING GUIDE AND PROGRESS RECORD

FOR PLUMBING - page 2.

WORK PROCESSES PERFORMED/OBSERVED	Performed	Observed
II. Ventilation (continued)		
j. Difference in soil stacks and vent stacks		
k. Rough-in soil stack		
l. Rough-in vent stack		
III. Plastic Pipe		
a. Code		
b. Jointing		
c. Installing		
B. Water and Gas Lines		
I. Steel Pipe		
a. Kinds of pipe		
b. Code requirements		
c. Kinds and size of fittings		
d. Pipe dies and cutters		
e. Cut and thread pipe		
f. Sweat joints and fittings		
g. Rough-in		
II. Copper Pipe		
a. Specifications for water connections		
b. Fitting allowances		
c. Kinds of stops		
d. Install water lines and test		
e. Install gas lines and test		
C. Fixtures		
I. Water Closet		
a. Types of water closets		
b. Flush devices for water closets		
c. Flush valves		
d. Set water closet		
e. Connect supply		
f. Check operation		

STUDENT TRAINING GUIDE AND PROGRESS RECORD

FOR PLUMBING - page 3.

WORK PROCESSES PERFORMED/OBSERVED	Performed	Observed
II. Lavatories		
a. Types		
b. Supply devices		
c. Waste connections		
d. Set lavatories		
e. Connect supply		
f. Connect waste		
III. Bathtubs		
a. Types and styles		
b. Water supply devices		
c. Waste connections		
d. Install tub		
e. Connect water supply		
f. Connect waste		
IV. Showers		
a. Types		
b. Water supply devices		
c. Valves		
d. Traps and strainers		
e. Connect supply and waste		
V. Sinks		
a. Kinds		
b. Supply devices		
c. Garbage disposals		
d. Waste and trap connections		
e. Install sink		
f. Install disposal		
g. Connect supply lines		
h. Connect waste and traps		
VI. Water Heater		
a. Types		
b. Construction		
c. Sizing		
d. Tank connections		

STUDENT TRAINING GUIDE AND PROGRESS RECORD

FOR PLUMBING - page 4.

WORK PROCESSES PERFORMED/OBSERVED	Performed	Observed
VI. Water Heater (continued)		
e. Pressure and temperature controls		
f. Ventilation		
g. Install heater		
h. Connect gas		
i. Connect water supply		
j. Install pressure control and line		
k. Install vent pipe and flashing		
VII. Washers		
a. Water supply		
b. Hook-up		
c. Test for leaks		
d. Level		
VIII. Dishwasher		
a. Water supply		
b. Hook-up		
c. Test for leaks		
d. Level		

STUDENT TRAINING GUIDE AND PROGRESS RECORD

FOR ELECTRICITY

NOTE TO ON-THE-JOB SUPERVISORS: This form should be used to ensure that each student has developed the skill or understanding required of a "First-Year Apprentice" electrician. After the student has acquired the necessary level of competency in each task, please place a check-mark in the appropriate column indicating the manner in which his qualification was attained.

_____ Student's Name

_____ Supervisor's Name

WORK PROCESSES PERFORMED/OBSERVED	Performed	Observed
I. Electrical Wiring		
a. National and local electrical codes		
b. Care and use of tools		
c. Safety precautions		
II. Outlet Boxes		
a. Planning the job		
b. Location of outlet		
c. Set boxes		
d. Bore studs for wire		
III. Circuits		
a. Kinds of wire		
b. Wire sizes		
c. Determining wire size needs		
d. Voltage drop		
e. Kinds of solder		
f. Kinds of splices		
g. Maximum outlets per circuit		
h. Run circuits		
i. Splice joints		
j. Solder splices		
k. Tape splices		

STUDENT TRAINING GUIDE AND PROGRESS RECORD

FOR ELECTRICITY - page 2.

WORK PROCESSES PERFORMED/OBSERVED	Performed	Observed
IV. Service Panel		
a. Kinds of service panels		
b. Principles of grounding		
c. System grounds		
d. Circuit grounds		
e. Equipment grounds		
f. Wire service panel and install breakers		
V. Meter Loop		
a. Entrance cables		
b. Conduit requirements		
c. Determining cable size requirements		
d. Wire meter loop		
VI. Equipment		
a. Types and sizes of service wiring		
b. Heater connections		
c. Furnace and air conditioner connections		
d. Wire range, furnace, heater and other equipment and appliances		
e. Connect controls		
VII. Outlets and Switches		
a. Safety		
b. Color code		
c. Switch connections		
d. Single-pole switches		
e. Two-gang switches		
f. Double-pole switches		
g. Three-way switches		
h. Four-way switches		
i. Hang ceiling fixtures		
j. Connect switches		
k. Connect appliances		
l. Connect bells and chimes		

RESIDENTIAL CONSTRUCTION TECHNOLOGY

Name of Course: Introduction to Estimating

Course Objectives: To introduce the student to the techniques and procedures used in determining the probable cost of any given construction project. To provide a basic understanding of bidding procedures and the interrelationships between contract documents and the quantity take-off of materials.

Course Description: This course introduces the student to the basic methods of estimating and develops a system for doing quantity surveys. The course also prepares the student to make some of the kinds of estimates that are commonly used in residential construction.

Prerequisites:

1. "Principles of Residential Construction"
2. "Blueprint Reading"

Suggested Primary Text: Dagostino, Frank R. Estimating in Building Construction. Reston, Va.: Reston Publishing Co., Inc., 1973.

Course Outline:

I. Estimating and the Estimator
   - A. What is estimating?
   - B. Kinds of estimating
   - C. How to prepare an estimate

II. Specifications
- A. Format

III. Excavation Estimating
- A. Cubic yard
- B. Plot plan

IV. Estimating Concrete
- A. Cubic yard
- B. Reinforcement steel
- C. Form work
  - (a) Materials used

V. Estimating Wall Framing
- A. Studs (spacing)
- B. Plates
- C. Door and window bucks
- D. Board feet of lumber

VI. Estimating Ceiling Joist
- A. Spacing
- B. Size of materials
- C. Board feet of lumber
- D. Stiff back (strong back)

VII. Roof Framing
- A. Spacing of rafters
- B. Length of rafters
- C. Collar beam
- D. Purlings
- E. Decking

VIII. Exterior Wall Covering
- A. Brick
- B. Siding wood

IX. Interior Wall and Ceiling Covering
- A. Sheet rock
- B. Paneling
- C. Wall paper
  - (a) Vinyl
- D. Tiles

X. Electrical
   A. Size of wire
   B. Electrical devices
   C. Circuits
   D. Appliance circuits

XI. Plumbing
   A. Water lines
      (a) Hot
      (b) Cold
   B. Sewer systems

Instructional Recommendations/ Suggestions: The fundamental concepts of construction estimating should be developed during an introductory series of classroom presentations. It is recommended that blueprints be obtained from local architects or building contractors for use in presenting the portions of this course which deal with quantity take-offs of material. These same blueprints should be used to develop the materials take-off for units of work reflected in the course outline. Care should be taken to insure that the introductory nature of this course is given positive consideration in selection of class projects. Suggested lesson plans and student handout materials for each phase contained in the course outline have been prepared and are included for use, as appropriate, by other instructors. (Note: Some items of information on these handouts will have to be altered to

correspond to the actual data depicted in the blueprints selected for use by other instructors.)

Satisfactory completion of the courses entitled "Principles of Residential Construction" and "Blueprint Reading" should be an absolute prerequisite for admitting students to this course.

Additional Instructional Materials:

1. Residential blueprints for use in determining materials requirements, types of work to be performed, etc. Obtainable through local area architects or building contractors. Individual copies of the complete set of blueprints should be provided to each student.

2. Lesson plans and Student Handouts, Lessons Two through Eight (copies attached).

Additional References:

Bruce, Leroy F., and Meyer, Leo. Sheet Metal Shop Practice, 3rd ed. Chicago: American Technical Society, 1965.

Godfrey, Robert S., ed. Building Construction Cost Data (Published annually). Duxbury, Mass.: Robert Snow Means Co., Inc., 1974.

Jones, Raymond P., Sr. Construction Estimating. Albany, N. Y.: Delmar Publishers, Inc., 1964.

Matthias, A. J., Jr.; Smith, Esles, Sr.; et al. How to Design and Install Plumbing, 4th ed. Chicago: American Technical Society, 1971.

Moselle, Gary, and Paxton, Albert S. National Construction Estimator. (Published annually.) Los Angeles: Craftsman Book Co., 1974.

Richter, Herbert P. Practical Electrical Wiring, Residential, Farm and Industrial, 9th ed. New York: McGraw-Hill Book Co., 1971.

Steinberg, Joseph, and Stempel, Martin. Estimating for the Building Trades, 2nd ed. Chicago: American Technical Society, 1973.

Weaver, Michael K., and Kirkpatrick, James M. Environmental Control. New York: Harper and Row, 1974.

Lesson Plan: Building Construction Estimating, Chapters One through Four, text, "Introduction to Estimating".

Time: 90 minutes (one and one-half one-hour periods)

References:

Dagostino, Frank R. Estimating in Building Construction. Reston, Va.: Reston Publishing Co., Inc., 1973.

Steinberg, Joseph, and Stempel, Martin. Estimating for the Building Trades, 2nd ed. Chicago: American Technical Society, 1973.

Instructional Aids: Set of blueprints and specifications.

Lesson Objective: To introduce the student to the purpose and type of estimates used in residential construction. To acquaint the student with the various forms, documents, and contractor data used in developing estimates.

Lesson Outline:

I. General Introduction
   - A. Building construction estimating
   - B. Estimating cost before construction begins
   - C. Estimate prepared from working drawings and specifications
   - D. Variables in estimating

II. The Estimator
   - A. Quantity take-off estimator
   - B. The complete estimator
     1. Cannot be taught experience and judgement
     2. Can be taught principles.

III. Cost Analysis Methods
   - A. Detail Method
   - B. Preliminary method

IV. Contract Documents
- A. Working drawings
- B. General conditions
- C. Supplementary to general conditions
- D. Specifications
- E. Agreements
- F. Addenda

V. Bidding Information
- A. Public advertising
- B. Dodge Reports

VI. Availability of Contract Documents

VII. Sources of Estimating Information

VIII. Computers

IX. Review Questions (each chapter, text)
- A. Discuss each question in detail.

Lesson Plan: Excavation Requirements. Chapter Eight, "Excavation".

Time: 240 minutes (four one-hour periods)

References:

Burbank, Nelson L., and Pfister, Herbert R. House Construction Details, 6th ed. New York: Simmons-Boardman Publishing Corp., 1968.

Dagostino, Frank R. Estimating in Building Construction. Reston, Va.: Reston Publishing Co., Inc., 1973.

Steinberg, Joseph, and Stempel, Martin. Estimating for the Building Trades, 2nd ed. Chicago: American Technical Society, 1973.

Instructional Aids: Set of blueprints for each student. Student Handout, "Excavation Requirements".

Lesson Objective: To enable the student to locate and properly utilize information contained in blueprints and specifications on which to base development of the materials take-off for excavation requirements.

Lesson Outline:

I. General

II. Specifications

III. Soil

IV. Excavation (Unit of Measure)
   A. Shrinkage
   B. Swell
      1. Fig. 8-1

V. Equipment

VI. Perimeters and Areas
- A. The perimeter
- B. The area
- C. Discuss example in text.

VII. Topsoil Removal
- A. Depth
- B. 5' to 10' beyond building
- C. 3' to 5' beyond driveways and walks
- D. Discuss example in text.

VIII. General Excavation
- A. Review example.

IX. Special Excavation
- A. Review example.

X. Backfill
- A. Explain example.

XI. Earthwork
- A. New site grading
  - 1. Rough grading
- B. Explain example in text in detail.

XII. Excess and Borrow

XIII. Spreading Topsoil, Finish Grade

XIV. Landscaping

XV. Pumping

XVI. Rock Excavation

XVII. Subcontracting

XVIII. Overhead and Profit

XIX. Check List

XX. Review Questions

XXI. Distribute Student Handout, "Excavation Requirements".

STUDENT HANDOUT

"EXCAVATION REQUIREMENTS"

Item 1: Remove topsoil 6" deep 10' beyond building line.

Item 2: Figure amount of soil in all grade beams as shown on blueprint.

Item 3: Spread 6" of topsoil from building to 10' beyond building.

Item 4: Topsoil to be hauled away.

Item 5: 4" sandfill under slab.

Summary:

Item 1 _____ cu. yd.

Item 2 _____ cu. yd.

Item 3 _____ cu. yd.

Item 4 _____ cu. yd.

Item 5 _____ cu. yd.

Lesson Plan: Concrete Requirements, Chapter Nine, "Concrete".

Time: 480 minutes (eight one-hour periods)

References:

Burbank, Nelson L., and Pfister, Herbert R. House Construction Details, 6th ed. New York: Simmons-Boardman Publishing Corp., 1968.

Dagostino, Frank R. Estimating in Building Construction. Reston, Va.: Reston Publishing Co., Inc., 1973.

Steinberg, Joseph, and Stempel, Martin. Estimating for the Building Trades, 2nd ed. Chicago: American Technical Society, 1973.

Instructional Aids: Blueprints and information from specifications. Student Handout, "Concrete Requirements".

Lesson Objective: To enable the student to locate and properly utilize information contained in blueprints and specifications on which to base the development of materials take-off for concrete requirements.

Lesson Outline:

I. Concrete Work
   A. Ready mixed
   B. Mixed on the job

II. Estimating Concrete
   A. Cubic yard
   B. Explain and discuss examples used in text.

III. Reinforcing Steel
   A. Size of rods
   B. Weight of rods
   C. Splice requirements
   D. Explain example in text.

IV. Vapor Barrier
   A. Size of rolls
   B. Estimating vapor barriers
      1. Explain example in text.

V. Accessories
   A. Expansion joint covers
   B. Expansion joint fillers
   C. Waterstops

VI. Concrete Finishes
   A. Patch-up work
   B. Types of finishes
   C. Estimating concrete finishes
      1. Man-hours required for different types of finishes

VII. Curing
   A. Time required
   B. How to cure

VIII. Transporting Concrete

IX. Forms
   A. Wood forms
   B. Metal forms
   C. Miscellaneous forms
   D. Estimating forms
      1. Concrete contact area

X. Form Liners
   A. For different patterns
   B. Estimating form liners

XI. Check List for Concrete

XII. Review Questions, text.

XIII. Distribute Student Handout, "Concrete Requirements".

STUDENT HANDOUT

"CONCRETE REQUIREMENTS"

Item 1: Forms required, Bd. ft. of material.

a. Brace at each corner and two feet on centers (one 8-ft. 2x4 needed for each brace)

Item 2: Vapor barrier needed under slab

Item 3: Reinforcing rods

#3
#4
#5

Item 4: Amount of concrete needed for slab

Summary:

Item 1 _____ B.F.

Item 2 _____ sq. ft.

Item 3 _____ ft. _____ lb. #3

_____ ft. _____ lb. #4

_____ ft. _____ lb. #5

Item 4 _____ cu. yds.

Lesson Plan: Masonry Requirements, Chapter 10, "Masonry".

Time: 360 minutes (six one-hour periods)

References:

Dagostino, Frank R. Estimating in Building Construction. Reston, Va.: Reston Publishing Co., Inc., 1973.

Steinberg, Joseph, and Stempel, Martin. Estimating for the Building Trades, 2nd ed. Chicago: American Technical Society, 1973.

Burbank, Nelson L., and Pfister, Herbert R. House Construction Details, 6th ed. New York: Simmons-Boardman Publishing Corp., 1968.

Instructional Aids: Set of blueprints, and information from specifications. Student Handout, "Masonry Requirements".

Lesson Objective: To enable the student to locate and properly utilize information contained in blueprints and specifications on which to base development of the materials take-off for masonry requirements.

Lesson Outline:

I. General
   A. Description of masonry materials, tasks, and responsibilities.

II. Specifications

III. Bonds (Patterns)

IV. Concrete Masonry
   A. Concrete blocks

V. Estimating Concrete Masonry
   A. Explain examples in book.

VI. Specifications Concrete Masonry

VII. Clay Masonry

VIII. Estimating Brick
- A. Explain example in book.

IX. Specifications Brick

X. Mortar
- A. Explain example.

XI. Accessories
- A. Control joints
- B. Wall ties
- C. Flashing
- D. Weep holes

XII. Review Questions (text)

XIII. Student Handout, "Masonry Requirements".

STUDENT HANDOUT

"MASONRY REQUIREMENTS"

Item 1: Figure number of bricks as shown on blueprint.

Item 2: Mortar for item 1.
7 cu. ft. of mortar for every sq. of brick face

Item 3: Wall ties. One for every 3 sq. ft. of wall, item 1.

Item 4: Masonry wall reinforcing bars. One every four courses of brick.

Summary:

Item 1 _____ Bricks

Item 2 _____ cu. yd. mortar

Item 3 _____ wall ties

Item 4 _____ masonry wall reinforcing bars

Lesson Plan: Requirements, Wood Frame Construction. Chapter Seventeen, "Wood Frame Construction".

Time: 600 minutes (ten one-hour periods)

References:

Dagostino, Frank R. Estimating in Building Construction. Reston, Va.: Reston Publishing Co., Inc., 1973.

Steinberg, Joseph, and Stempel, Martin. Estimating for the Building Trades, 2nd ed. Chicago: American Technical Society, 1973.

Burbank, Nelson L., and Pfister, Herbert R. House Construction Details, 6th ed. New York: Simmons-Boardman Publishing Corp., 1968.

Instructional Aids: Set of blueprints and specifications. Student Handout, "Wood Frame Construction Requirements".

Lesson Objective: To enable the student to locate and properly utilize information contained in blueprints and specifications on which to base development of the materials take-off for wood frame construction requirements.

Lesson Outline:

I. Frame Construction

II. Board Measure

III. Studs (Wall Framing)
- A. Plates
- B. Studs
- C. Door and window headers
- D. Tees and corners
- E. Trimmers
- F. Sills (window)
- G. Fire blocks
- H. Wind braces

IV. Joists, Ceiling
- A. Size
- B. Spacing
- C. Span
- D. Direction of run
- E. Bridging
- F. Stiff or strong back

V. Rafters
- A. Size
- B. Spacing
- C. Span (length of rafters)
- D. Purlings
- E. Collar beams
- F. Facier backing
- G. Barge rafters

VI. Sheathing (Decking and Wall)
- A. Solid Lumber
  - 1. 1x2
  - 2. 1x6 T&G
  - 3. 1x8 T&G
  - 4. 1x6 and 1x8 Shiplap
- B. Plywood Sheathing
  - 1. Size
  - 2. Thickness
  - 3. Joints on rafter
  - 4. Joints between rafter
- C. Wall Sheathing
  - 1. Lumber
  - 2. Plywood
  - 3. Insulating
    - (a) Structural
    - (b) Non-structural
  - 4. Gyp rock

VII. Insulation
- A. Roll
- B. Batt
- C. Rigid
- D. Blown

VIII. Trim
- A. Exterior
  1. Facier board
  2. Corner boards
  3. Soffits
- B. Interior
  1. Door trim
  2. Base and base shoe
  3. Ceiling molding

IX. Check List

X. Student Handout, "Wood Frame Construction Requirements".

STUDENT HANDOUT

"WOOD FRAME CONSTRUCTION REQUIREMENTS"

Item 1: Wall Framing

a. Studs 16" on center
b. Plates. Two top, one bottom
c. Headers. 2x6 double headers
d. Tees
e. Corners
f. Trimmers
g. Sills. 2x4. Double under window.
h. Fire block, all outside walls. Two rows where vertical siding is used.
i. Wind braces at each corner, where appropriate.

Item 2: Joists, Ceiling. 16" on center. 2x8 ceiling joist. No bridging required.

Item 3: Rafters. 2' centers. Overhang as required on blueprint. One purling if rafter is over 12' long. Collar beam every 4 ft. 2x6 facier backers.

Item 4: Decking
4x8 - 5/8 in. exterior plywood

Item 5: Gyp Wall Sheathing (2x8), Installed Horizontally

Item 6: Insulation (Roll)
3" thick between studs on all outside walls.

Item 7: Trim

Exterior: Facier 1x6 yellow pine
Soffit 3/8 in. exterior plywood

Interior: Base
Ceiling Molding

Summary:

Item 1: Studs _____ B.F.

Plates _____ B.F.

Headers _____ B.F.

Tees _____ B.F. _____ No.

Corners _____ B.F. _____ No.

Trimmers _____ B.F.

Headers _____ B.F.

Sills _____ B.F.

Item 2: Joist _____ B.F.

Stiff back _____ B.F.

Item 3: No. _____ length _____ B.F. _____.

Purling _____ B.F.

Collar beams _____ B.F.

Facier backer _____ B.F.

Item 4: Plywood _____ No. Sheets

Item 5: Gyp rock _____ No. pieces

Item 6: Insulation _____ sq. ft.

Item 7: Trim

Exterior

Facier _____ B.F.

Soffit _____ sq. ft.

Item 7: Trim

Interior

Base _____ L.F.

Ceiling Molding _____ L.F.

Lesson Plan: Roofing Requirements. Chapter Sixteen, "Roofing".

Time: 180 minutes (three one-hour periods)

References:

Dagostino, Frank R. Estimating in Building Construction. Reston, Va.: Reston Publishing Co., Inc., 1973.

Steinberg, Joseph, and Stempel, Martin. Estimating for the Building Trades, 2nd ed. Chicago: American Technical Society, 1973.

Burbank, Nelson L., and Pfister, Herbert R. House Construction Details, 6th ed. New York: Simmons-Boardman Publishing Corp, 1968.

Instructional Aids: Set of blueprints and specifications. Student Handout, "Roofing Requirements".

Lesson Objective: To enable the student to locate and properly utilize information contained in blueprints and specifications on which to base development of the materials take-off for roofing requirements.

Lesson Outline:

I. Roofing
   A. Types of roofing materials

II. Roof Shapes
   A. Roof area

III. Shingles
   A. Asphalt
      1. Size
      2. Weight
      3. Coverage
      4. Exposure
      5. Felt
      6. Nails

B. Asbestos
   1. Size
   2. Weight
   3. Nails
   4. Felt

C. Wood Shingles and Shakes
   1. Size (length)
   2. Sold by square, 10" exposure
   3. Nails

D. Other Roofs
   1. Built-up
   2. Corrugated sheets
   3. Metal roof
   4. Slate
   5. Tile

IV. Check List

V. Student Handout, "Roofing Requirements".

STUDENT HANDOUT

"ROOFING REQUIREMENTS"

Item 1: Shingles

a. Asphalt shingles, square tab, 5" exposure to weather

Item 2: 30 lb. felt
2" lap edge
1' lap end

Item 3: Metal edging

Summary:

Item 1 Shingles _____ sq.

Nails _____ lb.

Item 2 Felt _____ sq.

Nails _____ lb.

Item 3 Metal edging _____ len. ft.

Lesson Plan: Requirements, Drywall and Wetwall Construction. Chapter Thirteen, "Drywall and Wetwall Construction".

Time: 180 minutes (three one-hour periods)

References:

Dagostino, Frank R. Estimating in Building Construction. Reston, Va.: Reston Publishing Co., Inc., 1973.

Steinberg, Joseph, and Stempel, Martin. Estimating for the Building Trades, 2nd ed. Chicago: American Technical Society, 1973.

Burbank, Nelson L., and Pfister, Herbert R. House Construction Details, 6th ed. New York: Simmons-Boardman Publishing Corp., 1968.

Instructional Aids: Set of blueprints and specifications. Student Handout, "Drywall and Wetwall Requirements".

Lesson Objective: To enable the student to locate and properly utilize information contained in blueprints and specifications on which to base development of the materials take-off for drywall and wetwall construction requirements.

Lesson Outline:

I. Drywall Construction
   A. Sheet Rock
      1. Tape and bed
   B. Wood Paneling
      1. How installed
      2. Types of paneling

II. Student Handout, "Drywall and Wetwall Construction Requirements".

III. Discuss review questions, text.

STUDENT HANDOUT

"DRYWALL AND WETWALL CONSTRUCTION REQUIREMENTS"

Item 1: Sheet rock: 4x8 sheets.
1/2" sheet rock required on all walls and ceilings

Item 2: Paneling: 4x8 sheets.
1/4" paneling on wall in family room and study

Summary:

Item 1 _____ pieces of sheetrock

Item 2 _____ pieces of paneling

Lesson Plan: Requirements for Finishes. Chapter Fifteen, "Finishes".

Time: 360 minutes (six one-hour periods)

References:

Dagostino, Frank R. Estimating in Building Construction. Reston, Va.: Reston Publishing Co., Inc., 1973.

Steinberg, Joseph, and Stempel, Martin. Estimating for the Building Trades, 2nd ed. Chicago: American Technical Society, 1973.

Burbank, Nelson L., and Pfister, Herbert R. House Construction Details, 6th ed. New York: Simmons-Boardman Publishing Corp., 1968.

Instructional Aids: Set of blueprints and specifications. Student Handout, "Requirements for Finishes".

Lesson Objective: To enable the student to locate and properly utilize information contained in blueprints and specifications on which to base development of the materials take-off for finishing requirements.

Lesson Outline:

I. Flooring
   A. Types
   B. Where used

II. Wood Flooring
   A. Types of wood
   B. Strip flooring
   C. Block flooring
   D. Estimating
   E. Specifications

III. Resilient Flooring
   A. Types
   B. Where used
   C. Estimating
   D. Specifications
   E. Adhesives
      1. Coverage

IV. Carpet
- A. Types
- B. Estimating
- C. Specifications

V. Tiles
- A. Types and sizes
- B. Estimating
- C. Specifications

VI. Painting Interior
- A. Types of paints
- B. Where used
- C. Estimating
- D. Specifications
- E. Take-off of areas
  1. Walls
  2. Ceiling
  3. Doors
  4. Trim

VII. Check List

VIII. Review Questions, text.

IX. Student Handout, "Requirements for Finishes".

STUDENT HANDOUT

"REQUIREMENTS FOR FINISHES"

Item 1: Floorcovering
a. Vinyl Resilient Tile in kitchen, dinette, utility and baths

Item 2: Carpet remainder of house (except garage).

Item 3: Paint Interior
a. Sheet rock walls and ceilings in kitchen and bath. Doors and trim Latex Enamel (three coats).
b. All other sheet rock, Latex (three coats).

Item 4: Tile wainscots, 4 ft. high in baths.

Summary:

Item 1 _____ boxes tile floor covering

_____ gals. mastic

Item 2 _____ sq. yds. carpet

Item 3 _____ gals Latex Enamel

_____ gals. Latex

Item 4 _____ sq. ft. ceramic tile

Lesson Plan: Subcontractor Functions. Chapters Eighteen, Nineteen, and Twenty, "Electrical", "Plumbing", and "HVAC".

Time: 360 minutes (six one-hour periods)

References:

Dagostino, Frank R. Estimating in Building Construction. Reston, Va.: Reston Publishing Co., Inc., 1973.

Steinberg, Joseph, and Stempel, Martin. Estimating for the Building Trades, 2nd ed. Chicago: American Technical Society, 1973.

Burbank, Nelson L., and Pfister, Herbert R. House Construction Details, 6th ed. New York: Simmons-Boardman Publishing Corp., 1968.

Richter, Herbert P. Practical Electrical Wiring, Residential, Farm, and Industrial, 9th ed. New York: McGraw-Hill Book Co., 1972.

Matthias, A. J., Jr.; Smith, Esles, Sr.; et al. How to Design and Install Plumbing, 4th ed. Chicago: American Technical Society, 1971.

Instructional Aids: Set of blueprints and specifications.

Lesson Objective: To acquaint the student with methods used in developing rough cost estimates for functions which are normally subcontracted in residential construction practices.

Lesson Outline:

I. Electrical
   A. Contractor-subcontractor relationships and procedures

II. Plumbing
   A. Contractor-subcontractor relationships and procedures

III. Heating, Ventilating and Air Conditioning

A. Contractor-subcontractor relationships and procedures.

RESIDENTIAL CONSTRUCTION TECHNOLOGY

Name of Course: Residential Construction Materials and Processes

Course Objective: To provide an in-depth study of the materials used in residential construction, and a basic understanding of how these materials are assembled into finished residential units.

Course Description: This course is a broad survey of the materials used in the various processes of residential construction. It is designed to familiarize the student with the components of modern construction so that he can select the materials best suited for the application, whether from the standpoint of durability and serviceability or from that of appearance, or both.

Suggested Primary Text: Watson, Donald A. Construction Materials and Processes. New York: McGraw-Hill Book Co., 1972.

Course Outline:

I. Selection of Materials
   - A. Materials evaluation
   - B. References
   - C. Trade associations
   - D. Reference standards
   - E. Testing laboratories

II. Soils, Site Work, Foundations, and Paving
- A. Soil classification
- B. Soil behavior
- C. Soil investigation
- D. Soil modification
- E. Foundations and piles
- F. Paving and surfacing materials

III. Concrete
- A. Cement
- B. Aggregate
- C. Admixtures
- D. Water
- E. Design of mix
- F. Placing concrete
- G. Joints
- H. Finishing and curing concrete
- I. Reinforced concrete
- J. Precast concrete
- K. Prestressed concrete

IV. Masonry
- A. Stone
- B. Stone masonry
- C. Brick
- D. Brickwork
- E. Structural clay tile
- F. Concrete block
- G. Gypsum block
- H. Glass block

V. Wood and Related Products
- A. Characteristics of wood
- B. Defects in wood
- C. Preparation of lumber
- D. Characteristics of softwoods and hardwoods
- E. Lumber grades
- F. Treated lumber
- G. Glued-laminated timber
- H. Structural plywood
- I. Hardwood plywood
- J. Pressed boards
- K. Composite boards
- L. Wood fasteners

VI. Ferrous Metals and Steel Framing
- A. Iron
- B. Cast iron
- C. Wrought iron
- D. Steel
- E. Shaping steel
- F. Steel pipe, tubing, and wire
- G. Steel castings
- H. Classifications of steels
- I. Steel construction
- J. Steel fasteners
- K. Steel floor and roof framing

VII. Nonferrous Metals and Alloys
- A. Aluminum and aluminum alloys
- B. Aluminum products
- C. Lead
- D. Zinc and zinc coatings
- E. Copper and copper alloys
- F. Nickel, chromium, cadmium, and titanium

VIII. Lath, Plaster, and Accoustical Materials
- A. Plaster
- B. Gypsum plasters
- C. Portland cement plasters
- D. Lath
- E. Lath-and-plaster construction
- F. Accoustics
- G. Accoustical materials

IX. Roofing, Sheet Metal, Dampproofing, and Thermal Insulation
- A. Roofing materials
- B. Bituminous roofing materials
- C. Shingles, tiles, and slate
- D. Wood shingles and shakes
- E. Membrane roofing
- F. Metals
- G. Weatherproofing and drainage
- H. Dampproofing and waterproofing
- I. Thermal insulation

X. Floor and Wall Coverings
- A. Floor coverings
- B. Wood flooring
- C. Resilient flooring
- D. Seamless resilient flooring
- E. Terrazzo
- F. Wall and floor tile
- G. Tilesetting
- H. Wall coverings

XI. Doors, Windows, and Hardware
- A. Doors
- B. Wood doors
- C. Sliding and folding doors
- D. Metal and metal-covered doors
- E. Windows
- F. Glazed walls
- G. Builders' hardware
- H. Cabinet hardware

XII. Glass, Glazing, and Sealants
- A. Glass
- B. Sheet glass
- C. Plate glass
- D. Safety glass
- E. Tinted and coated glass
- F. Mirrors
- G. Plastic glazing materials
- H. Glazing

XIII. Paints and Finishes
- A. Properties of paint
- B. Pigments
- C. Vehicles
- D. Solvents
- E. Clear coatings and stains
- F. Primers and sealers
- G. Special-purpose paints

XIV. Mechanical Equipment
- A. The mechanical trades
- B. Water-distribution systems
- C. Drainage systems
- D. Drain pipe and fittings
- E. Fuel-gas piping
- F. Plumbing fixtures
- G. Heating systems
- H. Air conditioning systems

XV. Electrical Equipment
- A. Electrical energy
- B. Power generation
- C. Services and service equipment
- D. Wiring materials and methods
- E. Junction boxes, outlets, and switches
- F. Lighting

Instructional Recommendations/ Suggestions: The suggested text is abundantly illustratrd with photographs and drawings depicting the materials and processes of construction. It is organized in accordance with the sixteen divisions of the Uniform System For Construction Specifications. During the early stages of this course the student should be thoroughly indoctrinated in the content and proper usage of Sweet's Architectural Catalogue File. A virtually unlimited range of supplemental instructional aids and materials is available through building materials manufacturers and distributors. These aids run the gamut from product sample boards through film strips and transparencies (including manufacturers' representatives and guest lecturers). Each major

section of the text includes discussion questions which can well be used to develop a test item bank for examination purposes. This course covers an extremely broad subject area. The instructor, in preparing daily lesson outlines, should plan for limiting discussion to the major aspects of each topic, so as to insure a wider general orientation into the various materials of construction, rather than specific details of selected items.

Additional Instructional Materials:

Manufacturers' Sample Boards, Film Strips, 16MM Films, Product Representatives (for guest lecture purposes), etc. All available through various building materials manufacturers.

Sweet's Architectural Catalogue Files. Outdated copies of these publications (suitable for instructional purposes) may be obtained in sufficient quantities for classroom use through local architects and building contractors (recommend as a minimum one complete set of files for each four students in the class).

Additional References:

Merritt, Frederick S., ed. Building Construction Handbook, 2nd ed. New York: McGraw-Hill Book Co., 1965.

Wass, Alonzo. Methods and Materials of Residential Construction. Reston, Va.: Reston Publishing Co., Inc., 1973.

In addition to the general references cited above, a detailed topical listing of references is included at the end of each major section of the recommended text.

RESIDENTIAL CONSTRUCTION TECHNOLOGY

Name of Course: Communication Skills

Course Objectives: To encourage student understanding of the critical importance of each of the various communication processes in residential construction activities. To provide an opportunity for individual student development of verbal and non-verbal communication skills.

Course Description: A study of the basic skills of writing; foundation work in the principles of grammar, punctuation, and sentence structure. Includes drills in spelling, exercises in vocabulary development, and practice in writing effective sentences. The course should provide analysis of each student's strengths and weaknesses, and instruction should be aimed at remedying the most serious deficiencies.

Suggested Primary Text: To be determined locally.

Course Outline:

I. Communication in Construction Processes
   A. Summary of the technical specialist's need for proficiency in communication
   B. Discussion of written communication as an essential skill
      1. Statements of facts
      2. Expression of ideas
      3. Technical reporting
         a. Formal
         b. Informal
      4. Use of graphics in written communication
   C. Discussion of oral communications as an essential skill
      1. Person-to-person expression of ideas and thoughts
      2. Verbal reporting
   D. Diagnostic testing of students

II. Sentence Structure
   A. Review of basic parts of speech
   B. Study of complete, clear, and correct sentences
   C. Use and placement of modifiers, phrases, and clauses
   D. Study of sentence conciseness
   E. Exercises in sentence structure

III. Written Expression (emphasis on student exercise)
   A. Diagnostic testing of students
   B. Study of paragraph construction
      1. Development
      2. Topic sentence
      3. Unity; coherence
   C. Study of types of expression
      1. Narration, description, exposition
      2. Inductive and deductive reasoning
      3. Figures of speech; analogies; comparisons and contrasts
      4. Cause-and-effect reasoning
      5. Other
   D. Written exercises in paragraph construction

III. Written Expression (emphasis on student exercise) (Continued)

- E. Study of descriptive reporting
  - 1. Organization and planning
  - 2. Emphasis on sequence, continuity, and delimitation to pertinent data or information
- F. Study of letter writing
  - 1. Business letters
  - 2. Personal letters
- G. Review of mechanics
  - 1. Grammar (reviewed as required)
  - 2. Punctuation—when to use
    - a. Period, question mark, exclamation mark
    - b. Comma
    - c. Semicolon
    - d. Colon
    - e. Dash
    - f. Parentheses
    - g. Apostrophe
  - 3. Capitalization
  - 4. Spelling
    - a. Word division—syllables
    - b. Prefixes and suffixes
    - c. Word analysis and meaning—context, clues, and phonetics
- H. Exercises in mechanics of written expression

IV. Talking and Listening (emphasis on student exercises)

- A. Diagnostic testing of students
- B. Organization of topics or subjects
- C. Directness in speaking
- D. Gesticulation and use of objects to illustrate
- E. Conversation courtesies
- F. Listening faults
- G. Taking notes
- H. Understanding words through context clues
- I. Exercises in talking and listening

V. Improving Reading Efficiency
   A. Diagnostic testing of students
   B. Improving reading habits
      1. Correct reading posture
      2. Light sources and intensity
      3. Developing proper eye-span and movement
      4. Developing speed and comprehension appropriate to the purpose
      5. Scanning; sentence reading
      6. Taking notes for careful study
   C. Footnotes, index, bibliography, and cross references
   D. Developing skill in summarizing
      1. Outline
      2. Digest or brief
      3. Criticism
   E. Exercises in reading improvement
      1. Reading for comprehension
      2. Reading for speed

Instructional Recommendations/ Suggestions: This course is basically an intensive review of the fundamental communication processes. Because of the wide differences in levels of individual student development normally found in classes of this type, the use of testing procedures which encourage accelerated progress for the more advanced students is strongly recommended. Most post-secondary institutions will have established courses within the regular curriculum which satisfy the developmental objectives of this course.

Additional Instructional Materials:	To be developed locally.
Additional References:	To be developed locally.

RESIDENTIAL CONSTRUCTION TECHNOLOGY

Name of Course: Introduction to Business

Course Objectives: To familiarize the student with the economic, social, and legal environments in which business is conducted in our present-day society. To provide an opportunity for the student to learn what capitalism is and how it functions. To encourage the student to acquire a usable vocabulary of business terms and to gain an understanding of the methods and procedures used by businessmen to arrive at decisions.

Course Description: This is a survey-type course which examines the characteristics of business organization, the records of business, problems of marketing, personnel, finance, decision making, and the legal and regulatory environment of business. Special emphasis is placed on defining the responsibilities of business in regard to such nonprofitable activities as employing the disadvantaged, promoting civic and educational projects and fighting pollution.

Suggested Primary Text: Glos, Raymond E., and Baker, Harold A. Business: Its Nature and Environment; An Introduction, 7th ed. Cincinnati, Ohio: South-Western Publishing Co., 1972.

Course Outline:

I. Business and Society
   A. Nature of business
   B. Economic business environment
   C. Ethics and social responsibilities

II. Ownership, Organization, and Management
   A. Unincorporated businesses
   B. Incorporated businesses
   C. Organization for management
   D. Management activities

III. Marketing
   A. Marketing--nature and scope
   B. Wholesaling and retailing
   C. Prices and pricing
   D. Advertising
   E. International trade

IV. Personnel
   A. Employee selection and training
   B. Employee compensation
   C. Labor problems and legislation

V. Production
   A. Materials management
   B. Production problems

VI. Finance
   A. Short-term financing
   B. Long-term financing
   C. Financial problems and policies
   D. Security markets and financial news
   E. Risks and insurance

VII. Quantitative Controls
   A. Accounting and financial statements
   B. Data processing
   C. Business statistics and reports
   D. Forecasting and budgeting

VIII. Legal and Regulatory Environment of Business
   A. Business law
   B. Governmental regulation of business
   C. Business and taxes

Instructional Recommendations/ Suggestions:

The text suggested for use in this course is designed to provide a general familiarization with the whole area of activity known as business. This complete view will provide a framework into which the student can fit the segments he subsequently studies in greater detail (Business Mathematics, Accounting, Management, etc.). The stress on environmental factors is considered to be of special importance for those students planning careers in construction. The suggested text is well suited to the purposes of this course. It also serves as the nucleus around which the authors have developed a complete teaching materials package. The various parts of the total package are listed in the section on Additional Instructional Materials, below.

Additional Instructional Materials:

"Student Supplement" to suggested primary text (Questions, Problems, Readings, Incidents). Available through the publisher.

"Instructor's Manual" for use with suggested text. Available through the publisher.

"Transparency Masters" for use with the suggested text. Contains a series of several masters for each chapter of the text. Available through the publisher.

Additional Instructional Materials (Continued):

"Objective Tests" for use with the suggested text. Contains a set of ten complete objective examinations over materials contained in the text. Available through the publisher.

Additional References

Bjork, Gordon C. Private Enterprise and Public Interest: The Development of American Capitalism. Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1969.

Gruchy, Allen G. Comparative Economic Systems: Competing Ways to Stability and Growth. Boston: Houghton Mifflin Co., 1966.

Poe, Jerry B. An Introduction to American Business Enterprises: Introductory Text and Cases, rev. ed. Homewood, Ill.: Richard D. Irwin, Inc., 1972.

Russel, Robert R. A History of the American Economic System. New York: Appleton-Century-Crofts, 1964.

RESIDENTIAL CONSTRUCTION TECHNOLOGY

Name of Course: Construction Practicum II

Course Objective: To provide opportunity for the student to gain a wider range of work experiences on the construction site. To provide continued opportunity for skill development in the craft selected for specialized study during Construction Practicum I.

Course Description: This course is a continuation of the student development concepts initiated in Construction Practicum I. The work experiences gained during Construction Practicum I and II should result in student acquisition of an entry-level skill in one of the principal areas of employment in residential construction, and serve as a base for further individual development as each student acquires additional experience within the industry.

Suggested Primary Text: See comments, this topic, Construction Practicum I.

Course Outline: Continuation of Construction Practicum I.

Instructional Recommendations/ Suggestions:	See comments, this topic, Construction Practicum I.
Additional Instructional Materials:	Guides for each craft should be sufficiently broad to provide for continued development of skills selected for specialized study during Construction Practicum I.
Additional References:	Recommend continued study and application of additional references listed in Construction Practicum I.

RESIDENTIAL CONSTRUCTION TECHNOLOGY

Name of Course: Residential Construction Estimating

Course Objectives: To afford the student an opportunity to gain practical experience in preparing material and labor quantity surveys and in developing the types of estimates used in residential construction. To develop student understanding of the relationships between contracts, codes, specifications and working drawings, and how these documents are used in the estimating process.

Course Description: This course requires that the student utilize knowledge gained in previous courses to develop realistic estimates of the cost factors which will ordinarily be experienced in the residential construction process. It provides for the study of estimating from the viewpoint of the general contractor, sub-contractor, general superintendent, and the professional construction estimator.

Prerequisites:

1. "Principles of Residential Construction"
2. "Blueprint Reading"
3. "Introduction to Estimating"

Suggested Primary Text: Dagostino, Frank R. Estimating in Building Construction. Reston, Va.: Reston Publishing Co., Inc., 1973.

Course Outline:

I. Introduction to Estimating
   A. General introduction
   B. The estimator
   C. Cost analysis methods
   D. The contract documents
   E. Bidding information
   F. Availability of contract documents
   G. Sources of estimating information
   H. Computers

II. Contracts, Bonds and Insurance
   A. The contract system
   B. Types of agreement
   C. Lump-sum agreement
   D. Unit-price agreement
   E. Cost-plus-fee
   F. Agreement provisions
   G. Bonds
   H. Bid bonds
   I. Performance bonds
   J. Labor and material bonds
   K. Miscellaneous bonds
   L. Obtaining bonds
   M. Insurance

III. Specifications
   A. Specifications
   B. Invitation to bid
   C. Instructions to bidders
   D. Bid (Proposal) forms
   E. Form of owner-contractor agreement
   F. General conditions
   G. Supplementary general conditions
   H. Technical trade sections
   I. Alternates
   J. Addenda
   K. Errors in specifications

IV. The Estimate
   A. Organization
   B. Daily log
   C. Notebook
   D. To bid or not to bid
   E. The estimate
   F. Site investigation
   G. Subcontractors

IV. The Estimate (continued)
- H. Materials
- I. Work-up sheets
- J. Summary sheets
- K. Errors and omissions

V. Overhead and Contingencies
- A. Overhead
- B. General overhead
- C. Job overhead
- D. Contingencies
- E. Checklist

VI. Labor
- A. General
- B. Unions--wages and rules
- C. Field reports
- D. Pricing labor
- E. Labor diagrams

VII. Equipment
- A. General
- B. Operation costs
- C. Depreciation
- D. Interest
- E. Ownership costs
- F. Rental costs
- G. Miscellaneous tools
- H. Cost accounting
- I. Mobilization
- J. Checklist

VIII. Excavation
- A. General
- B. Specifications
- C. Soil
- D. Excavation--Unit of Measure
- E. Equipment
- F. Perimeters and areas
- G. Topsoil removal
- H. General excavation
- I. Special excavation
- J. Backfilling
- K. Earthwork
- L. Excess and borrow
- M. Spreading topsoil

VIII. Excavation (continued)
- N. Landscaping
- O. Pumping (De-Watering)
- P. Rock excavation
- Q. Subcontractors
- R. Overhead and profit
- S. Excavation checklist
- T. Piles
- U. Pile checklist
- V. Asphalt paving

IX. Concrete
- A. Concrete work
- B. Estimating concrete
- C. Reinforcing
- D. Vapor barrier
- E. Accessories
- F. Concrete finishing
- G. Curing
- H. Transporting concrete
- I. Forms
- J. Form liners
- K. Concrete checklist

X. Masonry
- A. General
- B. Specifications
- C. Bonds (Patterns)
- D. Concrete masonry
- E. Estimating--concrete masonry
- F. Specifications--concrete masonry
- G. Clay masonry
- H. Estimating brick
- I. Specifications--brick
- J. Estimating tile
- K. Specifications--tile
- L. Stone masonry
- M. Estimating stone
- N. Specifications--stone
- O. Mortar
- P. Accessories
- Q. Reinforcing bars
- R. Cleaning
- S. Equipment
- T. Cold weather
- U. Labor
- V. Subcontractors
- W. Checklist

XI. Waterproofing and Dampproofing
- A. Waterproofing
- B. Membrane waterproofing
- C. Estimating--membrane
- D. Integral method
- E. Metallic method
- F. Dampproofing
- G. Painting method
- H. Estimating--painting
- I. Parging (Plastering)
- J. Estimating--parging
- K. Checklist

XII. Structural Systems
- A. Precast concrete
- B. Estimating
- C. Specifications
- D. Precast tees
- E. Precast slabs
- F. Precast columns and beams
- G. Miscellaneous precast
- H. Precast costs
- I. Precast checklist
- J. Structural steel
- K. Structural steel framing
- L. Steel joists
- M. Steel decking
- N. Miscellaneous structural steel
- O. Steel erection subcontractors
- P. Steel checklist
- Q. Wood systems
- R. Wood trusses
- S. Laminated beams and arches
- T. Wood decking
- U. Plywood systems
- V. Wood checklist

XIII. Drywall and Wetwall Construction
- A. General
- B. Supporting construction
- C. Suspended ceiling systems
- D. Drywall
- E. Types of assemblies
- F. Wallboard types
- G. Column fireproofing
- H. Accessories

XIII. Drywall and Wetwall Construction (continued)
- I. Wetwall construction
- J. Plaster
- K. Lath
- L. Accessories
- M. Checklist

XIV. Windows, Curtainwalls, Doors, and Hardware
- A. Window and curtainwall frames
- B. Accessories
- C. Doors
- D. Fire-rated doors
- E. Acoustical doors
- F. Overhead doors
- G. Folding doors and partitions
- H. Prefitting and machining (premachining)
- I. Prefinishing
- J. Door frames
- K. Hardware
- L. Accessories
- M. Checklist for doors and frames
- N. Glass

XV. Finishes
- A. Flooring
- B. Wood flooring
- C. Resilient flooring
- D. Carpeting
- E. Tile
- F. Painting
- G. Checklist

XVI. Roofing
- A. Roofing
- B. Roof areas
- C. Shingles
- D. Built-up roofing
- E. Corrugated sheets
- F. Metal roofing
- G. Slate
- H. Tile
- I. Sheet, tiles, and shingles formula
- J. Liquid roofing
- K. Flashing
- L. Insulation
- M. Roofing trim
- N. Labor
- O. Equipment
- P. Checklist

XVII. Wood Frame Construction
- A. Frame construction
- B. Board measure
- C. Studs
- D. Wood joists
- E. Rafters
- F. Sheathing
- G. Insulation
- H. Trim
- I. Checklist

XVIII. Electrical
- A. Electrical work
- B. Single contracts
- C. Separate contracts
- D. Coordination requirements
- E. Checklist

XIX. Plumbing
- A. Plumbing work
- B. Single contracts
- C. Separate contracts
- D. Coordination requirements
- E. Checklist

XX. Heating, Ventilating, and Air Conditioning
- A. HVAC work (Heating, Ventilating, and Air Conditioning)
- B. Single contracts
- C. Separate contracts
- D. Coordination requirements
- E. Checklist

XXI. Profit
- A. Profit

Suggested References:

Burbank, Nelson L., and Pfister, Herbert R. House Construction Details, 6th ed. New York: Simmons-Boardman Publishing Corp., 1968.

Jones, Raymond P., Sr. Construction Estimating. Albany, N. Y.: Delmar Publishers, Inc., 1967.

Suggested References (continued):

Steinberg, Joseph, and Stempel, Martin. Estimating for the Building Trades, 2nd ed. Chicago: American Technical Society, 1973.

Instructional Recommendations/ Suggestions:

A basic requirement for conducting a course in estimating is the development of data for use in practice problems. Since production factors vary considerably between geographic areas, the use of approximations is suggested in the completion of simulation exercises. A compilation of the various factors necessary for conducting a simulation exercise in residential construction estimating is included for consideration by other instructors (see attachment, "Simulation Exercise Data"). This data should be used by each student to complete all entries in the "Quantity Survey" (sample format attached) and both the "Simulation Exercise Data" and the completed "Quantity Survey" should be retained for later use in the course entitled "Construction Planning and Control".

The suggested text is arranged according to the sixteen major divisions of the Uniform System for Construction Specifications. The text should be supplemented by use of a set of residential blueprints obtainable through local architects or builders. Sepia

copies of blueprints can frequently be obtained without cost and can be used to reproduce additional copies for individual student distribution. These same blueprints should be retained for later use in the course entitled "Construction Planning and Control".

The first seven chapters of the text deal with general information and are self-explanatory. Chapters Eight through Twenty pertain directly to the divisions used in standard specifications. Suggested practice exercises have been locally developed (copies attached) and may be used by students as an aid in completing the "Quantity Survey".

Additional Instructional Materials:

1. "Simulation Exercise Data". Locally produced. Copy attached.
2. "Quantity Survey". Locally produced. Sample format attached.
3. Residential blueprints. Available through local architects or home builders. Recommend sepia copy for reproduction purposes.

Additional Instructional Materials (Continued):

4. Standard Estimating Pads. Recommended for individual student distribution. Available through local printing and office supply outlets.

5. Suggested "Practice Exercises", Chapters Eight through Seventeen. Locally produced. Copies attached.

Additional References:

Burbank, Nelson L., and Pfister, Herbert R. House Construction Details, 6th ed. New York: Simmons-Boardman Publishing Corp., 1968.

Godfrey, Robert S., ed. Building Construction Cost Data (Published annually). Duxbury, Mass.: Robert Snow Means Co., Inc., 1974.

Jones, Raymond P., Sr. Construction Estimating. Albany, N. Y.: Delmar Publishers, Inc., 1967.

Moselle, Gary, and Paxton, Albert S., eds. National Construction Estimator (Published annually). Los Angeles: Craftsman Book Co., 1974.

Steinberg, Joseph, and Stempel, Martin. Estimating for the Building Trades, 2nd ed. Chicago: American Technical Society, 1973.

SIMULATION EXERCISE DATA

Rough Grading

Labor and Equipment .75 per C.Y. of soil to be moved.
A tractor and one operator will move about 275 yd. of soil per day.
Rent on tractor $20.00 per hr.
Operator's pay $5.00 per hr.

Lay Out

Labor for Laying Out .02 per S.F. of floor space.
Material Cost $150.00 M.F.B.M.
Crew. Two concrete men at $6.00 per hr. ea.

Forming Slab

Labor for forming .05 per S.F. of floor space.
Material Cost $180.00 M.F.B.M.
Material Waste 5%
Crew. Two concrete men at $6.00 per hr. ea.; two laborers at $3.00 per hr. ea.

Filling

Labor for filling .02 per S.F. of floor space.
Material Cost $3.00 C.Y.
Material allowed for tamping 12%
Crew. Two laborers at $3.00 per hr. ea.

Trenching for Beams

Labor and Equipment Cost .03 per S.F. of floor space.
Equipment Rent $6.25 per hr.
Operator's Labor $5.00 per hr.

Fine Grading

Labor for Fine Grading .02 per S.F. of floor space.
Crew. Two laborers at $3.00 per hr. ea.

Vapor Barrier

Labor for Installing Vapor Barrier .005 per S.F. of floor space.
Material Cost _____ S.F.
Material Extra 20% for laps and beams.
Crew. Two laborers at $3.00 per hr. ea.

SIMULATION EXERCISE DATA

Reinforcing Steel

Labor for Installing .05 per S.F. of floor space.
Material Cost _____ lb.
Crew. Two concrete men at $6.00 per hr. ea.; two laborers at $3.00 per hr. ea.
Material Extra 15% for laps.

Weight of Reinforcing Rods.

#3 - 3/8" rods	0.376 lb. per ft.
#4 - 1/2" rods	0.668 lb. per ft.
#5 - 5/8 " rods	1.043 lb. per ft.

Pouring and Finishing Concrete

Labor for Pouring and Finishing Concrete .08 per S.F. of floor space
Curing Time 5 days
Material Cost $18.00 C.Y.
Material Extra 5%
Crew. Two concrete men at $6.00 per hr. ea.; two laborers at $3.00 per hr. ea.

Framing Walls

T and Corners Make Up

Labor .08 per B.F. of material
Crew for all Framing of Walls: Two carpenters at $6.00 per hr. ea.
One carpenter's helper at $4.00 per hr.

Rough Door and Window Bucks (Make Up)

Labor .08 per B.F. of material
Crew. Same.

Beam

Labor .096 per B.F. of material
Crew. Same.
Material Cost $210.00 M.F.B.M.

Plates Cut and Lay Out

Labor .12 per B.F. of material
Material Cost $180.00 M.F.B.M.
Material Waste 5%
Crew. Same.

SIMULATION EXERCISE DATA

Studs (Wall Assembly)

Labor .08 per B.F. of material used in wall studs.
Material Cost $180.00 M.F.B.M.
Crew. Same.
Material Waste 5%

Fire Blocks

Labor .24 per B.F. of material
Material Cost $180.00 M.F.B.M.
Crew. Same.

Wind Braces

Labor .48 per B.F. of material
Material Cost $160.00 M.F.B.M.
Crew. Same.

Dead Wood

Labor .096 per B.F. of material
Material Cost $160.00 M.F.B.M.
Crew. Same.

Ceiling Framing

Ceiling Joist

Labor .106 per B.F. of material
Material Cost $180.00 M.F.B.M.
Crew. Same.
Material Waste 10%

Stiff Back

Labor .096 per B.F. of material
Material Cost $180.00 M.F.B.M.
Crew. Same.
Material Waste 2%

Roof Framing

Rafters

Labor .10 per B.F. of material
Material Cost $180.00 M.F.B.M.
Crew. Same.
Material Waste 5%

Purlings

Labor .096 per B.F. of material
Material Cost $180.00 M.F.B.M.
Crew. Same.
Material Waste 2%

Bracing

Labor .096 per B.F. of material
Material Cost $180.00 M.F.B.M.
Crew. Same.
Material Waste 2%

Collar Beams

Labor .096 per B.F. of material
Material Cost $180.00 M.F.B.M.
Crew. Same.
Material Waste 5%

Cornice and Gable End Framing

Cornice Framing

Labor .14 per B.F. of material
Material Cost $180.00 M.F.B.M.
Crew. Same.
Material Waste 5%

Gable End Framing

Labor .12 per B.F. of material
Material Cost $180.00 M.F.B.M.
Crew. Same.
Material Waste 10%

Decking

Labor .06 per S.F. of material
Material cost _____ S.F.
Crew. Same.
Material Waste 10%

Roofing, Including Dry In

Labor $4.00 per Sq. of roof
Material Cost $14.50 Sq.
Crew. Two roofers at $6.00 per hr. ea.; one helper at $4.00 per hr. Crew average, 4 Sq. per hr.
Material Waste 20%

SIMULATION EXERCISE DATA

Wall Sheathing (Gyp Rock)
- Labor .10 per S.F. of wall
- Material Cost _____ S.F.
- Crew. Carpentry crew.
- Material Waste 5%

Insulation

Wall Insulation
- Labor .02 per S.F. of wall
- Material Cost _____ S.F.
- Crew. Two laborers at $3.00 per hr. ea.

Ceiling Insulation
- Labor .025 per S.F. of ceiling
- Material Cost _____ S.F.
- Crew. Two laborers at $3.00 per hr. ea.

Exterior Trim

Doors, Complete
- Labor 9.60 ea.
- Material Cost $35.00 ea.
- Crew. One carpenter at $6.00 per hr.

Windows
- Labor 2.25 ea.
- Material Cost _____ ea.
- Crew. One carpenter at $6.00 per hr. and one laborer at $3.00 per hr.

Windows Fixed
- Labor 18.00 ea.
- Material Cost $60.00 ea.
- Crew. One carpenter at $6.00 per hr. and one laborer at $3.00 per hr.

Facier
- Labor .38 per L.F.
- Material Cost _____ M.F.B.M.
- Crew. Same as soffit.
- Material Waste 15%

SIMULATION EXERCISE DATA

Gable End

Labor .16 per S.F. to be covered.
Material Cost _____ B.F./S.F.
Crew. Same as soffit.
Material Waste 10%

Exterior Wall Finish

Brick

Labor $80.00 per M.B.
Material Cost
Brick $80.00 per M
Mortar $30.00 cu. yd.
Wall ties _____ ea.
Wall ties, one every 3 sq. ft.
Crew. Two brick masons at $7.50 per hr. ea. and one laborer at $4.00 per hr. 617 bricks per Sq.; 1/3 yd. of mortar per Sq. of brick. Two masons and one helper lay 1,900 per day. 21 bricks to C.F. of fireplace. 40 hrs. average fireplace. 40 hrs. for helper. Use equal amount face brick and common brick.

Siding

Vertical Siding

Labor .16 per S.F. to be covered.
Material Cost _____ M.F.B.M.
Crew. Two carpenters at $6.00 per hr. ea. and one carpenter's helper at $4.00 per hr.
Material Waste 10%

Interior Wall Finish

Sheet Rock

Labor .04 per S.F. of wall and ceiling.
Material Cost _____ S.F.
Crew. Two sheet rock men at $5.00 per hr. ea.
Material Waste 5%

SIMULATION EXERCISE DATA

Tape and Bed and Texture

Labor .025 per S.F. of walls and ceilings.
Material Cost _____ S.F. of coverage
Crew. Two painters at $4.00 per hr. ea.
Material needed to cover 608 S.F. of walls and ceiling:
1/2 roll tape, cost _____ roll
2 1/2 gal. mud, cost _____ 5 gal.
1 sack texture, cost _____ sack

Paint

Labor .15 per S.F. of walls and ceilings.
Material Cost _____ gal.
Crew. Same as tape and bed.
One gal. paint covers 350 S.F., one coat.

Paneling

Labor 3.00 per sheet.
Material Cost _____ per sheet
Crew. One carpenter at $6.00 per hr.
Material Waste openings

Wall Paper

Labor _____ per double roll
Material Cost _____ per roll
One roll covers 33 sq. ft.

Interior Doors and Windows

Doors, Interior (Complete)

Labor 8.00 ea.
Material Cost _____ ea.
Crew. Two carpenters, at $6.00 per hr. ea.

Window Trim, Interior

Labor 3.00 ea.
Material Cost _____ ea.
Crew. Same as doors.

Base

Labor .075 per L.F.
Material Cost _____ L.F.
Crew. Same as doors.

SIMULATION EXERCISE DATA

Crown and Cove Molding

Labor .08 per L.F.
Material Cost _____ L.F.
Crew. Same as doors.

Cabinets

Lump sum
Kitchen Cabinet $45.00 L.F.
Bath Vanity $20.00 L.F.
Linen Closets $30.00 ea.
Time to set cabinets 2 days

Floor Covering

Lump sum
Carpet installed $6.75 - $12.50 S.Y.
Tile installed .32 - .68 S.Y.
Time to install floor covering 2 days

Electrical

Lump sum
110 V. outlets $ 5.50 ea.
220 V. circuits $20.00 ea.
Service panel $80.00
Time to install electrical
2 days to rough in
1 day to trim out

Plumbing

Lump sum
Material and Labor Cost .95 per sq. ft. living area
1 day - sewer lines
1 day - rough in
1 day - trimming out

Heat and Air

Lump sum
Material and Labor Cost .45 per sq. ft. living area
2 days - rough in
1 day - trimming out

QUANTITY SURVEY

Item of Work	Quantity	Unit	Labor	Material	Price (unit)	Total	20% OH Prorated
Foundations							
Rough grading		C.Y.					
Lay out		S.F.					
Forming		S.F.					
Filling		S.F.					
Trenching (Beams)		S.F.					
Fine grading		S.F.					
Vapor barrier		S.F.					
Reinforcing steel		S.F.					
Pouring and finishing concrete		S.F.					
Framing (make up)							
T and corner make up		B.F.					
Rough buck make up		B.F.					
Beams make up		B.F.					
Wall Framing							
Plates		B.F.					
Studs (wall framing)		B.F.					
Fire blocks		B.F.					
Wind braces		B.F.					
Dead wood		B.F.					
Ceiling Framing							
Ceiling joist		B.F.					
Stiff back		B.F.					
Roof Framing							
Rafters		B.F.					
Purlings		B.F.					
Bracing		B.F.					
Collar beam		B.F.					

QUANTITY SURVEY
page 2

Item of Work	Quantity	Unit	Labor	Material	Price (unit)	Total	20% OH Prorated
Cornice and Gable End Framing							
Cornice		B.F.					
Gable end		B.F.					
Decking		S.F.					
Gyp rock walls		S.F.					
Roofing (including dry in)		Sq.					
Insulation							
Walls		S.F.					
Ceilings		S.F.					
Exterior Trim							
Door units, complete		ea.					
Windows		ea.					
Soffit		S.F.					
Fascier		L.F.					
Gable end		B.F.					
Exterior Wall Finish							
Brick		1,000 brick					
Mortar		"					
Wall ties		ea.					
Vertical siding		B.F.					
Interior Wall Finish							
Sheet rock		S.F.					
Tape and bed		S.F.					
Texture		S.F.					
Paint		S.F.					
Wall paper		S.F.					
Paneling		S.F.					

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QUANTITY SURVEY
page 3

Item of Work	Quantity	Unit	Labor	Material	Price (unit)	Total	20% OH Prorated
Interior Trim							
Base board	_____	L.F.	_____	_____	_____	_____	_____
Ceiling molding	_____	L.F.	_____	_____	_____	_____	_____
Doors, complete	_____	ea.	_____	_____	_____	_____	_____
Windows, trim	_____	ea.	_____	_____	_____	_____	_____
Cabinets		lump sum				_____	_____
Floor covering		lump sum				_____	_____
Mechanical							
Plumbing		lump sum				_____	_____
Heat and air		lump sum				_____	_____
Electrical							
Electrical wiring		lump sum				_____	_____

PRACTICE EXERCISE
STUDENT HANDOUT #1
Chapter Eight (ten one-hour periods)

From information contained in Simulation Exercise Data, blueprints and specifications, prepare estimates for items one through four, below.

Item 1: Grade lot to elevation of 103'.
- a. Cu. yd. of dirt to be moved
- b. Cu. yd. of dirt over or needed
- c. Labor for rough grading
- d. Machine cost for rough grading

Item 2:
- a. Determine cu. yd. of sand fill needed to fill forms to bottom of slab.
- b. Labor to fill forms

Item 3:
- a. Determine cu. yd. of dirt to be moved in trenching for beams.
- b. Labor for trenching

Item 4:
- a. Figure the cost of fine grading for the slab.
- b. Labor for fine grading

Summary

Item 1:
- a. _____ cu. yd. of dirt to be moved
- b. _____ cu. yd. of dirt over or needed (to grade to 103')
- c. _____ labor to rough grade
- d. _____ machine cost to rough grade

Item 2:
- a. _____ cu. yd. of sand to fill form to bottom of concrete slab
- b. _____ labor to fill forms

PRACTICE EXERCISE
STUDENT HANDOUT #1
Chapter Eight (ten one-hour periods)
(Continued)

Item 3: a. _____ cu. yd. of dirt to be moved in trenching beams

b. _____ labor for trenching

c. _____ machine cost

Item 4: a. _____ cost of fine grading (labor)

After responses have been checked for accuracy, enter corrected answers in appropriate blocks of the Quantity Survey.

PRACTICE EXERCISE
STUDENT HANDOUT #2
Chapter Nine (twelve one-hour periods)

From information contained in Simulation Exercise Data, blueprints, and specifications, prepare estimates for items one through five, below.

Item 1: Layout. Labor and material. Batter boards will be eight feet long.

Item 2: Forming. Labor and material to build forms. Two stakes and kicker will require a 2 x 4 - 8. One stake at each corner and 2' on centers.

Item 3: Vapor Barrier. Labor and material. To install vapor barrier.

Item 4: Reinforcing Steel. Labor and materials. To be used using quantity of steel required.

Item 5: Concrete. Labor and materials. Quantity required.

Summary

Item 1: Layout

_____ B.F. material

_____ Sq. ft. in house

_____ labor to install

_____ cost of material

PRACTICE EXERCISE
STUDENT HANDOUT #2
Chapter Nine (twelve one-hour periods)
(Continued)

Item 2: _____ B.F. material

_____ cost of material

_____ Sq. ft. in house

_____ labor

Item 3: _____ Sq. ft. material

_____ cost of material

_____ Sq. ft. in house

_____ labor

Item 4: Reinforcing Steel

_____ ft. of #3

_____ ft. of #4

_____ ft. of #5

_____ lbs. total of all sizes

_____ cost of materials

_____ Sq. ft. of house

_____ labor

PRACTICE EXERCISE
STUDENT HANDOUT #2
Chapter Nine (twelve one-hour periods)
(Continued)

Item 5: _____ cu. yd. of concrete

_____ cost of concrete

_____ sq. ft. of house

_____ labor

After responses have been checked for accuracy, enter corrected answers in appropriate blocks of the Quantity Survey.

PRACTICE EXERCISE
STUDENT HANDOUT #3
Chapter Seventeen (sixteen one-hour periods)

From information contained in Simulation Exercise Data, blueprints, and specifications, prepare estimates for items one through twelve below.

Item 1: T & Corner Make up. Estimate labor and materials to make up T and Corners.

Item 2: Rough Buck Make up. Estimate labor and materials to make up rough bucks for doors and windows.

Item 3: Beam Make up. Estimate labor and materials to make up all beams.

Item 4: Wall plates. Two top, one bottom plate. Estimate labor and materials required.

Item 5: Studs (Wall Framing). Estimate labor and materials required.

Item 6: Fire Blocks, Wind Braces, and Deadwood. Estimate labor and materials required.

Item 7: Ceiling Joists and Stiff Back. Estimate labor and materials required.

Item 8: Roof Framing. Estimate labor and materials required for rafters, purlings, braces, and collar beams. Collar beams and braces every four feet. Purling if rafter is over twelve feet long.

Item 9: Cornice and Gable End Framing. Estimate labor and materials required to frame cornice and gable end.

Item 10: Decking. Estimate labor and materials used to deck house.

Item 11: Insulation. Estimate amount of materials and labor to insulate walls and ceiling.

Item 12: Gyp Rock. Estimate labor and materials required.

PRACTICE EXERCISE
STUDENT HANDOUT #3
Chapter Seventeen (sixteen one-hour periods)
(Continued)

Summary

Item 1:

_____ number of T

_____ number of corners

_____ B.F. material in T and corners

_____ cost of material

_____ labor to make up T and corners

Item 2:

_____ number of door bucks

_____ number of window bucks

_____ B.F. of material in door and window bucks

_____ cost of material

_____ labor used to make up door and window bucks

Item 3:

_____ len. ft. of beams

_____ B.F. of material in beams

_____ cost of material

_____ labor to make up beams

Item 4:

_____ len. ft. of plates

_____ B.F. of plates

_____ cost of material

_____ labor to install plates

PRACTICE EXERCISE
STUDENT HANDOUT #3
Chapter Seventeen (sixteen one-hour periods)
(Continued)

Item 5:

_____ number of studs

_____ B.F. of studs

_____ number of studs less studs in T and corners and door and window bucks

_____ B.F. of studs after deductions

_____ cost of material after deductions

_____ labor using total number of studs

Item 6:

_____ B.F. in fire blocks

_____ cost of material

_____ labor

_____ B.F. in windbraces

_____ cost of material

_____ labor

_____ B.F. in deadwood

_____ cost of material

_____ labor

Item 7:

_____ B.F. of material ceiling joist

_____ cost of material

_____ labor

_____ B.F. of material stiff back

_____ cost of material

_____ labor 507

PRACTICE EXERCISE
STUDENT HANDOUT #3
Chapter Seventeen (sixteen one-hour periods)
(Continued)

Item 8:

_____ B.F. in rafters (include ridge board and facier nailer)

_____ cost of material

_____ labor

_____ B.F. in collar beams

_____ cost of material

_____ labor

_____ B.F. in bracing

_____ cost of materials

_____ labor

_____ B.F. in purlings

_____ cost of materials

_____ labor

Item 9:

_____ B.F. of material in cornice

_____ cost of material

_____ labor

_____ B.F. to frame gable ends

_____ cost of material

_____ labor

PRACTICE EXERCISE
STUDENT HANDOUT #3
Chapter Seventeen (sixteen one-hour periods)
(Continued)

Item 10: _____ B.F. of material

_____ cost of material

_____ labor

Item 11: _____ Sq. ft. of materials for walls

_____ cost of material

_____ labor

_____ Sq. ft. of materials for ceiling

_____ cost of material

_____ labor

Item 12: _____ Sq. ft. of material

_____ cost of material

_____ labor

After responses have been checked for accuracy, enter corrected answers in appropriate blocks on the Quantity Survey.

PRACTICE EXERCISE
STUDENT HANDOUT #4
Chapter Ten (ten one-hour periods)

From information contained in Simulated Exercise Data, blueprints, and specifications, prepare estimates for items one through three below.

Item 1: Estimate labor and material required to lay brick.

Item 2: Estimate cu. yd. of mortar required to lay brick.

Item 3: Estimate number and cost of wall ties required.

Summary

Item 1: _____ M brick

_____ cost of brick

_____ labor to lay brick

Item 2: _____ cu. yd. of mortar

Item 3: _____ wall ties

_____ cost of wall ties

After responses have been checked for accuracy, enter corrected answers in appropriate blocks of the Quantity Survey.

PRACTICE EXERCISE
STUDENT HANDOUT #5
Chapter Seventeen (six one-hour periods)

From information contained in Simulation Exercise Data, blueprints, and specifications, prepare estimates for items one through three below.

Item 1: Estimate labor and materials required to erect soffit.

Item 2: Estimate labor and materials used to install facier around house.

Item 3: Estimate labor and materials required to trim out gable ends of house.

Summary

Item 1: _____ sq. ft. material

_____ cost of material

_____ labor

Item 2: _____ B.F. of material

_____ cost of material

_____ labor

Item 3: _____ B.F. of material

_____ cost of material

_____ labor

After responses have been checked for accuracy, enter corrected answers in appropriate blocks of the Quantity Survey.

PRACTICE EXERCISE
STUDENT HANDOUT #6
Chapter Sixteen (two one-hour periods)

From information contained in Simulation Exercise Data, blueprints, and specifications, prepare estimates for items one through four below.

Item 1: Estimate number of squares and cost of shingles.

Item 2: Estimate number of squares and cost of felt.

Item 3: Estimate number of pounds and cost of nails (figure two lbs. per sq. of shingles).

Item 4: Estimate number of feet and cost of metal edging.

Summary

Item 1: _____ sq. shingles

_____ cost of shingles

_____ labor to install shingles

Item 2: _____ sq. of felt

_____ cost of felt

Item 3: _____ lbs. of nails

_____ cost of nails

Item 4: _____ ft. of metal edging

_____ cost of metal edging

After responses have been checked for accuracy, enter corrected answers in appropriate blocks of the Quantity Survey.

PRACTICE EXERCISE
STUDENT HANDOUT #7
Chapter Thirteen (eight one-hour periods)

From information contained in Simulation Exercise Data, blueprints, and specifications, prepare estimates for items one and two below.

Item 1: Figure sq. ft. of walls and ceiling for each room.

Living room	_____	sq. ft. walls
	_____	sq. ft. ceiling
Dining room	_____	sq. ft. walls
	_____	sq. ft. ceiling
Service	_____	sq. ft. walls
	_____	sq. ft. ceiling
Kitchen	_____	sq. ft. walls
	_____	sq. ft. ceiling
Family room	_____	sq. ft. walls
	_____	sq. ft. ceiling
Bed Room Right Front	_____	sq. ft. walls
	_____	sq. ft. ceiling
Bed Room Left Front	_____	sq. ft. walls
	_____	sq. ft. ceiling
Master bath and dressing	_____	sq. ft. walls
	_____	sq. ft. ceiling
Bath A	_____	sq. ft. walls
	_____	sq. ft. ceiling

PRACTICE EXERCISE
STUDENT HANDOUT #7
Chapter Thirteen (eight one-hour periods)
(Continued)

Middle Bed Room	_____	sq. ft. walls
	_____	sq. ft. ceiling
Back Bed Room	_____	sq. ft. walls
	_____	sq. ft. ceiling
Halls	_____	sq. ft. walls
	_____	sq. ft. ceiling
Garage	_____	sq. ft. walls
	_____	sq. ft. ceiling

Total sq. ft. walls _____

Total sq. ft. ceiling _____

Item 2: Tape, bed and texture all walls and ceilings.

_____ sq. ft. of walls

_____ sq. ft. of ceilings

_____ Total sq. ft. to be taped, bedded and textured.

PRACTICE EXERCISE
STUDENT HANDOUT #7
Chapter Thirteen (eight one-hour periods)
(Continued)

Summary

Item 1: _____ pieces of sheet rock in walls and ceilings, all rooms

_____ cost of sheet rock

_____ labor to install

Item 2: _____ rolls of tape

_____ cost of materials

_____ gallons of mud

_____ cost of materials

_____ sacks of texture

_____ cost of materials

_____ labor to tape, bed, and texture

Total tape and bed _____ materials

_____ labor

Total texture _____ materials

_____ labor

After responses have been checked for accuracy, enter corrected answers in appropriate blocks of the Quantity Survey.

PRACTICE EXERCISE
STUDENT HANDOUT #8
Chapter Fifteen (six one-hour periods)

From information contained in Simulation Exercise Data, blueprints, and specifications, prepare estimates for items one through five below.

Item 1: Paint all ceilings in house except garage, kitchen and baths with latex. Three coats on all surfaces.

_____ sq. ft. of area

_____ no. of gallons of paint

Item 2: Paint ceilings and walls in baths, kitchen, and garage with latex enamel paint. Three coats on all surfaces.

_____ sq. ft. of area

_____ gallons of paint

Item 3: Paint all remaining walls with latex wall paint (three coats). Exclude living room and master bedroom.

_____ sq. ft. of area

_____ no. of gallons of paint

Item 4: Cover walls in living room and master bedroom with vinyl wall covering.

_____ sq. ft. of area to be covered.

Item 5: Carpet all floors except garage. (Includes bathrooms, kitchen, utility room, etc.)

_____ sq. ft. of floor space

Carpet cost $10.00 sq. yd., installed.

PRACTICE EXERCISE
STUDENT HANDOUT #8
Chapter Fifteen (six one-hour periods)
(Continued)

Summary

Item 1: _____ gallons of latex (for all surfaces included in items one and three)

_____ cost of materials

_____ labor

Item 2: _____ gallons of latex enamel (for surfaces in item 2)

_____ cost of materials

_____ labor

Item 4: _____ no. of double rolls of vinyl wall covering

_____ cost of materials

_____ labor to hang vinyl

Item 5: _____ sq. yd. of carpet

_____ cost of carpet

After responses have been checked for accuracy, enter corrected answers in appropriate blocks of the Quantity Survey.

RESIDENTIAL CONSTRUCTION TECHNOLOGY

Name of Course: Business Mathematics

Course Objectives: To develop a thorough understanding of the mathematics used in business and in construction-related activities. To build increased student confidence in the practical application of mathematical processes through the experience gained in completing classroom exercises and assignments.

Course Description: A study of the fundamental processes, common and decimal fractions, bank statement reconciliations, aliquot parts percentage, cash and trade discounts, simple and compound interest, notes and drafts, billing procedures, mark-up, commissions, profit and loss, payrolls, social security and other taxes. Emphasis is on practical problems in the various fields of business.

Suggested Primary Text: To be determined locally.

Course Outline: To be developed locally.

Instructional Recommendations/ Suggestions: Most post-secondary institutions will have comparable course offerings within their regular curriculum. It is suggested that these established

courses be utilized to satisfy this requirement for student proficiency in the application of arithmatic processes.

Additional Instructional Materials: To be developed locally.

Additional References: To be developed locally.

RESIDENTIAL CONSTRUCTION TECHNOLOGY

Name of Course: Introduction to Architectural Drawing

Course Objective: This course is designed to impart to the student basic skills in general drafting techniques such as lettering, line work, and architectural representation. The student also gains experience in the use of structural tables and manufacturers' literature.

Course Description: This course introduces representation in residential construction. It covers the fundamentals of drafting, including projection, sectioning, pictorial drawings, and architectural representation. It is comprised of both lecture (or classroom) periods, wherein fundamentals and principles are introduced, and laboratory periods which provide opportunity to participate in exercises involving these principles.

Suggested Primary Text: Spence, William P. Architecture: Design-Engineering-Drawing, 2nd ed. Bloomington, Ill.: McKnight and McKnight Publishing Co., 1972.

Course Outline:

I. Course Objectives
   A. Materials needed to draw house plans
   B. Kinds of media used

II. Rough Floor Plan
- A. Drawing exterior walls
- B. Drawing interior walls
- C. Drawing door openings
- D. Drawing areas of living

III. Finishing Floor Plan
- A. Electrical Plan
  - 1. Outlets
  - 2. Lights
  - 3. Special electrical devices
- B. Doors
- C. Door schedules
- D. Windows
- E. Window schedules
- F. Fire places
- G. Dimensioning
- H. Room schedules
- I. North arrows
- J. Title block

IV. Foundations
- A. Perimeter beams
- B. Intermediate longitudinal
- C. Intermediate transverse
- D. House - Porch
- E. House - Garage
- F. House - Perimeter
- G. House - Patio
- H. Footings
- I. Details
  - 1. FHA
  - 2. Other
  - 3. Special

V. Elevations
- A. North
  - 1. Slab thickness
  - 2. Exterior walls
    - a. Type materials
  - 3. Windows
    - a. Fixed
    - b. Sliding
    - c. Hinged
  - 4. Roof
    - a. Type materials
    - b. Overhang
    - c. Pitch
  - 5. Chimney

V. Elevations (Continued)
   B. East
   C. South
   D. West
   E. Special

VI. Special Details
   A. Cabinets
      1. Kitchen
      2. Baths
   B. Skylights
   C. Fireplace
   D. Wall

Instructional Recommendations/ Suggestions:

This introductory course should be structured around one central goal: to enable the student to graphically communicate ideas and concepts involving residential construction processes. Within minor limitations, the suggested primary text is ideally suited to this purpose. Actual blueprints should be used to supplement the text in developing the principles described. Instructors in this course should be thoroughly familiar with the principles of residential construction, construction materials and methods, and the data contained in architectural blueprints. Laboratory exercises should include practice in locating specifications of materials depicted in working drawings, and the proper use of data included in structural tables and manufacturers' literature. This course should be planned to accommodate varying rates of individual

student progress. To this end it is desirable that the lecture/laboratory periods be consecutively scheduled whenever possible, and that the same instructor conduct both the lecture and the laboratory periods. Transparencies depicting details of construction normally contained in working drawings can be developed locally and used to excellent advantage in presenting this course.

Additional Instructional Materials:

1. Copies of residential blueprints and working drawings. Available through local architects or home builders.
2. Sweet's Architectural Catalogue Files, F. W. Dodge Corp., New York, N. Y., 1974.
3. Copies of architectural specifications. Available through local architects or home builders.
4. Minimum Property Standards for One and Two Family Living Units, U. S. Federal Housing Administration, U. S. Government Printing Office, Washington, D. C.

Additional Instructional Materials (Continued):

Transparencies depicting details normally contained in working drawings. To be developed locally (sufficient illustrations available in texts and manuals listed under Additional References, this course).

Additional References:

Buss, Truman C., Jr. Simplified Architectural Drawing; With Examples and Graded Problems. Chicago: American Technical Society, 1948.

Housing and Home Finance Agency. Wood Roof Trusses for Small Buildings. Washington, D. C.: U. S. Government Printing Office, 1950.

Ramsey, Charles G., and Sleeper, Harold R. Edited by Harold D. Hauf and Joseph N. Boas. Architectural Graphic Standards, 6th ed. New York: John Wiley and Sons, Inc., 1970.

Ray, J. Edgar. Graphic Architectural Drafting. Bloomington, Ill.: McKnight and McKnight Publishing Co., 1960.

Salwey, Jasper. Sketching in Lead Pencil; For Architects and Others. New York: Charles Scribner's Sons, 1926.

Sundberg, Elmer W., et al. Building Trades Blueprint Reading, 5th ed., Part I: Fundamentals. Chicago: American Technical Society, 1973.

_____. Building Trades Blueprint Reading, 2nd ed., Part II: Residential and Light Commercial Construction. Chicago: American Technical Society, 1974.

U. S. Department of Commerce, National Bureau of Standards. Plumbing Manual. Washington, D. C.: U. S. Government Printing Office.

Additional References (Continued): U. S. Department of Health, Education, and Welfare. Wood-Frame House Construction. Washington, D. C.: U. S. Government Printing Office.

RESIDENTIAL CONSTRUCTION TECHNOLOGY

Name of Course: Elements of Structural Design

Course Objective: This course introduces the student to the basic principles of statics and to the effects of loads and loading on building elements and frames. Methods are developed for determining preliminary sizes of certain key building elements, knowledge of which is essential to proper building layout and design.

Course Description: A course which familiarizes the student with the mechanical properties of materials and the relationship and use of these materials in residential construction processes. Subjects include stress, deformation, member size and investigation, and connections. Typical members used in residential frameworks are studied, analyzed, and discussed. The material presented makes it possible for the student to understand the interaction of the various elements used in a framing system.

Suggested Primary Text: Bassin, Milton G., et al. Statics and Strength of Materials, 2nd ed. New York: McGraw-Hill Book Co., 1969.

Course Outline:

I. Materials, Stress and Deformation
   A. Units of Instruction
      1. Properties of construction materials
      2. Types of stresses in members
      3. Ultimate and allowable stresses
      4. Direct stress; deformation
      5. Elasticity and Hooke's law
      6. Stress-strain diagram

II. Properties of Sections
   A. Units of Instruction
      1. Centroids and moments of area
      2. First moment of area
      3. Second moment of area
      4. Parallel axis theorem
      5. Radius of gyration
      6. Section modulus

III. Gravity Loads on Building Frames
   A. Units of Instruction
      1. Basic framework types
      2. Live loads
      3. Dead loads
      4. Floor and roof loads
      5. Wall and partition loads
      6. Equipment loads
      7. Application of loads to framing members
      8. Uniformly distributed loads
      9. Concentrated loads
      10. Loading diagrams

IV. Shear and Bending in Beams--Statically Determinate
   A. Units of Instruction
      1. Reactions and shear
      2. Symmetrical loading
      3. Nonsymmetrical loading
      4. Shear diagrams
      5. Moment diagrams
      6. Cantilever and overhanging members
      7. Critical sections for moment and shear

V. Stresses in Beams and Beam Sizes
   A. Units of Instruction
      1. Tensile and compressive stresses
      2. Shear stresses
      3. Allowable loads on beams
      4. Timber beam selection
      5. Steel beam selection
      6. Beams without proper lateral support

VI. Beam Deflection
   A. Units of Instruction
      1. Elastic curve, stress, and moment
      2. Moment diagrams by parts
      3. Moment-area principles
      4. Deflection equations by moment-area
      5. Use of deflection equations

VII. Shear and Bending in Beams--Statically Indeterminate
   A. Units of Instruction
      1. Definitions
      2. Three-moment equation
      3. Use of three-moment equation
      4. Fixed-end beams
      5. Reactions and shear
      6. Shear and moment diagrams
      7. Positive and negative moments

VIII. Stresses in Columns and Column Sizes
   A. Units of Instruction
      1. Rolled steel column sections
      2. Builtup column sections
      3. Column-end conditions
      4. Effective length
      5. Allowable stresses for timber columns
      6. Allowable stresses for steel columns
      7. Timber column selection
      8. Steel column selection
      9. Eccentrically loaded columns

IX. Riveted and Welded Connections

A. Units of Instruction

1. Types of riveted connections
2. Allowable stress in shear
3. Allowable stress in bearing
4. Load capacity of riveted connections
5. Number of rivets required
6. Eccentrically loaded riveted connections
7. Types of welds used in connections
8. Allowable stresses in welds
9. Required length of welds

Instructional Recommendations/ Suggestions:

Care should be taken to insure that the focus of this course remains centered on how the principles can be applied in everyday usage in residential construction processes. This is not intended to be a course in physics. Its purpose is to familiarize the student with the need for giving due consideration to the fundamental principles of stress and strength of materials.

Reduced-scale wood members can be locally developed by which to demonstrate principles being investigated. Scale models of standard-dimension wood beams and trusses can be loaded to the bend or break point at a much lower cost than would be required for testing their full-scale counterparts. Scale-model members should be fabricated from materials typical of the full-size components which

they represent. A Conversion Table (based on a scale of 1 1/2" to 1') has been developed to show the scale sizes for commonly used units of dimension lumber (see Conversion Table - Dimension Lumber, attached). Use of these model members should be limited to the demonstration of principles, since they may not be completely representative of the full-scale counterpart item in terms of shearing and bending moments and stress loads.

Additional Instructional Materials:

Conversion Table - Dimension Lumber. Produced locally. Copy attached.

Reduced-Scale Lumber. To be produced locally. Sufficient quantities of sizes representative of standard-dimension lumber for classroom demonstration exercises.

Additional References:

American Institute of Steel Construction. Manual of Steel Construction. New York: The Institute, 1963.

American Institute of Timber Construction. Timber Construction Manual. New York: John Wiley and Sons, Inc., 1966.

Levinson, Irving J. Mechanics of Materials, 2nd ed. New York: Prentice-Hall, Inc., 1970.

Parker, Harry. Simplified Mechanics and Strength of Materials, 2nd ed. New York: John Wiley and Sons, Inc., 1961.

Timber Engineering Co. Timber Design and Construction Handbook. New York: McGraw-Hill Book Co., 1956.

CONVERSION TABLE - DIMENSION LUMBER

(SCALE: $1\frac{1}{2}$" EQUALS 1')

Actual Size	Volume	Scale Size	Volume	Percent
2/4 = $1\frac{1}{2}$ x $3\frac{1}{2}$ =	5.25 sq. in. =	3/16 x 7/16 =	.082 sq. in. =	01.6%
2/6 = $1\frac{1}{2}$ x $2\frac{1}{2}$ =	8.25 sq. in. =	3/16 x 11/16 =	.192 sq. in. =	01.6%
2/8 = $1\frac{1}{2}$ x $7\frac{1}{4}$ =	10.875 sq. in. =	3/16 x 29/32 =	.170 sq. in. =	01.6%
2/10 = $1\frac{1}{2}$ x $9\frac{1}{4}$ =	13.875 sq. in. =	3/16 x 15/32 =	.217 sq. in. =	01.6%
2/12 = $1\frac{1}{2}$ x $11\frac{1}{4}$ =	16.875 sq. in. =	3/16 x 1 13/32 =	.264 sq. in. =	01.6%

Actual Size	Scale Size
$1\frac{1}{2}$"	3/16"
$3\frac{1}{2}$"	7/16"
$5\frac{1}{2}$"	11/16"
$7\frac{1}{4}$"	20/32"
$9\frac{1}{4}$"	1 5/32"
$11\frac{1}{4}$"	1 13/32"

Note: An approximation of the breaking point of the full-scale member can be found by dividing the breaking point of the model by .016. Example: Breaking point of scale model = 40 lbs.

40 ÷ .016 = 2,500

Approximate breaking point, full-scale member = 2,500 lbs.

RESIDENTIAL CONSTRUCTION TECHNOLOGY

Name of Course: Contracts, Codes, Specifications and Office Practices

Course Objectives: To develop an appreciation for the importance of effective office practices in the coordination and control of construction activities. To familiarize the student with the various legal documents which combine to regulate residential construction practices and procedures.

Course Description: This course explains the organization and operation of a typical small- to medium-size residential construction contractor's office. It includes the study of office practices, bookkeeping and accounting methods, and general office administration. Considerable attention is devoted to the study of the codes, restrictions, standards, and the legal documents governing construction. Students are introduced to the interpretation and preparation of specifications, and to the application of CPM as a method for controlling construction projects.

Suggested Primary Text: Royer, King. The Construction Manager. Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1974.

Course Outline:

I. The Construction Firm
   A. Construction management
   B. The contractor's organization
   C. Span of control
   D. Characteristics of supervisors
   E. Sales
   F. Production
   G. Purchasing and subcontracting
   H. Personnel records and hiring

II. The Construction Project
   A. Wages
   B. Theft
   C. Cost control
   D. Function of the cost control system
   E. Cost control and accounting
   F. Identification and classification of cost items
   G. The work order
   H. Accumulation of costs
   I. Action on costs above estimates

III. Estimating
   A. Precision and accuracy
   B. Cost of estimating
   C. Courtesy bids
   D. Collusion
   E. Estimating safety margins
   F. Ethics
   G. Nature of errors
   H. Estimate sheets
   I. Subcontractor's bids
   J. Cutting subcontractor bids
   K. Stipulated subcontractors
   L. Improving industry relationships
   M. Contractors' alternates

IV. Construction Contracts
   A. Essentials of a construction contract
   B. Clauses to avoid
   C. Competitive bidding
   D. Cost-plus contract
   E. Letter of intent
   F. Withdrawal of erroneous bids
   G. Builders' risk insurance
   H. Extra and additional work

IV. Construction Contracts (Continued)
- I. Subcontracts
- J. Owner's liability
- K. Hold-harmless clauses
- L. Breach of contract
- M. Changed conditions
- N. Liquidated damages and delay
- O. Performance and payment bonds
- P. Arbitration
- Q. Final payment
- R. Unit prices
- S. Change orders
- T. Liens
- U. Other payment rights of subcontractors and suppliers
- V. Appeals in disputes
- W. Material and workmanship guarantees

V. Purchasing
- A. Sources of information
- B. The purchase order
- C. Clauses recommended for purchase orders
- D. Purchase order copies
- E. Purchasing subcontracts
- F. Clerical procedure
- G. Billing methods
- H. Delivery slips
- I. The superintendent's purchases
- J. Invoice approval
- K. Subcontract payments
- L. Owner-builder contract
- M. Withholding subcontract payments
- N. Bankruptcy
- O. Recognition of the insolvent firm
- P. Avoiding bankruptcy

VI. Accounting
- A. Bookkeeping and accounting
- B. Income taxes
- C. The necessity for accounts
- D. Accounting terminology
- E. Equipment valuation
- F. The balance sheet
- G. Expense and receipts accounts

VI. Accounting (Continued)
- H. Overhead, profit, and distributed expenses
- I. Sample monthly statement
- J. Cash requirements
- K. Weekly cost items by months
- L. Summary of cash flow by months
- M. Paying monthly bills
- N. Terminology in tax accounting
- O. Influence of depreciation rates on operations
- P. Equipment accounts and replacement
- Q. Fraud
- R. Payroll accounting

VII. Planning and Scheduling
- A. Purposes and types of job plans
- B. Time schedules
- C. The bar chart
- D. Preparing the Gantt chart
- E. The critical path method
- F. CPM nomenclature
- G. CPM and manpower scheduling
- H. Variation in completion time

VII. Labor Unions
- A. Basic policies toward unions
- B. The purposes of union organization
- C. Organizing
- D. The union hiring hall
- E. Training
- F. Licensing
- G. Requirements on U. S. Government construction
- H. Union shops versus closed shops
- I. Support between trades
- J. Recent growth of open-shop work

Instructional Recommendations/ Suggestions: The use of technical specialists and guest lecturers is strongly recommended in the development of material contained in this course. Use of such specialists should be planned and coordinated

well in advance of expected time of presentation. Guest lecturers should, in all cases, be made fully aware of the course and lesson objectives, technical level of competence of the class, and any other special information which would assist in focusing on the central purposes of the instructional unit. The suggested text is divided into eight sections, which makes it readily adaptable to the standard sixteen-week semester. A listing of in-depth discussion questions may be found at the conclusion of each major section of the text. A teacher's manual has been developed for use with the suggested text and is available through the publisher. It should be kept in mind that this is an introductory course and that it is not designed to develop specialists in any of the topic areas covered. Serious students should plan additional specialized personal development in each of these important phases of the construction business. OSHA should be fully developed during presentation of this course.

Additional Instructional Materials: Royer, King. Teacher's Manual, The Construction Manager. Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1974.

Additional Instructional Materials (Continued):

Copies of architectural specifications. Available through local architects or home builders.

U. S. Federal Housing Authority. Minimum Property Standards. Washington, D. C.: U. S. Government Printing Office.

Various city codes. Office of city engineer.

Sample copies of standard insurance policies, as used in construction. Independent insurance agents.

Copies of various bonds (i.e., performance, liquidation, completion, etc.) used in construction. Available through independent insurance agents and regular bonding agencies.

Additional References:

Clough, Richard H. Construction Contracting, 2nd ed. New York: Wiley-Interscience, 1969.

Deatherage, George E. Construction Company Organization and Management. New York: McGraw-Hill Book Co., 1964.

_____. Construction Estimating and Job Preplanning. New York: McGraw-Hill Book Co., 1965.

_____. Construction Office Administration. New York: McGraw-Hill Book Co., 1964.

_____. Construction Scheduling and Control. New York: McGraw-Hill Book Co., 1965.

Additional References (Continued):

Sweet's Architectural Catalogue File. New York: F. W. Dodge Corp., 1974.

RESIDENTIAL CONSTRUCTION TECHNOLOGY

Name of Course: Construction Planning and Control

Course Objectives: To develop an appreciation for the importance of planning and control to the successful completion of construction activities. To provide a working acquaintance with the types of planning and control systems most commonly used in small- to medium-size residential construction enterprises.

Course Description: A course in residential construction planning and control which deals with information on the materials, labor, and equipment necessary in the proper operation of a construction project. The course covers the building construction procedures from preliminary site planning to final job inspection and introduces the most frequently used methods of construction job scheduling. The course shows how the proper combination of men, materials, and machines can be used to construct residential structures successfully.

Suggested Primary Text: Benson, Ben. Critical Path Methods in Building Construction. Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1970.

Course Outline:

I. Preliminary Considerations
   A. Topography of the site
   B. Buildings near the site
   C. Base lines, reference marks, and levels
   D. Fuel, power, and water supplies
   E. Equipment planning and selection
   F. Local ordinances
   G. Bonds and insurance

II. Job Planning and Organization
   A. Field organization
   B. Office organization
   C. Local material and labor supply
   D. Coordination of subcontractors
   E. Types of contracts
   F. Materials delivery and storage
   G. Safety during construction
   H. Public relations
   I. Job supervision
   J. Accounting procedures and forms

III. Earthwork and Excavation
   A. Types of earthwork equipment and costs
   B. Air-operated equipment
   C. Capacity and operation of tractor-type equipment
   D. Operations with clamshell, drag-line, and hoe
   E. Operations with bulldozer and scraper
   F. Excavating-and-hauling units
   G. Recordkeeping on excavation
   H. Soil exploration and types of soil
   I. Compaction and stabilization of soil

IV. Subsurface Work
   A. Pumps and drainage equipment
   B. Cofferdams and caissons
   C. Piles and pile-driving
   D. Sheet piling
   E. Wellpoints
   F. Rock excavation
   G. Underpinning

V. Materials Handling and Placement
- A. Elevator and conveyor systems
- B. Hoisting equipment
- C. Steel frame erection and alignment
- D. Riveting, bolting, and welding equipment
- E. Concrete mixing and batching
- F. Transporting; placing; vibrating equipment
- G. Bending, placing, and supporting reinforcement

VI. Cost Estimating
- A. Preliminary estimates and unit costs
- B. Job analysis and work requirements
- C. Labor and equipment requirements
- D. Labor costs
- E. Equipment costs
- F. Materials and small tool costs
- G. Overhead and other costs

VII. Construction Scheduling
- A. General procedures
- B. Master schedule
- C. Progress reports and charts
- D. Labor schedules
- E. Equipment schedules
- F. Materials schedules
- G. Rescheduling
- H. Job communication

VIII. Introduction to CPM Scheduling
- A. General considerations and application
- B. Comparison with bar charts
- C. Arrow diagrams
- D. Network diagrams
- E. Elapsed time
- F. Float time
- G. Determining critical path
- H. Time related to cost
- I. Setting up a CPM network
- J. Using the CPM network

IX. Job Inspection
- A. Duties and responsibilities
- B. Authority
- C. Inspector's reports
- D. Equipment requirements
- E. Relations with labor and other contractors
- F. Limitations

Instructional Recommendations/ Suggestions:

This course is a general survey of the factors which must be considered in the operation of a construction project. The nature of the course material is such that knowledge acquired to date in other courses in this program can be effectively brought into perspective. It is strongly recommended that the same blueprints utilized during the "Residential Construction Estimating" course be continued in use with this course. This will permit utilization of "Quantity Survey" data which students previously developed (materials and labor take offs, etc.). See Instructional Recommendations/Suggestions for the course entitled "Residential Construction Estimating" for details on the development of standardized quantities of materials, unit costs, size and composition of various work crews, etc. ("Simulation Exercise Data"). Emphasis should be placed

on how CPM can most effectively be used for planning and control in small- to medium-size construction operations. Students should be required to demonstrate a working knowledge of the correct use of CPM in the construction of a residence by preparing and explaining a complete CPM chart for the residence described in the previously-mentioned blueprints. Transparencies made from charts depicted in the text can be used to good advantage in developing student understanding of materials covered in this course.

Additional Instructional Materials:

1. Residential blueprints. Recommend continued use of blueprints utilized in the "Residential Construction Estimating" course.
2. Quantity Surveys. See suggested format attached. Details to be filled in from data developed in the "Residential Construction Estimating" course.
3. Transparencies. To be developed from selected illustrations contained in the text and other reference materials.

Additional Instructional Materials (Continued):

4. Residential Critical Path Diagram. Locally developed. Copy attached.

5. Job Logic and Activity Table. Locally developed. Copy attached.

Additional References:

Clough, Richard H. Construction Contracting, 2nd ed. New York: Wiley-Interscience, 1969.

Deatherage, George E. Construction Scheduling and Control. New York: McGraw-Hill Book Co., 1965.

Merritt, Frederick S., ed. Building Construction Handbook, 2nd ed. New York: McGraw-Hill Book Co., 1965.

O'Brien, James J. CPM in Construction Management; Project Management with CPM, 2nd ed. New York: McGraw-Hill Book Co., 1971.

Priluck, Herbert M., and Hourihen, Peter M. Practical CPM for Construction. Duxbury, Mass.: Robert Snow Means Co., Inc., 1974.

QUANTITY SURVEY

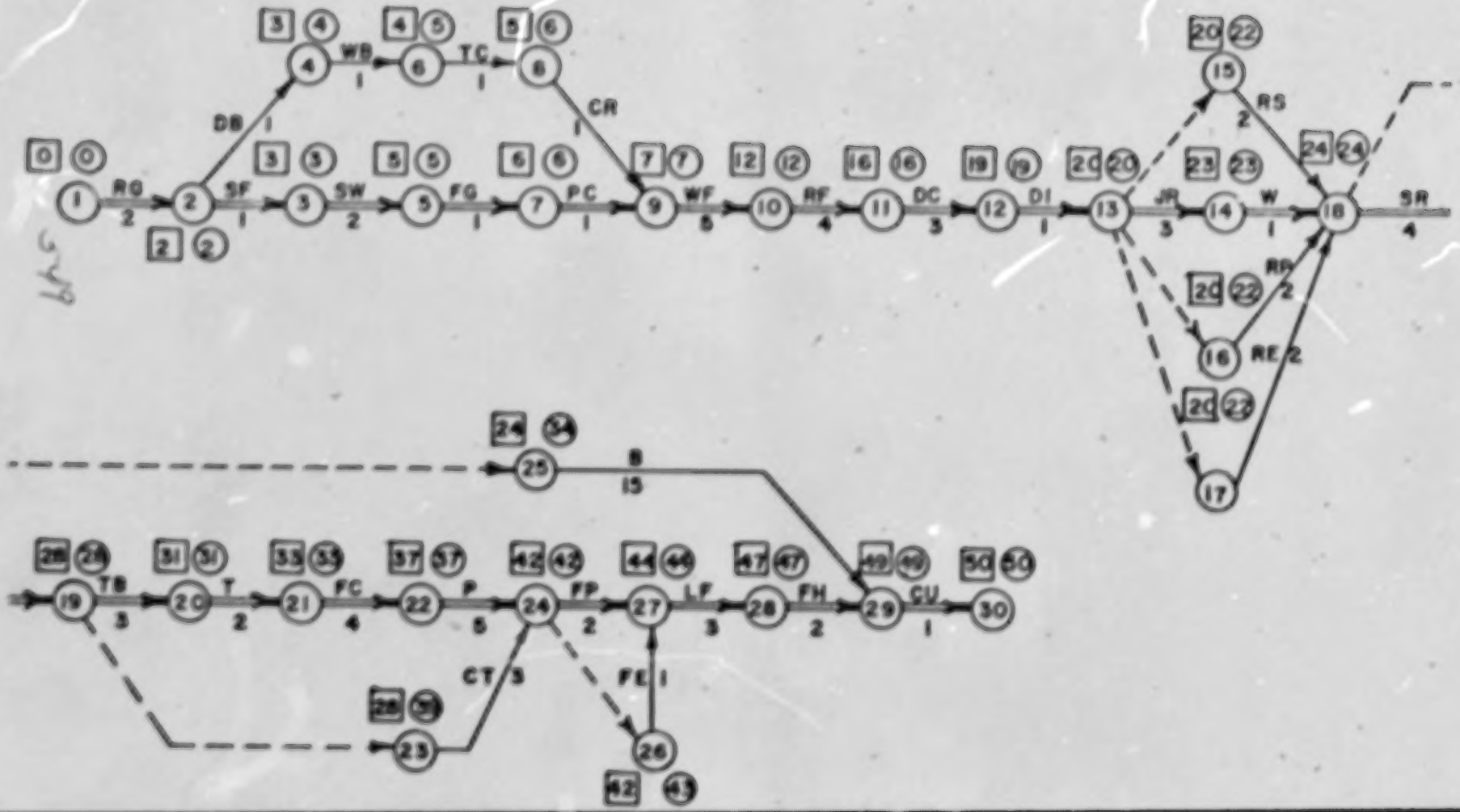
Item of Work	Quantity	Unit	Labor	Material	Price (unit)	Total	20% OH Prorated
Foundations							
Rough grading		C.Y.					
Lay out		S.F.					
Forming		S.F.					
Filling		S.F.					
Trenching (beams)		S.F.					
Fine grading		S.F.					
Vapor barrier		S.F.					
Reinforcing steel		S.F.					
Pouring and finishing concrete		S.F.					
Framing (make up)							
T and corner make up		B.F.					
Rough buck make up		B.F.					
Beams make up		B.F.					
Wall Framing							
Plates		B.F.					
Studs (wall framing)		B.F.					
Fire blocks		B.F.					
Wind braces		B.F.					
Dead wood		B.F.					
Ceiling Framing							
Ceiling joist		B.F.					
Stiff back		B.F.					
Roof Framing							
Rafters		B.F.					
Purlings		B.F.					
Bracing		B.F.					
Collar beam		B.F.					

QUANTITY SURVEY
page 2

Item of Work	Quantity	Unit	Labor	Material	Price (unit)	Total	20% OH Prorated
Cornice and Gable End Framing							
Cornice		B.F.					
Gable end		B.F.					
Decking		S.F.					
Gyp rock walls		S.F.					
Roofing (including dry in)		Sq.					
Insulation							
Walls		S.F.					
Ceilings		S.F.					
Exterior Trim							
Door units, complete		ea.					
Windows		ea.					
Soffit		S.F.					
Fascier		L.F.					
Gable end		B.F.					
Exterior Wall Finish							
Brick		1000 brick					
Mortar		"					
Wall ties		ea.					
Vertical siding		B.F.					
Interior Wall Finish							
Sheet rock		S.F.					
Tape and bed		S.F.					
Texture		S.F.					
Paint		S.F.					
Wall paper		S.F.					
Paneling		S.F.					

Item of Work	Quantity	Unit	Labor	Material	Price (unit)	Total	20% OH Prorated
Interior Trim							
Base board	_____	L.F.	_____	_____	_____	_____	_____
Ceiling molding	_____	L.F.	_____	_____	_____	_____	_____
Doors, complete	_____	ea.	_____	_____	_____	_____	_____
Windows, trim	_____	ea.	_____	_____	_____	_____	_____
Cabinets		lump sum				_____	_____
Floor covering		lump sum				_____	_____
Mechanical							
Plumbing		lump sum				_____	_____
Heat and air		lump sum				_____	_____
Electrical							
Electrical wiring		lump sum				_____	_____

RESIDENTIAL CRITICAL PATH DIAGRAM



JOB LOGIC AND ACTIVITY TABLE

ACTIVITIES	SYMBOL	DURATION (WORKING DAYS)	ACTIVITY IMMEDIATELY FOLLOWING
Rough grading	RG	2	SF
Set forms	SF	1	SW
Door bucks	DB	1	WB
Sewer and water	SW	2	FG
Window bucks	WB	1	TC
Finish grade	FG	1	PC
Tees and corners	TC	1	CR
Placing concrete	PC	1	WF
Cut rafters	CR	1	WF
Wall framing	WF	5	RF
Fireplace	FP	2	DI
Roof framing	RF	4	DC
Deck and cornice	DC	3	DI
Dry in	DI	1	RS, JR, RP, RE
Gyp rock	GR	3	WI
Roof shingles	RS	2	SR
Rough plumbing	RP	2	SR
Rough electrical	RE	2	SR
Windows and insulation	WI	1	SR
Sheet rock	SR	4	TB
Lay brick	B	15	CU
Tape and bed	TB	3	T
Tile	CT	3	FP, FE
Texture	T	2	FC
Finish carpentry	FC	4	P
Paint	P	5	FP, FE
Finish plumbing	FP	2	LF
Finish electrical	FE	1	FH
Lay floor	LF	3	CU
Finish hardware	FH	2	--
Clean up	CU	1	

RESIDENTIAL CONSTRUCTION TECHNOLOGY

Name of Course: Business Speech

Course Objective: To develop student proficiency in the basic oral communication skills necessary to those operating in supervisory and management roles. To provide an opportunity to improve speech efficiency, poise, and self-confidence in situations most common to business and professional people.

Course Description: This is designed to be a practical and general course in the basic principles of oral communication. Includes use of body and voice, the speaker-listener relationship, oral reading of literature, group discussion, and parliamentary procedure. Diagnostic testing of students should be included and instruction should be planned to help students improve skills in which they are weak. Stress should be placed on interpersonal relationships, technical reports, speeches to promote sales and services, and business and job interviews.

Suggested Primary Text: To be determined locally.

Course Outline: To be developed locally.

Instructional Recommendations/ Suggestions: Most post-secondary institutions will be able to substitute established courses from within their general curriculum to satisfy the developmental objectives of this course.

Additional Instructional Materials: 16MM Film Series. National Television Film Service, Audio Visual Center, Indiana University, Bloomington, Indiana 47405.

- "The Definition of Language", 29 minutes. Produced by Henry Lee Smith (Language in Linguistics Series).
- "Dialects", 29 minutes. Produced by Henry Lee Smith (Language in Linguistics Series).
- "How to Say What You Mean", 29 minutes. Produced by S. I. Hayakawa (Language in Action Series).
- "The Task of the Listener", 29 minutes. Produced by S. I. Hayakawa (Language in Action Series).

Additional References: To be developed locally.

RESIDENTIAL CONSTRUCTION TECHNOLOGY

Name of Course: History of Architecture and Construction

Course Objectives: To acquaint the student with the various architectural styles which have been developed in residential construction, and to create an appreciation for the main advantages and disadvantages of each.

Course Description: This course is designed to afford the student an opportunity to survey all of the major styles of architecture which have been used in residential construction from early times to the present. It focuses special attention on styles which are in current use, and encourages detailed study of residential construction developments in the geographical area where the course is being presented. Opportunity is provided for students to make in-depth studies of selected architectural design or structural methods.

Suggested Primary Text: Fletcher, Sir Banister F. A History of Architecture, 17th ed., rev. New York: Charles Scribner's Sons, 1967.

Course Outline:

I. Introduction: The Science of Architecture
   A. Objectives of course
   B. Influences in architecture
      1. Geographical
      2. Geological
      3. Climatic
      4. Religious
      5. Social
   C. Basic principles of construction
      1. Post and lintel
      2. Corbel and cantilever
      3. Arch and vault
      4. Truss
   D. Architecture as a science as well as an art
      1. Esthetics
      2. Convenience, strength, and beauty
   E. Four categories of religious buildings
      1. Temple
      2. High place
      3. Tomb-like shrine
      4. Meeting place

II. Prehistoric and Tigro-Euphrates Valley civilization
   A. Kinds of shelters built by prehistoric man
   B. Babylonian Period: temples, canals, and irrigation
   C. Hittites: use of stone in architecture and royal palaces
   D. Assyrian Period: house, palace, and temple forms, along with surface decorations
   E. Babylonian Empire: marvels of Babylon
      1. Hanging gardens
      2. Ziggurat
      3. Banks, storehouses, and commercial buildings
   F. Persian Period
      1. Palace platforms at Persopolis
      2. Columns

III. Egyptian Architecture
- A. Egyptian dynasty history
  - 1. Ancient Kingdom
  - 2. Middle Kingdom
  - 3. New Empire
  - 4. Ptolemaic Period
  - 5. Roman Period
- B. Column development
- C. Tombs
  - 1. Mastabas
  - 2. Pyramids
  - 3. Rock-hewn tombs
- D. Temples

IV. Greek Architecture
- A. An order in classic architecture
  - 1. Doric
  - 2. Ionic
  - 3. Corinthian
- B. Proportion of the orders; module
- C. Temples and the Acropolis
  - 1. Parthenon
  - 2. Erechtheum
- D. Civil buildings
- E. Agora
- F. Theatres
- G. Tombs

V. Roman Architecture
- A. Proportions of the orders by Vignola
- B. Etruscan temples and tombs
- C. Roman forums
- D. Roman rectangular temples
- E. Roman circular and polygonal temples
- F. Basilicas
- G. Roman baths
- H. Roman theatres and amphitheatres
- I. Circuses
- J. Triumphal arches
- K. Roman palaces and houses
- L. Aqueducts, bridges, and fountains

VI. Early Christian, Byzantine, and Romanesque Architecture
- A. Development of the pendentive system in dome construction
- B. Santa Sophia, Constantinople
- C. St. Mark's, Venice
- D. Feudal system and structures built
- E. Monastic system and structures built
- F. The Romanesque church

VII. Islamic Architecture
- A. Mohammed's influence in styles of architecture
- B. Mosque architecture
  1. Domes
  2. Arches
- C. Tomb architecture
- D. Surface development on structures

VIII. Gothic Architecture
- A. Departure from classic lines and development of the pointed arch
- B. Stability of Gothic cathedrals
- C. Notre Dame, Paris
- D. Amiens Cathedral
- E. Salisbury Cathedral, Britain
- F. Gothic architecture in Germany; Belgium, Holland, Spain, and Italy

IX. Renaissance Architecture
- A. The dawn of the Renaissance
  1. The dome of the Florence Cathedral
  2. Palaces and churches
- B. The high Renaissance
  1. Leon Batista Alberti: "Beautiful architecture is that from which nothing can be taken away and to which nothing can be added without harming it."
  2. St. Peter's Cathedral, Rome. Architects who worked on this cathedral:
     - a. Bramante
     - b. Peruzzi

c. Sangallo
d. Bernini
e. Michelangelo
f. Others
3. City palaces and villas
C. Renaissance in France
D. Renaissance in Northern Europe
E. Renaissance in Spain

X. Revivals of Architecture
A. The Early Classic Revival
B. Classic Revival ideas
C. Classic Revival in the United States

XI. Eclecticism, Beaux Arts, and Architecture of Today
A. Influence of the Beaux Arts School
B. Science and art of city planning
C. National variations (eclecticism)
1. Germany
2. England
3. France
4. United States
D. Early architects of Modern Architecture and their work
1. Louis Sullivan—"Chicago School"
2. Frank Lloyd Wright—"Organic Architecture"
3. Le Corbusier—"Geometrical Composition"
4. Walter Gropius
5. Mies van der Rohe
6. Eero Saarinen
7. Pier Luigi Nervi
8. Edward Durrell Stone
9. Others

Instructional Recommendations/ Suggestions: One of the main functions of this course should be to provide an opportunity for individual exploration of selected topics within the student's technical field. It is suggested that each student be required to choose a minimum of two topics on which to develop

detailed oral and written reports. Topics for study should be restricted to one or more of the major architectural styles of residential construction, or to one or more of the major construction processes identified with each of these styles of architecture. Reports by students can be an especially effective aid in achieving the fundamental course objective of developing a working knowledge of the advantages and disadvantages of the various styles of architecture used in residential construction. Class discussion periods can be very effectively reinforced by use of the suggested additional instructional materials. The film strip series on the history of architecture developed by Educational Dimensions Corporation is considered to be an exceptionally valuable instructional aid for this course.

<u>Additional Instructional Materials:</u>

1. Transparencies. See locally-developed 60-part series attached. Series depicts architectural styles and significant structural features.

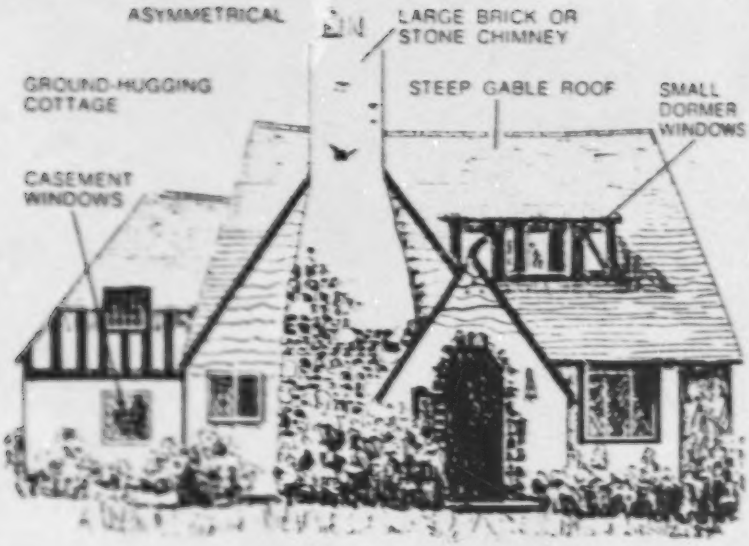
Additional Instructional Materials (Continued):

2. 35MM slides. Three sets of 20 slides each. Teacher's manual available with each set. Developed by Educational Dimensions Corp., Stanford, Conn., 1973:
   a. Survey of World Architecture
   b. 200 Years of American Architecture
   c. Architectural Forms, Origin, and Use
3. 35MM film strips. Developed by Educational Dimensions Corp., Stanford, Conn., 1973. Four sets:
   a. Set 1. American Architecture, three parts:
      (1) 17th and 18th Century
      (2) 19th Century
      (3) 20th Century Trends
   b. Set 2. The New American Architecture
   c. Set 3. Modern Architecture
   d. Set 4. Understanding World Architecture

Additional References:

Forman, Henry C. The Architecture of the Old South: The Medieval Style. New York: Russell and Russell Publishers, 1967.

Waterman, Thomas T., and Barrows, John A. Domestic Colonial Architecture of Tidewater, Virginia. New York: Dover Publications, 1969.



English Styles

COTSWOLD COTTAGE

Key Distinguishing Characteristics

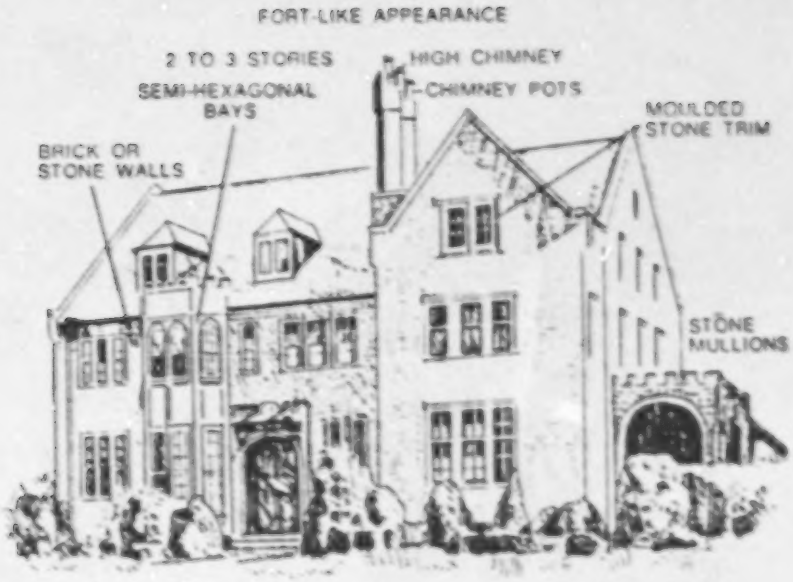
The smallest of the English styles, the Cotswold, is sometimes described as an Ann Hathaway or Hansel and Gretel Cottage. It is a ground-hugging, always asymmetrical style with a prominent brick or stone chimney in the front or on the side that apoears to be very large in relation to the overall size of the house.

Other Distinguishing Characteristics

Walls of the originals were built of materials of the area – brick, stone, wood siding, half timbers
Steep gable roof with complex lines
Casement windows
Dormer windows smaller than other windows
Rooms tend to be small and irregularly shaped
Layout often necessitates walking through one room to get to another (even the bedrooms)
Upper story bedrooms have steep walls and need dormers

History

The Cotswold Cottage was first built in the Cotswold Hills of Gloucester, Hereford and Worcester, England starting about the time of the Norman conquest in 1066. The name is derived from "cot"-cottage and "wold"-wood – cottage in a wood. The romantic design was very popular throughout the U.S. in the 1920's and 1930's.



English Styles

TUDOR

Key Distinguishing Characteristics

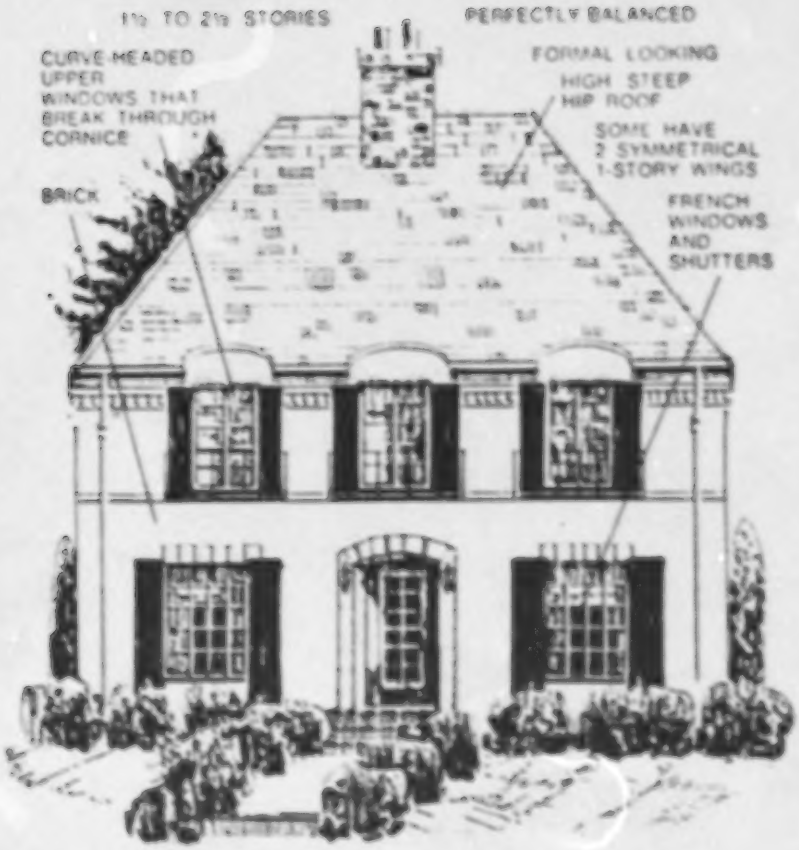
The Tudor is an imposing looking house with fortress-like lines. Siding is chiefly stone and brick with some stucco and half timbers. Windows and doors have moulded cement or stone trim around them.

Other Distinguishing Characteristics

Usually 2½ stories
Stone or cement window mullions and transoms
Casement windows with leaded glass (often diamond-shaped)
High, prominent chimneys with protruding chimney pots
Semi-hexagonal bays and turrets
Interior often layed out with odd-shaped rooms full of nooks and crannies, large fireplaces, beamed ceilings and rough plaster walls

History

The style started in England in the late 15th century during the reign of the House of Tudor. It did not become popular in the U. S. until the late 1800's.



French Styles

FRENCH PROVINCIAL

Key Distinguishing Characteristics

The French Provincial is a perfectly balanced, formal 1½ to 2½ story house with a high steep hip roof and curved-headed upper windows that break through the cornice.

Other Distinguishing Characteristics

French windows or shutters on first floor
Two symmetrical 1-story wings
Usually made of brick

History

The style originated in France during the reign of Louis XIV (1643-1715) by the rich who wanted showplace homes.

French Styles

CREOLE OR LOUISIANA OR NEW ORLEANS

Key Distinguishing Characteristics

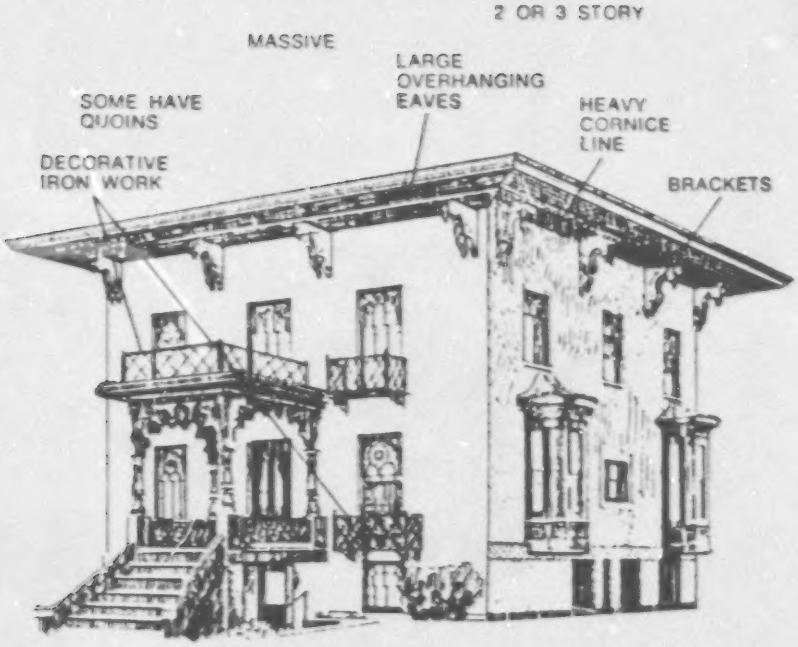
A balcony with extensive lacy iron work running across the entire front at the second story level distinguishes this style.

Other Distinguishing Characteristics

Symmetrical
2 to 3 stories

History

The style originated around New Orleans. Although it appears to have been influenced by French, Spanish and West Indian styles, it is not found in those places. Many of these houses were built in the late 1700's and 1800's.



Latin Styles

ITALIAN VILLA

Key Distinguishing Characteristics

This is a massive, 2 or 3-story house of masonry with large overhanging eaves.

Other Distinguishing Characteristics

Many have square or octagonal towers
Quoins at corners
Heavy cornice line with supporting brackets
Decorative iron work

History

First built in the U.S. in 1837, this style was popularized by architect Andrew Jackson Downing in the middle 1800's. Architects Henry Austin and Richard Upjohn used the style extensively. The Bristol House pictured was designed by Austin and built in New Haven, Connecticut in 1845.

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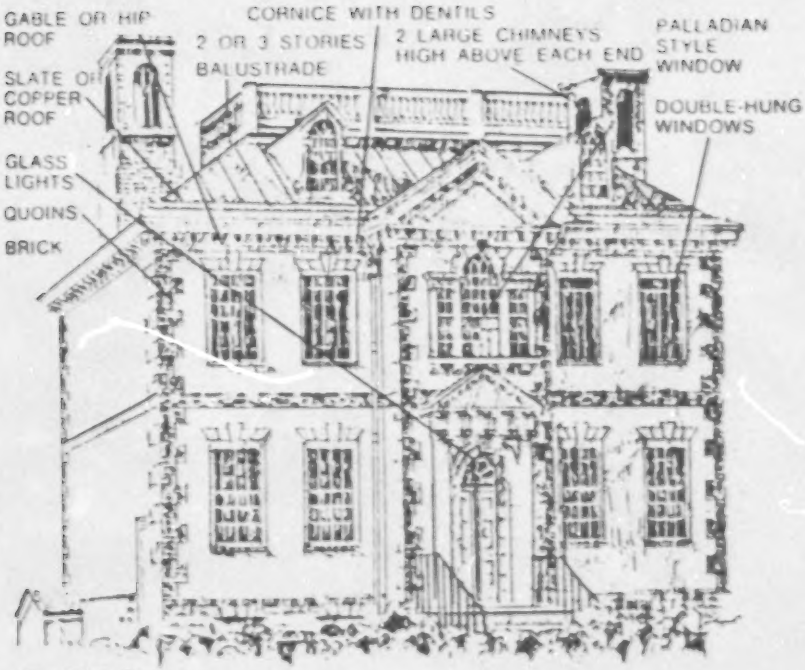


English Styles

GEORGIAN

Key Distinguishing Characteristics

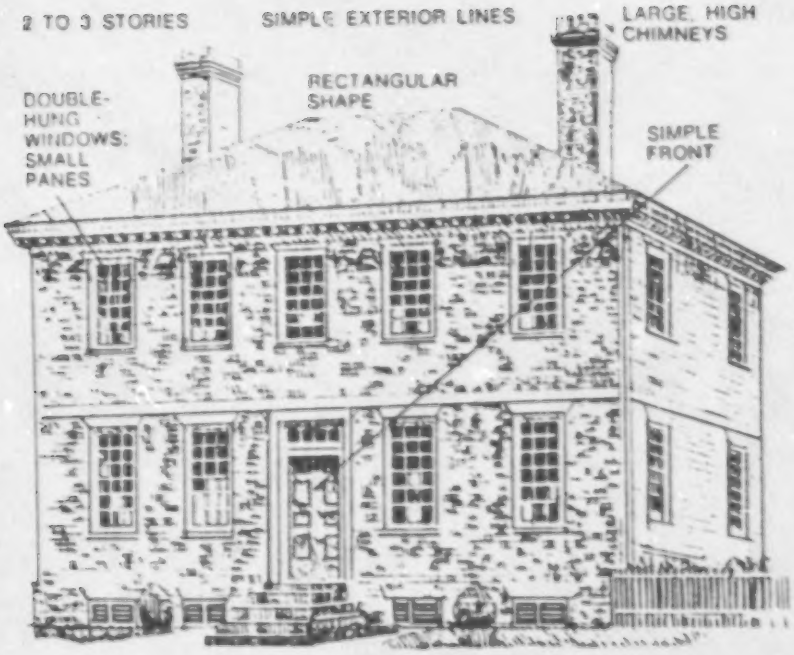
The Georgian is a large, formal 2 or 3-story rectangular house characterized by its classic lines and ornamentation.

Other Distinguishing Characteristics

Traditional material is brick
Some made of masonry, clapboard or shingles
Gable or hip roof
Slate shingles or copper roofing
Two large chimneys rising high above the roof at each end
A Paladian style set of three windows on the second floor over the front entrance or at each end
Front entrance with Greek columns
Glass lights on side and above front entrance door

History

The style became popular in England during the reign of the four King Georges. They were built in large numbers here in the 1700's and 1800's. The house pictured is Mount Pleasant built in 1750 in Philadelphia. It contained a large number of the features that would be traditionally included in the Georgian style.



English Styles

WILLIAMSBURG GEORGIAN OR EARLY GEORGIAN

Key Distinguishing Characteristics

The houses built in Williamsburg were representative of the early Georgian houses built in America throughout the early 1700's. They had simple exterior lines and generally fewer of the decorative devices characteristic of the later Georgian houses. Most were 2 or 3 story rectangular houses with two large chimneys rising high above the roof at each end.

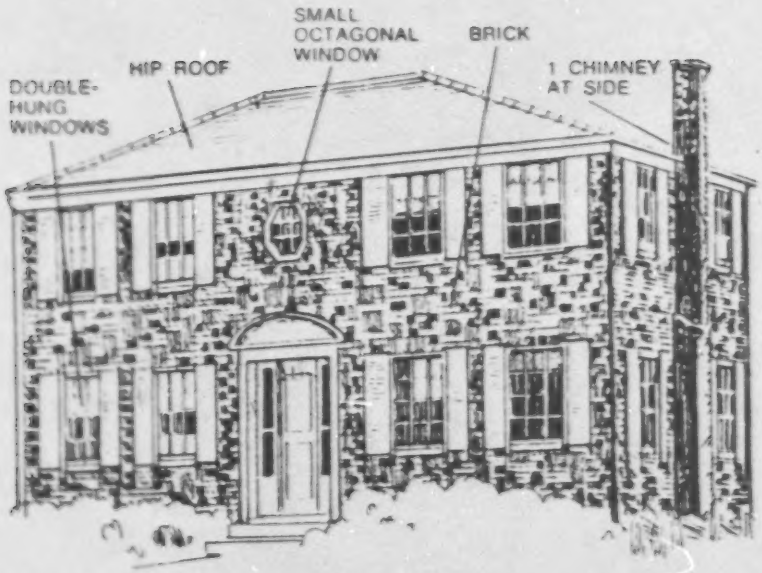
Other Distinguishing Characteristics

Sliding double-hung windows with small panes
Simple front entrances

History

Williamsburg, Virginia was the cultural and political capital of the colonies during most of the 1700's. The houses here were based on the styles developed in England during the reign of the four King Georges. The Williamsburg houses were built in the early 1700's. With gifts of about $40 million, John D. Rockefeller, Jr. has restored the community.

SIMPLE, INFORMAL STYLE



English Styles

REGENCY

Key Distinguishing Characteristics

This is a 2 or 3-story, symmetrical house with a hip roof. A small octagonal window over the front door is traditional.

Other Distinguishing Characteristics

Almost always brick, often painted white
One chimney on side
Double-hung windows
Shutters same size as windows
A simple informal style without the classic lines of the Georgian

History

The style reached its peak of popularity in England between 1810 and 1820. Many of these houses were built in the U. S. in the late 1800's, throughout the 1900's and are still being built today.

Latin Styles

SPANISH VILLA

Key Distinguishing Characteristics

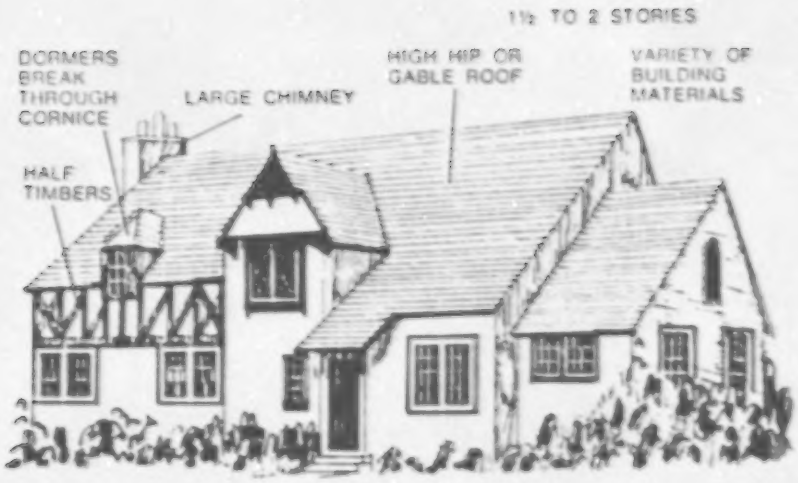
This is an asymmetrical, 1 to 3-story house with painted stucco exterior walls and red tile roof.

Other Distinguishing Characteristics

Oval top windows and doors
Wrought iron exterior decorations
Patio completely enclosed by exterior walls

History

American architecture has been influenced by Spanish styles since the days of the Spanish conquistadores. It is widespread throughout the warm parts of the U.S. and also appears in the north surprisingly frequently considering its basic unsuitability for cold climates.



French Styles

FRENCH FARM HOUSE

Key Distinguishing Characteristics

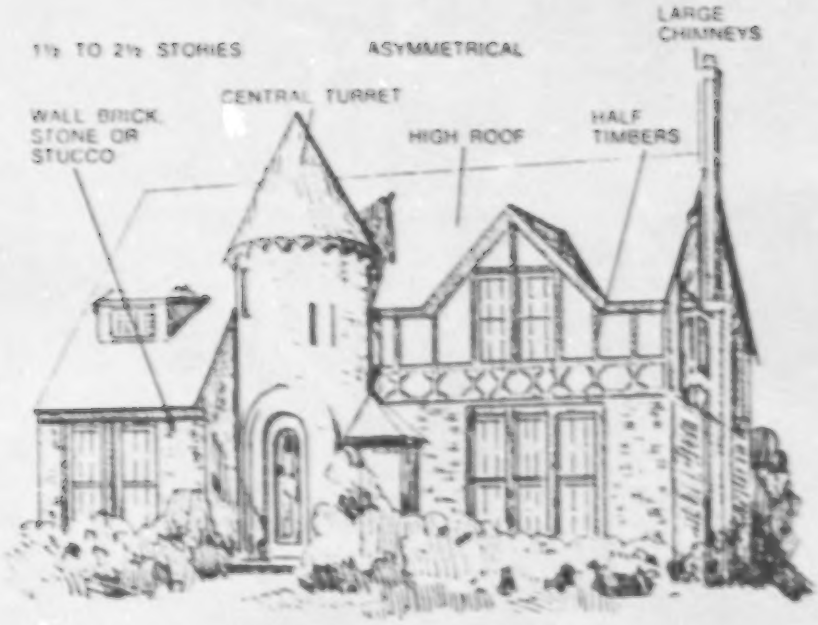
An informal 1½ to 2-story house made of a variety of building materials, this house has a high hip or gable type roof with steep slopes.

Other Distinguishing Characteristics

Large chimney
Half timbers used as decorative accent
Dormers that break through the cornice
Another common variation of this design (not pictured) is a house built around a courtyard with two symmetrical wings protruding towards the front.

History

The style is based on the farm houses found in the various, widespread provinces of France. Because of this, the style varies widely. They were most popular in America in the early 1900's.



French Styles

FRENCH NORMANDY

Key Distinguishing Characteristics

The main characteristic of this style is the central turret which is usually a staircase.

Other Distinguishing Characteristics

- 1½ to 2½ stories
- Exterior walls usually brick, stone or stucco
- Asymmetrical shape
- Large chimneys
- High, complicated roofs
- Half timbers for decoration

History

This house style originated in the Normandy area of France where house and barn were one building. The turret was used for storage of grain or ensilage.

English Styles

ELIZABETHAN OR HALF TIMBER

Key Distinguishing Characteristics

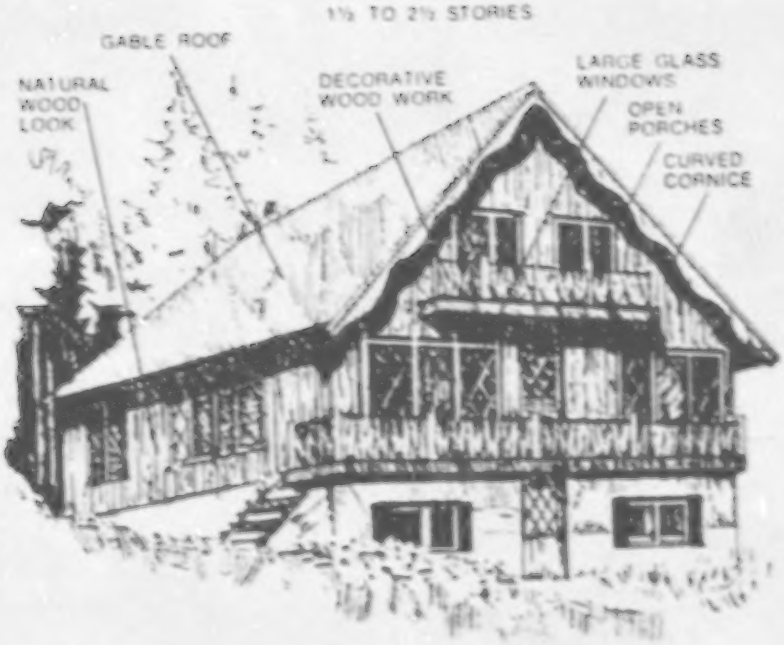
This is a 2 or 2½-story house, often with part of the second story overhanging the first. It has less stone work and is less fort-like than the Tudor. Stone and stucco walls with half timbers are most common.

Other Distinguishing Characteristics

Massive sculptured chimneys
Used brick between half timbers is called "nogging"; when not covered with stucco it is "exposed nogging"
Complicated high peaked roofs which are expensive to install and subject to leaks because of complex valleys
Small leaded glass casement windows
Interior often has large halls and a spacious living room with a large fireplace and beamed ceilings
Bedrooms are on second floor

History

These houses were erected in England throughout the prosperous reign of Queen Elizabeth (1558-1603), particularly in the London area. The characteristic protruding second story supported by wooden brackets is a carry-over from narrow London lots where extra space could be obtained by overhanging the street.



Swiss Style

SWISS CHALET

Key Distinguishing Characteristics

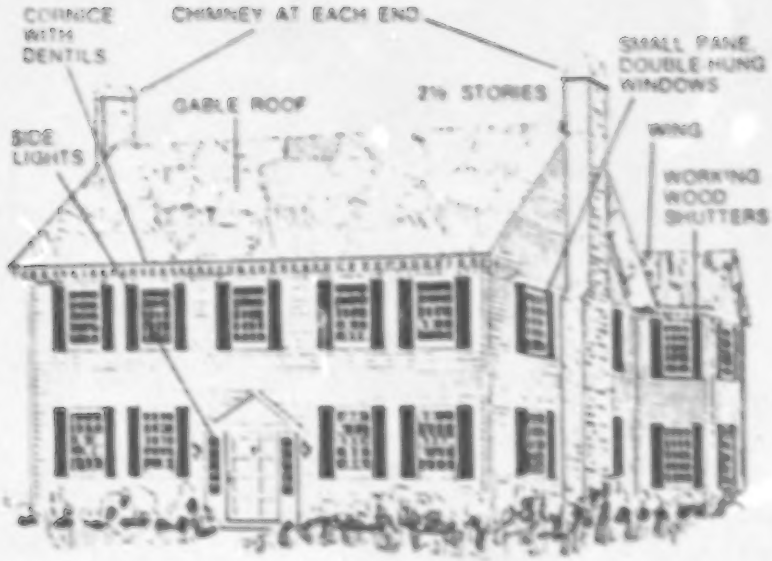
The Swiss Chalet is a 1½ to 2½-story, gable roof house with extensive natural decorative woodwork on the exterior.

Other Distinguishing Characteristics

Open porches
Large glass windows
Natural wood look
Curved cornice

History

The style is a direct copy of the mountain chalets of Switzerland. In this country too, they are built mostly in the mountain areas as ski lodges. The house pictured was designed and built by Paul Manchester.



Early American

NEW ENGLAND COLONIAL

Key Distinguishing Characteristics

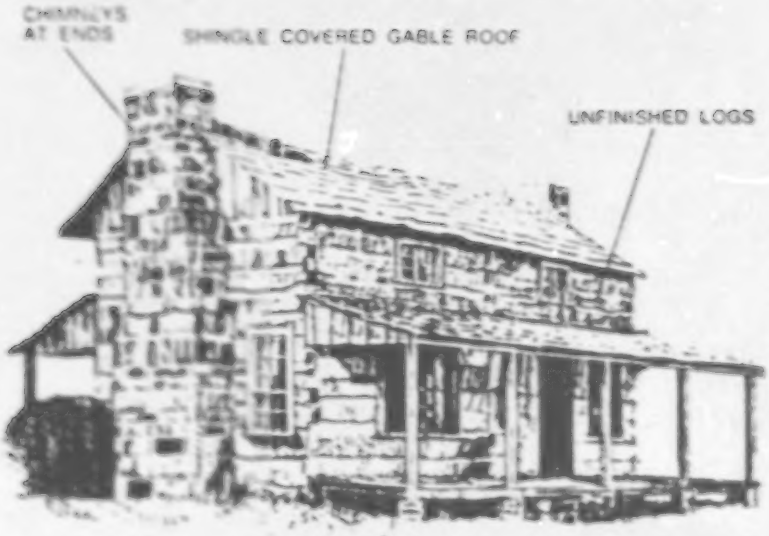
The New England Colonial is a 2½-story, generally symmetrical, square or rectangular box-like house with side or rear wings. The traditional material is narrow clapboard siding. The roof is usually the gable type covered with shingles.

Other Distinguishing Characteristics

Originals had chimneys at each end for heating
Modern versions have only one chimney at end or in center
Windows are double-hung type with small glass panes
Shutters same size as windows
Central entrance door often has side lights and a fan light
Elaborate cornice with dentils
First floor has central hallway running from front to rear
Bedrooms are on the second floor

History

These large, roomy houses evolved from the Cape Cod style.



Early American

LOG CABIN

Key Distinguishing Characteristics

This is a house built of unfinished logs.

Other Distinguishing Characteristics

Rectangular shape
Usually one story
Shingle-covered gable roof
Chimneys at ends
Few windows
Windows covered with oil soaked paper or small panes of glass

History

The first extensive use of the log cabin in America was by the Swedish immigrants. The log cabin eventually became the favorite house of the early pioneers. There are two basic types of log cabins. One is built with round logs like the traditional Lincoln cabin and the other is built with squared-off logs like the cabin pictured here. The illustration is of the Latta house in Arkansas. Several companies are producing reproductions today.

Early American

CAPE COD COLONIAL

Key Distinguishing Characteristics

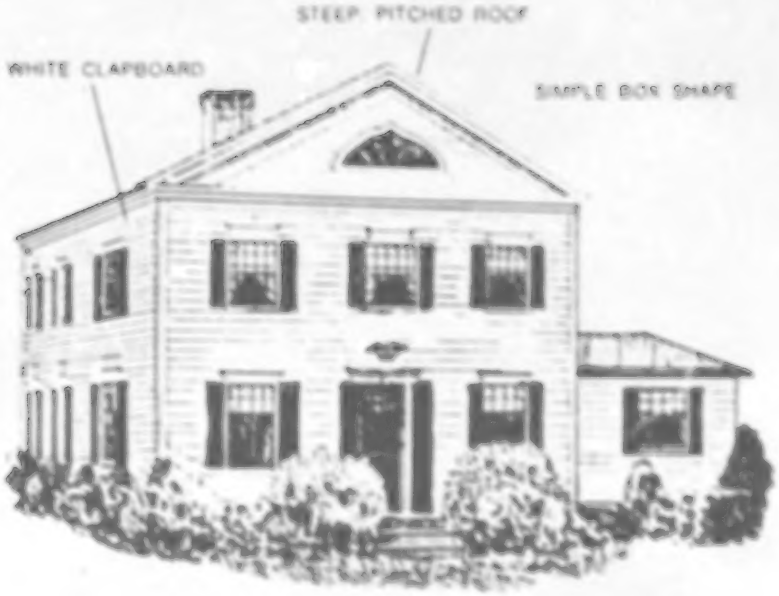
This is a small, symmetrical, 1½ story, compact house with a central entrance. The roof is the steep gable type covered with shingles. The authentic types have low central chimneys, but end chimneys are very common in the new versions. Bedrooms are on the first floor. The attic may be finished into additional bedrooms and a bath. A vine covered picket fence is traditional.

Other Distinguishing Characteristics

- Traditionally, exterior walls were white clapboard, natural shingles or brick; modern versions have exterior walls of a wide variety of materials
- Simple double-hung windows
- Shutters same length as windows
- Simple cornice with gutters immediately above first floor windows
- Easy to build, maintain and heat
- Inherent in the design is the necessity to walk through one room to reach another

History

The Cape Cod Colonial is the oldest dwelling type built by the American colonists that is still popular today. The early Cape Cods were very crude. They usually had one room on the first floor and a sleeping loft above. The modern version was the most popular house style in the U.S. from the 1920's through the 1950's.



Early American

NEW ENGLAND FARM HOUSE

Key Distinguishing Characteristics

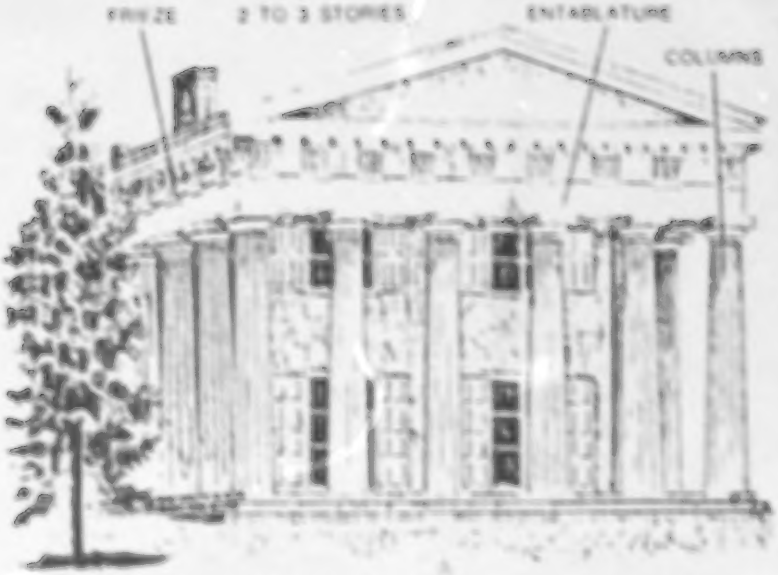
This is a simple, box-shaped house. The traditional material for the exterior siding is white clapboard. A steep pitched roof is used to shed heavy snow.

Other Distinguishing Characteristics

Central chimney used to support frame
Two square rooms on each floor is typical layout
Interior layout poor by today's standards

History

These simple houses were built in the 1700's and 1800's throughout the New England countryside. They were the favorite style among the farmers who could not afford the more elaborate styles of the times. Simple to construct and maintain, they were designed to use the building materials and techniques of the period.



Early American

GREEK REVIVAL

Key Distinguishing Characteristics

The Greek Revival style is a 2 or 3-story, symmetrical house that is a copy of a Greek temple complete with columns, architraves, friezes and cornices.

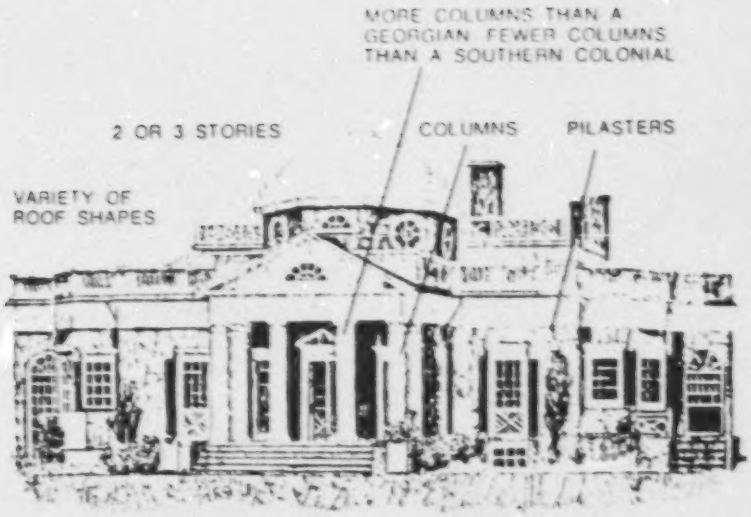
Other Distinguishing Characteristics

Windows small and hidden as they are not part of Greek temple architecture.

The interior design is sacrificed for exterior design.

History

There is little difference between a Greek Revival and a Classic Colonial. Many architectural historians consider them to be the same style. For clarity of identification, the houses that look like the traditional Greek temple are generally called Greek Revival. The style became popular in the U.S. in the early 1800's, especially for public buildings.



Early American

CLASSIC COLONIAL

Key Distinguishing Characteristics

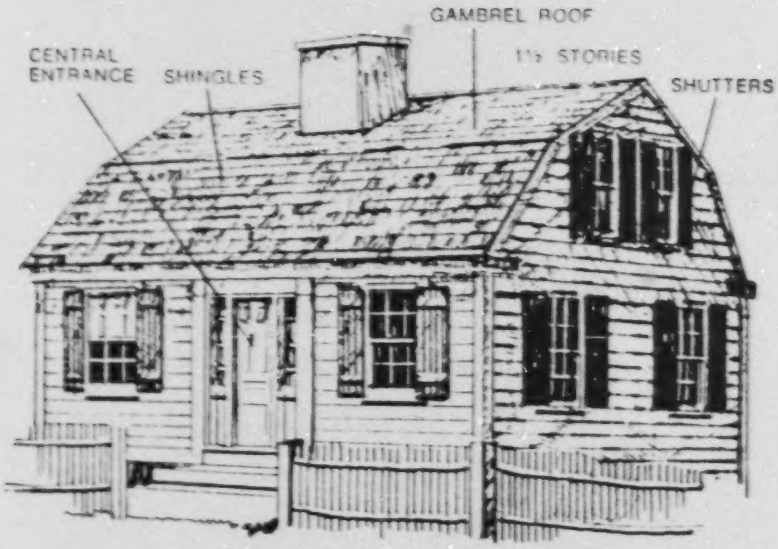
A large, impressive showplace, the Classic Colonial is a 2 or 3-story house with a columned exterior. It has more columns than a Georgian Colonial and fewer columns than a Southern Colonial.

Other Distinguishing Characteristics

Columns have Doric, Ionic or Corinthian capitals
Pilasters in the walls are common
Porticos at vehicular entrance with roof supported by columns
Variety of roof shapes on same house

History

Based on classic Greek architecture, the style was introduced by Thomas Jefferson who built Monticello in 1772 and remodeled it several times up to 1803. There is very little difference between a Classic Colonial and a Greek Revival and many architectural historians use the terms synonomously.



Early American

CAPE ANN COLONIAL

Key Distinguishing Characteristics

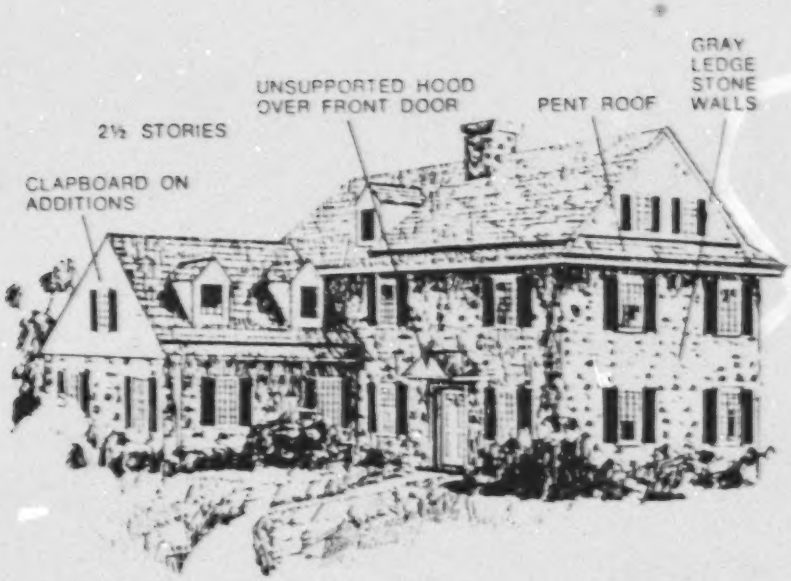
A small, symmetrical, 1½ story, compact house with a central entrance, the Cape Ann is distinguished from the Cape Cod style by its gambrel roof. The bedrooms are on the first floor. The attic may be finished into additional bedrooms and a bath.

Other Distinguishing Characteristics

Shingle covered roof
Traditionally, the exterior walls are white clapboard or natural shingles
Simple double-hung windows
Shutters the same length as the windows
Simple cornice with gutters immediately above the first floor windows
Easy to build, maintain and heat
Inherent in the design is the necessity to walk through one room to reach another

History

A variety of the Cape Cod that started in the Cape Ann area of Massachusetts, it is not nearly as popular as the gable-roofed Cape Cod style.



Early American

PENNSYLVANIA DUTCH COLONIAL OR PENNSYLVANIA GERMAN FARM HOUSE

Key Distinguishing Characteristics

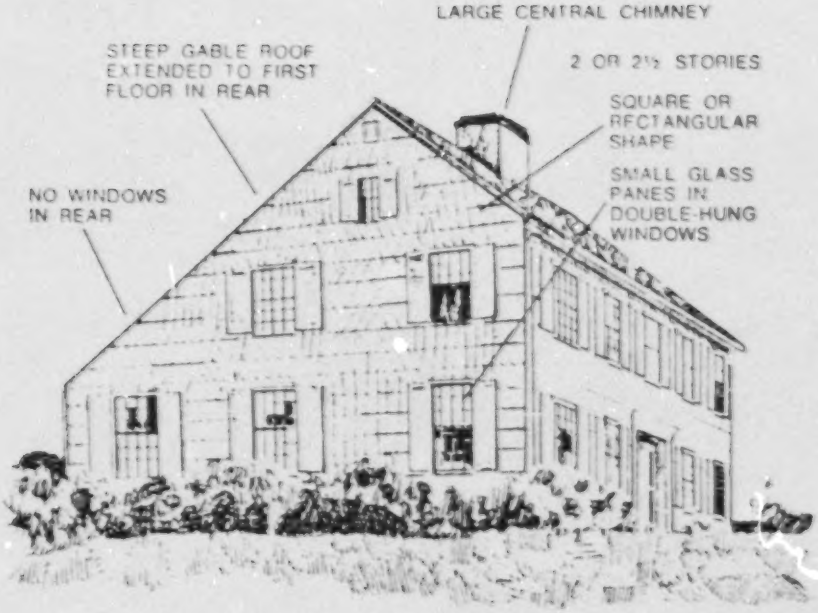
This is a massive, 2½-story, gray ledge stone house with a steep gable roof. An unsupported hood over the front entrance is traditional. When wings are added they are usually partly clapboard.

Other Distinguishing Characteristics

Shingle roof
Double-hung windows with small panes of glass
Ledge stone siding is long lasting and requires little care

History

The style was first built in the 1600's west of Philadelphia on the Main Line and in Lancaster, Pennsylvania. The name came from the mispronunciation of the word "Deutsch" since those who first built them were of German origin.



Early American

SALT BOX COLONIAL OR CATSLIDE (IN SOUTH)

Key Distinguishing Characteristics

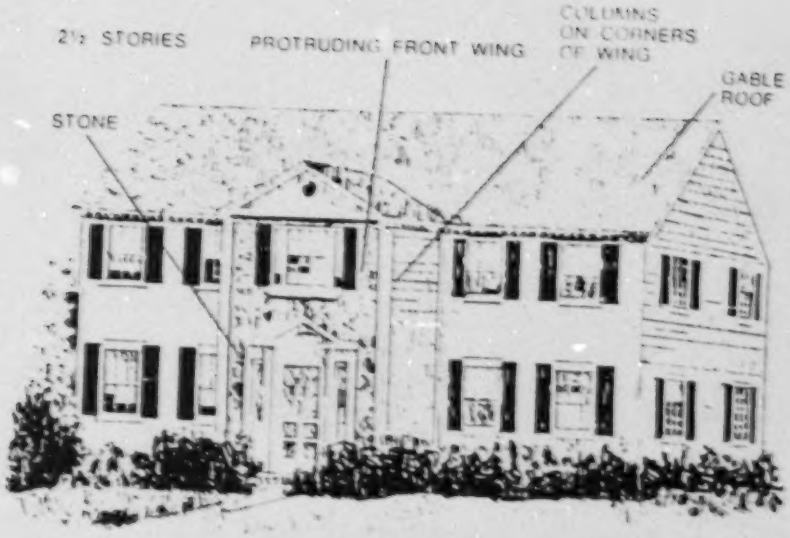
This is 2 or 2½-story, square or rectangular house with a steep gable roof that extends down to the first floor in the rear.

Other Distinguishing Characteristics

Exterior walls usually clapboard or shingles
Large central chimney
Large double-hung windows with small panes of glass
No windows in rear
Shutters, the same size as windows
In order to obtain traditional lean-to look, headroom in the rear must be sacrificed

History

The Salt Box is a Colonial New England farm house that grew in the form of a lean-to shed or room added to the rear of the house. The rear was oriented to the north to ward off cold winter winds. Its name comes from the resemblance to the salt box found in old country stores.



Early American

FRONT GABLE NEW ENGLAND COLONIAL OR CHARLESTON COLONIAL OR ENGLISH COLONIAL

Key Distinguishing Characteristics

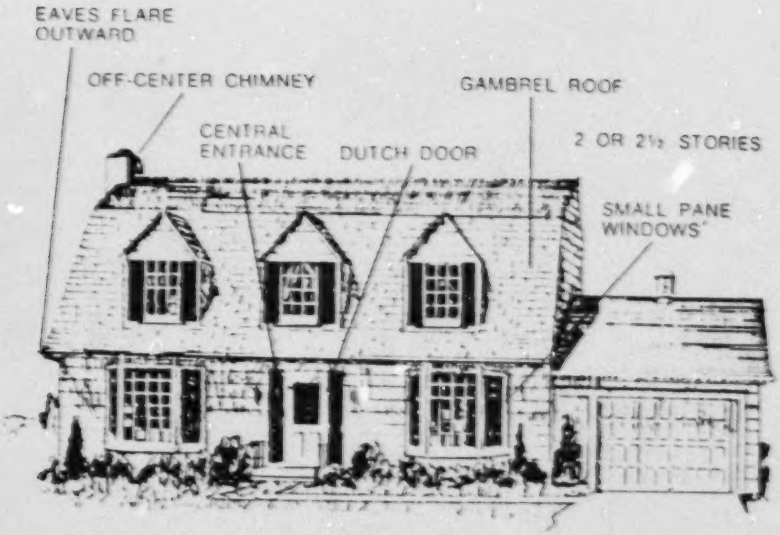
This is a 2½-story, symmetrical square or rectangular box-like house with a protruding front wing which distinguishes the style from a New England Colonial.

Other Distinguishing Characteristics

House and wing have gable roofs
Basic house is usually clapboard
Wing front is often cut stone
Cornice on front or on all four sides
Double-hung windows with small panes of glass
Shutters same size as windows
Central entrance in front wing has side light and a fan light
Wing has stone columns on four corners
Central hallway runs from wing to rear of house
Bedrooms on second floor

History

Like the New England Colonial, this style evolved from the Cape Cod. The first houses of this style were built in the 1700's.



Early American

DUTCH COLONIAL

Key Distinguishing Characteristics

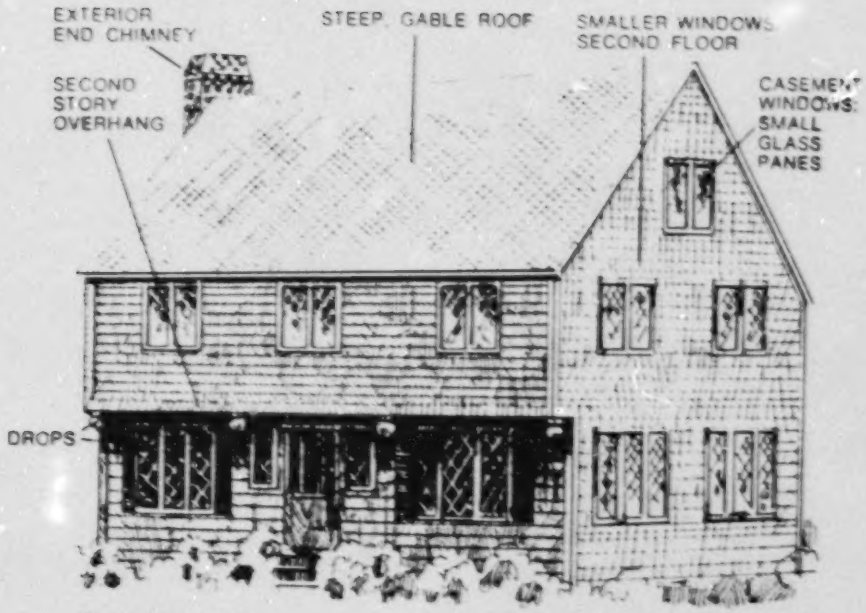
The Dutch Colonial is a moderate sized, 2 to 2½-story house with a gambrel roof and eaves that flare outward.

Other Distinguishing Characteristics

Central entrance
Dutch entrance door
Double-hung windows with small panes of glass
Exterior may be made of a wide variety of material such as clapboard, shingles, cut stone, brick or stucco
Second story dormers through roof are common
Chimney rarely in the center

History

This is an indigenous American style that did not originate in Holland as is commonly believed. The Dutch settlers built them in Pennsylvania starting in the 1600's and soon after in New York.



Early American

GARRISON COLONIAL

Key Distinguishing Characteristics

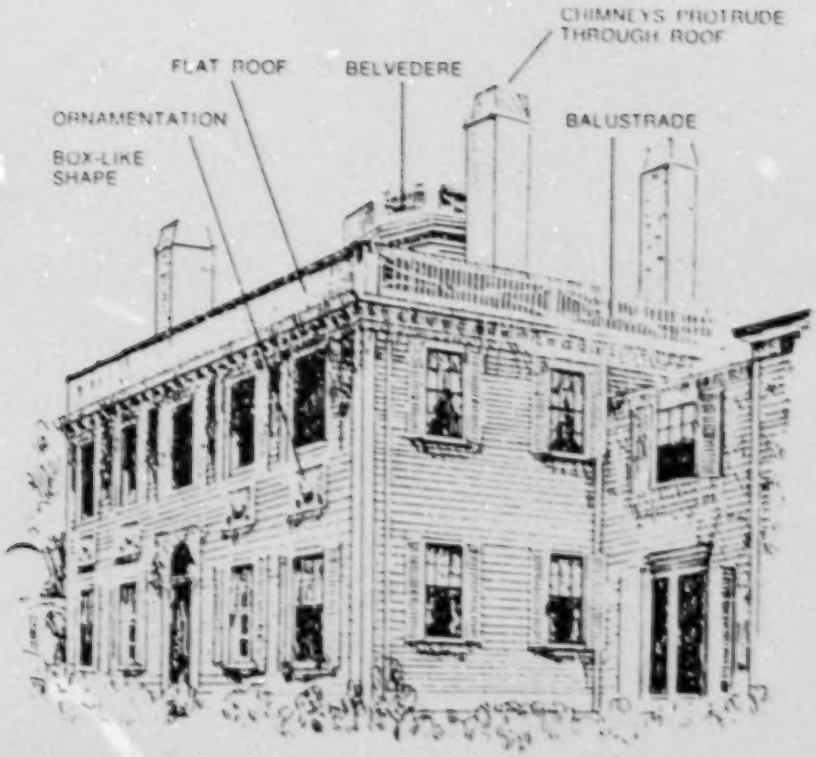
This is a 2½-story, symmetrical house with the second story overhang in the front. The traditional ornamentation is four carved drops (pineapple or acorn shape) below the overhang.

Other Distinguishing Characteristics

Exterior chimney at end
Older versions have casement windows with small panes of glass
Later versions have double-hung windows
Second story windows often smaller than those on first floor
Steep gable roof covered with shingles
Dormers often break through the cornice line

History

The Garrison Colonial is reputed to be patterned after colonial blockhouses used to fend off Indians, but it is probably an outgrowth of the overhang style of the Elizabethan townhouse. The style probably has been perpetuated because of its pleasant appearance. The carved drops were the ends of the framing beams on early versions of the house. Later they were added on for decoration. Examples of this style built in the 1600's are still standing today.



Early American

FEDERAL

Key Distinguishing Characteristics

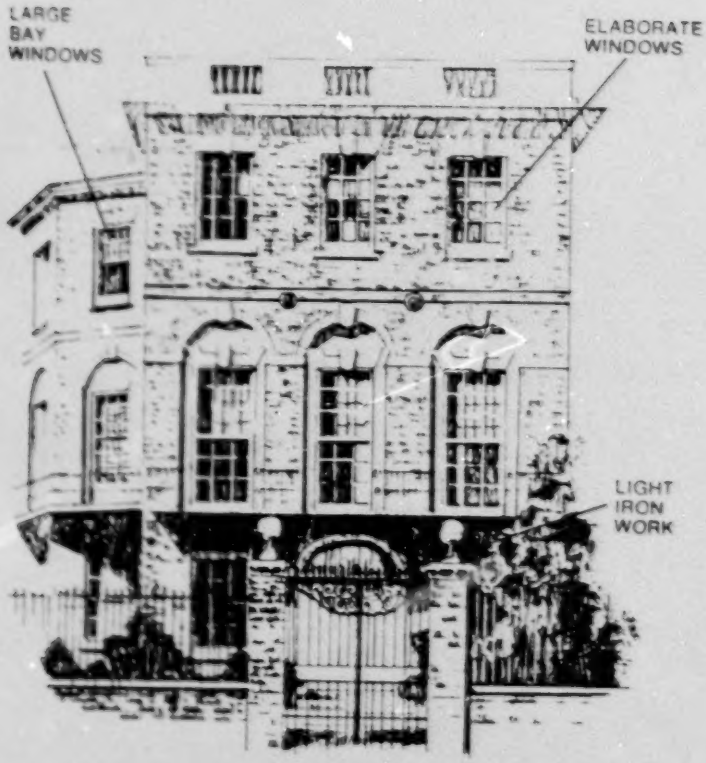
The Federal is a multi-story, symmetrical, box-shaped house with a flat roof.

Other Distinguishing Characteristics

- Clapboard or brick exterior walls
- One or more chimneys protruding through roof
- Windows with small glass panes
- Beautiful ornamentation
- Belvedere
- Balustrade

History

Prevalent throughout the cities in the East in the 1700's, this style takes on many forms. Some consider this and the Adams style to be the same.



Early American

ADAMS COLONIAL

Key Distinguishing Characteristics

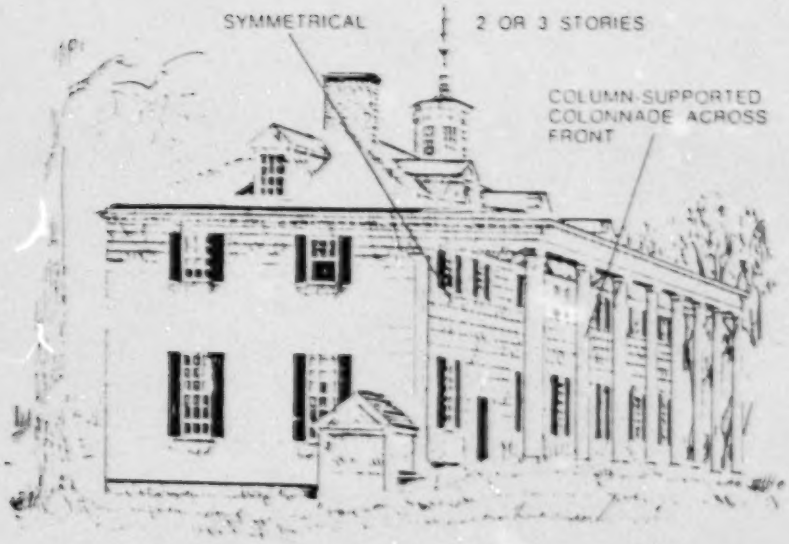
A rectangular shaped, multi-story house of classic beauty, the Adams Colonial has large bay windows and a flat roof topped with a balustrade. The overall effect is one of lightness and delicacy.

Other Distinguishing Characteristics

Elaborate windows with small glass panes
Fantail windows on each side and above front entrance door
Chimneys protruding through roof
Carved steps with light iron rails

History

Introduced by Robert Adam in 1759 upon his return from a trip to Europe, the style was launched in New England when it was promoted by Charles Bulfinch and Samuel McIntire, two of America's famous early architects.



Early American

SOUTHERN COLONIAL

Key Distinguishing Characteristics

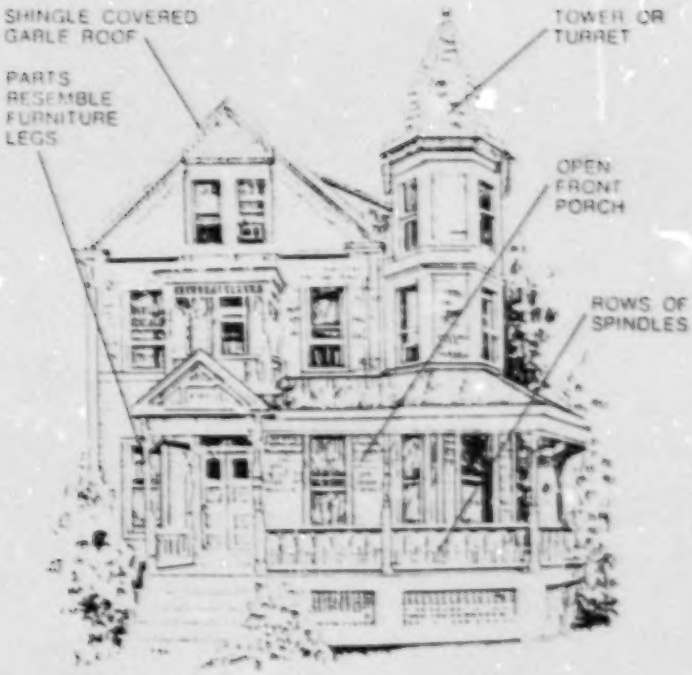
The Southern Colonial is a large 2 or 3-story, frame house with a characteristic colonnade extending across the front. The roof extends over the colonnade

Other Distinguishing Characteristics

Hip or gable roof covered with shingles
Symmetrical
Second-story balcony
Balustrade
Belvedere
Double-hung windows with small panes of glass
Shutters same size as windows
Cornices with dentils

History

The style is a southern conception of the New England Colonial and Georgian Colonial modified to suit the warmer climate. The classic example pictured here is Mount Vernon, built in the 1700's.



Nineteenth Century

EASTLAKE

Key Distinguishing Characteristics

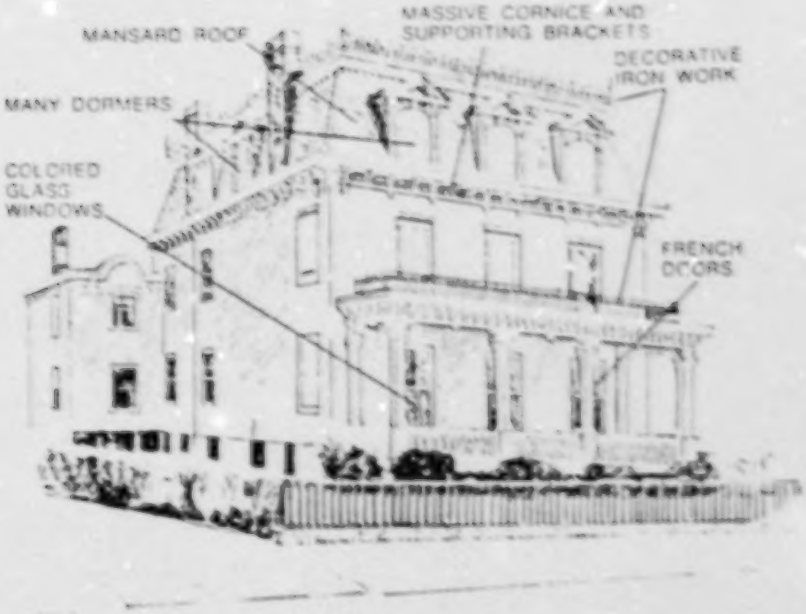
The distinctive Eastlake type of ornamentation is the major characteristic of this style. Otherwise these houses look like a Queen Anne or Carpenter Gothic. The ornamentation is very three-dimensional, having been made with a chisel, gouge and lathe rather than the scroll saw. Many of the parts resemble furniture legs and knobs.

Other Distinguishing Characteristics

Rectangular shape
Open front porch
Tower or turret
Gable roof covered with shingles

History

Charles Lock Eastlake, an English architect, wrote a book, *Hints on Household Taste*, first published here in Boston in 1872. The designs in the very popular book became the basis of Eastlake style furniture and houses. The houses, however, were not designed by Eastlake and it was said that he did not like them.



Nineteenth Century

AMERICAN MANSARD OR SECOND EMPIRE STYLE

Key Distinguishing Characteristics

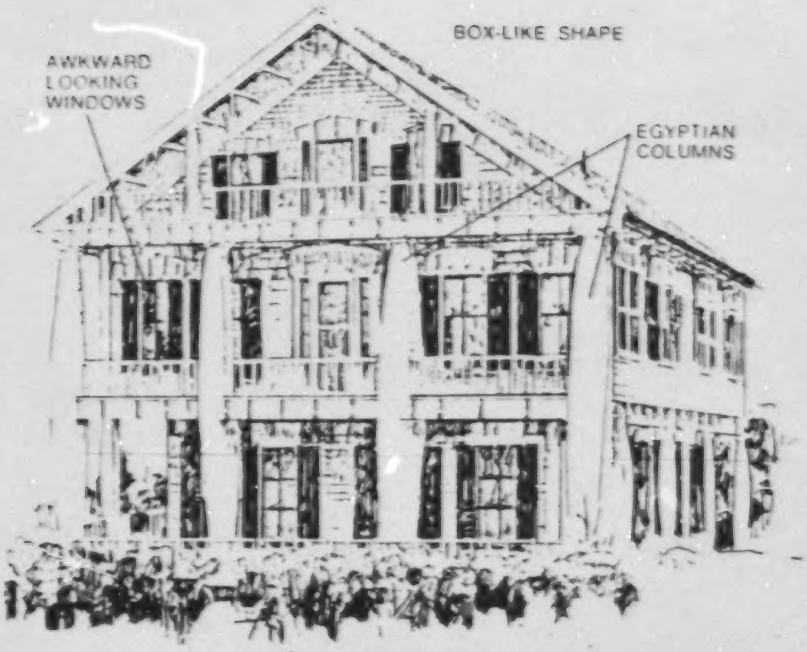
The main and distinguishing characteristic of this style is the roof design. The mansard roof slopes gently back from the wall line and then is topped with an invisible (from the street) section resembling a conventional hip roof. Through the roof protrude multiple dormers.

Other Distinguishing Characteristics

- Decorative iron work
- Decorative mouldings
- Quoins on corners
- Brackets supporting massive cornices
- Colored glass in windows
- Iron castings
- Deep porches
- French doors opening onto the porches

History

The French Second Empire (the reign of Napoleon III from 1852 to 1870) was the period in which the style was popular in the U.S. The mansard roof was originally developed in France in the 1600's by Francois Mansart. It enjoyed wide popularity when revived in the 1800's and now in the 1970's.



Nineteenth Century

EGYPTIAN REVIVAL

Key Distinguishing Characteristics

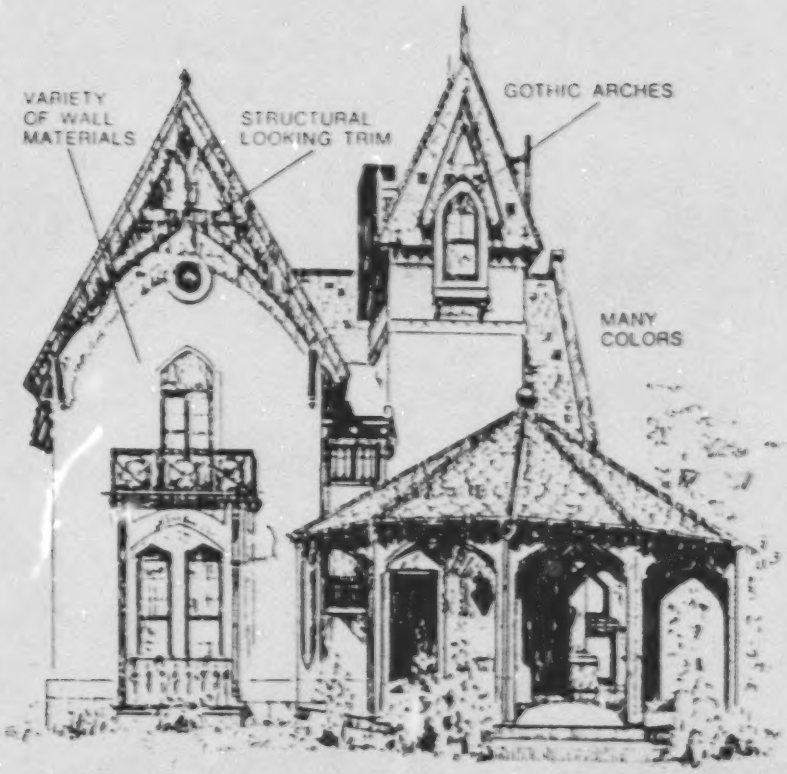
This is a box-like house with Egyptian columns in the front.

Other Distinguishing Characteristics

Windows appear awkward since they are not part of authentic Egyptian architecture

History

Egyptian architecture was never very popular in America, even in the early 1800's when the fad of copying foreign styles was at its height. The best examples of Egyptian architecture are found in cemetery gates built during the same period.



Nineteenth Century

HIGH VICTORIAN GOTHIC

Key Distinguishing Characteristics

Like the early Gothic architecture, High Victorian Gothic can be identified as being Gothic by the pointed arch which is used extensively over the windows and doors. It is much more elaborate than the early Gothic with a great many colors and materials being visible. The decorative details give an appearance of solidity.

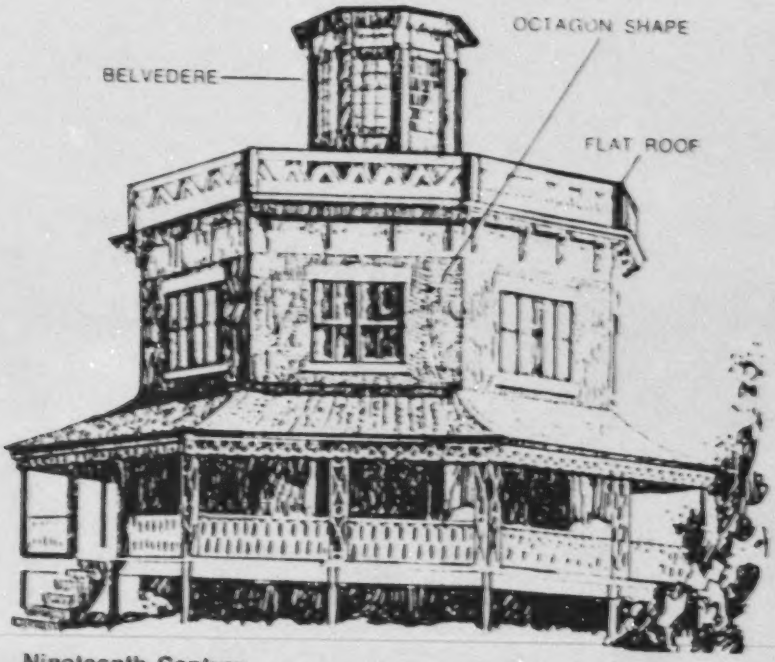
Other Distinguishing Characteristics

Multi-color effect of exterior walls obtained by the use of stone, wood, brick

Exterior wood trim appears to be structural rather than merely trim

History

Most of the High Victorian Gothic houses were built after the Civil War and were based on European Gothic styles popular at the time. The house pictured is the Converse House in Norwich, Connecticut, built in 1870.



Nineteenth Century

OCTAGON HOUSE

Key Distinguishing Characteristics

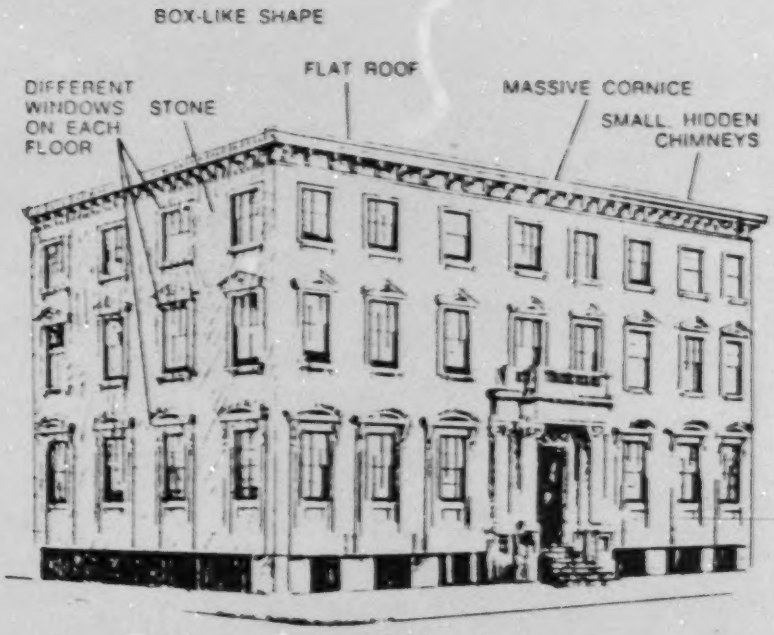
The most distinguishing characteristic of this style is the octagonal shape.

Other Distinguishing Characteristics

Stone, wood or concrete walls
Flat roofs
Chimney or beleveder in the center
Variety of window and door types used

History

Most of these houses were built around 1850. They were a result of an idea put forth by Orson Squire Fowler, a popular author of the time who wrote about love, marital happiness, sex and phrenology. In several of his popular books he expounded the theory of a happy life in an octagon-shaped house. He thought that this design made for good interior circulation, heating and lighting. Octagon houses were built throughout the U.S. and several hundred are still lived in today. The house was explained in detail in his book, *A Home for All, or the Gravel Wall and Octagon Mode of Building, New, Cheap, Convenient, Superior and Adapted to Rich and Poor.*



Nineteenth Century

ROMAN TUSCAN MODE

Key Distinguishing Characteristics

A house in this style is box-like and fills an entire lot, leaving no yard area. Windows on each floor are treated differently. The roof is flat with a massive cornice.

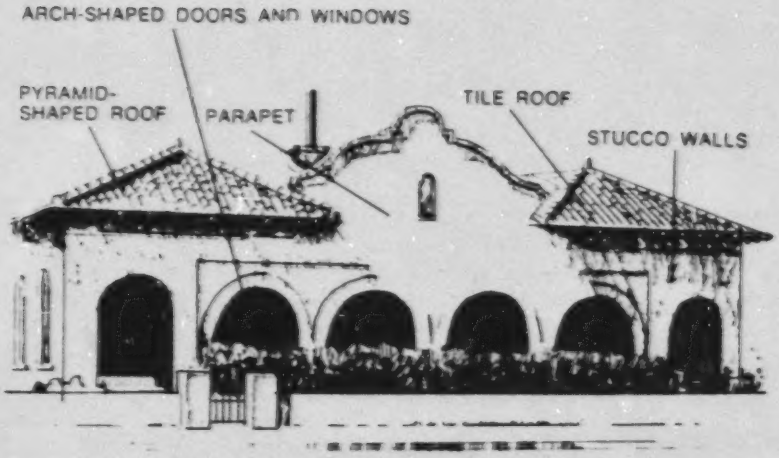
Other Distinguishing Characteristics

Chimneys small and hidden
Built of stone

History

The style was brought from Italy in the 1800's and used for several important public buildings and a few houses.

LOOKS LIKE OLD MISSION CHURCH



Nineteenth Century

MISSION

Key Distinguishing Characteristics

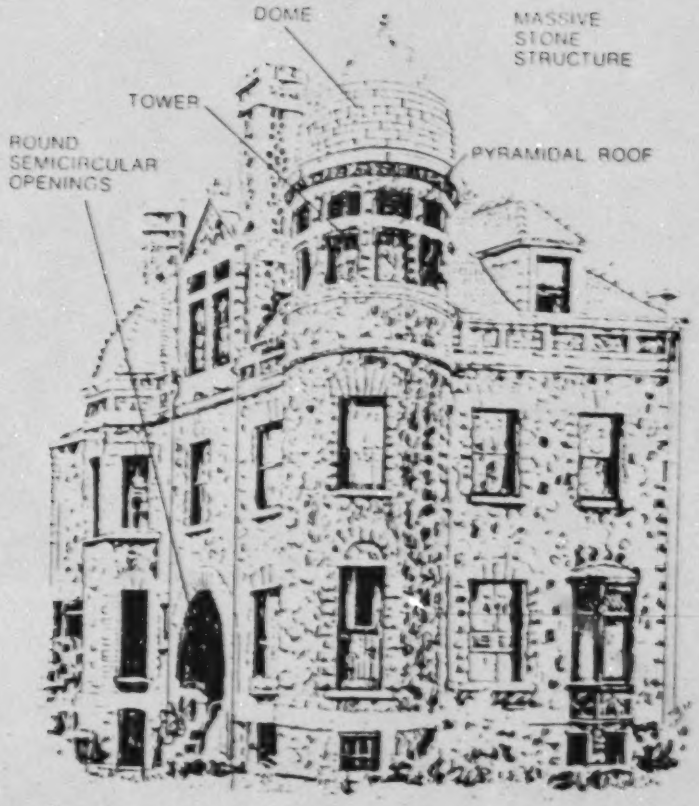
These houses look like the old mission churches and houses of Southern California. The doors and windows are arch-shaped.

Other Distinguishing Characteristics

No sculptural ornamentation
Roof often hidden by the parapets
Towers and turrets with pyramid-shaped roofs
Exterior walls made of stucco

History

This is the style developed in the West in the 1800's when the people became aware of their architectural past. It was popularized as a reaction against the conventional eastern styles that were being built in the West at the time.



Nineteenth Century

ROMANESQUE

Key Distinguishing Characteristics

This is a massive, stone structure with round, semicircular arched openings.

Other Distinguishing Characteristics

One or more towers topped with a dome
Pyramidal roof

History

This style was very popular in the 1800's for public buildings and churches. Only a few Romanesque houses were ever built in the U.S. Architect Henry Hobson Richardson used the style extensively. The house pictured is the Ayer House in Chicago which, unfortunately, was demolished in 1966.

Nineteenth Century

MONTEREY

Key Distinguishing Characteristics

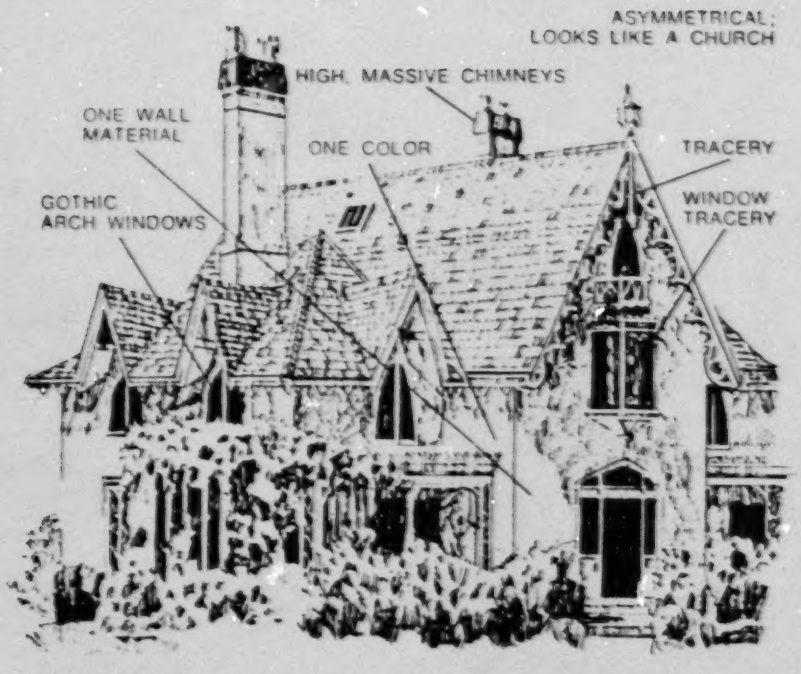
A 2-story house with a balcony across the front at the second floor level.

Other Distinguishing Characteristics

Asymmetrical shape
Balcony rail is simple iron work or wood as contrasted with lacy iron work of Creole style.

History

Thomas Larkin, a Boston merchant, moved to Monterey, California and in 1835 built his version of a New England Colonial out of adobe brick. Most of the other houses in Monterey at that time were 1-story. In addition to the second story, his house also introduced to the area the second floor porch, roof shingles and the fireplace. The house was widely copied throughout the West and became known as the Monterey style.



Nineteenth Century

EARLY GOTHIC REVIVAL

Key Distinguishing Characteristics

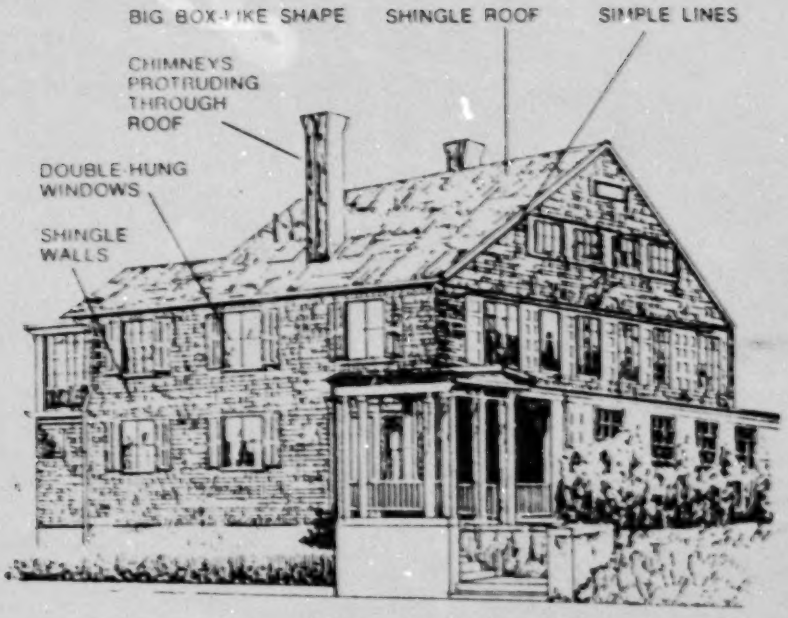
Gothic architecture can easily be identified by the pointed arch. The windows and doors are often this same pointed shape. Early Gothic revival might have only a few true Gothic characteristics. The house has a Gothic, church-like appearance and is asymmetrical. Usually only one color and one material are used.

Other Distinguishing Characteristics

Wood the most common material
Some built of stucco or brick
Fragile appearance, especially tracery and moulding
Pinnacles and battlements
High, massive chimneys

History

Gothic architecture was popular through Europe from the 12th to the 15th centuries. Many great Gothic churches are still standing today. It was one of the many styles copied in the U.S. as part of the fad of the 1700's and 1800's. The house pictured is the Rotch House in New Bedford, Massachusetts, designed by Alexander Jackson Davis in 1846.



Nineteenth Century

SHINGLE STYLE

Key Distinguishing Characteristics

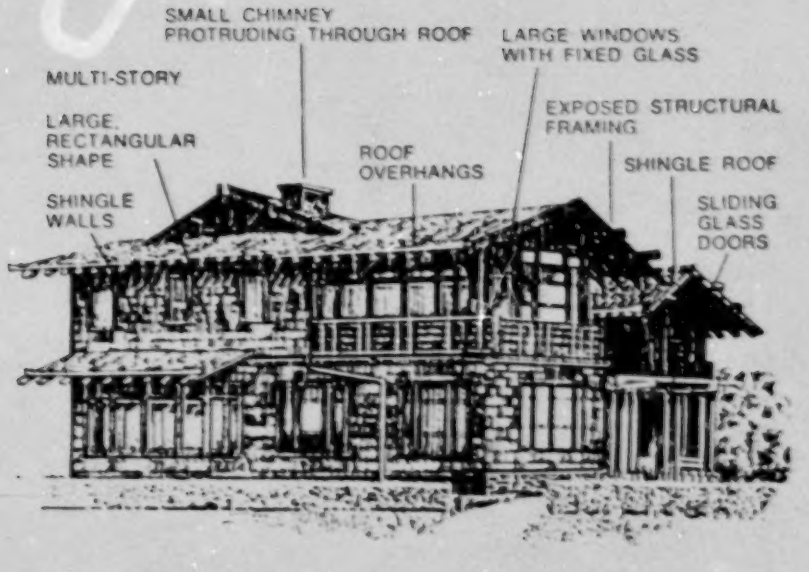
The Shingle Style house is big and box-like with simple lines. The roof and exterior walls are covered with shingles usually stained or painted a dark color.

Other Distinguishing Characteristics

Gable roof
Double-hung windows
Shutters same size as windows
Several chimneys protruding through roof

History

This style developed in New England in the 1880's. It became very popular and many thousands were built. It eventually spread throughout the U.S. and many are in good condition and being lived in today.



Nineteenth Century

WESTERN STICK

Key Distinguishing Characteristics

The Western Stick is a large rectangular house with exposed structural framing.

Other Distinguishing Characteristics

Exterior walls and roof covered with shingles
Many windows have large fixed panes of glass
Roof overhangs the house to take advantage of the sun angles
Sliding glass doors
Small chimney that protrudes through the roof at the end of the house

History

This is a regional version of the Shingle Style that appeared in the late 1800's. One can detect both Oriental and Swiss influence in the design.

Nineteenth Century

WESTERN ROW HOUSE OR WESTERN TOWNHOUSE

Key Distinguishing Characteristics

Like the eastern version of the townhouse, these houses are usually built to cover an entire street or block. They have common side walls with the house on either side.

Other Distinguishing Characteristics

2 or 3 stories
Exterior walls may be wood, stucco or brick
Bay windows
Heavily decorated and painted exteriors
Pitched roof

History

This style is the West's answer to the eastern row house. The main difference is that each unit has its own individual, unique design. They were built starting in the late 1800's and are still popular today. Thousands of these units have been built in San Francisco and other large western cities.

Nineteenth Century

STICK STYLE OR CARPENTER GOTHIC

Key Distinguishing Characteristics

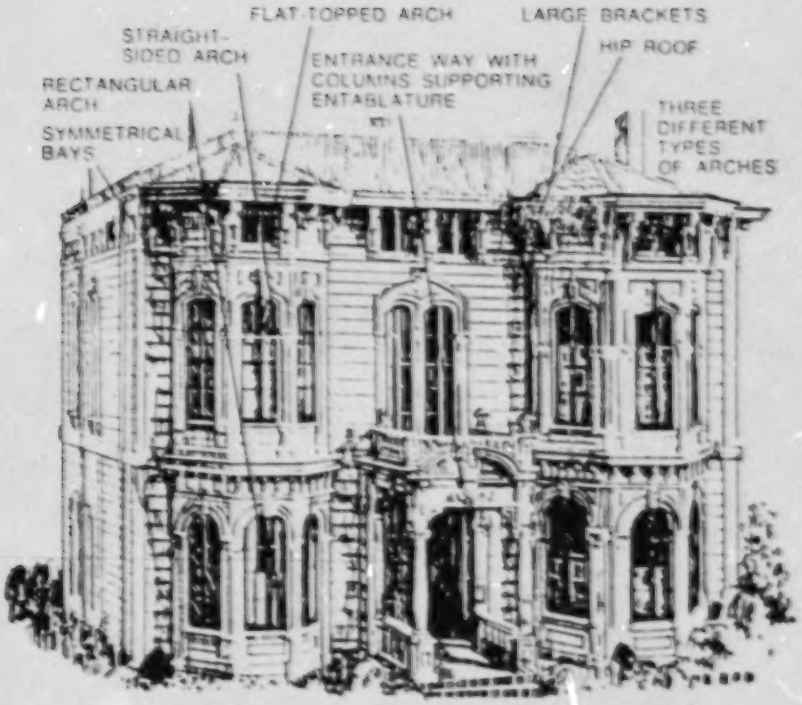
Exposed framing members, high steep roofs, complex silhouettes, diagonal braces and lots of gingerbread trim give this house style its characteristic look.

Other Distinguishing Characteristics

Clapboard siding overlayed with additional boards running horizontally, vertically and diagonally
Complex and ornate windows and doors

History

This style is the result of the advance in the technology of the 1800's. The public had become fascinated with what could be produced cheaply on the automatic bandsaw and they used these mill-cut ornate parts in great abundance on the houses of the period. The name applies to the many gingerbread scrolled houses of the 1800's. It is a very loosely defined style. The culmination of this fad took place in the construction of the house pictured, in Eureka, California, known as the Carson Mansion.



Nineteenth Century

HIGH VICTORIAN ITALIANATE

Key Distinguishing Characteristics

The use of three different kinds of window arches is the primary distinguishing characteristic of this style. They are the straight-sided arch, flat-topped arch and rectangular arch.

Other Distinguishing Characteristics

Square shape
Symmetrical bays in the front
Hip roof
Small chimneys protruding through roof in irregular locations
Entrance-way has columns supporting an entablature
Cornice supported with over-size brackets
Exterior appears to be cut up and ornate

History

The style seems to have come to this country from Italy by way of England, where the style was popular in the early 1800's. The house pictured is in Portland, Oregon and was built by Mark Morris in 1882.

Nineteenth Century

QUEEN ANNE

Key Distinguishing Characteristics

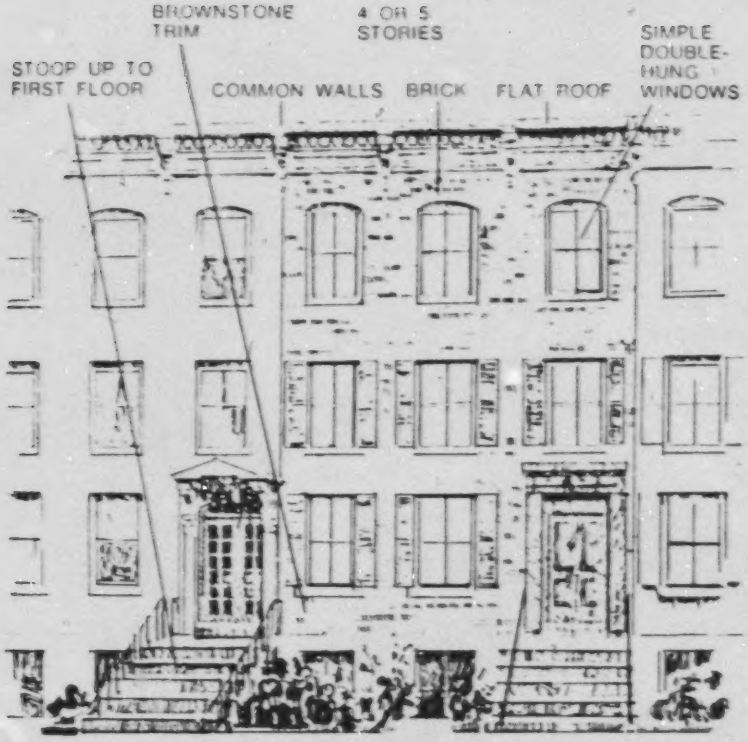
Queen Anne has come to be applied to any Victorian house that cannot be otherwise classified. They are all unique looking, multi-story houses, irregular in shape with a variety of surface textures, materials and colors.

Other Distinguishing Characteristics

Half timbering
Windows of various forms
Upper stories that project over the lower ones
Bay windows
Turrets
Big chimneys

History

First designed in England by Richard Norman Shaw, Queen Anne was started here as a style by architect Henry Hobson Richardson in the early 1870's.



Nineteenth Century

BROWNSTONE OR BRICK ROW HOUSE OR EASTERN TOWNHOUSE

Key Distinguishing Characteristics

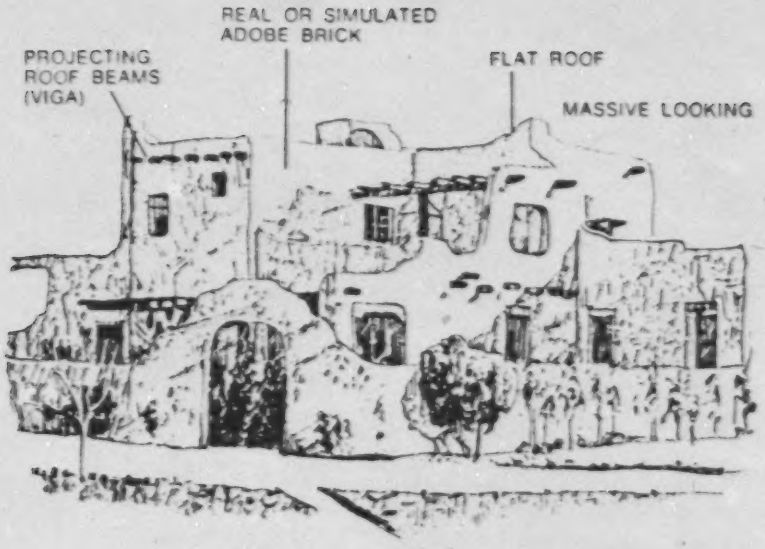
These houses usually cover an entire city block. Most are 4 or 5 stories with a stoop leading up to the first floor. They have common side walls with the house on either side.

Other Distinguishing Characteristics

Built of brick
Often faced or trimmed with chocolate sandstone called brownstone
Flat roof
Simple double-hung windows

History

Brownstones became popular in the late 1800's in New York and other large eastern cities. They tend to develop their individual characteristics in each different city.



Early Twentieth Century

PUEBLO OR ADOBE

Key Distinguishing Characteristics

This house is made of adobe brick or some other material that is made to look like adobe brick. The characteristic projecting roof beams are called viga.

Other Distinguishing Characteristics

The houses are massive looking
They rarely have arches
Roofs are flat
Long rain water gutters called "canales"

History

Based on the design of the houses of the Indians of New Mexico and Arizona, this became a popular style throughout the Southwest in the early 1900's.

SMALL, COMPACT SHAPE 1 STORY

Early Twentieth Century

CALIFORNIA BUNGALOW

Key Distinguishing Characteristics

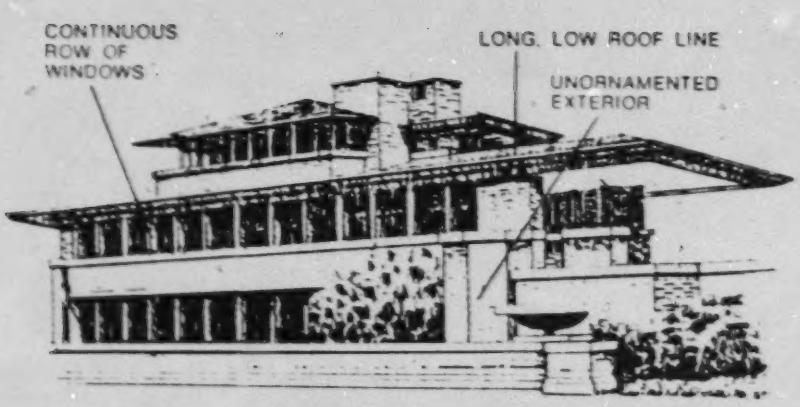
A 1-story, small compact house.

Other Distinguishing Characteristics

Usually made of wood
Traces of south seas, Spanish and Japanese influences on many

History

At the peak of the Bungalow's popularity, from 1900 to 1920, the name Bungalow and California Bungalow were often used synonymously although one writer of the time classified Bungalows into nine different types. The name comes from the Indian word "bangla" – of Bengal.



Early Twentieth Century

PRAIRIE HOUSE

Key Distinguishing Characteristics

A long, low roof line, continuous row of windows and an unornamented exterior distinguish this house. Designed to satisfy the physical and psychological needs of the inhabitants, it is unlike the traditional concept of a house that is a box subdivided into smaller boxes (rooms) each with some doors and windows.

Other Distinguishing Characteristics

- Made up of individual areas in size, lighting and function, yet all under one roof
- Many feel it is housing at its best

History

Frank Lloyd Wright, the designer of this house, dominated the architectural scene for the first half of the 20th century. His total impact is yet to be fully measured. Unlike many contemporary architects, he was vitally interested in home design. His principal concern was the organization of space. The Robie House pictured here was built in Chicago in 1909 and is one of the most famous Frank Lloyd Wright houses.

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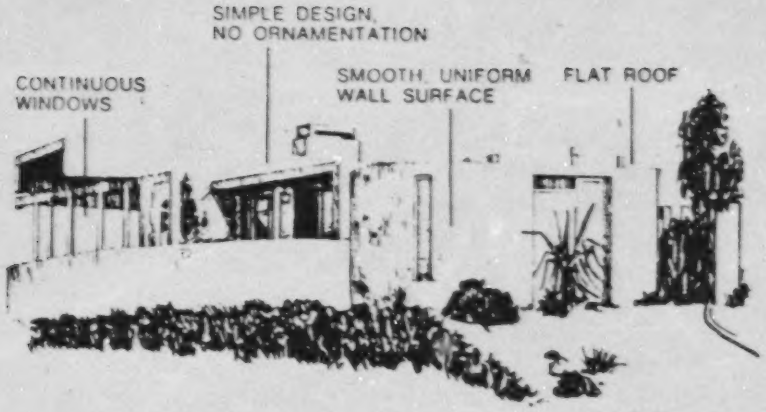


Early Twentieth Century

INTERNATIONAL

Key Distinguishing Characteristics

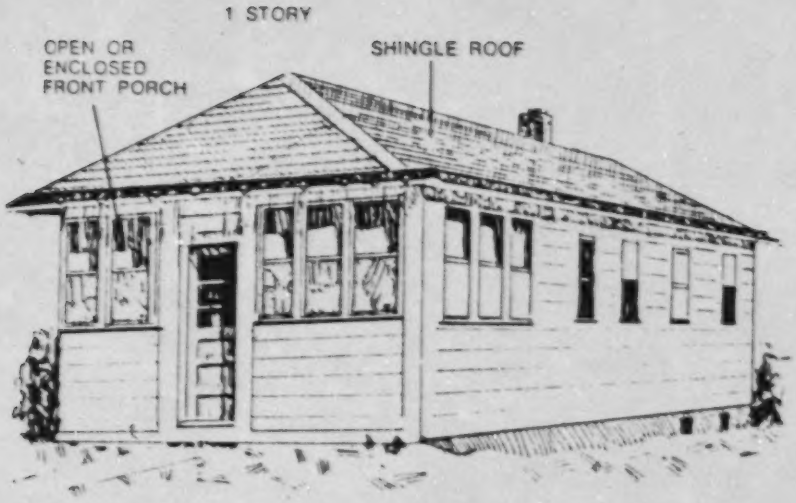
This design is very simple, with no ornamentation. The windows appear to be continuous rather than appearing to be holes in the walls.

Other Distinguishing Characteristics

Flat roofs
Smooth, uniform wall surfaces
Windows that turn the corner of the house.

History

The style was started in Europe in the 1920's by Walter Gropius, Ludwig Mies van der Rohe and the architects of the Bauhaus. It was introduced in the U.S. in the 1930's and is the basis of much modern architecture.



Early Twentieth Century

BUNGALOW

Key Distinguishing Characteristics

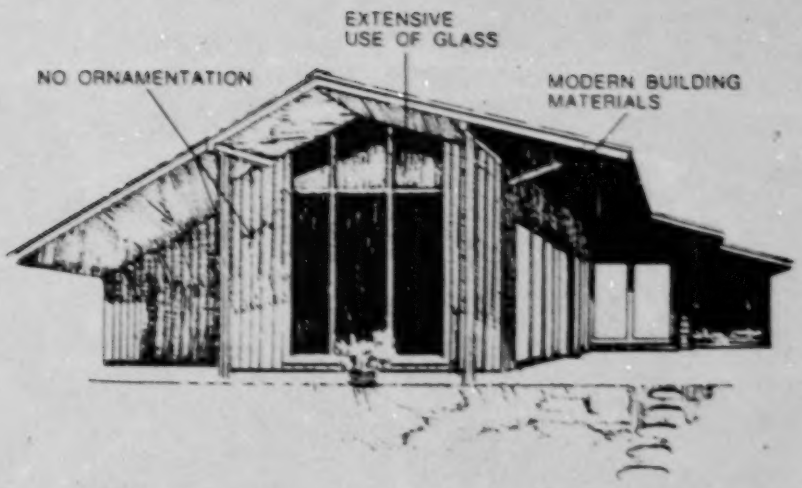
A Bungalow is a small, 1-story house that usually has an open or enclosed front porch.

Other Distinguishing Characteristics

Siding usually wood
Roof usually shingled
Many different regional types

History

Most Bungalows were built in the early 1900's and their popularity reached its peak around 1920. The terms Bungalow and California Bungalow, were often used synonymously. Many Bungalow style houses are now called Ranch style. They are very popular in the shore communities of the east and west coasts.



Post World War II

FUNCTIONAL MODERN OR CONTEMPORARY

Key Distinguishing Characteristics

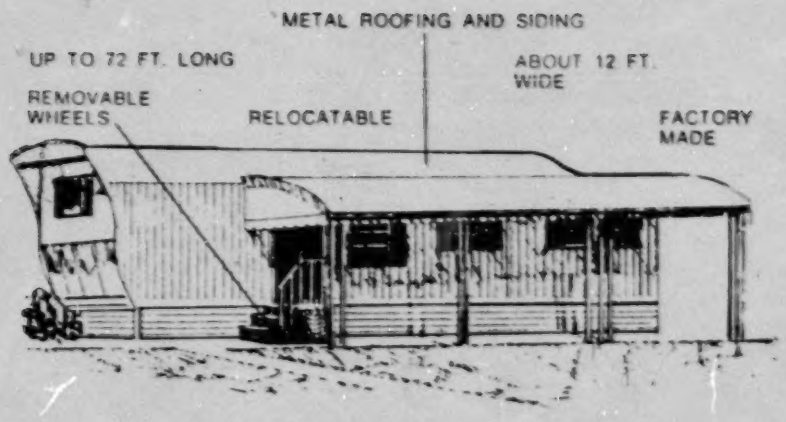
The exterior style of a contemporary house is an integral part of the overall design. Its function is to enclose some living areas with modern materials yet integrate the indoor and outdoor space into one unit.

Other Distinguishing Characteristics

Modern building materials
Extensive use of glass
Lack of ornamentation

History

The Contemporary is today's version of the revolution in house styles started by the great American architects Frank Lloyd Wright and Henry Hobson Richardson, the German architects of the Bauhaus and other architects around the world in the past 100 years.



Post World War II

MOBILE HOME

Key Distinguishing Characteristics

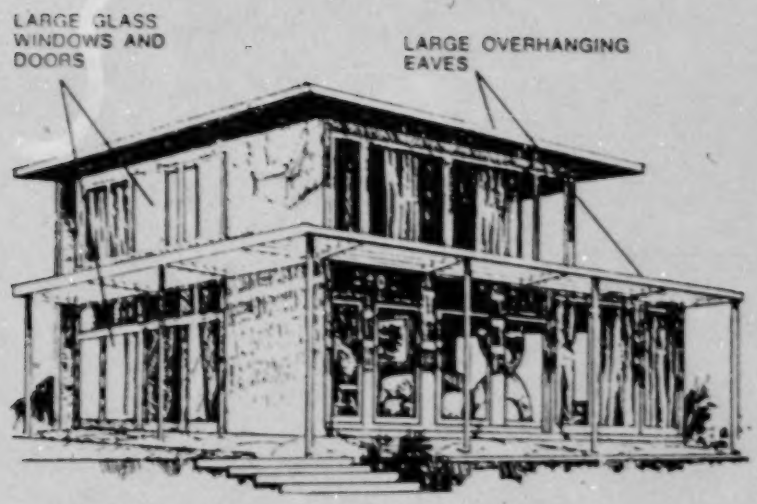
This is a relocatable house that averages 12 feet wide and 60 feet long. It is produced in a factory and towed by truck or shipped by flat car to the site and often installed upon a prepared base.

Other Distinguishing Characteristics

Wheels and axles used to transport it are removed after installation.
Siding and roof often metal

History

During the past 25 years the camping trailer has evolved into today's mobile home. The ongoing argument of whether the mobile home is a trailer or a house is still not settled. Whatever they are, their look is unique and they are considered here to be an architectural style. The American housing industry, for a variety of complex reasons, has failed to provide adequate housing for all Americans at a reasonable cost. This gap has been filled in part by the mobile home industry which produced about 600,000 mobile homes in 1972.



Post World War II

SOLAR HOUSE

Key Distinguishing Characteristics

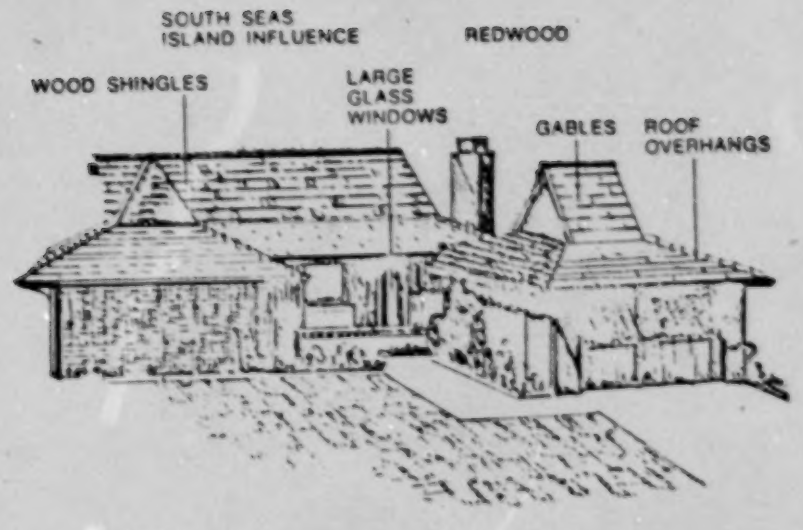
This house has large overhanging eaves over the windows on both floors. A great portion of the exterior walls consists of large glass windows and doors. The house is positioned on the site to take advantage of the high summer sun and the low winter sun.

Other Distinguishing Characteristics

Some have eyebrow eaves that can be removed in the winter
Some experimental models have machinery that turns them so the front always faces the sun

History

The idea of a house that would utilize the changing position of the sun became popular after World War II. Several books and many articles were written on the subject. Many Solar Houses were built throughout the country and the principles of their design are still being used today by many architects.



Post World War II

NORTHWESTERN OR PUGET SOUND

Key Distinguishing Characteristics

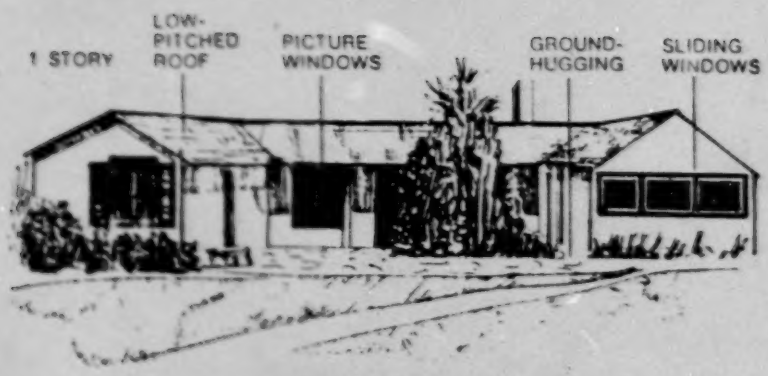
This is a low ranch type house with generous overhangs at eaves and gables. The exterior walls are often redwood.

Other Distinguishing Characteristics

Roof shape reflects south sea island influence
Large glass windows
Wood shingle roof covering

History

The style was first developed in 1908 by Ellsworth Storey, a young architect who designed a group of these cottages. The style did not really become popular until after World War II.



Post World War II

CALIFORNIA RANCH

Key Distinguishing Characteristics

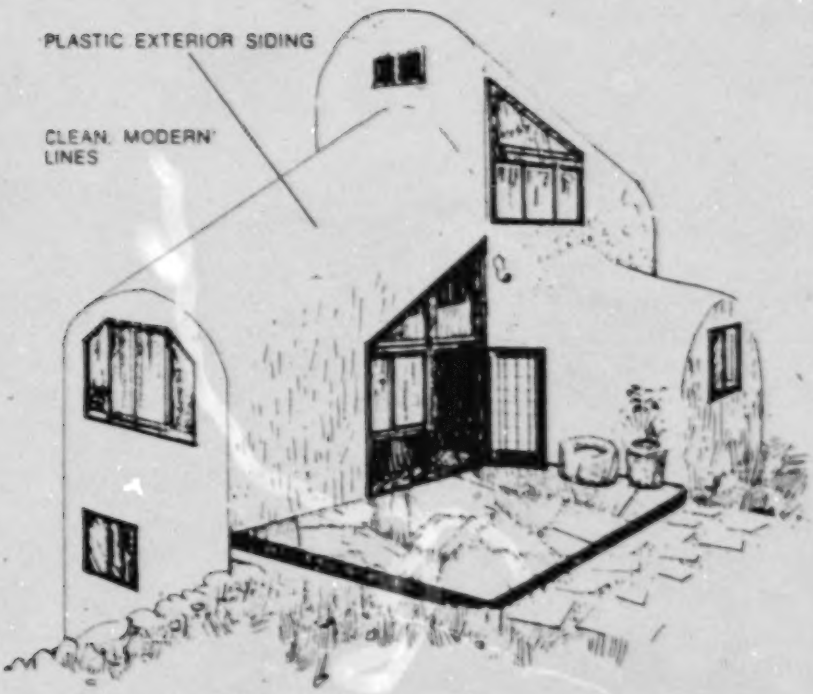
A California Ranch is a 1-story, ground-hugging house with a low, pitched roof.

Other Distinguishing Characteristics

Large double-hung, sliding and picture windows
Sliding glass doors leading onto patios

History

The ranch house of the West has spread in popularity throughout the U. S. Today the term is commonly used to describe a wide variety of 1-story houses including many smaller ones which used to be called Bungalows.



Post World War II

PLASTIC HOUSE

Key Distinguishing Characteristics

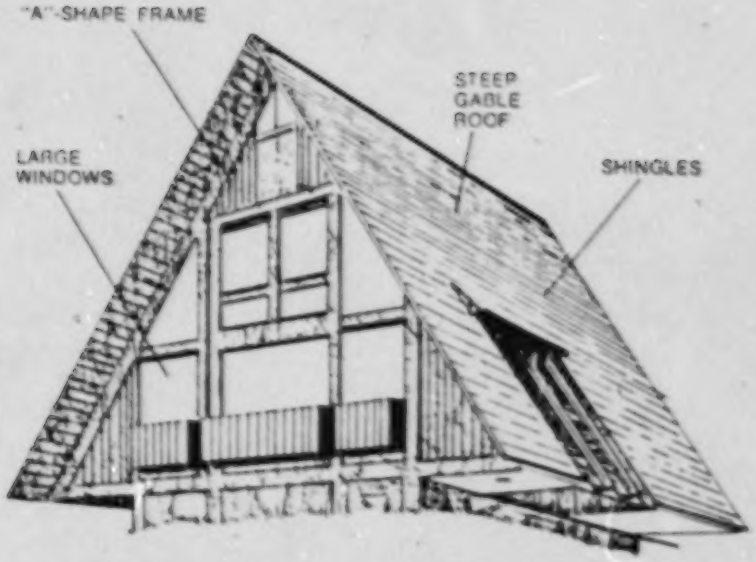
A major portion of the exterior siding of this house is fiberglass or other plastic material.

Other Distinguishing Characteristics

Moulded lines and new shapes
Use of new materials
Little or no ornamentation

History

The Plastic House is not an architectural style in the traditional concept. Many new styles may develop using plastic, but the experimental plastic houses being built today do look different from the traditional styles. This house is included to represent them all. The house pictured was designed by architect Valerie Batorewicz of New Haven, Connecticut.



Post World War II

"A" FRAME

Key Distinguishing Characteristics

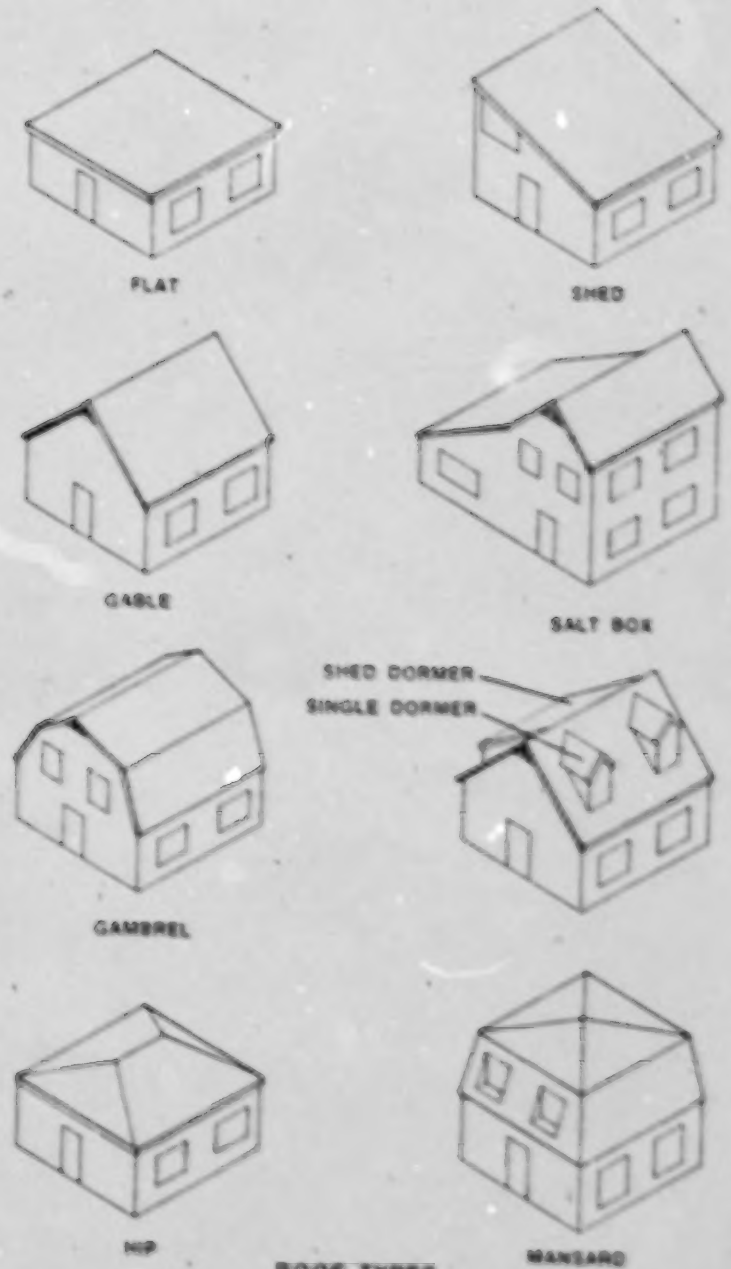
In this style, the frame is the shape of one or more "A's".

Other Distinguishing Characteristics

Steep gable roof covered with shingles
Front and rear have large glass windows
Interior often only roughly finished
Sleeping area often is semi-enclosed or sometimes is a loft area

History

With the explosive growth in vacation homes since World War II, millions of families now own second homes that are used primarily for recreational purposes. The simple "A" frame style has been popular in the mountains and near lakes and oceans for this purpose.



ROOF TYPES

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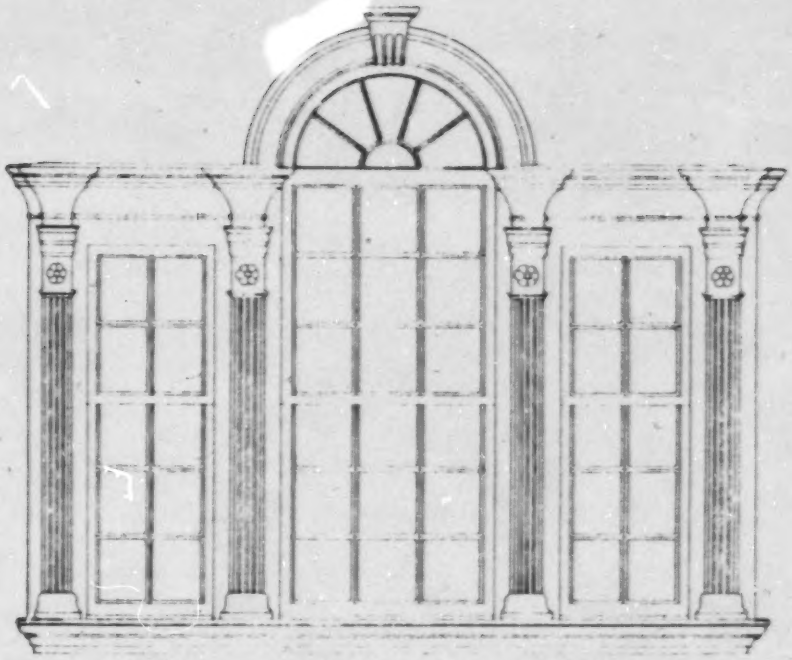
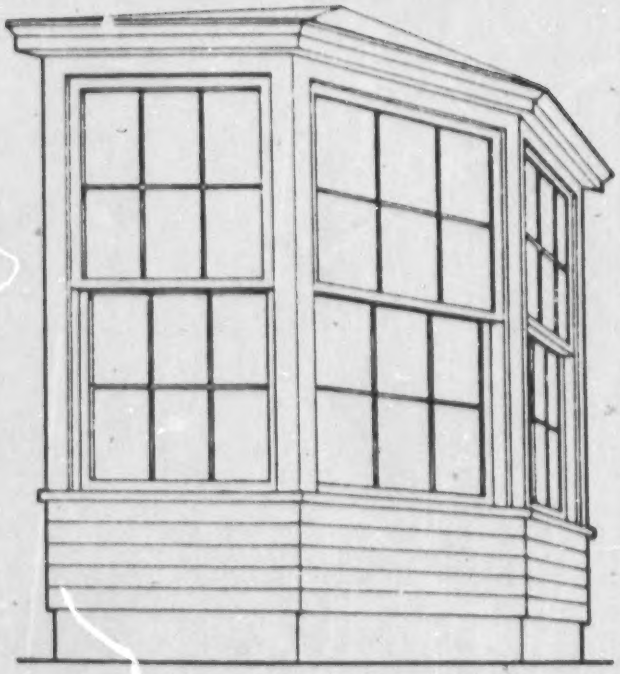
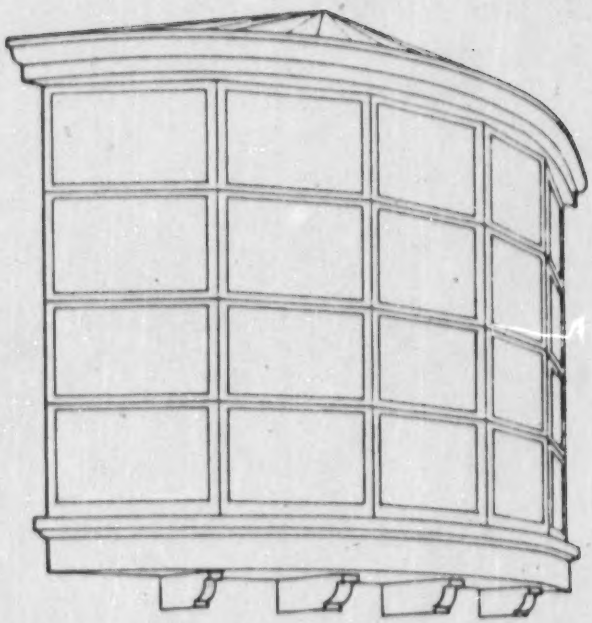


PALLADIAN WINDOW

WINDOW STYLES

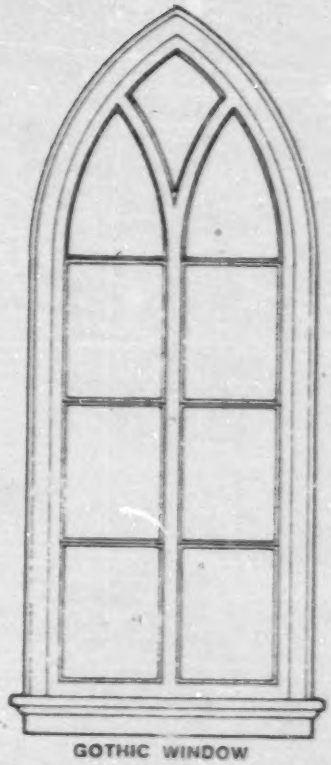


BAY WINDOW

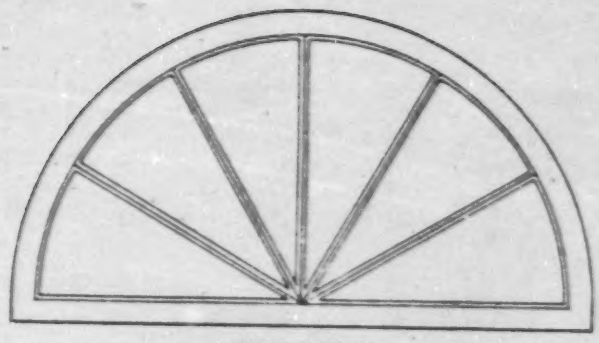


ORIEL WINDOW

WINDOW STYLES



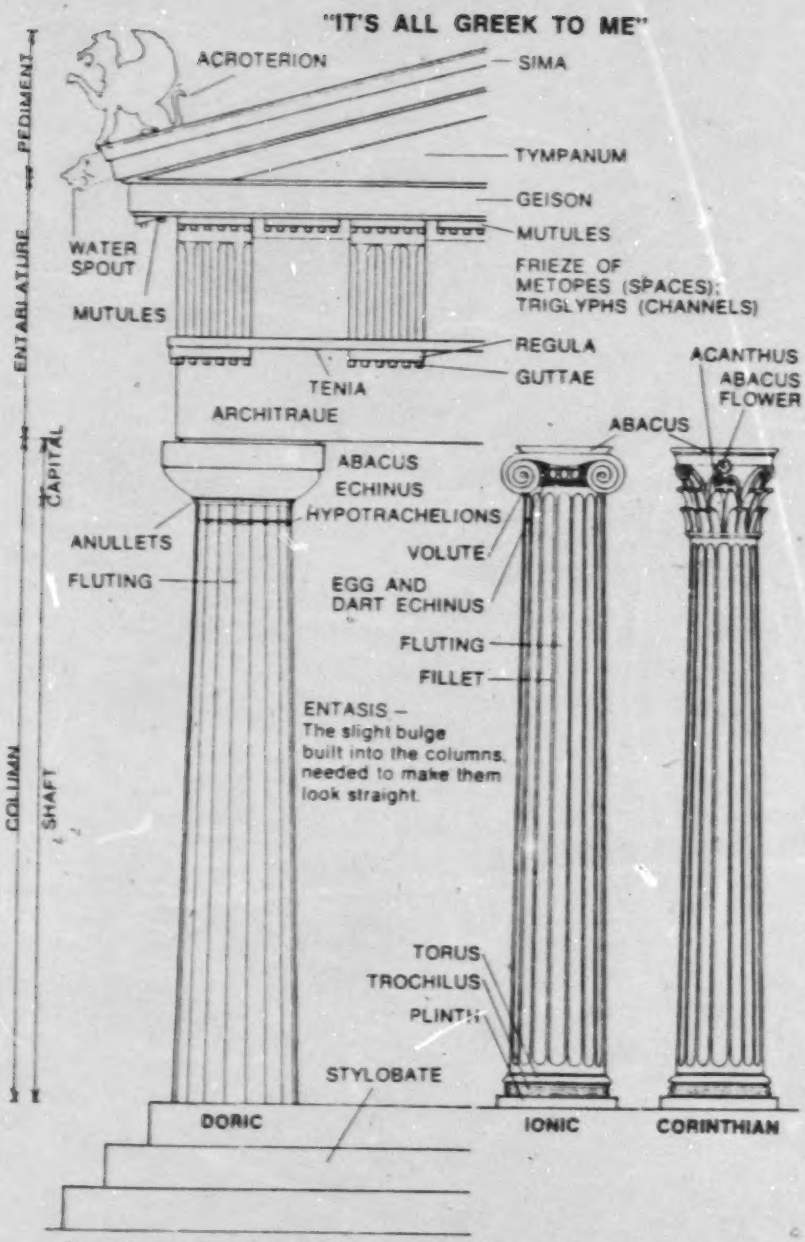
GOTHIC WINDOW



FAN WINDOW

CIRCLE HEAD WINDOW

WINDOW STYLES



A great many Classic Colonial, Greek Revival and other house styles exhibit Greek columns, capitals, entablatures and other Greek ornamentations. This illustration is a simple guide to Greek architecture and terminology.

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RESIDENTIAL CONSTRUCTION TECHNOLOGY

Name of Course: Business Communication

Course Objectives: To familiarize the student with current trends in business correspondence. To provide experience in composing the various types of written communications commonly used in business—such as business letters, reports, bulletins, memoranda, telegrams, etc.

Course Description: A detailed study of business communications from the standpoint of arrangement and content of letters of inquiry, orders, credit, applications, sales, claims and adjustments. Emphasis on grammar and mechanics of writing.

Suggested Primary Text: To be determined locally.

Course Outline: To be developed locally.

Instructional Recommendations/ Suggestions: It is recommended that this course be adapted from one of the regular departmental offerings of the institution.

Additional Instructional Materials: To be developed locally.

Additional References: To be developed locally.

APPENDIX C

Societies and Agencies Pertinent to Building Construction Technology

SOCIETIES AND AGENCIES PERTINENT TO BUILDING CONSTRUCTION TECHNOLOGY

Some of the professional and technical societies or associations concerned with architectural and building construction and its applications are useful sources of instructional information and reference data.

Teachers and others desiring information from the organizations listed below should address their inquiries to "The Executive Secretary" of the organization. A request for information about the organization and its services or for specific information will usually be answered promptly.

AMERICAN CONCRETE INSTITUTE, Post Office Box 4754, Redford Station, Detroit, Michigan 48219.

History: Founded 1905: A technical society of engineers, architects, contractors, educators, and others interested in its purpose.

Purpose: To improve techniques of design, construction, and maintenance of concrete products and structures.

Total membership: 11,600. Publications: Journal of the ACI, monthly.

AMERICAN PLYWOOD ASSOCIATION, 1119 A Street, Tacoma, Wash. 98400

History: Founded 1936; formerly Douglas Fir Plywood Association. Members are manufacturers of fir plywood and allied products. Sponsors Plywood Research Foundation and Plywood Fabricator Service.

Purpose: Conducts trade promotion through advertising, publicity, merchandising, and field promotion; maintains quality control in accordance with the commercial standards and grade techniques.

Total membership: 118.

Publications: Production Report, weekly; Forecast of Demand, monthly.

ASSOCIATED GENERAL CONTRACTORS OF AMERICA,

1957 E St., N.W., Washington, D. C. 20006

History: The Association is the only organization of general contractors representing all principal types of construction. Serves every element of the industry; building, highway, heavy, and utility in the U. S. Mainland, Alaska, Hawaii, and Puerto Rico.

Purpose: Provides guidance to its members in the fields of labor relations, public relations, legislation, costs, contracts, bidding procedures and similar matters. Responsibilities assumed by the Association to serve the interest of its members include the development of a common approach to problems of apprenticeship training, accident prevention, research in methods and materials, ethics and trade practices and market development. Actively promotes establishment and maintenance of construction education programs in secondary schools, community colleges, and full 4-year colleges.

Total membership: More than 9,000 members, with approximately 135 chapters and branches throughout the country.

Publications: The Constructor, published monthly. The AGC Newsletter, published weekly. Both publications distributed on a membership basis.

CONSTRUCTION SPECIFICATIONS INSTITUTE (CSI), 632 Dupont Circle Building, Washington, D.C. 20006

Founded: 1948. Persons who are concerned with the specifications and documents used in connection with the design, construction, maintenance, and equipment for construction projects; includes architects, professional engineers, teachers and research workers in architectural and engineering fields, representatives of architects and engineers who are supervising construction projects, specification writers, building maintenance engineers, technical representative of nonprofit organizations of the construction industry.

Total membership: 5,300; staff 6 local groups, 50.

Publications: Construction Specific, monthly.

Convention/Meeting: Annual.

NATIONAL ASSOCIATION OF HOME BUILDERS, 1625 L Street, N.W., Washington, D. C. 20036

History: NAHB is a federation of chartered affiliated state and local associations united to serve the housing industry. Includes more than 535 affiliated state and local organizations and chapters. More than 40 of the nations leading suppliers of building materials, equipment, and services are represented on NAHB's influential National Housing Center Council.

Purpose: To provide a common voice for the highly diversified elements of the homebuilding industry. Provides its members with management aids, analysis of federal legislation and regulations, public relations materials, economic data affecting housing, and numerous other similar services.

Total membership: More than 73,000. National Staff - 175.

Publications: NAHB Journal-Scope, published weekly. Subscription is included in membership dues. Also has developed a wide range of professional publications, tape cassettes, visuals, and promotional and public relations materials which are available for sale to association members. NAHB publication lists more than 75 titles. Subjects run the gamut of the industry.

NATIONAL FOREST PRODUCTS ASSOCIATION, (formerly National Lumber Manufacturers' Association), 1619 Massachusetts Ave., Washington, D. C. 20036.

History: Founded 1902; Federation of 17 regional lumber manufacturers' associations, representing major regional, species, and product groups in the industry.

Purpose: To promote use of forest products through National Wood Promotion Program; conservation and renewal of forest properties and uses of wood and wood products through its affiliated Timber Engineering Company. Sponsors Economic Council of the Lumber Industry, which

considers economic problems of the industry on a national basis.

Total membership: 17.

Publications: Lumber Letter, weekly; Promotion Progress; Monthly Statistical Report of Lumber and Hardwood Flooring; also publishes booklets, pamphlets for home owners.

PORTLAND CEMENT ASSOCIATION, 33 W. Grand Ave., Chicago, Ill. 20660.

History: Founded 1916; Members are manufacturers of portland cement. Gives lectures and demonstrations for architects, contractors, and others; provides information to schools, colleges, farm organizations, and technical groups; assists with instruction on improved methods of concrete design and construction.

Purpose: To improve and extend the uses of portland cement and concrete through scientific research and engineering field work.

Total membership: 75; staff: 750.

Publications: 400 booklets which are circulated, along with motion picture film and other materials on used of cement and concrete in road paving, structures, conservation, housing and farm buildings.

UNITED STATES OF AMERICA STANDARDS INSTITUTE, 10 E. 40th St., New York, N. Y. 10016.

History: Founded 1918; formerly the American Standards Association. Composed of industrial firms, trade associations, technical societies, consumer organizations, and government agencies.

Purpose: Serves as a clearinghouse on nationally coordinated voluntary safety, engineering and industrial standards. Gives status as "USA Standard" to projects developed by agreement from all groups concerned in such areas as definitions, terminology, symbols, and abbreviations; materials, performance characteristics, procedure and methods of rating; methods of testing and analysis; size, weight, volume and rating; practices; safety; health; and building construction. Provides information on foreign standards and represents United States interests in international standardization work.

Total membership: 2,300.

Publications: Magazine of Standards, monthly; Newsletter, monthly Proceedings, annual; individual standards.

SOUTHERN PINE ASSOCIATION, Post Office Box 1170, National Bank of Commerce Building, New Orleans, La. 70100.

History: Fourded 1914; Members are manufacturers of Southern pine lumber. Affiliated with Southern Pine Inspection Bureau; Southern Pine Industry Committee.

Purpose: To conduct research programs in product improvement, timber, design, gluing of lumber, exterior and interior finishes, wood quality effects of spacing in plantations. Promotes public education in improved land use in protection, growing and harvesting trees.

Total membership: 152.

Publications: Manual and textbook on timber engineering and specifications.

APPENDIX D

U. S. Bureau of the Budget

Standard Industrial Classification of Construction

U. S. BUREAU OF THE BUDGET STANDARD INDUSTRIAL CLASSIFICATION OF CONSTRUCTION

The Standard Industrial Classification includes establishments engaged in contract construction according to the following groupings.

Major Group 15 - Building Construction

This major group includes general contractors primarily engaged in the construction of residential, farm, industrial, commercial, public, or other buildings.

Group No.	Industry No.	
151		General Building Contractor
	1511	General Building Contractors

Major Group 16 - Construction Other Than Building Construction

This major group includes general contractors engaged in heavy construction, such as highways and streets, bridges, sewers, railroads, irrigation projects, flood control projects and marine construction, and miscellaneous types of construction work other than buildings.

Group No.	Industry No.	
161		Highway and Street Construction
	1611	Highway and Street Construction
161		Heavy Construction
	1612	Heavy Construction (Excludes Highways and Streets)

Major Group 17 - Special Trade Construction

This group includes contractors specializing in activities such as plumbing plastering, and carpentering. Special trade contractors may work on subcontract from the general contractor, performing only part of the work covered by the general contract; or they may work directly for the owner. Special trade contractors, for the most part, perform their work at the site of construction though they also may have shops where they perform work incidental to the site job. Special trade contractors primarily engaged in engineering projects are classified as engineering contractors in Major Group 16.

Group No.	Industry No.	
171		Plumbing, Heating, and Air Conditioning
	1711	Plumbing, heating, and air conditioning
172		Painting, Paper Hanging and Decorating
	1721	Painting, paper hanging and decorating
173		Electrical Work
	1731	Electrical work
174		Masonry, Stonework, Tile Setting, and Plastering
	1741	Masonry, stonesetting, and other stonework
	1742	Plastering and lathing
	1743	Terrazzo, tile, marble, and mosaic work

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Group No.	Industry No.	
175		Carpentering and Wood Flooring
	1751	Carpentering
	1752	Floor laying and other floorwork not elsewhere classified
176		Roofing and Sheet Metal Work
	1761	Roofing and sheet metal work
177		Concrete Work
	1771	Concrete work
178		Water Well Drilling
	1781	Water well drilling
179		Miscellaneous Special Trade Contractors
	1791	Structural steel erection
	1792	Ornamental metal work
	1793	Glass and glazing work
	1794	Excavating and foundation work
	1795	Wrecking and demolition work
	1796	Installation or erection of building equipment not elsewhere classified.
	1797	Special trade contractors, not elsewhere classified.

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INSTRUCTOR'S MANUAL

CAREER LADDER AND CURRICULUM GUIDE: HOUSING MANAGEMENT

RESIDENT SECURITY AIDE
RESIDENT SECURITY OFFICER
SECURITY OFFICER II
COMMUNITY SECURITY AIDE

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2

A SECURITY PROGRAM FOR PUBLIC HOUSING

Prepared under contract with
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for
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INTRODUCTION

Background

This document has been prepared for Shaw University by the Center for Social Policy and Community Development under contract with the United States Department of Housing and Urban Development. It is a continuation of our work with para-professional training in public housing as expressed in "Curricula and Training Techniques for the Training of Para-professional Employees of Public Housing Authorities" (referred to as "master document").

Process Statement

This document was prepared at the request of HUD in response to the increasing crime rate and lack of security in local housing authorities. The basic principles upon which it is based were derived from interviews with prominent individuals in the field of public housing security, local housing authority administrative personnel and municipal police personnel. From these interviews, job responsibilities were enumerated and the job descriptions were developed. Training needs were defined, (see "training needs" at the end of each job description). These training needs became the basis for content areas found in the curricula.

Purpose of This Document

The purpose of this document is four-fold:

1. to recognize the importance of resident groups in assisting local housing authorities to offer better services to residents in public housing given the limits of the local housing authority's financial status

2. to prepare residents to become better citizens in public housing and to prepare para-professionals to do their jobs more effectively

3. to create para-professional jobs which offer career opportunities

4. to increase the sense of community among the public housing residents such that a safer and more "secure" environment is created.

This document is specifically focused on these needs in terms of security issues. We have defined "security" in such a way that community involvement, citizenship in the community and community allegiance are essential elements in the establishment of a security system in public housing.

This document with its emphasis on in-house training designs, provides the local housing authority with a training and career ladder development competence that will not have to be otherwise commissioned or contracted. This decreases the cost of training within a local housing authority and more adequately defines training as a vehicle to be utilized for the development of employees who will perform their jobs better.

Overview

There are 4 (four) basic assumptions necessary to understanding the framework within which these curricula were developed:

1. Principle of Resident Involvement

   Underlying the notion of para-professional training in public housing is the realization that residents of local housing authorities can creatively assist in resolving problems of their community.

2. The Nature of Resident Involvement

   A way to improve the economic and social conditions of local housing authority residents is through offering career opportunities. It must be emphasized that we use the term "career opportunity" rather than "job opportunity". This is consistent with the belief that the creation of job opportunities for para-professional employees is not enough. There must be a program designed which offers a prospective para-professional employee a career opportunity--a chance to learn and grow. Most importantly, however,

is the para-professional's opportunity to achieve personal and family stability through creative work.

Housing authorities should provide career opportunities for their residents. This program (and the program found in the "master document") provides a basis for that kind of opportunity to residents of local housing authorities. Personal motivation is a built-in, integral component of the system. It offers a person alternative courses of action such that he might recognize the "American Dream" of "starting at the bottom and rising through the ranks to the top".

3. Conditions of Resident Involvement: Learning Theory

The assumption here is that people must learn in order to perform their jobs adequately. They must learn how to make connections between knowledge acquired from their experience and other types of formal learning situations. Our theory of learning states that people learn best 1) by discovery and 2) in task-oriented, experience connected situations. This suggests that the best learning environment in most instances is the on-the-job scene. Thus our emphasis is placed heavily on in-service skill training. The premise is that a person must be given ample opportunities to make connections between his on-the-job performance and the related, simultaneous training. This leads us to a series of other assumptions which must be translated into operational activities:

a. There must be a complementary relationship between the training session and work-day procedures.

b. On-the-job supervisors of trainees must have substantial in-put into the training process.

c. Training becomes an "in-house" function (as much as possible according to the nature of the content of the proposed training program) involving all agency employees who share their knowledge at an appropriate point in the training process.

4. Connecting with Outside Educational Resources

The final assumption is that training within a local housing authority has implications for career opportunities outside of the local housing authority system as well as within it. This implies a training program design which will make the necessary connections with existing outside educational resources. It also implies that the local housing authority training program should look to develop an outside educational resource when an adequate one is not in existence.

For example: A resident might begin employment as a resident security aide and via merit promotion, become a security officer or member of the administrative staff of the local housing authority security division. He might then become interested in other aspects of law, such as corrections. He may be given credit for the kind of training he received for his present job and enter another kind of training program designed specifically for the aspect of law in which he is interested, or he may be accepted in a program similar to the "University Without Walls" where he might obtain the necessary academic background and/or degree to become accredited in his "new" field of endeavor. In this manner an aspirant's potential will not be limited to the confines of a single project or local housing authority.

PART ONE

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CHAPTER I

SECURITY DEFINED

SECURITY DEFINED

In this document we discuss concepts and methods of developing 1) security systems in public housing which will employ para-professionals and 2) related training programs for these para-professional personnel. We have discussed the importance of the utilization of para-professional personnel (especially housing residents) in this system. The foundation of this system must be a clear understanding of what is meant by security. Out of this definition must come an understanding of the issues involved so that essential organizational components of the security system become defined. Then, must come the necessary components of the related training program. By this process we can be relatively certain that the end product will reflect an adequate problem-solving response to the issues addressed in the definition.

Traditionally the connotation of the word "security" has been "insecurity". That is, a person addressing himself to security concerns generally means criminal concerns. He wants to deal with a more effective way of deterring criminal acts. However, this is not the total concern of security, and a system built on this foundation cannot be a total system.

Security involves more than planning for and developing a system whereby perpetrators of criminal acts are apprehended. This involves planning and developing systems which will speak to 1) the right to be free from criminal victimization and 2) the psychological needs of people to feel secure.

We define criminal victimization as the actual perpetration of criminal acts against person or property. It can be analyzed, evaluated and documented by some systematic or objective methodology i.e., burglaries, murders, assaults and rapes are quantifiable.

We define the psychological needs of people to be secure as "the state or feeling of being free from fear, etc.; safety or a sense of safety". Though this is more difficult to quantify, it is nevertheless as much a reality

as the quantifiable aspects of security (criminal acts, etc.) and must be dealt with extensively as an integral part of any security system that might be developed.

This represents our two-track approach to the development of a total security system:

1. To deter criminal victimization, the system must include effective police personnel and techniques. To this end we have developed the "A" track of the security system, (see chart next page). One track of the security system is developed with major emphasis on the development of skills in using the most modern and effective police techniques available.

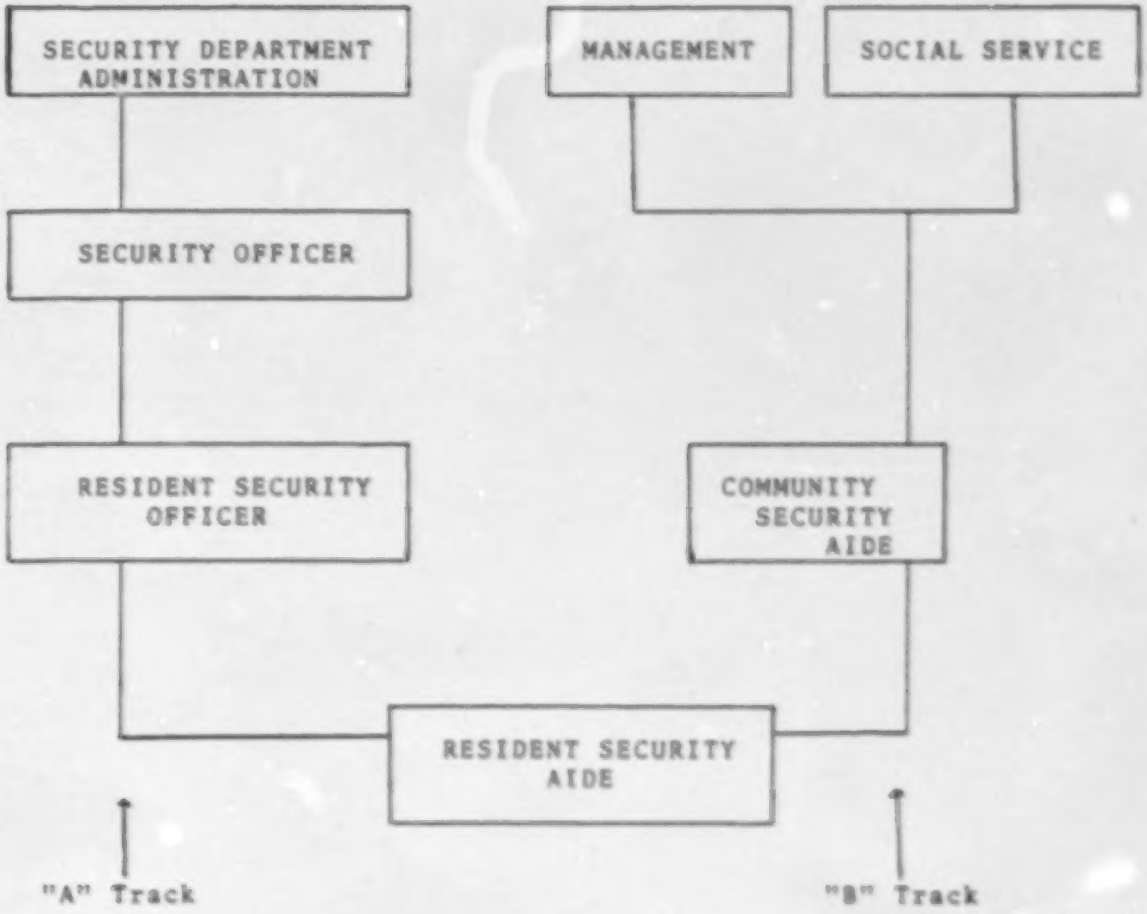
2. To develop a system that will achieve the goal of creating and maintaining a sense of safety, there must be included widespread community involvement, community planning and program development. We have developed, then, a "B" track in the system--one which places major emphasis on dealing with groups and individuals around program planning and development to meet the needs that may arise out of a "security" context. The basis for this assumption is relatively simple:

   a. impersonalization breeds complacency and subsequently an environment where crimes against both person and property can flourish.

   b. familiarization breeds a sense of belonging, commitment and, subsequently a decrease in environments susceptible to criminal activity.

If more people in the community become involved in activities in the community, citizenship in the community becomes more easily defined. Strangers become more susceptible to question and observation.

Another important aspect of "security" in local housing authority communities is physical planning. The connection between physical planning and security concerns is a relatively new endeavor. Although that concern is not within the scope of this document, we suggest that local housing authorities currently in the planning stages for security systems either in existing or new facilities include this consideration. However, accommodations have not been made in this document for this aspect of security.



NOTE: For further explanation of this chart, see Chapter VI: "Local Housing Authority Security Department Career Ladder".

CHAPTER II

LOCAL HOUSING AUTHORITIES ORGANIZATIONAL STRUCTURES: TWO PATTERNS FOR SECURITY SYSTEMS IN PUBLIC HOUSING

LOCAL HOUSING AUTHORITIES ORGANIZATIONAL STRUCTURES

It is important to understand the organizational structure the local housing authority prior to planning a security system.

1. Internal relationship

   Each division of the local housing authority has an impact on the functions of other divisions. This requires a clear understanding of the following issues:

   a. the locus for decision-making

   b. the actual impact of one specific unit upon another

   c. clearly defined supervisory lines

   d. development of support for security concerns.

2. External relationship

   The problem that is addressed here is how housing authority personnel will relate to agencies outside of the housing authority and how that is impacted by the nature of the housing authority organizational structure. This becomes critical, in terms of security concerns, when decisions are made regarding what employees in the housing authority will be responsible for relating to outside organizations (as the municipal police, social agencies, or community groups) around concerns of security.

There are basically two kinds of organizational structures that might be found in a housing authority:

1. Administrative structure (see Organizational Chart I)

   This structure is based on administrative priorities, i.e., according to the housing authority, project management is the basic administrative unit. Many local housing authorities define all operational activities as a function of the project manager. In terms of organizational structure, management becomes primary and

all other related functions become subordinate to it by being a part of it. As can easily be seen, problems of supervisory responsibility and professional loyalty are inherent in this kind of a structure. When security department personnel are directly responsible to a project manager (as in Chart I) it is possible that a role conflict* might arise--the project manager will be interpreting issues and problems from his managerial perspective rather than security's perspective.

There is the related problem of allegiance. If the security department personnel is directly supervised by the project manager then it is clear that allegiance to the administrative structure (project manager) rather than one's own field of endeavor (security department personnel) will take priority. This is not an insurmountable problem but it does point to the necessity to have as many people in the local housing authority involved in the training process such that clear understanding of different perspectives on specific issues may be made.

Another problem should become evident with this kind of structure: that is adequately dealing with external systems with respect to security issues. Here we should be able to see the possibility of outside agencies dealing with the housing authority around these concerns and not ever having to relate directly to someone employed in the security department. It should not be difficult to see how this can be problematic to the development of an effective security program.

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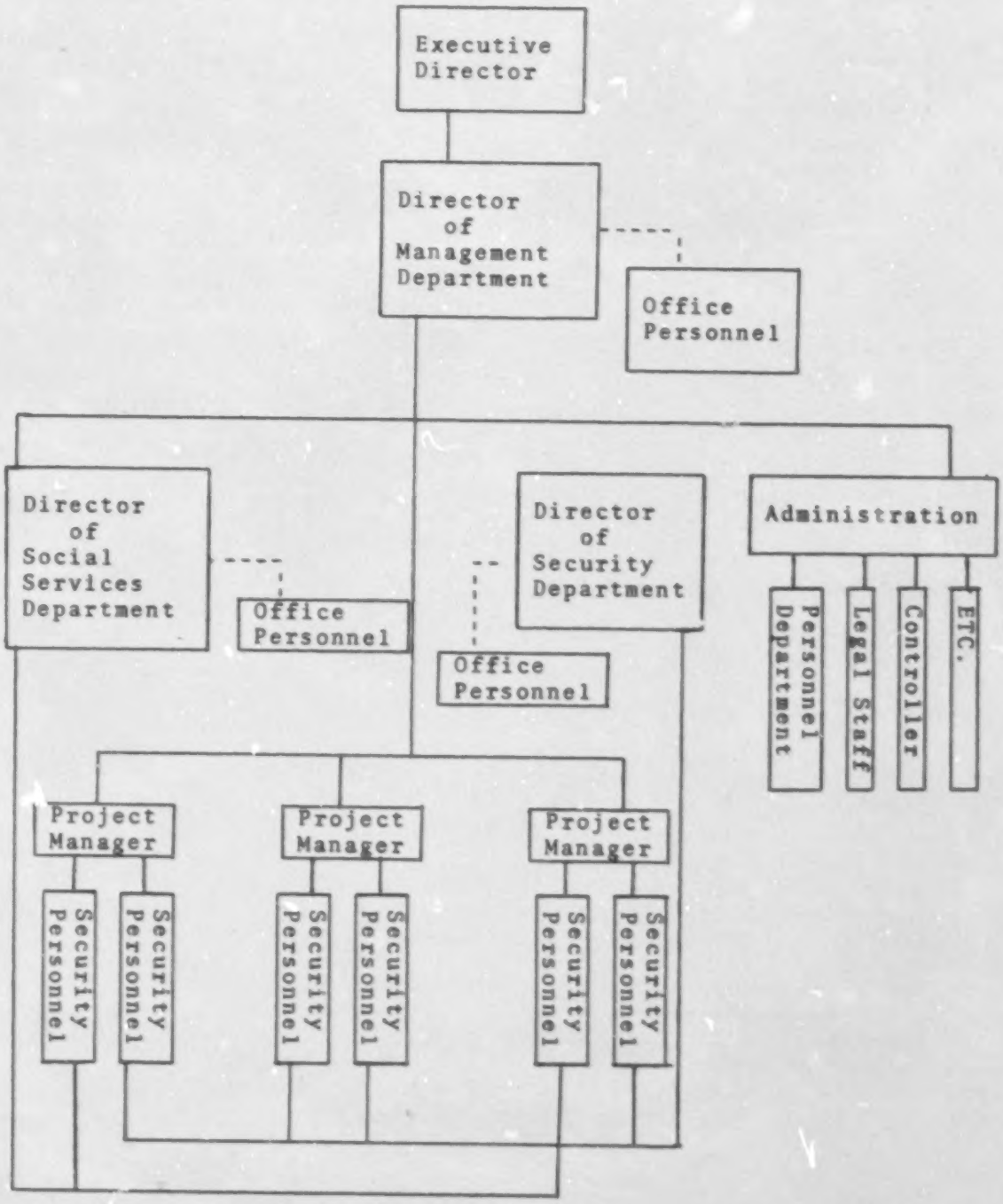
* We are not suggesting that this should not exist. We merely suggest that these issues be considered in terms of developing priorities for a training program.

ORGANIZATIONAL CHART I - ADMINISTRATIVE STRUCTURE



2. Functional structure (see Organizational Chart II)

This is an organizational structure of independent sub-systems based on the function that they perform. Each sub-system is organizationally equal. Here the problem of professional loyalty is not alleviated, but redefined. The problem inherent with this structure is of another nature. In the preceding case there was the possibility of role conflict, there was at least administrative integrity at the project level. With this structure, however, that is not the case. Project managers will not be given the responsibility of regulating and officiating over activities in his project though he will be held accountable for activities in the project. This can only be defined as a deterrant toward the development of a security system in this kind of local housing structure.

A plus for this structure is that external agencies would be mandated to deal with local housing authority security department personnel around issues of security.

There is another kind of problem which becomes evident with this kind of structure. In the event of disagreement between departments, the ultimate mediator or supervisor for such disagreement is the executive director. This may or may not be an idealistically sound way of getting at these kinds of problems. But one thing is certain, organizationally it is a problem in that the time constraints and other administrative responsibilities of the executive director most likely would not allow him to deal in detail with the majority of these problems.

It should be clear that we are not recommending a comprehensive organizational structure change for any housing authority. However, it is necessary that each person concerned with developing a security program understand the total housing authority organizational structure in which the security program is to be developed. In this manner problems can be anticipated and provisions for the solutions to these problems can be built into the security system.

We have identified three elements of an effective security system which remain constant throughout all models of organizational structures. They are:

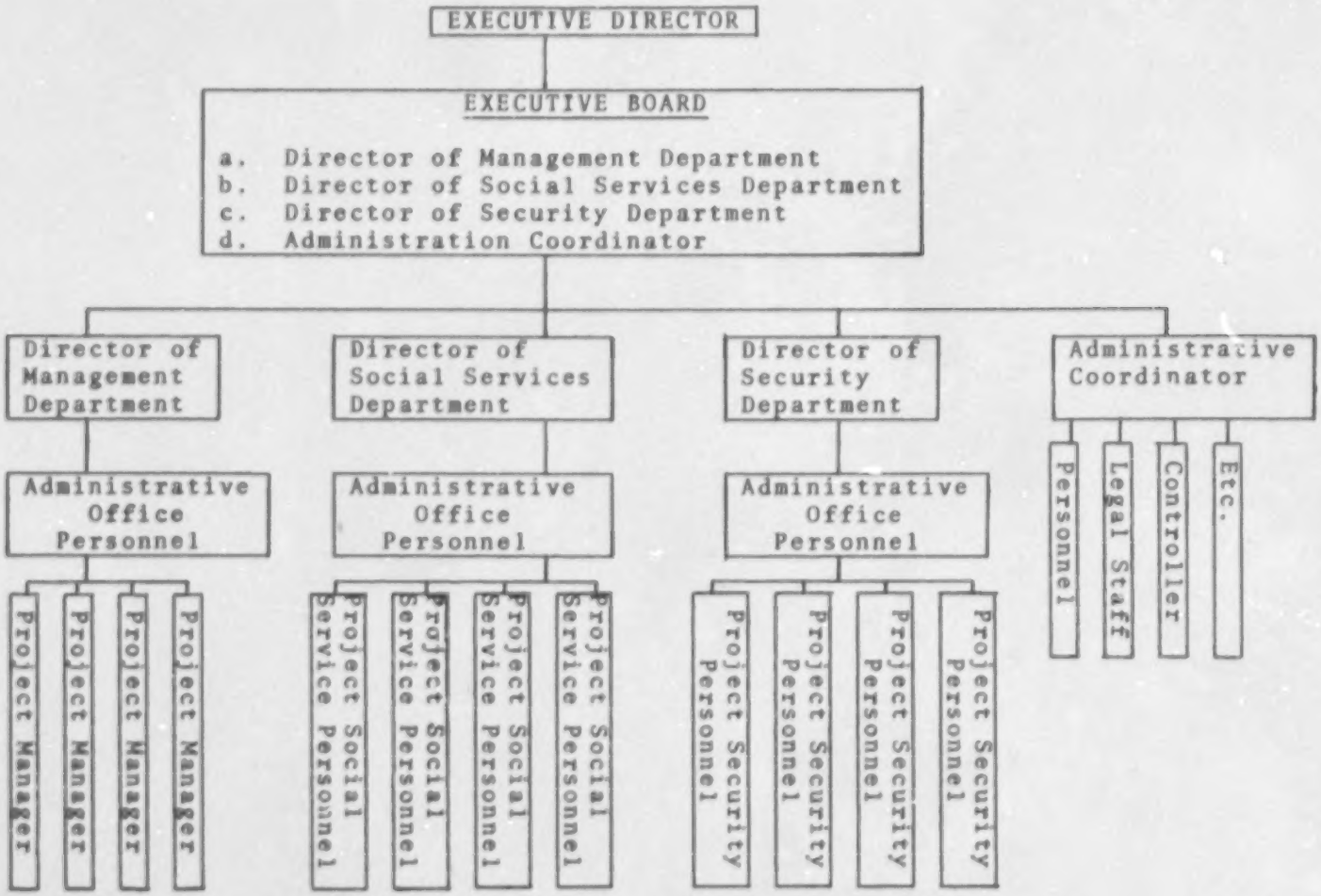
1. a close working relationship with the municipal police (on whatever level the organizational structure provides)

2. a very high degree of resident involvement - from employment to volunteer services.

3. a close and effective relationship with other divisions within the local housing authority.

Without these conditions, it will be difficult for any organizational structure to implement a sound security program.

ORGANIZATIONAL CHART II - FUNCTIONAL STRUCTURE



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CHAPTER III

LOCAL HOUSING AUTHORITY

SECURITY DEPARTMENT

CAREER LADDER

LOCAL HOUSING AUTHORITY SECURITY DEPARTMENT
CAREER LADDER

The career ladder concept is valuable in developing a security system composed of para-professional personnel. Every attempt must be made to avoid the traditional error of creating "dead-end jobs" for para-professionals. The following career ladder chart represents a way of structuring a security system which addresses the security needs of local housing authorities while offering career opportunities both within and beyond the security system.*

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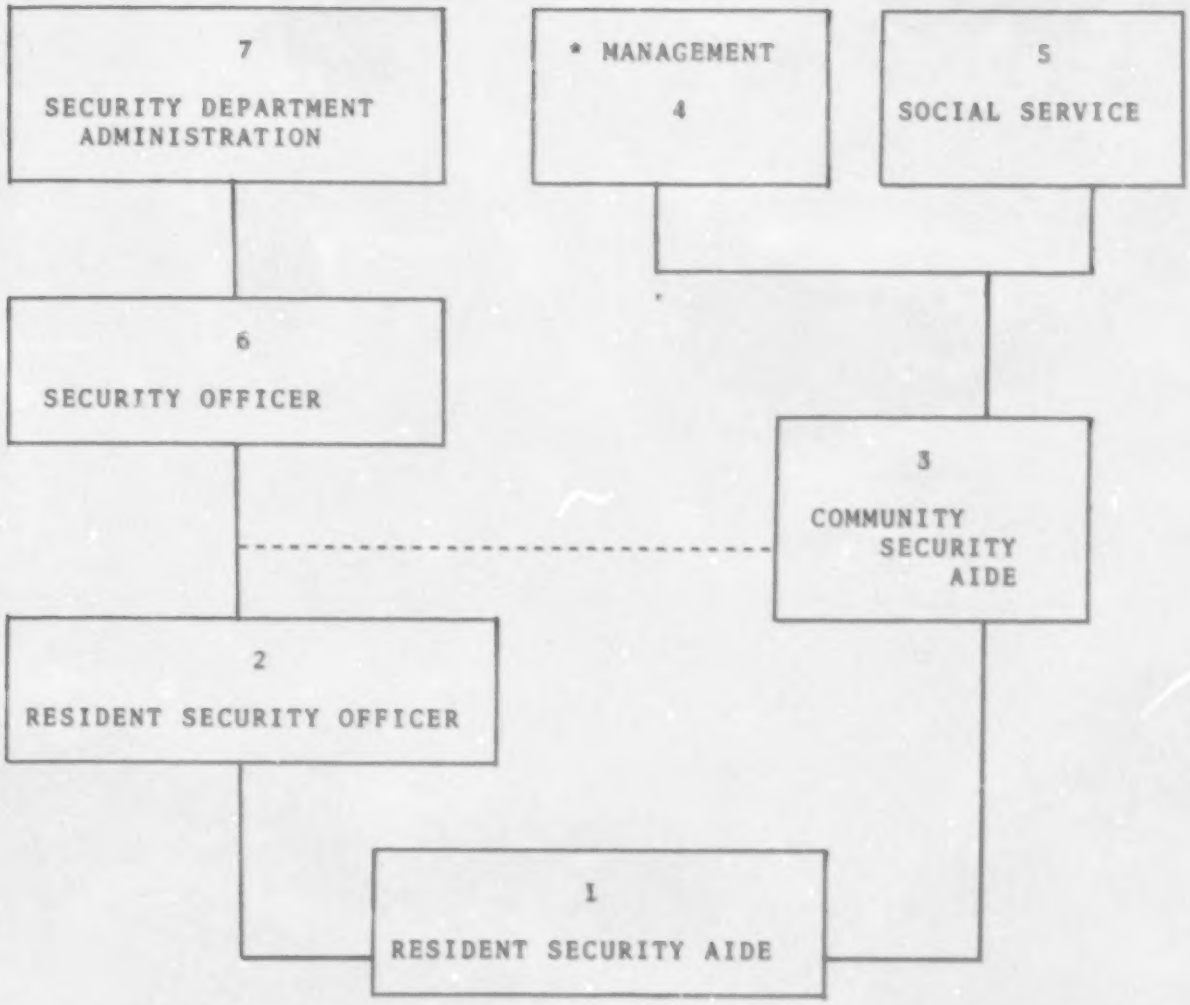
* In the following explanation of the career ladder chart please note that the numbers (1 through 7) refer to and correspond with the numbered positions on the career ladder chart. This is not an organization chart (see Chapter VI). We are now beginning to look at possibilities of employing para-professionals in a system wherein they might realize a career.

CAREER LADDER CHART



NOTE: Consider title "Order Maintenance Force" as alternative to "Resident Force".

* See: Curricula and Training Techniques for Training of Para-Professional Employees of Public Housing; "The Career Ladders", prepared by the Center for Social Policy and Community Development of the School of Social Administration, Temple University for further detailed information.

Explanation: Career Ladder Chart

We are now in the beginning stages of defining job titles, job roles and job responsibilities.

1. Resident Security Aide

This is the entry level position. The duties will be equally distributed in two subject areas.

a. Program Development

This area deals with basic principles of community organization, program planning and program development. The programs will deal with security concerns. A resident security aide might be responsible for organizing a series of open-house or block (street) affairs with the major objective being that residents become aware of who their neighbors are. In this manner strangers and intruders are more easily identifiable.

b. Order Maintenance Procedures

Functionally, these responsibilities for this position will translate as a monitoring or reporting duty. The resident security aide will not be given major responsibility for investigating crime and apprehending criminals. However, the Resident Security Aide will be given basic training in these procedures. The purpose is that the Resident Security Aide maintain a comprehensive perspective of the system within which he will be working. This is not a police position. The responsibilities will be basically the same as those of any true citizen, namely to report a crime to the police, report suspicious events or situations that are suspected to be embryonic to criminal activity and assist investigating officers by giving them whatever pertinent information that they (resident security aides) may have.

It is essential that this position be held by a resident and it is recommended that he be allowed to work in his own project/development. However, this is not to be conceived of as an absolute necessity.

2. Resident Security Officer

This is the first level position which begins to have a major focus on the duties, responsibilities and procedures involved in the investigation of crime and apprehension of criminals. Program planning and development will be a part of the job description but with minor emphasis.

It may not be either feasible, or wise to mandate that this position be filled by a resident of the same development in which he lives It is suggested that the selection process here should carefully consider specific personnel, their relationship to the community and their ability to effectively relate to people in the community.

3. Community Security Aide

The major emphasis for this level position is program planning and development (around concerns of security). Very minor emphasis will be given to procedures, duties and responsibilities of criminal investigation and apprehension. It is further suggested that this position, because of its focus, be an entrance into the management/social service career ladder. This is not to be understood as a necessary pre-requisite to that career ladder, but rather an alternative way of entering that system.

4. Management

It is suggested that personnel in the position of community security aide might move from there into the management career sequence developed in the master document. Point of entry in this sequence may be determined in accordance with the individual's competence, i.e. The employee will not necessarily have to enter at the "Management Aid II" level.

5. Social Service

It is suggested that personnel in the position of community security aide might move from there into the social service career sequence developed in the master document. As in the preceding paragraph, similar skills and duties will allow this. Point of entry into this sequence may be determined in accordance with the individual's competence and/or interest, i.e. the employee

will not necessarily have to enter at the "Homemaker" level.

6. Security Officer

This is the professional police officer position whose major concern is order maintenance and law enforcement. Minimal concern is maintained here for program development and planning. Supervisory responsibilities for the resident security officer may represent the extent of involvement in program planning and development.

7. Security Department Administration

These positions represent the operationalizing and policy-making body of the security system. Duties and responsibilities will include all aspects of the security system.

NOTE: See Curricula and Training Techniques for the Training of Para-Professional Employees of Public Housing Authorities: "The Career Ladders", prepared by the Center for Social Policy and Community Development of the School of Social Administration of Temple University, under contract with the U.S. Department of Housing and Urban Development, pp vii and 59.

CHAPTER IV

PUBLIC HOUSING SECURITY DEPARTMENT

ORGANIZATIONAL STRUCTURES

The preceding career ladder structure has implications for the organizational structure of the security department. Though there are many alternatives that might be presented here, we are suggesting that there are two major factors which will determine the priority of one system over the other.

The first consideration is the number of personnel hired in the security department. If an authority is large then separation of responsibilities in the security system may be possible. It means that jobs in the security department can be more specifically defined. The Security Officer would have more time to deal with techniques and procedures of "order maintenance". Community security officers would be able to utilize the majority of their time working with the community. However, if the local housing authority is small, then the different aspects of the security system would become the function of the same employee.

The second consideration regardless of staffing patterns, is the degree of emphasis placed on separating the program development and order maintenance elements of a security program. A decision, must be made with respect to how separate the resident security force should be from the "professional" (police) security force. Should security officers have supervisory and administrative (in terms of planning, evaluation and program development) responsibilities over community security aides? Or, should the relationship between the two be more functional than administrative?

We differentiate between functional and administrative relationships as follows:

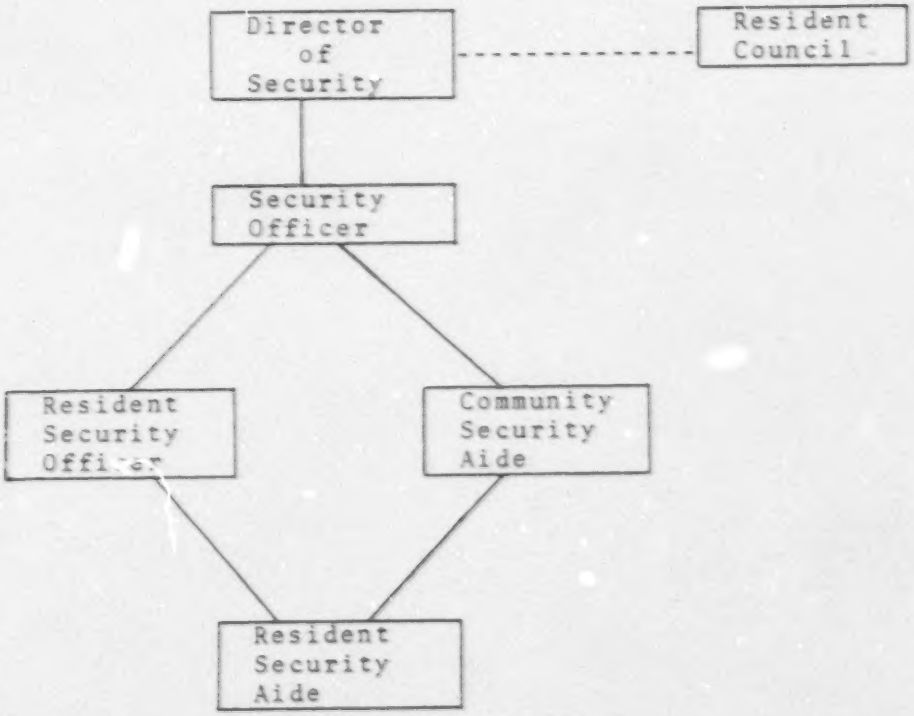
1. "functional relationship" - a natural one which develops as two or more persons perform their separate but related tasks.

2. "administrative relationship" - one which is mandated by policy and involves supervisory responsibilities.

Following are representations of these two kinds of differences.

PUBLIC HOUSING SECURITY DEPARTMENT
ALTERNATIVE ORGANIZATIONAL STRUCTURES

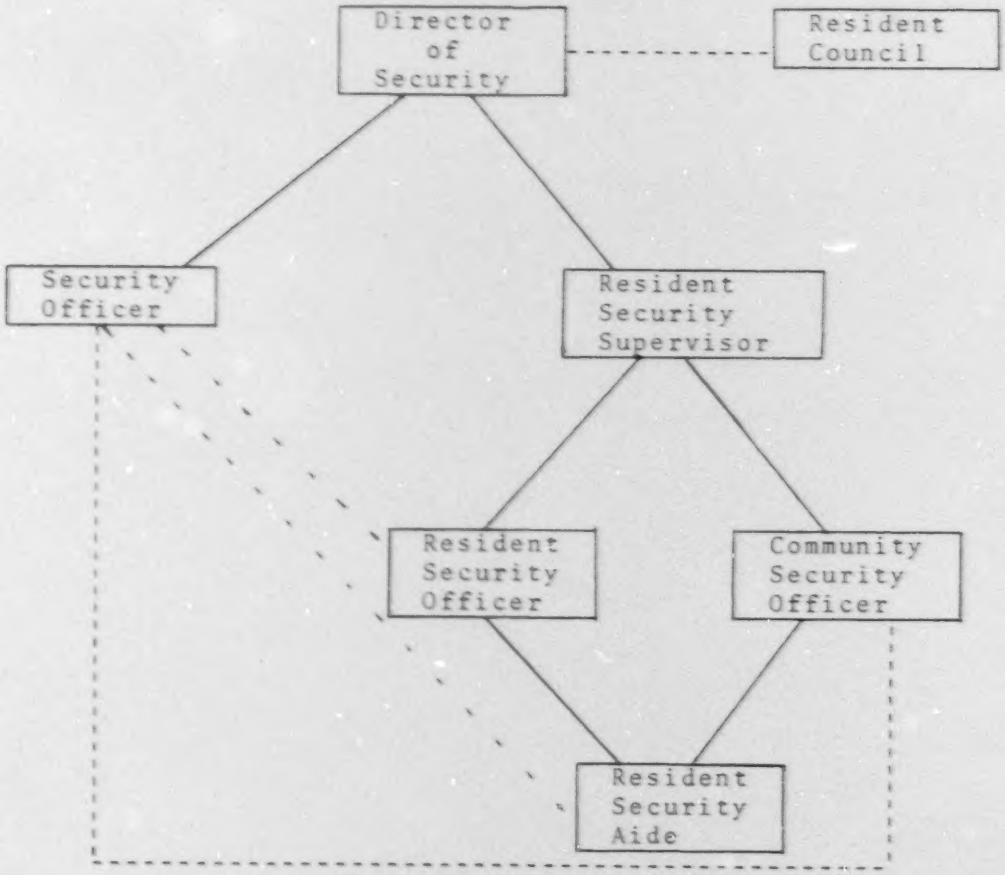
A.



In a smaller authority it is feasible to have the entire resident security force (resident security aide, resident security officer, community security aide) coordinated and supervised by the "professional security officer--those qualified policemen certified and commissioned by state and/or municipal authorities. However, caution must be taken to insure that the security officer does not nullify the functions of the resident security force, i.e. community and program development within the community around concerns of security.

PUBLIC HOUSING SECURITY DEPARTMENT
ALTERNATIVE ORGANIZATIONAL STRUCTURES

B.



This is probably the more ideal of the two structures. The separation between police (order maintenance) functions and community functions has clearly been made. The relationship between the security officer and personnel in the resident force is functional as opposed to administrative.

This is not to suggest that these are the only structures for a security department in a local housing authority. We are suggesting, however, that regardless of the organizational structure, effective implementation requires resolution of the issues surrounding the relationship between the security officer and the resident force.

PART TWO

CHAPTER		PAGE
V	JOB DESCRIPTIONS, TRAINING NEEDS AND CURRICULA	25
.....	Resident Security Aide	26
.....	Resident Security Officer	34
.....	Security Officer	43
.....	Community Security Aide	52

Now that we have developed the possible environments for a total security system, developed the career ladder concepts for the system, developed the security department organization from the career ladder concepts while simultaneously beginning to identify job titles, roles and responsibilities, it is necessary that we become more specific with regard to actual duties and responsibilities of these jobs.

This section includes job descriptions which reflect the ideas used for career ladder development. These job descriptions may or may not respond to those which may be developed in other local housing authorities. However, it is the process of creating them which is important to comprehend.

The next step in the process is to translate responsibilities and duties into job descriptions. Once adequate job descriptions are obtained, we must identify what the para-professional brings to the job and what the job description mandates. These items become defined as training needs--what the para-professional will have to know to be able to do the job effectively.

Finally, these training needs become translated into content items for the curricula.

The following section contains job descriptions, training needs and curricula for each of the following positions:

1. Resident Security Aide

2. Resident Security Officer

3. Security Officer

4. Community Security Aide

RESIDENT SECURITY AIDE - JOB DESCRIPTION

A. Job Analysis

1. Nature of Work

   a. Assist security officer personnel and other resident security personnel in organizing residents, planning and implementing programs around concerns of security

   b. Assists in the interpretation of security programs to the residents and the identification and articulation of security concerns of residents to the security division of the local housing authority.

2. Duties to be performed

   a. To assist in identifying and articulating to the Security Department the security concerns of the residents

   b. To assist in the organization of resident groups for the support of security programs

   c. To assist in implementing community based security programs

   d. To interpret the security program(s) to the residents

   e. To make verbal and written reports to supervisors.

3. Skills required

   a. Ability to meet and get along with people

   b. Basic reading and writing skills

   c. Ability to learn program development skills

d. Ability to engender participation and interest from the residents for the security program

e. Ability to identify problems in security and recommend solutions.

f. Ability to understand the organizational structure, function and purpose of the Public Housing Authority

g. Ability to utilize resources to their maximum effectiveness.

4. Level of skill required

a. Ability to read, comprehend and write reports

b. Ability to translate security needs into programmatic plans of action and to be able to advocate those programs through written and verbal communication

c. Ability to recognize the need for local initiative and local responsibility in planning programs around security concerns as well as being able to recognize the need for close guidance and supervision; and to be able to recognize the points in time when one method should be used over the other

d. Ability to understand the organizational structure, functions and purpose of the Public Housing Authority and to be able to develop plans and programs consistent with goals of the agency.

5. Supervision

a. The resident security aide will be supervised according to the structure of the local housing authority and, subsequently, the security division of the local housing authority. (See sections on "Public Housing Security Department Alternative Organizational Structures" and "The Public Housing Authority's Organizational Structure").

B. Job Specifications

1. Attitudes

a. Respect for individual resident's rights

b. Respect for the purpose of the Public Housing Authority and interest in directly serving that purpose

c. Interest in assisting residents' organizations and groups in planning and organizing community programs to serve security needs

d. Openness to alternative solutions to problems

e. Willingness to accept supervision

f. Willingness to accept some supervisory responsibilities

g. Desire to learn new skills

h. Willingness to work afternoons and evenings

2. Experience

a. Residents of Public Housing will be given preference

b. Involvement in community organizations and programs

3. Education

Completion of the 10th grade or its equivalent

4. Health

a. Good physical condition

b. Ability to stand and walk for long periods of time.

Resident Security Aide

(Training Needs)

1. Understanding of security department policy and program
2. Understanding basic community organization skills
3. Understanding of basic program development skills
4. Understanding of report writing skills
5. Understanding of communication skills
6. Ability to identify security problems
7. Understanding of basic polic practives
8. Understanding of local housing authority organizational structure
9. Understanding resident's needs.

RESIDENT SECURITY AIDE

LHA ORIENTATION

CONTENT	KEY SECTION	METHOD	RESOURCE PERSON	OBJECTIVE
History, Philosophy and Organization of LHA	1	Lecture and Discussion	Some knowledgeable employee of the LHA(preferably of administrative staff) who is able to deliver this kind of information in a comprehensible manner.	The employee will need to know how and why the LHA has developed to the point of his entry into the system. This should assist the employee in understanding his role in the system.
The Security Force a) Philosophy and History	2	Lecture and Discussion	An employee in the LHA security division who is knowledgeable with this information and able to deliver it in a comprehensible manner.	To provide the employee with an understanding of security as a comprehensive concept which involves the total community.
b) Organization	3	Lecture, Discussion and Demonstration		To provide the employee with an understanding of his specific role and place in the security system of LHA.

THE POLICE PROFESSION

History, Philosophy and Organization of local, municipal police force	4	Lecture and Discussion	An employee of the municipal police system - preferably one involved in training - and an employee of the LHA security force.	The Resident Security Aide will need to know how and why the municipal police force has developed to this point with special emphasis on the relationship of the municipal police to the LHA security division. This should assist the employee in understanding his relationship to the police and to the LHA.

RESIDENT SECURITY AIDE

THE POLICE PROFESSION

CONTENT	KEY SECTION	METHOD	RESOURCE PERSON	OBJECTIVE
Basic skills in self defense	5	Lecture and Discussion Demonstration	An employee of the municipal police system preferably one involved in training.	To provide employee with basic skills of self-protection such that he or she might be able to move among the residents, meet with them in different places at night as well as day without trepidation. Also this will provide a beginning understanding of the responsibility connected with the use of certain "police" tactics.

WORKING WITH GROUPS

Youth and their problems	6	Lecture, Case Studies and Role Play	A social services delivery person experienced in dealing with the problems of youth.	To provide the employee with an understanding of how to identify assess and list in order of priority the problems of youth. To provide employee with understanding of how to begin moving in the direction of program planning as a method of problem resolution.
Human relations training	7	Lecture, Case Studies, role play	A social services delivery person experienced in human relations training and group dynamics.	To provide employee with a beginning understanding of how people behave and react in certain situations.
Group Dynamics	8			

RESIDENT SECURITY AIDE

WORKING WITH GROUPS

CONTENT	KEY SECTION	METHOD	RESOURCE PERSON	OBJECTIVE
Bringing People Together	9	Lecture, Case Studies, role play	An employee experienced in dealing with groups.	To provide employee with an understanding of 1)how to structure a group around program issues 2)how to be a resource person to the group such that the group can begin to make initial decisions 3)how to effectively gain the kind of respect of the group which accompanies the leadership role.
Getting a Group Functioning	10			
Leading a Meeting	11			
Developing Group Goals	12			

COMMUNICATION SKILLS

Report writing techniques	13	Lecture and Demonstration	An employee of the security division who is experienced in the record keeping techniques required of security personnel.	To provide employee with an understanding of the techniques and importance of records keeping. To provide employee with a familiarization of the forms and records used in his particular job.
Record keeping techniques	14			
Keeping community resources and technical assistance files	15			

PROGRAM DEVELOPMENT

Problem Identification	16	Lecture, Case Studies, role play	An employee experienced in working with groups with a background in program development and/or planning.	To provide employee with an understanding of the process involved in moving from the assessment of issues to the achievement of goals via program planning and development.
Planning and Goal Setting	17			
Selecting Issues around which to organize and plan	18			
Exploring Alternatives	19			
Making Decisions	20			

RESIDENT SECURITY AIDE

PROGRAM DEVELOPMENT

CONTENT	KEY SECTION	METHOD	RESOURCE PERSON	OBJECTIVE
Technical Assistance	21	Lecture, Demonstration and role play	An employee experienced in working with groups in the community and using community resources.	To provide employee with an understanding of how and when to seek technical assistance and how he might be able to utilize resources in the community in this manner.
Community Resources	22			

RESIDENT SECURITY OFFICER - JOB DESCRIPTION

A. Job Analysis

1. Nature of Work

a. To assist security officer personnel and other resident security personnel in organizing residents and planning and implementing programs around security concerns

b. To assist security officer personnel in the maintenance of order and the deterrence of criminal activity. This includes assisting in the identification and apprehension of criminals

c. To interpret security programs to the residents and identify and articulate security concerns of residents to the security division of the local housing authority.

2. Duties to be performed

a. To assist security officer personnel in patroling and police duties within the local housing authority community in accordance with regulations set by the governing bodies of the local municipal police and the local housing authority

b. To assist in the supervision of residents security aide personnel

c. To assist in the organization of residents groups for the support of the security division and its programs

d. To assist in implementing community-based security programs

e. To maintain a liaison position between the residents and the security division, interpreting each other's needs, and translating those needs into programs.

f. To assist the maintenance department by identifying maintenance problems that may be translated as security problems, e.g. inoperable locks, broken or vandalized doorways, broken or missing light bulbs in commonways, etc.

g. To make verbal and written reports to supervisors.

3. Skills required

a. Ability to meet and get along with people

b. Basic reading and writing skills

c. Ability to learn program development skills

d. Ability to identify security problems and recommend solutions

e. Ability to understand organizational structure, function and purpose of local housing authority

f. Ability to utilize resources to their maximum effectiveness

g. Ability to use authority effectively.

4. Level of skills required

a. Ability to meet minimum requirements of local and/or state authorities re: certification and/or commissioning of office

b. Ability to read, comprehend and write reports

c. Ability to translate security needs into programmatic plans of action and be able to advocate those programs through written and verbal communications.

d and e. (same as Security Officer - Job Description under this heading, see page 45)

f. Ability to understand his role as an assistant to the local housing authority security officer and how that relates to the role of the municipal police; ability to understand the limitations of that role in accordance with state, local and local housing authority regulations.

g and h. (same as Security Officer - Job Description under these headings, see page 45)

5. Supervision

a. (same as Security Officer - Job Description under this heading)

b. The resident security officer will have supervisory responsibility for the resident security aide.

B. Job Specifications

1. Attitudes

(same as section for Resident Security Aide under this heading)

2. Experience

a. Resident of public housing will be given preference

b. Minimum requirement of 1 year's experience as a resident security aide or equivalent

3 and 4. (same as resident security aide under these headings)

Resident Security Officer

(Training Needs)

1. Advanced techniques in maintenance of order, crisis orientation skills and crime prevention skills
2. Understanding of security department policy and program
3. Understanding of basic community organization skills
4. Advanced program development skills
5. Report writing skills
6. Advanced communication skills
7. Basic supervisory skills
8. Problem solving skills--identification of security problems and working toward solutions
9. Understanding of local housing authority organizational structure

RESIDENT SECURITY OFFICER

LHA ORIENTATION

CONTENT	KEY SECTION	METHOD	RESOURCE PERSON	OBJECTIVE
History, Philosophy and Organization of LHA	1	Lecture and Discussion	Some knowledgeable employee of the LHA(preferably of administrative staff) who is able to deliver this kind of information in a comprehensible manner.	The employee will need to know how and why the LHA has developed to the point of his entry into the system. This should assist the employee in understanding his role in the system.
The Security Force a) Philosophy and History	2	Lecture and Discussion	An employee in the LHA security division who is knowledgeable with this information and able to deliver it in a comprehensible manner.	To provide the employee with an understanding of security as a comprehensive concept which involves the total community.
b) Organization	3	Lecture, Discussion and Demonstration		To provide the employee with an understanding of his specific role and place in the security system of LHA.

THE POLICE PROFESSION

History, Philosophy and Organization of local, municipal police force	4	Lecture and Discussion	An employee of the municipal police system - preferably one involved in training - and an employee of the LHA security force.	To provide employee with information re: how the municipal police force has developed with special emphasis on the relationship of the municipal police to the LHA security division.
Patrol Techniques	5	Lecture, Demonstration	An employee of the municipal police system - preferably one involved in training - and an employee of the LHA security force.	To provide employee with skills necessary to perform the technical aspects of patrolling public housing development.
Baton training	6	Lecture, Demonstration	An employee of the municipal police system - preferably one involved in training - and an employee of the LHA security force.	To provide employee with understanding of the use of the 26 inch baton.

RESIDENT SECURITY OFFICER

THE POLICE PROFESSION

CONTENT	KEY SECTION	METHOD	RESOURCE PERSON	OBJECTIVE
Self-Defense	7	Lecture, Demonstration	An employee of the municipal police system - preferably one involved in training and an employee of the LHA security force.	To provide employee with spontaneous skill in the use of basic restraint holds.
Legal Training	8	Lecture, Demonstration	An employee of the municipal police system - preferably one involved in training and an employee of the LHA security force.	To provide employee with a thorough understanding of his legal limitations, right of arrest and use of force that they possess as an employee in this security system.
Family Crisis Intervention	9	Lecture, Case Studies, role play, demonstration	An employee of the municipal police force or an employee of the LHA security force and a social worker.	To provide employee with skills in dealing with crisis type situations particularly in a family situation. Major emphasis here is placed on being able to simultaneously decrease violence and assist those involved in the crisis in dealing with their own problems.
Administration of Justice Systems	10	Lecture, Case studies	A member of municipal police training team and/or an employee in the administration of justice system (as a lawyer, court clerk, judge etc.)	To provide employee with a thorough understanding of the operations of the administrstion of justice system in his city or town.

RESIDENT SECURITY OFFICER

WORKING WITH GROUPS

CONTENT	KEY SECTION	METHOD	RESOURCE PERSON	OBJECTIVE
Human Relations Training	11	Lecture, Case Studies, role play	A social services delivery person experienced in human relations training and group dynamics.	To provide employee with understanding of how people react and behave in certain situations with specific emphasis on group interaction.
Group Dynamics	12			
Youth and their Problems	13	Lecture, Case Studies, role play	A social services delivery person experienced in dealing with the problems of youth.	To provide employee with understanding of how to identify, assess and list in order of priority the problems of youth.
Bringing People Together	14	Lecture, Case Studies, role play	An employee experienced in dealing with groups.	To provide employee with an understanding of 1)how to structure a group around program issues. 2)how to be a resource person to the group while simultaneously developing group independence. 3)how to effectively gain the kind of respect of the group which accompanies the leadership role.
Getting a Group Functioning	15			
Developing Group Goals	16			
Leading a Meeting	17			

PROGRAM DEVELOPMENT

Problem Identification	18	Lecture, Case Studies, role play	An employee experienced in working with groups with a background in program development and/or planning.	To provide employee with an understanding of the process involved in moving from the assessment of issues to the achievement of goals via program planning and development.
Planning and Goal Setting	19			
Selecting Issues Around which to Organize and Plan	20			
Exploring Alternatives	21			
Making Decisions	22			

RESIDENT SECURITY OFFICER

PROGRAM DEVELOPMENT

CONTENT	KEY SECTION	METHOD	RESOURCE PERSON	OBJECTIVE
Technical Assistance	23	Lecture, Demonstration, role play	An employee experienced in working with goups in the community and using community resources.	To provide employee with an understanding of how and when to seek technical assistance and how he might be able to utilize resources in the community in this manner.
Community Resources	24			

SUPERVISORY SKILLS

What is supervision?	25	Lecture, Case Studies, role play	An employee experienced in supervisory techniques	To provide employee with an understanding of the skills necessary to become an effective supervisor. This will deal with one to one supervision as well as supervision of group activities.
Developing a work plan for supervisors	26			
Making effective use of time	27			
Assigning roles and responsibilities clearly	28			

COMMUNICATION SKILLS

Report writing techniques	29	Lecture and Demonstration	An employee of the security division who is experienced in the record-keeping techniques required of security personnel.	To provide employee with an understanding of the techniques and importance of record-keeping. To provide employee with a familiarization of the forms and records used in his particular job.
Record Keeping techniques	30			
Keeping Community Resource and Technical Assistance files	31			
Evaluation forms and reports for supervisors.	32			

RESIDENT SECURITY OFFICER

SPECIFIC INFORMATION

CONTENT	KEY SECTION	METHOD	RESOURCE PERSON	OBJECTIVE
Identification of Maintenance problems in terms of security problems. ex.electrical system, plumbing system, physical structure of buildings, household equipment, security systems	33	Lecture and Discussion	An employee of the security division and an employee of the maintenance division of the LHA.	To provide employee with a clearly defined relationship between maintenance and security problems and issues.
Red Cross, First Aid and Heart Attack Training	34	Lecture, Demonstration, role play	An employee of some health installation experienced in first aid and heart attack training.	To provide employee with basic skills in first aid and emergency treatment skills for coronary attack.

SECURITY OFFICER - JOB DESCRIPTION

A. Job Analysis

1. Nature of Work

a. To maintain order in and around local housing authority grounds. This includes involvement in crime prevention programs as well as identifying and apprehending criminals

b. To maintain liaison responsibilities with the local municipal police (precincts)

c. To supervise personnel in the resident security force in the areas of planning, development, and organization of programs dealing with security concerns

d. To keep the executive director of the security department informed of the programs and activities of the resident and the security officer forces.

2. Duties to be performed

a. To patrol and perform all police duties for the local housing authority community within the limits set by the governing bodies of the local municipal police and the local housing authority

b. To supervise personnel in the resident security force in the areas of planning, development and organization of programs dealing with security programs

c. To organize (through the resident security force) resident groups for the support of the security division and its programs

d. To assist in implementing community based security programs

e. To maintain liaison responsibilities with the local municipal police (precincts)

f. To assist the maintenance department by identifying, during his regular tour of duty, maintenance problems that may be translated as security problems, e.g. inoperable locks, broken or vandalized doorways, broken or missing light bulbs in commonways

g. To make verbal and written reports to supervisors.

3. Skills required

a. Ability to meet minimum requirements of local and/or state authorities re: certification and/or commissioning of officers

b. Ability to meet and get along with people

c. Basic reading and writing skills

d. Ability to learn program development skills

e. Ability to identify problems in security and recommend solutions

f. Ability to understand the organization structure, function and purpose of the local housing authority

g. Ability to utilize resources to their maximum effectiveness

h. Ability to use authority effectively.

4. Level of skills required

a. Ability to meet minimum requirements of local and/or state authorities re: certification and/or commissioning of officers

b. Ability to read, comprehend and write reports

c. Ability to translate security needs into programmatic plans of action and to be able to advocate those programs through written and verbal communications

d. Ability to recognize the need for local initiative and local responsibility in planning programs around security concerns as well as being able to recognize the points in time when one method should be used over the other

e. Ability to plan security programs that will be in accordance with the limitations set by the general philosophy, purpose, function and organizational structure of the local housing authority

f. Ability to understand his role as a local housing authority security officer and how that relates to the role of the municipal police; ability to understand the limitations of that role according to state, local and local housing regulations

g. Ability to engender interest and participation from residents for the security program

h. Ability to properly, responsibly and maturely exercise the authority which accompanies this position.

5. Supervision

a. The security officer will be supervised in accordance with the organizational structure of the local housing authority and subsequently, the organizational structure of the security division of the local housing authority (see sections of "Public Housing Security Department Alternative Organizational Structures", and the "Public Housing Authority's Organizational Structure")

b. The security officer will have supervisory responsibilities for the resident security force.

B. Job Specifications

1. Attitudes

a. Respect for individual resident's rights

b. Respect for the purpose of the Public Housing

Authority and interest in directly serving that purpose

c. Interest in assisting residents' organizations and groups in planning and organizing community programs to serve security needs

d. Openness to alternative solutions to problems

e. Willingness to accept supervision

f. Willingness to accept some supervisory responsibilities

g. Desire to learn new skills

h. Willingness to work afternoons and evenings.

2. Experience

a. Residents of public housing will be given preference

b. Minimum requirement of 1 year's experience as a resident security officer or two years experience in security or law enforcement work.

3. Education

Completion of the 10th grade or its equivalent

4. Health

a. Good physical condition

b. Ability to stand and walk for long periods of time.

Security Officer

(Training Needs)

1. Completion of police academy or whatever other kind of course is required for the certification or commissioning of police officers
2. Understanding of security department policy and program
3. Understanding the relationship of this position to the municipal police
4. Understanding community organization skills
5. Working knowledge of program development skills
6. Working knowledge of communication skills
7. Working knowledge of supervisory skills
8. Working knowledge of problem solving skills--specifically, the identification of security problems and working toward solutions via program development, etc.
9. Understanding of local housing authority organizational structure.

SECURITY OFFICER

LHA ORIENTATION

CONTENT	KEY SECTION	METHOD	RESOURCE PERSON	OBJECTIVE
History, Philosophy and Organization of LHA	1	Lecture and Discussion	Some knowledgeable employee of the LHA (preferably of administrative staff) who is able to deliver this kind of information in a comprehensible manner.	The employee will need to know how and why the LHA has developed to the point of his entry into the system. This should assist the employee in understanding his role in the system.
The Security Force a) Philosophy and History	2	Lecture and Discussion	An employee in the LHA security division who is knowledgeable with this information and able to deliver it in a comprehensible manner.	To provide the employee with an understanding of security as a comprehensive concept which involves the total community.
b) Organization	3	Lecture, Discussion and Demonstration		To provide the employee with an understanding of his specific role and place in the security system of LHA.

THE POLICE PROFESSION

Police Practice This will include all aspects of techniques and procedures involved in the successful and effective performance of police duties/responsibilities.	4		The local police academy or whatever agent or agency is responsible for the training of the local municipal police force.	To provide the employee with skills necessary to adequately perform the total function and duties of a policeman.

SECURITY OFFICER

WORKING WITH GROUPS

CONTENT	KEY SECTION	METHOD	RESOURCE PERSON	OBJECTIVE
Human Relations Training	5	Lecture, Case Studies, role play	A social services delivery person experienced in human relations training and group dynamics.	To provide employee with understanding of how people react and behave in certain situations with specific emphasis on group interaction.
Group Dynamics	6			
Youth and their Problems	7	Lecture, Case Studies, role play	A social services delivery person experienced in dealing with the problems of youth.	To provide employee with understanding of how to identify, assess and list in order of priority the problems of youth.
Bringing People Together	8	Lecture, Case Studies, role play	An employee experienced in dealing with groups.	To provide employee with an understanding of 1)how to structure a group around program issues. 2)how to be a resource person to the group while simultaneously developing group independence. 3)how to effectively gain the kind of respect of the group which accompanies the leadership role.
Getting a Group Functioning	9			
Developing Group Goals	10			
Leading a Meeting	11			

PROGRAM DEVELOPMENT

Problem Identification	12	Lecture, Case Studies, role play	An employee experienced in working with groups with a background in program development and/or planning.	To provide employee with an understanding of the process involved in moving from the assessment of issues to the achievement of goals via program planning and development.
Planning and Goal Setting	13			
Selecting Issues Around which to Organize and Plan	14			
Exploring Alternatives	15			
Making Decisions	16			

SECURITY OFFICER

PROGRAM DEVELOPMENT

CONTENT	KEY SECTION	METHOD	RESOURCE PERSON	OBJECTIVE
Technical Assistance	17	Lecture, Demonstration, role play	An employee experienced in working with groups in the community and using community resources.	To provide employee with an understanding of how and when to seek technical assistance and how he might be able to utilize resources in the community in this manner.
Community Resources	18			

SUPERVISORY SKILLS

What is supervision?	19	Lecture, Case Studies, role play	An employee experienced in supervisory techniques.	To provide employee with an understanding of the skills necessary to become an effective supervisor. This will deal with one to one supervision as well as supervision of group activities.
Developing a work plan for supervisors	20			
Making effective use of time	21			
Assigning roles and responsibilities clearly	22			

COMMUNICATION SKILLS

Report writing techniques	23	Lecture and Demonstration	An employee of the security division who is experienced in the record-keeping techniques required of security personnel.	To provide employee with an understanding of the techniques and importance of record keeping. To provide employee with a familiarization of the forms and records used in his particular job.
Record Keeping techniques	24			
Keeping Community Resource and technical assistance files.	25			
Evaluation forms and reports for supervisors.	26			

SECURITY OFFICER

SPECIFIC INFORMATION

CONTENT	KEY SECTION	METHOD	RESOURCE PERSON	OBJECTIVE
Identification of Maintenance problems in terms of security problems. ex.electrical system, plumbing system, physical structure of buildings, household equipment, security systems	27	Lecture and Discussion	An employee of the security division and an employee of the maintenance division of the LHA.	To provide employee with a clearly defined relationship between maintenance and security problems and issues.
Red Cross, First Aid and Heart Attack Training	28	Lecture, Demonstration, role play	An employee of some health installation experienced in first aid and heart attack training.	To provide employee with basic skills in first aid and emergency treatment skills for coronary attack.

COMMUNITY SECURITY AIDE - JOB DESCRIPTION

A. Job Analysis

1. Nature of Work

   a. To plan and develop programs to meet the security needs of the community

   b. To organize residents around concerning security

   c. To coordinate similar efforts of other departments within the local housing authority or other social service agencies in the community with those of the security department under the supervision of the security officer.

2. Duties to be performed

   a. To organize resident groups for the support of the security division and its programs

   b. To plan and implement (along with residents) community based security programs

   c. To maintain a liaison position between the residents and the security division, interpreting each others needs, and translating those needs into programs

   d. To assist in the supervision of resident security aide personnel

   e. To coordinate similar efforts of other departments within the local housing authority or other social service agencies in the community with those of the security department

   f. To make verbal and written reports to supervisors.

3. Skills required

a. Ability to meet and get along with people

b. Basic reading and writing skills

c. Ability to learn advanced program development skills

d. Ability to learn advanced community organization skills

e. Ability to identify security problems and recommend solutions

f. Ability to understand organizational structure, function and purpose of local housing authority

g. Ability to utilize resources to their maximum effectiveness

h. Ability to use authority effectively.

4. Level of skills required

a. Ability to read, comprehend and write reports

b. Ability to engender interest and participation in residents for the security programs

c, d and e. (same as security officer - job description under these headings, see page)

f. Ability to understand the functions and purposes of other local housing authority departments and other social service agencies such that their similar efforts might be coordinated to those of the security department to lend support to it.

5. Supervision

a. The community security officer will be supervised according to the structure of the local housing authority and, subsequently, the structure of the local housing authority security department (see sections on "Public Housing

Security Department Alternative Organizational Structures" and "The Public Housing Authority's Organizational Structure")

b. The community security officer will assist in supervising activities of the resident security aide.

B. Job Specifications

1. Attitudes

(same as resident security aide - job description under this heading, see page)

2. Experience

a. Residents of public housing will be given preference

b. One year's experience as resident security aide or equivalent involvement in community organizations and programs.

3. Education

Completion of 10th grade or its equivalent

4. Health

a. Good physical condition

b. Ability to stand and walk for long periods of time.

Community Security Aide

(Training Needs)

1. Understanding of security department policy and program
2. Understanding of basic community organizational skills
3. Advanced program development skills
4. Advanced communication skills
5. Report writing skills
6. Basic supervisory skills
7. Problem solving skills--identification of security problems and working toward solutions
8. Understanding of local housing authority organizational structure

COMMUNITY SECURITY AIDE

LHA ORIENTATION

CONTENT	KEY SECTION	METHOD	RESOURCE PERSON	OBJECTIVE
History, Philosophy and Organization of LHA	1	Lecture and Discussion	Some knowledgeable employee of the LHA(preferably of administrative staff) who is able to deliver this kind of information in a comprehensible manner.	The employee will need to know how and why the LHA has developed to the point of his entry into the system. This should assist the employee in understanding his role in the system.
The Security Force a) Philosophy and History	2	Lecture and Discussion	An employee in the LHA security division who is knowledgeable with this information and able to deliver it in a comprehensible manner.	To provide the employee with an understanding of security as a comprehensive concept which involves the total community.
b) Organization	3	Lecture, Discussion and Demonstration		To provide the employee with an understanding of his specific role and place in the security system of LHA.

THE POLICE PROFESSION

History, Philosophy and Organization of local municipal police force	4	Lecture and Discussion	An employee of the municipal police system - preferably one involved in training - and an employee of the LHA security division.	To provide employee with information about how the municipal police force has developed with special emphasis on the relationship of the municipal police to the LHA security force.
Self-Defense	5	Lecture and Demonstration	An employee of the municipal police system - preferably one involved in training - and an employee of the LHA security force.	To provide employee with spontaneous skill in the use of basic restraint holds.

THE POLICE PROFESSION

CONTENT	KEY SECTION	METHOD	RESOURCE PERSON	OBJECTIVE
Family Crisis Intervention	6	Lecture and Demonstration	An employee of the municipal police system - preferably one involved in training - and an employee of the LHA security force.	To provide employee with skills in dealing with crisis type situations particularly in a family situation. Major emphasis here is placed on being able to simultaneously decrease violence and assist those involved in the crisis in dealing with their own problems.
Administration of Justice Systems	7	Lecture, Case Studies	A member of the municipal police training team and/or an employee in the administration of justice system (as a lawyer, court clerk, judge etc.	To provide employee with a thorough understanding of the operations and the administration of justice system in his city or town.

WORKING WITH GROUPS

Human Relations Training	8	Lecture, Case Studies, role play	A social services delivery person experienced in human relations training and group dynamics.	To provide employee with understanding of how people react and behave in certain situations with specific emphasis on group interaction.
Group Dynamics	9			
Youth and their Problems	10	Lecture, Case Studies, role play	A social services delivery person experienced in dealing with the problems of youth.	To provide employee with understanding and sensitivity to problems of youth - how to assess and list them in order of priority.

COMMUNITY SECURITY AIDE

WORKING WITH GROUPS

CONTENT	KEY SECTION	METHOD	RESOURCE PERSON	OBJECTIVE
Bringing People Together	11	Lecture, Case Studies, role play	An employee experienced in dealing with groups.	To provide employee with an understanding of: 1)how to structure a group around program issues 2)how to be a resource person to the group while simultaneously developing group independence 3)how to affectively gain the kind of respect which accompanies the leadership role 4)how to assess, be sensitive to and deal with certain interaction dynamics within a group.
Motivation	12			
Communication	13			
Leading a Meeting	14			
Getting a Group Functioning	15			
Developing Group Plans	16			
Achieving Group Goals	17			
Development of Leadership and Transferring Leadership	18			

PROGRAM DEVELOPMENT

Problem Identification	19	Lecture, Case Studies, role play	An employee experienced in working with groups with a background in program development and/or planning.	To provide employee with understanding of the process involved in moving from the assessment of issues to the achievement of goals via program planning and development.
Planning and Goal Setting	20			
Selecting Issues Around which to Organize and Plan	21			
Exploring Alternatives	22			
Decision-Making	23			

COMMUNITY SECURITY AIDE

PROGRAM DEVELOPMENT

CONTENT	KEY SECTION	METHOD	RESOURCE PERSON	OBJECTIVE
Proposal Writing				
How to write a program proposal	24	Lecture, Demonstrations, Case Studies	An employee experienced in working with groups with a background in program development and/or planning - specifically proposal writing	To provide employee with an understanding of the process involved in translating issues into implemented programs.
How to present a program proposal	25			
When and where to write and present a program proposal	26			
Who can write a proposal	27			
Technical Assistance	28	Lecture, Demonstrations, role play	An employee experienced in working with groups in the community and using community resources.	To provide employee with an understanding of how and when to seek technical assistance and how he might utilize resources in the community in this manner.
Community Resources	29			

SUPERVISORY SKILLS

What Is Supervision?	30	Lecture, Case Studies, role play	An employee experienced in supervisory techniques.	To provide employee with an understanding of the skills necessary to become an effective supervisor. This will deal with one to one supervision as well as supervision of group activities.
Developing a work plan for supervisors	31			
Making effective use of time	32			
Assigning roles and responsibilities clearly	33			

COMMUNITY SECURITY AIDE

COMMUNICATION SKILLS

CONTENT	KEY SECTION	METHOD	RESOURCE PERSON	OBJECTIVE
Report writing techniques	34	Lecture and Demonstration	An employee of the security division who is experienced in the record-keeping techniques required of security personnel.	To provide employee with an understanding of the techniques and importance of record keeping. To provide employee with a familiarization of the forms and records used in his particular job.
Record Keeping techniques	35			
Keeping Community Resource and Technical assistance files	36			
Evaluation forms and reports for supervisors.	37			

SPECIFIC INFORMATION

Identification of Maintenance problems in terms of security problems. ex. electrical system, plumbing system, physical structure of buildings, household equipment, security systems	38	Lecture and Discussion	An employee of the security division and an employee of the maintenance division of the LHA.	To provide employee with a clearly defined relationship between maintenance and security problems and issues.
Red Cross, First Aid and Heart Attack Training	39	Lecture, Demonstration, role play	An employee of some health installation experienced in first aid and heart attack training.	To provide employee with basic skills in first aid and emergency treatment skills for coronary attack.

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CHAPTER VI

INTER-RELATIONSHIP BETWEEN HOUSING AUTHORITY, MUNICIPAL POLICE AND COMMUNITY

INTER-RELATIONSHIP BETWEEN HOUSING AUTHORITY, MUNICIPAL POLICE DEPARTMENT AND COMMUNITY

One of the primary concerns to be dealt with in the development of a security system for public housing is the relationship of the local housing authority security force to the municipal police. The following guide is a check list for action in the process of developing a para-professional security system.

1. Identify the relationship between the local housing authority security force and the municipal police in terms of organizational agreements and policies regarding police authority.

   a. Comparable arresting powers

   b. Geographic jurisdiction of both forces--Is there overlap? Is there conflict?

2. Identify the issues involved in allowing for comparability in:

   a. pre-requisites for employment

   b. salary scales

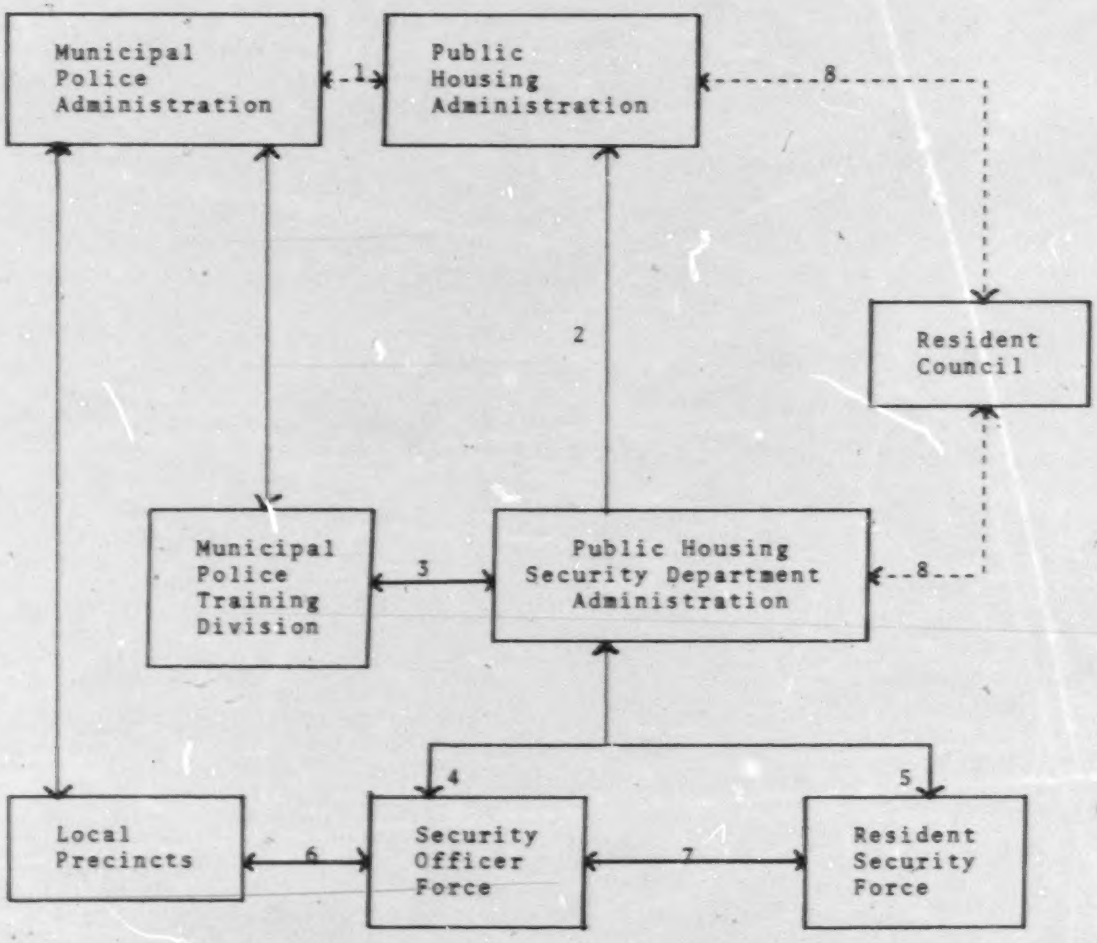
   c. training

   d. certification

The purpose of the above is to reduce duplication of services and enhance cooperation between the local housing authority security system and the municipal police and lay the basis for a para-professional system.

The following chart represents a model for the relationship of these two organizations. In the following explanation the numbers (1 through 8) refer to the numbered relationship on the chart. In the explanation the term "Resident Force" is similar to that which we have previously defined as the "B" track in the career ladder system (see Chapter V). "Security Officer Force" is used synonymously with the "A" track previously described.

INTER-RELATIONSHIP BETWEEN HOUSING AUTHORITY, MUNICIPAL POLICE DEPARTMENT AND COMMUNITY



Explanation: Inter-relationship Between Housing Authority, Municipal Police Department and Community

1. The municipal police department will have the responsibility of commissioning public housing security personnel. The credentialing process is of prime importance to the legitimation of the career ladder system. The housing authority will remain responsible for the selection and dismissal of security personnel.

2. The public housing security department will relate to the housing authority administration on matters of program and policy.

3. The local housing authority security department will relate to the training division of the municipal police on matters concerned with training security personnel. There is a degree of commonality of function and responsibility between the security force and the municipal police as well as a distinct difference. They will have to work effectively with a greater number of hidden and inaccessible common areas (lobbies, entrances, stairways, elevators, courts etc.). These differences imply the need for a degree of specialization for public housing security personnel. Therefore, it is suggested that these commonalities and differences be identified at this level such that security personnel might receive that training from the municipal police which speaks to the commonalities and, in addition, receive from other appropriate sources training which speaks to the differences.

4. The Security Officer Force will relate to the Security Department administration mainly on matters of operation (program implementation) and program development. This may be done through the project manager if the local housing authority structure mandates that security personnel be personally responsible to him.

5. The Resident Force will relate to the Security Department administration on matters of operation and program development.

6. The Security Officer Force will relate to the local precincts on matters of operation. This will generally be in terms of arrest, incarceration, criminal investigation and reporting. It is suggested here that security personnel in each housing project coordinate operational policy and procedure with its neighborhood precinct.

   a. This does not negate the possibility of a relationship between the precincts (on a city-wide basis) and the Security Department administration. Although a decentralized structure is more effective in terms of engendering better and more effective service, some degree of centralization is necessary in terms of administration and/or operation.

7. The Resident Force will relate to the Security Officer Force on matters of operation and program development.

8. The Resident Council will relate to the Housing Authority administration and the Security Department administration on matters of operation, tenant rights and tenant responsibilities. The Resident Council will also work closely with the Personnel Selection Board.

CHAPTER VII

SUMMARY

SUMMARY

There are no absolute answers for the development of a para-professional security system for all local housing authorities. One has to understand the nature of decision-making processes and administrative priorities in his local housing authority. In this manner, problems can be anticipated, resolved and integrated into the security system.

If this document is to be of help to anyone in developing an effective security program, the steps toward that end must be clearly defined. This process may be capsulized as follows:

1. Define security in accordance to the needs of your specific local housing community.

2. Assess the local housing authority environment

   a. What kind of organizational structure exists?

   b. How does the local housing authority relate to external agencies, groups etc.?

   c. What kinds of considerations must be taken before a security system is developed?

3. Develop career ladder system

   a. Develop a system that creates entry level positions for para-professionals.

4. Develop Security Department Organizational Structure

   a. Define general job responsibilities in terms of competence levels and supervisory responsibilities.

5. Develop job descriptions

   a. Define in detail job responsibilities and duties of specific job titles.

6. Define training needs

   a. Define specific areas that will need to be taught to each trainee.

7. Develop curricula

   a. Translate training needs into content areas for the curricula.

There are two steps which we have not touched upon:

1. Implementation of training

   a. It is suggested in the body of the curricula who might do some of the training, with what methods and according to which objectives. However, no schedule has been developed. It is suggested that this is a function of individual local housing authority circumstances. There are several factors to consider in this regard.

      1) Availability of time for trainee to spend in training. e.g., A large authority that is able to employ a large number of security personnel will be able to allow more time per person per week for training.

      2) Availability of trainers

      3) Availability of appropriate training space.

      4) The time of day that a specific subject is taught.

         a) It may not be advisable to bring trainees to a subject that is taught generally by lecture immediately after lunch.

2. Development of an evaluation system

   a. To assure continued effectiveness of the program an adequate evaluation tool must be developed. This may not have to be a tool adhering to the rigid principles of statistics. However, it must

reflect the responsiveness of the training program and work program toward meeting the stated objectives. Again, it is suggested that this system will be more complex in some local housing authorities than others according to their specific situations.

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ABSTRACT: DESIGNED FOR THE UNIVERSITY LEVEL PRACTITIONER, THIS HANDBOOK IDENTIFIES AND DISCUSSES SOME BASIC ELEMENTS NEEDED TO DEVELOP A PRESERVICE CAREER EDUCATION PROGRAM FOR EDUCATIONAL PERSONNEL. BASIC CAREER DEVELOPMENT NEEDS OF SOCIETY ARE IDENTIFIED BY ABSTRACTING SOME PRINCIPLES FROM THE WRITINGS OF FOUR MAJOR CAREER DEVELOPMENT THEORISTS. THE STATUS OF CAREER DEVELOPMENT IN THE U.S. IS DISCUSSED ALONG WITH HOW CAREER EDUCATION CAN SERVE TO MEET CAREER DEVELOPMENT NEEDS. A CAREER DEVELOPMENT PROCESS MODEL IS PRESENTED FROM WHICH ARE DERIVED A CAREER DEVELOPMENT PROGRAM MODEL AND AN INTERPERSONAL CAREER FACILITATION MODEL. SUGGESTIONS ARE ALSO OFFERED FOR THE MANAGEMENT OF UNIVERSITY LEVEL CAREER EDUCATION PROGRAMS AS WELL AS FOR AN ORGANIZED SELECTION OF APPROPRIATE PRESERVICE CAREER EDUCATION GOALS AND OBJECTIVES WITH SOME REFERENCES TO COMPREHENSIVE GUIDES TO CAREER EDUCATION INSTRUCTIONAL MATERIAL. BRIEF DESCRIPTIONS OF SIX PRESERVICE CAREER EDUCATION COURSES IMPLEMENTED AT NORTHERN ILLINOIS UNIVERSITY ARE INCLUDED WITH AN OUTLINE OF THE SUBJECT MATTER, COMPETENCIES, ACTIVITIES, EVALUATION, AND REFERENCES. SAMPLE LESSON PLANS FOLLOW EACH OUTLINE. THE COURSES ARE ENTITLED: FOUNDATIONS OF CAREER EDUCATION, CAREER DEVELOPMENT THEORY, SEMINAR ON RESEARCH IN CAREERS, TEACHING FOR CAREER DEVELOPMENT IN THE ELEMENTARY SCHOOL, CAREER EDUCATION TECHNIQUES, AND ORGANIZATION AND ADMINISTRATION OF CAREER EDUCATION. A 12-PAGE BIBLIOGRAPHY COMPLETES THE HANDBOOK. (NJ)

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A HANDBOOK FOR THE PREPARATION OF EDUCATIONAL PERSONNEL IN CAREER EDUCATION

Final Project Report
PCB-A6-015

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PREFACE

We are pleased to present this Handbook for the Preparation of Educational Personnel in Career Education. The handbook contains a set of related elements designed to assist persons in higher education who are concerned with preparing educational personnel in career education.

There is a societal and state mandate for the incorporation of career education in each of today's educational institutions, including those in higher education. It is also true that the derivation and presentation of instruction in higher education is the cherished prerogative of each professor. Accordingly, we have conceived a handbook to assist professors to meet the career development needs of our society, which at the same time respects their professional judgement in particular university settings.

The content of this handbook is based partly on our experience at Northern Illinois University, and partly on prior experience in career education.

The authors assume full responsibility for the organization and presentation of this handbook, and for the positions taken herein on various matters, but of course the work is not solely our creation. The work proceeded in collaboration with many of our colleagues at Northern Illinois University.

What finally emerged as the basic career development

model was greatly assisted in process by creative dialogue with members of the Counselor Education Division at Northern Illinois University. This faculty is currently experimenting with procedures for implementing the model. Members of this faculty are: Ronald Anderson, John Axelson, Betty Bosdell, George Holden, Harry Husa, Bruce Kremer, Edward J. McCormack, Keith McDonald, Anna Miller-Tiedeman, Robert J. Nejedlo, Cornelius Patterson, Wesley Schmidt, and David V. Tiedeman. Graduate students in Counselor Education who assisted materially were Jim Jorgensen, Linda Pool, and Linda Price.

The courses developed and taught during this one-year project involved the following members of the Colleges of Business, Education, Liberal Arts and Sciences, and Professional Studies at Northern Illinois University: Richard C. Erickson, Michael A. MacDowell, Edward J. McCormack, Anna Miller-Tiedeman, Robert J. Nejedlo, David V. Tiedeman, Walter J. Wernick and Ruth Woolschlager.

The overall preservice career education program at Northern Illinois University, which so materially affected the administrative recommendations in this handbook, was developed in collaboration with the following members of the Colleges of Business, Education, Liberal Arts and Sciences, and Professional Studies at Northern Illinois University: Bruno J. D'Alonzo, Richard C. Erickson, Keith Getschman, E. Edward Harris, James E. Heald, Betty J. Johnston, Michael A. MacDowell, Edward J.

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Our gratitude to Ms. Jan Shapiro, who served as secretary throughout the project.

DeKalb, Illinois
June 30, 1976

Edward J. McCormack
Linda J. Pool
David V. Tiedeman

CHAPTER 1

RATIONALE FOR THIS HANDBOOK

This handbook addresses the question of how to prepare educational personnel to accomplish career development in the schools. For the past few years, great effort has been put forth by school districts in the fifty states to conduct inservice training in career education. This has advanced career development in the public schools. However, the fact that most school districts have new personnel every year has naturally led to the desire for preservice training to complement inservice training. A recent national survey conducted by the American Institutes for Research clearly identified a desire for preservice preparation of educational personnel in career education.[1] States were asked to rate priorities of specific actions that might be undertaken by the federal government in support of career education. Table 1.1 summarizes the responses received.

The highest priority was given to support for the development of preservice teacher training programs. The next highest priority was to provide a unifying leadership for career education activities throughout all states. The need to support the inser-

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[1]American Institutes for Research, "Career Education in the Public Schools, 1975: A National Survey." Palo Alto, 1976. (Mimeographed).

	High		Med		Low		Should not		Total
	#	%	#	%	#	%	#	%	N
Support development of career education curriculum materials	20	54	11	30	4	11	2	5	37
Support research into job market predictors and trends	15	39	18	47	3	8	2	5	38
Support development of local school district staff	26	68	8	21	2	5	2	5	38
Support development of preservice teacher training programs	31	82	5	13	1	3	1	3	38
Provide incentives for participation by private sector	15	41	17	46	4	11	1	3	37
Provide avenues for increased communication of innovative techniques for career education	20	53	14	37	4	11	0	0	38
Provide a unifying leadership for career education activities throughout all states	30	79	4	11	3	8	1	3	38

Table 1.1

Rated Priorities of Specific Actions That Might Be Undertaken by the Federal Government

vice development of local school district staff was the third highest priority reported.

This handbook identifies and discusses some basic elements needed to create a preservice career education program on a university campus. In the aggregate, the elements mentioned constitute a sufficient number of things to permit a campus to get involved productively in career education training. Some may suggest one or more inclusions or exclusions, and that is good. We undoubtedly do need their advocacy or denial to improve our view of things, and we wish we had the benefit of it as of this writing.

This handbook is intended for university level practitioners in preservice career education. We hope that our approach will make an adequate basic statement, help university personnel implement preservice career education with relative ease in a fast-moving daily life, and leave professional personnel free to develop and enrich local curricula as their resources, interests, and opportunities permit.

In writing this handbook, we have tried to be brief, simple, direct, and clear.

We wish to be brief because we know that university personnel are extremely busy people. They are also good readers and do not require or desire elaborations beyond what is needed

to get the job done. We wish to cooperate with this reality by offering concise statements of our basic understandings and suggested procedures.

We wish to be simple because simplification of complexity effectively guides practice, when such simplicity remains true to the complexity it embodies.

We wish to speak directly to the core of what is wanted to do preservice career education and to be free of lengthy persuasions, obvious qualifications, and side issues.

We wish also to be clear so that our basic concepts and specific suggestions will be immediately obvious.

If we can be brief, simple, direct, and clear, and also make a useful statement on conditions necessary to do preservice career education on university campuses similar to ours, we shall be pleased with this first edition.

In addition to the above criteria concerning this handbook, the following comments concerning the transportability of our work are appropriate. We think all recognize, with us, that diversity in offerings, organization, and personnel will make creative work a necessity on each campus where this handbook might be read. No finished instructional pattern is transportable from any one of our associated universities to any other one for use intact. Therefore, we are not

attempting to send "the" instructional system to our associated campuses. Our effort is to help capacitate those creative individuals who may undertake the development of preservice preparation in career education on their respective campuses. Accordingly our stance is not to send a completed instructional system, but to specify and discuss elements of such a system which contributors here at Northern Illinois University believe are necessary for developing and implementing a preservice preparation program in career education.

Though we include a Resources section, it is not our purpose to redo the many fine pieces of work done and being done in many states and universities in and out of Illinois on objectives and materials in career education. Our central purpose rather, is to create a working handbook to guide the organization of existing resources, including instructional objectives and materials, into a preservice preparation program in career education.

We hope that people on other campuses will find our handbook useful as a reference in their own work of finding, creating, and arranging elements locally for the purpose of creating a preservice preparation program in career education.

Career Development Needs in Our Society

Donald E. Super

Donald Super, a professor in Counseling and Guidance at Teacher's College, Columbia University, formulated ten propositions to organize his thinking about career development. The propositions are reproduced here for ease of reference.

Super's Ten Propositions on Vocational Development

1. People differ in their abilities, interests and personalities.

2. They are qualified, by virtue of these characteristics, each for a number of occupations.

3. Each of these occupations requires a characteristic pattern of abilities, interests, and personality traits, with tolerances wide enough, however, to allow both some variety of occupations for each individual and some variety of individuals in each occupation.

4. Vocational preferences and competencies, the situations in which people live and work and hence their self-concepts, change with time and experience (although self-concepts are generally fairly stable from late adolescence until late maturity), making choice and adjustment a continuous process.

5. This process may be summed up in a series of life stages characterized as those of growth, exploration, establishment, maintenance, and decline, and these stages may in turn be subdivided into the fantasy, tentative, and realistic phases of the establishment stage.

6. The nature of the career pattern (that is, the occupational level attained and the sequence, frequency, and duration of trial and stable jobs) is determined by the individual's parental socio-economic level, mental ability, and personality characteristics, and by the opportunities to which he is exposed.

7. Development through the life stages can be guided, partly by facilitating the process of maturation of abilities and interests and partly by aiding in reality testing and in the development of the self-concept.

8. The process of vocational development is essentially that of developing and implementing a self-concept. It is a compromise process in which the self-concept is a product of the interaction of inherited aptitudes, neural and endocrine make-up, opportunity to play various roles, and evaluations of the extent to which the results of role playing meet with the approval of superiors and fellows.

9. The process of a compromise between individual and social factors, between self-concept and reality, is one of role playing, whether the role is played in fantasy, in the counseling interview, or in real life activities such as school classes, clubs, part-time work, and entry jobs.

10. Work satisfactions and life satisfactions depend upon the extent to which the individual finds adequate outlets for his abilities, interests, personality traits, and values; they depend upon his establishment in a type of work, a work situation, and a way of life in which he can play the kind of role which his growth and exploratory experiences have led him to consider congenial and appropriate.[1]

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[1]Donald E. Super, "A Theory of Vocational Development," American Psychologist 8 (1953): pp. 189-190.

Propositions one, two, and three, for the most part, affirm the necessity of taking the psychology of individual differences into account when thinking about career development.

The psychology of self-concepts is introduced in proposition four and related to developmental psychology in proposition five.

Proposition six draws attention to factors with which the psychological self interacts. Commonly, we organize these factors under "heredity and environment." Under heredity, we include things such as aptitudes, neural and endocrine makeup, and mental ability. For our purposes in this disucssion, we shall include these inherited, biological factors within the concept of self, along with psychological factors, and continue on to the environment. Under environment, factors such as parental socio-economic level, the opportunities to play various roles to which the person is exposed, flux in the socio-economic system, approval of supervisors and peers, and characteristics of occupations are mentioned. The environmental factors listed here are often collectively referred to as "the socio-economic system." Therefore, we may abstract two broad considerations from these first six propositions--self and system.

All of the other considerations in the ten propositions pertain to the integration of self and system, for the mutual

satisfaction of both self and the system. Reference is made in propositions four, six, seven, and eight to the fact that the system plays a variety of roles in shaping career. Reference is made in propositions four, five, and ten, in particular, to the fact that choice is operating in the self in shaping one's career. Finally, propositions eight, nine, and ten are especially explicit about the "compromise" between the self and the system that is and becomes a career. That is, the self meets the system in a position held by the self. And, the position to be held by the self, and the role(s) to be played by the self in the position held, are both matters of "compromise" between the self and the system or the self and society.

So the main considerations in career development are self, system, and compromise in a position/role. For complete information on Super's work, we refer the reader to the Super reference in the attached bibliography.

John L. Holland

Another popular line of thought in career development concerns the possibility of there being types of people and types of work environments. Happiness, here, is the reasonably good fit of a person with a certain personality type to a congruent work environment. John Holland, for example, postulates six personality types among people, and six corresponding types of work environments.

The types of personalities and corresponding work environments postulated by Holland are as follows: realistic, investigative, social, conventional, enterprising and artistic.[2]

The point of commonality within types is that people of the same type are thought to prefer similar types of work activities by which to meet the career needs common to all of us: income, recognition, personal growth, service, etc. If this be so then it follows that people of similar type will come together to create, and work in, environments where their preferred activities can be engaged in, and where people of similar type can associate together. This process, it is postulated, creates work environment types corresponding to the six personality types.

The drama in the line of thought, once again, is in its implications for the problem of integrating the self and system, to the satisfaction of both the self and the system. For example, one way to use John Holland's line of thought to look at self-system integration is shown in figure 2.1. The points we wish to emphasize in conceiving figure 2.1 are:

1. The self meets the system in a role setting.

2. The work setting itself, and the role(s) carried out by the self in that setting, are creations of both the self and the system.

3. The career setting and the role(s) played by the self

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[2]John L. Holland, The Psychology of Vocational Choice: A Theory of Personality Types and Environmental Models (New York: Ginn, 1966), passim.

Personal Needs	Personal Coping Preferences	Personal Role / Social Setting	Social Coping Preferences	Social Needs
Income Personal Growth Security Sense of Worth Service Belonging	Realistic	Mechanic / Repair shop	Motor Vehicle	Product Shipment Vacations Choice of Homesite Access to Markets and Work-places Recreation Emergency Services
	Enterprising	Salesperson / Salesroom	Motor Vehicle	
	Investigative	Engineer / Research Division	Motor Vehicle	
	Social	Company Rep. / Customer Complaints	Motor Vehicle	
	Conventional	Clerk / Parts House	Motor Vehicle	
	Artistic	Model Builder / Design Department	Motor Vehicle	

Figure 2.1

A Self-System Interpretation of Holland's Theory of Vocational Choice

in that setting are the result of compromises between the needs of the self and the needs of the system to the extent that the role expectations of the self and system are not exactly congruent.

The broad assumptions again are that there are six types of personality based on types of coping styles, and that there are six types of career environments created by people of these six personality types. A high integration of self and system, to the satisfaction of both, occurs when congruent matching of personality and environment is achieved.

In practice the six types are used as "ideal types," not assertions that reality fits the types precisely. Also, allowance is made for a given person displaying more than one of the dominant types of coping patterns in career. However, our purpose here is not to explicate the theory elaborately, but simply to show that it is concerned with self and system, and self-system integration. For further information on the theory we refer the reader to the Holland references in the attached bibliography.

David V. Tiedeman and Robert P. O'Hara

A third line of thought about career development, developed by Tiedeman and O'Hara, draws on systems thinking and social-psychological concepts concerning ego-identity formation.[3]

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[3]David V. Tiedeman and Robert P. O'Hara, Career Development: Choice and Adjustment (Princeton: College Entrance Examination Board, 1963), passim.

Ego identities are thought to evolve from psycho-social (or self-system) interactions. Career development, or the formation of one's career identity, occurs in those psycho-social interactions that are experienced in one's vocational life.

Two complementary psycho-social processes are thought to contribute heavily to ego-identity formation--differentiation and integration. These concepts are related to systems thinking and can be briefly conceptualized as follows.

1. A system may be conceived of as two or more parts constituting a whole, by virtue of some functional relationship between those parts.

2. The parts of a system may be in a state of dynamic equilibrium one with another. This may be referred to as an "integrated" state.

3. Should the parts of the system lose their state of dynamic equilibrium and enter into a more "fluid" state; i. e., when, for the present, the parts are no longer standing in functional relationships one to another, the system may be referred to as "differentiated."

4. If persons are seen as parts of a social system with their functional relationships one to another defined by positions and roles, then it can be said that as career roles change people are simultaneously differentiating and integrating, depending on which system involved you have reference to. For example, the typical public school student is differentiated from the high

school social system at the end of the twelfth public school year and is integrated into some other social system. The drop-out may be viewed as prematurely differentiated from high school and possibly as not well integrated with a post high school system as a result. As such differentiations and integrations occur, the career-related ego-identity is formed, which is the essence of career development for Tiedeman and O'Hara. Once again we see that the universe of discourse revolves around the timeless question of self-system integration. How can the self and system be integrated to the satisfaction of both?

The complete line of thought details the decision-making processes that are thought to accompany social differentiation and integration, but that line is beyond the purpose of this discussion. For these elaborations we refer the reader to the Tiedeman and O'Hara references in the attached bibliography.

The brief synopses of only three lines of thinking about career development are included here to introduce "the need for career education" at its most fundamental level.

Having abstracted the elements of self, system, and integration of the two from the career development thinking of Super, Holland, Tiedeman and O'Hara and their associates, we see that they are engaged in a dialogue revolving around one basic question. How can we integrate self and system to the satisfaction of both?

Precisely speaking then, we do not "need" career education.

What we need, like all societies, is a harmonious and fertile integration of self and system. Career education is part of this society's attempt to meet its need for self-system integration.

The Career Development Scene in America

Having identified the basic career development problem all societies have in common, it remains to ask, "How is this country doing in self-system integration? Is our need for such integration being adequately met, or not?" We attempt a concise answer to these assessment questions by including some recent commentary by informed observers.

Robert L. Darcy and Phillip E. Powell

> Technological advance and automation provide a dramatic illustration of what is happening to jobs in a changing economy. It is estimated that every year some 2 million jobs are affected by technological change. During the 1970's, more than 20 million jobs will be either altered or eliminated by technology.[4]
>
> The fact is that not even a panel of vocational education experts set up by the President of the United States a few years ago could determine what skill training people should have so they could be usefully employed 10 years hence. The nation has reached a point in its economic life where it is not possible to tell whether a given form of training will be adequate for a man or a woman as much as 10 years in the future.[5]
>
> Young people entering the manpower market in the 1970's can expect to have 6 or more different jobs during their productive lifetimes.[6]

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[4]Robert L. Darcy and Phillip E. Powell, Manpower and Economic Education (Denver: Love Publishing Co., 1973), p. 206.

[5]ibid., p. 322.

[6]ibid., p. 327.

The National Advisory Council for Career Education

The following are excerpts from the first formal report of the National Advisory Council for Career Education.

Public Attitudes and Career Education

Gallup Polls and National Institute of Education (NIE) surveys have repeatedly demonstrated that Americans value education primarily as preparation for work, better jobs and economic success. A 1972 Gallup Poll, for example, concluded that Americans are practical people 'who firmly believe that education is the royal road to success in life.' When asked why they wanted their children to get an education, 44 percent replied 'to get better jobs;' 38 percent answered 'to make more money, achieve financial success.' A 1973 Gallup Poll asked 'Should Public Schools give more emphasis to a study of trades, professions, and businesses to help students decide on their careers?' The responses were:

Yes, more emphasis	90%
No	7%
No opinion	3%

A 1973 study for the NIE found 'a strong and consistent preference for job skills above all other outcomes' of a high school education. Virtually all subgroups of the population agreed on the primary importance of job skills. What makes this evidence even more compelling is that these polls were taken before the decline in the economy became most apparent. A recent Department of Labor study indicated that of 55,000 students graduating with Bachelor's degrees in psychology next spring, only 4,500 will find jobs related to their field. The uncertainty of the economy and the worsened employment picture suggest that such factors will increase public support for career education.[7]

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[7]National Advisory Council for Career Education, Interim Report with Recommendations for Legislation (Washington, D. C.: Government Printing Office, 1975), p. 20-21.

Conditions Calling for Educational Reform

The criticism currently leveled against American education for failing to prepare students for the world of work are identified in the Office of Education policy statement on career education.

1. Too many persons leaving our educational system are deficient in the basic academic skills required for adaptability in today's rapidly changing society.

2. Too many students fail to see meaningful relationships between what they are being asked to learn in school and what they will do when they leave the educational system. This is true of both those who remain to graduate and those who drop out of the educational system.

3. American education, as currently structured, best meets the educational needs of that minority of persons who will someday become college graduates. It fails to place equal emphasis on meeting the educational needs of that vast majority of students who will never be college graduates.

4. American education has not kept pace with the rapidity of change in the postindustrial occupational society. As a result, when worker qualifications are compared with job requirements, we find overeducated and undereducated workers present in large numbers. Both the boredom of the overeducated worker and the frustration of the undereducated worker have contributed to growing worker alienation in the total occupational society.

5. Too many persons leave our educational system at both the secondary and collegiate levels unequipped with the vocational skills, the self-understanding and career decisionmaking skills, or the work attitudes that are essential for making a successful transition from school to work.

6. The growing need for and presence of women in the work force has not been reflected adequately in either the educational or the career options typically pictured for girls enrolled in our educational system.

7. The growing needs for continuing and recurrent education of adults are not being met adequately by our current systems of public education.

8. Insufficient attention has been given to learning opportunities which exist outside the structure of formal education and are increasingly needed by both young and adults in our society.

9. The general public, including parents and the business-industry-labor community, has not been given an adequate role in formulation of educational policy.

10. American education, as currently structured, does not adequately meet the needs of minority or economically disadvantaged persons in our society.

11. Post high school education has given insufficient emphasis to occupational educational programs in harmony with academic programs.

Each of these criticisms centers on the relationship between education and future employment opportunities of individuals.[8]

The National Advisory Council on Vocational Education

The following are excerpts from the national policy on career education which was adopted in September 1974 by the National Advisory Council on Vocational Education.

A National Policy on Career Education

Three years ago, the Commissioner of Education made a courageous appeal for a new sense of purpose in American education. He proposed that we reorder our whole education effort around the new concept which he chose to call 'career education.'

His call triggered a quiet revolution in American education. The Commissioner said:

> Education's most serious failing is its self-induced voluntary fragmentation. The strong tendency of education's several parts to separate from one another, to divide the enterprise against itself....
>
> I propose that the universal goal of American education, starting now, be this: that every young person completing our school program at grade twelve be ready to enter higher education or to enter useful or rewarding employment....

This appeal has been widely misconstrued by educational policy makers, and thus its far-reaching nature has been misunderstood. 'Career education' is NOT simply a new name for what we now call 'vocational education.' The Commissioner was

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[8] ibid., pp. 17-19.

not saying that our concept of vocational education should be somewhat enlarged and the enlarged concept called 'career education.' Nor was he saying that new programs in something called 'career education' should be developed at the cost of vocational education.

He was saying something much different and much more fundamental. He was saying that the old distinctions which have crippled our educational effort should be forever laid aside and a new unity of purpose be expressed by a new universal term: 'career education.'

Right now we have a bewildering variety of designations within the educational system, but the principle ones are these:

College preparatory education
Vocational education
General education

These terms have come to suggest choices which need not be made, distinctions which have no meaning, divisions of what is really indivisible, and conflicts where none need exist.

Our thought and our practice about education should at last be integrated. The result of this integration should be called 'career education.' It would come about when American education emphasizes preparation for work as a prominent and permanent objective of the public schools. We are not appealing for 'separate but equal' attention to vocational education in the overall system. We are insisting, rather, that career education is a UNIVERSAL necessity, and requires the integration of ALL our educational resources. Moreover, the concept has been extended to include unpaid work as well as the world of paid employment. The concept has swept the country. There is hardly a state in the nation that is not experimenting with some form of career education. The Commissioner simply verbalized a nearly universal conviction: that American education has drifted away from any sensible intention, and needs--desparately--to be brought back on course. He provided a vital point of focus, and gave a thwarted movement a sense of direction and legitimacy. The consequences--by any measure--have been enormous. But not nearly enough.

There is still a deepening public discontent. Antagonism to the educational establishment is becoming epidemic.

Late last year, the Harris Organization released some updated measures of the people's confidence in the leadership of American institutions. The results were hair-raising. As recently as 1966, sixty-one percent of the people expressed 'a great deal of confidence' in education's leadership. Since then, that figure has fallen to an alarming thirty-three percent, and it is still falling.

The reasons for this headlong erosion of confidence seem

clear enough on the surface. People want something from the educational establishment that it is not now delivering. The message is unmistakable. If education is to regain the confidence of the people, it must produce results that make sense to people.

We believe that the public wants two things: one very consciously, the other more subconsciously. The public's conscious demand is a demand that education be made relevant to the world of work. What vocational educators have known for years--that America is miseducating a good number of its young people--has, at last, become an article of the conventional wisdom. But the public's subconscious demand is another matter altogether. It is a demand that education be made more relevant to the achievement of the good life.

Today, most people are aspiring to examine and experience a range of life's possibilities that has been an option to no more than a tiny handful. We have educated large numbers of people in the liberal arts, but the practical arts and the fine arts have been reserved for a few. That must now change. The education of isolated, specialized elites is a thing of the past. A new mass aristocracy is demanding preparation for participation in the larger human experience, and educators must provide it. The need, clearly, is for the prompt integration of our fractured system of education around the concept of career education. And the people know it.

Encouraged only by official rhetoric and some largely symbolic Federal action, local communities are responding to the obvious need for reform with remarkable imagination and determination. The grass roots activities in this area have overwhelmed educational policymakers at the state and federal levels as no other movement in the history of American education. They are doing it largely with vocational education money, but unfortunately, too often at the cost of vocational education's own needs.

In the last three years close to a third of all school districts in America have initiated career educational efforts. Over thirty-five state departments of education have appointed career education coordinators. At least twenty state boards of education have passed resolutions supporting career education.

Clearly, the career education movement has powerful momentum. But it has been, so far, largely a state and local movement. It has the support of a dramatically inclusive cross-section of the country: business and labor, rich and poor, black and white, urban and rural. The opposition is coming, predictably from a few educational elites. But their response is largely hysterical, and based on an irrational fear that the demand is to fire the philo-

> sophers and expand the machine shops. Other critics refuse to recognize that the diversity of definitions about career education is, in fact, a positive force that encourages a variety of responses, reflecting more accurately local needs.
>
> Still other barriers need to be overcome. Most activities in career education to date have taken place at the elementary school. Little has happened at the high school or community college or university level.
>
> What we most need now is ACTION. We have an unmistakable sense of direction. We now need a united, cohesive effort to make career education, in which all the arts of education are integrated, a universal reality, and we need it now.
>
> Frankly, we are getting tired of the endless talk of change. We are tired of all the studies that simply restate the need for change. We are getting tired of exhortations to change. We must stop talking about change and start changing. We must come to understand the processes which permit us to resist the kind of changes we know are absolutely essential. We must somehow repeal irrelevance in American education.[9]

This brief assessment of our situation, by social statistics and commentary, reveals that our country has partially succeeded in integrating its members into the whole in socially and personally satisfying ways. What remains is to expand the great integrative success story of this country to include the many other individuals yet to find socially and personally rewarding positions and roles to play in our society. This is one of our great needs in America in 1976.

Career Education: A Partial Solution

Career education is one sector's attempt to address the need in our social system for congenial self-society integration.

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[9]National Advisory Council on Vocational Education, A National Policy in Career Education (Washington, D. C.: Government Printing Office, 1974), pp. 1-4 and p. 8.

Broadly conceived, the thrust of career education is to increase the power of individuals to live their own lives; i. e., to develop their decision-making powers, to increase their life-skills, and to facilitate the implementation of their career decisions.

Decision Making

Many people have observed that a person will decide to treat a thing the way (s)he defines it. In the case of career decision making, this means that a person will base his or her decision about a career alternative on his or her own definition of that alternative.

Before we can define any alternative so that we'll know how we want to treat it, we must develop a model of the ideal alternative. Let us pursue the example of the decision made in a house purchase. One meets with a real estate salesperson and is shown, let's say, five alternative houses. What does one do? The astute buyer has a model in mind. How so? He or she has gathered together the salient features of a "good" house. These are commonly understood to be sound construction, beauty, economy, convenient location, and the like. Also, some personal criteria have usually been added to the commonly held criteria to create a personal model of a "good" house. The buyer operates <u>from</u> the model <u>to</u> the alternative, comparing each alternative to the model while also allowing the alternatives to suggest new criteria for the model. Those alternatives that satisfy the

model are defined as "good," and treated that way, i. e., considered for purchase. Those alternatives that do not fit the model are defined as "bad" and are treated that way, i. e., they are rejected. When a given alternative satisfies most of the salient criteria of the model, and no other obvious contradictions appear, that home is purchased.

The buyer has two main problems. First she or he must identify the criteria of a "good" house so as to be able to build a model of one. Second, the buyer must get enough accurate information about a given alternative house to be able to tell whether it satisfies the criteria in the model or not. Until the buyer can accurately define the alternative by comparing it to an ideal, she or he doesn't really know what decision to make about it.

The above paradigm holds true in career decision-making, and it helps to clarify the task of the educator interested in career development. A career decision may be defined as a decision by an individual about alternative ways of integrating him or herself with the system. Again, the person must define a career alternative before he or she knows what to decide about it. And, the person must have a model to use to define the alternative(s). If each career alternative is actually some alternative integration of self and society, then two kinds of models are needed to evaluate each career alternative, models of self and models of the system. Models of the self are built from self-concepts; i. e., a model of self is a collection of concepts about one's

physical attributes, mental attributes, social attributes, and philosophical-spiritual attributes. Similarly, a model of the system is a collection of concepts about various subsystems of society, such as: the economic system, the political system, the educational system, the military system, the business and industry system, the employment system, the ecclesiastical system, the entertainment system, the transportation system, and others.

The task of the career decision-maker is two fold. First, the person must learn enough about his or her own self, and the system, to identify the criteria for a "good" career alternative for him or her to elect.

Second, he or she must get enough accurate information about a given career alternative to be able to tell whether or not it actually satisfies the criteria for a "good" career alternative.

When a decision must be made, the person will assemble whatever knowledge he or she possesses of the self and the system and develop correct or incorrect criteria for a "good" career choice. The person will use these criteria to define the available self-system integration alternatives by comparing each alternative to the criteria. Finally the person will decide about each alternative according to his or her definition of it.

A moment's reflection will bring most of us to the conclusion, we think, that very many of our citizens, at all ages, are not adequately prepared to make such informed decisions. In

fact, professional career counselors frequently meet people who are not even conscious of having this model-building and decision-making ability and who regard themselves as mere "pawns of fate," as it were. They are waiting for someone to fit them in rather than doing their part of the creative work required to integrate their selves with the system to the great satisfaction of self and system. Such participation is one of the great liberties of the self in America. And herein lies the task of career education.

Suppose one were to start on the first of the month to build a personal model of a "good" home so that a home could be purchased within the month. Many people probably would not have the capability to build and use the model within that time limit. As simple a model as that is, it takes time to build it. And it takes more time to become skilled in using it. Many people benefit by paying an appraisor to help in the process because time is short or because they themselves may forget (or not know) some of the criteria to be included. They use such models infrequently, and they may not be sufficiently skilled in getting accurate information about particular houses offered for sale to know if they satisfy the criteria of the model or not. Or they simply may not care to personally invest themselves in the model building process in a thorough enough way.

Imagine then, the compounded problem and the relative futility in trying to build and use models of self and society,

which are more complex than models of self and housing, when one is about to graduate from school or one is suddenly out of work from some turnabout in the economic system!

Very few people, even with experienced professional assistance, have the time, money, or determination to undertake such a task in a matter of months only. Such persons as do succeed at it in a short time are, in our opinion, already expereinced, well informed, and articulate. Their models of self and society are already well developed, and their previously developed models serve as the basis for further clarification and specification at times of career crisis.

Model building takes time. The process of identifying, and understanding, and selecting possible criteria to include for the purpose of self-system integration decisions must go on over quite a long period of time to be done well. Actually, functional models of self and functional models of the social system are developed over a number of years. Elements are gradually abstracted from the total reality and organized in the mind, are tested for experienced validity and reliability, and are continuously rearranged in a series of mental reconstructions of reality. All of this process naturally takes time. Therefore one broad function of career education is to facilitate, over a span of years, the model building faculties of the student's mind in regard to his or her self and the system by: (1) helping the student become conscious of his or her internal decision-making

faculties, (2) providing accurate and extensive knowledge of his or her self and of the social system for use in personal model building, and (3) giving experience in the use of models for decision-making.

A social studies example of how this can be done is as follows:

We are all familiar with the social studies assignment which requires the student to research one or more of the United States and to report on its natural resources, agriculture, economic base, population, transportation, government, etc. We know that such assignments do achieve a level of learning. Consider the possibility of teaching model building and decision making in that same assignment. Suppose that we have students work in teams. Each team is to imagine itself the board of directors of a large woolen mill which is to be moved from Lynn, Massachusetts, let us say, to some other city and state because of current labor and cost problems in Lynn. The team may select three cities from a list of possible locations provided by the teacher. The team will research those three cities and states in terms of their respective suitability as a location for this hypothetical plant. The teacher will provide data on the hypothetical plant so that the students will understand the requirements of such a facility. This will form the basis for the development of the criteria to be satisfied by an ideal location. Researching particular locations may suggest other criteria to be

satisfied. The students will research the three selected locations and recommend one of the three to locate the plant in. The team report will contain a description of the preferred location and a point-by-point justification for the decision. The two locations not selected will also be mentioned in the report, citing the advantages that did exist at these locations, and also the limitations of each that resulted in their being rejected. In order to complete such a report, it will be necessary for the student to do much of the usual research, including writing to state and city governments concerning tax structures, work force, transportation, and the like. They will also be under the necessity of building a model of an ideal location, and they will have to compare at least three alternatives to their model and make a decision. The thinking skills developed in such a process will have transfer value to career decision-making, especially if the instructor calls explicit attention to the thought processes involved and to their usefulness in personal life decision-making. University professors may illustrate vividly the differences in the two assignments compared above by having prospective educators actually do the two assignments themselves as part of a university course, to experience the two different mental patterns involved in carrying them out.

Life Skills

A second task for career education is the continued development of all the "life-skills" needed by persons to implement

their career decisions. This dimension concerns all of the coping skills developed in persons in addition to the cultivation of their decision-making abilities. We include the "three R's," public speaking, vocational skills, human relations skills, study skills, skills for obtaining favorable career placements, self-assessment and planning skills, and anything else that capacitates personally effective living. Life-skill development goes on concurrently in the school with the increase in awareness of self and system needed for effective model-building and decision-making, and with explicit training in the model building and decision-making processes themselves.

Placement and Follow-up

A third function of career education is to facilitate the implementation of the student's decision. This area of student services represents primarily the placement and follow-up functions of a school. Placement functions include information concerning location of educational and/or employment opportunities and assistance in making the transition from school to the world of work or to other subsystems in society. Any work done with the individual in terms of resumes, interviews, locating of available positions, career-related counseling, and the like as well as work done with the larger community on such things as school-to-school or school-to-work linkages are all included in placement work. Follow-up includes all activities designed to

determine how effective the career development process and the placement service have been for a given person in a given social system. Results of such follow-up studies can become the major source of feedback to a given system for continual renewal of the system in terms of its results, i. e., current satisfaction of graduates and the system with the preparation given those graduates.

Chapter Summary

A diagram summarizing this discussion is presented in figure 2.2. The K-12 time line on the left represents the public school years of model building via expanding awareness going on concurrently with the development of life-skills, including decision-making skills. This diagram can be readily adapted to apply to higher education by changing the developmental time line from K-12 to K-X. The +1 extension of a time line represents the placement and follow-up activity of a school in reference to its most recent graduates. The data feedback loops represent the management information being fed back to the school by effective follow-up studies.

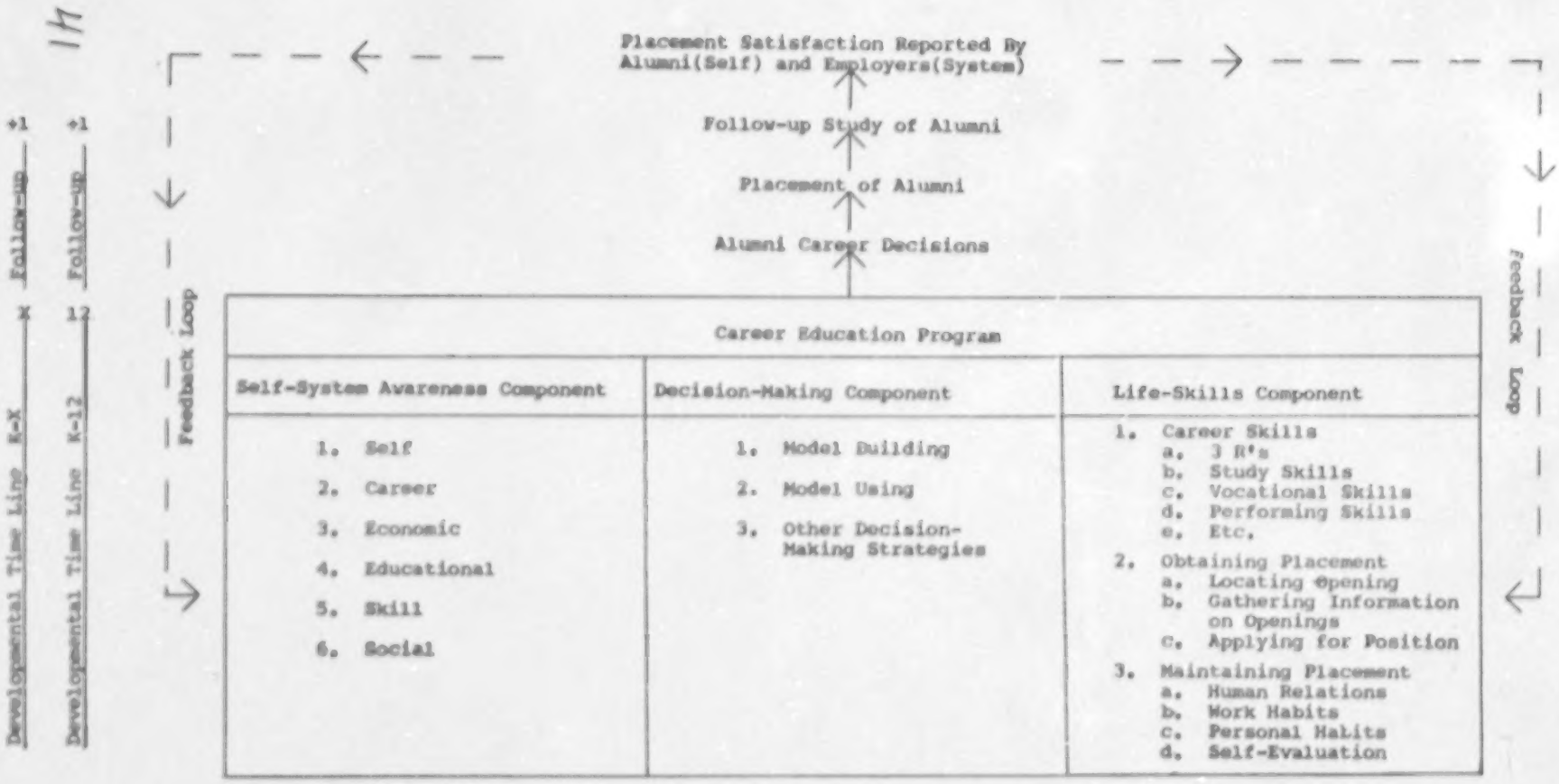

Figure 2.2

A K-Adult Career Education Program Model

CHAPTER 3

A MODEL FOR THE PREPARATION OF EDUCATIONAL PERSONNEL IN CAREER EDUCATION

Definition of "Career"

The first necessary conceptual element for doing preservice career education is a working definition of "career." Throughout this handbook, we understand career as having a subjective dimension and an objective dimension. The outer or objective career is that series of positions held and roles played in the social system. The inner or subjective career is that series of life purposes and definitions of self and system which are developed and acted on during one's objective career. These two conceptions we incorporate in the one word "career." More briefly, career refers to the union of one's subjective and objective experience in self-system interaction.

Model of Career Development

The second conceptual element necessary to a preservice program in career education is for the persons involved to make a decision as to how they think careers develop in people and to specify the procedural implications of such a concept. This model, along with the definition of career, will be the basis for

all that is subsequently done to capacitate career education practice in preservice personnel.

We recommend the adoption of a career development model which reflects the phenomenon of self-system integration introduced in chapter 2 of this handbook. One such model is presented in figure 3.1. A brief commentary on the career development model suggested in figure 3.1 is as follows:

Environment

The environment consists of all persons and situations, structured or unstructured, planned or unplanned, with which the learner interacts to formulate and implement life career goals and objectives. Obviously, educational personnel, with their planned and structured environments, are only part of the total environment of the learner. The environment inlcudes the total bio-physical and socio-economic system of which the learner is part.

Personal Career Goals and Objectives

Personal career goals and objectives are formulated as the learner interacts with the environment. All environments in this regard are "educational." But the learner and society also participate together in structuring environments for the learner to interact with, in the belief that such structured interaction will result in socially and personally significant learnings.

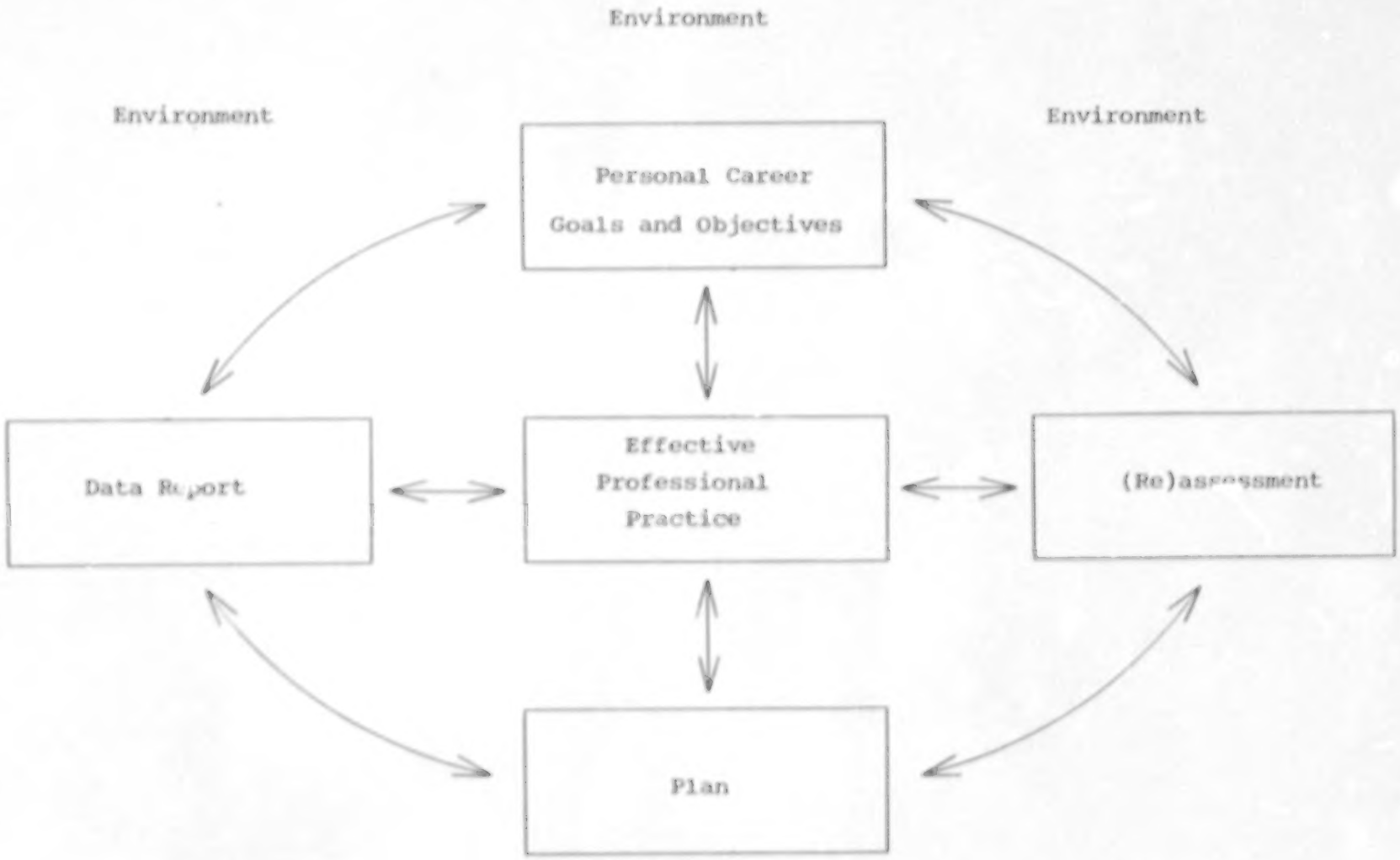

Figure 3.1

A Basic Career Development Process Model

Career goals and objectives are arrived at in this self-system negotiation.

(Re)assessment

While remembering his or her interests, abilities, present personality, and needs, the learner assesses his or her position in terms of social system expectations and personally formulated career goals and objectives.

Plan

The learner initiates a search for ways to move from his or her present position to the desired position indicated by a personal career goal or objective and specifies and schedules steps to be taken to achieve that movement.

Effective Professional Practice

The student implements the planned steps. The student learns to sometimes act while knowledge is incomplete and to exercise the necessary attention to consequences in action that may signal the need to adjust the plan in process. Effective career action is the central concern reflected in the model. Everything in the model is to be understood in terms of the capacitation of effective action toward and in a career.

Data Report

The student reports to self and system concerning the out-

comes of actions taken in the environment to promote personal career goals and objectives, then moves into reassessment in view of goals and this report.

An Interpersonal Career Facilitation Model

Inherent in the basic career development process model shown in figure 3.1 are the elements for an interpersonal career facilitation model which further clarifies the self-system nature of career development. This model for interpersonal career facilitation is shown in figure 3.2. It is followed by commentary on the role of the student (facilitated person), the role of the faculty member (facilitating person), and the assumptions underlying the model.

Role of the Student

1. The student maintains a high degree of self-direction in his or her career by:
   a. selecting personal career goals and personal program objectives consistent with professional guidelines for students in preparation
   b. proposing some appropriate learning experiences and carrying them out
   c. taking an active role in creating curriculum content and other educational environments to interact with, in order to experience personally selected learnings

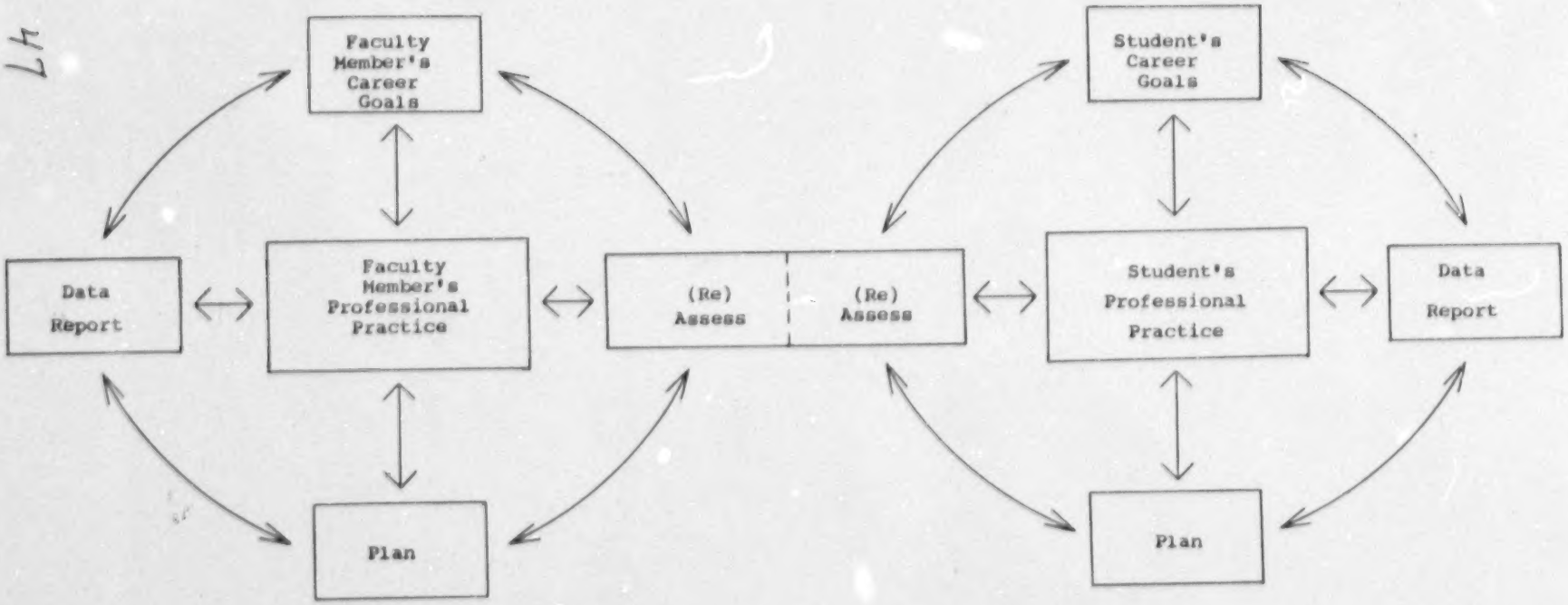

Figure 3.2

An Interpersonal
Career Facilitation Model

2. The student meets regularly, by appointment, with his or her faculty member to review program expectations and personal career goals and to (re)assess the relationship between the two.
3. In addition to scheduled meetings, the student initiates to the faculty member whenever additional helps are needed and mutual convenience can be arranged.

Role of the Faculty Member

1. The faculty member acts as a helping person throughout the learning process, playing supportive and clarifying roles to enhance the student's control over his or her learning.
   a. the faculty member orients the student to the norms and expectations of the profession in general, and of the program being pursued in particular
   b. the faculty member welcomes and facilitates the decision-making participation of the student in personal program planning and review
   c. the faculty member prepares him or herself to be perceived as a source of help to students seeking clarification of personal and social career goals and means to implement those goals
   d. the faculty member prepares him or herself to provide direct career assistance to students
2. The faculty member meets regualrly, by appointment with the student, to assist the student's review of program expectations

and personal career goals, and the student's (re)assessment of the relationship between the two.

3. In addition to scheduled meetings, the faculty member initiates to the student whenever additional helps can be offered and mutual convenience can be arranged.

The (Re)assessment Meeting

The student and faculty member act in mutually supporting ways, in all circumstances, to enhance the career development of each other, i. e., to promote positive definitions of self, and personally and socially satisfying achievements of self in system.

The faculty person and student may be involved with each other at many times and places in their respective cycles, and usually are, but it is in this scheduled (re)assessment meeting, especially, where the self meets the system (in the form of another individual playing a key reciprocal role in the system) for the purposes of deliberate and considered career decision making which takes into account the expectations of both self and system.

During this meeting, the data from previous action is reviewed, goals are clarified, orientation to the immediate social system is enhanced, plans are refined, and support for action in pursuit of personal goals is sought and offered. The meeting provides the student with the continuous orientation of self to system and system to self which is so favorable to a satisfactory and continuous integration of self with the immediate

system. Also, the university person has opportunity to facilitate the career of the prospective educator by assessing and teaching the personal skills involved in the individual career development process.

The frequency of such meetings varies with the situation, but probably should not be held any less frequently than every thirty days.

Some Assumptions of the Interpersonal Career Facilitation Model

1. Career development as it occurs in the individual is the product of the interaction of the self with environments, including society.

2. The self has legitimate needs which must be met in the career development of the individual.

3. Society has legitimate needs which must be met in the career development of the individual.

4. The responsibility for, and control of, the career development of the individual, is shared by the self and society.

5. The self and society must participate together in creating the environments the self will interact with to experience career development. There must be a positive collaboration between inner and outer career guidance. There must be a personally and socially acceptable merger, within the student, of social career goals and objectives ("The student will...") with personal career goals and objectives ("I will...").

6. Establishment of personal career goals and objectives enables the student to design his or her own life. This is possible because personal career goals and career objectives tell where he or she is now, give guidance to where he or she might be going, suggest where to search for means to reach the personally selected objectives, and give knowledge of when he or she arrives.

7. Programs of study may be unique and personally satisfying and may satisfy professional standards at the same time.

8. One's own career ("definition of self" and "self acting in system") is the core of the curriculum in education.

9. Career guidance, within and without, is to develop a consciousness of personal decision-making power, clarify activity that will fulfill personal decisions made, facilitate personally chosen action, and provide for on-going supportive (re)assessment of life goals, plans, and action.

10. The structure of career development consists of those environments created by the self and society for the individual to interact with in order to experience learning. The process of career development is the assessment, planning, acting on plan, reviewing of plan and action, and (re)assessment cycle that goes on within the person as he or she interacts with learning environments in terms of personal and social career goals and objectives.

11. "The structure of education" is the same as "the structure of career development."

12. "The process of education" is the same as "the process of career development."

13. Persons prefer and need on-going involvement of society with them in the career development process, rather than occasional or periodic monitoring by society only.

14. The essence of career development is an ever-increasing quantity and quality of effective action, along a line of endeavor chosen by the individual in self-system negotiation, resulting in self-system satisfaction.

15. A primary role of the educator is to facilitate the student's career development, as defined in assumption fourteen.

16. There is an implied responsibility of the faculty member to allow the student to experience both roles in the model. That is, the student should have opportunity, under supervision, to facilitate the career development of another person in order to become familiar with how the career development processes represented by the model occur in other people. In this way, the prospective educator will learn a model of career development, will experience being facilitated in his or her own career activity according to that model, and will experience facilitating the career development activity of others according to the model. With such a process background, the prospective educator will be better prepared to make use of the career education content material to be received in training.

17. The basic career development model assumes that the

career of a faculty member develops according to the same processes as the career of a student. Therefore, the university person can model the career development processes in the model for the preservice educator. This would involve both physically visible use of procedures indicated by the model in classroom management and personal life, and the sharing of subjective experience related to use of the model with students. One might also obtain the assistance of students with some steps in the personal process, in order to let the process be more visible to them. Specifically, the personal practices that might be modelled by the faculty for the benefit of students are:

a. model building,

b. decision making by the use of models,

c. goal setting, taking into account self and system,

d. assessment of personal situation in reference to goals set,

e. planning deliberate interaction with the system to achieve selected goals,

f. conscious acting on plan(s), by deliberate interaction with the bio-physical and/or socio-economic system to achieve selected goals,

g. reporting data to self and significant others concerning the results of action taken toward self-selected goals,

h. (re)assessment of personal situation in reference to goals, taking into account stability and/or change in self and the system since the last assessment, plan, or action taken.

A Basic Career Development Program Model

In recent years, curriculum developers have given much attention to career development in the public schools. A general concensus on the developmental nature of career in the person has emerged and has influenced curriculum models. The Illinois career education model, for example, is generally representative of the concensus. (See figure 3.3.) It acts as a guide to the overall conduct of career education in Illinois by summarizing program objectives for the different levels of the instructional systems in Illinois.

Reffering to the Illinois model, career education is recognized as a K-Adult process, and the university represents some of the options in the developmental levels beyond K-12. In contrast to K-12, comparatively little has been done, nation-wide, to formulate career education programming for the university, where we hope to accomplish preservice preparation of personnel in career education. This section, therefore, is a discussion of the implications of the proposed basic career development process model (figure 3.1) for thinking about career development at the university level.

The Process Model

The basic career development process model (figure 3.1) has been discussed earlier in this chapter. We discussed this

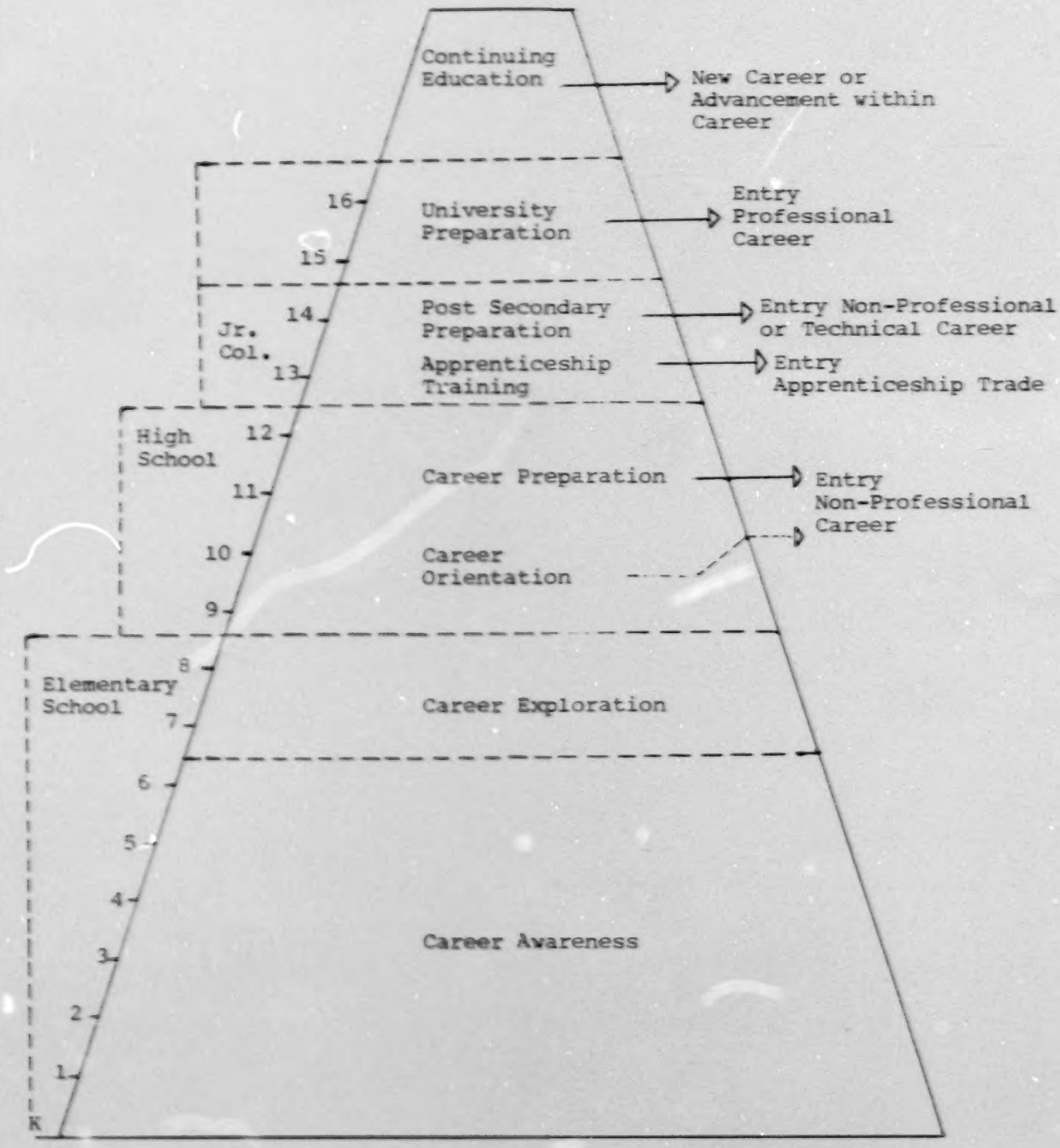

Figure 3.3

Career Education ILLINOIS MODEL

model at some length and discussed the interpersonal career facilitation that can occur by a joint faculty member-student use of the model in supervision (figure 3.2.)

What we wish to emphasize here is that the basic career development process model (figure 3.1) is a model for increasing powers of professional practice in career. The cyclical nature of the model suggests an ever-increasing power to act effectively in the area of one's professional practice and an ever-increasing capacity to give self-direction to one's own practice.

The general program goal at the university level then is the development of sustained, effective professional practice toward self-chosen and professionally valuable ends. The central career development role of university professors then is to facilitate effective (productive) action in their students. Their students should show an increasing power to make a difference when they act whether they act in research, administration, writing, counseling, teaching, curriculum development, or whatever their specialization(s). Individual career development in the university can be construed as movement toward professional commitment, expressed in productive professional activity. The university is a time period of increasing specialization in the career development process, a time of trading off many possibilities for progress in a few things, a time of increasing commitment to effective action along definite lines.

The Program Model

There is a basic career development program model implicit in the basic career development process model (figure 3.1.) The program implication is that since increasingly effective professional activity is synonomous with career development, then the career development program in which the person is involved must provide ever increasing opportunity for action along the lines of one's specialization. The program model implied by the basic career development process model is shown in figure 3.4.

The basic career development <u>process</u> model, with its attention to expanding practice by the individual, can only make sense in a career development <u>program</u> model which allows expanding opportunity for practice. Of course, increasing opportunities for practice means more projects, laboratories, workshops, action research, practice, internships, co-op placement, volunteer work, and the like. The exact mix of content and preprofessional practice in a given program is a matter of professional judgement, but a pattern of movement through ever-widening opportunities for preprofessional practice during the program is essential to career development at the university, as we understand it. This matter of professional practice at the university is perhaps the higher level analogue to the "hands on" injunction that obtains in the K-12 years.

It is important, we think, to comment that this program model is not a "career" model as some construe "career;" i. e.,

ENTRY	Career Development Program	EXIT	Employment
E N T R Y	Practice to Inform Practice Preprofessional Practice Content Mastery Study To Inform Practice	E X I T	Informed Professional Practice

Figure 3.4

A Basic Career Development Program Model

it is not concerned with vocational or technical programs only, as opposed to those in the social sciences or humanities. We see this as a generic model, pertaining to all fields of inquiry and activity. What we are advocating is effective practice in one's chosen line of endeavor. And, we are advocating the appropriate balance of content and practice to inform that practice. We are concerned with professional practice as much for the humanities as for the technical-scientific fields. We think it is correct to speak of "doing" philosophy and "doing" history. We think that the essence of being a playwright, poet(ess), or composer is professional practice, i. e., to write. We tend to be with those who observe the remarkable quantity of work produced by some of the effective producers of quality, and we value the quantity along with the quality. We call all of this "effective practice."

Conversely, we are concerned with content to inform practice as much for the technical-vocational fields as for the humanities-social sciences. We are not interested in sheer practice. We advocate informed practice. This line of thought does lack detail as far as describing specific fields of inquiry and practice is concerned, but the basic point is substantial, we think. We see no distinctions among fields in terms of professional practice being the desirable thing or in terms of the need for both content and preprofessional practice to inform the development of professional practice. We regret the problem with the word "career" which is created by the practice of many to denote

only vocational-technical programs as "career programs." We ask our readers to recognize our comprehensive definition of "career," pertaining to effective practice in any line of endeavor, in order to entertain our basic models for career development.

Parenthetically, this ambiguity problem illustrates that holding two or more meanings for the same word, such as "career," is a necessary part of effective professional practice for professors in preservice career education: i. e., (1) a "career program" is a vocational-technical skill preparation program, and (2) a "career program" is any program designed to enhance professional practice of any kind.

Our basic career development program model pertains to any degree or certificate-granting program. We hold that the granting of a degree or certificate to a person should be a warrant to that person and society that that person is in possession, at least, of the common understandings and professional competencies normally expected of someone with that degree or certificate. The precedent has been set in this country to sue institutions which grant degrees or certificates in the absence of these understandings and competencies. A new and overdue accountability has arrived in education. In addition to its intrinsic educational and social merits, we think that perceiving the goal of a career education program as that of capacitating effective professional practice by informing it with appropriate content and practice opportunities is also "politically" sound practice today.

The criteria for success in education should be in the form of effective practice, as evidenced by productivity in a chosen direction, with content mastery alone to be construed as only part of the preparation to act effectively, and not as effective practice by itself.

Levels of Instruction

If a career development program is such in terms of its power to inform professional practice with content and opportunity for appropriate practice, then any concept of levels of instruction must be developed in terms of levels of content and levels of opportunity for practice, for the development of specified levels of professional competence.

Using a sequence of three degrees in an imaginary field of study to illustrate, the consistent thing to do with our basic career development program model is to regard each level as a program in itself, since each is a terminal degree and functions "independently" in that respect. This can be portrayed by "stacking" the programs by levels, as in figure 3.5. The following commentary refers to program levels as portrayed in figure 3.5.

Realistic program levels are created more by reference to levels of employment in a field than by amounts of content and practice within a program. That is, in terms of placement, the concept of levels presupposes some differential staffing within

Entry	University Career Development Program Levels	Exit	Employment Levels
ENTRY	Practice to inform practice Study to inform practice	EXIT	Informed Professional Practice: Doctoral Level
ENTRY	Practice to inform practice Study to inform practice	EXIT	Informed Professional Practice: Master's Level
ENTRY	Practice to inform practice Study to inform practice	EXIT	Informed Professional Practice: Bachelor's Level

Figure 3.5

University Career Development Program Levels:
Three Sequential Terminal Degrees

a career field. If there are levels of professional practice in a given career field corresponding to the familiar B. S./B. A., Master's, and Doctor's degrees, then it is presumed that there are at least three corresponding levels of staffing in the employment pattern in that field. In this case, every effort should be made to use task analysis from actual employment settings as one of the sources for content and practice objectives which will inform the preparation of people for a given field and level of employment in that field.

Some fields do have differentiated staffing in their employment patterns, so that each level of training can and does constitute a terminal degree exiting to a specific level of professional employment practice, as in figure 3.5. Other fields are more restricted in their employment patterns. Figure 3.6 envisions an imaginary program of career preparation, also involving three degrees, but with only the doctoral level being an effective terminal degree.

We are all well acquainted with levels of instruction by content. Content is amenable, it seems, to "leveling." In fact, the common sense understanding of the bachelor's, master's, and doctoral levels is often that of levels of content, in quantity, or quality, or both. Some practice-oriented fields, such as medicine, have traditionally had leveling by practice also. Recent years have seen an effort to introduce practice levels, in addition to content levels, in all fields. This trend is con-

Entry	University Career Development Program Levels	Exit	Employment Levels
ENTRY	Practice to inform practice Content to inform practice	EXIT	Informed Professional Practice: Ph.D. level
ENTRY	Practice to inform practice Content to inform practice	EXIT	
ENTRY	Practice to inform practice Content to inform practice	EXIT	

Figure 3.6

University Career Development Program Levels:
Three Sequential Degrees; One Effective Terminal Degree

sistent with both our career development "process" and our career development "program" models. We realize that it is sometimes more difficult to specify levels of practice to inform practice than it is to specify levels of content to inform practice, but we encourage the effort whenever it is undertaken. We think it can be done in any program to an extent that will more than justify the effort in benefits to all concerned.

Performance Objectives and Program Levels

Each level of university instruction should consist of self-selected content and practice, keyed to professional guidelines as to the level of professional practice and content mastery to be attained. There should be a blend of the student's "I will..." with the profession's "The student will...."

This suggests, of course, that there must be a statement of normative practice as well as content mastery at each level. However, to say that the preprofessional practice to be mastered at each level should be specified, as well as the content, is not to say that one should merely have a list of discrete performance objectives to add to discrete content objectives and should merely graduate a student when he or she checks off these two lists. This should be considered the minimal performance acceptable, and one would be hard pressed to justify delaying the degree in the presence of such performance, but it is not the ideal situation of itself. It is not professional

competence of itself. It only suggests the possibility of competence. We would also like to be able to determine that the individual has the power to draw upon his or her share of knowledge and repertoire of skills to inform on-going, creative professional activity. We would like to determine that the person has developed a certain sense of professional confidence in the process of informing his or her own professional practice by using the content and professional practice opportunities afforded. We would like to make some determination about productivity, in quality and quantity, resulting from informed practice. We would also like to determine that the person has achieved a state of sustained professional activity. In sum, we would like to know that our graduate has learned to practice the effective professional action processes of setting personal goals keyed to professional information, assessing situations relative to goals adopted, planning a course of action, acting on the plan, determining the results of actions taken, and reassessing the situation, all of which is portrayed in our basic career development mode. (Figure 3.1)

Chapter Summary

We suggested a working definition of the word "career," i. e., "the union of one's subjective and objective experiences in self-system interaction." We offered a basic career development process model, which represents a life design process in

which persons interact with their environment to develop themselves by assessment, planning, acting on plan, review of plan and action, and (re)assessment--and all of this in terms of personal career goals and objectives and the expectations of society. We discussed the process model both in terms of its application to an individual and in terms of its application to the interpersonal facilitation of one person's career by another person in the supervision setting.

We also presented a basic career development "program" model which we think is implied by the career development "process" model. The process model is centered in the attainment of effective professional practice. The program model, therefore, is centered in the capacitation, or informing of effective professional practice.

There is balance in the program model between preparing to act (content) and acting to prepare (preprofessional practice), such that there is substantial opportunity in the program for preprofessional practice as well as theory, to inform professional practice. This basic program model was discussed both in terms of single programs and levels of programs.

The line of thought developed in this chapter can be visually summarized by combining the basic career development process model with the basic career development program model, to show the self and the system facilitating effective professional practice on the part of the self in the system. The summarizing

diagram is presented in figure 3.7.

Once again, the central concern in figure 3.7 is "effective professional practice" on the part of the individual. The interior block of the model shows the educational program informing professional practice, while the satellite blocks in the diagram show the self informing its own professional practice. The effective professional practice finally achieved by the self in the system is the result of efforts by both the self and system to inform professional practice during the career development program of the individual.

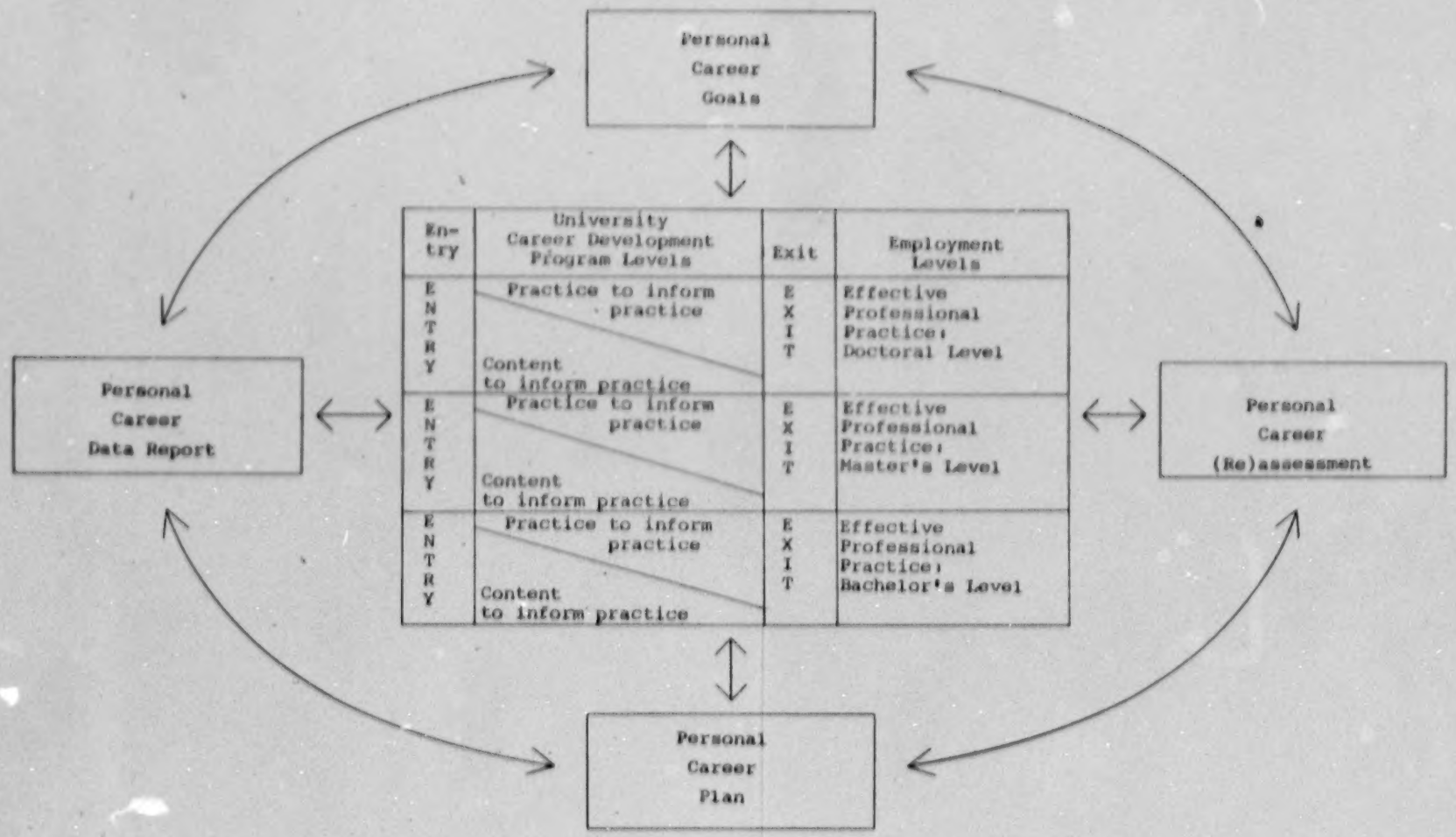

Figure 3.7

Self-System Interaction
in a Career Development Program

CHAPTER 4

SOME MANAGEMENT ELEMENTS OF A MODEL FOR THE PREPARATION OF EDUCATIONAL PERSONNEL IN CAREER EDUCATION

The Interdepartmental Operating Committee

An instructional system for the preparation of educational personnel in career education must operate across organizational lines on any campus. Therefore, we believe that an Interdepartmental Operating Committee is an essential factor in such an instructional system.

It is consistent with our basic career development process model to perceive the professional activities of an Interdepartmental Operating Committee as being part of the career development of the members of that committee. Therefore, it is possible to present and discuss the activities of an interdepartmental operating committee in terms of the management model shown in figure 4.1.

Using figure 4.1 as a guide to our recommendations in this section, there are a number of important conditions to be satisfied in the structure and function of an interdepartmental operating committee.

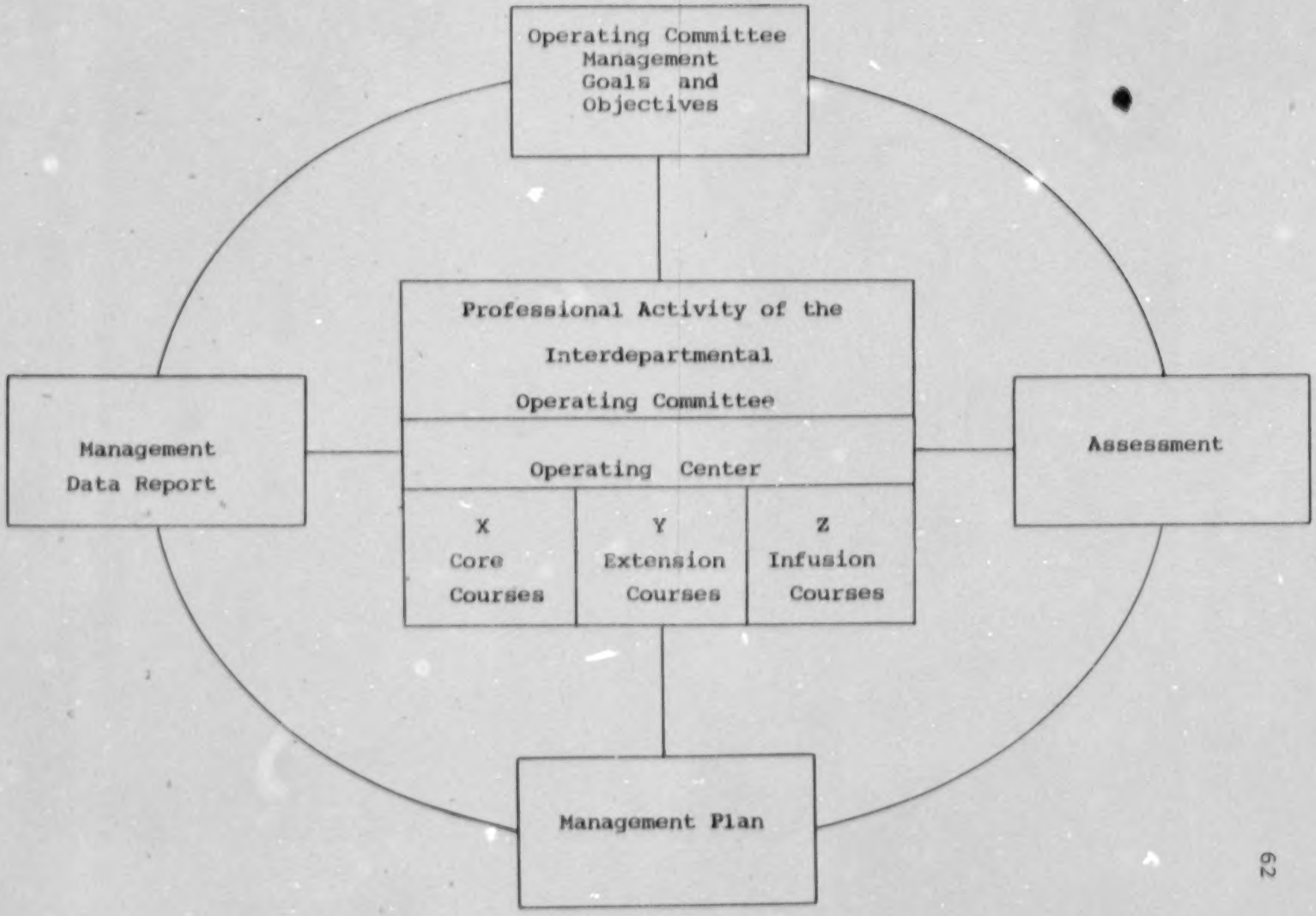

Figure 4.1: A Career Education Program Management Model

Structure

Administrative Authority

The university, like other situations, is a working combination of those who have knowledge authority and those who have administrative authority, sometimes, but not usually, invested in the same person at the same time.[1] Therefore, this committee should be constituted so as to blend knowledge authority and administrative authority in at least two ways.

First, the membership of the committee should include a sufficient number of persons who themselves hold resource-committing authority or who are directly sponsored by those who do. This is because frustration of knowledge workers runs high when they are indefinitely separated from enough administrative authority to implement knowledgeably authoritative conclusions. The administrative membership should concern itself with the committing of resources to the work of the knowledge workers as well as with being part of the knowledge work. Administrative workers should guide the knowledge work in terms of possible resources such as professional time for teaching and development, budgetary support for materials and supplies, space allocations, office assistance, outside funding, and the like. This requirement is particularly important if the interdepartmental operating committee is a temporary interest group and

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[1]Peter F. Drucker, The Effective Executive (New York: Harper & Row, 1967), passim.

not a regularly constituted body on campus.

Secondly, the interdepartmental committee under discussion may emerge out of an on-campus interest group, but as soon as possible it should be formally constituted under the auspices of comprehensive campus administrative authority, thus uniting in another way the administrative authority and knowledge authority of persons interested in developing a preservice career education program. The committee should be charged by the university, at the outset, to propose a formal university program to be adopted at some level. It may be part of the work of the committee to recommend a number of such program possibilities for the university to consider.

We wish to emphasize that mere assent by administrative authority to the work of knowledge workers is necessary but not sufficient to the establishment of any new program. There must be active involvement of administrative authority with knowledge authority. We are not suggesting undue urging of career education upon either professors or administrators. In institutions valuing academic freedom, neither professors nor administrators should be under demand, even from each other, to create a preservice program of any kind. We are simply saying that if persons on a given campus do wish to create a preservice program in career education, we believe that this is one of the conditions that must be accurately assessed and satisfied. If it is not sufficiently satisfied over an indefinite period of time, it is

natural to expect frustration on the part of knowledge workers without sufficient administrative authority to act on reasonable conclusions.

Budget

This committee must have an operating budget sufficient to the scope of activity contemplated. This is self-evident. However, this is mentioned again in reference to the staffing of the committee. The committee must be able to draw, through its knowledge workers and administrators, enough committed money to carry on its functions. This money may come in the form of grants, special funds in the university, professors' time, and from the usual operating expense lines of the cooperating departments and colleges. The specific staffing suggestion is that the knowledge workers considered for committee membership are the more desirable when they have ability to draw support money to the university and from within the university to the work of the committee. The budgetary value of administrative workers on the committee has already been mentioned.

Functions

The following suggestions are made with regard to the functions of the interdepartmental operating committee. The committee should:

1. Establish goals and objectives for the university in preservice career education.

2. Assess the state of its university in reference to preservice career education goals and objectives.

3. Develop and propose plans for the promotion of preservice career education on the campus.

4. Operate the interdepartmental program in preservice career education, preferably under direct appointment by the university to do so.

5. Specify minimum content and practice competencies to be achieved by the student in the preservice career education program. Such competencies should be available for the information of students, faculty, and administration. The curriculum coordination and review functions of the committee should include the determination of where in the committee-sponsored career education offerings the particular competencies can be acquired. Some possible competencies are included in the Resources section in chapter 5 of this handbook.

6. Develop, coordinate, and review curriculum. The development of a core of courses designed to provide the nucleus of career education instructional activity, and the development of instructional packages for infusion and extension purposes should proceed under the direction of this committee. It is also a function of this committee to review these courses and modular content-offerings periodically, to insure that the expressed needs of participating on-campus and off-campus locations are being satisfied. These periodic reviews will also continuously

improve curriculum coordination among participating professors and departments

7. Coordinate materials acquisitions. As a constituted body, this committee should coordinate the accumulation of career education materials necessary for the effective conduct of a pre-service career education program. The committee should make determination of what materials are needed, locate sources of materials, locate sources of money when needed to acquire materials, select a place to house the materials, and arrange for utilization and circulation of materials as needed. Directories of materials to consider are included in the Resources section in chapter 5 of the handbook.

8. Make personnel recommendations. This committee should be in a position to identify university personnel with interest and expertise in matters related to career education. From such familiarity with university personnel, the committee can make recommendations to the administration for the staffing of courses, including appropriate team teaching and infusion arrangements. All instructional efforts actually undertaken should be coordinated by this committee.

As discussed earlier, the presence on the committee of some members holding direct or delegated administrative authority, and the appointment of the committee by comprehensive university administrative authority are essential foundations for this particular function of the committee.

The committee should also maintain a listing of campus

consultants available to off-campus interest centers, indicating their areas of expertise and consulting fees, if any. This listing may be handled directly by this committee or coordinated through a university extension and/or public service office.

9. Advise students and faculty. The Committee membership should be so constituted, and should so function, as to provide the necessary influence and guidance in the university's advisement process, to assure that courses developed, or revised, for career education purposes come to the attention of appropriate students and become part of the regular offerings of appropriate departments.

10. Select an interdepartmental operating center. The committee should select an on-campus site to serve as an operating center for the interdepartmental conduct of career education.

The Interdepartmental Operating Center for Career Education

The conduct of any activity of consequence requires a place to conduct it in and from. In the case of interdisciplinary efforts it must ideally be an interdisciplinary place. For the sake of comprehensive development of preservice training in career education, we recommend that an interdepartmental operating center be selected or developed on each campus to fill the function of a center for the conduct of preservice career education. This may be a center created expressly for that purpose or it may be a "subcenter" in an existing facility. We

presume that all campuses receiving this report will have a few options, at least, of possible locations for this purpose. We suggest that an Interdepartmental Operating Committee develop a list of possible locations and select a location from that list based on some of the criteria which are discussed in this section and some of the criteria which are developed locally. Possible locations may include libraries, media centers, learning centers, student development centers, and the like.

Criteria

The following characteristics of an operating center are considered essential, or highly desirable, for the conduct of an interdisciplinary preservice program in career education.

Administrative Space

It is highly recommended that space be allotted to the overall work of the committee and be boldly labelled as such so that the preservice career education program will have a tangible location as soon as possible. One could comment at length on the psychological and sociological significance of having specific space for a specific program. Space allocation is one measure of the status individuals and institutions give to a program. Space allocation is also one indication of the probable permanence of a given program. There is psychological and sociological value, also, in the Operating Committee being able to meet in a space designated for its functions when it desires.

Display

It is important that the committee have some place to show its wares, i. e., to show what it is doing.

Storage and Access

The Operating Committee will gradually accumulate materials and supplies from various sources, either on a permanent or loan basis. Therefore, it is advisable for the committee to have space designated to house materials, supplies, and records, and to give committee personnel a place to do administrative work in reference to these holdings.

Individualized Instruction Facilities

We recommend, if it is possible, that the operating center selected also be a "learning center." That is, that it be a place where alternative classroom space, seminar rooms, carrels, learning stations, and audio-visual workshop facilities are available for the purpose of individualizing instruction. We recommend this for at least the following reasons:

1. The diversity of enrollment in any class contemplated in an interdepartmental instructional system is so great that individualization to complement and enrich classroom instruction seems highly desirable. Professors desiring to increase exposure for students in specific fields can see that that is accomplished through the learning center, making possible a generic set of courses with individualization as needed. For example, Special

Education considerations beyond the concerns of the non-Special Education student could be handled in the Operating-Learning Center, while Special Education concerns of interest to all could be aired in the classrooms.

2. We in career education are concerned with motivation towards excellence in personal performance. We believe, with others, that variety in instructional approach can help produce and sustain this motivation. Therefore, we believe that we should be part of the effort in education to enhance instruction by individualization when possible.

3. The better learning centers also provide consultation, technical assistance, equipment, and supplies for the local development of audio-visual materials for use in instruction or projects. These services are often provided equally to faculty and students. It is worth mentioning, also, that some learning centers enjoy independent budgets with which they might assist the career education effort on campus.

For at least these reasons, we recommend that the operating center be a learning center, if possible.

Staffing

We recommend that at least one person be assigned by the interdepartmental operating committee to do the administrative-clerical work connected with the on-going activities in the career education operating center.

If the operating center selected is also a learning center, it may be that the center already has personnel to handle the work of the committee and its program. If not, the learning center may be able to obtain additional help through regular participating department budgets, along with whatever assistance is possible from the interdepartmental operating committee itself.

Activities

We recommend that the operating center functions include as many of the following activities as possible. The operating center staff and/or committee members will:

1. Encourage individualized instruction in conjunction with core class work.

2. Schedule individualized instruction conducted at the operating center.

3. Schedule professors for interdepartmental instruction in and out of the operating center.

4. Schedule the infusion of career education units of instruction into selected courses beyond the core of career education courses recommended in this handbook.

5. Advise the Interdepartmental Operating Committee and other participants of the availability of career education materials from federal, state, local, and commercial sources.

6. Obtain career education materials for preview and notify interested parties of the availability of such materials for preview.

7. Coordinate the purchasing power of diverse career related projects and of the departments involved in the interdisciplinary effort in order to build an extensive career education resource collection for the use of all participating parties.

8. Handle purchasing, cataloguing, storage, and circulation of career education materials developed and accumulated by the operating committee.

9. Maintain the materials, equipment, and supplies housed in the center.

10. Keep records of usage of modules, materials, equipment and supplies.

11. Maintain a file of university consultants in career education made available through the Interdepartmental Operating Committee and disseminate that information to the public.

12. Maintain and add to a file of resource persons available to professors and students in career education.

Curriculum Components

In figure 4.1 we pictured the interdepartmental operating committee conducting its professional career education activities through an interdepartmental operating center. The diagram summarized the curricular components as X core courses, Y extension, courses and Z infusion courses. This section of the handbook comments on these three curriculum components.

X Core Courses

Sequence

We recommend six courses to serve as the core of pre-service career education: an introductory course, a career development theory course, a counseling course, a teaching course, an administrative course, and a research course. The introductory and theory courses are background courses preparatory to the specialization of practice courses in the teaching, counseling, administration, and research of career education. All six courses are open to interdisciplinary enrollment. A complete sequence of courses would, therefore, thoroughly ground the educator in career education theory, give opportunity for specialized practice, and acquaint the student with the career education practice of those in related disciplines.

Different interdepartmental operating committees may choose to adopt a greater or smaller number of core courses. Figure 4.2 portrays our suggestions concerning a desirable sequence of six courses. An introductory class leads to an in-depth theory class, followed by professional practice courses.

Content

The Introductory Course

This course serves to introduce educational personnel to the K-Adult spectrum of career education practice today. Attention is given to personal problems encountered by individuals

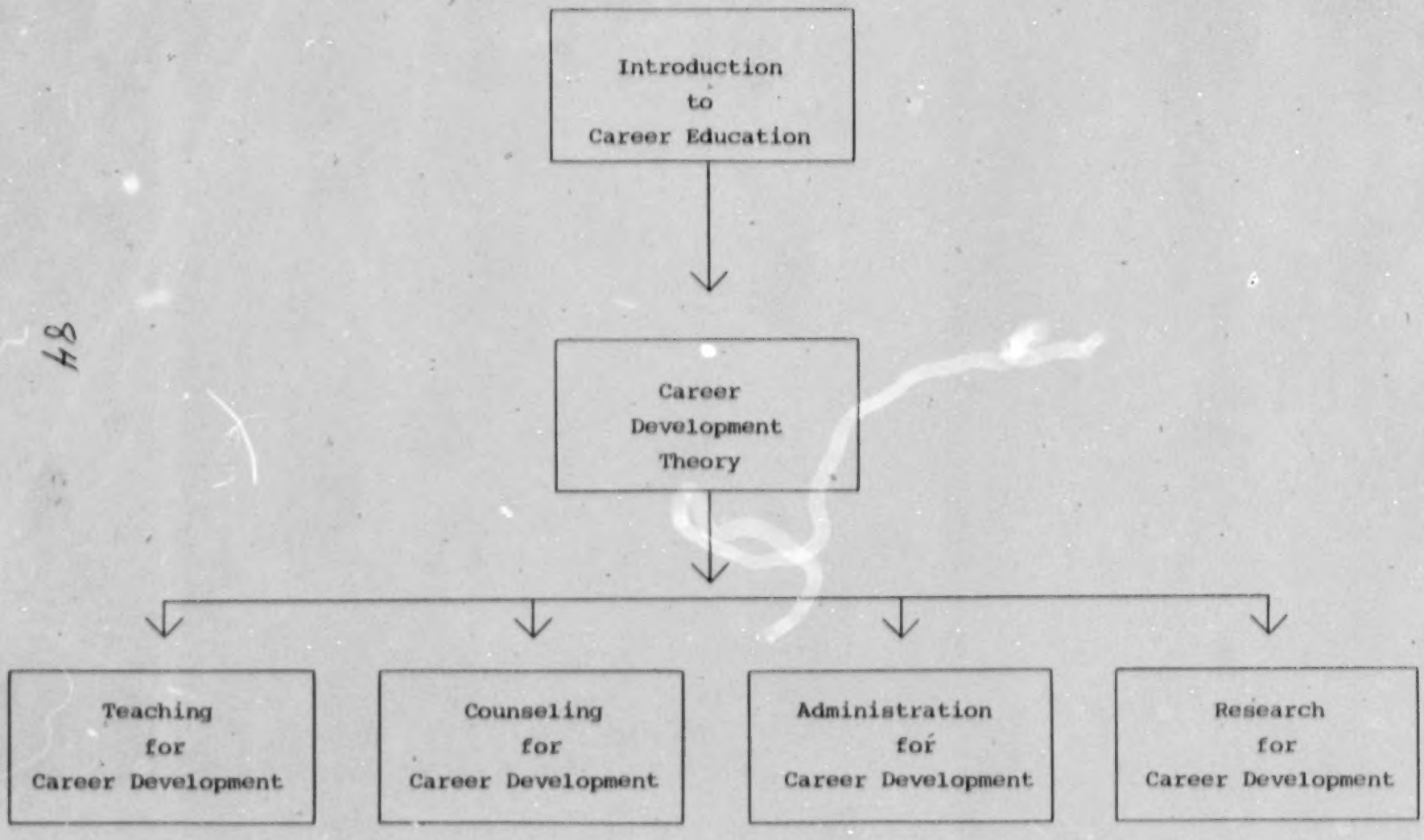

Figure 4.2

Sequence of Recommended Courses for Preservice Preparation in Career Education

during transition between systems. Attention is also given to the system of linkages between major career institutions in society, particularly linkages between the various educational institutions and the institutions of the world of work. Students acquire knowledge of the classification systems pertaining to the world of work. Models of career education instructional systems adopted in Illinois and elsewhere are studied. Introductory material relative to the developmental nature of careers within persons is presented. Students become familiar with modern social, political, and economic movements toward comprehensive concern with careers in this country. Some projections of likely trends in career education are entertained. Possible careers for persons interested in career development itself are highlighted. The "cardinal tenets" of career education, both procedural and philosophical, are identified. Social statistics and projections for our social system having a bearing on thought about careers are reviewed and discussed. Primary authors and instigating figures in career education are discussed.

Direct contact, either by visit or visitor, with as many on-going programs related to career development as possible is highly recommended for this course. This could include work-study people, placement centers, student panels, employment agencies, pertinent research underway, recruiters, authors, public school career education personnel, union leaders, and so on.

Career Development Theory

The course in career development theory should foster an in-depth consideration of the best thinking on career development to date. This course should include theory concerning the interlocking sociological, psychological, political, and economic ramifications of career as well as career development theory. The developmental nature of career in the person, structural matters of importance to career in the social system, and the theory of fortuitous marriage of the self and the social system in career are recommended as the prime considerations here. One should leave this course with an informed appreciation of the personal and social task that is career development today.

This course should also provide a laboratory type experience in which all persons enrolled, regardless of professional discipline, experience a number of the basic practices of theorists in career development. The recommended activities include the identification of basic factors in career development, the study of these factors, the adoption of an organizing point of view concerning those factors, and a synthesis of those factors into an organized theoretical statement in terms of the point of view adopted.

Teaching for Career Development

This course presupposes an orientation to current K-Adult career development practices, and it presupposes an informed

appreciation of the theoretical problems connected with the integration of self and society, as dealt with in the introductory and theory courses.

This course is a laboratory type experience in which all educational personnel enrolled, regardless of professional discipline, experience a number of the basic practices of teachers in career education. The recommended course activities include fusing career development objectives with subject matter objectives, organizing field trips, locating and using resource persons, using the full school and community for teaching, conducting career-oriented teacher-parent conferences, assessing career development in the classroom, utilizing counselors, evaluating career development materials, and individualizing instruction by career interests.

Counseling for Career Development

This course presupposes an orientation to current career development practice in our society, and an orientation to the theoretical problems connected with the integration of self and system in career.

This course is a laboratory type experience in which all persons enrolled, regardless of professional discipline, experience the activities of a counselor in career development. The recommended course activities include assessing individual career interests and abilities, providing accurate career information tailored to the present needs of students, clarifying

student self-perceptions, placement and follow-up work, consulting with teachers on career guidance activities, and counseling with students on personal matters affecting their career development.

Administration for Career Development

This course presupposes an orientation to current career development practice in a society, and an orientation to the theoretical problems connected with the integration of self and system in career.

This course is a laboratory type experience in which all persons enrolled, regardless of professional discipline, experience the activities of an administrator in career development. The recommended course activities include comprehensive program planning and development, requesting grants, practicing the budgetary mechanics connected with state-appropriated monies, developing appropriate evaluations for projects undertaken, developing program cooperation among various professional services, staffing career education programs, attending school board meetings, and working with citizen advisory groups.

Research for Career Development

This course presumes an orientation to current career development practice in our society, and an orientation to the theoretical problems connected with the integration of self and system in career.

This course is a laboratory experience in which all

persons enrolled, regardless of professional discipline, experience a number of the basic practices of researchers in career development. The recommended course activities include designing local career education needs assessments, designing student career maturity assessment programs, designing on-site evaluations of career education programs, selecting commercial research instruments, evaluating career education materials, evaluating outside evaluators, and preparing research reports for local consumption.

Discussion of Core Courses

Emphasis on Professional Activity

The emphasis throughout the courses is on appropriate professional activity in each course. This is consistent with our basic career development model (figure 3.1) which presupposes that career development at the university level, especially, means an ever increasing effectiveness in professional activity.

Emphasis on Interprofessional Activity

The conduct of career education in the public school districts is clearly an interprofessional activity. It requires teachers, counselors, administrators, curriculum workers, and researchers to work together as never before. Working across professional lines during preservice preparation, to establish some concensus on the place of career in education and to become aware

of the work styles of other professionals in career development, will prepare the way for interprofessional career development activity in the districts. To the degree that the career development of students becomes a common concern among the various professions involved in the preservice preparation of educational personnel, a specific organizing point of view can be developed for more interprofessional cooperation in the school districts.

Developing Career Education Leadership

We know from experience that any educator may be drafted, in the exigency of the hour, to head up career development activity in a school building or district. The leadership role may be assumed by a teacher, a counselor, or administrator, or combinations thereof. Therefore, it is wise to prepare all educators to give career education leadership. For this reason, we wish each preservice person entering the districts to know the professional work generally, and the career development work specifically, of other professionals with whom they will interact in career education in the districts.

Perspective on Research

We wish to comment on the position of the research course in figure 4.2. It is common to position a research course as in figure 4.3, rather than as in figure 4.2. The position of research in figure 4.2 is supported by our basic career development model (figure 3.1.) The position in figure 4.3

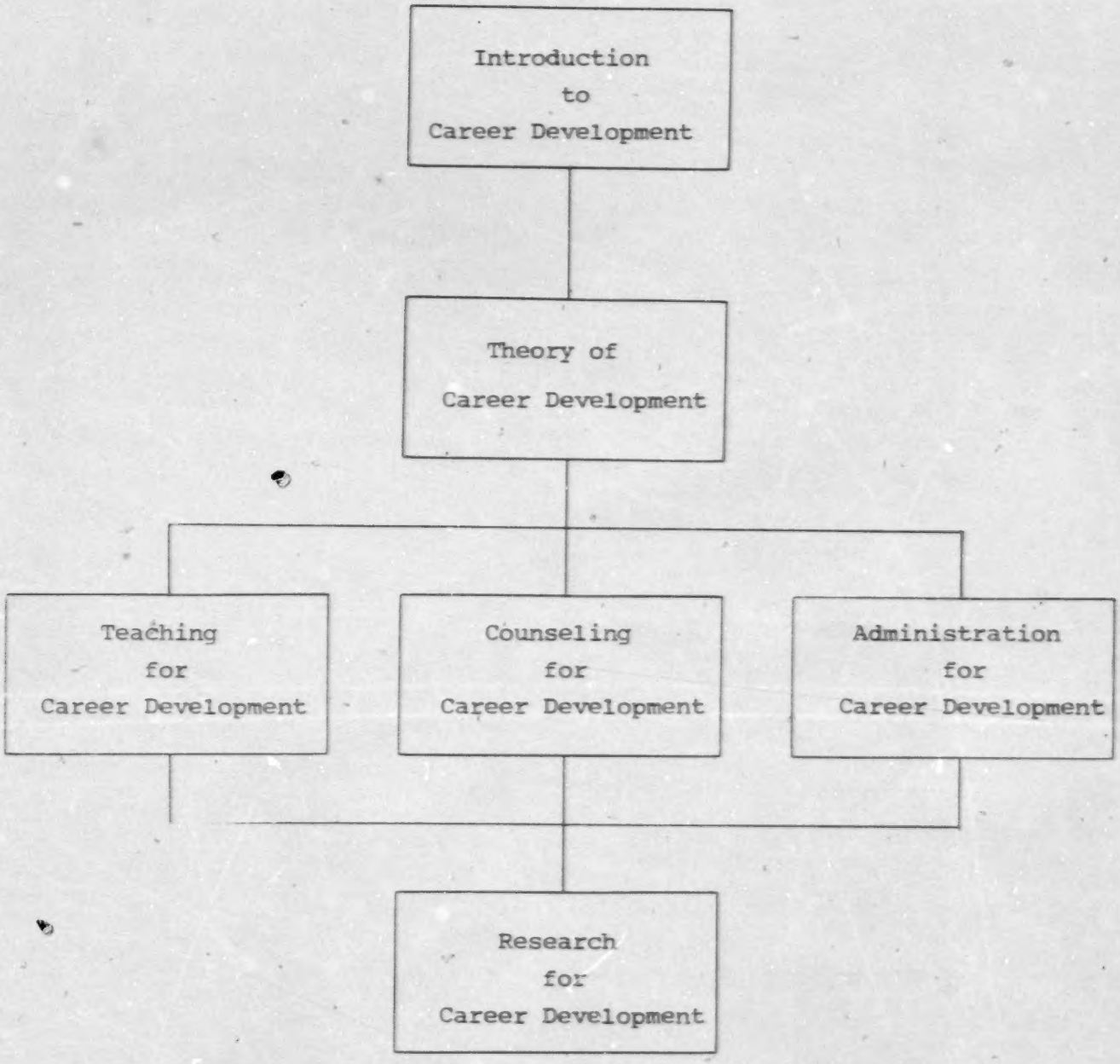

Figure 4.3

Location of Research Course in Traditional Course Sequence

is not supported by our basic career development model.

Figure 4.3 suggests that research skills are of a higher order than teaching, counseling, and administrative skills. We think that basic research skill is part of effective professional practice for <u>any</u> certified educator, but we do <u>not</u> perceive research as a higher order skill than teaching, counseling, or administration. It deserves no place of ascendancy. It deserves no special identification with the Ph.D. degree. We place a class on the practice of research on a simple par with classes in the practice of teaching, counseling, and administration.

We do not want to require that every one of our Ph.D's be capable of effective professional practice in research at the doctoral level of competency in research. Research is only one of a number of types of effective practice that a professional educator might engage in. Some candidates elect research as their line of professional practice, but the observable facts are that the great majority do not, and that their research is often a "one-shot deal" to gain the degree for other professional purposes. Therefore, the doctoral degree should be awarded for effective professional practice at the doctoral level in whatever the person's profession--teaching, counseling, administration, curriculum, research, or whatever. That is, let the Ph.D. represent an attained level of professional practice and not a research degree, per se.

Also, we think that giving research an ascendant position

as in figure 4.3, promotes the belief that the best education is almost wholly a matter of having to know before you can act, whereas our career development models contain the view that professionals not only have to know before they can act, but they also have to act before they can really know.

In conclusion, our career development models call for putting research on a simple par with other professional skills, as in figure 4.2, and letting the Ph.D. represent, not a research degree, but an attained level of professional activity in the person's chosen profession.

Concerning "Infusion"

We have taken a particular stance with regard to "infusion" strategies. Those new to career education soon find that many career education practitioners strongly advocate "infusion," i. e., the injecting of some career education into all areas of the curriculum. As an ideal, this conceives of all professors/teachers in all disciplines including some career-related content and practice in their own work.

Career education, in this strategy, is not to be considered a subject to be taught, but a "point of view" which can be infused into all areas of the curriculum. We have no argument with using infusion as a strategy. We do however consider it practical to couple core courses with infusion. We offer the following reasons for this position.

1. Career education may not be a subject, but career development certainly is, as are economics, manpower, sociology, and other disciplines with insights important to career development. There are definite bodies of knowledge to be dealt with, suggesting the appropriateness of courses.

2. Infusion is an inductive process. Its progress toward a curriculum is a matter of accumulating uncoordinated elements for quite a long time. A history professor may adopt a unit here, a math professor there. Then, an English unit on broadcasting, and so on. This pattern is contrary to the usual expectations put upon administrators of programs, who are expected to work more deductively, i. e., to develop a plan and implement it. Also, it is a major administrative task to indentify career development activities room by room or professor by professor, to specify their outcomes, and to coordinate them into something to be called a program, taking into account course section differences, turnover in personnel, competing priorities, and many other factors.

3. The career development of educators, we have claimed, is a matter of the development of the power to act effectively in professional activity. We think that the consistent development of practice may often suggest the desirability of courses.

4. Under a pure infusion system, the student has less, not more, control of his or her own learning. Infusion leads to diffusion, which can lead to confusion. The student, in order to

educate him or herself in career development theory and practice, would have to know where all the diffuse (infused) elements of such a curriculum were, and apply wizardry to his or her schedule to register for them all in proper scope and sequence. The student has more power over his or her own learning in an identifiable course situation than in a diffusion situation.

We do not reject infusion. We simply advocate coupling it with core courses. Let the core courses provide a "screen" through which all preservice personnel may pass to be assured of certain basic and common learnings, and then let's also have all the infusion we can possibly manage besides. Similar comments could be made concerning strategy in the public schools. Therefore, we wish our graduates to experience the "core plus infusion" strategy, and to carry it to the districts, rather than the "pure infusion" strategy.

Y Extension Courses

The argument in favor of having a core of courses on campus is strengthened in view of the expanding role of university extension offerings in the modern era. The growth of adult education, the development of career education resource centers, the increasing number of working professionals seeking available classes in career education, and the simple demand of university publics for more convenience in offerings in general, all combine to make it highly advisable to develop all core courses with an

eye toward using these courses, or portions thereof, on extension.

Z Infusion Courses

One of the suggestions we have here is to develop the core courses with an eye toward taking units, modules, or whatever out to other courses on and off campus. The operating committees on various campuses will readily identify appropriate places for infusion into other courses beyond the core.

Infusion may be accomplished on the campus by taking modules to other courses, or by arranging individualized learning activities in a learning center for use by students enrolled in courses outside of the core. The operating committee may also prepare materials and activities to be used by professors wishing to conduct "Directed Individual Study" in career education.

The planning and implementation of such infusion efforts, plainly, is an administrative responsibility of sizeable proportion. It makes the desirability of an operating center and assigned help all the more apparent.

Infusion also suggests that the committee must commit itself heavily to the development of many modules and learning packages beyond those developed in the core courses. And, the committee must be prepared to work with professors who desire to become involved with career education on an infusion basis.

Because of the greater administrative commitment required in infusion, we recommend the following sequence in the develop-

ment of the overall preservice program in career education. First, the core courses, then the extension offerings. Then, building on what you have, extending out into the university via infusion, and via cooperation with other existing courses already having career education content and practice in them. That is, part of the infusion strategy is to assess what career education is already going on on campus. In our estimation, there is plenty on every campus, though the name "career education" may not always be used in reference to it. It is one of the functions of the operating committee, using the infusion strategy, to locate all these career education elements and to coordinate them, as well as to develop elements to send out to classes.

Chapter Summary

In chapter 4 we introduced a preservice career education program management model, figure 4.1.

We recommended the formation of an interdepartmental operating committee to conduct an interdisciplinary program in preservice career education. We recommended that this interdepartmental committee locate an operating-learning center for the conduct of its career education program.

We suggested that six courses be developed to form the instructional core for a preservice career education program. We offered suggestions concerning the content of these courses. We discussed five topics related to the core courses; i. e., emphasis

on professional activity, emphasis on interprofessional activity, developing career education leadership, a perspective on research, and a discussion concerning "infusion."

We commented briefly on extension offerings and concluded with remarks concerning on-campus infusion efforts.

CHAPTER 5

RESOURCES FOR AN INSTRUCTIONAL SYSTEM

Introduction

In chapter two we discussed career education as the effort of one sector of our society to bring about self-system integration, to the satisfaction of both self and system. In chapter three we presented a career development process model from which we also derived a career development program model and an interpersonal career facilitation model. In chapter four we offered suggestions for the management of university level career education programs.

This chapter contains an organized selection of appropriate preservice career education goals and objectives and some references to guides to assessed career education material.

Goals and Objectives

This section contains instructional goals and objectives than can be used by an interdepartmental operating committee or by individual university professors for planning courses and modules in preservice career education. The goals are arranged in nine categories:

1. Process
2. Theory and Knowledge
3. Assessment
4. Awareness
5. Decision Making
6. Placement
7. Resources
8. Organization
9. Evaluation

Each goal is accompanied by a set of pertinent objectives. The objectives were arranged according to three suggested levels of instructional progression to aid those who may wish to program in levels. The section concludes with some references to other sources containing career education instructional goals and objectives. We have consulted these other works and the work of our colleagues at Northern Illinois University in developing this section of goals and objectives.

Process

Goal: An understanding of the interpersonal career facilitation model which is presented in chapter three of A Handbook for the Preparation of Educational Personnel in Career Education.

Objectives:

(I) 1. Read and study the interpersonal career facilitation model described in chapter three of this manual.

(I) 2. Describe at least three ways in which you can make use of the interpersonal career facilitation model.

(I) 3. Explain the interpersonal career facilitation model to a member of your class.

(II) 4. Explain the interpersonal career facilitation model to several teachers, counselors and/or administrators in your school district and write a brief summary of their comments and reactions.

Process

Goal: An understanding of the goal setting phase of the interpersonal career facilitation process which is presented in chapter three of A Handbook for the Preparation of Educational Personnel in Career Education.

Objectives:

(I) 1. Define "goal" and describe some reasons for the use of goals in the interpersonal career facilitation process.

(I) 2. Outline the process one goes through in setting a goal.

(I) 3. Write a paper discussing the factors influencing personal selection of goals.

(I) 4. Describe some of the characteristics of a well-written goal.

(I) 5. Write a series of sample personal career development goals.

(I) 6. Describe ways in which you can assist others in setting career goals.

Process

Goal: An understanding of the assessment phase of the interpersonal career facilitation process which is presented in chapter three of A Handbook for the Preparation of Educational Personnel in Career Education.

Objectives:

(I) 1. Tell orally what is meant by the assessment phase of the interpersonal career facilitation process.

(I) 2. Participate in a group discussion focusing on the kind of information that would be valuable in this type of assessment.

(I) 3. List ways in which this kind of assessment information can be attained.

(I) 4. Explain in writing why the facilitator's and student's cycles have been particularly joined at the assessment phase of the interpersonal career facilitation process.

Process

Goal: An understanding of the planning phase of the interpersonal career facilitation process.

Objectives:

(I) 1. Tell orally what is meant by the planning phase of the interpersonal career facilitation process.

(I) 2. Describe the process you personally go through in planning for action.

(I) 3. List some of the characteristics of a well-designed plan.

(I) 4. Design a plan for action related to one (or more) of your personal career goals. Carry out the plan and write a paper discussing the strengths and weaknesses of the plan you designed.

Process

Goal: Skills for facilitating the career development of others according to the interpersonal career facilitation model which is presented in chapter three of A Handbook for the Preparation of Educational Personnel in Career Education.

Objectives:

(I) 1. Participate in a group discussion concerning the ways in which a student and a facilitator can be involved with each other during the interpersonal career facilitation process.

(I) 2. Tell your small group the purposes of the direct assistance meetings that take place between the student and facilitator (teacher, counselor or administrator) during the interpersonal career facilitation process.

(I) 3. List some of the activities that might take place during a direct assistance meeting between a student and facilitator.

(II) 4. Choose a partner in class and assume the roles of facilitator and student. Assist each other in one aspect of career development through the interpersonal career facilitation process described in the model. At the end of the process evaluate each other with

regard to the roles of facilitator and facilitated.

(III) 5. Find a person who will volunteer some time each week for a semester and assist the individual in his or her own career development through the interpersonal career facilitation process described in the model.

Process

Goal: Skills in record keeping to be used in facilitating the career development of others.

Objectives:

(I) 1. List some types of information that would be beneficial to maintain in a continuous record when facilitating the career development of others.

(I) 2. Review several different methods of record keeping.

(II) 3. Design your own method of record keeping. Describe its advantages and disadvantages.

(III) 4. Using the method of record keeping that you designed, maintain a continuous record of another person's career development for a period of at least two months.

Theory and Knowledge

Goal: An understanding of career development.

Objectives:

(I) 1. Read and discuss in small groups some major career development theories (Ginzberg, Holland, Roe, Super, Tiedeman and O'Hara).

(I) 2. Identify, outline and compare the important elements of the career development theories studied. Write a short summary for each theory in your own words.

(I) 3. List elements that you believe are important in career development.

(I) 4. Briefly describe your own theory of career development.

(II) 5. Briefly report on what the theorists studied (or others) have done to verify their proposed career development theories.

(II) 6. Compare and contrast in writing at least five major career development theories. Conclude by indicating what theory(ies) you believe to be most valid and discuss the reasons for your choice.

(II) 7. Write a detailed history of your own career development.

(II) 8. Write a thorough exposition of your own theory of career development.

(III) 9. Read and summarize some of the major longitudinal studies in the field of career development (Super's Career Pattern Study, Gribbons and Lohne's Study of

Readiness for Vocational Planning, Crites' Vocational Development Project, Project TALENT, Cooley's research, etc.).

(III) 10. Trace the career development of a small group of students and write a paper which discusses specific ways in which their development was, and could have been, facilitated.

Theory and Knowledge

Goal: An understanding of the vocabulary of career education

Objectives:

(I) 1. Construct a list of terms frequently used in the literature pertaining to career education.

(I) 2. Review definitions that have been proposed for important terms in career education literature. From this review, select those definitions which seem most appropriate to you and keep a record of them.

(I) 3. Write your own definitions for career education terms.

(II) 4. Write a paper discussing the relationship between career development and career education in which you make use of the basic terms used in career education.

Theory and Knowledge

Goal: An understanding of how career development and child development are related and how the concepts of both are applied in career education.

Objectives:

(I) 1. Review several child development theories and identify the major concepts.

(I) 2. Review several career development theories and identify the major concepts.

(I) 3. List ways in which basic concepts of child development are correlated to those of career development.

(II) 4. Write career education objectives based on concepts of child and career developme.

(II) 5. Plan an activity or a unit of instruction that includes materials and objectives based on concepts of child and career development.

(III) 6. Construct a detailed timeline which reflects the interrelatedness of child and career development. Using the timeline as a reference base, write a paper proposing what the basic aims of career education should be at every level and include suggestions as to how these aims could be carried out.

Theory and Knowledge

Goal: An understanding of current issues in the field of career education.

Objectives:

(I) 1. Identify at least five issues in the field of career education and describe their current status.

(I) 2. Participate in a debate or panel discussion related to one of the current issues in career education.

(II) 3. Interview at least three people who are involved in career education and ascertain their stance on one of the current issues.

(II) 4. Write a paper in which you summarize current information and authoritative opinion on one issue. Choose a position and support your belief.

Theory and Knowledge

Goal: An understanding of career education programs.

Objectives:

(I) 1. Read and discuss in groups various descriptions of career education programs that have appeared in books or articles in recent years.

(I) 2. Compile a list of factors that describe what a career education program is.

(I) 3. Write your own definition of a career education program.

(II) 4. Identify typical goals for a comprehensive career education program.

(II) 5. Write a paper discussing the difference between a career education program and a vocational education program.

(II) 6. Study the design of at least two career education programs. Write a brief summary of each.

(II) 7. Outline an ideal career education program for a school district of your choice.

(III) 8. Develop a detailed proposal of a one and five year plan for a career education program at any level.

Theory and Knowledge

Goal: An understanding of the career education movement in the United States.

Objectives:

(I) 1. Compile a list of statistics (economic, education, work force, etc.) that reflect a need for career education.

(I) 2. Make an outline depicting the various philosophical, social and economic factors leading up to the recent career education movement.

(I) 3. List ways in which federal, state and local governments have influenced the career education movement.

(I) 4. Write a collection of brief sketches about the key figures in the career education movement.

(II) 5. Research and write a paper that traces the development of the career education movement.

(III) 6. Write a paper which predicts in detail the short and long range future development of the career education movement. Support the predictions being made, as much as it is possible to do so.

Theory and Knowledge

Goal: An understanding of the implications of career education for special groups.

Objectives:

(I) 1. Describe stereotypes associated with race, age, sex and religion as they relate to career development.

(I) 2. Read and summarize several sources discussing the implications of career education for different special groups such as gifted, talented, handicapped or disadvantaged students.

(II) 3. Participate in a panel discussion regarding the career education of a special group.

(II) 4. Write a career education lesson plan for working with a special group. Design activities and choose materials for it.

(III) 5. Create a career education program specifically designed for students of a special group.

Theory and Knowledge

Goal: A knowledge of prominent criticisms of career education.

Objectives:

(I) 1. Read and discuss in class at least three articles containing criticisms of career education.

(II) 2. State at least three criticisms of career education. Write a rebuttal to each. Support your position by including references.

(II) 3. Participate in an in-class debate concerning one criticism of career education.

Theory and Knowledge

Goal: Knowledge of occupational clustering schemas.

Objectives:

(I) 1. Orally describe the various occupations you have had and list the skills required for each one.

(I) 2. Briefly describe each of the fifteen United States Office of Education occupational clusters.

(I) 3. Briefly describe the Illinois Office of Education occupational clusters.

(I) 4. Briefly describe the clustering of occupations used in the Dictionary of Occupational Titles (DOT).

(I) 5. Briefly describe the occupational clustering schema developed by Anne Roe.

(II) 6. Select at least two occupations from each of three clusters and describe entry requirements, work activities, expected salary, benefits and the employment outlook for each. Cite the sources used to obtain this information.

(II) 7. Choose a cluster and design a sample lesson unit to familiarize students of a particular age level with occupations from that cluster.

(II) 8. Discuss the relationship between occupations and personal lifestyles.

(III) 9. Conduct occupational role-playing activities or other simulation activities with students.

Assessment

Goal: To select, administer, score and interpret instruments used for needs assessment in career education program planning.

Objectives:

(I) 1. Compile a list of sources of information on needs assessment instruments that could be used in career education program planning.

(II) 2. Investigate several career education needs assessment instruments and briefly report on the use of each one.

(II) 3. Select one career education needs assessment instrument and write an in-depth report on it.

(III) 4. Administer, score and interpret one needs assessment instrument with a group of students, and prepare a written report describing how the results could effect career education program planning for these students.

Assessment

Goal: Skills to collect and analyze needs assessment data to be used in career education program planning.

Objectives:

(I) 1. List the types of data that would be useful for assessing needs for career education.

(I) 2. Give two examples of needs assessment studies that have been done in the field of career education.

(I) 3. Identify methods of collecting and analyzing data for assessing needs in relation to career education.

(II) 4. Propose a plan for needs assessment in a setting of your choice.

(III) 5. Implement a needs assessment study in a setting of your choice and report on the results.

Awareness

Goal: Self-awareness as it pertains to career development.

Objectives:

(I) 1. Keep a journal of personal thoughts and feelings about yourself for a short period of time and then indicate how these are related to your career development.

(II) 2. Participate in several individual and group self-awareness activities in class. Following these, orally discuss the value of these types of activities for career development.

(II) 3. Discuss the relationship between self-awareness and career awareness.

(II) 4. Design an instructional unit, for use at a particular level, aimed at increasing the student's understanding of self (in terms of interests, abilities, attitudes, values, needs, etc.) in relation to personal career development.

Awareness

Goal: Educational awareness as it pertains to career development.

Objectives:

(I) 1. Describe in writing at least five ways in which formal education has prepared you for activities outside of the school setting.

(I) 2. Compile a list of possible school-sponsored activities designed to take place out of the classroom which would promote the career development of students.

(II) 3. Interview leaders of local businesses and community organizations concerning how the school could work with these groups to promote the career development of students. Orally report the interviews to the class.

(II) 4. Choose one of the United States Office of Education occupational clusters. Make a detailed outline of ways in which all levels of school could institute career planning activities for that cluster of occupations.

(II) 5. Write a paper discussing the connections between educational awareness and career development.

Awareness

Goal: Social awareness as it pertains to career development.

Objectives:

(I) 1. List at least five ways in which family members or friends have influenced your career development.

(I) 2. Participate in group activities aimed at developing social awareness. Following these, orally discuss the value of these types of activities for career development.

(II) 3. Discuss how the major career development theorists you studied treated the social aspects of career development.

(II) 4. Identify the relationship between social awareness and career development.

(III) 5. Write a paper on the sociological relationship of the self and the social system in career development. Discuss roles, positions, norms, ideals, sanctions, power, status, communication, and/or other sociological factors.

Awareness

Goal: Career awareness as it pertains to career development.

Objectives:

(I) 1. Formulate your own definition of career awareness.

(I) 2. Read and discuss various definitions of career awareness.

(II) 3. Compile a list of some of the major elements of career awareness.

(II) 4. List some of the factors contributing to the development of career awareness.

(II) 5. Describe the roles of teacher, counselor and administrator as facilitators in the development of career awareness in students.

(II) 6. Describe the relationship of career awareness and career development.

Awareness

Goal: Economic awareness as it pertains to career development.

Objectives:

(I) 1. Define economics, labor, the market system and other commonly used economic terms.

(I) 2. List at least five ways in which economic factors have affected your career development.

(I) 3. Compile a list of sources containing economic information that would be useful in career education.

(II) 4. Identify at least five economic factors in career decision making.

(II) 5. Describe the present, and probable future, labor market for the different occupational clusters.

(II) 6. Design and implement an activity aimed at developing students' economic awareness.

(II) 7. Participate in a panel discussion concerning manpower needs and employment trends at the local, state and national levels.

(III) 8. Develop lesson plans which focus on the roles which the market system, economic instability, economic growth and change play in determining career choice.

Decision-Making

Goal: An understanding of how past experiences influence career decision-making.

Objectives:

(I) 1. Discuss in class some types of life experiences that significantly affect career decision-making.

(I) 2. Construct a timeline from birth until now and locate on it five significant experiences in your life. Describe how these experiences affected your career decisions.

(II) 3. Design an activity for an age group of your choice that demonstrates how past experiences influence career decision-making.

(III) 4. Write a career autobiography that consists of a collection of personal life events, i. e., leisure and work experiences, important people in your life, personal rewards and frustrations in your life, etc., that are both good and bad. Describe these events in terms of your feelings about them and what you have learned from them. Hypothesize about how these events have, and might, influence your career decision-making.

Decision-Making

Goal: An operational knowledge of differentiation, integration and hierarchical restructuring.

Objectives:

(I) 1. Define differentiation, integration and hierarchical restructuring.

(II) 2. Participate in a group discussion focusing on what part differentiation, integration and hierarchical resturcturing play in career decision-making.

(II) 3. Describe several personal examples of how you have used differentiation, integration and hierarchical restructuring.

Decision-Making

Goal: An understanding of choice.

Objectives:

(I) 1. List factors that affect choice.

(I) 2. Discuss in class the importance of choice in personal career development.

(II) 3. Describe the developmental nature of choice capability.

(II) 4. Write a paper explaining how choice is treated in each of the major career development theories studied.

(II) 5. Describe how choice is treated in your own career development theory.

Decision-Making

Goal: An understanding of the decision-making process.

Objectives:

(I) 1. Read and discuss several decision-making models (Tiedeman, Miller-Tiedeman, Gelatt, and others).

(I) 2. Analyze a recent personal decision. Compare the steps you went through in making the decision to the processes described in the decision-making models you studied.

(II) 3. Outline the process that best describes your most frequently used personal decision-making strategy. Create a model of it. Suggest ways in which this strategy might be improved.

(II) 4. Select four people of various ages and review with them two decisions they have made recently. Describe the decision-making strategies that each used. Compare and contrast these different strategies and suggest ways in which they could be improved.

(II) 5. Participate in a small group activity in which you experience the making of a group decision.

(II) 6. Write a paper discussing the similarities and differences between individual and group decision-making.

(III) 7. Develop a personal theory of decision-making, drawing freely on the theories you have read if you wish. Design a model to accompany your theory.

Decision-Making

Goal: Knowledge of some ways to facilitate the development of decision-making skills in others.

Objectives:

(I) 1. Describe the roles of teacher, counselor, and administrator as facilitators for the student's development of decision-making skills.

(I) 2. Compile a list of games, audio-visual materials, activities and techniques that can be used to teach decision-making skills. Demonstrate the use of at least one of them in class.

(II) 3. Plan and implement small group activities in which students experience making group decisions regarding some career-related problem situations.

(II) 4. Design a series of lessons and activities for a particular age group to familiarize students with the steps involved in a decision-making process.

(III) 5. Plan and implement three individualized activities in which students experience and focus on movement through the steps involved in a decision-making process

Decision-Making

Goal: Knowledge of the use of computer systems to facilitate the development of decision-making skills in persons.

Objectives:

(I) 1. Read and discuss how computer systems are being used to teach people decision-making skills. Prepare a detailed explanation of how the skills are taught by at least two different computer methods.

(II) 2. Experience, or if not possible, simulate use of a computer system designed to teach decision-making skills.

(II) 3. Participate in a panel discussion focusing on the advantages and disadvantages of using computer systems to teach decision-making skills.

(II) 4. Write a newspaper feature article in which you predict the future use and importance of computer systems in the teaching of decision-making skills.

(III) 5. Design a research project to study the effects of using computer systems in the teaching of decision-making skills.

Decision-Making

Goal: Knowledge of how guidance programs can facilitate the development of decision-making skills in persons.

Objectives:

(I) 1. Describe the role of guidance programs in the development of decision-making skills.

(II) 2. Participate in a group guidance activity aimed at developing decision-making skills. Report on your experience.

(II) 3. Visit a school that has guidance programs aimed at developing decision-making skills. Interview some of the leaders and observe the program in progress.

(III) 4. Write a program proposal describing how individual and group guidance can be used to help people develop decision-making skills.

(III) 5. Design and implement a short term group guidance program focusing on the development of decision-making skills.

Placement

Goal: An understanding of placement services.

Objectives:

(I) 1. Describe various types of placement services.

(I) 2. Describe the roles of teachers, counselors, and administrators in placement work.

(II) 3. Interview several staff members at a placement center. Construct an outline of their services and how they provide them.

(II) 4. Survey a group of employed adults to find out what type of placement services they have used and found to be of value to them in the past, both in and out of the school setting.

(III) 5. Design an operational model for placement services in a setting of your choice.

Placement

Goal: A knowledge of financial aids available for students.

Objectives:

(I) 1. List different types of financial aids that are available for all forms of continuing education.

(I) 2. List sources that can be used to obtain information regarding financial assistance.

(II) 3. Fill out several different financial aid applications. Write a brief report discussing the forms and the procedures for filling them out.

(II) 4. Write to federal, state and local government offices to obtain information regarding financial assistance.

(II) 5. Visit the high school in your district to view financial aids information and to discuss with the counselors the procedures involved in obtaining financial assistance.

(II) 6. Interview a financial aids director at a local trade school, junior college, college or continuing education setting of your choice.

Placement

Goal: Knowledge of how to collect and disseminate placement information.

Objectives:

(I) 1. Tell what types of information would be valuable in a placement service.

(I) 2. List ways in which placement information can be collected and disseminated.

(II) 3. Design sample placement newsletters and bulletins for various school settings.

(II) 4. Visit schools which have computerized placement information systems. Use the system and write an evaluation of it.

(II) 5. Describe ways in which students can be involved in the collection and dissemination of placement information.

(III) 6. Visit a placement center and interview some staff members there. Outline their procedures for collecting and disseminating placement information.

Placement

Goal: Skills in preparing a resume.

Objectives:

(I) 1. Read and discuss several sample resumes.

(I) 2. List the elements of an effective resume.

(I) 3. Write a personal resume and present it in a group for evaluation. Rewrite the resume incorporating some of the suggestions made by the group.

(II) 4. Write a letter to a friend explaining why he or she should have a resume. Include some helpful suggestions on how to write one and how to use one.

Placement

Goal: Job interview skills.

Objectives:

(I) 1. Write the transcript of a hypothetical job interview.

(I) 2. Compile a list of skills that are important to an applicant during a job interview.

(II) 3. Interview or survey local employers to determine what qualities they look for in a job applicant during an interview.

(II) 4. Search resource materials and compile a list of aids that are helpful in preparing for job interviews.

(II) 5. Role play job interviews, assuming the role of employer as well as job applicant, and evaluate the results. (Use the hypothetical transcripts developed in objective one, above.)

(III) 6. Write a detailed manual designed to prepare students for job interviews.

Placement

Goal: Knowledge of productive work habits.

Objectives:

(I) 1. Compile a list of personal work habits that are important in securing and maintaining a job.

(I) 2. Identify ways in which students can be assisted in developing productive work habits while in school.

(II) 3. Survey local employers to determine what work habits they consider to be most important for their employees.

(II) 4. Design a series of individual and group activities aimed at developing work habits in students.

(III) 5. Design a research project to study some factor(s) influencing the development of productive work habits.

Placement

Goal: An understanding of factors that contribute to job satisfaction.

Objectives:

(I) 1. Define in your own terms what is meant by job satisfaction.

(I) 2. Describe a variety of factors that influence job satisfaction.

(II) 3. Read and discuss some of the studies that have been done regarding job satisfaction.

(II) 4. List all the conditions that would contribute to making a job personally satisfying for you. Construct a hierarchy of these conditions.

(III) 5. Participate in an in-class auction of working conditions. After the auction, discuss in groups what you have learned about yourself and others in relation to job satisfaction.

(III) 6. Design and implement a research project to study some aspect of job satisfaction.

Resources

Goal: Proficiency in selecting, using and evaluating materials for use in career education programs.

Objectives:

(I) 1. List types of resource materials that could be of value in a career education program.

(I) 2. Compile a list of sources that can be used to determine what career education resource materials are available. Rate the usefulness of each source.

(II) 3. Propose procedures that should be followed for the selection and evaluation of career education resource materials.

(II) 4. Survey school personnel to determine what types of career education resource materials they think are needed.

(II) 5. Devise a system for school personnel to report their evaluations of resource materials related to career education.

(III) 6. Select at least three different career education resource materials and use them appropriately in a school setting. Evaluate the effectiveness of the materials. Suggest any improvements that could be made in the materials or in the use of them.

Resources

Goal: Knowledge of school-based resources and of ways to use them in planning and implementing career education programs.

Objectives:

(I) 1. Compile a list of the types of individuals (teacher, counselor, librarian, etc.) in a school system. Describe the role of each in planning and implementing career education programs.

(II) 2. Compile an indexed list of materials available in the school district that might be used in a career education program.

(II) 3. List all the extracurricular activities and clubs at a school and tell what functions they have in career education. Suggest several activities or clubs that might be of further value to a career education program.

(II) 4. Survey school personnel to discover what skills or knowledge they have that could contribute to the planning and/or implementing of a career education program.

(III) 5. Propose a plan for a career education committee composed of school personnel. Include a description of its purpose, authority, members, activities, etc.

(III) 6. Design a career resource center for a school setting of your choice.

Resources

Goal: Knowledge of community based resources and of ways to utilize them in the planning and implementation of career education programs.

Objectives:

(I) 1. Compare the roles of the school and the community in career education.

(I) 2. Compile a list of types of individuals in the community (parents, employers, government officials, etc.) and describe the role of each in the planning and implementation of career education programs.

(I) 3. Identify components of a parental involvement program.

(II) 4. Compile a list of agencies in the community and describe the role of each agency in the planning and implementation of career education programs.

(II) 5. Interview members of several different volunteer organizations in a community and report on ways in which they can function as a career education resource.

(II) 6. Survey a community and construct a list of possible sites for local career education field trips.

(II) 7. List the various local or national youth organizations that relate to career education. Describe the career education activities of these organizations.

(III) 8. Graphically develop an adequate system of advisory councils for a district career education program and

describe the activities each council might become involved with in planning and implementing a career education program.

(III) 9. Select a community and create a comprehensive community resource manual to be used as a tool in the planning and implementation of career education programs for that community.

(III) 10. Diagram a channel of communications through which school personnel and community members can contribute information pertinent to a career education program.

Organization

Goal: An understanding of how federal legislation and state guidelines affect local career education program planning.

Objectives:

(I) 1. Describe at least five ways in which federal or state government can affect career education program planning.

(I) 2. Briefly compare the Comprehensive Career Education Model developed at Ohio State University and the career education model developed by the State of Illinois.

(II) 3. Present a brief synopsis of the manner in which federal legislation in 1963, 1968, 1971, 1975, and 1976 has affected program planning at the local level.

(II) 4. Present a brief synopsis of the Illinois state guidelines regarding career education programs.

(III) 5. Describe the activities (including personnel and important materials) that occur in each phase of the Illinois Three-Phase System of Evaluation.

(III) 6. Describe the new dimensions to program planning that have resulted from the Three-Phase System and their implications for local districts and the Illinois Office of Education.

Organization

Goal: Proficiency in planning career education programs for a variety of settings.

Objectives:

(I) 1. List and describe the components of a career education program plan.

(I) 2. Write a paper in which you discuss the meanings of career awareness, career orientation and career preparation. Discuss the significance of each of the terms as it relates to career education program planning.

(II) 3. Describe an adequate career awareness program for elementary grades. Include overall program goals, content, student learning activities, personnel involved, equipment used, and students served.

(II) 4. Describe an adequate career orientation program for middle schools. Include all of the aspects of the program listed in objective three.

(II) 5. Describe an adequate secondary level vocational education program, in-school and community based. Include all of the aspects of the program listed in objective three.

(II) 6. Describe an adequate comprehensive post-secondary career education program, in-school and community based. Include all of the aspects of the program

listed in objective three.

(III) 7. Design a local district one and five year plan for career education according to state guidelines.

Organization

Goal: Competency at writing program objectives to be used in the planning of career education programs.

Objectives:

(I) 1. Describe each of the three components of a program management objective.

(I) 2. Write five program management objectives that contain the three necessary components.

(II) 3. List ten or more sources of input for developing program management objectives for career programs.

(II) 4. Detail procedures, activities and forms for using program management objectives in total program planning and in program and staff evaluation.

(II) 5. Recommend procedures, activities and forms for a team approach to developing program management objectives for a local one and five year plan.

(III) 6. Write a one and five year plan for one component of a nearby school district. Consult with that district in doing so.

Organization

Goal: An understanding of the roles of various people involved in the implementation of career education programs.

Objectives:

(I) 1. Describe in detail the roles as you understand them of the following types of individuals in career education.

student	career education director
parent	principal
teacher	superintendent
department chairmen	board of education
guidance personnel	advisory councils
school staff	local employers

(I) 2. Identify specific tasks associated with each of the roles described above.

(II) 3. Describe mechanisms for involving each of these types of individuals in planning a career education program and specify the types of input they can be expected to provide.

(III) 4. Interview five persons with roles listed in objective one. Let them describe their roles in career education as they understand them.

Organization

Goal: Skills needed to plan effective inservice training programs for career education.

Objectives:

(I) 1. Describe activities that could be offered in an inservice training program for career education.

(I) 2. Compile a list of community and state persons that can be drawn upon as resource people in inservice programs.

(II) 3. Contact state and national professional organizations regarding suggestions for inservice career education programs.

(II) 4. Design or locate instruments that can be used to assess:

1) Knowledge of the staff regarding career education.

2) Interests of the staff regarding career education.

3) The effectiveness of career education inservice programs.

(III) 5. Visit and participate in career education inservice programs in several school districts. Write an evaluative report on these programs.

(III) 6. Design in detail a career education inservice program for the staff of a specific school.

Organization

Goal: Knowledge of the financial requirements of career education.

Objectives:

(I) 1. Identify at least five components of career education and describe the expenditures needed to support them.

(II) 2. List ways in which reimbursement can be sought for various career education expenditures.

(II) 3. Review a local district budget and identify items related to career education.

(II) 4. Interview a financial director and a career education director in a local school district to gain some knowledge of the financial requirements of a career education program.

(III) 5. Develop a one year itemized budget for the implementation of a career education program at a specific school.

Organization

Goal: An understanding of Illinois state guidelines for program reimbursement.

Objectives:

(I) 1. Describe the types of elementary, secondary and adult career education programs that are eligible for reimbursement from the Illinois Office of Education.

(II) 2. Define each factor included in the Illinois Office of Education formula for reimbursing career programs.

(II) 3. Compute the amount of reimbursement that would be provided to a local district for a particular career program.

(II) 4. Describe at least four types of special contractual arrangements with the Illinois Office of Education that provide for reimbursement to the local education agency for career education program expenditures.

Organization

Goal: A functional knowledge of career education research.

Objectives:

(II) 1. Describe ways in which research can be used in career education.

(II) 2. Read and discuss in class some of the major career development research studies and the implications these studies may have for you and your school.

(III) 3. Describe some major research tools and measures used in career development research.

(III) 4. Use a career development research tool or measure in a small-scale career education research study and write a report on the results.

(III) 5. Design a detailed career education research study and write a grant proposal for it.

Evaluation

Goal: Skills needed to assess the career development of individuals and groups.

Objectives:

(I) 1. Read and discuss several career development theories.

(I) 2. Identify elements of personal career development.

(I) 3. Compile a list of instruments, aids and techniques that can be used to assess the career development of individuals.

(II) 4. Select a method of assessment and use it to assess the career development of one student.

(III) 5. Design a program to assess the career development of a group of students at a particular level and estimate the costs, time, personnel and space needed for its implementation.

(III) 6. Implement a program to assess the career development of a group of students at a particular level and report the findings.

Evaluation

Goal: Skills needed to evaluate the effectiveness of a career education program.

Objectives:

(I) 1. Identify the components of a career education program.

(I) 2. Propose criteria for what constitutes an effective career education program.

(I) 3. Compile a list of techniques and instruments that can be used to evaluate the effectiveness of a career education program.

(II) 4. Evaluate the effectiveness of one component of a particular career education program.

(III) 5. Develop a one and five year plan for evaluating the effectiveness of a career education program in a nearby school or district.

Evaluation

Goal: Skills for collecting and analyzing subjective information to aid in evaluating and planning career education programs.

Objectives:

(I) 1. List some types of subjective information that would be useful in evaluating career education programs.

(I) 2. Describe methods for collecting such information and give examples of how it can be used for future planning.

(II) 3. Collect and analyze subjective information regarding several students and assess their career development according to this information.

(III) 4. Collect and analyze subjective information for a sampling of students in a school and write an evaluation of the career education program based on these findings.

Evaluation

Goal: To select, administer, score and interpret instruments used for evaluating career education programs.

Objectives:

(I) 1. Compile a list of sources that would provide information on evaluation instruments for career education programs.

(I) 2. Investigate at least five instruments and briefly report on the use of each one.

(II) 3. Select one instrument and write an indepth evaluation of it.

(III) 4. Administer, score and interpret an instrument (or battery of instruments) within an ongoing career education program and prepare a written report of your results for the school district involved.

Evaluation

Goal: Skills in the use of follow-up studies for the purpose of evaluating and improving all education programs.

Objectives:

(I) 1. List the types of data that would be of value in a follow-up study.

(I) 2. Identify ways in which follow-up data can be used to evaluate education programs.

(I) 3. Identify a procedure to use in gathering follow-up information including any data collection instruments that are appropriate.

(I) 4. Gather follow-up data on several students who have left school.

(II) 5. Plan a follow-up study in a particular setting.

(III) 6. Complete a follow-up study in a particular setting.

(III) 7. Evaluate the results of a follow-up study in terms of the implications it has for all aspects of the existing educational programs in that setting.

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Guides to Instructional Resources

It is beyond the purview of this particular project to conduct a comprehensive survey of materials available in career education. However, a very extensive survey of career education materials was conducted concurrently with this project by the ERIC Clearinghouse in Career Education at Northern Illinois University. The report for this companion project, entitled Key Resources in Career Education: An Annotated Guide, will be available in September, 1976.

Also, a second high quality survey, the EPIE Career Education S*E*T, came to our attention during this past year.

We recommend that these two reference works be obtained for use on any campus where preservice preparation in career education is being developed. Taken together, they constitute the most complete survey of career education materials that we have knowledge of. The two resources are annotated below.

ERIC Clearinghouse in Career Education. Key Resources in Career Education: An Annotated Guide. DeKalb, Illinois: Northern Illinois University, 1976.

This annotated directory is a guide for individual thinking and decision making in planning career education programs. It contains references for vocational psychology, career development theory, career education definitions, career education models, programs, and curriculum at all levels, and many related topics, as well as references to assessed career education materials.

Many thorough canvasses of career education and career guidance materials were made. Only the more comprehensive and synthesizing of the many available compilations were selected as key resources for this directory.

EPIE Institute. EPIE Career Education S*E*T. 2 vols. New York: EPIE Institute, 1975. Vol. 1: How to Select and Evaluate Instructional Materials. Vol. 2: Analysis of Seven Hundred Prescreened Materials.

Volume one provides information on how to evaluate and select instructional materials designed to meet career education goals in career awareness, education awareness, economic awareness, decision making, career preparation and training, and other career-related competencies.

Volume two presents abstracts of both commercial and non-commercial career education materials for all age levels. Materials copyrighted prior to 1971 were not considered for inclusion.

Chapter Summary

This chapter provided curriculum elements which can be used as components for the organization of preservice career education courses and modules on university campuses. A set of curriculum goals and objectives and some references to comprehensive guides to assessed career education instructional materials were provided.

CHAPTER 6

FORMATIVE COURSE EVALUATIONS
NORTHERN ILLINOIS UNIVERSITY

Introduction

Northern Illinois University developed five and implemented six courses in preservice career education during the 1975-76 academic year. The courses were:

1. Foundations of Career Education
2. Career Development Theory
3. Seminar on Research in Careers
4. Teaching for Career Development in the Elementary School
5. Career Education Techniques
6. Organization and Administration of Career Education

All six courses were open to interdisciplinary enrollment. There were no prerequisites.

In this chapter a brief description of each course is followed by an outline of the subject matter, competencies, activities, evaluation, and references used in the course. Following the outline of each course is a sample lesson plan.

This section was developed by consulting course materials submitted by the instructors to the authors and by interviews with the instructors involved. All but one of the courses was offered for the first time this year.

Foundations of Career Education

developed by

Dr. Ruth Woolschlager
Department of Business Education

and

Dr. Edward J. McCormack
Division of Counselor Education

Northern Illinois University

Course Outline

1. Description: This course is intended to familiarize the undergraduate and graduate student with basic concepts and methods in career education, and to develop the necessary foundation for those considering further study in career education.
2. Subject Matter
   a. Overview of career development theory and practice
      (1) Donald Super
      (2) Eli Ginzberg
      (3) David V. Tiedeman
      (4) Ann Roe
      (5) John Holland
      (6) Sidney Marland
   b. Perception of self as related to careers (Value Scale of Occupations)
   c. The world of work
   d. The career education process: bringing new life to school courses

e. Career education as part of the various disciplines in secondary schools

f. Interest inventories and aptitude tests

g. Relationship of vocational education to career education

h. Cooperative education and internship as an integral part of career education

i. Roles of community college and four year colleges in career planning

j. Adult education as an aid to changing careers or developing new careers

k. Techniques and materials useful in aiding and developing career awareness, exploration and preparation, emphasizing the use of ERIC and the Learning Center

l. The relationship of role perception, career choice, and unemployment

m. Attitudes of the unemployed

n. Projecting career opportunities

o. Methods for career planning and advising

p. Applying for a position and getting it, resumes, interviews, etc.

q. The concept of promotability with special attention to the promotability of women

r. Current research in career education and opportunities for further research

s. The work of state agencies and federal funding

t. Removing age, sex, race and physical handicaps as barriers to career development

3. Competencies

a. Explain in writing at least three central issues in career development theory.

b. Discover and analyze at least four reasons for the importance of career education in the United States today.

c. Develop a lesson plan which fuses career education objectives with those of a given subject or discipline.

d. Conceive, develop and present a career education project (including supporting readings) which will be useful in a school situation.

e. Write a paper exploring self-concepts and role perceptions in relation to career choice.

4. Activities

a. View slides, sound-slide programs, videotapes, filmstrips and films.

b. Interest inventories and aptitude tests

c. Field visits

d. Panel, group, and in-class discussions

e. Role playing

f. Reading assigned materials and other references

g. Writing career education objectives

h. Reporting on career projects

i. Attending a career education conference

Evaluation

Because of its foundational nature, a great variety of students took this course. This variety in enrollment provided interesting interprofessional exchange among students and between students and instructors. However, it also made it more difficult to meet the variety of career education needs of the students. Team teaching proved to be very beneficial in this regard because of the vastly different professional backgrounds and experiences that could be drawn upon.

A variety of materials and activities and sufficient time for extensive interchange in class are vital to the success of this course. It is suggested that the required readings be expanded, that the number of on-site visitations be increased, and that greater use be made of individualized experiences to meet the needs of diversified student enrollment.

Persons teaching this course should have a thorough knowledge of at least the following:

1. career development theories,
2. the career education practices of teachers, counselors, and administrators,
3. a variety of career education materials and activities,
4. a variety of current career education programs.

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Sample Lesson Unit
Foundations of Career Education

Resumes and Job Interviews

by

Dr. Ruth B. Woolschlager

I. Main Ideas

A. The importance of a well written resume in obtaining a job

B. Elements of a well written resume

C. The importance of effective job interview skills in obtaining a job

D. Characteristics of effective job interview behavior

II. Objectives

A. Establish criteria for a well written job resume

B. Develop skills at preparing a resume that conforms to the criteria established in II A.

C. Describe effective job interview behavior

D. Develop skills at recognizing effective job interview behavior

E. Develop effective job interview behavior through role playing

III. Pre-assessment

A. Students will be asked to identify the elements of a well written resume and of effective job interview. They will compare their lists with elements identified by other class members.

B. A Preliminary resume is submitted by each student.

IV. Main Activities

A. Students survey newspaper ads of job listings from a Sunday edition of a metropolitan paper and select several jobs that appear interesting.

B. Students prepare a resume that would be appropriate for the jobs selected in IV A.

C. Entire class discusses elements of a well written resume.

D. Students break into small groups where they will remain for the balance of the lesson.

E. Students distribute their resumes to small group members. Each resume reviewed in turn by the group.

F. Group members discuss characteristics of both effective and ineffective job interview behavior.

G. Group members role play with each other both effective and ineffective job interview behavior related to the jobs for which the resumes were prepared.

H. Group members discuss the job interview behavior that each group member displayed.

V. Post-assessment

A. Students submit revised resumes.

B. Students produce scripts in the form of written dialogue or on tape that display effective interview behavior.

VI. Materials and Supplies

A. Sunday editions of metropolitan newspapers.

B. Dittoed copies of sample resumes.

C. Tape recorder, and tapes or videotapes (if desired).

VII. Time estimate: approximately five hours of class time.

VIII. Cost estimate

A. Price of a Sunday edition of a metropolitan paper.

B. Price of a recording tape (if desired).

Resources (if Desired)

Angel, Juvenal. Why and How to Prepare an Effective Job Resume. New York: World Trade Academy Press, Inc., 1956.

Bolles, R. N. What Color is Your Parachute? Berkeley: Ten Speed Press, 1972.

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Career Development Theory

developed by

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Department of Student Teaching and
Director, Illinois Council on Economic Education

and

Dr. Edward J. McCormick
Division of Counselor Education

Northern Illinois University

Course Outline

1. Description: This course will provide the student with a thorough background in current career development theories. Open to graduating seniors and graduate students.
2. Subject Matter
   a. In depth study of career development theories
      (1) Ginzberg et al
      (2) Holland
      (3) Roe
      (4) Super
      (5) Miller-Tiedeman
      (6) Tiedeman
   b. Career education terms
   c. Models and systems thinking
   d. Decision making
   e. Development of a personal career development theory
   f. Self-concepts and systems-concepts as they relate to career development

g. Economic factors affecting career choice, including:

(1) economic growth

(2) economic instability

(3) market system

(4) manpower needs, etc.

h. Career counseling strategies

3. Competencies

a. Define differentiation and integration. Give at least two examples in your own experience.

b. Define career, career education, and career development.

c. Make a written, personal, explanatory statement about career development. Show use of differentiation, integration and an organizing point of view.

d. Identify in writing the elements of five career development theories (Roe, Super, Holland, Tiedeman and O'Hara, Ginzberg et al). Tell the meaning and significance of each element.

e. Discuss with class members in a small group setting the concept of interrelatedness in systems thinking, particularly as it relates to career development and career decision making.

f. Discuss with class members in a small group setting the concepts of models in systems thinking, particularly as it relates to career development and career decision making.

g. Describe in writing your personal style of decision making.

h. Identify in writing at least five basic economic components of career decision making.

i. Describe verbally the present and probable future labor market trends for different occupational clusters.

j. Show use of career information materials in career decision making.

k. Develop useable classroom materials for manpower and career education instruction.

l. Describe in writing the roles which the market system, economic instability, and economic growth and change play in determining career choice.

m. After reviewing a film and individually composing a list of factors influencing self-concept, discuss with class members in a small group setting the factors contributing to the development of a desirable self-concept.

n. Explain to class members at least one career counseling approach that could be taken in each of two different career counseling case studies.

o. Use economic-career education lesson plans in an actual class or micro-teaching situation.

4. Activities

a. View slide/cassette presentations, films and filmstrips.

b. Maintain a personal journal.

c. Small and large group interchange

d. Short oral presentations

e. Written exams both in and out of class

f. Assigned readings

g. Micro teaching

Evaluation

The major strength of this course was the integration of career development theories, awareness of self as a theoretical resource, and knowledge of the roles of the self and the system in career development within a continuously evolving personal theory of career development. Initially, some difficulties arose because of divergent expectations of the students and the instructor, i. e., students expected more structuring of their career development theory task by the professor, while the professor expected more structuring by the students. From this, it was learned that it is necessary to convey the idea from the very beginning that the student is already a career development "theorist" who has already accumulated much of the knowledge and experience that is essential to personal theorizing about careers. Also, some improvements could be made by eliciting attempts at a personal career development theory in the very beginning of the course and by allowing more in-class time for students to share ideas about their personal theories with each other. The use of the learning center facilities to handle the career and economic infor-

mation dispensing aspects of this course is encouraged to leave more classroom time for creative activity.

Team teaching can be particularly helpful for approaching different aspects of self-system integration in career development. Those who teach the course as outlined here should have knowledge of:

1. career development theories
2. decision-making strategies
3. economic factors in career development
4. factors affecting self-system integration
5. how models are used to guide effective action
6. systems thinking

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Sample Lesson Plan

Career Development Theory

Basic Economic Concepts Relating
to Career Decision Making

by

Dr. Michael A. MacDowell

I. Main Ideas

A. Main Theme

1. Students cannot make appropriate or rational decisions about careers without knowledge of the economic system in which these decisions are to be made.

2. The object of this theory unit is to provide preservice and inservice personnel with basic understandings of the American economic system and its relation to manpower distribution and career opportunities.

B. Supporting Themes

1. All work is important in our economic system.

2. The performance of work is rewarded by psychic satisfactions as well as by income.

II. Objectives

A. Main objectives

1. To have students gain an appreciation of the role of work in our economic system.

2. To have students become familiar with the basic

economic factors relating to manpower distribution.

3. To have students understand the meaning of economic concepts as they relate to manpower distribution.

4. To have students utilize such resources as Man-Power in Illinois and The Occupational Outlook Handbook.

B. Supporting objectives

1. The students will understand the effects of economics on career decision making.

2. The students will increase their economic understanding score by three points on the post-test, relative to pre-test scores.

3. Inservice teachers will utilize the course activities in their classrooms.

4. Preservice teachers will utilize the course activities in a teaching unit lab.

5. All enrollees will utilize the learning lab to view career education materials such as Bread and Butterflies.

III. Pre-assessment

A. Form A of the "Test for Understanding of College Economics" will be given to each student. This is a nationally normed instrument.

B. Vital statistics regarding the pre-test and post-test analysis will be shared with the students.

IV. Main Activities

A. Instructor Activities: The instructors will proceed through four booklets related to economics, manpower and career education. These booklets, entitled I(t) Work(s) include a brief overview of economics related to career education and topics on socio-economic change, technology, and marketability.

B. Student Activities: Students, after reviewing lesson plans from the World of Work Economic Education package, will be expected to create one lesson plan or learning activity package for each of at least three of the World of Work Economic Education concepts.

V. Post-Assessment

A. Form B of the "Test for Understanding of College Economics" will be given each student.

B. Results will be shared with the students.

C. A survey concerning attitudes towards this section of the course as well as its possible adaptation to the public school classroom will also be administered and discussed.

VI. Materials and Supplies

A. I(t) Work(s) package

B. Student teaching aids

C. The World of Work Economic Education handbook.

VII. Resources

A. The learning lab, educational T. V., and selected career education materials will be utilized by all students.

B. The micro teaching lab and video tape equipment will be utilized.

VIII. Time Estimate: This unit can be completed in four 2½ hour sessions.

IX. Cost Estimate

A. Estimates on the I(t) Work(s) package, minus audio-visual equipment, are approximately $5.00 per booklet set.

B. The World of Work Economic Education materials cost approximately $3.50.

C. The University may wish to buy the entire (I)t Work(s) audio-visual package for $850.00 from the World of Work Economic Education Center at North Texas State University.

Seminar on Research in Careers

developed by

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Director, ERIC Clearinghouse in
Career Education

Northern Illinois University

Course Outline

1. Description: This course is designed as an advanced level seminar in self theory, decision theory, career satisfaction, research in careers, and the social issues in career development.
2. Subject matter
   a. Vocational choice
   b. Vocational adjustment
   c. Vocational motivation
   d. Vocational satisfaction
   e. Decision theory
   f. Self theory
   g. Research and research techniques
   h. Theory construction problems
   i. Social issues (women, minorities, trends, computer-based programs, etc.)
3. Competencies
   a. A comparative understanding of the elements of vocational development theories
      (1) Roe

(2) Holland

(3) Ginzberg et al

(4) Super

(5) Tiedeman and O'Hara

b. An understanding of career development and of the informing process in it.

c. An understanding of the developmental nature of vocational choice.

d. An understanding of the research-derived correlates of career choice (stimulus, organismic and response variables as defined by Crites and their related concepts).

e. Familiarity with the major longitudinal studies in the field of career development

(1) Super's Career Pattern Study

(2) Gribbons and Lohne's Study of Readiness for Vocatioal Planning

(3) Crites' Vocational Development Project

(4) Project TALENT

(5) Cooley's research

f. Understanding of current issues in the field (women, minorities, measurement, etc.)

g. Familiarity with the major research tools and measures used in career assessment research.

h. An appreciation of theory construction problems.

i. An integrated personal theory of career development in which you have sufficient confidence to practice.

4. Activities

   a. This course is designed as an advanced level seminar with the major part of the course based upon the seminar format.

   b. Library research, student presentations, and instructor-based discussion and lecture will be utilized.

   c. Students will be encouraged to plan a research project of their own.

Evaluation

Pre and post assessment revealed a considerable gain in the students' knowledge of career development theory and in their ability to describe their own careers. Also, with one exception, the students' proposals for research designed to test differences of opinion which they had with an established theorist were rated as displaying above minimum competency.

A major difficulty encountered was the fact that none of the students had studied career development theory prior to entry into the course. This meant that six of the sixteen class periods were devoted to career development theory, which precluded the attainment of the full range of course competencies. Much less time remained to devote to the research on vocational behavior, to research instrumentation, and to longitudinal studies of careers. Because of these difficulties, it is strongly recommended that the course on career development theory be made a prerequisite for entry into this research seminar.

A knowledge of career development theory, of the major lines of career development research activity, and of the philosophy of science are essential for persons teaching this course.

Since students are not uniformly excited about doing research, it is recommended that this course be taught as a research laboratory to help increase motivation and to encourage initiative in research. It would be ideal to create a center for research in career development at the university and to involve students in actual research work being carried on there.

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Teaching for Career Development in the Elementary School

developed by

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Course Outline

1. Description
   a. Planning, implementing and evaluating career development programs in the elementary school
   b. Refocusing curriculum areas to meet career development objectives
2. Subject Matter
   a. Action goals of the State of Illinois
   b. Career development programs funded by state and national agencies
   c. Career development programs as implemented by selected school districts (Peoria, Glen Ellyn, Maywood, DeKalb)
   d. The career development process
   e. Planning through the "organizing center" approach
   f. Parental involvement in school programs
   g. The utilization of community resources
   h. The relevance of traditional subject areas to the activities of active adults

i. The changing world of work

j. The utilization of instructional support systems within a school district

k. Planning, implementation and evaluation of instructional programs refocused to meet career development objectives

l. The teacher as a career development model

3. Competencies

a. Identify components of a parental involvement program.

b. Identify components of a community resource utilization system.

c. Identify elements of the career development process such as, inquiry, values clarification and decision making.

d. Utilize instructional planning techniques to aid career development.

e. Develop methods by which resource people can be utilized in instructional environments within school and outside of school.

f. Analyze techniques to utilize the instructional support systems of the school more effectively.

g. Discuss significant trends in the world of work.

h. Utilize techniques to individualize instruction to meet local career development objectives.

i. Identify ways by which career development planning and instruction can be evaluated.

j. Identify ways the visibility of the work of the teacher

can be enhanced.

4. Activities

   a. Studying career education plans and requirements developed by the Division of Vocational and Technical Educaion, State of Illinois and the Office of the Superintendent, State of Illinois

   b. Studying reports of state and national funded projects

   c. Other reading references

   d. Viewing films, filmstrips, and sound-slide programs

   e. Discussing topics with selected resource people

   f. Interviewing resource people in the field

   g. Reporting of interviews to the class

   h. Writing plans to meet career development objectives

   i. Analyzing ideas, strategies, and materials produced to meet career development objectives

   j. Evaluating the work performed to meet course objectives and the work of the instructor of the course

Evaluation

The offering of this course on extension is one of its greatest strengths. This provides more opportunities for direct application in the classroom and for close-up focusing on pertinent aspects of local career education programs. The variety of activities and frequent opportunities for practical sharing were also cited by students as strong points.

While this course was specifically designed for practicing elementary teachers, its application can be broadened by either developing components for other levels of instruction or by altering the entire course to include all teachers. Applicability to various instructional levels can also be achieved through more extensive use of individualization, through micro-laboratory experiences and through stratified classroom applications.

It is suggested that persons teaching this course have the following background:

1. experience in teaching at the level(s) of school involved,

2. a thorough understanding of career education theory and its relation to practice in the classroom,

3. familiarity with schools in the area, i. e., knowledge of their current general programs and career education practices.

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Sample Lesson Plan
Teaching for Career Development in the Elementary School

People are Primary Sources for Career Development Ideas

by

Dr. Walter Wernick

I. Main Ideas

A. Career development focuses upon the lives of people.

B. Students need to be put into direct contact with active adults.

C. Students need to learn skills to communicate with adults.

D. Students need to learn to process career development data obtained from adults.

E. Students need to learn to share information obtained from primary sources.

II. Objectives

A. Teachers will include authentic people in their list of resources for planning and implementing their instructional programs.

B. Each teacher will select resource people to meet the needs of his learning environments.

C. Teachers will provide opportunities for students to learn the communication and inquiry skills needed for career development interview sessions.

D. Teachers will follow through with the development of research skills, value clarification skills, and sharing skills after interview sessions.

E. Teachers will evaluate their utilization of resource people to improve their effectiveness in delivering "academic" programs as well as programs specifically oriented toward career development themes.

III. Post-Assessment

A. Teachers will be asked to identify the elements of career education as they perceive it. They will compare their listing with elements identified by others (including the college instructor).

B. Sources of information about career development will be presented with the suggestion that people are primary sources and should be utilized.

IV. Main Activities

A. Teachers will be given a packet of occupation cards. Each card will have the title of one occupation, e. g., newspaper reporter. Teachers will be asked to choose resource people appropriate to their age/grade level from among the occupations on the cards.

B. After a period of three to five minutes, teachers will be told that they can only choose one resource person. "Which one is best for you?" All other occupation cards are to be put back into the packet.

C. Teachers are asked to tell which one resource person they chose and why they made the choice.

D. Discussion of choices should focus upon each teacher's imaginative view of how the resource person could be utilized and why the choice was made. (A parent has the occupation; student interest; the person in mind is a colorful character; a teacher does the activity part-time and is easily accessible; the students are unaware of the work the person does and need to be informed; etc.)

E. Teachers are congratulated for thinking through their needs and for their wise use of community resources.

F. Teachers are asked to imagine that the person they chose will be in their learning environment. How will they prepare the class? How will they prepare the resource person?

G. Teachers are helped to see interviewing as part of a larger process of inquiry, value clarification, and sharing information. Guidelines are developed to help students shape and ask questions. Activities are discussed which further develop the personal meanings obtained from direct experience with a resource person.

V. Post-Assessment

A. Each teacher develops an "organizing center" form

for his or her own situation. This form identifies the resource people (and other things and places) to be utilized, the content to be correlated and infused, and the endproducts to be developed by the class members.

B. The "organizing center" plan for thinking through specific objectives, resources, and activities is shared with other teachers and the instructor of the course. Suggestions to narrow or broaden activities discussed with the main thought being the teacher is the manager of the learning environment and is the final decision maker regarding what is planned and implemented in his or her classroom.

C. Emphasis is upon developing the interactive processes of inquiry and value clarification, not upon specific clusters of occupations or quantities of resource people. Evaluation is in terms of the ways each teacher has provided for the development of interviewing skills and their utilization within the regular curriculum of his or her school.

VI. Materials and Supplies

A. Worksheets

1. What is career education?

a. What does it include?

b. What should I do?

c. What should my school do?

2. Guidelines for interviewing

   a. Preparing the student

   b. Preparing the resource person

   c. Sample questions

   d. Follow-up activities

3. Organizing center planning forms

4. A focusing instructional unit

B. A packet of index cards for each participant. There are approximately thirty to fifty different occupations in each packet.

VII. Time Estimate

A. The unit can be taught in segments or all at once, depending upon the numbers of participants and their backgrounds. Practicing teachers know their "curiculum" without looking at scope and sequence charts. Neophytes may need to work with curriculum guides or work collaboratively with experienced teachers.

B. Sample lessons and units should be shown intermittently, not studied in depth as models. Each teacher's imaginative use of resource people must be the bull's eye, not a one-time written plan done up in proper form. Skills of the instructor in bringing appropriate examples to mind, in extending the tentative thoughts of participants, and in encouraging a refocusing of instructional elements are the key

determinants for the time factor. The instructor must be thoroughly familiar with the work of many effective teachers.

C. The texts for the course show how activities could be originated, correlated, and evaluated. How fast or how far the instructor proceeds depends upon his or her own expectations for the group. This unit could be accomplished in one to eight hours.

VIII. Cost Estimate

A. Packets can be developed at moderate cost. The Jones text costs $9.95. The ARGUS materials can be purchased for $9.45. Many of the worksheets are in the public domain.

B. The most expensive item in this unit is the person delivering the instruction. There can be no substitute for the person-to-person development of ideas, for the involvement of participants toward the unit's objectives, and for the instructor's expertise in sharing credible, imaginative approaches to the work teachers must perform.

Resources

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Career Education Techniques

developed by

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and

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Course Outline

1. Description: An interdisciplinary course on career education techniques for those intending to be counselors, teachers, or administrators at the elementary, secondary, community college, higher education, or adult and continuing education levels. This course is required for those seeking secondary counselor certification.
2. Subject Matter
   a. Overview of career development theory
      (1) Roe
      (2) Holland
      (3) Super
      (4) Ginzberg, et al.
      (5) Miller-Tiedeman
      (6) Tiedeman
   b. Career content and process
   c. The concept of "design a self," using Loevinger's theory

of ego development.

d. Career guidance and sequential career guidance programs

e. Implications and applications of process teaching for career education

f. Career counseling

g. Implications and applications of peer counseling for career education

h. Comprehending process in teaching and counseling

i. Processes in attaining organizational goals

j. Implications and applications of organizational processes.

k. Computer-based information systems

l. Printed and non-printed resource materials for career education

m. The placement service at different levels with sample forms and related discussion

n. Evaluating career education programs

3. Competencies

a. Explain the concept and function of the ERIC Clearinghouse in Career Education to a fellow class member and to a professional in a work setting of your choice.

b. Briefly describe in writing the career development theories of Roe, Holland, Ginzberg et al., Super, Miller-Tiedeman, and Tiedeman.

c. Define "career content" and "career process."

d. Recognize and discuss the difference between career

process and content.

e. Clarify the process of career education through a mini-teaching experience.

f. Clarify the process of career education through a mini-counseling experience.

g. Present a project detailing the components of a sequential career education program related to your choice of work setting from either a teaching, counseling, or administrative perspective. Include evidence of your knowledge of career education techniques.

h. Present an appendix to the project referred to in objective seven containing appropriate resources in career education.

i. Present a plan for evaluating the project referred to in objective seven.

4. Activities

a. Films, slide/cassette presentations, and slide presentations

b. Demonstration and use of ERIC

c. Career interviewing

d. Group and class discussion

e. Mini-teaching and mini-counseling experiences related to the process of career education

f. "Hands on" experiences with occupational view decks, career games, etc

g. Field trips and visits

h. Design and presentation of career education projects

i. Numerous handouts and sample forms

j. Written examinations

Evaluation

Team teaching proved to be an excellent arrangement for this course. A variety of appraoches could be drawn upon from the different backgrounds of the two instructors. The strengths of the course were the emphasis placed on understanding the career development roles of the various professions represented in the student enrollment, and the emphasis placed on the importance of theory to inform practice at all levels. Perhaps the most significant outcome was the students' increased awareness of themselves as career education resources, and their increased ability to use themselves as such.

The class size of thrity-eight made it somewhat difficult to respond to individual needs. A class size of twenty or less would, of course, be most desirable. Greater use of microteaching and learning center experiences for more individualization of instruction would also be helpful in this regard.

It is recommended that persons planning to teach this course have the following preparation:

1. an understanding of career development theory and its relation to career education practice,

2. experience in the conduct of career education programs,

3. access to exemplary career education programs for on-site visitations.

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Required Readings

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Sample Lesson Plan
Career Education Techniques

Defining "Career Content" and "Career Process"

I. Main Ideas

A. Career Content

1. Parent attitude
2. Teacher attitude
3. Friends
4. Cultural influences
5. Academic success and failure
6. Economics
7. Interests
8. Aptitudes
9. Self-concept
10. Early goals
11. Technology
12. Changing concept of work
13. Extra curricular activities
14. Abilities

B. Career Process

1. Chance
2. Opportunity
3. Time in history
4. Follow through

5. Failure to follow through
6. Decision making
   a. Getting information
   b. Taking risks
   c. Recognize the career problem
   d. Availability of information
   e. Possible alternatives
   f. Clarifying alternatives
   g. Considering determiners and influencers of career decisions.

II. Objectives

A. To understand the complexity of career development over a life span by learning to distinguish the content of a career from the process of a career while analyzing another person's career developement history.

B. To judge how much of a particular person's career development has been by chance and how much by choice.

III. Pre-assessment: the student will write a description of what he or she thinks is meant by "content of career" and "process of career."

IV. Main Activities

A. Students are paired off and instructed to interview each other for fifteen minutes each.

B. Each pair is given an additional fifteen minutes to write up the interviews.

C. Instructor and students participate in a discussion concerning "the content of career" and "the process of career."

D. The instructor asks students for examples of career content from their interviews and lists these on the board for students to observe and record.

E. The instructor asks students for examples of career process from their interviews and lists these on the board for students to observe and record.

V. Post-assessment: Students write a detailed explanation of what they now think "content of career" and "process of career" mean, giving specific examples from the interviews and/or from their own lives.

VI. Materials and supplies: none

VII. Time Estimate: 1½ hours

VIII. Cost estimate: none

IX. Resources: assigned readings

Organization and Administration of Career Education

developed by

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and

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Course Outline

1. Description: The study of the organization and management of school and community resources for the career development of students. Activities will include field visits and the evaluation of career education programs.
2. Subject Matter
   a. Career education program planning and evaluation with special reference to the State of Illinois.
   b. Development and use of total program objectives.
   c. Career education programs and students served.
   d. Using school and community resources in career education program development.
   e. Guidance and auxiliary services for career education.
   f. Locally directed program evaluation.

g. Illinois state guidelines for program reimbursement.

3. Competencies

a. Present a brief synopsis of career development stages and describe the relationship of these stages to career education programming.

b. Describe the Illinois 3-Phase System of Evaluation, its influence on career education program planning, and its implications for public school districts and universities.

c. Write program management objectives

d. Detail the procedures, activities and forms for:

(1) a team approach to developing program management objectives for a local district one and five year plan for career education.

(2) using program management objectives for total program planning and avaluation.

e. Describe adequate programs for career awareness, career orientation, career preparation, vocational education, and post-secondary career education programs. Include program goals, content, activities, personnel involved, equipment used and students served.

f. Describe methods for developing an adequate system of advisory councils, and for invloving various other resource people in career education program planning.

g. Define terms used in career education program planning.

h. Describe specific career guidance services giving special

attention to placement and follow-up.

i. Describe the roles of various individuals in career education program planning and evaluation.

j. Describe the various types of reimbursement that can be sought for career education programs.

4. Activities

a. On-site visitations

b. Lecture and discussion

c. View films

d. Prepare abstracts of materials read outside of class

e. Library research

f. Written examination

g. Compute amounts of reimbursement porvided for particular career programs

h. Develop a local district one-and-five year plan for career education

Evaluation

Pre and post assessment revealed a substantial increase in the students' confidence in their ability to perform on all of the course competencies. In general, the students considered themselves well prepared in this area of career education at the conclusion of the course.

The greatest strength of this course was its well-planned organization of distinct programmed and transportable modules.

However this aspect also proved to be problematical at times because the course was occasionally too highly organized to allow as much freedom in the classroom as was desired by the students and/or instructors. Modifications of the original modules and of the modes of presentation are planned to eliminate this difficulty.

It was found that this course was ideal for team teaching because of the balance that could be struck between the occupational emphasis of one instructor and the umbrella career emphasis of the other instructor. Other suggested changes in the course are to increase the use of micro-laboratory experiences, and to increase the amount of field work. The possibility of students participating as special members of Department of Adult, Vocational, and Technical Education program evaluation teams is under consideration.

A comprehensive understanding of both occupational education and career education is essential to teach this course as outlined here. Access to current information in these two areas, as well as local availability of exemplary programs, are crucial to the success of this course.

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Sample Lesson Plan
Organization and Administration of Career Education

Using School and Community Resources for Program Development

I. Main Ideas

A. Advisory councils

1. Definition and composition

2. Types

a. General

b. Individual program

3. Planning and development activities

a. Program objectives

b. Equipment selection

c. Facilities planning

d. Manpower needs survey

e. Program evaluation

(1) reaction to program proposals

(2) new programs

(3) program elimination

4. Assessment (review of objectives and informal assessment of students' level of development).

B. Organizing resources for program development

1. Contractual agreements

2. Area vocational centers

3. Cooperative vocational programs
4. Joint agreements
5. Learning resource center
6. Assessment (review of objectives and informal assessment of students' level of development).

C. Mechanisms for involving school and community personnel in program planning.

1. Students
   a. Need for various programs
   b. Evaluative data for program improvement
2. Parents
   a. Need for various programs
   b. Evaluative data for program improvement
3. Occupational teachers
   a. Individual and total program objectives
   b. Evaluative data for program improvement
   c. New program ideas
4. Guidance personnel
   a. Evaluative data for program improvement
      (1) Follow-up data
      (2) Job placement data
      (3) Assessment of students' needs for occupational preparation
   b. Criteria and procedures for identifying the disadvantaged and handicapped

c. Procedures for student selection and classification

5. Personnel from feeder schools

a. Program objectives

b. Program description

(1) Content

(2) Methods

(3) Facilities

(4) Students served

6. Assessment (review of objective and informal assessment of students' level of development)

II. Objectives

A. Graphically develop an adequate system of advisory councils for a district's career education program and describe the activities of each council.

B. Define the following and describe situations in which each might contribute to the development of a strong occupational program.

1. Contractual agreement

2. Area/vocational center

3. Cooperative vocational program

4. Joint agreement

5. Learning resource center

C. Describe mechanisms for involving each of the following types of individuals in planning a career program and tell the specified types of input they

can be expected to provide.

1. Students
2. Parents
3. Teachers
4. Guidance personnel
5. Personnel from feeder schools

III. Pre-assessment: Students indicate their level of development with regard to each unit objective by using the following scale: 0-no knowledge; 1-some, but not complete knowledge; 2-complete knowledge

IV. Main Activities

A. Students read Department of Adult Vocational and Technical Education Guide for Planning, Organizing and Utilizing Advisory Councils and other selected materials concerned with using school and community resources.

B. Students summarize all readings. Abstracts are submitted to the instructor in 3 x 5 card format and evaluated and returned to students for their files.

C. Lecture and Discussion

V. Post-assessment: Students prepare a written response to each of the unit objectives and submit them to the instructor for review and constructive criticism. Responses and instructor's comments are returned during the following class meeting.

VI. Materials and Supplies: 3 x 5 index cards

VII. Resources: Assigned readings

VIII. Time Estimate

A. The unit can be taught in three separate one hour segments.

B. The remaining activities take place outside of class and the amount of time will vary with each student.

IX. Cost estimate: The only cost involved for this unit is the purchase of 3 x 5 index cards.

Chapter Summary

This chapter presented a formative evaluation of six career education courses taught at Northern Illinois University. A course outline and sample lesson unit were provided for each of the six courses.

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DESCRIPTOR: *CAREER EDUCATION; *LEARNING ACTIVITIES; ELEMENTARY EDUCATION; UNIT PLAN; BEHAVIORAL OBJECTIVES; *CAREER AWARENESS; *RESOURCE MATERIALS; *CURRICULUM GUIDES

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ABSTRACT: VOLUME I CONTAINS CAREER EDUCATION ACTIVITIES FOR GRADES K-5. THE UNITS ARE DEVELOPED AROUND SPECIFIC TOPICS AND INCORPORATE THE FOLLOWING ELEMENTS: SUBJECT-CONTENT RELATIONSHIPS, OCCUPATIONAL INFORMATION, RESOURCE SPEAKERS, INTERVIEWS AND REPORTS, PARENT AND FAMILY INVOLVEMENT, HANDS-ON AND OTHER SENSORY EXPERIENCES, ROLE PLAYING AND SIMULATION ACTIVITIES, AND CAREER-RELATED FIELD TRIPS. EACH UNIT REQUIRES FOUR TO SIX WEEKS, AND TEACHERS MAY SELECT FROM THE ACTIVITIES LISTED THOSE MOST APPROPRIATE FOR THEIR PARTICULAR STUDENTS. THE UNITS GENERALLY CONTAIN OBJECTIVES, CONTENT QUESTIONS, TECHNIQUES AND ACTIVITIES, RESOURCES AND MATERIALS REQUIRED FOR EACH ACTIVITY, AND A BIBLIOGRAPHY. SAMPLE UNIT TOPICS ARE CLOTHING, INSECTS, THE RADIO STATION, AND AGRICULTURE. (AUTHOR/RG)

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CAREER EDUCATION ACTIVITIES
GRADES K-7
Volume 1 of 2 Volumes

Project No. V361010L
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Research and Development Project
in Career Education

Conducted Under
Part C of Public Law 90-576

James E. Rutrough, Director
W. Randall Wright, Project Coordinator
Radford City Schools
1612 Wadsworth Street
Radford, Virginia 24141

November, 1974

3

RADFORD CITY SCHOOL'S CAREER EDUCATION PROJECT
RADFORD, VIRGINIA 24141

INTRODUCTION TO ELEMENTARY CAREER EDUCATION UNITS

The Career Education Program of the Radford City Schools is a pilot project of research and development for career education techniques and materials. It is funded through a grant from the Office of Education which extends until December 14, 1974.

The unit approach was utilized to implement career education concepts on the elementary level. A total of 99 career education instructional units have been developed by the Radford teachers. These units were designed for use in grades K-7 and special education.

The units were developed around specific topics (clothing, weather, etc.) and incorporated the following elements:

1. Subject content relationships
2. Occupational information
3. Resource speakers
4. Interviews and reports
5. Parent and family involvement
6. Hands-on and other sensory experiences
7. Role playing and simulation activities
8. Career related field trips

The majority of the units contain more activities than would normally be included in a unit, therefore the teacher can select the most appropriate activities for her particular students. The length of time that should be spent on each unit is approximately four to six weeks.

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C A R E E R E D U C A T I O N P R O G R A M

R A D F O R D C I T Y S C H O O L S

UNIT TITLE: CLOTHING - "NOTHING TO WEAR BUT CLOTHES"

APPROXIMATE GRADE LEVEL: KINDERGARTEN

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

PROJECT COORDINATOR: RANDY WRIGHT

THE CAREER EDUCATION PROGRAM
THE RADFORD CITY SCHOOLS
1612 WADSWORTH STREET
RADFORD, VIRGINIA 24141
PHONE: 1-703-639-6673

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BROAD OBJECTIVES:

Self Awareness

The child will become more aware of the relationship of jobs and skills to the clothing he wears. He will become more aware of the tasks needed to produce various clothing items, and relate these to the skills he is learning.

Educational and Career Awareness

The student will become aware of the varied occupations in the clothing industry through educational experiences in the classroom and community.

Economic Awareness

The student will develop economic and social concepts through role play and observation of the manufacture, buying and selling of clothing.

Employability Skills

The student will form concepts, attitudes and skills related to the clothing industry. Hopefully, he will be able to successfully perform tasks and recognize the importance of following directions and doing a job well.

Attitudes and Appreciations

In observing particular skills needed in the manufacture and selling of clothing, the child will become aware of the importance of all jobs and high performance skills. He will see the importance of inter-dependence in accomplishing goals.

Decision Making

To help the child become aware that he has a choice in many situations.

The child will become aware of the relationship between responsible action and decision making.

Through role playing the student will learn to select clothing appropriate to the

CONTINUED

weather and/or activity, to care for his clothing and develop an interest in specific tasks related to this field.

Beginning Competency

The student develops small muscle skills, number skills, vocabulary enrichment, listening skills and manipulating small tools.

Introduction to: Nothing to Wear but Clothes

This unit will try to give kindergarten children more of an understanding of what people and processes are involved in producing an item of clothing from fiber or animal to finished product.

Through field trips, resource people, hands-on experiences, movies, film-strips and stories, the children should gain in their knowledge of skills needed to produce a variety of clothing.

Because kindergarten children learn best by doing, it is important to make available many hands-on experiences such as weaving, sewing, spinning, designing, cutting, etc.

MOTIVATING ACTIVITIES	RESOURCES AND MATERIALS
As an introduction to the unit, children will be selected to open four boxes of assorted clothing pertaining to the seasons. Have available four suitcases for the children to pack for a summer, winter, spring or fall vacation.	Filmstrip: Clothes and Where We Wear Them. How We Get Our Clothing. Pella's New Suit. Where Clothes Come From.
Let's pretend we're going on a trip. It's summer and very hot. What will we need to pack? Continue this discussion and dramatize and charade.	Song: What are you Wearing? Hap Palmer - Basic Skills

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
Why do we need different types of clothing?	Art Activity: Children draw and cut out people dressed appropriately for a particular season. Children role play these activities.	Art Book-Arts and Crafts for Elementary Teachers. Childcraft Vol. 10 p. 220 "Making the Clothes You Wear" Transparencies "Learning About Clothing" (SVE)
What type of clothing do we wear for different activities? Why? Sligh riding Church Shopping Swimming Sleeping Birthday Party Camping Travelling Bike Riding Playground Activities Hiking Riding Horses Riding a Motorcycle Deer Hunting Fishing	Children look through catalogs and cut out and classify clothing according to activity or season. Make a collage of torn paper pictures of as many different kinds of clothing as each can find. Songs: Hanging Out the Linen Clothes Here We Go Round the Mulberry Bush The Shoemaker (from Music in Our Town) Children bring dolls and dress according to activity.	Story: "A New Hat and a New Dress" Bulletin board made by the children with the four seasons backgrounds with appropriate dress on the people. Books: The Red Jacket Katie No Pockets The Pockets of Paul Songs: Easter Parade Hat Parade I Have a Little Overcoat The Laundry Man

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
		Stories: New Clothes for Henry The Story of Your Coat Study Prints: Clothing Stories: The Jumping Hats from a World of Suprises p.130 Titos Hats The Elves and the Shoemaker A Visit to the Shirt Factory from Going Places Seeing People
Where do clothes come from?	Children will have an opportunity to dress in various types of clothing leading up to an art activity of painting large cardboard boxes to be used as clothing, hat and shoe stores.	Filmstrip: Where Clothes Come From Large freezer boxes to be used for classroom shopping center. Play money, cash register, various types of clothing available for role playing. Filmstrip: My Dad Works in a Shoe Store.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
Would you like to visit some real stores and get some ideas for your stores? Try to remember the kinds of objects you will need in your stores.	Field trip to town where children will visit a department store, shoe store, hat shop, etc. As a follow-up, we will discuss the various jobs seen in these stores and encourage role-playing of these observations.	
What materials do we use in our clothing?	Discuss concepts of heavy, light, etc. and seasonal clothing. Art Activity. Various types of cloth available to feel, squeeze, smell, pull, etc. Make a fabric collage.	Filmstrips: The Story of Cotton The Story of Leather The Story of Wool Textiles for Everyone Wool Into Clothing Textiles Teaching Kit On science table have magnifying glasses and microscopes for the children to experiment with and observe the various fabrics. Field Trip Visit a fabric shop.
	Discuss measurement with regard to how we buy and measure fabric, people, etc.	Have yard stick, measuring tape, etc. on science table, cotton boll.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
How do fabrics become colored?	Crayon color on fabric then iron with a hot iron to set the wax. Tye-dye old T-shirts on blouses which each child has brought from home. Encourage children to bring in berries, flower petals, leaves, etc. that can be used to experiment with coloring fabrics. Art Activity: Cotton balls dipped in tempera.	Field trip to Dalton's Farm to see sheep shearing. Books: The True Book of Cloth by Highbert Let's Find Out About Clothes The Story of Your Coat by Clara Hollos
How are fibers woven?	Have the small looms out and introduce weaving with the loops. Keep these out and available for those who wish to work at this project. Show the children how to weave pot holders and weave off the loom.	Have a resource person come from RMC to show movie and samples of man-made fibers. Visit someone who has a loom - a home or Radford College Art Department. Have them demonstrate different type of weaving.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
How are clothes made from fabric?	Have sewing machine in the room. Teach those interested how to use it.	Visit the shirt factory. Observe especially the production-line techniques.
Who makes them?	Introduce term "pattern .	Have resource people come into the room to show and possibly teach children various crafts such as knitting, crocheting and fancy weaving.
Are all clothes made the same way and design?	Have some doll clothes cut out for children to sew up if they choose.	Visit sewing classes at Radford College to see and use the machines and to watch clothes being made by individuals.
	Borrow a child mannekin from a department store. Bring old patterns and pieces of material to be manipulated and experimented with.	
How do we care for our clothes? Who helps us keep our clothes clean besides mother?	Song: This is the Way We Wash Our Clothes"	Filmstrip: Proper Clothes and Their Care Our Neighborhood Laundry
	Help children learn to care for doll clothes in the classroom. Have them wash, rinse, pretend iron, and fold.	Visit the local cleaning establishment. Point out and observe the different techniques of keeping clothing clean, such as washing, dry-cleaning, spotting. Have someone demonstrate how shirts are ironed at a professional cleaners.

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	As a culminating activity, children will wear their own creation for a fashion show. Encourage each one to describe the type of material, where it came from, and where the article was purchased.	

Additional Books for Unit on Clothing:

Arnold, Pauline. Clothes and Cloth.
Buehr, Walter. From Fiber to Fabric.
Cavanna, Betty. The Country Cousin.
Jupo, Frank. Nothing To Wear But Clothes.
Lazarus, Harry. Let's Go To A Clothing Factory.
Lubell, Cecil. Clothes Tell A Story.
McCall, Edith. How We Get Our Clothing.
Neigoff, Anne. A Cap For Jack, A Coat For Jill.
Pitt, Valerie. Let's Find Out About Clothes.
Pitt. Animals Should Definately Not Wear Clothes.
Waller. Clothing-A Book to Begin On.
Wilkinson. Come to Work With Us In A Department Store.

Filmstrips:

Our Neighborhood Laundry
The Tailor
The Shoemaker
Robert Goes Shopping
The Story of Wool
The Story of Cotton
Textiles for Everyone
Going Downtown
Textile Teaching Kit -- Fs and Record

Flash Cards and Charts:

Clothing and Accessories

Film Loop:

Wool Into Clothing

C A R E E R E D U C A T I O N P R O G R A M

R A D F O R D C I T Y S C H O O L S

UNIT TITLE: CLOTHING

"THIS IS THE WAY WE ? OUR CLOTHES

APPROXIMATE GRADE LEVEL: KINDERGARTEN

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

PROJECT COORDINATOR: RANDY WRIGHT

THE CAREER EDUCATION PROGRAM
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INTRODUCTION TO: Clothing
"This Is The Way We ? Our Clothes"

The purpose of this unit is to develop, in young children, an interest in and understanding of the clothing they wear.

Through sensory contact, they will learn of the many textures, colors, and weights of fabric and of the kinds of apparal for which each fabric is suited.

Through contact with workers responsible for producing and caring for clothing, the children will develop an understanding of the world of work.

BROAD OBJECTIVE: To develop an awareness in young children of the many kinds of clothing and why we wear and need them. To also develop an awareness of workers who make clothing available to them.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What are you wearing today? Where did your clothes come from?	Play "show 'n tell" identifying what each child has on.	Read: Emperor's New Clothes (Hans Christian Anderson)
	Bulletin board - Tune of "Mulberry Bush" "This is the Way we Make our Clothes" Discuss-identify items on board.	Picture of sewing machine, patterns, pieced-together outfit, bobbins, zippers, pinking sheers, etc. Also, knitting, weaving.
2. How are clothes made?	View filmstrip and discuss.	Filmstrip: How Clothing Is Made Radford College
	Take trip	Field trip to Home Ec. Dept. to see a sewing class.
	Creative play with paper dolls.	
	Make girl and boy figures-- dress in materials brought in by children.	Pieces of material
3. What kinds of material do you know about? What materials are soft? Shiny? Rough?	Play guessing game with materials; for example: flannel; what kind of clothing would you wear made from this material(pajamas). Also, use denim, velvet, corduroy, etc. Blind fold child and guess what kind of material it is from, how it feels.	Have a speaker come in from nearby clothing, fabric or fiber plant.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Do pot holder weaving and visit a clothing plant and loom operation. Continue "Mullberry Bush" song and creative play. This is the way we cut out our clothes, sew our clothes.	
4. Where does wool come from?	View filmstrip Start a clothing booklet. Allow each child to select a piece of wool for page. Draw a sheep. Also, add wool yarn.	Filmstrip: Materials for Clothing (Radford College)
5. What is knitting? Crocheting?	Have a knitting demonstration. Allow children to try. Have crocheting demonstration. Allow children to crochet chain bracelets.	Knitting needles and yarn. Crocheting needle and thread.
6. What different kinds of clothing do we wear? What is a vest?	Show film. Art: Collages of textures of materials. Add to booklet. Allow each child to sew a button on a piece of material and to attempt cutting with pinking sheers. Add results to booklet.	Filmstrip: Clothes and Why We Wear Them (Radford College) Clothing charts and labels.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
7. How do we clean our clothes? What workers do this job?	Visit a cleaning center. Observe wet and dry methods.	Filmstrip: A Trip to the Laundramat (Radford College)
	Allow each child to choose a sewing project: hair band, bean-bag, draw-string bag. Make from scraps brought in by class. Put in paper pocket at back of booklet.	Sewing machine - Beans, rice, pine needles, elastic, and yarn.
8. Do you think you know how we get our clothes now?	Filmstrip.	Filmstrip: Where Clothes Come From (Radford College)
	Have fashion show. Children will bring in or wear certain items which they will model and tell about.	
	Mullberry Bush song - cut, sew, knit, wash, iron, wear and act out as sing. Have children finish the booklet and take home with doll they clothed.	

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Rogers, Matilda. First Book of Cotton. Watts, 1954.
Waller, Leslie. Clothing; A Book to Begin On. Holt, Rinehart, 1969.

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"Clothes and Why We Wear Them" Radford College.
"How America is Clothed" Eye Gate, 1953.
"How Clothing Is Made" Radford College.
"Making Clothing" (How Things Are Made series) Eye Gate, 1972.
"Materials For Clothing" Radford College
"My Dad Works in a Shoe Store" (Fathers at Work series) Churchill Films, 1968.
"Our Neighborhood Laundry" (Our Neighborhood Workers series) Eye Gate, 1958.
"The Shoemaker" (Our Neighborhood Workers series) Eye GAte, 1958.
"The Story of Cotton" (How We Get Our Clothing series) SVE.
"The Story of Leather" (How We Get Our Clothing series) SVE.
"The Story of Rubber" (How We Get Our Clothing series) SVE.
"The Story of Wool" (How We Get Our Clothing series) SVE.
"The Tailor" (Our Neighborhood Workers series) Eye Gate, 1958.
"Trip to the Laundermat" Radford College.
"Where Clothes Come From" Radford College.
"Manufacturing Clothing" (Agriculture and Industry: Community series) McGraw-Hill, 1969.

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C A R E E R E D U C A T I O N P R O G R A M

R A D F O R D C I T Y S C H O O L S

UNIT TITLE: COMMUNITY HELPERS

"THE HAT TREE"

APPROXIMATE GRADE LEVEL: KINDERGARTEN

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

PROJECT COORDINATOR: RANDY WRIGHT

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INTRODUCTION TO: Community Helpers
"The Hat Tree"

This unit seeks to introduce the kindergarten child to his community and to acquaint him with the world of work.

The child will be given information concerning various occupations and will be involved in role playing situations that hopefully will start developing individual interests and abilities.

This unit will be geared to what interests the children most like. Occupations not mentioned might be included if children express a desire and show an interest in them.

MOTIVATING ACTIVITY	RESOURCES AND MATERIAL
The first day of the unit, have displayed in the room a "Hat Tree" with various hats worn by community helpers. Children will be allowed to select hats to role play.	Read: "The Hat Book" by Leonard Shortall. "About Our Friendly Helpers" by Elaine Hoffman and Jane Hefflefinger. Display on unit table-books, puzzles, Kinder-City(miniature city), community helper puppets, study prints(Workers in Our Neighborhood). Flannel board(Instructo) of community helpers.

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BROAD OBJECTIVE: (1) To help the kindergarten child learn to work and play cooperatively with others and to develop an awareness and appreciation for the various occupations in his community.

(2) To broaden his interests and introduce new experiences that will increase his knowledge of community helpers and help him develop new interests and abilities to become a responsible and effective member of the community.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. Who can name the daddies who might wear these hats? Does your daddy have any of these hats at home?	Children can help identify hats on tree. Let "helper" select one hat to lead into specific discussion of community helper.	
2. Who is this helper?	Policeman: Show study print and dress child in police suit.	Filmstrip: "The Policeman" (McGraw-Hill)
	Discuss safety rules at home and school. Traffic signs are on display in classroom.	Books: Your Police-George J. Zafflo. Policeman Small-Lois Lenski The Book of Policemen-Irene Miner.
	Prepare simple map to be filled in with location of sites visited or used.	Traffic signs
	Invite policeman to visit classroom for children to interview and hear rules of safety.	Books: Our Friend the Policeman-David Cunniff. Let's Find Out About Policemen-Martha and Charles Shopp.
	Make police hats. Ride in police patrol car. Visit police station Role-play a day in the life of a policeman and his family.	Construction paper(hats & badges) Field trip-police station Wear colored badges to match an adult on trip.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	For role play, provide boxes for children to make police cars(individual cars can be made with bottom of box opened and handles cut out on sides. P.E. "Red Light, Green Light" "Little Lost Child"	Study Prints-Police Dept.Helpers "Workers in Our Neighborhood" (McGraw-Hill) Study Prints-Ginn Language Arts Kit.
3. Do any of your fathers work at the Police Department? Do any of your big brothers and sisters serve on Student Patrol? How many of these helpers have you seen on TV?	Encourage fathers, mothers, siblings to visit classroom and share their job duties with the class. Make tagboard patrol belts for each child to wear during school patrol interview.	Study prints of Policeman-(David C. Cook) Resource persons-fathers, mothers, siblings. Tagboard.
4. This hat is red. Who is the helper who wears it? How does he keep our school and home safe? Where does he work? What does he wear? What kind of car or truck does he use? Why does he waar a red hat? Why do policemen and firemen have to work at night?	Riddle: Who am I? Clangiclang! Stay out of my way... I'm rushing to put out a fire today. Encourage children to tell what they know(and bring toys, books about it). Invite Fire Chief to visit with fire truck. Children later will ride on truck and visit the fire station. Wear fire hats made from red construction.	Books: Fire Snorkel No.7(Jene Barr) The Big Book of Real Fire Engines(Elizabeth Cameron) Filmstrips: SVE-Rand-McNally "Johnny The Fireman" Resource person-Fire Chief Records: "Fire Truck" "Fire, Fire, Fire" "Smokey The Bear" "Let's Be Firemen"

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
Why do we have fire drills?	Demonstrate and role play fire drill.	Fingerplay: Fire Little Firemen (Scott Thompson) Material: Red construction paper.
5. How can we practice safety at home and school? What can we do to make our homes safer? In what ways can we protect our homes and school?	Distribute police and fire booklets made for primary children. Make a tour of school to locate fire extinguishers and school fire alarm. Locate fire hydrants. Indicate these on map of community.	Fire Dept. Helpers(SVE) Books: The Little Fire Engine (Lois Lenski) The Great Big Fire Engine (Tibor Gergely) Let's Find Out About Firemen (Martha & Charles Shapp) Let's Go To A Firehouse (Naomi Buchheimer) The First Book of Firemen (Benjamin Brewster)
6. Who wears this hat? How does he help us? Do any of your fathers do this work? Would you like to have a grocery in the classroom?	Child selects butcher, grocer or restaurant hat from The Hat Tree. Discuss study prints, types of foods we eat, favorite food, etc. Take a walk to neighborhood grocery. Talk with manager, discuss food and supplies in his store. Decide what is needed to put one in classroom. Provide large box to paint and construct grocery store. Encourage children to bring empty cans, boxes and bottles for role play. Play cash register.	Books: Two For A Walk(Nathan Kravetz) I Had A Penny(Audrey Chalmers) Annie's Spending Spree (Nancy Watson) I Want To Be A Store Keeper Field trip-neighborhood grocery store. Refrigerator box-paint

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
		Study Prints: 4 Basic Foods "Talkstarters"-At the Store Workers in Our Neighborhood (McGraw-Hill)
	Children in housekeeping corner can prepare "food" by making play dough play food. Play money can be used. If interest holds, food preparation could be part of unit with place mats, aprons, flower arrangement, actual cooking, etc.	Materials: Cans, bottles, boxes, play cash register, flannel board(Instructo) puzzles, play dough, play money. Filmstrips: The Grocer(Jam Handy) Shopping For Groceries (Jam Handy) Life in a Small Town Life in a Large Town (McGraw-Hill) The Town Mouse and The Country Mouse SVE-Rand-McNally
	Invite local grocer or interested parents in to see and participate in project.	Resource person-local grocer or interested parent.
7. Who is the helper who brings the milk?	Invite a milkman to visit with his truck and deliver whipping cream. The class will shake this in the jar to make butter.	Study prints on the milkman. Whipping cream jars

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Game: There are many people who help us everyday. The milkman brings us the milk. He is a friend of mine. The children form a circle and one is the milkman, and places the milk carton behind one child who then chases the milkman around the circle and then becomes the milkman.	Milk carton
8. Who makes food other than mother?	Make play dough to play with. Make baker, chef and waitress hats for pancake party. Let children dramatize. Filmstrip(view) Let the children make pancakes(pour and turn their own). Use the butter made by the children. Play game: Baker baker deliver the bread. Repeat the game listed under content question related to the milkman. Use bread wrapper instead of milk carton. Also play hot bread instead of hot potato.	Study prints listed in bibliography. Tissue or crepe paper and construction paper for hats. Filmstrip: The Little Red Hen Pancake mix, bowl, milk, eggs and other utensils and ingredients for pancakes.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Tell the story of pancake with flannel board like the gingerbread man. Use this rhyme: Mix a pancake Stir a pancake Pop it in a pan Fry a pancake Toss a pancake Catch it if you can.	
9. Who might wear this? How does the doctor or nurse help us? Where do they work? Would you like to meet a real doctor or nurse?	Select a child to pick nurse cap or doctor's equipment from "The Hat Tree." For role play, have one interest center equipped with cot, play doctor and nurse kits, first aid equipment. Have box to make an ambulance. Visit hospital or doctor's office. Have ambulance come to school.	Books: How Hospitals Help Us (Alice M. Meeker) Doctors and Nurses, What Do They Do? (Carla Greene) Who's That? (Blair Walliser) The Indoor Noisy Book (Margaret Wise Brown) Busy Bodies (Clare Bowman)
10. Would you like to meet a doctor or nurse? How can we help the doctor and nurse? How do these different people prepare for their jobs?	Invite school nurse to visit classroom and demonstrate such things as simple first aid, etc. This question can lead into study of importance of eating good food, getting proper rest and exercise. Role play what you would do if: a. you were a nurse and you had to help child who cut his arm.	Resource person-school nurse or parent.

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	b. you were a doctor and child came to you who has to have tonsils out. c. you are dentist and a grown up has a toothache. d. you are mother or father and you discover your body has high temperature.	
11. How do we get our homes?	Discuss house helpers, fix-it men and carpenters.	
	Set up work bench with tools.	Table and tools
	Sing the song "Here They Come" to the tune of Three Blind Mice.	
	For physical activity have children act out "This is the Way We Paint the House" to the tune of "Here We Go Round the Mulberry Bush." Act out with real brushes and clean up tools.	Brushes, brooms, buckets, cloths.
12. Who delivers the mail?	Make mail satchel. Use a rural post box and have a letter for each child inside. Have mail call. Write a thank you letter to a helper who has visited the class. The class will walk to a corner box and mail it. Riddle: I walk for blocks and blocks to put letters in your mailbox' Who am I?	Mail box Envelopes Thank you notes and stamps

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CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
13. Who picks up the garbage?	Let children pick up trash on the playground, and clean up the room. Read story	 Dear Garbage Man

CULMINATING ACTIVITY:

CULMINATING ACTIVITIES	RESOURCES AND MATERIAL
As a culmination we will compose a letter to our parents telling them about "The Hat Tree." An invitation will be extended to the parents urging them to join us in our project about the study of community helpers. They will be encouraged to add their different hats to our "Hat Tree", visit our classroom and tell us about their jobs. This could extend our unit into other fields as we learn and explore the world of work.	

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Jim Handy. The Grocer.
Jim Handy. The Homes We Live In.
SVE. Community Workers.
Communities Are Different.
Let's Take A Walk In The Community.
What's In A Community?
Tommy The Fireman.
Life In A Small Town.
Life In A Large Town.
The Town Mouse and The Country Mouse.
The Policeman.
Troll Associates. A Trip To A Fire Station
A Trip To A Police Station

3. Cassettes:

Troll Associates: Getting to Know the Fire Station, 1972.
Getting to Know the Police Station, 1970.
Getting to Know the Supermarket, 1972.

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"Talkstarters" - At The Store
Supermarket Helpers
Dentist, Nurse, Doctor
Fire Department
Police
Workers In Our Neighborhood
Community Helpers. Picture Packet, Standard, 1966.
Community Friends, Beckly Cardy, 1967.

5. Transparency:

People Who Help Our Community. Troll Associates, 1967.

6. Records: Ginn-Language Arts Kit

Fire Truck
Smokey The Bear
Let's Be Firemen

Flannel Board - Instructo - Community Helpers

7. Educational Materials:

Playschool puzzles
Policeman
Milkman
Fireman
Baker
Grocer
Doctor
Mailman
Nurse
Carpenters

C A R E E R E D U C A T I O N P R O G R A M

R A D F O R D C I T Y S C H O O L S

UNIT TITLE: HEALTH

"AN APPLE A DAY"

APPROXIMATE GRADE LEVEL: KINDERGARTEN

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

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INTRODUCTION TO: Health
"An Apple A Day"

This health unit is introduced to the child to develop an awareness and an appreciation of the importance of personal hygiene and cleanliness, and help him learn to care for his personal needs. With the help of various resource people in this field and field trips, the child will be able to perform these functions in the classroom and use them in his personal good grooming and health habits. Hopefully, he will develop an understanding and appreciation of occupations in this field and his dependence on them.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What is the doctor's job?	Bulletin board on doctor, nurse, "Emergency Room"	Fingerplay - "Let's Be Doctors" Filmstrip: "What the Doctor Sees When He Looks at You"
2. What is the nurse's job?		Invite a nurse to visit the class dressed in uniform and discuss her job and dress.
3. How do they help us?	Discuss first aid. Show equipment. Children will role play jobs of hospital workers.	
	Discuss study prints on doctor and nurse.	Write thank you note to nurse.
	View filmstrip.	Filmstrip: "My Mother Has A Job"
	Art: Make nurse caps and doctor's mirror.	
	Read and discuss story.	Story: "My Friend the Doctor" "Doctors and Nurses"
	Make an ambulance from large box. Have ambulance driver bring ambulance-let children observe equipment. He might demonstrate use of splints, oxygen, slings, etc. also, stretchers.	

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	View filmstrips.	Filmstrips: "The Neighborhood Doctor" "My Mother Works in a Drug Store"
	Start doctor and nurse booklet so that it looks like a doctor kit on cover. Color worksheets on doctor and nurse.	
4. What are some of the "tools" doctors and nurses use to help us?	In doctor and nurse kits, make a display of cotton swabs, depressers, band aids, splints, etc. Acquaint children with terms: stethoscope, blood pressure, etc.	Visit a hospital or informary to see doctors and nurses in action.
5. Are there doctors who don't help people?		
6. Who do these doctors help?	Child might bring in his puppy and talk about how it needs to be kept healthy.	Visit local veterinarian (Note films-rip in bibliography "My Dad-The Veterinarian")
7. Where do we get the medicines the doctor tells us we need?	Invite a pharmacist to visit the class and discuss drug safety.	Pharmacist
8. Should we take medicines by ourselves?	Children set up pharmacy with empty bottles, etc. Contact Pittsburgh, Pa. Poison Control for Mr. Yuk Buttons, 125 DeSoto St., Pittsburgh, Pa. 15213	Empty bottles

CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Art: Hospital collage; band aids, q-tips, candy pills, etc.	Band aids, q-tips, candy pills, construction paper.
9. Why do we need to look nice to be healthy? How helps us.	Barber shop and beauty shop	
	View filmstrip.	Filmstrip: "Neighborhood Beautician"
	Set up with all equipment - wigs, play razors, mirrors, capes, etc. Might visit a barber shop and/or beauty shop.	
	Bulletin board with beauty operator, study prints, etc.	Study prints: "Keeping Clean and Healthy"
	Art: Children can make large barber poles for their barber shop. Art - pink construction circle- "What makes me Pretty"? Draw own face and add ribbon, features.	
	Invite a cosmetologist to visit class and show a beauty kit and put make up on teachers.	Filmstrip: "The Neighborhood Barber"
	For booklet: Girl's worksheet with mirror, comb, etc. Boys draw their faces; hang them in barber shop.	Study print: "Community Helpers"

CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
10. Who helps us have healthy teeth?	Discuss study prints of dentist.	
	Have students color worksheet with toothbrush and toothpaste on it.	Book: A Visit to the Dentist by Bernard Garn.
	Present red capsule for tooth test. Instruct children how to use the capsule to check on brushing habits.	Filmstrips: "Let's Visit the Dentist" "The Mouth I Live In"
	Visit a dentist's office or have a technician come into the classroom.	Possible materials from these people: large models of teeth/etc. toothbrushes for each child. capsules

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Mr. Yuk Buttons
Pittsburgh Pa. Poison Control
125 De Soto St.
Pittsburgh, Pa. 15213

C A R E E R E D U C A T I O N P R O G R A M

R A D F O R D C I T Y Y S C H O O L S

UNIT TITLE: MUSIC - "WHISTLE WHILE YOU WORK"

APPROXIMATE GRADE LEVEL: KINDERGARTEN

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

PROJECT COORDINATOR: RANDY WRIGHT

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1612 WADSWORTH STREET
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INTRODUCTION TO: MUSIC - "WHISTLE WHILE YOU WORK"

This unit on music is written for the kindergarten child. It is hoped the child will gain an understanding of the variety of musical instruments and types of music.

Through field trips, resource people, and listening and rhythmic experiences, the child will gain a general understanding of music and the careers related to it. He should also find it a form of entertainment and relaxation.

BROAD OBJECTIVES:

Self Awareness: The student will become aware of the four families of musical instruments and their sounds.

Educational Awareness: The student will attempt to develop skills in listening to music, to distinguish among the different instruments and learn how to identify them by their shapes and sounds. The student is introduced to each family of instruments and learns them by name.

Career Awareness: The student becomes aware that there are many different musical instruments and that each may lead to different careers in the field of music. The student is made aware of the value of music.

Economic Awareness: The student becomes aware of why people play music. He recognizes some of the uses of music. He learns that music has a value in our economy.

Decision Making: The student becomes aware that he has a choice of the many instruments.

Beginning Competency: The student will attempt to play music on basic instruments. He becomes aware of the relationship instruments have with each other.

Employability Skills: The student will attempt to perform individually and with a group. He will become aware of how important it is to follow directions, timing, cues from the director. He will become aware that there can be no music without working together.

Attitudes and Appreciation: The student will become aware of what his contribution is to music and how the sound of his instrument differs from the others in the group.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
Ehen you work do you whistle? How do you whistle?	Filmstrip: "Snow White and the 7 Dwarfs". Discuss filmstrip. Show how to whistle.	Bulletin board display of the 7 Dwarfs whistling while working. Music notes, treble and bass clefs, etc.
Can you whistle a merry tune?	Song: "Whistle While You Work".	Cassette and Book: 780G "I Want To Be A Musician".
Did you know that you can whistle into a musical instrument?	Show a real flute or a picture of one. Pass flute around (if possible) and let children examine. Discuss the flute.	A resource talent from the High School will show how a flute is used.
What kind of sound does a flute product? (low, high, soft)		
Name another instrument that you can whistle into. What kind of sound does a piccolo product? (happy, shrill, laughing)	Show piccolo.	Resource talent can show piccolo and how used.
How many holes in a flute and piccolo?	Math concept.	
Name some other instruments in the woodwind family. Clarinet, bassoon, obae.	Record: The Licorice Stick. Show real or pictures of these instruments. Introduce Tonette. Let children play them.	Young People's Records. The Licorice Stick Story of the Clarinet

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
Can you tell me what kind of musical instrument this is? (Hold up a real trumpet, if possible.)	Show real trumpet or pictures of one.	Resource talent from community or high school to show how trumpet is played.
Where do you see a trumpet? (Marching Band)		Go to high school to see a marching band in action. Interview band director.
What kind of sound does it produce? (high, low, sharp)	Record: Sousa "Stars & Stripes" "Washington Post March" Record: "Little Brass Band"	Visit the Radford College Highlander Band. See bagpipes. Interview a music major who plays bagpipes.
How many valves does a trumpet have?	Math concept.	
Who is John Phillip Sousa? (March King)	Make a Kazoo. March with Kazoos, play one of Sousa's marches. Show pictures of Sousa.	
Name some other instruments in the brass family. Saxophone, Tuba, French Horn, Trombone, Coronet.	Discuss these instruments. Let children touch and examine. Record: Tubie Tuba in Orchestraville	Record: Tubie Tuba in Orchestraville.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
What is a corductors job?		
What kind of an instrument sounds like heavenly music, wind blowing through the trees, a bee, a storm?	Show a violin. Record: Flight of the Bumblebee, by Rimsky - Konsakoff.	Visit Radford College Orchestra. Interview the conductor.
How many strings on a violin? (4)	Math concept.	
Name some other members of the string family. Viola, Double Bass or "Bull Fiddle", Cello, Bow(used for producing sound across the strings), Harp.	Show the real instrument or a picture. Song: "Gay Musician" After children have learned song, they can pantomine the instrument. As they sing produce the sound of the particular instrument. Introduce autoharp. Show how it is used. Let children try to play it.	
Can musical instruments sound like a particular animal or bird? (yes)	Teacher accompany the children's singing on the autoharp. Record: "Peter and The Wolf"	Record: "Peter and The Wolf"

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
How do you play a guitar? (strumming, picking with a pick)	Show a guitar. Show different kinds of guitars. (electric, etc.)	Resource talent from community. Corwin Matthews - Guitar Maria Casas - Spanish Guitar.
When and where do you see a guitar? (Folk & Country Music Band)	Make shoe box guitar.	
	Talk about Folk & Country Music since they use guitars,etc.	
	Introduce Flat Foot Dance.	Resource talent from community.on Flat Foot. Wilma Kincer
How many strings on a guitar? (6, 8, 12)	Math concept.	
	Introduce the percussion family by taking front part of the piano showing strings and hammers. Let children examine and touch.	Resource talent from Radford College. Interview Dr. Zunbrigg.
What kind of instruments do you find in the percussion family?	Put on display snare drums, bass drum, glockinshpel, cylophone, kettle drums or gong. Let children examine and play.	
How do you play a percussion instrument? (by striking)	Make tambourines.	
	Experiment on water glass xylophone for different pitches of sound.	

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Use rhythm band with rhythm record. Children should learn to: 1. Be good members in a band. 2. Sit correctly when holding or playing an instrument. 3. Watch cues from the leader of the band. 4. Listen for various theme changes.	
Where do you see an organ? (Church. Home) What is a pipe organ?	Show pictures of various organs and pipe organs.	Visit Preston Hall at Radford College. See pipe organ. Interview Miss Hiembich
How many keyboards does an organ have?	Math concept.	
	Shoe filmstrip: Snow White and Seven Dwarfs.	
	Discuss the different musical instruments used in the story.	Filmstrip: Snow White and the Seven Dwarfs.

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	CULMINATING ACTIVITY A music recital using rhythm band instruments and instruments made by the children. Let one child lead the band. Role play the story of Snow White and the Seven Dwarfs.	

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C A R E E R E D U C A T I O N P R O G R A M

R A D F O R D C I T Y S C H O O L S

UNIT TITLE: THE SCHOOL

"PAT-A-CAKE, PAT-A-CAKE"

APPROXIMATE GRADE LEVEL: KINDERGARTEN

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

PROJECT COORDINATOR: RANDY WRIGHT

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INTRODUCTION TO: The School
"Pat-A-Cake, Pat-A-Cake"

This unit is an introduction of the kindergarten child to his new environment in the school community. It is presented in a way that will help develop an appreciation and understanding of the various job roles in the school. Hopefully, it will help the child develop an awareness of his role in being a helpful, cooperative and responsible student.

BROAD OBJECTIVE: (1) To present appropriate occupational information about the occupations of the school staff and promote an appreciation and understanding of each school helper's role.
(2) To help the child become aware of his importance as a responsible, helpful, cooperative citizen in the school community.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. Why do we need helpers in the classroom? Why is it important for us to share our jobs? Is it easier for one person to help? Would you like to be a helper?	As an introduction to this school unit, a helper chart drawn as a gingerbread man will be in classroom with each child's name on separate cards to be chosen for classroom duties each day. Read and discuss book or filmstrip.	Read: "The Gingerbread Man"(Nancy Nolte) or show filmstrip of same SVE Rand-McNally.
2. Would you like to make your own gingerbread man like the one on the helper chart?	Children will help make a real gingerbread man and decorate with raisin eyes, etc. Class will take him to cafeteria to put him in oven. (After baking, teacher will put in freezer for future use.)	"Little Bear Learns to Read the Cookbook." Recipe for gingerbread man: 2/3 cup shortening (cream) 1 1/4 cups sugar 2 tbsp. molasses (add to 1st) 2 eggs 2 tbsp. sour milk (add) 1 tsp. soda 3 cups flour 1 tsp. salt 1 tsp. b. powder 1 tsp. cinnamon (add) 1/2 tsp. ginger 1/2 tsp. nutmeg Pour into gingerbread man pan and bake 375°

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
3. Who are the helpers that work in our school kitchen? How do they help us? What jobs do you see them doing?	Introduce all cafeteria workers. Let children observe them working with equipment. Children will role play these workers in interest centers.	Flannel board(Instructo) "School Helpers" Teaching Pictures(David Cook) Cooking utensils put in kindergarten housekeeping center.
4. Do you think it would be fun to go back to cafeteria to see if the gingerbread man is done in the oven?	Eat snack in cafeteria. Children will find note on cafeteria table from the gingerbread man saying: "Look, look, as hard as you can, you can't find me"... "The Gingerbread Man" Children will walk through school until they find the "clue"- brown construction paper shaped like gingerbread man will be taped on the principal's office door.	Mike Hage, Jr. "How School Helps Us" As each school helper is visited add the tool he uses to interest centers.
	Visit a guidance counselor and ask her to visit class. Ask her to discuss her job.	Filmstrips and cassettes: Knowing Our School (Encyclopedia Britannica) 1. Going to School 2. Our Room in School 3. A New Friend at School 4. Helpers at School 5. School Rules 6. Our School in the Community. Filmstrips(Eye Gate) 1. Going to School is Fun 2. School Helpers Book: Cathy's First School

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
5. Who do you think might work here? Would you like to meet our principal and his helper? (Secretary) What kind of jobs does the principal do? What does his secretary do to help him? How do they help us? How can we help them?	Children will continue their search each day, exploring the school. They will see the various school helpers working in their jobs. Each day, a similar note from the gingerbread man will be found which will lead them to each area of work. Those visited will include: Cafeteria Principal Secretary Custodian School patrol a. safety b. flag Special teachers music guidance speech Classrooms and teachers	Books: Let's Find Out About School(Martha and Charles Shapp) Schoolroom Bunny(Janet Knokle) Andy and the School Bus (Jerrold Beim) Study Prints on School Patrol by Ginn. Jerry at School(Kathyrn and Byron Jackson) How School Helps Us(Mike Hage, Robert Ryan) Will I Have A Friend (Miriam Cohem) Let's Go To School (Naomi Buchheimer) Good Morning, Teacher (Jene Barr) Crow Boy(Taro Yashima) School for Sillies (Jay Williams) All Ready for School (Leone Adelson) Record: Sounds in Our School (Scott-Foresman)

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
6. Where is the gingerbread man?	After meeting all of school helpers except librarian, children will find final note giving clue to look in library. There, they find the gingerbread cake they baked hiding behind the book of same which librarian will read. In this way they will learn of their weekly visit to the library to hear a story. Over a snack of gingerbread shared with librarian, children can learn rules, etc. of library.	
7. Who is the librarian and what does she do? How can we help her and our school?		
8. What will first grade be like next year?	Visit one of the first grade classes.	
9. What would we see in a science class (for example)?	Visit an upper grade-observe what they are studying.	

CULMINATING ACTIVITY:

CULMINATING ACTIVITIES	RESOURCES AND MATERIAL
Would you like to have another gingerbread party and invite our school friends? Follow-up activities could include: 1. Children decorate ginger snaps with raisins and icing-invite one school helper each day to have snack with them and interview helper. 2. Guessing game-pantomine what each helper does. 3. Draw pictures of each worker, have roller movie. 4. Tape record school sounds. 5. Puppet show of each helper. 6. Children can make greeting cards to send to helpers on birthdays, holidays, etc.	For role play children can have tools of each school helper. Cafeteria - play food - set up in classroom. pots and pans aprons dishes, etc. Principal and Secretary - set up in classroom - Desk Telephone Pencil and paper Custodian - Carpenter tools Broom Mop Set up carpenter's bench in classroom.

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C A R E E R E D U C A T I O N P R O G R A M

R A D F O R D C I T Y S C H O O L S

UNIT TITLE: SELF

"WHO AM I?"

APPROXIMATE GRADE LEVEL: KINDERGARTEN

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

PROJECT COORDINATOR: RANDY WRIGHT

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INTRODUCTION TO: Self

Who Am I?

The "Who Am I" unit is the beginning point for the Kindergarten program. The child's knowledge of self and his own world is the central point from which we expand his awareness to others and the world around him.

The program is initiated with this unit on Self, proceeds to the family, school and community.

Kindergarten activities, goals and skills will be developed throughout the unit. The child will then possess an understanding and appreciation of his own environment and the world around him.

MOTIVATING ACTIVITIES	RESOURCES AND MATERIALS
	Filmstrip: Science Research Associates Series Focus on Self-Development Stage 1

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BROAD OBJECTIVE: 1. To develop the concept of "Who Am I" and to identify ways in which he is a different and unique individual.
2. To extend the student's awareness of things that are important to him in his own world.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. Who am I?	Start group discussion by asking, "Who am I?" Teacher introduces herself.	
2. Who are you? 3. How old are you?	Show studyprint to lead into discussion of child introducing himself, stating full name and giving his age. Teacher writes name of child on board and lets child place on table for display. Let child put number of candles into "play cake.	Photoboard 7 (SRA) picture of happy child. "Who Am I" individual cards with space for child's name, birthdate, address, age and space for drawing himself. Play styrofoam cake with candles.
4. How do you look?	Read: Who's That in the Mirror? Show filmstrip: "Cindy and the Elf." (SRA) Discussion of how he looks. Draw himself on Who Am I" cards. Put on display table.	Full length mirror (observation) Book: Who's That in the Mirror (Polly Berends) "Who Am I" cards Film: SRA-"Cindy and the Elf"
5. Where do you live?	Using hand puppets and model doll house, talk about home and importance of knowing address. Make milk carton houses when they learn address, put on house. Street plan-place houses on plan-develop awareness of where child lives in relation to school/friends.	Milk cartons Construction paper Houses put into community (Use display table.) Filmstrip: "Sometimes I Wonder" (SRA) Story: The Growing Story (Ruth Krauss)

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Paper doll: Child makes "me", adds yard hair, features, etc.	Story: In A People House (Theodore Lesieg)
6. What is your telephone number?	Show study prints of Our Friend the Policeman.	(McGraw-Hill) Study Print of Policeman
	Have model telephone to practice dialing. Emergency, etc.	Telephone
	Role-playing in using the telephone.	Awareness Study Prints(SRA)
	Color telephone for "Wo Am I" booklet. Child puts number when he learns.	
7. What can you do by yourself?	Color show cut out of construction. When he learns to tie, lace with yarn and add to "Who Am I" book.	"I Can Do It Myself" table of manipulative materials with zippers, shoes and laces, buttons.
	P.E. game "Little Lost Child"	The Telephone Book (Virginia Hubbel and Ken Sobal)

BROAD OBJECTIVE: 3. To develop positive attitudes and behavior that will enable the child to work and play cooperatively.

4. To make the child aware of the rights and feelings of others and extend his awareness of the necessity of being a cooperative group member.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. Are we all alike? 2. What do girls like to do? 3. What do boys like to do? 4. What do we like to do together?	Look at "Here I Am" pictures and compare. All blue eyes stand up, etc. Compare size by standing back to back. Children measure and weigh each other. Draw picture of a friend. Hand prints of children (fingerpaint) Compare different sizes. Girls role play. Boys role play. Play game: "Farmer in the Dell" Cut out handprints for Helper Chart. Talk about importance of interdependence and sharing.	Scales, mirrors, tape measurers. Story: Fingerpaint "Helping Hands" for Helper Chart. Books: Do You Know What I"ll Do? (Charlotte Zolotow) Let's Be Enemies (Janice Udry) Who Will Be My Friends (Syd Hoff) Kind Little Joe (Vera Cerutti) Story: Do You Remember (Mircea Vasiliu)

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
5. What makes you happy?	Show "Circle of Feelings" filmstrip.	Paper bags and puppet theatre.
6. What makes you sad?	Make facial expressions, and child describes emotion.	Filmstrip: "Circle of Feelings" (SRA)
7. What scares you? a. is it alright to be scared? b. what do you do when you are scared? c. what makes you feel safe?	Make paper bag puppets of themselves. Use them in guessing game for emotion descriptions. Make up stories about these communications.	
8. What makes you mad?	From a group of pictures clipped from magazines put in group according to "happy", "sad"(catagorizing math). Art: Construction paper Have children draw sad or happy faces. P.E.: Interpretive movement- (happy, sad, excited, etc.)	Story: "Someone I Know" (C. M. Adorjan)
9. Good manners		Filmstrip: Learning About Manners (SVE)

C7

CULMINATING ACTIVITY:

CULMINATING ACTIVITY	RESOURCES AND MATERIAL
As a culminating activity to this unit, "Who Am I?", children will complete and take home booklet which will include pages of drawings and artwork such as: 1. Picture of himself 2. Sample of writing his name 3. Birthday cake with number of candles colored 4. Record of weight and height 5. Color telephone with child's number 6. Shoe with yarn laces 7. What makes me happy 8. What makes me sad 9. What I like to do at school and home 10. Picture of home with address and family members	

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CAREER EDUCATION PROGRAM

RADFORD CITY SCHOOLS

UNIT TITLE: THE FAMILY

"FAMILY AFFAIR"

APPROXIMATE GRADE LEVEL: KINDERGARTEN

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

PROJECT COORDINATOR: RANDY WRIGHT

THE CAREER EDUCATION PROGRAM
THE RADFORD CITY SCHOOLS
1612 WADSWORTH STREET
RADFORD, VIRGINIA 24141
PHONE: 1-703-639-6673

INTORDUCTION TO: The Family
Family Affair

The family unit follows the self unit and now directs the child's thinking from self to his family. He becomes aware of the jobs of each family member and of his role as a cooperative group member.

The child begins to realize there are a variety of jobs within his own home and particularly the occupations of his parents-both in the home and in the community.

Kindergarten objectives or goals, activities and skills will correlate well throughout this unit.

BROAD OBJECTIVE: (1) To develop the child's awareness of home and his job role as a cooperative family member.

(2) To help the child understand and appreciate his parents' jobs in their occupations and at home.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What do you do at home?	Read story, Family Helpers and discuss each family member's job.	Book: About Family Helpers
2. What does mother do at home and at work? Do you help her?	Children draw six of the jobs from the above story.	
3. What does daddy do at home and work?	Listen to the Sesame Street record about the family.	Sesame Street Record: Five People in Our Family
Introduction to Family and Home.	Story or filmstrip Motivation- Bulletin board about the family.	Filmstrip and stories: Family Helpers by Elaine Hoffman and Jane Hefflefinger
	Read stories about the family. Make a large box into house. Children will paint and use for role play and puppet theater.	Happy Little Family by Rebecca Caudill. Debbie and Her Family by Lois Lensky. A Day with Your Family
1. What is a family?	The family is mother, father, children and relatives who live with them. Have a discussion. Family mobile: Cut out paper dolls of family members and hang on coat hanger.	Family fingerplays Book: Rhymes For Fingers and Flannelboards by Louise Binder Scott.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
2. How many are in your family?	Have class discussion on child's family. Role play, use family figures to describe child's family.	Record:(Sesame Street) Five People in My Family Filmstrip: Robert and Family Visit the Zoo
3. How many sisters and brothers do you have?	Listen to records. Display pictures of a family. Have children color and cut out pictures of their family. (Ditto sheet) Glue to popsicle sticks.	Record: Hush, Little Baby. Rock-A-Bye Baby. Do You Know What I'll Do? by Charlotte Zolotow
4. Are they bigger or smaller than you?	Read book, Big Brother.	Book: Big Brother by Charlotte Zolotow.
	Listen to records about pets.	Record: Doggie in Window Three Little Puppies
	Draw favorite pet.	
5. Do you have a pet? Is it part of your family?	Read stories about pets.	Stories: Have you Seen My Puppy? by Adelaide Hull. A Dog For Susie by Ruth Nordlie. Katie the Kitten by Kathryn Jackson.
	Show and talk about study prints.	Study prints
	Make pets from clay, paris craft, paper mache.	Materials needed: Clay Paper mache Paris craft Newspaper

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Let children tell about his pet, or a pet they would like to have.	
	Listen to records about pets.	Record: Sing'n Do Songs "My Little Puppy" Maybe I'll Find a Kitty Under the Christmas Tree
	Make puppets from light bulbs (mother, father, pets) Children will give puppet show about jobs.	
	Read and discuss a book about kindness.	Book: Kindness is a Lot of Things
	Read and discuss book.	Book: Go, Dog, Go by P. D. Eastman
6. What do you do together as a family?	Show and discuss study prints-	Study Prints: "A Family at Work and Play
	View filmstrip	Filmstrip: "Robert Goes Shopping"
	Talk about sharing. Read story.	Book: Kindness is a Lot of Things by C. R. Gibson.
	Talk about things they like to do with their family. Ex: Playing games, picnics, camping, shopping, vacation and a drive in the country. Read story and discuss. Show filmstrips.	Story: Big Brother-Charlotte Z. Filmstrips: "Family Fun" "Robert's Family at Home" "Robert's Family & Their Neighbors" "A Day with Your Family"

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
7. What do you live in? What different kinds of houses do you know about?	Show pictures of different kinds of homes;(apartments, trailers, etc.) let the child describe the home he lives in. Ask if it is big or small. Role play.	
	Read stories and discuss.	Stories: The Big Girl and the Little House by Ruth Krauss. A Very Special House by Ruth Krauss. Best Little House by Aileen Fisher.
	Make houses out of milk cartons.	Material needed: Milk cartons Paint
	Listen to record.	Record: Sounds I Can Hear
	Filmstrip-view and discuss.	Filmstrip: Home - Scott Foresman
	Read the story about the three little pigs. Let the children dramatize the story.	Story: The Three Little Pigs
	Read and discuss-book	Book: A Very Special House
	Take a field trip.	Field trip: Look at different kinds of houses(a typical house, apartment, trailer, and a house under construction).
	Discuss the field trip.	

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
8. What is your job at home? Do you take care of your pet?	Filmstrip - view and discuss.	Filmstrip: Family at Work
	Talk about the jobs a child could do, how to feed and take care of his pet, and have him tell things his pet does.	
	Stories-read and discuss.	Stories: A Home for My Kittens by Albertine Deletaille. A Dog for Susie by Ruth Norulie.
9. What does mother do at home? Do you help mother? How?	Show study prints(Mother). Discuss what mother id doing and her jobs in the home.	Study prints - Mother
	Stories-read and discuss.	Stories: Are You My Mother? by P. D. Eastman. Mommies Are for Loving by Ruth Penn. Ask Mr. Bear by Majorie Flack. Where Are the Mothers? by Dorothy Marin.
	Display unit table with tools and materials of various jobs brought in by children.	
	Role play, "Did you ever see a mommy"?(Turn to, "Did you ever see a lassie?"	
	Teams will role play various jobs. Children will guess.	

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Have one child in center, have him act out something that mother does. See if children can guess. The first one to guess gets a turn until all have had a turn.	
	Listen to records.	Records: I Love You Mommy. Here We Go Around the Mulberry Bush.
	Have a mother come to school and tell children about her role in home.	Resource person - a mother
	Read and discuss stories.	Stories: Mr. Rabbit and the Lovely Present by Charlotte Zolotow. The Hating Book by Charlotte Zolotow.
10. What things does mother use in her work at home?	Have a display of tools mother works with. See if child knows what each tool is and how it helps mother. Role play. (Mommy bags)	Display - Dishes Pans Broom Silver ware
	Have a child take home a paper bag; let mother put something in it. Have child give a clue, and see who can guess what it is. Let each child have a turn.	Paper bags

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
11. Does mother have a job outside of the home? What does she do?	Discuss where mother works. How she gets to work. Let children make hats for mothers.	Materials: Paper bags Plates Construction paper Crayons
	Read-Jennie's Hat.	Book: Jennie's Hat by Ezra Keats.
	Have several mothers visit class and tell class about their jobs.	Resource persons: Mother visits class Nurse Cook Florist
12. What does daddy do at home? Do you help daddy? How?	Show study prints.	Study prints: A Family at Work and Play
13. What tools does daddy use to work with?	Talk about jobs daddy does at home(washing car, cutting grass, painting, fixing all of the things that break-our toys, etc.)	
	Books-read and discuss.	Books: Daddies by Lonnie Carton. The Sorely Trying by Russell Hoban. No Fighting, No Biting by Else H. Minauh. Thank-You-You're Welcome by Louis Slobodkin.

CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Have a daddy visit the class and tell about his jobs at home. Role play things you like to help daddy do.	Resource person - a daddy.
	Make daddy bag(note mommy bags)	Paper bags
14. Where does daddy work?	Have daddies visit class and tell what they do. Try to get a variety of occupations(laborers, skilled trade, business).	Resource persons-daddies from various occupations to talk about their jobs.
	Listen to record about daddy.	Record: My Daddy
	Read and discuss book.	Book: Daddies, What They Do All Day by Helen Walker.
15. How are families different?	Filmstrip-view and discuss.	Filmstrip: How A Navajo Indian Family Lives.
	Discussion on different family life(Ex.: American, Eskimoes, Indians, etc.)	
	Build homes showing how each is different.	
	Build a block or brick house. Make a tepee and igloo.	Wooden blocks Card board bricks Paris craft Cloth

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
16. How do we all help each other in the family?	Everyone doing his job, working together. Let children role play "A Family".	

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CAREER EDUCATION PROGRAM
RADFORD CITY SCHOOLS

UNIT TITLE: INSECTS

"MY WORLD IN A JAR"

APPROXIMATE GRADE LEVEL: KINDERGARTEN

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

PROJECT COORDINATOR: RANDY WRIGHT

THE CAREER EDUCATION PROGRAM
THE RADFORD CITY SCHOOLS
1612 WADSWORTH STREET
RADFORD, VIRGINIA 24141
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INTRODUCTION TO: INSECTS - "MY WORLD IN A JAR"

This unit is written for the kindergarten child and focuses on but not entirely limited to the study of insects.

The unit aim is to acquaint the child with the world around him, to help the child understand the interdependence of all living things, and to become aware of the various occupations in the field of science.

OBJECTIVES:

1. Self Awareness
   The student will become aware of his interest in nature. He will learn about himself in his social and physical development in relation to nature's wondrous growth plan.

2. Educational Awareness
   The student will recognize the variety of careers available in the field of science and the importance of learning, reasoning and experimenting.

3. Career Awareness
   The student will become aware of the many tasks performed by people in the field of Biology, emphasizing the importance of learning facts, performing skills and experimenting.

4. Economic Awareness
   The student will become aware of the economic opportunities available through field trips, interviews and observation of people in professional, business and service careers in the field of science.

5. Decision Making
   In learning to care for insects and other living things the student will make decisions by experimentation, observation and evaluations of his performed tasks.

OBJECTIVES (cont.)

6. Beginning Competency
The student will become aware of the importance of being knowledgeable, in using material, developing skills, analytical thinking, experimentation and evaluation.

7. Employability Skills
The student will become aware of his interests and skills and relate these to various careers available in the field of science.

8. Attitudes and Appreciations
The student will experience satisfaction in observing nature's plan for all living things and relate this to the importance of planning his own life. He will recognize his needs for interdependence through experimentation and observation. He will develop interests, gain satisfaction, and learn to care for others.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
What are we eating?	As an introduction to the unit and an activity to motivate the children, they will be served honey at snack time leading into a discussion of the honeybee and insects in general.	Study Prints: Moths and Butterflies SVE Insects of Home and Neighborhood SVE Insects of Garden and Cropland SVE Common Insects SVE
Are insects important?	Have available to the children a variety of books relating to insects. Put bee transparencies on science shelf for the children to use with the overhead projector.	Display table will be set up with specimens of insect collections, beehive, magnifying glasses, microscopes, beeswax, honeycomb in the honey etc.
How do we care for bees?	Resource person: Bee keeper dressed in protective clothing. Tells and shows the children about his job. Children will later visit the hives.	Cassette: The Busy Bees Eye Gate Transparencies: Life Cycle of the Beehive
Did you know each bee has a special job in the hive?	These jobs will be brought out in the Busy Bee filmstrip. Discuss how our school is organized like a hive.	Book: Bees, Bugs and Beetles Scholastic Books

CONTENTS AND QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
Are bees helpful?	Discussion of protection and health relating to insects.	Have health nurse visit to discuss care of insects bites, safety and general first aid. Lead children to ask about various aspects of her job.
What other insects are helpful? (dragonfly, praying mantis, lady bugs, wasps, butterflies, etc.)	Encourage children to bring in insect collections.	
Why do scientists study and collect insects?		Poem: Ladybug, Ladybug
What differences do you see when you look at our insects through the magnifying glass? Are their legs all the same? Are their eyes the same? What kinds of mouths do you see? Etc.....	Help the children classify the insects as to helpful and harmful. Help them set up experiments in jars with different insects and plants together and observe what the insect does to the plants such as eat the flowers. Observe insects eat other insects. (The praying mantis will eat small grasshoppers, crickets, flies, etc.)	Visit Radford College Biology Dept. to see insect collections, interview professors who study insects and workers who help them about their jobs. Books: Insects that Help Plants Gibson, Melmont Insects and Their Ways Lets Look at Insects - Huntington Pb. Doubleday. Insects Do the Strangest Things Easy to Read Book

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
		Insects - A Beginning Science Book - Brouillette - Follett Insects - Roberts Pb. Melmont The Tall Grass Zoo - Lubell Pb. Rand Insects - Collection and Preservation Stevens Pb. Scott
Why do insects need different kinds of legs, mouths, eyes, etc.?	Reinforce moth concepts by making insects from play dough, pipe cleaners, and beans. (Six legs, two antennae, so many dots, wings, etc. Make insect mobiles with stuffed mesh bags, with butcher paper for wings, pipe cleaners for antennae, legs, tongues, etc. Teacher make a chart showing different types of legs, mouths, eyes, tongues. Discuss how they are used and why they are different.	

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
Do you know any harmful insects? (Moths, Japanese Beetles, grasshoppers, houseflies, cockroaches, locusts, ants, termites, boll weavils, silverfish, ticks, mosquitoes, lice, fleas, etc.)	Have available butterfly nets to catch samples of insects. Stress must be put on catching a very limited supply of each insect. Bring in conservation and balance of nature concepts.	Resource person: Pest control serviceman. Focus on harmful insects. Have the insect control man bring in his equipment and spray the room. Look for what insects live in the room and were killed. Visit Entomology Department at VPI.
What do we do to get rid of them? Have you seen any insects earing the flowers in your year?	Have plants in a jar. Put in some insects. Watch to see which ones are helpful and which ones eat flowers, weeds, leaves, etc.	Books: Insects - Indoors and Out. Roberts, Pb. Melmont. Lady Bird Quickly Kepes Pb. Little I Want to be a Scientist. Greene Childrens Press.
Have you seen trees with big cocoons and lots of caterpillars inside them? Do you think these insects are helping the trees? Are they hurting it? What do you see that tells you this?	Mount insects brought into class. Watch the trees with the tent caterpillars on them and see what happens to the leaves and branches.	Filmstrip How Insects Live and Grow. SVE How Insects Change. SVE Flowers Fruits and Seeds. SVE I Want to be a Forester.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCE AND MATERIAL
Do you know any harmful insects? (Moths, Japanese Beetles, grasshoppers, houseflies, cockroaches, locusts, ants, termites, boll weavils, silverfish, ticks, mosquitoes, lice, fleas, etc.)	Have available butterfly nets to catch samples of insects. Stress must be put on catching a very limited supply of each insect. Bring in conservation and balance of nature concepts.	Resource person: Pest control serviceman. Focus on harmful insects. Have the insect control man bring in his equipment and spray the room. Look for what insects live in the room and were killed. Visit Entomology Department at VPI.
What do we do to get rid of them?	Have plants in a jar. Put in some insects. Watch to see which ones are helpful and which ones eat flowers, weeds, leaves, etc.	Books: Insects - Indoors and Out. Roberts, Pb. Melmont. Lady Bird Quickly Keeps. Pb. Little. I Want to be a Scienrist. Greene Childrens Press.
Have you seen any insects eating the flowers in your year?		
Have you seen trees with big cocoons and lots of caterpillars inside them? Do you think these insects are helping the trees? Are they hurting it? What do you see that tells you this?	Mount insects brought into class. Watch the trees with the tent caterpillars on them and see what happens to the leaves and branches.	Filmstrip. How Insects Live and Grow. SVE How Insects Change. SVE Flowers, Fruits and Seeds. SVE I Want to be a Forester.

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
Did you know ants build towns under the Ground?	Set up ant farm on science table. Take a field trip for insect collection using insect cages made by the children.	Film loop Ants at Work. Ant Farm. Transparency Life Cycle of an Ant Colony. Book Questions and Answers About Ants. Scholastic Books.
What kinds of homes do insects live in? Do they all build their own homes? Do some live in insect cities? Do you know any insects who live alone?	Watch changes in the ant colony set up on science table.	
	Bring wasp nest. Cut off part of it so the inner structure can be studied.	Books: Insects and the Homes They Build. Sterling, Pb. Doubleday.
Can you find an insect house to bring for the science table or to tell us about?	On walks in school neighborhood, hunt for signs of insect homes.	Insects Do The Strangest Things.
	Let's find some insects.	
Did you know that there is an insect that makes thread for people?	Have displayed on science table the kid "Japanese Silk - Cocoon Package" from Around the World by Mail.	Book: About Silk Worms and Silk Wormser Song: Mulberry Bush

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Have the children hunt for cocoons and experiment with them in the room to see if the thread can be unravelled like the silk worm.	
What differences do you see in the moth and butterfly? (Lead them to see antennae differences, wing positions when resting, etc.)	Have a monarch caterpillar on a milkweed leaf. Watch it eat the leaves, grow, change to a chrysalis and emerge as a butterfly (usually 2 to 3 weeks). Have children responsible for keeping a supply of milkweed leaves for the caterpillars to eat.	Book: Monarch X (Weekly Reader Book Club) Film: "Insect Zoo" Transparencies: Life Cycle of Butterflies Book: Where do Butterflies Go When It Rains?
Do you think we can go for a walk and find a Monarch caterpillar? Can you identify a milkweed?	For art activity, make a sequence of development of caterpillar using a culminating activity.	Film Loop: Monarch Butterfly-Chrysalis to Butterflies SVE

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Costumed Charade. Divide children into groups and have each choose and costume one child to represent a specific insect. Provide newspaper and other art materials. Have one child the speaker for each group to describe the insect. The person who is the insect act out movement of the insect. The audience tries to guess which insect the group has tried to depict.	Chart by Moncure Monarch - Egg to Butterfly.
	Set up a display of insects the children have collected. Have the first grade come in to see the collection. Have different children act as guides telling about each group of insects in the display.	Filmstrip: How to Identify Moths and Butterflies. SVE

C A R E E R E D U C A T I O N P R O G R A M

R A D F O R D C I T Y S C H O O L S

UNIT TITLE: FOOD AND NUTRITION

"YUMMY IN THE TUMMY"

APPROXIMATE GRADE LEVEL: KINDERGARTEN

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

PROJECT COORDINATOR: RANDY WRIGHT

THE CAREER EDUCATION PROGRAM
THE RADFORD CITY SCHOOLS
1612 WADSWORTH STREET
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PHONE: 1-703-639-6673

INTRODUCTION TO: Food and Nutrition
"Yummy in the Tummy"

This unit is developed to acquaint young children with good eating habits and, hopefully, to encourage eagerness toward trying many kinds of foods.

As the child learns about foods, he will hopefully gain an understanding of some of the occupations related to food processing, selling, and serving.

This unit of study will lead into a unit on health services and good grooming practices.

BROAD OBJECTIVE: To develop an awareness in young children of good eating habits and to acquaint them with workers who help provide these foods.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. Why do we need to eat good goods?	Bulletin board surrounded by food cut-outs. Plate and utencils.	Food cut-outs "Better Breakfast Activities" Cereal Institute, Inc. 135 LaSalle St. Chicago, Ill. 60603
2. What are good foods?	Creative play-child manipulates cut-outs on plate to show his breakfast(etc.) that day.	
3. What is a good breakfast?	Study prints discussion. Have children bring in containers from milk products. Make butter.	Study print: "Food and Nutrition" Milkman could come, show truck, etc. Could deliver cream used for butter.
4. Do you feel better after eating a good breakfast?	Play "Breakfast Game" during unit. Award ribbons to all for participation. Creative play - using food containers/housekeeping corner, act out serving breakfast, eating, manners, etc. Read: "Pancakes, Pancakes" Make cereal collages using different shapes and colors of cereal.	Kellogg's Co. Battle Creek, Michigan

CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Have "Breakfast Party" Make placemats, cook and serve oatmeal(or pancakes and use your butter) and serve with juice and milk.	
	Make aprons/chef hats, waitress caps.	Construction & crepe paper.
	Make collage of breakfast foods, cut from magazines.	Magazines
5. What other foods do you eat?	Study print discussion of "Lunch" and "Dinner".	Study print: "Food and Nutrition"
6. Are lunch and dinner important, too?	View filmstrip and follow with discussion.	Filmstrip: The Fruit and Vegetable Store
	Visit school cafeteria and/ or restaurant to see foods prepared for lunch or dinner.	School cafeteria
7. What are fruits and vegetables? Where do they come from? Which ones do you know?	Make play-dough fruits and vegetables for housekeeping center. Have a taste party. Make a fruit compote. Serve during snack.	Read: "Green Eggs and Ham" to encourage children to try something new.
8. How many different kinds of breads have you tasted?	Have bread-tasting party.	
	View filmstrip and discuss. Have a lunch party. Each child could bring in a vegetable.	Filmstrip: "Let's Have a Party"

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIALS
	Wash, chop, mix salad. Make grilled cheese sand. and dry soup mix. All have jobs to do.	
	Guessing game: I am a fruit; I'm red. I grow on a tree. People pick me and rub me until I'm very shiny. What am I? (apple)	
	I'm a vegetable. I'm green. Lots of me grow in one pod. I'm round. (peas)	
9. How does mother get these good foods?	View filmstrip and discuss.	Filmstrip: "The Grocer"
	Set up supermarket with food containers brought in by children.	
	Role-playing - grocer, meat cutter, customer, etc.	Visit a grocer store or invite a grocer to the room.
10. Where does the grocer get foods?	Plant seeds and watch them grow. Radishes grow quickly.	Visit dairy or fruit farm. Perhaps an egg farm.
11. Do you think you know which foods are good foods now?	Make a food mobile from food groups: milk group, fruits/veg., meat/fish/eggs, cereals/breads.	

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Farmer. Playskool no. 195-1.
Baker. Playskool no. 195-4.
Cake Maker. Playskool no. 275-43.
Waitress. Playskool no. 195-12.
Milkman. Playskool no. 195-7.

Educational Materials:
Better Breakfast Activities - Cereal Institute, Inc.
Breakfast Game - Kellogg Company

C A R E E R E D U C A T I O N P R O G R A M

R A D F O R D C I T Y S C H O O L S

UNIT TITLE: ARMED FORCES - "WHEN JOHNNY COMES MARCHING HOME"

APPROXIMATE GRADE LEVEL: GRADE 1

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

PROJECT COORDINATOR: RANDY WRIGHT

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INTRODUCTION TO: "WHEN JOHNNY COMES MARCHING HOME" - ARMED FORCES

The primary purpose of this unit is to help the children become aware of the various branches of the armed services.

It will stimulate an appreciation for the services and a knowledge of the numerous jobs available and the duties of each.

BROAD OBJECTIVES:

1. To become aware of the branches of the armed services.
2. To develop an understanding of the need for the armed forces.
3. To give the child an opportunity to begin his decision of the branch he prefers.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
Motivation to: "When Johnny Comes Marching Home"		
Teacher asks: Which branch will you take?	Bulletin board of a tree with uniforms and equipment on separate branches depicting the different branches of armed services. Class discussion.	Pictures. Tree (it could be made 3 dim. by using real tree links).
1. Why do we have armed services?	Class discussion pointing out that every nation such as the United States must be able to defend its interests on land and sea, and protect the lives and property of its citizens in other regions. During war and other emergencies, the United States must be ready to send well-trained, disciplined forces to accomplish these goals.	Books.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
2. What armed services do we have?	Children will discuss their experiences and knowledge of the different armed services.	
	Teacher will guide the class to include: Army, Navy, Marines, Air Force, and National Guard.	
	Make a chart listing these branches.	Poster board.
	Children may decide which they like best and draw a picture.	Construction paper, crayons
	Display pictures in appropriate place on branches of tree.	
3. What is a soldier's job?	Discussion.	
	Read a story.	Book.
	Bring tools and display.	
	Song.	"When Johnny Comes Marching Home"
	Emphasize that the army's job is to protect the land.	
	Show filmstrip or film.	Filmstrip, film.

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Resource person.	Resource person - Recruiter.
	Physical Education exercises will correlate well.	
	POEM: "MARCHING" Drums are booming Boom, boom, booming! Flags are waving High! Feet are marching, March, march, marching! Feet are marching By!	
	Suggestion: Choose a flag bearer and a drummer and let the children march to their heart's delight!	
4. What is a sailor's job?	Discussion of duties of the sailor.	
	Read a story.	Book.
	Bring tools and display.	
	Emphasize that the sailor's job is to protect the seas and oceans.	
	Show filmstrips or film.	Filmstrip or film.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Resource person.	Resource person - Recruiter.
	Physical Education exercises will correlate well.	
5. What is a marine's job?	Discussion of duties of marine.	
	Read a story.	Book.
	Bring tools and display.	
	Emphasize that the marine's job is concerned with landing operations.	
	Resource person.	Recruiter.
	Show filmstrip or film.	Filmstrip or film.
	Physical Education exercises will correlate well.	
6. What is the pilot's job?	Discussion of duties of the air force pilot.	
	Read a story.	Book.
	Bring tools and display.	
	Emphasize that the pilot's job is the protection of the air.	

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Resource person.	Recruiter.
	Show filmstrip or film.	Filmstrip or film.
	Physical Education exercises will correlate well.	
7. What is the national guardsmen's job?	Discussion of the duties of the national guardsmen.	
	Read a story.	Book.
	Bring tools of his job and display.	
	Emphasize that the national buard is on call at all times-he is called for all national emergencies.	
	Field trip to local national guard.	Field trip - Radford National Guard.
8. Which branche would you choose now?	Have children re-think and draw again which they like best.	Construction paper, crayons.
	Discuss those who changed their minds and why.	

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
CULMINATING ACTIVITY	Children will divide themselves into the five branches we have studied. Each branch will construct one piece of equipment, such as: Army -tank Navy -boat Air Force -plane Marine -guns & equipment Nat. Guard -jeep The children will use these items and role play.	Boxes, paint, cutting implements

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C A R E E R E D U C A T I O N P R O G R A M

R A D F O R D C I T Y S C H O O L S

UNIT TITLE: THE FARM

"IN THE BARNYARD"

APPROXIMATE GRADE LEVEL: GRADE 1

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

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INTRODUCTION TO: The Farm
"In The Barnyard"

Children in the city need to become aware of farm life and farm animals. They need to gain an understanding of the interdependence of people who live and work on the farm to those who live and work in the city.

First grade skills and subject areas can be readily developed in this unit.

MOTIVATING ACTIVITIES	RESOURCES AND MATERIAL
Display and discuss model farm from the National Dairy Council. Include child's vacation experiences on a farm.	Model farm.
Play record and sing: Old MacDonad's Farm In The Barnyard Read story.	Record: Old MacDonald's Farm Song: In The Barnyard Record-Sounds on the Farm and study prints. Book: Good Morning Farm by Betty Wright.
Art prints such as those of Andrew Wyeth depicting farm life may be introduced to motivate discussion.	Art prints

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BROAD OBJECTIVE: To help the children become familiar with farm life and farm animals, and help them to gain an appreciation of life on a farm.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What do you think living on a farm would be like? What does the farmer's family do all day?	Class will discuss and draw a picture of what they think life on a farm is like. Read stories. Show pictures and study prints of farm life. Filmstrip. Begin farm booklet. Make folder.	Books: What I Will Be From A to Z (National Dairy Council) The Little Farm (Lois Lenski) The Cow In The Silo (Patricia Goodell) My Friend The Cow (National Dairy Council) Study prints. Construction paper Farm ditto
1a. How is the farmer's family like(likeness and difference) your city family?		Film: Farm Animals-10 min. P. Radford College Farm Babies and Their Mothers-11 min. P. Radford College Farmyard Babies-11 min. Radford College Feeding Farm Babies-16 min. State Poultry on the Farm-10 min. State
2. What animals do you know that live on a farm? Why does a farm have animals?	Continue booklet with pictures of farm animals. Children can cut out and bring, also color worksheets on animals. Read story.	Worksheets on baby animals. Books: Farm Life-Kathrine Keeler Farm Life-Miriam Mason

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
3. Where does the farmer keep his animals?	Discuss how the farmer takes care of his animals and barns, etc. Include farmers' personal cleanliness, government inspection, etc. Visit a dairy farm. Role play a day on the farm or in the barnyard. View filmstrips and read books. Play guessing game on mother and baby animals. Put two eggs in a "chick-u-bator" and count time for hatching.	Filmstrips and record: Sounds on the Farm(Eye Gate) Dinky, The Calf Fluffy, The Chick Frisky, The Colt Fleecy, The Lamb Porky, The Pig Our Poultry Farm Books: Animal Families(Ann Weil) The Horse Who Lived Upstairs (Phyllis McGinley) Katie's Chickens (Nancy Watson) Farm Stories(Kathryn Jackson) Seven Diving Ducks (Margaret Frisky) Gertie, The Duck (Nicholas Georgiady) Kristie and The Colt (Emma Brock) Johnny Cow's New Garden (Leonard Brooke) The Lonely Little Pig and Other Animal Tales (Wilhelmina Harper) Flip, The True Story of a Dairy Farm Goat (Jane B. Moncure) All Kinds of Cows (Madeline Dadd) Rubber Farm Animals (Kindergarten)

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Have children work individually on puzzles.	Puzzles: The Farmer Pigs; Ducks; Cats; Donkeys; Lambs; Cows; Chickens; Birds; Goats; Horses.
	Children can make farm and animals out of clay.	Clay and boxes.
4. What kind of tools or machinery does the farmer use?	Show filmstrip.	Film: Old MacDonald-16 min.-State The Cardboard Cow-14 min.-State
	Use pictures of farm machinery and discuss use, etc. Make models of farm machinery from boxes or clay.	Pictures. Roll of manilla paper Bulletin board Clay Boxes
	Show film.	Film: Farming in South China- The S. River Valley 20 min. - Radford
	Have children make mural of farm life, include animals, machinery, etc. Label all parts studied.	World Book Encyclopedia Model of dairy farm Sentence strips
	Introduce and sing songs about the farm.	Songs: Music in Our Town 2 Farmer's Market Barnyard Family Sheep Are Coming Down the Road Growing Crops

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
		Market Day The Farmer
	Read stories.	Books: Farm Boy(Philip Stong) The Farmer and the Witch (Ida Delage) Over in the Meadow (John Langstaff)
	Show filmstrip on the farm.	Filmstrip: Animals on the Farm Life on a Dairy Farm
	Books-read and discuss.	Books: All Kinds of Cows (Madeline Dadd) Let's Go To A Dairy (J. M. Goodspeed)

BROAD OBJECTIVE: To help the child become aware of the interdependence of the farmer to us - how we depend on the farmer for food and how he depends on us for his livelihood.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What crops do the farmers raise? Who can name some special kinds of farms?	Filmstrip-view and discuss.	Filmstrip: Set of 6 Learning About Plants Life on a Dairy Farm
	Show pictures of various foods-have children discuss and make a chart of foods raised on the farm. Bring cut-outs of these to class and make a collage.	Pictures of foods.
2. How are farm animals important to us?	Discuss and make a picture chart of the different products derived from sheep, cattle, hogs, etc. Label all. Songs and stories. Imitate animal sounds and guess the animal. Take the class on a field trip to visit a small farm.	Flannel board kit: Farm Animals No. 88 Animals and Their Young Study prints-A Trip to the Farm Sounds I Can Hear-(Record) Sentence strips Poster board Field trip: Small farm
3. Where does the farmer sell his products?	Poems-about farmer, his products and market. Work farm picture puzzles. Film	Puzzles Film: Agricultural Lifelines-14 min. Elem.-State. Food for the City: Produce-12 min.-State
4. Who buys the foods at the market? How does this help the farmer?	Role playing - farmer buying and selling.	

BROAD OBJECTIVE: To extend the child's knowledge of the duties of a farmer in daily life.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What does a farmer do all day? Who helps him with his work?	Show and discuss large farm picture(Childcraft) of what a farmer is and will do on the farm.	Bulletin board Childcraft farm picture
	Construct a farm and label the buildings, animals, machinery.	Boxes
	Role play-farmer at work.	
2. What does the farmer do in different seasons?	Show pictures and discuss-have children bring some pictures. Make a bulletin board of the farmer's jobs in each season. Measure and divide into fourths. Songs Poems	Film: The Farmer- 14 min. Elem.-Radford College Pictures of farmer's seasonal jobs.
	Let the children create or tell a story about farm life.	

CULMINATING ACTIVITY:

CULMINATING ACTIVITY	RESOURCES AND MATERIAL
Pop popcorn in the classroom.	Popcorn Popper
Role play - The farmer and his helpers A day on the farm	
Complete booklets and take home.	
Begin a list of careers we have talked about in this unit-add list as we study more occupations.	Resource persons: 1. Farmer 2. Salesman 3. Grocer 4. Machine operator 5. Dairyman 6. Feed dealer 7. Manufacturers of farm tools 8. Veterinarian

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C A R E E R E D U C A T I O N P R O G R A M

R A D F O R D C I T Y S C H O O L S

UNIT TITLE: "THE TOY SHOP"

APPROXIMATE GRADE LEVEL: GRADE 1

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

PROJECT COORDINATOR: RANDY WRIGHT

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INTRODUCTION TO: "THE TOY SHOP"

In this unit the child gains an insight into numerous occupations especially those related to the toy shop, such as construction of store,toys, and the buying and selling of these.

During this unit the teacher will concentrate on the value of coins. First grade skills and subject areas will coorelate well throughout this unit.

BROAD OBJECTIVES:

1. To help children understand the value of coins.
2. To help children develop an understanding and appreciation of the workers involved in making toys and toy shop.
3. To develop an understanding of the value of money.
4. To help children become aware of job opportunities that stem from operating a toy store.

BROAD OBJECTIVE: To help children become aware of job opportunities that stem from operating a toy store.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
Motivation	Bulletin board depicting shelves of toys.	Pictures of various toys.
	Which would you buy?	
	Play record, Parade of Toys.	Record, Parade of Toys.
1. Where did the store get your toy?	Teacher guided class discussion.	
	Resource person who makes toys.	Resource person: Mr. Sylvester Stanley
2. Would you like a toy store?	Discussion on procedure of establishing a toy store. Children will be divided into 2 groups: one to make the toy shop and another to make the toys.	Suggested materials for toys: Sock dolls or animals Popcycle stick toys Puppets Paper construction Clay construction Box construction Assembly line could be used in the making of toys.
	Begin construction of toys and shop.	

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BROAD OBJECTIVES: To help children understand the value of coins.
To help children develop an understanding and appreciation of the workers involved in making toys and toy shops.
To develop an understanding of the value of money.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
3. Who makes the toys? Who builds the store?	Read a story or show a film-strip to build an awareness of the jobs involved.	Books and filmstrips.
4. How much will your toy cost?	Children will decide the price of their toy and place toy in the store. Begin math lessons on the value of coin money.	Book. Refer to pages 86, 87, 175, 176 in math book. Flannel board set on money. Play money and real money.

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BROAD OBJECTIVES: To help children understand the value of coins.
To help children become aware of job opportunities that stem from operating a toy store.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Children will make their own price tags after discussion of coin value. Children will place their toy in the store.	String, construction paper, crayons
5. How will you get the toy out of the shop?	Children will make coins and role play buying and selling in the toy shop.	Store, toys, play money
Culminating Activity	Field trip to see toy display.	

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Assembly Line Helpers. People Who Help Filmstrip 8.

We Run A Store. Educational Projection.

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Learning About Money. Lawrence, Lee - Soloman, Evelyn - Burt, Mildred - Colina, Tessa.

Flannel Board. Enalrged U. S. Coins #246.

C A R E E R E D U C A T I O N P R O G R A M

R A D F O R D C I T Y S C H O O L S

UNIT TITLE: THE FAMILY

"ALL IN A FAMILY"

APPROXIMATE GRADE LEVEL: GRADE 1

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

PROJECT COORDINATOR: RANDY WRIGHT

THE CAREER EDUCATION PROGRAM
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INTRODUCTION TO: The Family
"All In A Family"

This unit follows the self unit and broadens the child's horizons of his world. His thinking is now directed from self to include his family members and the jobs of each family member, as well as his role as a cooperative member.

The child, in this unit, becomes aware of a variety of jobs within his own home, and more specifically the occupations of his parents both in the home and in the community.

First grade subject matter and skills will flow throughout this unit easily.

This family unit preceeds the unit on school.

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BROAD OBJECTIVE: (1) To help the child become aware of his concept of home and his job role as a cooperative family member.

(2) To help the child understand and appreciate his parents' jobs in their occupations and at home.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
Introduction	Story or poem or filmstrip motivating bulletin board	Books: Happy Little Family by Rebecca Caudill Debbie and Her Family by Lois Lensky Family Helpers by Elaine Hoffman and Jane Hefflefinger
1. Are you in a family? What's a family? Who's in your family?	Class discussion Children can draw pictures of all their family members. Tell the number of family members. They could color and cut out family members from worksheets. Talk about small and large families.	Record: Five People In My Family Construction paper Family worksheets Record: Hush, Little Baby Book: Do You Know What I'll Do by Charlotte Zolotow
2. Do you have a pet in your family? What is it?	Children can discuss, then let them make their pets from clay. Could make whole family.	Clay Books: Saucy by Martha Welch A Home For My Kittens by Albertine Deletaille Whistle For Willie by Ezra Keats Go, Dog, Go! by P. D. Eastman A Dog For Susie by Ruth Nordlie Katie The Kittens by Ezra Keats

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CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
3. What do we do together as a family?	Show filmstrip. Discuss family outings, picnics, vacations, etc. Show and discuss study prints on play. Talk about family at work, too. Work puzzle.	Filmstrip: Families Having Fun The Little Brute Family by Russell Hoban Study Prints: Family At Work and Play. Puzzle: Family Drive Big Brother by Charlotte Zolotow
	Role play or plan puppet show on what they like to do best with their family. Make puppets. Make puppet stage.	Make puppets from bags, socks, pictures and popcycle sticks. Refrigerator box.
4. Where do you live? What do you call where you live? Are all the houses alike?	Read story, A Very Special House. Class discussion. Talk about home address, the different kinds of houses. Act out, The Three Little Pigs. Filmstrip-view and discuss.	Best Little House by Aileen Fisher A Very Special House by Ruth Krauss The Big Girl and The Little House by Ruth Krauss Filmstrip: The Three Little Pigs Record: Sounds I Can Hear-House
	Show pictures of various houses-discuss. Have children bring in pictures of houses and make a collage. Make houses out of milk cartons or use paper mache.	Pictures of different houses. Poem-Houses by Elsa Jane Werner Pictures from magazines. Milk cartons. Newspapers and paste.
	Make a big house out of refrigerator box or other big box. Children will do all the measuring, dividing it into rooms, decorating it.	Refrigerator box or others. Building blocks.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Take a field trip. Build house with blocks or box then. Discuss trip-emphasize the occupations seen on the trip and at the house under construction.	Field trip-to view the different types of houses, such as regular home, apartment, trailer. Also, visit a house under construction.
5. What is your job at home?	Show filmstrip. Discuss child's role, include taking care of self. Read and discuss book.	Filmstrip: Family At Work Book: Tom, Sue, and The Clock by Conrad Aiden.
6. Do you take care of your own pet?	Discuss how child takes care of pet-feed, wash, fix pet's house, etc. Read story. Children could do a bulletin board on caring for pets.	Book: A Home For My Kittens by Albertine Beletaille. Bulletin board.
	Children can act out how they care for pet. Sing and do actions to the Mulberry Bush-emphasizing things they do for their pet.	Record: The Mulberry Bush
7. What is mother's work at home? Do you help mother? How?	Show study prints on mother at work. Discuss mother's various jobs; washing, ironing, dishes, cooking, cleaning, etc. Show and tell how you help-talk about getting along and obeying, etc. Read books.	Study prints: A Family At Work and Play. Mommies Are For Loving by Ruth Penn. Resource person-a mother to talk about her jobs at home. The Hating Book by Charlotte Zolotow Are You My Mother? by P. D. Eastman

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Role playing.	The Sky Is Blue by Charlotte Zolotow. Ask Mr. Bear by Majorie Flack Record: I Love You Mommy
	Game, Did You Ever See A Mommy? (Act out the game.) Song, Mulberry Bush.	Game-Song-Did You Ever See A Mommy?(Tune-Did You Every See A Lassie?) Record: The Mulberry Bush
8. What tools does mother use in her work at home?	"Mommy bag" Discuss mother's different tools /things that help her. List on chart. Have child take bag home and bring back one of mother's tools and tell/show class how mother uses it-all about the tool.	Paper bags. Display of various tools mother could use on a table. Where Are The Mothers? by Dorothy Marin. My Rabbit and The Lovely Present by Charlotte Zolotow
9. Does mother go to work outside the home? What is mother's job? Where does she work?	Discuss where mother works and how she goes to work. Have children find out and then come back and role play it for class and let class guess what she does.	
	Read story. Make hats with mother's job name on it. Make a chart. Mommy bags-too or note telling about her job.	Jennie's Hat by Ezra Keats Use paper plates, bags, milk cartons to make hats.
10. What does daddy do at home? Can you help him? How?	Read story. Role play favorite thing you like to help daddy do.	Book: Daddies by Larrie C. Carton Record: My Daddy The Sorely Trying by Russell Hoban

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Show study prints and discuss dad's jobs around the house and what you do to help. Make a chart with dad's jobs listed as cutting grass, fix it, garden, paint, etc.	Study prints. No Fighting, No Biting by Else Minauh. The Early Bird by Richard Scarry. Thank You-You're Welcome by Louis Slobodkin. Study prints-A Family At Work and Play.
11. What tools does daddy use at home?	Display table. Discuss. Daddy bag(Note mommy bags) Have a father talk to the class about his jobs at home.	Table of possible daddy tools. Bags. Papa Small by Lois Lenski Resource person-father to talk about his jobs.
12. What is daddy's work outside the home? What does he use in his work?	Discuss where he works-role play. Children should become familiar with a variety of occupations here. Talk about tools, find pictures, make a collage. Make hats of his job. Song/game-Did You Ever See A Daddy? The Mulberry Bush showing things daddy does. Draw pictures of daddy at his job.	Poster board. Glue. Daddies and What They Do All Day by Helen Puner Hats-paper plates, boxes, bags, milk cartons. Record: Mulberry Bush Construction paper.
13. How do we all help each other in our family?	Discuss everyone doing his own job, working together, manners, etc. Story or film. Role play.	

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CULMINATING ACTIVITY:

CULMINATING ACTIVITY	RESOURCES AND MATERIAL
How are families different? - Discuss. Show filmstrip(Indians) Make comparisons Draw pictures Role play Color Eskimo sheets Make comparisons Draw pictures Build houses for Indian(tepee), Eskimo (igloo) and the American house(box or blocks). Role play	Filmstrip: How A Navajo Indian Family Lives Eskimo worksheets Boxes Other books for this unit: Many Names for Eleen by Peggy Sullivan Peter's Chair by Ezra Keats Where Are You Going Today? by Sharon Koestr Lucy McLockett by Phylis McGinly

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Decca Records: Children Sing Around The Year. I Love You Mommy.

Folkways Record Co., Family Nursery Rhymes. My Daddy.

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Scott, Foresman. Sounds I Can Hear. Home.

4. Study Prints:

SVE. A Family At Work and Play.

5. Filmstrips:

SVE(Society for Visual Education)

1. Families Having Fun
2. Families Members Work
3. Three Little Pigs
4. How A Navajo Indian Family Lives

C A R E E R E D U C A T I O N P R O G R A M

R A D F O R D C I T Y S C H O O L S

UNIT TITLE: SELF

"WHO'S THAT IN THE MIRROR?"

APPROXIMATE GRADE LEVEL: GRADE 1

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

PROJECT COORDINATOR: RANDY WRIGHT

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INTRODUCTION TO: Self
"Who's That In The Mirror?"

This unit is an introduction or base to many units, it is to focus the child's attention first on the things he knows about or is aware of in his own world, and then to branch out to the world around him.

The objective or purpose is to help this child of "tender" years to become aware of self and of self in relation to others; proceed to the family(the next closest unit to him); then continue with school; and finally, to discuss the community.

Hopefully, the child will then possess an adequate understanding and appreciation of his own world and the world around him.

First grade skills and subject areas will correlate well throughout this unit.

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BROAD OBJECTIVE: (1) To help children understand the concept of "Who Am I?" and to identify ways in which the child is a different or unique individual.

(2) To help the child become aware of things that are important to him in his own world.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. Who am I?	Teacher asks the class the question. Guides discussion. Teacher introduces self and tells a little about self. Show filmstrip-discuss.	Bulletin board. Filmstrip: "Sometimes I Wonder." Book: Debbie and Herself by Lois Lensky. Do You Remember by Marcea Vasiliu
2. Who are you? How do you look to others? To yourself? Are we all alike?	Class discussion. Children tell whether they are a boy or a girl, introduce themselves. They may tell something about self if they wish. Read story. Surprise box-w/full length mirror...here I am written over mirror. Observation and measurement. Talk about likenesses and differences-have children look in mirror and tell all they see. Compare with others back to back. Use scales and tape measure. Children can draw own picture(can be life size and fill in face and clothes).	Game: "Twenty Questions" (Teacher starts, children join in-guessing who) Books: Many Names For Eleen by Peggy Sullivan. Who's That In The Mirror by Polly Berends. Filmstrips: Getting To Know Me 1. People Are Like Rainbows 2. A Boat Named George 3. Listen! Jimmy! 4. Strike Three-You're In Full length mirror/refrig. box Scales

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	They could draw someone else and what he looks like to them.	Tape measure Large rolls of drawing paper Scissors Book: I Am Better Than You by Robert Lopshire.
	Discuss and show study prints on awareness.	Study Prints: Awareness SRA-Focus on Self-Development Kit. Filmstrip: "Cindy and the Elf" (On own appearance and others)
3. How old are you?	See if children can tell you, let them count it, and find it on number cards. Can write it on board.	Number cards. Book: The Very Little Girl by Phylis Krusilousky
4. When is your birthday?	Big cake and candles. When child learns his birthday he gets to put his name, date on the candle, and then place candle on the big cake. Children can make.	Birthday cake out of poster board and candles.
5. Where do you live? What is your phone number?	Use study prints to introduce this. Discuss whey they need to know this. Worksheets on phone and house address; when they learn they get to write it on the space on the color sheet.	Study prints: Awareness SRA-Focus on Self-Development Kit. Work sheets Crayons

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Role play what would happen if they did not know it, etc. (give them a situation). The class could write the story together.	
6. What can you do by yourself?	Read the stories "The Things I Like" and "Lazy Tommy Pumpkinhead".	Stories: The Things I Like by Francoise Seignbose. Lazy Tommy Pumplinhead by William P. DuBois.
	Teacher guides discussion and exploration to see if child can zip, button, tie, brush teeth, bathe, dress self, brush hair, etc. for self.	Table of manipulative objects such as a shoe to tie, zipper, buttons, toothbrush, hair brush, soap, etc.
	Give child worksheets on these. He will keep for his booklet. Read story.	Worksheets on these: "I Can Do It Myself by Corner. "The Early Bird" by Richard Scarry.

BROAD OBJECTIVE: (3) To help children develop positive attitudes and behavior that will enable them to work and play cooperatively.

(4) To help the children become aware of the rights and feelings of others; and extend their awareness of the necessity of being a cooperative group member.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. Can I always have my way?	Read the stories The Hating Book and Let's Be Enemies.	Stories: The Hating Book by Charlotte Zolotow. The Quarreling Book by Charlotte Zolotow. Let's Be Enemies by Maurice Sendak.
2. Can you always have your way?	Show study prints.	Show study prints-Awareness.
3. How do we play together?	Teacher guides class discussion-then the children make props and put on a puppet show. Read story.	Make puppets from paper bags or socks. Book: Kind Little Joe by Vera Cerotti.
4. What are some things you do with others?	Show and discuss filmstrips. Have children draw and portray in front of class their circle of feelings. Give them a certain feeling to pantomine.	Filmstrips: 1. Lonesome Ben 2. Magic Glasses 3. The Parade 4. Judy's Ups and Downs 5. Circle of Feelings. Book: Littlest Rabbit by Robert Kraus. Construction paper Crayons

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CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Make helping hands or working feet. Introduce helpers in classroom. Bulletin board or chart. Show filmstrips. Read stories. Role playing.	Who Will Be My Friends by Maurice Sendak. Construction paper. Tom and the Two Handles by Russell Hoban. Frederick by Leo Lionnie. A Tiger Called Thomas(Halloween) by Charlotte Zolotow. The Early Bird by Richard Scarry. Lucy McLockett by Phylis McGinley. Filmstrips: Already listed previously. Thank-You - You're Welcome by Louis Slobodkin. The Magic Word I Can by Audree I. Young, Exposition Press, 1967.

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CULMINATING ACTIVITY:

CULMINATING ACTIVITY	RESOURCES AND MATERIAL
Teacher says, "We are going to do a booklet, 'all about you' - just about all these things we have been talking about." All about me poster - one now and one at a later date or near end of school and compare.	Child's picture - He can draw or bring snapshot. Fill in all information we talked about. Include worksheets Jobs as helpers Booklet should include drawings and work such as: 1. Name and picture of self. 2. Work sheet on age, weight, height, address, phone number. 3. Worksheets on things I can do for myself-tie, zip, button, etc. 4. How I feel most of the time. 5. What makes me angry? 6. What makes me happy? 7. What makes me sad? 8. Picture with family. 9. Picture at school. 10. Picture of what I like to do best, etc.

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CAREER EDUCATION PROGRAM
RADFORD CITY SCHOOLS

UNIT TITLE: "LET'S GO ON A SAFARI"

APPROXIMATE GRADE LEVEL: GRADE 1

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

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INTRODUCTION TO: "Let's Go On A Safari"

In this unit the child gains an insight into the preparation for and the carrying out of safely capturing wild animals for the zoo.

He begins to realize how each job enables the zoo to provide animals for all people to enjoy.

The subject areas and skills of first grade can readily be developed throughout this unit.

BROAD OBJECTIVES:

1. To help the children become familiar with wild animals and to help them gain an appreciation of safely capturing the animals.

2. To broaden his interests and introduce new experiences that will increase his knowledge of workers involved in supplying zoos with animals.

3. To develop an awareness of the cost of different modes of transportation.

4. To provide the children with opportunities to make decisions based on their interests and available information.

5. To develop skills in physical coordination, self-expression, computation and cooperating with others.

6. To develop an awareness of the various occupations included in this unit of study, with emphasis on the animal trapper.

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
Motivation Let's Go On A Safari	Bulletin Board Show a filmstrip or read a story on a safari or about wild animals.	Book or filmstrip
1. Before we go, who can tell me what is a safari?	Teacher guided class discussion to discover that a safari is a journey or hunting expedition, especially in eastern Africa.	
2. Where is Africa?	Map study. Globe study. Begin construction of model. Do boundaries of African land mass.	Map, globe, cardboard, plaster of paris, paints (tinted with temper), trees made from popcycle sticks.
3. Why are we going to Africa?	Show study prints of African wild animals and discuss that our job is to bring these animals back to the zoo. Story or filmstrip.	Study prints. K-Talk Starter Treasure Chest Book or filmstrip.

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CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Have children bring any information or articles from home that they wish which relates to wild animals.	
	Children will share with others and arrange a display of things in the room.	Display area in the room.
4. What are we called when we go to look for animals.	We will be animal trappers. Read a book.	Book
5. What do we need to know and do before we can be an animal trapper?	Teacher guided class discussion.	
6. What kind of clothes will we wear?	Film, filmstrip, or book. Class discussion. Children will make paper dolls and dress them for safari. These will be added to model.	Construction paper. Popcycle sticks. Clay..
7. What tools or equipment will we need?	Discuss tools needed, such as: guns, nets, cages, tents and camping equipment	Pictures Milk cartons for tents.

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CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Add to model by building camp area.	
	Resource person will bring guns and talk about different kinds of guns and safety in handling.	Resource person on guns - a parent if possible.
8. How will we get to Africa?	Allow children to discuss this idea.	Map - Globe.
	Refer to map or globe to decide whether we will travel by airplane or by ship, making the children aware of the difference in the cost of the different modes of travel. After children's decision on method of travel, teacher could have math lesson on measurement and time. This will be how far we travel and how long it will take us to get to Africa.	Display of pictures of modes of travel and people who work on these.

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
9. Who's job is it to take us?	Display of pictures of various types of airplanes and ships and the people that work on these. Depending on children's decision discuss the various jobs connected with mode of transportation.	Pictures.
	Let children choose which job in this area he would like to do.	
	Begin safari booklet with children drawing mode of transportation and choice of job in this occupation.	Drawing paper Crayons Construction paper
Teacher "We're here, let's take a walk."	Show filmstrip on jungle or some wild animals from jungle.	Filmstrip. Record
	Class discussion.	
	Role play jungle walk, children pretending to be animals.	
10. On this trip, what animals do we want to take back to the zoo?	Children will look at pictures and decide which animals they want to capture.	
	Children will make a chart list of the animals.	Poster Board.

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Art lesson with clay in which children make one of the animals chosen. This will be added to model and display table.	Clay
11. How do we travel through the jungle?	Discuss that we will both walk and ride.	Books.
12. What vehicle will we use?	Allow children to talk about the vehicles which could be used. Teacher will guide children to see the need for special types of vehicles as: jeeps, land rovers.	
	Children will make a model of vehicle from a box.	Boxes, paints, brushes
13. How do we safely capture the animals?	Teacher guided discussion on various methods of safely capturing animals. Such as: tranquellizers pits nets traps (cage)	
	Children will draw pictures of themselves capturing an animal.	

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
14. What do you do with the animals after they are captured?	Discussion. Make paper or clay models of animals captured. Also, children may build model cages from boxes to transport animals back to the zoo.	Books
15. Can you tell us about your animal?	Children will discuss information concerning their animal, such as; food care habitat size This information may be sent with the animal to the zoo keeper. Children will learn songs and poems about various wild animals. Children may write stories and draw pictures for the booklet. Color animal pictures for booklet.	Books Filmstrips Songs Poems Prepared animal papers to color.

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
16. How many jobs have you named?	Class discussion. Children will make charts listing various jobs we have talked about in this unit.	 Poster board.
	CULMINATING ACTIVITY Assemble booklet. The children will compose a Safari song to the tune of "Farmer in the Dell". Song can be named "Safari in the Jungle". Invite another class to a program which will include: acting out animals singing songs reciting poems looking at room display	

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CAREER EDUCATION PROGRAM
RADFORD CITY SCHOOLS

UNIT TITLE: DEEP IN THE OCEAN

APPROXIMATE GRADE LEVEL: GRADE 1

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

PROJECT COORDINATOR: RANDY WRIGHT

THE CAREER EDUCATION PROGRAM
THE RADFORD CITY SCHOOLS
1612 WADSWORTH STREET
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PHONE: 1-703-639-6673

INTRODUCTION TO: "Deep in the Ocean"

This unit on oceans is designed to cover the most important meaningful aspects of the ocean and its relationship to man and the world he lives in. It will provide the children with a general knowledge of the occupations involved in fishing, shelling, and maintenance of the beach.

First grade skills and subject areas can readily be developed in this unit.

OBJECTIVES:

1. To teach children to know the fun, work and usefulness of the ocean.
2. To develop an appreciation for the ocean.
3. To develop an appreciation for a clean beach.
4. To develop an appreciation for food from the ocean.
5. To help children become aware of the various jobs involved in fishing, shelling and maintenance of the beach.
6. To help children understand why the ocean is so important to us.

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
Motivation: "Deep In the Ocean"	Have a mystery box including ocean items such as: play fish, sponge, sheels, star fish, sand dollars, boats, octopus, sea weed, choral and sand. Allow children to investigate the contents of the box by senses other than sight. As children discover the contents of the mystery box, allow them to place on ocean bulletin board which already contains net and ocean scene.	Mystery box and its contents.

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What is an ocean? Where is the ocean?	Display of pictures and class discussions using maps and globes. Worksheets of globe. Read a story or poems. Science lesson.	Pictures, maps, globes, book. Experiments to show why ocean is different colors, why ocean is salty.
2. What do we get from the ocean?	Teacher-guided discussion leading into transportation, fishing and recreation. Have children make a collage with pictures. Begin display table from items children bring in.	Pictures
3. How many have been fishing?	Guide children in seeing the difference in fishing as recreation and fishing as a way of making a living. Read a story. Show filmstrip	Books and filmstrip.
4. Can you name some fishing jobs?	Discuss the various jobs and list them on a chart. Include such jobs as: equipment salesman, fisherman, captain of the	

CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	boat, fish-buyer.	
	Children will draw a picture of the job they like best.	
	Resource person to discuss fishing experiences.	Parents or local resident (Jim Rutherford) Mr. N. M. Christian or members of his fishing party.
5. What kinds of boats can be used for fishing?	Children will bring in toy boats to add to display table.	
	Discussion of types and sizes of boats.	
	Have children make shadow box or picture with cellophane over it, depicting water scene.	Box, construction paper, crayons or paints, cellophane.
	Children may construct a fishing boat from large box.	Large box, paints.
	Children can make clay boats.	Clay
	Children may rule play	
	Read a story or poem.	Books

CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
6. What can you do for recreation at the ocean?	Teacher-guided discussion explaining to children that recreation includes all the different things we do for fun.	
	Children will write and illustrate their experiences at the seashore. This will be put into a large class booklet.	Poster board, crayons, construction paper.
	Play record and learn songs.	Do-Re-Mi record.
7. Who looks after the seashore?	Discuss jobs and duties of the lifeguards and caretakers of the beach.	
	Children may share experiences they have had at the beach.	Books
	Read a story.	
8. Who has a home at the bottom of the ocean? What is this home called?	Show study prints of different kinds of shells. Discuss animals and their shell homes.	Study prints.

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CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Have a "Bring and Brag" session allowing children to bring shells and other items from the beach. These may be added to display table.	
	Read a story Poem	Books Big and Little by-Dorothy M. Wisooker I found a great big shell one day Upon the ocean floor. (hold hands cupped as if holding large shell) I held it close to my ear. I heard the ocean roar! (raise hands to ear) I found a tiny little shell one day Upon the ocean sand. (one hand cupped as if holding little shell) The waves had worn it nice and smooth. It felt nice in my hand.

CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCE AND MATERIAL
		(pretend to be rolling shell between palms of both hands)
9. What are some ways to collect shells?	Discuss various ways of collecting shells such as: finding shells on the beach, buying shells in a shop. Shell collage.	
10. Is collecting shells a job?	Explain that someone is responsible for collecting shells from the bottom of the ocean. Worksheets on shells.	Worksheets.
11. How do shells get to the store?	Teacher-guided discussion on buying and selling shells. Role-play getting shells out of the ocean. Have children write poetry and recite to the class.	

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
Culminating Activity	Children will make a large mural portraying beach and underwater scenes. Underwater scenes may be covered with clear wrap. Field trip to Tech or Radford College.	

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C A R E E R E D U C A T I O N P R O G R A M

R A D F O R D C I T Y S C H O O L S

UNIT TITLE: COMMUNITY

"MR. ZIP"

APPROXIMATE GRADE LEVEL: GRADE 1

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

PROJECT COORDINATOR: RANDY WRIGHT

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INTRODUCTION TO: Community
"Mr. Zip"

In this unit the child gains an insight into numerous occupations. Through the study of various community workers the child learns to understand and appreciate the contribution of each community helper. He begins to realize how each job enables the community to function as a whole.

The subject areas and skills of first grade can readily be developed throughout this unit.

During this unit the teacher will concentrate on the jobs of the parents in the class. She will rely on these people for resources and use them as the link which will include the other community workers studied in this unit.

MOTIVATING ACTIVITY	RESOURCES AND MATERIAL
Bulletin board and study prints of the postman. Filmstrip-Taking A Walk in the Community. Read a story.	Study prints: Community Workers Postal Helpers Filmstrip: Taking A Walk In The Community Story: Mr. Zip and The U. S. Mail (Jene Barr)

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BROAD OBJECTIVE: To help the student understand the functions and operations of the community; and his role in relation to the community.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. Who am I?	Teacher carries Mr. Zip's mail bag and wears postman's hat (surprise in bag). Children tell the teacher which community worker she is.	Post Office by Colonius and Sbroeder
2. What does the postman/ mailman do? Where does he work?	Use puzzle and flannel board items. Discuss postman's duties, how he carries them out, who helps him, etc.	Puzzle - Postman Flannel board - Community Helpers.
3. Who helps him? What are the tools they use?	Read story. Do rhythmic activity: The Postman I came from the post office, (walk from the post office) My mail sack on my back; (pretend to carry mail on back) I go to all the houses (pretend to go to a house) Leaving letters from my pack. (pretend to drop letter into mailbox) One, two, three, four, (hold up fingers as you count) Who are these letters for? (pretend to hold letters and scratch head)	Story: Our Post Office and Its Helpers by Irene Miner. Study prints: Workers In Our Neighborhood-The Postman Rhythmic Activity-The Postman Wooden figures on Community Helpers

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CONTINUED (2) To help the children become aware of and respect the people who work in the community. 3

(3) To help the children understand and appreciate the contribution of each community helper and his duties or responsibilities.

(4) To help the children become aware of the various modes of transportation in the community, such as: truck, train, airplane, bus; and the people who are responsible for these vehicles of transport.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	One for John and one for you, (pretend to hand out letters) One for Mary and one for you! (pretend to hand letters to others)	
	Show filmstrip.	Filmstrip: Mail Delivery
	Teacher explains that there will be a postman(Mr. Zip) from the class; he will visit us each day with a surprise in his mail bag. The surprise (letter, book, hat, badge, puppet, etc.) will help us to learn about a new helper in our community.	Wooden figures of community helpers.
	Introduce and learn the poem: The Postman The postman is like Santa Claus. He has a great big sack. The sack is filled with letters. It is carried on his back.	Poem: The Postman

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Old Santa comes at Christmas time. To bring his Christmas cheer, But the postman(mailman) visits us each day, And not just once a year.	
4. What do we need before we can have the postman visit us?	Discuss, guide class to realize we must build a post office, post office truck, etc. Read story.	Let's Go To The Post Office by Buchheimer
	Have children bring shoe boxes from home to use in post office. Children will construct post office-build, measure, paint, etc., plus all the work stations.	Shoe boxes Box Paint
	All this after a visit to the post office.	Field trip: Post office Resource person: Clerk or mailman from post office.
	Children will also bring cancelled envelops to school. They can write real and make believe letters to be mailed, delivered, and then read to class. Role play post office.	Cancelled envelops. Songs, poems, stories about post office/postman.
	Children can possibly meet postman when he brings school mail.	Postman at school.
	Children can do rhythmic activity 'The Postman' again, but this time instead of	

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	pantomining or pretending-they can actually go to the stations, etc. Also, can deliver to the houses in the model community or the community children.could build with milk cartons or boxes.	Model of Kinder Community (Kindergarten has) Milk cartons Boxes
	Filmstrip-view and discuss. Children can take turns dressing as Mr. Zip and bring the surprise which will lead us into activities and discussion of the other community workers.	Filmstrip: What's In A Community?
5. Who wears this badge? How does he help us? Who helps the policeman?	Mr. Zip delivers policeman's badge, book and puzzle. Read story. Class discussion-use study prints on policeman. Have children make puppets and role play. Make police cars, patrol belts, signs, etc. Discussion on safety and signs.	Puzzle: Policeman Patrolwoman Our Friend The Policeman by David Cunniff. Study prints: Police Department Helpers. Books: Let's Find Out About Policemen by Martha and Charles Shapp. Mr. Pine's Mixed-Up Signs by Leonard Kessler.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Have school patrol visit class-discussion. Have policeman visit class.	Resource person: 1. School patrol 2. Policeman
	Class visits police station. Children will make traffic signs, stop lights and role play. Play game in physical education.	Field trip: Police station Your Police by George Zaffio. Policeman Small by Lois Lenski. Game: Red Light-Green Light The True Book of Policemen by Irene Miner.
	Class will begin a display area of tools, hats, etc. of the community workers as we study each one. They will include the books we use. Each item will be labeled. Bulletin boards will coincide with study. Children will begin list of occupations studied thus far.	Bulletin boards Display table Sentence strips-for labeling.
6. Who do you know that wears a hat like this? Is he your friend?	Mr. Zip delivers fireman's hat. Children discuss who wears the hat. Child can role play what he thinks the fireman does. Read story.	Fireman's hat The First Book of Firemen by Benjamin Brewster.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
7. What are his duties?	Show and discuss study prints on the fire department helpers and the fireman. Have children do fireman puzzle.	Study prints: Fire Department Fireman Puzzle: Fireman
8. How does he help you? How can you help him?	Discuss the role of fireman in community and how he helps us and how we can help him. Read story.	Let's Find Out About Firemen by Martha and Charles Shapp
9. Do you know anyone else that helps him?	Invite a fireman to come visit the class and talk about his work and who helps him. Read and discuss book. Show filmstrip. Play record.	Resource person: Fireman Book: Fire Snorkel Number 7 by Jene Barr Filmstrip: Johnny The Fireman Record: Fire Truck
	Children can bring paper bags and make fireman puppets. Make fireman hats from construction paper. Use flannel board of community workers to continue discussion.	Paper bags Construction paper Flannel board-Community Workers
	Read a story and discuss fire engines and fire stations.	The Great Big Fire Engine by Tibor Gergely. The Little Fire Engine by Lois Lenski. The Big Book of Real Fire Engines by Elizabeth Cameron. Let's Go To The Firehouse by Naomi Buchheimer

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Then take a trip to the fire station. When the class returns, have a discussion on all facets of the firehouse.	Field trip: Fire station
	Guide the children in building a model of fire truck. Role play Add to display and list, etc.	Box Paint
10. Who is this book about?	Mr. Zip delivers a doctor puppet with a book and a nurse's hat.	
11. Who do you know that wears this hat and helps the doctor? 12. How do these people help us? What do they do?	The puppet introduces himself as Dr. Dolittle and reads his own book. Dr. Dolittle leads class in discussion of how doctors and nurses help people, especially little boys and girls-he includes what doctors do and who helps them. Use study prints on doctors and nurses.	Travels of Doctor Dolittle by Al Perkins. Puzzles: Doctor, Nurse Animal Doctors by Carla Greene. Doctors and Nurses by Carla Greene. Study prints: Doctor Nurse Helpers
13. Where do some doctors and nurses work?	Visitor to talk to class. Discuss where some doctors and nurses work. Read story. Plan a visit to the hospital-especially the emergency room. Children could set up doctor's station or build an ambulance.	Resource person: Nurse Retired doctor Someone else from hospital Field trip: Hospital (Emergency room) Refrigerator box

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
14. What doctor do you know that helps you care for your teeth? Does he use this tool?	Mr. Zip, the postman, delivers a dentist's tool and study prints on a dentist. Discussion of study prints. Use flannel board kit on dentist and nurse. Read stories.	Study prints: Dentist Nurse Dentist tool Flannel board-dentist Books: A Visit To The Dentist by Bernard J. Gern Dentist's Tools by Carolyn Lapp
15. How does he help you? How can you help him?	Also discuss with use of flannel board kit and charts the 4 basic food groups and how they help our teeth.	Flannel board-4 basic food groups. Charts-basic food groups. Model of teeth, toothbrush.
16. Can you show me how to brush your teeth? Do you know what foods are good for your teeth?	Discuss proper care of teeth and toothbrush. Show filmstrip and demonstrate how to brush teeth. Then let children demonstrate. Invite a nurse or dental assistant to discuss dentist duties and who helps him. Children can use wooden figures, model community, puppets and hats made etc. and have a puppet show involving all the jobs and community helpers talked about thus far. Mr. Zip could deliver invitations. Children could choose who they wanted	Filmstrip: Tommy Tooth Let's Go To A Dentist by Naomi Buchheimer. I Want To Be A Dentist by Carla Greene. Resource person: Nurse Dental assistant The Hat Book by Leonard Shortall Our Neighborhood Friends by Olivia Flouring

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	to be. Class will continue adding to display and to list of occupations.	Puppet stage-made during family unit. Invitations
17. Where does mother buy food?	Mr. Zip brings a grocer's apron and several empty food containers. Children discuss where these items come from, who uses them and how.	Grocer's apron Empty food cans
18. Who do you know that works there? What are the duties of these jobs?	Discuss study prints on supermarket. Filmstrip-view and discuss.	Study prints: Supermarket Helpers Filmstrip: Super-Market (Edu. Craft)
	Take a field trip to grocery store. Have a resource person.	Field trip-visit grocery Resource person-grocer
	Children will build a grocery store and invite grocer back for role play of various parts. Use flannel board figure.	Refrigerator box Paint Cash register Flannel board-grocer
	Children will bring empty food containers from home. They will do all the planning.	Empty food cans
	Show filmstrip.	Filmstrip: The Grocer
	Children do puzzles individually.	Puzzles: Baker Grocer Cake maker

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Children will make a mobile of all community workers studied. Use geometric figures/shapes to make the model worker and a tool he uses. Display materials and complete list.	Materials needed:
19. Are all communities alike? How are they different?	Show filmstrip and discuss.	Filmstrip: Communities Are Different

CULMINATING ACTIVITY:

CULMINATING ACTIVITY	RESOURCES AND MATERIAL
Teacher will arrange for a special delivery package to be delivered to the class by a real postman. The package will contain a surprise for each child. The surprise could be a different stamp for each child with a letter explaining the fun involved in stamp collecting.	Package Stamps Letters
Then the teacher will have a resource person who is a stamp collector come to the class and bring his tamps, equipment, etc. and tell the children all about stamp collecting and how to start, who helps, etc.	Resource person: Stamp collector(Wayne Nester)

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2. Filmstrips:

Edu. Craft. Super-Market.
Jim Handy. The Grocer.
SVE. Communities Are Different.
Let's Take A Walk In The Community.
What's In A Community?
Tommy The Fireman.
Life In A Small Town.
Life In A Large Town.
The Town Mouse and The Country Mouse.
The Policeman.

3. Study Prints:

"Talkstarters" - At The Store
Supermarket Helpers
Dentist, Nurse, Doctor
Fire Department
Police
Workers In Our Neighborhood

4. Records: Ginn-Language Arts Kit

Fire Truck
Smokey The Bear
Let's Be Firemen

Flannel Board - Instructo - Community Helpers

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CAREER EDUCATION PROGRAM
RADFORD CITY SCHOOLS

UNIT TITLE: SCHOOL

"IT'S IN THE BAG"

APPROXIMATE GRADE LEVEL: GRADE 1

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

PROJECT COORDINATOR: RANDY WRIGHT

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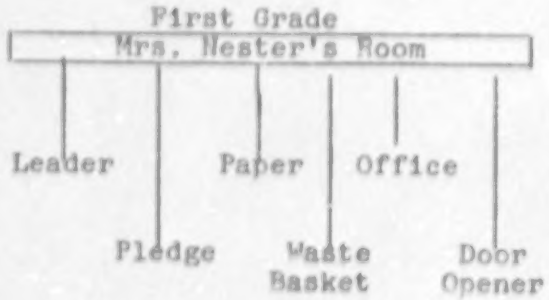
INTRODUCTION TO: School
"It's In The Bag"

This unit extends the child's knowledge of his world still further. It presents him with information concerning the school staff and their jobs. Also, the child becomes aware of his role and his job in school and in relation to others. He learns to appreciate his role and that of the school helpers.

First grade activities and subject matter will correlate throughout the unit.

MOTIVATING ACTIVITIES	RESOURCES AND MATERIAL
Show filmstrips and discuss.	Filmstrips and Cassettes: Knowing Our School: 1. Going To School 2. Our Room In School

BROAD OBJECTIVE: (1) To help the children learn appropriate occupational information about the occupations of the school staff and to instill an appreciation and understanding for each job.
(2) To help the children become aware and appreciate his role and job in school and in relation to others.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. Why do we need helpers in the room? What do they do? Their duties?	Introduce helper's chart-discuss how room helpers help the teacher and the children. Talk about their duties. Make a mobile of all the room helpers.  Show filmstrip. Make hats of all the jobs in the room and label with proper title. Role play. Play record of Sounds in Our School and show photo cards that go with it. Discuss. Use flannel board.	Jerry At School by Kathryn and Bryon Jackson. Good Morning, Teacher by Jene Barr. Let's Find Our About School by Martha and Charles Shapp. How School Helps Us by M. K. Hage, Jr. and Robert Ryan. Will I Have A Friend by Miriam Cohem. Filmstrip: A New Friend At School Cathy's First School by Betty and Sy Katzoff. Let's Go To A School by Naomi Buchheimer. Record: Sounds in Our School The Smallest Boy In The Class by Jerrold Beim. The Two Friends by Grete Mannheim. Crow Boy by Taro Yashimia. The School-flannel board kit.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
2. Who do you know that works in school?	Let children name and make a list on a chart of all the helpers they know in school. Then show filmstrips and discuss add those workers to chart that were omitted when list was first made.	Filmstrips: 1. Helpers at School 2. School Rules 3. Going to School is Fun 4. School Helpers
	Draw a picture of what child wants to do or job he likes best.	School For Sillies by Jay Williams. All Ready For School by Leone Adelson. Drawing paper.
3. What are their duties? Let's find out!	Have a big grab bag with tools of each school worker in it. Let a child pull out a tool, identify it - and then the class will go on a field trip around the school to find out who uses the tool and how. We will follow the same procedure for each of the workers and jobs of the school: 1. Cafeteria and staff 2. Custodians 3. Secretary 4. Principal 5. Librarian 6. School patrol a. safety b. flag	Various tools to depict each school worker. Label tools with strips. Field trip around school. Study prints on School Patrol by Ginn. Rosa-Too-Little by Sue Felt Little Bear Learns To Read The Cookbook by Mariana Schoolroom Bunny by Janet Knokle

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	7. Special persons a. guidance b. speech 8. Teacher The class will then make an interview booth-out of a box they will make and label. Kuhn Garrett School where they will hold their interviews.	Box Paint
	9. School bus driver Children will make hats for each helper with name of job on it.	Material:
	They will form an interview committee, including who will escort helper in room and to booth and who will ask questions, etc.	
	The school helpers will be invited to the classroom for the interview and discussion of their jobs and duties involved.	Resource persons: School helpers
	There will be a display table of tools, hats, etc. Use puzzles.	Table with all tools labeled according to who uses them in our school. Puzzles-School Teacher,The Bus

CULMINATING ACTIVITY:

CULMINATING ACTIVITY	RESOURCES AND MATERIAL
Make puppets and have a puppet show.	Material:
Children can pantomine one of the workers and let the class guess "Who am I?"	
Role play	
Filmstrip as an introduction to next unit.	Filmstrip: Our School In The Community

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Eye Gate. Going To School Is Fun. School Helpers.

SVE. The Gingerbread Man.

4. Study Prints:

   Ginn. School Patrol.
   David C. Cook Publishing Co. Teaching Pictures.

5. Records:

   Scott Foresman. Sounds in Our School.

6. Flannel Board:

   Instructo. The School. School Helpers.

7. SVE. Study Prints by Sinner.
   School Friends and Helpers

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C A R E E R E D U C A T I O N P R O G R A M

R A D F O R D C I T Y S C H O O L S

UNIT TITLE: TRANSPORTATION

"LET'S TAKE A BUS RIDE"

APPROXIMATE GRADE LEVEL: GRADE 2

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

PROJECT COORDINATOR: RANDY WRIGHT

THE CAREER EDUCATION PROGRAM
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INTRODUCTION TO: Transportation
"Let's Take A Bus Ride"

Few aspects of our daily lives are unaffected by transportation. Either directly or indirectly, our food, clothing, shelter, and our entire lives reflect the availability of goods and services provided by transportation.

It is intended, through this unit, that children become aware of the many modes of transportation of goods and people and the many jobs required for the efficiency, speed, comfort and safety involved.

Since transportation is such a broad subject, involving so many people, this unit will deal with the bus, extensively.

MOTIVATING ACTIVITIES	RESOURCES AND MATERIAL
Have children bring in pictures of as many buses as they can find. Let them place the pictures on the bulletin board. Discuss sizes, shapes of buses and where you can go on a bus.	

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BROAD OBJECTIVE: To help students develop interest in buses and the important part they play in our lives.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. How do people get from place to place in our community?	Class discussion of ways children get to and from school, to grocery store, to a department store. Visit local bus workshop (terminal); watch many people at work and ask about their duties.	
2. If you had no car and wanted to go to Roanoke or nearby city to shop, how would you get there?	Write stories about family trips taken. Draw appropriate pictures to go with story. Make individual booklets of materials collected and work done during unit. (Add to booklet as work proceeds)	Text: Our Language Today 2 Chapter 7-"Writing Stories" Crayons Paper fasteners Construction paper

BROAD OBJECTIVE: To help students develop an understanding and appreciation of the workers involved in operating buses; for our convenience.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. Who are the workers who help us travel in our community? on a bus trip across the United States?	Make a large chart of brief facts learned about the topic, for example: Bus Workers — Duties Bus driver — He drives the bus. Mechanic — He keeps bus running.	Oak tag Study prints: Community Helpers C89 Filmstrip: The Bus Driver F-A9 The Gas Station Attendant F-R20 Service Station Workers CF-A86
	View and discuss films and filmstrips depicting bus drivers and their duties.	Films: Bus Driver #40904(Rad.) Bus Drivers Helpers #70705(Rad.) Buses That Serve Our Community #27904(State) Busy Airport #83404(Mad.) Big Trains Rolling #28012(State) Boat Trip #05104(State)
	Invite a local and(if possible) Greyhound or Trailway bus driver to talk with class.	
	Role-play workers on the job.	
	Learn and sing songs.	"Helpers" p.44 Discovering Music "Going to Boston" p.47 " " "Going to Travel" p.45 " "

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Read stories. Learn to spell words related to unit. Invite bus driver to talk to class.	 Resource persons: Bus driver Mechanic Bus station manager

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BROAD OBJECTIVE: To increase the child's knowledge of ways of travel.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. How do people choose among the many ways of traveling?	Make a chart(picture and word) of as maqy types of transportation as possible.	
	View and discuss "Progress of Transportation" chart. (Barbara Cox has this chart)	"Progress of Transportation" chart.
	Children choose mode of transportation and draw, color, cut out pictures and place on bulletin board.	
	Learn and sing songs related to transportation.	"The Service Station" p.32 Discovering Music. "Jet Planes" p.36 Disc. Music. "Fly to the Moon" p.37 Disc. Music. "The Midnight Special" p.72 " "Sailboats" p.163 Disc. Music.
2. How did people in olden times travel in our country?	Make a picture chart of ways of travel in early America.	
	Discuss advantages and disadvantages of early modes.	
	View and discuss ways of travel in early America(through charts and filmstrips.	"Progress of Transportation" chart(Barbara Cox has)

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BROAD OBJECTIVE: To extend the child's knowledge of the world beyond his immediate environment.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What are some ways to travel on land, on water, in the air and in space?	Arrange mode(cars, trucks, buses, airplanes, space modules, etc.)to make a travel museum. Put explanatory labels on all exhibits.	
	Read stories(pupils) "Fun in the City", "A Neighborhood of New Houses", "A Trailer Trip", "Fun at Home".	Learning About Our Neighbors Wann, Wann, Sheehy - Allyn and Bacon
	View and discuss filmstrips.	SVE-F796-6 Manners on Public Transportation.
2. What goes on at a busy bus terminal, an airport, a wharf and at space center?	Visit local Greyhound bus terminal and observe work going on. Ask questions of workers about their duties.	

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27904 Buses That Serve The Community(State)
83404 Busy Airport(Mad)
04609 Airport in the Jet Age(Rad., State)
28012 Big Trains Rolling(State)
05104 Boat Trip(State)
02004 Development of Transportation(State, Rad.)
81904 Ferryboat(Rad)
91604 Fred and Billy Take An Airplane Trip(Mad.)
92708 Jet Pilot(State)
36904 Passenger Train(Rad.)
23805 Romance of Transportation(State)
31708 School Bus Safety(State, Rad.)
33709 Transportation By Air(State, Rad.)
05204 Transportation By Land(State, Rad.)
12505 Transportation By Ship(State, Rad.)
46608 Transportation By Water(State, Rad.)
11805 Transportation in the Modern World(State)
72065 Transportation Maintenance(State)
50508 Travel in America in the 1840's(State)

3. Filmstrips:

F-A9 The Bus Driver
F-A8 Trucks At Work
F-R20 The Gas Station Attendant
CF-A29 The Automobile Service Station
CF-A86 Service Station Workers

4. Puzzles:

C83 Bus
C80 Family Drive
C84 Truck Driver

5. Study Prints:

C89 Community Helpers Pict-O-Graph-Taxicab
CSP24 How People Travel In The City(SVE)
C90 Means of Transportation

6. Transparencies:

Tr 4C-909 Space Travel

C A R E E R E D U C A T I O N P R O G R A M

R A D F O R D C I T Y S C H O O L S

UNIT TITLE: THE GROCER

"TO MARKET, TO MARKET"

APPROXIMATE GRADE LEVEL: GRADE 2

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

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INTRODUCTION TO: The Grocer
To Market, To Market

This unit is organized to give children information, which is within their realm of understanding, about one of the very important work roles in our community. Also, it should stimulate an appreciation for the services rendered by the various workers in satisfying the needs of our society.

Hopefully, the children will also become aware of the fact that the many aspects of community life are dependent upon each other.

MOTIVATING ACTIVITIES	RESOURCES AND MATERIAL
Serve crackers and peanut butter and kool-aid as a "refresher" after a class. Then ask the children where they think I got the crackers, peanut butter and kool-aid. Class discussion of a grocery store, who works there, etc.	

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BROAD OBJECTIVE: To help students become aware of the grocer as a distributor of food for our meals.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. Who is the grocer and how does he help us? What does he have to know and do to become a grocer?	Identify and interview a grocer (about what his job is, who works for or with him, etc.) Class discussion of qualifications in performing his job.	Resource person - Grocer (Local community grocer) SVE Study Prints: Set SP-123 Supermarket Helpers SVE Filmstrip and Cassettes: (4) JF210 SATC Supermarket Workers
2. Does the grocer raise the food he sells in his store?	Read stories(teacher and pupil) about people who grow, produce, process, transport, or sell various foods. Construct models of boats, planes, trucks, etc.(means by which our food is transported. Cut out magazine pictures for a bulletin board, "Ways Our Food Gets to Market".	Story: Childcraft Vol. 7 How We Get Things.
3. What is a supermarket? How many departments are there in a supermarket? What do we mean by a "display"?	Class discussion of differences and likenesses in grocery store and supermarket. Teacher read story, The First Book of Supermarkets. Write original stories and poems about experiences to a supermarket.	Story: A Visit to a Supermarket p. 47-60 Book: Learning About Our Neighbors 2 by Wann-Allyn and Bacon, Inc. Book: The First Book of Supermarkets Textbook: Our Language Today 2 "Writing Stories and Poems"

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BROAD OBJECTIVE: To help students realize that grocers get goods from many sources.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITES	RESOURCES AND MATERIAL
1. What people are responsible for getting our food to a grocery store or supermarket, where we can buy it?	Field trip(early morning) to observe bread, milk, produce truck, etc. delivering their products. Discuss content question here. Read stories(teacher and students). Show filmstrips.	Stories: The Handsomest Pigs in Town (Childcraft Vol. 11 p.188-193) Let's Go Shopping (Childcraft Vol. 6 p.218-233) Street Markets (Childcraft Vol. 6 p.224-225) Filmstrips: How We Get Vegetables How We Get Fruit How We Get Meat How We Get Bread The Story of Milk
2. Where do these people obtain the products they bring to the supermarket?	Build a bakery and make a baker's hat and coat. Role-playing make loaf of bread using recipe on page 83-84 in Learning About Our Neighbors. Bake rolls in classroom. Make a poster of places people obtain products they bring to the supermarket. (Bakery, produce market, etc.)	Story: The Surprise p.61-68 Bread For Greenwood p.69-74 The Story of Bread p.75-79 Bread Long Ago p.80-84 (From book: Learning About Our Neighbors by Wynn-Allyn & Bacon) Story: Stores in the Neighborhood p. 80-89 Book: Our Working World by Lawrence Senesh-Science Research Assoc.

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BROAD OBJECTIVE: To help students realize that people in a community are interdependent.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What do we give in exchange for our food?	Listen to and talk with a milkman(in the classroom) about how he exchanges the money he earns, from delivering milk, for the many products he needs in daily life.	Story: Money in a Basket Childcraft Vol. 6 p.226-227 Resource person: Milkman
	Story-(Teacher or child read to class)	Story: When People Didn't Use Money Childcraft Vol. 6 p.230-231
	Show filmstrip.	Filmstrip: The Grocer(K.B)
2. What services does the grocer render? Could we do without the grocer?	Write an article for the school newspaper(K.B. Buzzer) about our trip to a supermarket and the visit from the milkman to our class.	
	Check grocery prices in ads from several stores in the area(advertising).	Daily newspapers(News Journal The Roanoke Times)
	Print "make believe" ads for our room supermarket.	
	Filmstrip or films	Film:(18809)Food Store(State)
	Stories: (Pupil and teacher read)	Story: The Store on Wheels Vol.6 p.84-85 Little Wheels for Big Jobs Vol.6 p.88 Bags, Sacks and Baskets Vol.6 p.228-229 What Place is This? Vol.5 p.222-223 Childcraft

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BROAD OBJECTIVE: To help students realize that friendliness and courtesy are important in business.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. Why should the grocer be friendly and courteous?	Discuss some manners for a grocer and customer.	Book: Manners Can Be Fun by Leaf-Lippincott(395-L)
	Make a poster of manners that should be practiced.	Book: Courtesy by Slobodkin-Vanguard Co. (ES)
	Role-play grocer and customer.	Book: The Courtesy Book by Dunlea-Beckley Cardy(395-D)
2. Should we as customers be friendly and courteous?	Film(view and discuss)	Film: 97804 Courtesy For Beginners(Radford College)
	Show filmstrip. (View and discuss)	Filmstrip: Manners in Public 241 Curriculum Lab D56g Radford College 130F

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BROAD OBJECTIVE: To help students develop an understanding that sanitation is important in business.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What is the meaning of sanitation?	Class discussion of cleanliness, sanitation and their importance. Make a dictionary of new words introduced into this unit and use the word in a good sentence.	Our Language Today 2 "Writing a Good Sentence"
2. Why is sanitation important in the grocer business?		
3. Should we as a customer think of cleanliness when we buy and handle food?	Film(view and discuss).	Film:(50505) Health-You and Your Helpers(Radford College)

BROAD OBJECTIVE: To help students develop a realization that speed and accuracy in handling money is important to the grocer and to the customer.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. Is it necessary for the grocer to know how to count and make change for money? Why?	Role play: Grocer and customer(selling and buying before math unit on money and then after).	
2. Is speed and accuracy, in counting money, important to the grocer? Why?	Role play: (Same as above) Learn and use liquid measure and weights.	Math textbook: Mathematics 2 (Sets, Numbers, Numerals-Laidlaw) (Unit on Money) (Unit on Liquid Measure & Weights) Different types of containers and scales. (Mrs. Stump has old model scales)
3. Should we as a customer know how to count money and make change? Why?	Have different children each morning help take up, make change and count lunch and ice cream money. Role play: Cashier, customer, bag boy, custodian.	

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BROAD OBJECTIVE: To broaden student knowledge of the world of work.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. Can you name some people who work in a supermarket and tell what they do?	Decide on store name. Make sign. Plan, build, and operate a "grocery store". Play the roles of manager, clerks, customers, custodian. a. practice courtesy b. practice counting and changing money. c. practice buying and selling. Leave the store in room as long as interest holds.	Resource person: Store manager or clerk in a neighborhood store.
	Make a picture poster of "People Who Work In and Around A Supermarket".	Make labels of products sold in a grocery store(tempera paint).
	Film(view and discuss). Make a sign for name of store. Read stories(pupils).	Stories: Food for Greenwood Book: Learning About Our Neighbors-Allyn Bacon p.45-80.
	Show filmstrip. Learn and sing songs: 1. The Milkman(p.78) 2. What Sort of People Come to Our Town(p.111) 3. Making Cookies(p.10) Song: "You Turn for Sugar and Tea"(p.25)	Filmstrip: Supermarket Workers Music textbook: Music In Our Town Textbook: This is Music
	Write original stories about supermarket workers.	Study prints: Talkstarters: At the Store(Scott Foresman #2059) (Kindergarten has this)

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CULMINATING ACTIVITY:

CULMINATING ACTIVITY	RESOURCES AND MATERIAL
Role playing: 1. The grocer 2. The milkman 3. The bread man 4. The produce man 5. Clerk 6. Bag boy 7. Custodian 8. Cashier 9. Customer	

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Buehr, Walter - Meat From Ranch to Table
Burt, Olive - Let's Find Out About Bread
Dunlea - The Courtesy Book(Beckley Cardy)
Green, Mary Moore - About Apples from Orchard to Market
Greene, Carla - I Want to Be a Baker
Iritani, Chica - I Know A Baker
Leaf - Manners Can Be Fun(Lippincott)
Lynch, Lorenzo - Hot Dog Man
Russell, solveig P. - About Cheese
Senesh, Lawrence - Our Working World(SRA)
Slobodkin - Courtesy(Vanguard Co.)
Stanek, Muriel - I Know A Dairyman
Whitney, David C. - Let's Find Out About Milk
Wynn - Learning About Our Neighbors(Allyn and Bacon)
Young, Eleanor R. - First Book of Rice

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Cooper, Elizabeth K. - Sun and Shadow(Harcourt, Brace and World)
Together We Go
Going Places, Seeing People
Conlin, David A. - Our Language Today(American Book Co.)
Gundlach - Mathematics 2 (Sets, Numbers, Numerals) (Laidlaw)
Mursell and Others - Music In Our Town
Sur, William R. and Others - This is Music (Allyn and Bacon)

Childcraft (Vol. 5,6,7,9,11)
Worldbook (Vol. F.,G.S.)

3. Filmstrips, Records, Etc.:
Study Prints: Supermarket Helpers
Study Prints: Talk-starters: At the Store
Study Prints: The Bakery (Series 7: Community Helpers)

Film: Courtesy for Beginners (Radford College)
Food Store (State)
Health-You and Your Helpers (Radford College)
Courtesy at School

Filmstrip: Supermarket Workers (SVE)
The Grocer (K-B Library)
The Story of Milk (K-B Library)
How We Get Vegetables (K-B Library)
How We Get Fruit (K-B Library)
How We Get Bread (K-B Library)
How We Get Meat (K-B Library)
Manners in Public (Curr. Lab-Radford College)

4. Kits:

Supermarket Workers (Wonderful World of Work series, K-3) Denoyer-Geppert, 1967
Dairy Product Delivery - Geppert, 1967
The Fruit and Vegetable Store (Our Neighborhood Worker series) Eye Gate, 1967
The Butcher - Eye Gate, 1967
The Dairyman - Eye Gate, 1967
The Baker - Eye Gate, 1967
The Grocer (Community Helpers series, Set One)-Young America Films, 1963.
Supermarket Workers (Community Workers and Helpers series) SVE, 1971
How We Get Our Foods series, SVE, 1967
The Foods We Eat series, SVE, 1971
My Dad Works in a Supermarket (Fathers At Work series) IFC, 1968
Stocker in a Supermarket (Occupational Education series) Eye Gate, 1965

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The Grocer - Playskool
The Baker - Playskool
The Cake Maker - Playskool
Milkman - Playskool

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C A R E E R E D U C A T I O N P R O G R A M

R A D F O R D C I T Y S C H O O L S

UNIT TITLE: "RADFORD THEN AND NOW"

APPROXIMATE GRADE LEVEL: GRADE 2

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

PROJECT COORDINATOR: RANDY WRIGHT

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INTRODUCTION TO: "RADFORD THEN AND NOW"

This unit on the City of Radford is designed to help children develop an appreciation for the past and understandings of the changes that have taken place in their city.

Through various resource personnel and field trip activities we hope that each child will become aware of not only the historic past but also the present career opportunities offered.

MOTIVATING ACTIVITY	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
Display a large map of the City of Radford.	1. Class discussion of what a map is. 2. Location of school on map. Location of other main points of reference (Ex. Norwood Street).	Map of Radford.

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BROAD OBJECTIVE: To show children that a city can be drawn on a map, and to help children learn basic math skills.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. Can we find our home on a map of Radford:	1. Give each child a map of the City of Radford to locate their home & draw route to school. 2. Have each child mark his home on the big map on the bulletin board.	Maps available from Chamber of Commerce.
2. How can I locate things on a map?	1. Class discussion & teacher demonstration of scale, legend and key. 2. Game - Location of landmarks of City.	Modern Mathematics II - unit on measurement.

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BROAD OBJECTIVE: To help children understand the changes that have taken place in Radford over the past 100 years. (Historical)

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What would a map of Radford 100 years ago look like?	1. Give the child a map of Radford in 1755. Let children try to locate present existing landmarks.	Included in unit.
	2. Discuss the differences in the map.	
2. What was our community like 100 years ago?	1. Tell the children the story of the Ingles family.	Possible resource people.
	1-A Art act. - Draw Indians	Necessary information attached.
	2. Show a film.	Wilderness Road 16508
	3. Children write the story in their own words.	Mary Draper Ingles
	4. Give each child a picture of Lovely Mount Tavern (stage route on Wilderness Road) and Lovely Mt. Church and discuss.	Copy attached to unit.
	5. Construct stagecoach.	

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CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	6. Teacher present pertinent information: Old Brick Church Connleys Run East & West Radford John B. Adams- Radford home behind High School Belle Heth Academy 7. Crossword puzzel to review history learned.	Information attached.

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BROAD OBJECTIVE: To help increase the childrens knowledge of occupations available in Radford (past and present).

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. How has the appearance of our community changed?	Display on bulletin board pictures and information of businesses and schools past and present.	Resource persons - natives of Radford. "This Is Radford Virginia" available from Chamber of Commerce.
2. What occupations existed 100 years ago that no longer exist today?	Class discussion resulting in chart showing how occupations have changed.	Slide Presentation of Radford - available RHS library.
3. What occupations do your parents have?	Each child interviews their parents about their places of work. Record childs report to the class.	
4. What occupations are available in Radford?	Prepare a list of industries to study. Fill in a simplified job application form.	Resource person from Radford Planning Commission. Resource person from Radford Employment Agency.
5. What education is necessary for various careers?	Resource persons from selected industries to explain the industry and products made there. Prepare a display table of products made in Radford.	

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CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Add to list of industries - the products made in each.	
	Field trip including historic points as well as selected industries.	
6. What things I learned about Radford's past and its occupational opportunities that I would want to tell newcomers?	Children prepare a brochure using pictures taken on field trip and original descriptions of them.	
	Creative writing lesson, choosing a career from those discussed.	

1748 - Mary Draper lived with her family at Drapers Meadow (now Blacksburg).

1750 - Mary Draper married William Ingles. Was first white marriage West of Alleghenies. Had 2 children - Thomas and George.

1755 - Shawnee Indian raid on Draper's Meadow in which several were killed and Mary Draper Ingles and her children were captured. The Indians separated them and carried Mary into Kentucky and finally Ohio. Here she was forced to make salt, the first made in our country by white settlers. Mary taught nursing, cooking to the Indians thus won priviledges and title "heap good medicine squaw." Accompanied by a Dutch woman Mary Draper Ingles escaped. For 40 days and nights she climbed cliffs, slid down mountains and lived on berries and nuts. Finally she fled from the Dutch woman, who crazed by hunger and exposure, tried to murder her.

Mary was found by a neighbor near Dunkards Bottom where her husband had rebuilt their cabin. This was on New River near Radford. Later a log cabin was built by the Ingles just West of Radford on the river. Here they operated a ferry known as Ingles Ferry. Mary sent scouts to look for the Dutch woman. Later a monument built from the chimney stones of her cabin was erected to her in Westview Cemetery in Radford.

First permanent settlement in Radford was Ingles Ferry in 1755.

Lovely Mount Tavern - Was built on Rock Road (Wilderness Road). Was a double log cabin built on stage route. Hog droves and cattle driven on this road. Was first post office in community until 1866.

1845 Old Brick Church on Lovely Mount.

C A R E E R E D U C A T I O N P R O G R A M

R A D F O R D C I T Y S C H O O L S

UNIT TITLE: THE FARM

"OLD MACDONALD'S FARM"

APPROXIMATE GRADE LEVEL: GRADE 2

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

PROJECT COORDINATOR: RANDY WRIGHT

THE CAREER EDUCATION PROGRAM
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INTRODUCTION TO: The Farm
Old MacDonald's Farm

City children need to learn how country people live. Actually, many city and rural living conditions have become quite similar because of modern means of communication and travel, and the development of consolidated school systems.

The overall view of the typical small farm and its animals and crops lends itself to a wide variety of activities which hopefully will lead the children into a better understanding and appreciation of the interdependence of people who live and work on the farm and in the city.

Second grade subject matter fields can easily be incorporated into this unit.

MOTIVATING ACTIVITIES	RESOURCES AND MATERIALS
Play record and sing: Old MacDonald's Farm. Look at and discuss: (Model Farm from National Dairy Council) and child's vacation experiences on a farm.	

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BROAD OBJECTIVE: To help students gain an appreciation of life on a farm.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What would living on a farm be like? 2. What does the farmer's family do all day?	1. Class discussion of the child's vacation experiences on a farm. 2. Read selections and give reports on farm life. 3. Study famous paintings which depict farm life. 4. View filmstrips or films depicting farm life. 5. Role playing "A Day on the Farm."	Books: What I Will Be from A to Z by National Dairy Council. The Little Farm by Lois Lenski. The Cow in the Silo by Patricia Goodell. My Friend the Cow by National Dairy Council. Films: Farm Animals(Radford College) Farm Babies and Their Mothers (Radford College) Farmyard Babies(Radford College) Feeding Farm Animals(State) Poultry on the Farm(State)
3. What animals live on a farm? Why does a farm have animals? 4. Where does the farmer keep his animals? 5. Who helps keep farm animals healthy?	1. Make a scrapbook of pictures of farm animals(include vocabulary words for spelling). 2. Discuss sanitation procedures on a dairy farm(care of barns; farmer's personal cleanliness; government inspection, etc.) 3. Visit dairy farm(noting all above discussed items). 4. Play a matching game on mother and baby animals(on an electric game board). 5. Set two eggs in a "chick-u-bator" and count time for hatching(avoid drastic temp. changes). Interview vet. or invite to classroom.	Filmstrips and Record: F-L24 Sounds on the Farm Eye Gate House, Inc. Dinky, the Calf Fluffy, The Chick Frisky, The Colt Fleecy, The Lamb Porky, The Pig Our Poultry Farm Worksheet on matching animals. Slides(in library)SL-01-SL15 Chick Embryo Book: All About Eggs by Millicent Selsam(in public library)

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
6. What kind of machinery does the farmer use?	Make a mural depicting the different types of machinery (at work) on a farm. (Class project)	Film: Farming in South China- The Si River Valley(Radford)
7. Where does he keep his machinery?	Make models of farm machinery (from clay or small cardboard boxes). Film and filmstrips.	World Book Encyclopedia Model Dairy Farm - Dairy Council (order early)

BROAD OBJECTIVE: To help students become aware of how living conditions on a farm and in a small community(such as Radford) are similar,(because of modern conveniences, communication and travel).

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. In what ways is farm life different from city life? 2. In what ways is farm life similar to city life?	Draw individual pictures(as the child recalls it) of a farm and of our community(include activities going on in both pictures). Make a chart of activities of people in our community and check to see if jobs of each are same on farm. Same as above except for listing conveniences(such as telephone, TV, etc.) Pop corn and make applesauce as an entertainment in both farm and community. Play games about farm activities(and discuss possibility of children in our community.)	Films: The Cardboard Cox (State) Old MacDonald(State) Pageant of American Farms(State) (a little above some heads, but some received much from this) Songs: Music in Our Town 2 1. Farmers' Market 2. Watermelons 3. Barnyard Family 4. Our Ponies 5. Sheep Are Coming Down The Road 6. Growing Crops 7. Harvest 8. Market Day 9. Planting Cabbages 10. Shake the Apple Tree 11. Wind in the Corn 12. The Farmer Filmstrips: (F-L24) (Including study prints & record) Sounds on the Farm Sounds Around Town(F-L29) Sounds Around City(F-L30) Dairy Farm Panorama Kit

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BROAD OBJECTIVE: To help students develop an understanding of how we depend on the farmer for our food and how he depends on us for his livelihood.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What crops does the farmer raise:	Discuss and list foods raised on the farm(in the U.S. anywhere and in our community)	Filmstrip: Set of 6(F-S15-S20) Learning About Plants Life on a Dairy Farm #7680 Encyclopedia Britannica Educational Corp.
2. How are farm animals important to us?	Make a picture chart of the different products derived from sheep, cattle, hogs, etc. Learn and sing songs about farm animals. Make up new songs. Read stories and poems about farm animals-write stories and poems. Churn butter. Visit creamery for consumer use. Imitate sounds of farm animals. Guess the animals. Use for physical education	Flannel Board Kit: Farm Animals #88 (Kindergarten has this) Animals and Their Young (Kindergarten has this) Teaching Pictures- A Trip To The Farm(Kindergarten) Sounds I Can Hear(Record-Kindergarten)
3. Where does the farmer 4. Who buys the foods at the market?	Read some poems about the farmer, his products and market. Make and work farm picture puzzles. Film. Role playing, "The Farmer at the Market"(buying and selling).	Films: Agricultural Lifelines(State) Agriculture's Showcase Abroad " Let's Read Together Series (Fourth Grade-Section on Farm Poetry)

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BROAD OBJECTIVE: To help students gain an insight into the duties of a farmer in daily life.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What does a farmer do all day?	Several short filmstrips or films on the farmer at work.	Textbook: Our Working World-Neighbors at Work P.4-52 by Lawrence Senesh-SRA
2. Who helps the farmer with his work?	Discussion of large farm picture (Childcraft) of what farmer is and will do on the farm. Construct a farm(and for vocabulary and spelling, label the buildings, animals and machinery). Role playing, "The Farmer and His Helpers at Work."	
3. What does the farmer do in different seasons?	Construct a bulletin board (divided into 4 seasonal sections) and depict through cut out pictures jobs of farmer each season.(Measure board--divide into fourths) Learn and sing songs about farmer and his seasonal crops.	Film: The Farmer(Radford College) Textbook: Mathematics 2(Laidlaw) Units on Measurements

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BROAD OBJECTIVE: To help students become aware of some problems which face a farmer(erosion, improvement in soil, selling of products, meeting standards).

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What are some of the problems with which a farmer must deal in improving his soil?	Plant some seeds in two flower pots. Add fertilizer to one pot. Note which plant grows better.	Film: What is Soil?(State) Soil Conservation-Erosion(State) Soil Conservation-Soil and Water Conservation(State) Textbook: Concepts in Science 2, "Plants and Animals" Our Language Today 2, "Letter Writing" Farmer's Almanac(Librarian has these)
	Experiment to show how water carries fertilizer to plants. Pour some sugar or salt on a piece of cloth stretched over a bowl. It will not go through the cloth. Now pour water over the cloth. Taste the water.	
	Show film and discuss.	
2. How does the farmer protect the soil to keep it from washing or blowing away?	Show films or filmstrips depicting different methods of soil conservation. Visit and discuss ex. of soil erosion. Resource person to talk to class about soil...its composition, care and conservation.	Film: Our Land-It's Many Faces(State) Fifth Grade Science Book (has an experiment on erosion)
	Discuss and summarize.	
	Visit a farm to clarify and broaden our understandings.	Field trip to a farm.

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
3. Who assists the farmer in deciding what to grow, when and where on his farm?	Bring, read and discuss newspaper clippings on farm reports. Listen to farm reports on local radio and television stations.	
	Film Role playing, "Farm Agent on Radio Broadcast."	Film: The Agriculture Story(Radford) Agriculture in Virginia(Radford) Your Meat Inspection Service(State) Letter Writing for Beginners (Radford)

CULMINATING ACTIVITY:

CULMINATING ACTIVITY	RESOURCES AND MATERIAL
Role playing of: 1. "A Day on the Farm" 2. "The Farm Family" 3. "The Farmer and His Helpers" 2. Begin list of Careers We Have Learned About, on wall above chalkboard. Leave all year; add to as year goes on. (Children cut out letters as we learn about each career in the unit) 3. Have a barn dance.	Resource Persons: 1. Farmer 2. Salesman 3. Repairman 4. Grocer 5. Machine operator 6. Soil conservationalist 7. Soil analyst 8. County agricultural agent 9. Horticulturist 10. Park ranger 11. Dairyman 12. Farm realtor 13. Feed dealer 14. Manufacturers of farm tools 15. Biologist 16. Landscaper 17. Livestock breeder 18. Veterinarian

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Sounds I Can Hear(Record included_

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Farm Babies and Their Mothers (10 min. pri. Radford College).
Farmyard Babies (11 min. pri. Radford College).
Feeding Farm Animals (16 min. elem. State).
Food For The City (12 min. elem. State).
Letter Writing For Beginners (11 min. pri. Radford College).
Old MacDonald (16 min. elem. State).
Our Land-It's Many Faces (14 min. elem. State).
Pageant of American Farms (15 min. elem. State).
Poultry on the Farm (10 min. elem. State).
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C A R E E R E D U C A T I O N P R O G R A M

R A D F O R D C I T Y S C H O O L S

UNIT TITLE: OUR HOMES - SHELTER

"WHERE DO YOU LIVE?"

APPROXIMATE GRADE LEVEL: GRADE 2

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

PROJECT COORDINATOR: RANDY WRIGHT

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INTRODUCTION TO: Our Homes-Shelter
"Where Do You Live?"

Throughout the primary grades, attention is given to self, home, community and the workers whose services contribute to them.

In the second grade, with increasing maturity of the children, interest in the home, its structure and furnishings is extended.

Since every aspect of the child's life is touched by the home, his experiences and interests will be prevalent.

It is hoped the children will gain a better understanding of and appreciation for the workers involved, from the architect's drawings of the house plans to the role of parents and children.

MOTIVATING ACTIVITIES	RESOURCES AND MATERIALS
Filmstrip and story: (F-L8) Hansel and Gretel(Gingerbread House)	Filmstrip: (F-L8) Hansel and Gretel
Construct cardboard houses to resemble gingerbread house.	
Make a gingerbread house or a small cardboard house to resemble real gingerbread box with frosting and gingersnaps on it.	
Dramatize story Hansel and Gretel or conduct a "man on the street" interview, using microphone and tape recorder. Teacher will act as "man on the street" first to give class the idea. Then different children will be chosen.	Tape recorder
Filmstrip and story: Three Little Pigs Dramatize story Three Little Pigs.	Filmstrip: Three Little Pigs Where do you live? Child give home add.

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BROAD OBJECTIVE: To help students gain an appreciation of our homes.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What did the very first homes look like?	Filmstrip: View and discuss Draw caveman and his home. Draw Indian homes. Build Indian village(tepees, fire area sleds, totem poles).	Filmstrip: The First Homes(313A) Homes of the American Indian(313H) Homes in the U.S. Old and New(313I) Books: Houses We Live In True Book of Houses
2. What kinds of homes are in our neighborhood?	Read stories(pupils and teachers) Read poems Take field trip around school and in neighborhood where most of class reside to view kinds of homes. Discuss types of houses; materials houses are made of and process involved in building a house. Filmstrip-view and discuss. Build own houses out of milk cartons. Build a house out of a cardboard box. Paint it.	Story: Three Little Pigs (p.60) The House That Jack Built The Little Stone House The City Mouse and the Country Mouse(p.94) Childcraft-Vol. 2 Filmstrip: The Homes We Live In-Jam Handy Poem: Peter, Peter, Pumpkin Eater There Was An Old Woman(p.31) The House of the Mouse(p.94) The Shiny Little House(p.16) Childcraft-Vol. 2 (Mrs. Showalter's room)

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
3. Why do we need homes?	Transparency-Home as a Place of Shelter.	Transparency: Home as a Place of Shelter(creative visuals)
	Class discussion of weather factors.	
	Filmstrip-view and discuss	Filmstrip: Why We Need Houses (238B)
4. What kinds of rooms does a house have?	Make a list of rooms in a home and the furnishings used in each room.	Childcraft-Vol.6(Mrs. Darden's room) 1. Adobe(p.127) 2. Apartment(p.123)
	Examine and discuss blue-prints(floor plans) and learn about scale model. Correlate this with math class on measurement and cost(addition and subtraction of simple money problems).	Math textbook-Mathematics 2 Sets, numbers, numerals a. measurement unit b. money unit c. geometric shapes
	Try drawing simple floor plans for "your" house.	
	Collect and discuss floor plans from newspapers and magazines.	Filmstrip-Parts of a House (238B)

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CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Read stories(pupils) The Cloud House in the Sky p.94(Sun and Shadow) Moving Day-The Apartment p.116-122(Sun and Shadow) The Little Clay House p.97(Together We Go) A Baby in the House p.135(Together We Go) Tools for Work p.102(A World of Surprises) Two is a Team p.201-221(A World of Surprises) The Painted House p.8(Going Places, Seeing People) My Home p.46(Going Places, Seeing People)	Reading textbook: Sun and Shadow Reading textbook: Together We Go Childcraft-Vol.10, p.218-219 "The Carpenter's Cutting Tools"
5. What important tasks need to be done in our homes?	Plan one extra chore that you can do daily to help at home. Make a poster illustrating rules of courtesy at home. Make a chart of all home jobs, who does them, and which ones you can help with.	
6. Ways we can make house more pleasant.	Plan and plant a bulb or dish garden. Make a chart of why we need homes.	

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BROAD OBJECTIVE: To help students develop an understanding of workers involved in building, furnishing and maintaining our homes.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What kind of tools are used to build a house?	Filmstrip-view and discuss. Children make own tools out of construction paper for bulletin board. Bring tools from home and show class.	Filmstrip-Tools and Materials for Building Houses(238D)
2. What workers are needed to build a house? How did the workers learn their skills?	Children make puppets out of bags depicting worker who builds houses. Class discussion of workers and how they learned the skills. Architect-show blue prints and let children draw simple plan of their own houses. Correlate with math class on measurement and cost. Make class picture and story book of construction workers depicting as many different phases of their jobs as possible. Go to an area where the workers are in the process of building a house.	Childcraft Moving(Vol.7) Carpenter(Vol.7) Apron(Vol.9) Belt(Vol.10) Tools(Vol.10, Vol.9) Electrician(Vol.10) Plumber(Vol.8, Vol.10) Painter(Vol.10)

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
3. Where do the materials to build our homes and furnishings come from?	Invite a carpenter, plumber, electrician(any other available person children might know) in to briefly explain their work and how they learned their skills.	Books: I Want to be An Architect I Know a House Builder
	Filmstrip: View and discuss	Filmstrip: Men Who Build Our Houses(283F)
	Collect and make an exhibit of different kinds of materials used in constructing a house.	Science experiment: Why green lumber is not used in building by wetting a piece of plywood and drying as quickly as possible.
	Make a picture chart of household furnishings(emphasizing as many different types of materials used in each).	Childcraft Brick's for Houses(Vol.7) Grass(Vol.5) Mud(Vol.5) Paper(Vol.5) Tree(Vol.5) How to Make Furniture(Vol.9)
	Filmstrip, records or cassettes	Filmstrip, records or cassettes: (Singer/SVE)World of Work The Home We Live In How We Get Our Homes

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
4. What important tasks need to be done in our homes? Who performs these tasks?	Learn and sing songs: At Our House(p.8) Leaky Faucet(p.6) Making Cookies(p.10) Needle sing(p.11) Old House(p.83) Make up other songs or verses to songs in books.	Music textbook: Music in our Town
	Pantomine the work of different kinds of duties in home. Have other children guess which worker is being represented.	Music textbook: Discovering Music
5. In what ways can we help make our homes more pleasant?	Learn and sing songs: Helpers(p.44-Disc.Music) Help me Today(p.80-Disc.M) If You're Happy(p.8-This Is Music)	Music textbook: This Is Music
	Art-decorate wooden boxes for trinkets or create felt picture and vase of paper flowers-art design out of toothpicks. Children may put art decorations in playhouse, if available.	Economy Handicrafts-Flushing, N.Y. p.29 felt and burlap picture pack.
	Play rhythmic game- If You're Happy(p.8-This Is Music) Come Sing and Play(p.6-This Is Music)	
	Read stories(pupil): The Little Red Hen(p.46). Act out play.	Textbook: Together We Go

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BROAD OBJECTIVE: To help students develop a realization and appreciation of the many conveniences in our homes.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. How do we heat our homes in winter? How do we cool them in summer?	Class discussion of ways their homes are heated and cooled.	Childcraft Furnace(Vol.6 and 8)
	Invite a heating and plumbing contractor or helper(a father, if possible) to answer questions and enlighten children as to types of heat and cooling devices.	Resource person-heating and plumbing contractor.
2. What materials are used for insulation?	Interview parents about insulation in home and report to class.	
	Invite school custodian to explain heating system in school.	
	Make an exhibit and label types of fuel. Discuss advantages and disadvantages.	Language textbook: Unit on "Labeling Things".
3. What furnishings does a home need? What purposes does furniture serve? Of what materials is furniture usually made?	Read poems(pupil or teacher)	Poems-Childcraft-Vol. 1 The Clock My Bed
	Class discussion of advantage and disadvantages of rugs, carpets, tile, cement, linoleum, bare wooden floors.	
	Cut out pictures of furniture for a room and arrange it several ways, deciding on the most convenient arrangement.	Poems-Childcraft-Vol.1 The Clock My Bed

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Make something useful or decorative for the home. (Book marks, memo pads, napkin rings, door stops, letter-holder, pin cushion).	
	Make a list of labor-saving devices.	
4. What conveniences for the home have come in to use recently? How do they add to our comfort and well being?	View and discuss film.	Film: Pioneer Home(#80904 Rad.)
	Filmstrip and cassette-view and discuss.	Filmstrip and cassette: (Eye Gate) The Story of Houses What's Around Us-The Home
	Math-identify and work simple addition and subtraction problems with "sets" of objects and "groups" of workers, furniture, etc. in the home.	Childcraft Refrigerator(Vol.6) Telephone(Vol.6) Television(Vol.6) Dishwasher(Vol.6) Washer & dryer(Vol.6 and 8)
	Free reading-read the books on the special reading table(to be set up for this unit)	
	Report on any particular book you think would interest the class(book report).	Books for reading table are included in back of unit.
	Children interview parents with cassette tape recorders on labor-saving devices.	

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CULMINATING ACTIVITY:

CULMINATING ACTIVITY	RESOURCES AND MATERIAL
Construct a house Role play(people who build the house as well as family who lives in the house). Classroom quiz Booklet-of all papers and objects children have done and made during unit.	

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CAREER EDUCATION PROGRAM
RADFORD CITY SCHOOLS

UNIT TITLE: CUSTODIANS(JANITORS)IN OUR LIVES

APPROXIMATE GRADE LEVEL: GRADE 2

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

PROJECT COORDINATOR: RANDY WRIGHT

THE CAREER EDUCATION PROGRAM
THE RADFORD CITY SCHOOLS
1612 WADSWORTH STREET
RADFORD, VIRGINIA 24141
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INTRODUCTION TO: Custodians(Janitors)in Our Lives

All too often we take for granted the important work performed, for us, by the custodians or janitors. These people include our mothers and fathers, as well as those persons who are responsible for the maintenance of private and public buildings.

It is hoped, through actual association with the school custodians and observation and class discussion, the children will begin to realize and appreciate those who care for the buildings used by us all.

This unit is designed for a second grade class; for two to three weeks.

MOTIVATING ACTIVITIES	RESOURCES AND MATERIAL
1. Display some of the equipment used by custodians or janitors.	
2. Through cooperation with the school custodian, do not clean the classroom for a week(without the knowledge of the children in the class).	
3. Class discuss the appearance of the classroom after the week of work within; and having no one clean it.	
4. Ask for volunteers among the children in the class to carry out the duties which the custodian would have performed each day.	

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BROAD OBJECTIVE: To help children learn about the importance of a custodian or janitor in all phases of their lives.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATEIAL
1. What is a custodian? a janitor?	Use dictionary and find meaning of both words.	The Harcourt Brace School Dictionary Harcourt Brace Jovanovich,Inc.
2. Where do we need a custodian or janitor?	Class discussion of the meanings and their likenesses and differences.	The Picture Dictionary For Children
	Class discussion of places they have observed custodians and janitors at work.	
	View and discuss filmstrip and cassette and pict-o-graph.	Helpers at School-Knowing Our School CFA110
		Pict-O-Graph-Community Helpers C-89
	View and discuss films	Community Keeps Healthy
		Communities-Keep Clean
		Helpers at Our School

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BROAD OBJECTIVE: To help children develop an appreciation of custodians or janitors in their lives; through a workable knowledge of their duties and responsibilities.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What are the duties of a custodian? a janitor?	Learn and sing songs about a custodian or janitor at work.	"Pounding A Nail" Page 43 Discovering Music-Berg, Richard "Helpers" Page 44 Discovering Music-Berg "Jack-A-Needle" Page 3 Discovering Music-Berg "Leaky Faucet" Page 6 In Our Town-Mursell, James "Galoshes" Page 3 In Our Town-Mursell
	Invite custodian(school) to room to explain his duties.	Resource persons: School custodian and janitor.
	Take tour of school building, with a custodian and let him show and explain the extent of his work.	Field trip: Tour of school building.
2. What would our public buildings, as well as our private homes, look like without the services of a custodian or janitor?	Invite a custodian from some public building(such as recreaction hall) to visit the class and explain and answer questions about his work. Then compare his work with that of the school custodian.	Resource persons: School custodian and janitor.

CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Children read stories about school janitor.	"Mr. Pickle's Surprise" Page 51 Foolish and Wise-Smith, Nile About Family Helpers-Hoffman Busy Bodies-Bowman Dear Garbage Man-Zion
	Class discussion and list together places where custodians or janitors are needed.	

BROAD OBJECTIVE: To help children realize that everyone, to an extent, act as a custodian or janitor sometimes.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. Did you ever think of your mother or father as a custodian or janitor?	Class discuss and list duties of parents which custodians or janitors perform in public buildings. Examine and discuss study prints.	Family Responsibilities in in the Home CSP-19
2. Have you ever done any work as a custodian or janitor?	Class discussion of ways the child has helped in his home. Each day during this unit allow four or five children to do the work the custodian would ordinarily do in the classroom. View and discuss filmstrips.	Janitorial equipment. School Helpers F-A84-226 Our Jobs at School FA85-227 Helpers at School CFA110 School Courtesy FA87-229
3. Is it the duty of only a custodian or janitor to take care of and clean the building he is in charge of?	Class discussion of the appearance of our classroom after it had not been cleaned. (At the beginning of the unit.) Examine and discuss study prints.	School Friends and Helpers CSP-20 Keeping the City Clean and Beautiful CSP-23

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CULMINATING ACTIVITY

Plan and carry out a special day or party for custodians in the school, in appreciation and understanding of jobs performed by custodians and janitors.

Each child in class will wear a "thank you" badge which they have made for the occasion.

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CFA11 Helpers At School-Knowing Our School

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70605 Communities-Keep Clean(P) State
25805 Community Keep Healthy(P) State
66305 Fathers Go Away To Work(P) U.Va.
45705 Helpers At Our School(P) Radford
89904 Helpers In Our Community(P) Madison
20904 Night Community Helpers(P) State
28404 What Is A Neighborhood(P) Radford
54605 Schools and Jobs-Lots of People Work Here(P) State

4. Filmstrips:

CFA110 Helpers At School
FA85227 Our Job At School
FA87229 School Courtesy
FA84226 School Helpers

5. Pict-O-Graph:

C89 Community Helpers

6. Study Prints:

CSP19 Family Responsibilities in the Home
CSP23 Keeping the City Clean and Beautiful
CSP20 School Friends and Helpers

C A R E E R E D U C A T I O N P R O G R A M

R A D F O R D C I T Y S C H O O L S

UNIT TITLE: THE ARTS: "COLOR MY WORLD"

APPROXIMATE GRADE LEVEL: GRADE 2

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

PROJECT COORDINATOR: RANDY WRIGHT

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INTRODUCTION TO: THE ARTS: "COLOR MY WORLD"

It is hoped, through a unit of this type, that children will develop an interest in cultural contributions to society.

Selections from the finest works of both past and comtemporary times should be included. Tha arts contribute to the enrichment of almost every area of learning. Children will be encouraged to use many art forms to express their own feelings and ideas creatively.

BROAD OBJECTIVES:

1. To help students develop the sensitivity, taste, and appreciations which will enrich their lives.

2. To help students become aware of their interests in selected activities.

3. To help the children become aware that they rely upon community members other than their family and that learning helps people do things for the community, state, and nation.

4. To enable the students to explore possibilities of opportunities for employment, as well as the arts as leisure time activities.

5. To help the students understand how their personal and physical characteristics and abilities (or talents) influence their personal goals and career decisions.

6. To become familiar with some famous artists (and works of art) and some famous musicians (and musical compositions).

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BROAD OBJECTIVE: To help students develop the sensitivity, taste, and appreciations which will enrich their lives.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What kind of stories do you enjoy?	Teacher read and tell different types of stories to class. Pupils read different types of stories. Role-play some story characters. Make a chart (child made) of types of stories and let each child put his name under the type he prefers.	
2. What do stories do for people?	Ask the children about some subject they know nothing about. Then read them a story and follow with a class discussion about how they feel now.	
3. How can you learn to enjoy music?		Books: Balet, Jan B. <u>What Makes An Orchestra?</u> (Oxford) Britten, Benjamin. <u>The Wonderful World of Music</u>. (Doubleday)

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CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
		Books Continued: Daniach, Shula. Every Child's Book of Music and Musicians (Ambassador) Kaufmann, Helen L. History's 100 Greatest Composers. (Grosset) Norman, Gertrude. The First Book of Music. (Watts)

BROAD OBJECTIVE: To help students become aware of their interests in selected activities.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What do you do for fun and relaxation?	Class discussion of what each child does now when not in school. Set up centers for each child to experience activities in different areas (study prints of famous paintings, filmstrips, records and cassettes of different types of music). View and discuss films.	Film: 14904 Fiddle Dee Dee (Painting to Music)

BROAD OBJECTIVE: To help the children become aware that they rely upon community members other than their family and that learning helps people do things for the community, state, and nation.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. When you want something to do for entertainment who is responsible for furnishing the entertainment?	Make a class chart of activities for entertainment. (For example: a. Watch TV b. Listen to radio, tape player, etc. c. Play at area playground. d. Go to movie theater. e. go swimming. f. skate or play basketball at the recreation hall.) Class discussion of the people and their jobs in the different entertainment areas. Resource persons from several areas.	

BROAD OBJECTIVE: To enable the students to explore possibilities of opportunities for employment, as well as the arts as leisure time activities.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What career opportunities await art and music students? or children in elementary grades who show talent in both areas?	Class discussion of what the children think one could do for a living or a hobby in art and music. View and discuss film.	World Book Volume M Careers in Music. Film: Music Career or Hobby 97404 91104 Clay in Action

BROAD OBJECTIVE: To help the students understand how their personal and physical characteristics and abilities (or talents) influence their personal goals and career decisions.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What are my interests in the area of art and music? 2. Do I enjoy activities in either or both of these areas?	View and discuss films, filmstrips. Try different media in art activities.	Films: 89504 Making of a Mural. 55604 Cinderella (Shows children's drawings and narrations) 44004 Let Us Write A Story

BROAD OBJECTIVE: To become familiar with some famous artists (and works of art) and some famous musicians (and musical compositions).

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
What works of art and musical compositions have been profitable to their composers?	Display on bulletin board some copies of famous works of art and have children give their interpretations.	
	Show filmstrips and films.	
	Listen to parts of some different types of famous musical compositions.	
	Do group research on prices some works of art have brought.	
	Read stories about lives of some authors and music composers.	World Book Encyclopedia
CULMINATING ACTIVITIES:	Art Festival Music Assembly	

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National Association of Schools of Art. 1 Dupont Circle, N.W. Washington, D.C. 20036

National Society of Art Directors. Art Education Chairman 115 E. 40th Street New York, N.Y. 10016

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C A R E E R E D U C A T I O N P R O G R A M

R A D F O R D C I T Y S C H O O L S

UNIT TITLE: TRANSPORTATION - "ROW-ROW-ROW-YOUR-BOAT"

APPROXIMATE GRADE LEVEL: GRADE 2

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

PROJECT COORDINATOR: RANDY WRIGHT

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INTRODUCTION TO: "ROW-ROW-ROW-YOUR-BOAT"

Transportation touches our lives in many ways, directly and indirectly. Through this unit we hope to create an awareness of the importance of transportation and an appreciation for workers involved in it. Because of the broadness of the topic, this unit will deal with water transportation.

MOTIVATING ACTIVITY	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
Have children bring in pictures of as many boats as they can find. Let them place the pictures on the bulletin board. Discuss the size, shapes, of boats and various places that boats can be used.	Listen to, view and discuss filmstrip and record.	A Boat Named George SVE Filmstrip and Record

BROAD OBJECTIVE: Since boats were one of the first forms of transportation it will be interesting for children to study some of the first boats and compare them to modern vessels.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What did the first boat look like? Why were they made?	Class discussion of who might have made the first boats and how they might have looked.	
	Look at pictures and filmstrips of boats from the past.	16704 Flatboatmen of the Frontier
	Activity - Make a model of a dugout or Indian canoe or draw them.	
2. How were boats involved in the early exploration of our country?	Read a story of Columbus' voyage to the "new world".	First Book of Ships. First Book of Holidays. 24808 Story of Christopher Columbus
	Sing songs related to Columbus voyage.	
	Write an original story about the hardships involved in Columbus' voyage.	Our Language Today 2. Unit 7 - Writing Stories Can Be Fun
	Read a story to the children about the Pilgrims' voyage to America.	
	Role-play the Pilgrims' voyage.	

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Assign spelling words in connection with the "exploration" phase of the unit. (Ex: Mayflower, Pilgrim, Thanksgiving)	
	Play Club-Quiz to review facts learned about history of water transportation.	Teacher made Club-Quiz wheel.
3. How were boats improved through the discovery of steam?	Experiments to show how steam can move objects.	Concepts in Science 2 "Molecules At Work"
4. How and why are ships today different from the first vessels?	Have children compare the pictures of modern vessels on their bulletin board to the first vessels they studied.	Bulletin board of ships.
	Class discussion of how the vessels are similar, different-size, shape, seaworthiness.	
	View and discuss film.	46608 Transportation By Water 56308 Americas Inland Waterways
5. In what ways are ships used today that are different from the past?	Class discussion of how ships can be used to transport goods and people.	
	Draw pictures of the "first" boats and boats today.	

CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
6. What are some of the various types of modern vessels?	Discuss a way to group vessels. (Passenger, Cargo, Pleasure)	
	View films and filmstrips showing various vessels.	Filmstrips: Boats. Educ. Reading Service Boats and Ships. Jim Handy.
	Make a large, brief chart listing boats in the proper group. Ex: Pleasure Boats rowboat yacht motorboat Cargo Ships fishing vessels	Best in Children's Literature Transportation - Bowmar Record

BROAD OBJECTIVE: To help children become aware of the importance of water transportation in their own lives.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. If you wanted to go to Europe and couldn't get an airplane ticket, how else could you go?	Class discuss how passenger ships are important. Discuss the advantages and disadvantages of this mode of travel.	Travel brochures. 57004 Airplane Trip By Jet.
	Read "A Floating City".	Going Places, Seeing People. Harcout, Brace & Javanovich Skills 6.
	Invite someone who has taken a cruise in to talk to the class.	
	View films that show passenger cruises.	12505 Transportation By Ship 05104 Boat Trip
2. What other special tasks are done by boats?	View, listen to, and discuss films, filmstrips and records showing boats and ships involved in special tasks	Filmstrips: The Fogboat Story, Young Peoples Records. The Waterfront, Coronet. The Harbor, Coronet. 81904 Ferryboat 99004 Tugboats 26805 Tugboats and Harbors 58505 Ships In Harbor
	Read Story.	"Five Fish For Supper" Going Places, Seeing People Skills 6

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
3. In what way can boats be used for enjoyment?	Invite a parent who owns a boat in to talk to the class. Encourage children to share experiences involving recreational vessels. Paint picutres based on the experiences of the children.	Safety Primer for Pleasure Boats; Sailing Is Fun. Available from Nat. Assoc. of Engine & Boat Manuf.

BROAD OBJECTIVE: To help students develop an understanding and appreciation of the workers involved in operating ships and boats.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What workers are necessary to operate a passenger ship?	Discuss the facilities available on passenger ships and the workers involved in operating them. Let the children divide into groups and role-play the workers on a large passenger ship-captain, navigator, stewards, recreational director, doctors, etc.	
2. What workers are involved in shipbuilding?	Interview a shipbuilder or invite him to the classroom. View and discuss filmstrip on shipbuilding.	 How We Build Ships, Eye Gate.
3. What kinds of work are done aboard Navy ships?	Invite a naval recruiter or naval reserve officer into the classroom. Discuss the training available through the Navy.	Pictures, posters and information from the U. S. Navy Department. Teachers Packet Packet on Submarines Office of Information Navy Department - Washington D.C. 20350
4. What other workers have we seen in our study of boats? Which one would I like to be?	Role-play workers on the job. Read stories.	

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Learn to spell words associated with the unit.	
	Review some of the filmstrips used.	
	Sing songs.	
	Construct a ship in the classroom, to use in role-playing.	Modern Mathematics 2 Unit on measurement.
	Write a story about one of the workers we have studied.	

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About Cargo Ships. Uhl, Melmont Publishers Inc.

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I Want to be a Ship Captain. Carla Greene, Children's Press.

Ships of the World. Dean, Follett Publishing Co.

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C A R E E R E D U C A T I O N P R O G R A M

R A D F O R D C I T Y S C H O O L S

UNIT TITLE: FUELS: "PUT A TIGER IN YOUR TANK"

APPROXIMATE GRADE LEVEL: GRADE 2

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

PROJECT COORDINATOR: RANDY WRIGHT

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INTRODUCTION TO: FUELS: "PUT A TIGER IN YOUR TANK"

Children have had a great number of experiences with fuels. They know many vehicles need fuel in order to run. They know some homes are heated and their food is cooked with some kind of fuel.

It is hoped, with the present day concern for fuel shortages, the children will gain an insight into the many careers involved in producing, in the proper use of and in conserving fuels.

BROAD OBJECTIVES:

1. To help students become appreciative of the process by which fuels are made.
2. To help children recignize and learn to appreciate jobs involved in producing fuels.
3. To help children realize the necessity of conserving fuels; and what part they can play.
4. To help children learn about people and jobs involved in distributing fuels.

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BROAD OBJECTIVE: To help students become appreciative of the process by which fuels are made.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. Where do green plants get and store energy?	Through investigation and experimentation place plants under different situations (observe).	Concepts in Science 2 Harcourt, Brace & World Unit on fuels p.25-38.
	Begin a science vocabulary chart.	
	View, listen to and discuss filmstrips, cassettes and transparencies.	Cassette: CE-CTA99 Energy Transparency: Tr.4C-905 The Solar System (The Sun and Energy from the Sun) Filmstrip: The Sun What is Energy
2. Where is the tree's food made?	Field trip close by to observe trees.	Field trip to area surrounding.
	Class discussion of parts of trees.	
	View and discuss filmstrip.	F-S66 Telling Trees Apart.

CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
3. What is carbon? 4. Where is carbon made?	Art activity: Give children sticks of artists' charcoal and let them use them for drawing.	
	Experiment: Make carbon.	Concepts in Science 2 Unit on fuels p.29.
5. What are some other fuels and how are they made?	View and discuss filmstrip.	A Trip To A Coal Mine, CF-A178.

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BROAD OBJECTIVE: To help children recognize and learn to appreciate jobs involved in producing fuels.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. Where do fuels come from?	View and discuss filmstrips and listen to record.	Filmstrip: CF-A12 Gas and Oil Workers. Record: C Rec-A14 Gas and Oil Workers.
2. How do we get fuels?	Interview a miner or engineer. (learn to interview)	Filmstrip and Cassette: CE-CT-A43 Acquire an Interview.
3. Who is responsible for mining coal, oil, etc.	View filmstrips and listen to cassette.	Filmstrips: CF-A178 A Trip To A Coal Mine CF-A177 A Trip To An Oil Well Cassette: CE-CT-A62 A Coal Mine
	Invite a Forest Ranger to talk to class. View filmstrip and listen to cassette.	Cassette: CE-CT-A131 I Want To Be A Forester.
	Make models of: a coal mine, an oil well, etc.	

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BROAD OBJECTIVE: To help children learn about people and jobs involved in distributing fuels.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. After fuels are produced how do we get them?	Show and discuss filmstrips and listen to record.	Filmstrips: CF-A89 Gas and Oil Services. F-S61 Oil: From Earth To You. Record: C Rec A41 Gas and Oil Services.
	Invite a gas or oil distributor to class to explain his work and the work of others responsible for getting gas and oil to homes and businesses.	Resource person.
	Collect pictures of oil and other fuel industries: drilling rigs, oil wells, pipelines, storage tanks, refineries, trucks and workers. Make bulletin board (children).	

BROAD OBJECTIVE: To help children realize the necessity of conserving fuels, and what part they can play.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What is conservation?	Show and discuss a filmstrip.	Filmstrip: CF-S8 What is Conservation? Cassette: CE-CT-S2 What is Conservation? Filmstrip: F-S60 Petroleum In Today's Living. F-S21 Forest Conservation Today.
2. What can we do to help conserve fuels?	Conduct a class conservation campaign: Make individual posters.	
3. Why is there a shortage of fuels now?	Bring in and give news reports on fuel shortages.	Newspapers Television Radio

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C A R E E R E D U C A T I O N P R O G R A M

R A D F O R D C I T Y S C H O O L S

UNIT TITLE: CLOTHING

"THE SHIRT ON YOUR BACK"

APPROXIMATE GRADE LEVEL: GRADE 2

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

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INTRODUCTION TO: Clothing
"The Shirt on Your Back"

This clothing unit will give a group of primary children a glimpse of farms mills, factories, warehouses, stores, and their own clothes closet.

They will read with interest and purpose, and gain practical information about the clothes they wear.

Through many, varied art activities and field trips in our community, learning will be made real to them.

Through contact with workers from all walks of life, responsible for producing and supplying our clothing needs, the children will emerge with a better understanding, appreciation and interest in the world around them.

MOTIVATING ACTIVITY	RESOURCES AND MATERIAL
Two dolls(a boy and a girl, appropriately dressed) will be placed on a display table. Also, on the table will be a display of sources of materials used in making clothing (piece of raw wool or picture of a sheep; piece of leather or picture of a cow; coal; wood; silk worm cocoon or picture; cotton ball, etc.). Class discussion and guessing game of parts of clothing made from each source on the table.	

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BROAD OBJECTIVE: To help students develop an interest in clothing. 2

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What are some of the reasons that people wear so many different kinds of clothing?	Make a list (children) of the types of clothing people wear (dress, shirt, boots, raincoat, etc.)	Textbook: Our Working World Families at Work Neighbors at Work
	Read to students about the different kinds of clothing.	Textbook: A World of Surprises "The Jumping Hat" p. 130 Going Places, Seeing People "Tito's Hats" p.29-34
	Show filmstrip and concept cards on proper clothes and care.	Filmstrip: Proper Clothes and Care (Radford College) Concept cards.
	Learn and sing songs: 1. "Galoshes" p.39 2. "Green Dress" p.3	Music Textbook: Music in Our Town
	Read story	Book: Story of Your Coat by Clara Hollos

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CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
2. What clothes are best suited for school, play, parties, church, and other occasions?	Students prepare a bulletin board using pictures appropriate to the best clothes to wear to school, church, etc.	Textbook: Sun and Shadow "Miss Poppy" p. 132-157
	Read (pupil) stories about the appropriate clothing to wear.	
3. What workers need special clothing for their jobs?	Collect pictures and make posters of community workers, we have already studied about, in appropriate dress.	
	Read story to the class and use felt board.	Childcraft Vol.10 p.220-221 "Making the Clothes You Wear"

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
4. How are "fashions" established?	Boys will (draw) a piece of clothing in the "design" room.	
	Girls will hand sew (or on a simple sewing machine) a piece of clothing for dolls.	
	Learn and sing songs: 1. "Hat Parade" p.60 2. "Here We Go" p.119	Music textbook Music in Our Town
	Design and make costume jewelry p.105	
	Design fabric prints by using muslin and print with potato prints, soap prints or sponge stencils.	Art book: Arts and Crafts for Elementary Teachers

BROAD OBJECTIVE: To help students develop an appreciation of the cooperation of the many workers, in making, supplying and caring for our clothing.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What places and workers in our community provide our clothes?	Read (pupil) story. Play act above story. Social Studies: read(pupils) "A Visit To The Shirt Factory" Show filmstrips to class. Class discussion of workers in the shirt factory. Visit shirt factory. Discuss the workers seen on the visit. Read (teacher and pupils) "Let's Go To A Clothing Factory" Visit Kenrose dress factory. Invite a parent who works at Burlington Industries to explain process of cloth production.	Textbook: Going Places, Seeing People "The Elves and the Shoemaker" p. 173-180. "A Visit To The Shirt Factory" p.98-102. Filmstrips: How America is Clothed How Things Are Made (Clothing) Library Book: Let's Go To A Clothing Factory by Harry (E-L) Lazarus, G.P. Putman Sons, New York. Parent

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CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
2. What places and people help us care for our clothes?	Learn and sing songs: "The Shoemaker"	Music in Our Town (2) Music Now and Long Ago (3)
	Visit laundry and observe and talk with workers washing, cleaning & Pressing clothes.	Silver Burdett(record G.2#5 p.75 and Grade 2 p.62)
	Invite a parent to come to classroom and discuss care of clothing.	Parent.

BROAD OBJECTIVE: To help students gain an understanding of the different products used in making our clothing.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. Of what materials is our clothing made?	Make a "cooperative" list of all things children can think of which clothes are made from(wool, cotton, etc.)	
	Social studies: Read(pupils) stories "Clothes are Made from Many Things"	Textbook: Learning About Our Neighbors "Clothes are Made From Many Things" p.92-97
	Discuss how cloth is made and different materials for clothing.	
	Spelling and language: Clothing vocabulary-class discussion, flash card word game.	The Instructor Publications P. O. Box 6108 Duluth, Minnesota #634 Clothing #637 Clothing accessories
2. From what sources do clothing materials come?	Science unit: Coal	Science textbook: Concepts in Science "Coal" p.30-31 "Millions of Years Ago and Now" p.149-156.
	Learn and sing songs: "The Sheep Shearing" p.124 "The Tailor and the Bear" p.100 "I Had A Little Overcoat" p.96 "The Shoemaker" p.94	Music textbook: This Is Music 2
	Transparency: View & discuss Learning About Clothing	Creative Visuals transparency Family Relations-Learning about Clothing 301.42AE-05
	Read stories(students)	Stories: The Youngest Camel by Kay Boyle; The Luck Llama by Alice Desmond.

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
3. How is thread made?	Read(teacher) and discuss process by which thread is made. Make dyes from plant sources-onion skin, beets, spinach, walnut. Try making yarn or thread by hand from various fibers. Discuss how thread is made today.	World Book-Vol. T
4. How is cloth woven?	Discuss pictures which will be placed on bulletin board of spinning wheel, etc. Read "Clothes Long Ago".	Textbook: Learning About Our Neighbors; "Clothes Long Ago"
	Filmstrips: View & discuss The Story of Cotton The Story of Wool The Story of Rubber The Story of Leather	Filmstrips: 204-S How We Get Our Clothing (SVE)

BROAD OBJECTIVE: To help students gain an understanding of the importance of wise and careful selection of our clothing.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. How can we take care of the clothing we have?	Learn and sing songs: "Hanging Out the Linen Clothes" "The Laundryman" Provide a lost and found box for misplaced clothing in room. Empty box daily by finding owners.	American Folk Songs for Children; Doubleday, Garden City, N.J. Music For Young Americans; American Book Co., New York. Sharing Music (Kindergarten)
2. Which is more practical for children's clothing-silk or cotton? Why?	Collect and label samples of clothing materials-leather, nylon, plastic, silk, linen, cotton, wool, rubber. Examine and discuss fibers, texture, etc. Deliberately stain with berry juice, etc. samples of above materials and try to wash them. See the results.	Samples of materials.
3. Should we play in the clothes our parents have provided us with for school and other activities?	Class discussion of "dos and don'ts" of wearing our school clothes to play in. Invite a mother in to discuss with class above subject and give her view.	Class mother.

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Write thank-you letters to mother who visited room. Write stories and poems about playing or not playing in our school clothes.	
4. What would a complete "outfit" for me to wear to school in winter cost?	Read(pupils): "A New Hat and a New Dress" "New Clothes for Henry" List an ideal "outfit" for boy and girl and then visit a department store or use a catalog and list costs. Then add the total costs.	Textbook: Learning About Our Neighbors "A New Hat and a New Dress" p.109. "New Clothes for Henry" p.87.

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CULMINATING ACTIVITY:

CULMINATING ACTIVITY	RESOURCES AND MATERIAL
Have a "style" show (for other primary grades) with different children dressed to represent community workers; plus appropriate clothing for children at play, school, church, etc. The child appropriately dressed will recite a creative poem about his "fashion."	Primary Grade Activities Childcraft 1971 p.40

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BIBLIOGRAPHY

1. Children's Books:

Boyle, Kay. The Youngest Camel.
Brandwein, Paul F. Concepts in Science 2. Harcourt, Brace and World.
Cooper, Elizabeth K. A World of Surprises; Going Places, Seeing People. Harcourt, Brace and World.
Desmond, Alice. The Lucky Llama.
Lazarus, Harry. Let's Go To A Clothing Factory.
Senesh, Lawrence. Our Working World. SRA.
Wann and others. Learning About Our Neighbors. Allyn and Bacon.

2. Teachers' and Children's Books:

American Folk Songs for Children. Doubleday.
Arts and Crafts for Elementary Teachers. William C. Brown Company, Inc. Dubuque, Iowa.
Childcraft. Vol. 10.
Music for Young Americans. American Book Company.
Worldbook. Vol. C, W, S.

3. Filmstrips:

How We Get Our Clothing. SVE.

4. Charts, Word Cards, Pictures:

Clothing. Instructor Publications.
Clothing Accessories. Instructor Publications.

5. Transparency:

Family Relations-Learning About Clothing. Creative Visuals.

C A R E E R E D U C A T I O N P R O G R A M

R A D F O R D C I T Y S C H O O L S

UNIT TITLE: THE RADIO STATION

"1460 ON YOUR DIAL"

APPROXIMATE GRADE LEVEL: GRADE 3

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

PROJECT COORDINATOR: RANDY WRIGHT

THE CAREER EDUCATION PROGRAM
THE RADFORD CITY SCHOOLS
1612 WADSWORTH STREET
RADFORD, VIRGINIA 24141
PHONE: 1-703-639-6673

INTRODUCTION:

Most all children have at one time or another heard a radio program of some form. Their interest is keen enough and they are witty enough to develop their own classroom radio program. It is hoped that through this unit the class will learn about the operation and functions of a radio station as well as the job opportunities which are available to them.

BROAD OBJECTIVES:

1. To help the child see himself in relation to the radio station.
2. To help the child learn about the various qualifications and special requirements that are needed to hold a position in this industry.
3. To help the child discover the various occupations available through the radio station.
4. To help the child realize the financial set up of the radio station.
5. To help children learn how they would apply for or seek employment in this area.
6. To help children gain an appreciation and wholesome attitude toward the radio station.

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
MOTIVATING ACTIVITY	Listen to a radio program or broadcast in the classroom. Discuss what have just heard- where it came from. Make a bulletin board using title of unit and sound waves moving toward an ear. Put up a poster board or piece of tag board titled "New Words". Add any new words met in this unit - use them as spelling words or learn them as sight vocabulary.	
1. What is a radio station?	Class discussion.	
2. Why do we have radio stations?	Class discussion. Make a list or chart of the different reasons we use radio stations.	
3. Does Radford have a radio station? Where is it?	Field trip. Write stories or reports about visit.	Radford Radio Station.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
4. How do we actually hear the radio programs? What is involved? (bring in sound & sound waves)	Use transparencies. Teacher prepare showing sound waves.	
	Read story from reading book.	Ring Around the World.
	Filmstrip.	F-S47 An Introduction to Sound.
	Books.	Geralton, James. The Story of Sound. Irving, Robert. Sound & Ultrasonics. O'Neill, Mary L. What is That Sound. Sootin, Harry. Science Experiments with Sound. Wolff, Janet, and Owett, Janet. Let's Imagine Sounds. National Teachers Association Energy in Waves. "Sound" The Golden Book Encyclopedia. Childcraft.
	Set up a filmstrip learning center. The children can work in small groups and view and discuss these filmstrips.	Sights and Sounds of America with record F-A33 F-A38 F-A43 F-A48 F-A34 F-A39 F-A44 F-A49 F-A35 F-A40 F-A45 F-A50 F-A36 F-A41 F-A46 F-A37 F-A42 F-A47

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Experiments involving sound waves.	Energy in Waves. National Teachers Association. Science Experiments with Sounds. Sootin, Harry.
5. What jobs are found at the radio station?	Class discussion. Use comic books.	C281 Popeye and Communication and Media Careers.
	Use cassettes.	CE-CT-A53 Broadcast Technician. CE-CT-A53 Radio - TV Announcer.
6. Are all the people responsible for a broadcast at the station? Where are they?	Class discussion.	
7. What are the duties of the various people involved? What requirements are needed to hold each position? Is any special training or talents required?	Review cassettes.	
	Resource person.	
	Filmstrip.	CF-L1 Speaking & Writing.
	Class discussion.	
	Make tape recordings of the class members reading various types of material to show the importance of a clear distinct voice when preparing a selection for a broadcast.	Tape recorder - cassette tape

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
8. What happens if a radio broadcaster gets sick?	Class discussion. Resource person can discuss. Interview - a group of children can do this as a project and present it to the class. Role play this situation.	
9. How are radio stations financed?	Class discussion. Pretend to try to sell ads to finance a special radio program - just how would you go about it?	
CULMINATING ACTIVITY	Make a microphone - set up a radio station - prepare a broadcast complete with commercials, news reports, music, etc. Can present news to the class in this fashion.	

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Books: (children)

Geralton, James. The Story of Sound.

Irving, Robert. Sound and Ultrasonics.

O'Neill, Mary L. What is That Sound.

Sootin, Harry. Science Experiments with Sounds.

Wolff, Janet and Owett, Janet. Let's Imagine Sounds.

Ring Around the World.

Books: (teacher)

National Teachers Association. Energy in Waves.

"Sound" The Golden Book Encyclopedia. Childcraft.

Comic book:

Popeye and Communication and Media Careers.

Filmstrips:

F-S47 An Introduction to Sound

Sights and Sounds of America - with record:

F-S33	F-S39	F-S45
F-S34	F-S40	F-S46
F-S35	F-S41	F-S47
F-S36	F-S42	F-S48
F-S37	F-S43	F-S49
F-S33	F-S44	F-S50

CF-L1 Speaking & Writing

Cassettes:

CE-CT-A53 Broadcast Technician

CE-CT-A53 Radio - TV Announcer

C A R E E R E D U C A T I O N P R O G R A M

R A D F O R D C I T Y S C H O O L S

UNIT TITLE: AEROSPACE - BLAST OFF!

APPROXIMATE GRADE LEVEL: GRADE 3

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

PROJECT COORDINATOR: RANDY WRIGHT

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INTRODUCTION TO: AEROSPACE - BLAST OFF!

Many third graders are interested in space and space travel. Although the jobs in this area are decreasing, it seems that a unit of study in this area is acceptable since the children express a desire to learn the subject matter. It seems that the children should know about any field where jobs are diminishing as well as flourishing in order to have a realistic picture of the "World of Work".

OBJECTIVES:

1. To help each child realize his position or relationship to space.
2. To help each child learn about the jobs and opportunities available in the area of aerospace.
3. To help each child gain knowledge about the requirements and qualifications in this area.
4. To help child learn about the cost of the space program and why the figures seem large.
5. To give the child guidance so that he understands that if he chooses a career in this area that he will be competing with many others and that at present job opportunities are small.
6. To help the children learn how they go about applying for the jobs in this area.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
MOTIVATING ACTIVITY	Make a bulletin board about space. Put circles of different sizes on the bulletin board, then put question marks on each circle. The circles represent the different planets. Title the bulletin board "What Are These"?	
	Make a display of books about space and space travel. Plan these as free reading materials.	You Will Go To The Moon. Mae Freeman. Space Travel. Jeanne Bendick. Man & Space. Arthur Clarke. By Space Ship To The Moon. Mae Freeman. Space Flight & How It Works. William Gottlieb. Men Behind the Astronauts. Wayne Hyde. A Book of Astronauts For You. Leonard Kessler. You and Space Travel. John B. Lewellyn. Space Travel. Ley Willy. True Book of Space. Illa Podendorf.
	Put up pictures about space program - pictures available from Kodak	Sandy has in her room.

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What is space? What does the word mean to you? (relay the meaning at hand to the outer limits, beyond our grasp)	Class discussion. Use this opportunity for space exploration in P. E. Let each child find his own space and experiment with different movements - see how tall, small, wide, etc. you can be in your space.	
2. What do we find in outer space?	Let children make a list of things that can be found in outer space. Make a chart which can be added to.	
	Transparencies & duplicating masters.	Tr 4c-906 The Solar System Tr 4c-907 Outer Space
	Read pp. in Science book.	Concepts in Science
	Read story in reading book.	Widening Circles
	Filmstrips.	F-S55 Stars and Galaxies F-S56 Comets and Meteors F-S57 Earth's Satellite, the Moon
3. What is a constellation?	Filmstrip.	F-S54 Constellations
	Book.	Stars. H. Zim.

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Use overhead projector and construction paper and make the different constellations - use pins to make the holes so that when the paper is placed over the screen the light can shine through the holes - tell about the different constellations. Cut out stars from white or yellow construction paper and paste on a dark piece of paper to make the constellations at night in the sky - use for a bulletin board.	
4. What are the different planets? Which one is the smallest? the largest? Which one is closest to the sun? fartherest away?	Refer to Science book. Label the different circles on the bulletin board (from the beginning of the unit) to show the planets in relation to the sun. Make up a song about the planets. Write stories about which planet you would like to visit and why. Start a vocabulary chart listing all new words encountered so far.	Concepts in Science.

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
5. What do we know about each planet?	Class discussion after reading in science book.	Concepts in Science.
	Oral reports - individual or group.	
	Set up a learning center about the planets. Have stories or whort sketches about each of the planets and worksheets or questions to accompany the stories. Let the child read about the planet and then answer questions. There should also be answer sheets so that the child can check his answers.	
	Have a short skit with different children assuming the role of the different planets. In the skit they can reveal information about their planet.	
	Make paper mache replicas of the planets and the sun. Hang them around the room.	Balloons, paper mache mix, string, tempra paint, brushes
	Filmstrips.	F-S58 The Sun and Its Planets. F-S59 The Earth in Space.
	Review transparencies used earlier.	

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Worksheets involving the planets.	
6. How do we travel in space?	Discussion.	
	Make a rocket ship to be taken on an imaginary trip to the moon or one of the planets.	Chicken wire, wheat paste, newspaper
	Build a model rocket to be blasted off and parachuted back. (Sandy has the model.)	
	Transparencies.	Tr 4C-909 Space Travel
	Read poem from reading book about travel. Illustrate the poem.	Going Places, Seeing People.
	Use cassette.	CE-CT-A129 Jets and Rockets.
	Using the paper spools which the local dress factory uses to hold the thread, each child can make his own rocket.	
7. What are some of the jobs involved in space travel?	Class discussion.	
	Make a list on the board of all the ones discussed.	
	Use book from NASA as a guide - (free).	For teacher.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Study prints.	SVE BSP-155 The Astronaut - Train- and Equipment BSP-156 Countdown to Splash-down BSP-158 Building Toward the Moon
8. What are the specific duties involved in each of these jobs? What are the qualifications or requirements for each job?	Teacher prepare short stories about the jobs and use them as reading lessons. Can use study prints here also. Use book. Role play the different jobs.	 Men Behind the Astronaut. Wayne Hyde.
9. How do the astronauts eat in space? What kind of foods do they eat?	Class discussion. Let the class look for pictures from magazines. Make collage.	

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
CULMINATING ACTIVITY	Set up a NASA station with each person having a specific job in the flight effort. Train the astronauts. Launch the rocket and send the astronauts to the moon or a planet.	

BIBLIOGRAPHY

Books:

Bendick, Jeanne. Space Travel.

Clarke, Arthur. Man & Space.

Freeman, Mae. By Spaceship to the Moon.

Freeman, Mae. You Will Go To The Moon.

Gottlieb, William. Space Flight & How It Works.

Hyde, Wayne. Men Behind the Astronauts.

Kessler, Leonard. A Book of Astronauts for You.

Lewellyn, John B. You & Space Travel.

Podendorf, Illa. True Book of Space.

Willy, Ley. Space Travel.

Teachers - Concepts in Science.
Widening Circles.
Stars, by Zim.
Going Places, Seeing People.

Study Prints:

BSP-155 The Astronaut - Training and Equipment

BSP-156 Countdown to Splashdown

BSP-158 Building Toward the Moon

Filmstrips:

F-S58 The Sun and Its Planets

F-S59 The Earth in Space

F-S55 Stars and Galaxies

F-S56 Comets and Meteors

F-S57 Earth's Satellite, the Moon

F-S54 Constellations

Cassettes:

CE-CT-A129 Jets and Rockets

Transparencies:

Tr 4c - 909 Space Travel

Tr 4c - 906 The Solar System

Tr 4c - 907 Outer Space

C A R E E R E D U C A T I O N P R O G R A M

R A D F O R D C I T Y S C H O O L S

UNIT TITLE: THE ZOO - "WHO'S WHO AT THE ZOO?

APPROXIMATE GRADE LEVEL: GRADE 3

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

PROJECT COORDINATOR: RANDY WRIGHT

THE CAREER EDUCATION PROGRAM
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INTRODUCTION: Children are inherently interested in living things in their environment. Zoo animals, being unusual, hold a fascination for this age child and this subject affords many opportunities for the study and appreciation of the management of large and small zoos. The children will become aware of the varied occupations involved in this area.

BROAD OBJECTIVES:

1. To give the children an awareness of when, how, and why zoos began.
2. To give the children an understanding of the main classifications of animals.
3. To develop an understanding of the people needed to maintain a zoo.
4. The child will becoma aware of the importance of presenting information both orally and in written form.
5. The student will recognize the necessity for mastery of the basic skills needed for all jobs covered in this study.
6. The children will begin to understand the economics involved in maintaining our zoos.
7. To guide the children in the understanding of the difference between fact and fiction.
8. The children will begin to use resource information.
9. The children will begin to understand the importance of cooperation and sense of responsibility among the many workers necessary to maintain a zoo.
10. To help the children understand the scientific and educational importance of zoos.

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. How many have visited a zoo?	Class discussions. List the names of zoos children have visited, pointing out different types.	
2. Why do we have so many different types of zoos?	Oral reports by children who have visited zoos recently.	
3. Where and when was the first zoo?	Historical facts will be given by the teacher in the form of handout material and maps, supplemented by group discussion.	The World Book Encyclopedia, 1970 Edition, pages 502-504
	Collect material for a booklet which will be added to throughout this unit and completed, if desired, as a culminating activity.	
4. What are the occupations and job requirements of the people who operate a zoo?	Write letters to various zoos requesting information and materials (using correct form).	
5. How can we obtain correct information about zoos?	Looking up information in reference books, and making written reports.	
	Viewing cassettes, filmstrips (andffilms listed in film catalog).	Cassettes: CE-CT-A20 -"Robert and His Father Visit The Zoo" CE-CT-A107 - "I Want To Be A Zoo-Keeper"

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
		Filmstrip: CF-A57 - "Robert and His Father Visit the Zoo"
6. How much does an individual animal cost?	Special reports by children.	
7. How much does it cost to take care of animals?	Bring books from home and set up a lending library in the room, using student helpers. Separate books into fact and fiction. Writing and solving problems dealing with actual costs of animals.	Books: Hornblow, Leonora. Animals Do The Strangest Things. Bridges, William. Zoo Careers Henried, Lorraine. I Know A Zoo Keeper. Shay, Arthur. What Happens At The Zoo. Munari, Bruno. Zoo Moore, Nancy. The Unhappy Hippopotamus. Miklowitz, Gloria. The Zoo. Meeks, Esther K. Mammals.

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CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
8. What are the characteristics of the main class of animals?	Reading from text book - class discussion. Field trip to Biology Lab at Radford College. Preparing a bulletin board using pictures of zoo animals and study prints. Children will choose an animal in which they are interested on which to do special research. These will later be taped and presented as a program. Constructing paper mache' animals found in the zoo, and make a minature zoo using cut-outs for people involved. Making a display of zoo animals, using paintings, drawings, clay models, shadow boxes, etc. Children will choose their favorite media.	Text Book: Concepts in Science III Harcourt, Brace Co. Biology Lab at Radford College. Study Prints: SVE (with record 12.00 without record 5.00) BTSP - 1128 Zoo Animals Reference books in library. Science text books. Free Materials: 1. Poster - "Principles of Laboratory Animal Care." Address: National Society For Medical Research 1130 Massachusetts Ave. N.W. Suite 103 Washington, D.C.20005 2. "A Visit To The Children's Zoo" (Animal descriptions in rhyme, grade 1-4 teachers only, 12 pp.) Address: Eli Lilly and Company

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
		Address (cont.) Public Relations Services 307 East McCarty St. Indianapolis, Ind. 46206 3. "Visit To The Children's Zoo, A" (Booklet of humorous rhymes about eleven different animals) Classroom quantities. Same address as 2.
	Writing poems and stories. Making a collection of poems and songs about zoo animals.	
CULMINATING ACTIVITY	Preparing and presenting a program about careers involved in maintaining a zoo. This could be presented as a radio or television program for parents or other classes. All of the activities used during this unit would go into the making of this final activity.	

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CAREER EDUCATION PROGRAM
RADFORD CITY SCHOOLS

UNIT TITLE: RECREATION DEPARTMENT - "THINGS GO BETTER WHEN WE WORK TOGETHER"

APPROXIMATE GRADE LEVEL: GRADE 3

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. BUTROUGH, SUPERINTENDENT

PROJECT COORDINATOR: RANDY WRIGHT

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THE RECREATION DEPARTMENT - "THINGS GO BETTER WHEN WE WORK TOGETHER".

Since most third grade students show an interest in all areas of recreation and enjoy competition with their peers, it seems appropriate to implement a unit on the Recreation Department. Because many are already involved in the recreation programs, it will be familiar to them and for those who are not involved it will stimulate them. We feel that the children need to become aware of the interest that the community contributes to the Recreation Department. The unit will attempt to cover the various occupations and activities associated with the Radford Recreation Department.

BROAD OBJECTIVES:

1. The children will become aware of themselves as participants in the activities offered by the recreation department.

2. The children will need to become aware of all the jobs and the requirements involved in the management of a successful recreation program.

3. To help children realize that these facilities are mainly financed by taxes paid by their parents.

4. To give children guidance in decision making.

5. To emphasize the basic skills required and the importance of this as related to the recreation department.

6. To help each child realize how he must apply for a job in this area.

7. To help children realize that many people donate their time to these programs.

8. To help children recognize the need for good sportsmanship.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. How many of you have played any kind of ball or went to the playground this past summer?	Class discussion. Draw a picture, write a poem or story about summer activities- to be used on bulletin board.	
2. Where are the playground areas?	Field trip to differend play ground areas. Filmstrip on importance of good manners. Draw map of town locating different areas.	See if First Virginia Bank has small individual maps.
3. Where is the recreation department located? Why is it placed there? (in center of Radford)	Class discussion.	
4. What are the different things or services offered by the department?	Discussion - bringing in the library filmstrip.	CF-A59 Library Workers - Cassette CE-CT-A2. CF-A152 The Library and the Librarian CF-A238 A Visit to the Library
	Field trip allow children to obtain a library card and check out books.	Go to recreation department.
	Cassettes	CE-CT-A118 Getting to Know the Library CE-CT-A103 I Want to Be A Librarian (book bag)

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Make some type of reading chart or bulletin board to motivate children to read books.	
	Make a miniture library within classroom.	
	Make a display in library of any books that relate to this subject.	
5. Who are the people involved in making our recreation department successful?	Make chart listing various jobs, names and duties - language capitalization and last names.	
	Resource persons from recreation program and library.	
	Filmstrip	CF-A155 Recreation, Park, & Playground Workers
	Interviews for different duties.	
	Role-playing - pretend you are one of these people and act out his or her job.	

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
6. How would you apply for one of these positions? What are the job requirements?	Discussion dress, manners, applying for job.	
	Filmstrips	CF-L3 The Job Interview CF-A37 The ABC's of Getting and Keeping A Job - Cassette CE-CT-A7 CF-A38 Preparing For The Job You Want
	Cassette	CE-CT-A43 Dress For Interview
7. How is the recreation program supported financially?	Interview parents or someone in recreation department. Class discussion.	
8. Who are the paid workers? What about those who aren't paid?	Bring in a volunteer parent or recreation department. Perhaps parent or older brother or sister could come and referee a ball game.	
9. What is good sportsmanship?	Filmstrip Make a chart listing things they feel makes a good sport. Bobcat visit class and talk about good sportsmanship. Role-play good sport and poor sport.	

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CONTENT QUESTIONS	CULMINATING ACTIVITY	RESOURCES AND MATERIAL
	Plan a class ballgame - make a microphone - select someone to assume duties of recreation director and broadcast the game, play by play.	
	Teach song "Take Me Out to the Ballgame".	Mrs. Conrad has words.
	Have a sports day - boys could wear any uniforms and girls could wear any that they have. Make displays of trophies or awards. Bring in baseball and football cards and make a display.	
	Make banners and decorate the room.	

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Filmstrips:

CF-A59 Library Workers

CF-A152 The Library and the Librarian

CF-A238 A Visit to the Library

CF-A155 Recreation, Park, and Playground Workers

CF-L3 The Job Interview

CF-A37 The ABC's Getting and Keeping A Job

CF-A38 Preparing For The Job You Want

Cassettes:

CE-CT-A21 Library Workers

CE-CT-A118 Getting to Know the Library

CE-CT-A103 I Want To Be A Librarian (book bag)

CE-CT-A7 The ABC's of Getting and Keeping A Job

CE-CT-A43 Dress for Interview

C A R E E R E D U C A T I O N P R O G R A M

R A D F O R D C I T Y S C H O O L S

UNIT TITLE: LET'S GO TO TOWN

APPROXIMATE GRADE LEVEL: GRADE 3

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. HUTROUGH, SUPERINTENDENT

PROJECT COORDINATOR: RANDY WRIGHT

THE CAREER EDUCATION PROGRAM
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INTRODUCTION TO: Let's Go To Town

This unit covers the different occupations that may be encountered on a simple trip to town. This unit was developed with the hope of making the class members more aware of Radford City and the many occupations that they may meet everyday. This unit provides for various forms of creative expression and it is hoped that from this unit the personality of the child can be shown.

MOTIVATING ACTIVITIES	RESOURCES AND MATERIALS
Make a car out of box - will be used for role-playing.	Refrigerator box Paint
Using opaque projector blow up pictures of mother and two children(make poster board size people and cut them out) introduce them and tell children that they are going to follow the mother and children to town. On the way cover the different occupations- could put them on bulletin board.	Poster board
Could also make puppets to represent the three.	Wheat paste
Give the family members names. Poem - read and discuss.	Poem: "Saturday Shopping" - Childcraft Vol. 1
Book - read and discuss.	Book: Little Auto - Lois Lenski

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BROAD OBJECTIVE: (1) To help class members become more aware of Radford City and the many occupations that are encountered everyday.
(2) To develop an awareness of the duties involved in each job.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. Where are we going today?	Make a list of different places you want to take the family. As you go to each place list the occupations that were found there. Guide the children so that such occupations as these will be covered: 1. filling station attendant 2. store clerk 3. policeman 4. garage mechanic 5. jeweler 6. bank teller 7. food store employees a. meat clerk b. check-out clerk c. stock-clerk	Material needed: Chart paper Magic marker
	Filmstrip - view and discuss.	Filmstrip: Series #8990 p.10 Going Downtown Encyclopaedia Britannica
	Let the children list the different people and jobs that they meet in the course of a day-each child make his individual list. Do it at the beginning of the unit and again at the end. Make a bulletin board using study prints.	Study prints: SVE Urban Life Picture-Story Set SP-127 Neighborhood Friends and Helpers.

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
2. Who works at a filling station?	Put this on list-let a different child do it each time you meet a new occupation.	
	Book - read and discuss.	Book: Let's Go To A Garage- J. M. Goodspeed
3. What does he do?	Filmstrips-view and discuss.	Filmstrips: 107H The Automobile Service Station; Eye Gate-Some Neighborhood Helpers; F-R20 The Gas Station Attendant-in library; ECF111 Service Station-edu-craft
	Using car, role-play a situation which calls for use of a filling station attendant.	
	Song: Introduce and sing.	Song: "The Service Station" - Discovering Music 2
	List the department store helpers on a chart.	
4. When you go into a department store and want to buy something, who helps you?	Filmstrip and record-view, listen and discuss.	Filmstrip and record: Eye Gate - W400B Retail Clerk
	Role play a situation where the family goes into a department store and purchases some article.	

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Book - read and discuss.	Book: I Want To Be A Sales Clerk- Eugene Baker
5. What person can you see downtown who doesn't work in a store or a shop, but who helps us?	Lead children in discussion letting them present their ideas.	
	Have a "grab bag" with articles in it which would be identified with the policeman. Take different articles out(one at a time) and discuss possible occupations where the article might be used. Put all the articles together and the occupation will lead to the policeman. Arrange articles on bulletin board.	Material needed: Whistle Gun Badge Hat Patch(like one worn on shirt)
	Books-read and discuss.	Book: Policeman Small - Lois Lenski
	Use study prints on bulletin board.	Study prints: SVE Community Helpers Set SP-119 Police Department Helpers.
	Filmstrips-view and discuss.	Filmstrips: Eye Gate - Workers for Public Welfare. 140A Police and Police Protection F-A2 Policemen at Work(in library)

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Have one of the policemen or even a student from NRCC come and talk to the children.	Resource person.
	Books-read and discuss.	Books: The True Book of Policemen and Firemen-Irene Miner. Your Police-George J. Zaffo. Let's Go To A Police Station-Laura Sootin. Squad Car 55 - Cynthia Chapin
	Songs-introduce and sing.	Songs: This Is Music-Book 2 "Cops and Robbers" "The Traffic Cop" Discovering Music-2 "Helpers"
7. Where do you take your car when something is wrong with it? Why? Who fixes the car?	Add this to list of occupations the children are making. Film-view and discuss.	Film: 72005 Transportation Maintenance 11 min. co/bw 1969 P.E.L. State
	Book-read and discuss.	Book: Let's Go To A Garage-J. M. Goodspeed
8. What tools does he use?	Have someone come in and talk about his job, discussing the tools he uses, what time he goes to work, and what his work is like.	Resource person.

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Field trip-perhaps children could visit garage and see these men in job situation and interview them-could see who else works there. Perhaps some of the boys will enjoy role-playing and repairing something about the class car.	
9. Susan broke the fastener on her bracelet and her mother said they would take it to have it repaired. Where will they take it? Who will fix it?	Another occupation to add to the children's lists. Have a display of jeweler's tools, if possible.	
10. Would you have to have good eyesight in order to repair jewelry? Why or why not? What things does he use to help him in his job?	Have someone come in and talk about his job. Set up a jewelry store. Using a bead kit make different pieces of jewelry and repair broken pieces.	Resource person. Bead kit: B-113 Pixie Beads $3.50 per 1000 B-118 Fine Elastic Car $6.00 per 144 yd. Magnus Craft Materials, Inc. 109 Lafayette Street New York, N. Y. 10013
11. Mrs. Jones had to go to the bank. Can anyone tell me what the lady who waited	Add this to the list of occupations the children are making; read & discuss book.	Book: Let's Go To A Bank- Laura Sootin

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
12. Have you ever been to a bank? What does a bank teller do?	Plan a visit to a nearby bank, interviewing the bank tellers and watching them at their job. Write stories about a bank teller and the job using the field trip as a reference.	Field trip perhaps to the bank on Ingles Street.
	Make deposit slips, etc. to be used in role-playing. Set up a bank and act out different situations such as depositing money.	Material needed: Play money
	Books-read and discuss.	Books: What Can Money Do?-Jene Barr; The True Book of Money-Benjamin Elkin.
13. Why would you go to a grocery store or a supermarket? Do you like to go? Why? What can you get there?	Class discussion. Add this to list of occupations. Poem-read and discuss.	Poem: "General Store" Childcraft Vol. 1
	Make a list of things you can get at the store.	Material needed: chart paper
	Have children bring in things which can be obtained at grocery store(ex.: empty can that contained peas, empty cereal box). This will be used in role-playing.	

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
14. Who are the different people who work at the store? What are their jobs or duties?	Study prints-use them to make a bulletin board and lead class discussion.	Study prints: SVE Community Helpers Set SP-123 Supermarket Helpers
	Filmstrips-view and discuss.	Filmstrips: F-All The Grocer-in library ECF-110 Supermarket-edu-craft
	Book-read and discuss.	Book: Let's Go To A Supermarket- J. M. Goodspeed
	Field trip-visit a supermarket close by to observe these people in their jobs.	Field trip-supermarket
	Set up a grocery store and buy and sell groceries using the things that the children have contributed.	Material needed: Cash register
	Song-introduce and sing.	Song: "To Market, To Market"- This Is Music-Book 2

CULMINATING ACTIVITY:

CULMINATING ACTIVITIES	RESOURCES AND MATERIAL
Select a family and take it on an entire trip to town using same places imaginary family went.	
Children can make up riddles describing different occupations and people. Read them to class letting class members guess who is being described. Illustrations may accompany the riddle. Bulletin board may then be made.	
Children could also draw a picture representing their favorite occupation covered in the unit and write a small paragraph telling about the occupation and why it is their favorite occupation.	Material needed: Drawing paper
One of the last things that can be done to review the unit is a teacher-prepared tape. On the tape the teacher describes the different occupations, one at a time. The student is to listen to the tape and then write down the answer. After the entire exercise has been presented he can then check his paper by listening to the answers which are given on the same tape. This can be done individually or in small groups. It is possible to use some of the riddles that the children have written.	Material needed: Tape Tape recorder Head phones
Learn to spell the different occupational names that are covered in the unit.	

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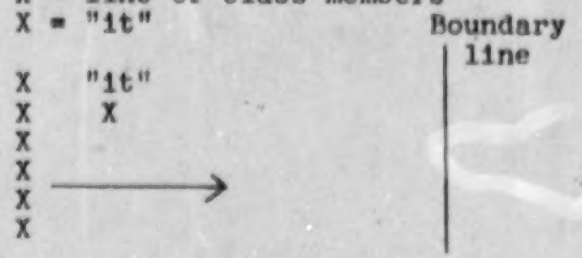
CULMINATING ACTIVITIES	RESOURCES AND MATERIAL
For physical education divide the class into small groups with each group representing a different occupation. Have one person be it. Form a straight line with rest of class members. "It" calls out a occupation and all the people representing that occupation run to a boundary line marked off somewhere behind "it". Could also form 2 lines, one on each side of "it" and have class run to the opposite side when their occupation is called(have some with the same occupation on different sides). Children could pantomine different occupations and have the class members guess the occupations. The class might be divided into teams and keep score seeing which team can guess the most occupations. Filmstrip might give them some ideas.	Game: X = line of class members X = "it"  Encyclopaedia Britannica Series No. 8990 p. 10 Playing Community Helpers
Draw a mural depicting all the places that the children went to and all the occupations that were covered. Filmstrip-view and discuss. Film-relate the number of occupations discussed which may also render home services.	Material needed: Paints and long pieces of drawing paper(roll). Filmstrip: SVE p. 3 Robert and His Family Film: 12205 Helpers Who Come To Our House 11 min. co/bw 1956 Radford

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ECF-110 Supermarket
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Eye Gate
Some Neighborhood Helpers
107H The Automobile Service Station
Workers for Public Welfare
140A Police and Police Protection
W400B Retail Clerk
SVE Robert and His Family
The Grocer

4. Films:

12205 Helpers Who Come To Our House
11 mins. co/bw 1956 P. Radford
72005 Transportation Maintenance
11 mins. co/bw 1969 P.El. State

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SVE
Community Helpers
Set SP-119 Police Department Helpers
Set SP-123 Supermarket Helpers
Urban Life
Set SP-127 Neighborhood Friends and Helpers

C A R E E R E D U C A T I O N P R O G R A M

R A D F O R D C I T Y S C H O O L S

UNIT TITLE: POSTAL SERVICES

"FROM ME TO YOU"

APPROXIMATE GRADE LEVEL: GRADE 3

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

PROJECT COORDINATOR: RANDY WRIGHT

THE CAREER EDUCATION PROGRAM
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INTRODUCTION TO: Postal Services
"From Me To You"

Letter writing is included in the third grade curriculum and what better way to introduce it than through our postal services. By role playing the child can see the importance of legible handwriting and why the address must be complete. This brings the area of postal services closer to them. It is hoped that through this unit the child will become more aware of the various job opportunities found within the postal services.

MOTIVATING ACTIVITIES	RESOURCES AND MATERIAL
Teacher write a letter to class, mail it, and have it delivered to classroom. In the letter explain the new unit of study. Also, put the letter on a sheet of chart paper or poster board to make a bulletin board. Can make an envelope and attach it to bulletin board. Can use opaque projector to show and read the small letter to the class. Label bulletin board "From Me To You". Teacher will write a letter to the class on a large sheet of paper. Put it on the bulletin board and label the different parts.	

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BROAD OBJECTIVE: To help children see the relationship of the postal services to their lives.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. Do you ever receive any mail?	Book-read to the class. Discussion	Book: Any Mail For Me?
2. How do we get our mail?	Class discussion-let children present their ideas and thoughts.	
	Film-view and discuss.	Film: Helpers Who Come To Our House 11 mins. co/bw 1956 P. Rad.
	Draw pictures to represent their ideas of how we receive our mail.	Material needed: Drawing paper

BROAD OBJECTIVE: To help children improve letter writing skills.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. When you write a letter, what things must you include?	Class discussion-bring in the different things that are included in all letters(heading, greeting, etc.). Make a chart by putting a letter on paper and labeling different parts.	Material needed: Chart paper
	Can use letter written to class. Make a transparency-write a letter and as a class label the letter parts.	Material needed: Acetate sheet for transparency. Felt tip pen for writing on transparency.
2. Are all letters the same? Would you write the same type of letter to a friend as you would to a businessman?	Discuss types of letters-friendly letters, business letters-reading examples of each.	Resource persons - to tell about the form of a business letter and why students might need to use one(job application, etc.) and how different jobs require business letterswritten. Could use business majors if a college is nearby.
	Write letters-class activity. Display letters-on bulletin board.	
3. After you write a letter, what do you put it in (envelope)? Why do you use it? What do you put on the outside of the envelope?	Class discussion.	
	As a class activity make a large envelope and address it correctly. Let children address envelopes to go with the letters they have written.	Lang. book

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BROAD OBJECTIVE: To acquaint children with the various types of letters (ex.: air mail, special delivery) and the costs involved in mailing different types of letters.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. Is all mail classified the same?	Discuss different classes of mail. If possible, display different types. (Certified, special delivery, registered)	
2. Why do we use stamps?	Read story.	Story: "About Stamps"-Going Places, Seeing People
	View stamp collection-perhaps a child can bring one in.	Material: Stamp collection
	Design a stamp.	
3. Do all stamps cost the same amount?	Class discussion-let different ones bring in stamps to see if all stamps cost the same and are alike. Refer back to stamp collection.	
4. What is a zip code? Why do we use zip codes?	Filmstrip-view and discuss.	Filmstrip: Home Services - ECF-107 Mail Delivery
	Make Mr. Zip Code-large enough for bulletin board.- can be group project.	
	Book-read and discuss.	Book: Mr. Zip and the U. S. Mail

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BROAD OBJECTIVE: To acquaint the children with the various personnel in the postal services and their specific tasks in mail delivery.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. Who are the different people involved in mail delivery?	Bulletin board using study prints. Filmstrips-view and discuss Rhythmic act: The Postman I came from the post office, (walk from the post office) My mail sack on my back; (pretend to carry mail on back) I go to all the houses (pretend to go to a house) Leaving letters from my pack. (pretend to drop letter into mail box) One, two, three, four (hold up fingers as you count) Who are these letters for? (pretend to hold letters and scratch read). Film-view and discuss. Song-"The Postman" Make individual mail boxes.	Study prints: Set SP121-Postal Helpers Filmstrips: F-A7 Post Office Workers F-A12 The Mailman Workers for the Public Welfare-140C <u>The Post Office and Postal Workers</u> Films: <u>Mailman</u> 10 mins. co/bw 1947 El. Rad. Exploring Music
2. Where do they work?	Filmstrip-view and discuss. Film-view and discuss. Books-read and discuss.	Filmstrip: Our Post Office-SVE p.29 221-5 Film: Our Post Office-10804 11 mins. co/bw 1966 El. Rad. Books: <u>At the Post Office</u> <u>Let's Go To A Post Office</u> <u>The True Book of the Post Office and Its Helpers</u>

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
3. What are their different jobs? How is a post office divided?	Book-read and discuss. Make a chart listing various jobs. Could also use groups to explain jobs of each. Field trip Write letters asking permission to visit post office. Then write thank-you notes after visit.	Book: Behind the Scenes at the Post Office Material needed: Chart paper Visit post office
4. What are their jobs like? What are the dangers of the job?	Resource person-talk about his job. Role play different positions (Ex.: mailman in the snow, rain-sorter at Christmas time) Also children can write a story about this situation and illustrate it.	Resource person
5. Does anyone work in a post office at night?		-
6. What is involved in our mail delivery?	Book-read facts about the pony express. Film-view and discuss. Write stories on mail delivery. Flannel board cut-outs on mail services.	The Pony Express Film: 86004 Helicopter Carries Mail 11 mins. co/bw 1965 P. Rad.

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CULMINATING ACTIVITY:

CULMINATING ACTIVITY	RESOURCES AND MATERIAL
Construct a post office and a street mail box. Assign different roles to different class members, (ex., postmaster) and since the children have already constructed individual mail boxes, they can write letters and put them in their mail box or in the street mail box to be picked up by the mailman. The mail will then be taken to post office, sorted and eventually delivered. Reading session can then be held. The children are to use the forms for letter-writing and correct addressing of envelopes that they previously learned. They may use stamps on their letters which they previously designed. Have mail delivery everyday with a different person as the mailman once a week. Rows become streets and the mailman sorts and delivers the mail.	Materials needed: Refrigerator box Smaller box

Include discussion of the following quotations: "Neither snow nor rain nor heat nor gloom of night, stays these couriers from the swift completion of their appointed rounds".

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F-A7 Post Office Workers
Eye Gate 53E The Mail Goes Through
F-A12 The Mailman
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Troll Associates, 1969 Special Delivery, Story of Our Post Office

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12205 Helpers Who Come To Our House
11 min. co/bw 1956 P. Radford

19104 Mailman
10 min. co/bw 1947 El. Radford

20904 Night Community Helpers
11 min. co/bw 1968 El. State

10804 Our Post Office
11 min. co/bw 1966 El. Radford

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Set SP-121 Postal Helpers

Flannel board cut-outs of postal services

C A R E E R E D U C A T I O N P R O G R A M

R A D F O R D C I T Y S C H O O L S

UNIT TITLE: SCHOOL MANAGEMENT

"SCHOOL DAYS"

APPROXIMATE GRADE LEVEL: GRADE 3

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

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INTRODUCTION TO: SCHOOL MANAGEMENT "SCHOOL DAYS"

Because young children today seemingly take so many things for granted, it would be enlightening to them to gain an understanding of the numerous jobs necessary for a school to operate efficiently.

BROAD OBJECTIVES:

1. To acquaint the children with the various jobs necessary for the efficient operation of the school.
2. To help the child become aware of his part in the total school program.
3. To familarize the child with the skills needed for each job.
4. To give the child a basic understanding of how schools are financed.
5. To guide the child in the realization that he does by his own actions, help or hinder the effectiveness of the school.
6. To help the child understand the process by which one would obtain employment.
7. To give the child an appreciation of the importance of the cooperative efforts of each person involved in the total school program.

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. Who are the prople who make our school run smoothly?	Class Discussion	
2. What are the duties of each of these people?	List people who have been brought out in the discussion and then take a tour of the building pointing out different jobs. Add any jobs which were omitted in the original list.	Study Prints-SVE CSP-20 School Friends and Helpers CASSETTES: CE-CT-H10 - Building Custodians
3. What training is necessary for each of these jobs?	Have the children prepare a bulletin board using cut-outs, original drawings or collages. Compose riddles or pantomine the various jobs.	CE-CT-A42 - Become A Secretary CE-CT-A120 - Getting to Know the School CE-CT-A135 - I Want to be a Secretary CE-CT-A106 - I Want to be a Teacher - I Want to be a Librarian

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CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Make a collection of poetry relating to jobs - also stories. These may be taken from books or be original. Bring in resource people from within the school to discuss their jobs. Filmstrips and films. Have a dictionary lesson using the key words used thus far.	Filmstrips: CF-A121 - Custodian Bus Driver CF-A152 - Library CF-A160 - Cafeteria Workers CF-110 - Helpers at School CF-A33 - School Helpers CF-A58 - School Workers Casette - CE-CT-A21 CF A32 - Teacher - record C rec - A2
4. How do I fit in to the total school program:	Initiate and develop a clean-up campaign. Invite the guidance counselor to discuss with the class each child's responsibility in the school program.	

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
5. Where does the money come from to operate the schools?	Have a resource person from school board or central office to discuss this topic. Perhaps a parent could do this. Teach telling time in connection with the school schedule. Measurement can be taught in connection with cafeteria workers. Also, this would be an appropriate unit in which to study the different food groups. Develop an awareness of managing money through their own experiences with lunch money. Set up learning centers using units of measurement and play money.	
6. How does my behavior affect the other people in the school?	Filmstrips Books Role-playing - using puppets and/ or skits prepared by the children.	CF-L5 - Manners at School - record - C rec - A32

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Suggested culminating activities: 1. Construct a cafeteria lunch counter. Role play food being prepared, served, and purchased. 2. Set up a principal's office giving special attention to the personnel and their duties as well as to the various types of equipment contained in the office. 3. Construct a television set and show a film prepared by the children depicting the jobs included in this unit.	

C A R E E R E D U C A T I O N P R O G R A M

R A D F O R D C I T Y S C H O O L S

UNIT TITLE: THE HOSPITAL EMERGENCY ROOM

APPROXIMATE GRADE LEVEL: GRADE 3

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

PROJECT COORDINATOR: RANDY WRIGHT

THE CAREER EDUCATION PROGRAM
THE RADFORD CITY SCHOOLS
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INTRODUCTION TO: The Hospital Emergency Room

The unit on "The Hospital Emergency Room" was designed for a third grade class with the objective of developing an awareness of the jobs available in this area and of the duties of the people who perform these jobs. It is hoped that from this unit the children will realize how the emergency room and rescue squad relates to them.

MOTIVATING ACTIVITIES	RESOURCES AND MATERIALS
Bulletin board - begin and develop as unit develops-let children contribute pictures as unit progresses.	Can include on bulletin board pictures taken from disaster day-taken by News Journal.
A display of books or stories which relate to the unit.	Books: A Drop of Blood At the Pet Hospital About Miss Sue, The Nurse About Doctor John The First Book of Hospitals Let's Find Out About the Clinic Doctor's Tools Penny The Medicine Maker The First Book of Nurses The Emergency Book Mom! I Broke My Arm My Daddy is an Ambulance Driver My Mother is a Practical Nurse Greene, Doctors and Nurses, What Do They Do?, Harper, 1963.
Have children relay what they feel in an emergency.	This can be done by drawing a picture depicting an emergency followed by a discussion developing a definition of an emergency.

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BROAD OBJECTIVE: To help children realize the importance of the emergency room in relation to them and the rest of the hospital.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What is an emergency room?	Class discussion.	
2. Why would we need one? Have you ever been to one?	Class discussion. Make list on chart paper. Class members can make a booklet keeping these lists in their booklet. Form a committee, too.	Chart paper. Notebook paper. Construction paper for covers(or manila paper), staples, stapler.
	Story-read and discuss.	Story: Mom! I Broke My Arm
3. Why does a hospital need an emergency room?	Class discussion. Add these things to the list formed under question #2.	

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BROAD OBJECTIVE: To acquaint children with various persons working in the emergency room and the area associated with the emergency room.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. If you go to an emergency room, who would you find there?	Study prints-add to bulletin board. Discuss various ones-teacher leading children in discussion-find doctors, nurses, aides, orderlys.	Picture-story study prints.
	Read teacher written stories about these various people-do as a whole class. Draw pictures of what you think these people would look like on job.	Can be done and memiographed, giving out individual copies, put on a sheet and shown on opaque, or put on large sheet of chart paper.
	Film-view and discuss.	Film: 75504-Nurse 10 min. CO/BW El. Rad.
2. Who else is related or concerned with the emergency room?	Teacher-directed discussion-receptionist, x-ray technician, lab technicians.	

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BROAD OBJECTIVE: To acquaint the children with the various jobs or duties of those involved in the emergency room.

To acquaint children with the types of tools or materials used by these people.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What are the specific jobs of each person involved in the hospital emergency room?	Stories-read and discuss-work in committees-read books, then report to class about book telling about the jobs involved.	About Miss Sue, The Nurse About Doctor John The First Book of Nurses My Mother is a Practical Nurse Doctors and Nurses, What Do They Do?
	Individual work-stories written which describe various jobs (done in form of booklet). Write down name of job-answers for each description are put on an answer sheet-SRA reading type of thing-stories are written by teacher-put on index cards.	
	Filmstrips-view and discuss.	Eye Gate 107A-The Neighborhood Doctor My Mother Has a Job W400C The Nurse
2. What types of tools or instruments do they use in their various jobs or duties?	Discussion Storyies-read and discuss.	Stories: Doctors' Tools The First Book of Hospitals My Mother is a Practical Nurse
	Make a chart showing or listing various jobs and the tools used.	Chart paper
	Make a chart of vocabulary terms.	

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CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Plan a field trip to the emergency room, interviewing the people and taking pictures.	Contact Kitty Campbell for field trip. Camera and film.
	Plan a discussion after the trip.	
	Write creative stories about a visit to hospital. Stories can be illustrated.	
	Display stories and illustrations on bulletin board.	
	Paint a mural showing hospital emergency room and people at work.	Roll paper, paints.

BROAD OBJECTIVE: To acquaint children with persons other than the hospital staff who also provide emergency treatment(in particular-rescue squad, ambulance service) and how they relate to us.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What other persons, in their job, give emergency type treatment?	Discussion-rescue squad, ambulance service.	
2. Are their services available to us?	Class discussion-lead into fact that often the rescue squad men give first aid before reaching emergency room at hospital.	
3. How did these people get their job?		
4. How are they related to Radford Community Hospital's emergency room?	Resource person come in and discuss his job, duties, requirements, qualifications.	Resource person.
	View some of the things used by these men and how they operate.	
	Story-read and discuss.	My Daddy is an Ambulance Driver
	Construct a hospital emergency room assigning the various roles to different members of the class. Also construct an ambulance and also assign these parts to class members. Make a stretcher.	Refrigerator boxes. Materials needed for emergency room: gauze bandages, stethoscope, tongue depressor, pretend, candy pills, individual oxygen masks, thermometer & splints, x-rays & hypo. needle

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CULMINATING ACTIVITY:

CULMINATING ACTIVITY	RESOURCES AND MATERIAL
Role play an emergency situation that calls for both ambulance service and use of emergency room-call emergency number.	
By use of teacher prepared tapes, the children can learn first aid procedures such as simple bandages. These can be done for individual or small group use. May also demonstrate before class.	Cassette cartridge. Tape recorder. Listening unit-head phones. Several triangular bandages.
Resource person tell about first aid.	Red Cross-College 1st aid.
Students should be able to list 3 things a nurse, doctor, aide attendant does and tools they use.	
List 1 thing x-ray technician and lab technician do and why they are important.	
Use words you are concerned with as spelling list for the week.	

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My Mother Has a Job - The Nurse
The Neighborhood Doctor
The Nurse's Aid. (Occupational Education series) Eye Gate, 1965.
What a Doctor Sees When He Looks at You. Educational Reading Service, 1968.

3. Films:

77504 Nurse
10 minutes CO/BW El. Radford

4. Pictures:

Copies of story and pictures taken by Radford News Journal concerning the Mock Disaster Day(held in spring, 1972).

5. Study Prints:

SVE Community Helpers
Set SP-124 Hospital Helpers

6. Single Cassette:

Getting to Know the Hospital. Troll Associates, 1971.

7. Puzzles:

Nurse. Playskool
Doctor. Playskool

C A R E E R E D U C A T I O N P R O G R A M

R A D F O R D C I T Y S C H O O L S

UNIT TITLE: THE WEATHER

"RAIN OR SHINE"

APPROXIMATE GRADE LEVEL: GRADE 3

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

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INTRODUCTION TO: The Weather
Rain or Shine

The primary grades provide an excellent opportunity to introduce the topic of weather and the jobs available in this area. The children are interested in weather and now is the time to build on this curiosity. It is hoped that from this unit the children will become aware of weather conditions, weather changes, weather instruments, and how they are used. It is also hoped that the children will gain an insight into how weather conditions affect their way of life.

MOTIVATING ACTIVITIES	RESOURCES AND MATERIAL
Bulletin board title: What's It Like Today? On bulletin board have a section for a calendar. In order to mark the date let children put up a symbol each day to represent the various weather conditions. As the unit progresses add things to bulletin board which relate to weather.	Material Needed: Poster board for calendar
What is it like outside today? Bring in a weather report from a newspaper or if it is possible to find out the time that the weather forecast will be presented on radio listen to weather report.	Materials: Newpaper Radio
Film-view and discuss	Whatever the Weather Educational Horizons, 1959 10 min. sound, color, an introduction to wind, rain, snow. Radford College-No. 24205
Riddle-What is it molds the life of man? What makes some black and other tan? What makes the Zulu live in trees? And Congo natives dress in leaves? While others go in furs and freeze? Poem-Whether it's cold, or whether it hot, We will have weather, whether or not.	
Filmstrip-view and discuss	Filmstrip: (F-S13) Our Weather-in the library

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BROAD OBJECTIVE: To increase within the children an awareness of weather conditions and weather changes as well as weather terminology.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What is weather? What causes it? What causes it to change?	Discussion after film or filmstrip. Let children present their various ideas, then let someone look it up in dictionary. Start a weather booklet. Include the definition in it. New terms to use in spelling can be added to this.	Dictionary Childcraft - Vol. 9, p. 98
	Filmstrip-view and discuss.	Filmstrip: (F-58) Weather Changes - in the library
2. What are some weather conditions? a. rain b. fog c. dew d. hail e. sleet f. wind	List these weather conditions in weather booklet. Discuss each condition. Experiments for: evaporation steam rain dew frost rainbow fog-use dry ice & put it in water. wind-run outside to feel the effects of wind there. Blow up balloons and let the air out against hand or face. Compare the difference between the wind outside and the wind from the balloon.	Childcraft - Vol. 9 Hot plate Tea kettle Dry ice Balloons Prism Also can find in: 1. Investigating Science with Children Vol. 2 The Earth Teachers Publishers Corp., Darien, Connecticut

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Make paper snowflakes-fold sheet of paper and cut to make different shapes-put on bulletin board. Poems-read and discuss "Rain"-Robert Louis Stevenson "Ice"-Dorothy Aldis "Wind Capers"-Nancy Byrd Turner "Down the Rain Falls"-Elizabeth Coatsworth "Rain,Rain,Go Away"-Old rhyme "The Wind"-Robert Louis Stevenson "Look at the Snow!"-Mary Carolyn Davies "The Umbrella Brigade"-Laura E. Richards "Kite Weather"-Ralph Bergengren "The Wind and the Moon"-George MacDonald "The Snow Man"-Mildred Plew Meigs "White Fields"-James Stephens "Look at the Snow!"-Mary Carolyn Davies "The First Snowfall"-James Russell Lowell "Fog"-Carl Sandburg "The Romp"-Nancy Byrd Turner	

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	"Thaw"-Eunice Tietjens "Wintertime"-Robert Louis Stevenson	Source: Childcraft
	Poems can be included in weather booklet, memorized, used in choral reading, and illustrated.	
	Learn songs about weather- "Seasons" "Snow in the Night" "Spring Song" "Miss Breeze" "The Wind Song"	Exploring Music
	"The Spring of the Year" "The Wind"	Childcraft This Is Music
	Read stories-both teacher and children.	Stories: About Clouds The True Book of Air Around Us About All Kinds of Days About Our Weather Nimbo, the Little White Cloud That Turned Black The Wind and Peter Not Only for Ducks Where Does the Butterfly Go When it Rains? Rain Drop Splash
	Films-view and discuss	NET Rain

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Filmstrips-Air, Wind, and Weather	Eye Gate, 1958 p. 66
	Why Do We Have Rain?	Filmstrip House, 1956
	Weather Changes(in library)	
	Winds Around the World	F-S4(in library)
	Humidity	F-S5(in library)
	Moisture and Precipitation in the Air	F-S7(in library)
	View and discuss filmstrips	
	Transparencies-discuss The Water Cycle	Tr 821(in library)
	Read weather reports in newspapers for duration of unit or listen to them on radio or TV	
3. What are clouds made of?	Film-Water, Water, Everywhere	Coronet 1954
	Filmstrip-view and discuss Finding Out About the Clouds 27 frames, captions, color, kinds of clouds, and also dew and frost.	SVE, 1959
	Where Do Clouds Come From? (a girl does experiments to learn what makes clouds form)	First Experiments About Weather Series-Jam Handy, 1955 p.50.
	Class discussion.	

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Poems-"Clouds"-Christina Rossetti "The Cloud"-Percy Bysshe Shelley	Childcraft Favorite Poems-Helen Ferris, Doubleday & Co., Inc., Garden City, N.Y.
	Experiment-make clouds-p.80	Investigating Science with Children, Vol. 2
4. Are there different types of clouds? What are they?	Show pictures with different types of clouds.	Cloud chart-11"x17" $.35 35 color illustrations. Cloud chart-18"x22" $.55 35 color photos Cloud Chart P. O. Box 8615 Richmond, Va. 23226 Get additional charts from: United States Dept. of Documents Washington, D. C.
	Draw different cloud types for booklet, labeling each type and describing briefly. Filmstrip-if don't use under question 3 can use here. Finding Out About Clouds Pretend that they are a type of cloud and personify it, moving as it would move and giving the sounds that it would make. Make different cloud types for bulletin board.	Cotton

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BROAD OBJECTIVE: To introduce the children to various weather instruments, and how they are used.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What instruments are used in making a weather report?	Use book.	Weather Instruments-How They Work
	Make a list for booklet-make reports on different instruments to be included in booklet.	
	Make different instruments. Children can bring in materials to be used.	Childcraft, Vol. 9 Investigating Science with Children, Vol. 2
	Make a chart collecting information from these instruments.	Xerox sheets
	Use weather information and 16 color cloud pictures.	How to Forecast the Weather Cloud Chart P. O. Box 8615 Richmond, Va. 23226
	Filmstrips-view and discuss Weather Maps and Weather Forecasting How to Forecast the Weather	Filmstrip: Eye Gate - p.66 F-S6(in library)
	Field trip-visit college and view their weather instruments.	Radford College
	Take a walk around school or perhaps a neighborhood block watching for such things as types and shapes of clouds, any fog, dew, frost, wind direction, & any instrument that might be out which is used in measuring weather.	Field trip

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Display different instruments.	Instruments: Rain gauge U.S. weather map(in library) Barometer(in library) Hygrometer(in library)
	Use weather kit.	Weather station kits(in library)
	Films-view and discuss.	Films: 00805-How Weather is Forecast 10 min. co/bw 1953 Radford 48704-Measuring Temperature 10 min. co/bw 1952 Radford

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BROAD OBJECTIVE: To help children realize how the weather can affect them and their ways of life.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What difference can the weather type make?	Resource person-have someone come in from airport and tell how the weather can affect them.	Resource person
	Role playing-pretend that they are someone living in Alaska, Hawaii, or Switzerland. How would their lives be different? Could they still do all the same kinds of things that they do in Radford? Why or why not? Discuss how weather affects travel, activities, and transportation of goods. Make a wall chart of affects of weather-this chart can be put into weather booklet.	
	Film-view and discuss.	Film: 15705-How Weather Helps Us 11 min. co/bw 1958 Radford
	Dress the boy or girl on flannel board according to weather conditions of the day.	Material: We Dress for the Weather-Instructo-in kindergarten

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BROAD OBJECTIVE: To create an interest and awareness in jobs available in the area of weather.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What are the different jobs that are found in weather?	Invite someone in from radio station or college professor come in and talk about the different people who are involved.	Resource person
	If possible, locate a weather station nearby. An excursion could be arranged so that children can see these people at work.	Field trip NRCC-has weather room
	Filmstrips-view and discuss. A Visit to a Weather Station Weatherman at Work	Source: Eye Gate p.66 Eye Gate 101H p.63
	Films-view and discuss.	Films: 67008 Weather Scientists 14 min. co/bw 1961 Radford 33204 Weather Station 10 min. co/bw 1956 Radford
	Make a microphone to use in a weather skit. Arrange a radio or TV weather report to be given by different class members on different days during a sharing or news time. They can use the weather instruments that they have made to give the report and make any weather predictions.	Let children bring in materials for this

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Sur, William R. and others. This Is Music. Allyn and Bacon, Inc. Boston: 1967.

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A Visit to a Weather Station	Eye Gate	
Air, Wind, and Weather	Eye Gate	
Finding Out About the Clouds	SVE	
How to Forecast the Weather	F-S6	
Humidity	F-S5	
Moisture and Precipitation in the Air		F-S7
Our Weather	F-S13	
Weather Changes	F-S8	
Weatherman at Work	Eye Gate	
Weather Maps and Weather Forecasting		Eye Gate
Where Do Clouds Come From?	Jam Handy	
Why Do We Have Rain?	Filmstrip House	
Winds Around the World	F-S4	

4. Films:

15705	How Weather Helps Us 11 mins. co/bw 1958	P.El.	Radford
00805	How Weather is Forecast 10 mins. co/bw 1953	El.JH	Radford
48704	Measuring Temperature 10 mins. co/bw 1952	El.	Radford
	Rain NET		
	Water, Water Everywhere	Coronet, 1954.	
67008	Weather Scientists 14 mins. co/bw 1961	El.JH	Radford
33204	Weather Station 10 mins. co/bw 1956	P.El.JH	Radford
24205	Whatever the Weather 10 mins. sound color		Radford

Cloud Charts
Weather Station Kit
Transparency - The Water Cycle
Weather Instruments- rain gauge
U.S. weather map
barometer
hygrometer
We Dress for the Weather Kit - Instructo

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C A R E E R E D U C A T I O N P R O G R A M

R A D F O R D C I T Y S C H O O L S

UNIT TITLE: "BRIGHTEN YOUR DAY FIGHT TOOTH DECAY"

APPROXIMATE GRADE LEVEL: GRADE 3

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

PROJECT COORDINATOR: RANDY WRIGHT

THE CAREER EDUCATION PROGRAM
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1612 WADSWORTH STREET
RADFORD, VIRGINIA 24141
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INTRODUCTION:

Most children in this age group have some understanding of the work done by dentists. A study of this unit will further familarize the child with the duties of the dentists and other careers related to dentistry. Hopefully the children will, to some extent overcome their fear of the dentist. How teeth develop and how to care for them will also be included in this unit.

BROAD OBJECTIVES:

1. To give the child an understanding of how the dentist helps him as an individual and to help him overcome his fears of the dentist.

2. To help the child become aware of the careers involved in dentistry and the educational requirements.

3. To give the child some understanding of the demand for dental services.

4. To help the child develop good health habits.

5. To give the child a basic understanding of tooth development.

6. To help the child realize that the responsibility for having good teeth is largely his.

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. How many have been to a dentist's office?	Listening to story and class discussion.	Book: Let's Go To A Dentist. Putnam, 1959 Buchheimer, Naomi.
2. What people did you see in the office?	Show filmstrips and use cassettes.	Filmstrip: CF-A126 My Mother is a Dental Assistant. Cassettes: CE-CT-H6 Dental Hygienists. CE-CT-H6 Dentists.
3. What tools does the dentist use?	Read book and show actual tools if possible and discuss their uses. Sketch dental tools and use for bulletin board. Invite a parent who works in a dentist's office to talk to the group.	Lapp, Carolyn Lerner. Dentists Tools, Lerner, 1961. Parent.
4. How many teeth have you lost? 5. When do babies get their first teeth? 6. Why is it important to take care of your temporary teeth?	Class discussion about their own teeth.	Books: Schloat, G. Your Wonderful Teeth. Scribner, 1954. Showers, Paul. How Many Teeth. Crowell, 1962. Byrd, Neelson, Moore. Health, Book 3; pp. 58-60

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
7. When and how do you brush your teeth?	Class discussion and demonstration.	Model of tooth (Radford College Curriculum Lab.)
8. What else can I do to help me have good teeth?	Plan menus and make food charts showing a balanced diet. Prepare a bulletin board showing the four basic food groups. Collages or posters may be used.	
9. Why is it important to see your dentist twice a year?	Read and discuss page 60 - Health 1.	
	Throughout this unit have each child keep a toothbrushing chart.	Use charts ordered from: Bureau of Dental Health 211 East Chicago Avenue Chicago, Ill. 60611 (The following free material may be obtained from this address.)
	Write a paragraph or story about a visit to your dentist. (true or make-believe)	You Can Teach Toothbrushing S-M Your Teeth and What They Do S-4 Break the Chain of Tooth Decay - S-3 A Visit to the Dentist S-14 Swish and Swallow S-7 Dudley the Dragon G-45 Casper, the Friendly Ghost, and the Friendly Dentist Elementary School Posters 58-a-d Your Child's Teeth 57B

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CULMINATING ACTIVITY

Divide the class into small groups and set up a make-believe dentist office. Children will role play receptionist, dentist, dental assistant, dental hygienist, dental laboratory technician and patients.

C A R E E R E D U C A T I O N P R O G R A M

R A D F O R D C I T Y S C H O O L S

UNIT TITLE: THIS IS MY LIFE

APPROXIMATE GRADE LEVEL: GRADE 4

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

PROJECT COORDINATOR: RANDY WRIGHT

THE CAREER EDUCATION PROGRAM
THE RADFORD CITY SCHOOLS
1612 WADSWORTH STREET
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INTRODUCTION TO: This is My Life

This unit is designed for the fourth grade class and will serve as an introduction to a guidance program which will continue throughout the school year. Knowledge of self is an integral part of the career awareness program. This unit is intended to be correlated with chapters 1 and 12 of the fourth grade health text, Health by Byrd, Neilson, and Moore(Laidlaw).

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BROAD OBJECTIVE: To help children become aware of themselves.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	(Autobiography, self-portrait, and photo put in folder.)	
1. "All About Me" bulletin board-each child will prepare a bulletin board about himself(for one week). During this week, the child will also be the classroom helper. He may choose someone to help him, if he wants to.		Portable bulletin board.
2. Guidance counselor will introduce her services. Throughout the year the counselor will conduct group guidance sessions.		Guidance Counselor, Mrs. Moore
3. Guidance counselor shows filmstrip.		"Who Am I", Eye Gate, 1968.
4. Who am I?	Show filmstrip.	Filmstrip and record: A Very Important Question - SRA Responding, Stage 2. Focus on Self-Development Kit.
5. When you look in the mirror-what do you see?	Have children describe their features as they look in mirror. Have two children look in mirror and describe each other.	Full length mirror or individual mirrors.

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
6. What are you like with your friends, your family, in class?	Write a short paragraph on each telling how you feel and act in each situation.	
7. Do you feel happy most of the time? Unhappy?	Folders started here.	Start self-profile bulletin board-children will bring pictures, drawings, and write facts and figures of their lives. Use 2 children at a time and let them have board 2 days.
	Cut pictures from magazines showing these feelings. Cut pictures from magazines showing things that make them happy and unhappy. Children write captions for the above pictures and display.	Magazines Newspapers
8. Do you like yourself?	Make a list of likes and dislikes about your self.	Ch. 1 in health book to motivate discussion. Byrd, Oliver E. Byrd, M. D., Health, Laidlow Brothers, Ill. 1966.
9. Do you think you would want yourself for a friend if you were another person?	Discussion of what a friend should be.	

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
10. What are some things you like to do? a. do you like to do new things? b. do you like to work with your hands? c. do you like to read? d. do you like to talk? e. do you like to do things with other people? f. do you like to do things by yourself? g. do you like to play school? if so, which do you like to be, the teacher or the student?	Discuss questions under number seven. Prepare bulletin board "Things We Like To Do." Have each child bring a picture showing the thing he likes to do most. Have list of children's names on bulletin board. Pin string from picture to the name.	Pictures from magazines. String or yarn. Pins. Invite school counselor into class to meet children and have informal contact.
11. Do you like to pick out your own clothes to wear to school?	Have children bring pictures of clothes they like to wear. Have children wear their favorite outfit to school. Make color chart. Discuss different colors. Children can make poster showing how their favorite color is used in life. (Example: red-stoplight, stop sign, fire engine, emergency light, Santa Claus suit, etc.)	Magazine pictures. Poster paper.

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CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
12. What is your favorite food?	Have each child bring a piece of their favorite food from home. (May bring a picture.) Discuss with the class-telling what it is, why they like it, etc.	Food or picture
	Make a chart of the basic foods. Discuss why we need all of these foods.	
	Have each child plan a meal-cutting out the different foods and pasting them on a paper plate. Display these plates and have children compare the different meals.	Paper plates. Magazines.
13. Do you have a best friend? What makes you all best friends?	Have each child write a short paper telling about his best friend-being sure to point out good and bad points.	
14. Is everyone like everyone else?	Have each student write an autobiography. Allow children to read each others autobiography and see that everyone is different.	
	Self-portrait.	Drawing paper.
	Bulletin board of self-portraits matched with photos brought from home.	
	Start individual folders or booklets about self and careers to be kept throughout the year.	Tab folder for each child.

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1. Books:

Byrd, Oliver F. M. D. Health. Laidlow Brothers, 1966.

2. Filmstrips:

Focus on Self-Development, Stage Two: Responding Kit. SRA, 1971.

Getting to Know Me series. Cathedral Films, 1969.

Who Am I. Eye Gate, 1968.

C A R E E R E D U C A T I O N P R O G R A M

R A D F O R D C I T Y S C H O O L S

UNIT TITLE: CONSERVATION

APPROXIMATE GRADE LEVEL: GRADE 4

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

PROJECT COORDINATOR: RANDY WRIGHT

THE CAREER EDUCATION PROGRAM
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INTRODUCTION TO: Conservation

This unit on conservation is designed for the fourth grade class. It begins in the geographical area of the student involved. An investigation is initiated in the familiar localities of the mountains and valleys of Western Virginia and continues throughout the school year incorporating the curriculum of the fourth grade.

MOTIVATING ACTIVITIES	RESOURCES AND MATERIAL
Map study of geographic areas of Virginia will form an understanding of environment and conservation needs in local situation.	Materials needed: 1. Mimeographed maps of Virginia for each child. 2. Colored pencils
Give the students the addresses where they can write to investigate the occupations available in conservation.	Materials to senf for: 1. Conservation Occupations U.S. Department of Labor Bureau of Labor Statistics Washington, D. C. 20212 2. Career Employment in the National Park Service Washington, D. C. Department of Interior, 1961. 3. Superintendent of Documents U.S. Government Printing Office Washington, D. C. 20402 4. Department of Commerce Game, Fish-Conservation Richmond, Virginia

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BROAD OBJECTIVE: To help the children become aware of careers in the area of conservation of water, woodlands, soil and wildlife and to understand how individual talents and interests of students may develop into future needs and jobs.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What are Virginia's conservation needs in the areas of water, woodlands, soil and wildlife?	Take the class on a field trip to Claytor Lake State Park.	Field trip-Claytor Lake State Park
	Students will set up aquariums for science projects and for enjoyment during learning experience.	Materials: Aquariums(2) 1. fish 2. terrarium
	Form children's interest groups(water, wildlife, and woodland): 1. write for information about areas of conservation, state and nationally. 2. research on conservation(found in school library and interviews from field trips).	
	Learn songs and music on conservation theme. Individual reading from resources available.	Songs: "Conservation, Conversation" "Shenandoah" ""For the Beauty of the Earth" "America the Beautiful"
2. What does conservation mean to you?	Listen to records and view filmstrips. Student investigation will initiate	Records: Rec. 08 079 080 083

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	a Big Book Project:(Class Project) In development of unit, each child will contribute one whole page. The book will include: 1. cutouts or drawings 2. scenes from impressions on conservation (water, wildlife, and woodlands). 3. Charts-water cycle food chain oxygen cycle 4. Maps-national forests state parks migration 5. Reports-uses of water and woodlands 6. Conservation career summaries(occupations) 7. Other ideas contributed by students.	Records: Rec. 111 115 Filmstrips: F-S105 - Pollution Materials for Big Book: Poster board-rings Paper 18"-24" Refer to bibliography: Sec. Wildlife of America Van Dersal-Lib. 333.7

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BROAD OBJECTIVE: To help the children understand the water cycle, pollution problems and how people can work to improve and conserve water supplies.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
3. What is the definition of water cycle? What importance is the cycle to conservation?	Big Book Project pictures: Ways of using water Water scenes Water cycle Careers in water Use and conservation	Concepts in Science(4th grade) Unit 3-Study View transparencies TR S21-2 The Water Cycle
4. How does government affect water conservation? 1. Federal 2. State 3. Local 5. What areas of work are involved in conserving water?	Saltville(investigate problems in pollution). Write agencies for info. Invitation to city business men to talk to students. Reporting on letters on information sought. Reports from water interest groups. Add valuable information to individual folders. See films	Resource people:(Naturalist, geoligist, archeoligist, etc. available in area-VPI) 1. Park officials 2. Business men(local) Films:(Radford film library) What Makes Rain(McGraw) Water Cycle(EBF) Water for the Community(Coronet) Water Purification(AIMS
6. How is water used in recreation?	Field trip-Claytor Lake (Interview workers on tape) 1. Claytor Lake 2. Purification Plant	Field trips: Claytor Lake State Park Purification Plant

CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Individual interest research. Read books in the library.	Books: (School library) Carona, Philip B., Water, Follett Beginning Science Book. (333.9-C). Chicago. N.Y. 1966. Green, Ivah., Water, Coward-McCann (333.9G) N.Y. 1958. Meyer, Jerome S., Water At Work, The World Publishing Co., Cleveland, Ohio, 1963. Stevens, Leonard A., The Town That Launders Its Water, Coward, McCann and Geoghegan, Inc., N.Y., 1971. Bauer, Helen, Water, Riches or Ruin, Doubleday & Co., N.Y., 1959.
7. How does water conservation affect the quality of the environment of living things?	Interest groups research developed around units main areas: 1. water 2. woodlands 3. soil 4. wildlife	
	Take a field trip to Wytheville Fish Hatchery	Field trip: Wytheville Fish Hatchery
	Show filmstrip as needed to clarify and contribute to understandings and development of unit.	Filmstrips: (School library) F-S26 Water Conservation Today F-S7 Moisture & Precipitation in the Air. F-S86 Why Does It Rain, Snow, Hail and Sleet? F-S88 The Story of Rivers
	Show transparencies on the Water Cycle.	Transparencies: (School library) TR S21-2 The Water Cycle

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Students should do individual reading and research.	Books: Shannon, Terry, About the Land, the Rain and Us. Melmont, 1963. Shafted, George and Hefferman, L. W. The Water Story. Singer 1963. Blough, Glenn A. Not Only for Ducks: The Story of Rain. N.Y.: McGraw-Hill, 1954. Schneider, Herman and Nina. Let's Look Under the City. New York: William R. Scott, 1954. Dickey, About Rivers Delia, Rivers Corinne, Naden, Rivers

BROAD OBJECTIVE: To help children understand what type of people and jobs are involved in woodland and forest conservation.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
8. Why must our woodlands be preserved?	Field trip to Blueridge Parkway(interview rangers)	Field trip - Blueridge Parkway
	Show filmstrips on the forest.	Filmstrips: F-A32 Forests-A Renewable F-S89 Story of Mts. Resource F-S66 Telling Trees Apart F-S21 Forest Conservation
	Study and discuss oxygen cycle. Use units 4&5 - Concepts in Science-4th grade. Read and discuss.	Text: Concepts in Science-Grade 4.
9. What are the career opportunities in woodland conservation?	Read books. Individual and group work in Big Book. 1. charts on cycles 2. scenes of woodland use & conservation. 3. careers in woodland conservation & usage. Individual folder reports on career possibilities in woodland conservation.	Books: (School library) Hyde, Wayne. What Does A Forest Ranger Do? Dodd, Mead & Co., N.Y. 1964. Thompson, Ernest. Trail of a Artist Naturalist, N.Y. Doubleday. Cosgrove, Margaret. Wonders of the Tree World. N.Y., Dodd Mead & Co., 1953. Podendorf, Illa. The True Book of Plant Experiments, Children's Press, 1960. Milne, Lorus J. & Margery. Because of a Tree. Darby, Gene. What Is A Tree. Benefic Press, 1957.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
		Blough. Glenn O. Lookout for the Forests. A Conservation Story. New York: McGraw-Hill, 1955. Cormack, Marihelle B. The First Book of Trees. New York: Franklin Watts, 1951.
10. Why must soil be conserved?	Study unit of Concepts in Science-4th grade. View and study filmstrips.	Text: Concepts in Science-Grade 4 FS-90 Soil is for Growing FS-77 How Soil is Formed FS-24 Soil Conservation Today FS-22 Land Conservation Today
	Experiments in soil erosion and plant growth.	Equipment needed: Aquariums-5 gal.
11. In what ways may soil be conserved?	Individual and group projects and reports.	TR858-3 Erosion and Sedimentation
	Recording in individual folders on soil conservation career possibilities. Big Book Project(art, language, scientific facts)	
	Bank Project- (Conservation practices on eroded bank on school playground property) Ex.: Fill in and planting	Needed: Soil, bulbs, gardening tools and other plants.

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BROAD OBJECTIVE: To help the children understand how all animal life is dependent upon man and his environment for survival and what conservation jobs are available in this area.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
12. How are living things and their environment interdependent?	Study unit 6 Concepts in Science-4th grade. Listen to records and view filmstrips. Assign individual reports on specific interests of students in particular animal groups. 1. birds 2. fish 3. land animals, etc.	Text: Concepts in Science-Grade 4. Rec. 01 Bird Songs Rec. 111 World of Nature Filmstrips: F-S104 National Wildlife Fed. TR4 Migration Routes in U.S. TR7 Birds of the Woodland FLP-7 Bird Life
13. How are living things adapted to their environment?	Correlate research with art, language arts, social studies in research groups to continue work on Big Book Project and individual investigation to build career awareness. Filmstrip and film-view and discuss. Field trip-VPI or Radford College(Geology Dept.)	P18 Sounds in the Woods P24 Common Land Birds of North America F-S76 Animals and Plants of the Forest F-27 Wildlife Conservation Today Field trip-VPI or Radford College(Geology Dept.)

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATEIAL
14. What part is man playing in the conservation of wildlife?	Invite older people in community to school to share with students changes in natural resources of land and animals during their lifetime.	Order copies of The State of Virginia's Environment an analysis and recommendation by the Governor's Council on the Environment, Richmond, Va.
15. What careers are related to wildlife conservation?	Chart and map activities will be based on geographical areas, migration and cycles included in study and research.	Work and art materials: Paper(colored and white) Crayons Magic markers Tempera paint Cardboard
	Invite county game warden and agent to present ideas of jobs and responsibilities in wildlife conservation.	County Game Warden Industry Environment Virginia Governor's Office Division of Industrial Development State Office Building Richmond, Virginia 23219
	Have the students read and study the magazine and books about wildlife.	Magazine: Virginia Commission of Game and Inland Fisheries. Virginia Wildlife Richmond, Virginia 23230 Books: Thompson, Ernest. Trail of an Artist-Naturalist. New York: Doubleday. Green, Ivah. Wildlife in Danger. New York: Coward, McCann, 1960.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
		Barber, Will. Winter-Sleeping Wildlife. New York: Harper and Row, 1958. Seton, Ernest, Thompson, Animal Tracks and Hunter Signs. New York: Doubleday, 1958. Hess, Lilo. The Curious Raccoons. New York: Charles Scribner's Sons, 1968. Dersal, William R. Van. Wildlife for America. New York: Walck, 1949. Barber, Will. Wildlife in America's History. Washington, Robert D. Luce, 1962. Berrill, Jacquelyn. Wonders of Animal Nurseries. New York: Dodd, Mead, 1968. Selsam, Millicent. Animals as Parents. New York: Morrow, 1965. Hornblow, Leonora and Arthur. Animals Do the Strangest Things. New York: Random House, 1964.
16. What have we learned about conservation opportunities and needs of environment?	Students read books in the library. Role playing activities to be planned by students.	Books: Hogner, Dorothy Childs. Conservation in America. Lippincott Co. New York: 1958. Smith, F. C. The First Book of Conservation. Franklin Watts, Inc. New York: 1954. Laycock, George. Wild Refuge. American Museum of Natural History, The Natural Press, Garden City, N.Y. 1969.

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CULMINATING ACTIVITY	RESOURCES AND MATERIAL
A puppet stage will be built: 1. Plays written by students on topics: a. Water Conservation b. Woodland Conservation c. Wildlife Conservation 2. Puppets made to play roles created. 3. Write stories about some of the ways man has either improved or harmed the environment for living things. Include in Big Book and individual folder collection. 4. Present interesting stories, poems and drawings of students' thoughts and conclusions. (Use bulletin board for display throughout unit for complete involvement of students. Vocabulary enrichment to be incorporated throughout study to cover broad spectrum of occupations and general terms. Students to use tapes of interviews and snapshots taken during unit development to summarize understandings and awareness of objectives. Reports and pictures may be placed on bulletin board, Big Book or individual collection folders.	Materials needed: Cardboard Cloth-needle-thread Old light bulbs or towel rolls for heads Newspapers Wheat paste or flour paste Old socks Tempera paint-brushes

S24 H45

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1. Books:

(Water and Soil)

Bauer, Helen. Water, Riches or Ruin. New York: Doubleday, 1959.

Brandwein, Paul F. Concepts in Science. New York: Harcourt, Broce and World, Inc., 1966.

Corona, Philip B., Water. Chicago; New York: Follett, 1966.

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Plough, Glenn D. Not Only for Ducks, The Story of Rain. New York: McGraw-Hill, 1954.

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Schneider, Herman and Nina. Let's Look Under the City. New York: William R. Scott, 1954.

(Woodlands)

Blough, Glena V. Look Out for the Forests, A Conservation Story. New York: McGraw-Hill, 1955.

Cormack, Marithlle B. The First Book of Trees. New York: Franklin Watts, 1951.

Cosgrove, Margaret. Wonders of the Tree World. New York: Dodd Mead and Co., 1953.

Dingledine, Jr. Barksdale, Nesbitt. Virginia's History. New York: Charles Scribner's Sons, 1952.

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(Wildlife)

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Laycock, George. Wild Refuge. American of Natural History. New York: The Natural Press, Garden City, N.Y. 1969.

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Smith, F. C. The First Book of Conservation. New York: Franklin Watts, Inc., 1954.

2. Documents:

Council on the Environment. The State of Virginia's Environment. An analysis and Recommendation by the Governor's Council. Richmond, Virginia 23219.

Division of Industrial Development, State Office Building. Industry Environment Virginia. Richmond, Virginia 23219.

U. S. Department of Labor. Bureau of Labor Statistics. Washington, D. C. 20213. Conservation Occupations, 1972.

Washington, D. C., Department of Interior. Career Employment in the National Park Service, 1961.

3. Magazines:

Virginia Commission of Game and Inland Fisheries. Virginia Wildlife. Richmond, Virginia, 23230.

4. Filmstrips:

(Water)

F-S-105 Pollution
F-S-26 Water Conservation
F-S-7 Moisture and Precipitation in the Air
F-S-86 Why Does It Rain, Snow, Hail and Sleet?
F-S-88 The Story of Rivers

(Woodlands)

F-A32 Forests-A Renewable Resource
F-S89 Story of Mountains Resource
F-S66 Telling Trees Apart
F-S21 Forests Conservation

(Soil)

F-S90 Soil is for Growing
F-S77 How Soil Is Formed
F-S24 Soil Conservation Today
F-S22 Land Conservation Today

(Wildlife)

F-S104 National Wildlife Federation
F-S76 Animals and Plants of the Forest
F-S27 Wildlife Conservation Today

5. Films: (Radford College Film Library)

   What Makes Rain (McGraw)
   Water Cycle (EBF)
   Water for the Community (Coronet)
   Water Purification (AIMS)

6. Transparencies: (School Library)

   TR S21-2 The Water Cycle
   TR 858-3 Erosion and Sedimentation

7. Film Loop: 7 Bird Life

8. Records: (School Library)

   08 01 Bird Songs
   079 Songs of America
   080 Patriotic
   083 Strike Up the Band
   111 World of Nature
   115 Sounds of Animals

C A R E E R E D U C A T I O N P R O G R A M

R A D F O R D C I T Y S C H O O L S

UNIT TITLE: TELEVISION

APPROXIMATE GRADE LEVEL: GRADE 4

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

PROJECT COORDINATOR: RANDY WRIGHT

THE CAREER EDUCATION PROGRAM
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INTRODUCTION TO: Television

Television is a very important means of communication in the life of students today. An appreciation of the many skills needed in its development and productions is the aim of this unit.

A wide scope of learning experiences may be incorporated in the development of the unit, such as, art, science, language arts, social studies and music, with as much creativeness as possible.

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BROAD OBJECTIVE: To help children learn the various kinds of skills, talents and careers used in the television industry.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. How does television get into our homes?	Study units 1 and 2 in Science Concepts Grade 4	Text: Science Concepts Grade 4
	View filmstrips.	
	Have individual students or small groups set up investigations and experiments in: Unit 1 The Bounce of Sound Unit 2 The Bounce of Light	School Library: F S47 An Introduction to Sound. F S45 An Introduction to Light
	Review basic concepts of electricity. Show filmstrip.	F S83 Electricity-How Electricity Helps Us
2. What people make it possible for us to enjoy television?	Invite a local TV repairman to come to classroom and talk to students about the role of TV repair services and demonstrate with some of the tube testing equipment.	Resource person: TV repairman.
	Individual and group research on areas of interest motivated by repairman visit. Report topics: The Vacuum Tube; Television Tubes; Coil; Detectors; Live Plug; Antenna; Transistor; Speaker; Headphones.	Library resources and encyclopedia research.

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Large chart to be made by students depicting occupations related to TV service and production.	Poster board Art materials
	Bulletin board developed by interest groups.	
	Pictures collected concerning world of television to be used in scrapbooks, reports, bulletin board display, etc.	Art Material Old magazines
3. Why do we have television networks?	Take a field trip to TV station WBRA	Field trip: WBRA
	Class plan interviews for students to have with workers in TV station.	Tape recorder Camera
	Discuss field trip observations.	
	Have oral reports on specific questions students had in interviews.	
4. What careers are found in television industry?	Students list careers that would be associated with the industry. Examples of careers students may become aware of: TV Salesman TV Repairman TV Installer	Research from sources including encyclopedias, FCC pamphlets and interviews.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Business Management Accountants Typists Stenographers Clerks Messengers Ticket Manager Schedule Manager Commercial Layout Tech. Time Salesman Stage Manager Floorman Set Designer Scenic Designer Sound Effect Tech. Broadcast Tech. Development Engineer Make-up Tech. Actor-Actress Producer Announcer Cameraman Technical Director Audio Engineer Scriptwriter Lighting Engineer Chief Engineer Film Editor Program Director Station Manager Newscaster Newswriter Education Director Public Affairs Director	

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
5. What talents do I have that may fit into the work of television?	Divide into interest groups or in teams of 2.	
	Create presentations for role playing.	
	Build large TV screen for presentations.	Large refrigerator cardboard box.
	Make occupation packs for various jobs and TV careers.	Art materials Paint Paint brushes, etc.
	Write scripts, cue cards, news reports, weather reports, plays, advertisements, sports specials, etc.	Collection of objects and materials for forming occupation packs brought from home or other community sources by students and parents.
	Role play live productions to interested audience with lots of practice. Include as many areas of jobs in TV work and entertainment as possible for fun and development of understandings.	Resource books in library: Gould, Jack. All About Radio and Television. Dudey, Nancy. Linda Goes to a TV Studio. Buchheimer, Haomi. Let's Go To A TV Station. Brandwein, Paul F. Concepts in Science.
	Students read books about radio and TV.	
	Have students use the occupation packs to role play various careers in TV and radio industry.	

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Gould, Jack. All About Radio and Television. E. M. Hale and Company. Wisconsin: 1958.

2. Filmstrips:

FS47 An Introduction to Sound.

FS48 An Introduction to Light.

FS83 Electricity-How Electricity Helps Us.

C A R E E R E D U C A T I O N P R O G R A M

R A D F O R D C I T Y S C H O O L S

UNIT TITLE: THE WORLD OF WORK

APPROXIMATE GRADE LEVEL: GRADE 4

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

PROJECT COORDINATOR: RANDY WRIGHT

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INTRODUCTION TO: The World of Work

This World of Work unit is designed for the fourth grade class as an introduction to the different types of work available.

The children will get an over-view of many types of occupations and the qualifications necessary to do the work. Each child will begin to think about the types of jobs which interest him.

MOTIVATING ACTIVITIES	RESOURCES AND MATERIAL
How many different jobs can you list?	Pre-inventory. Child lists all jobs he can recall to be compared at end of year with a similar list. Art project - drawings and cut and paste pictures of mom or dad at work.
THIS IS MY LIFE unit's Culminating Activity series as a motivating activity if these units are taught in sequence.	

BROAD OBJECTIVE: To help children become aware of the world of work.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What talent do I get from mom and dad?	View filmstrip, "What Else Do Mothers Do?"	Filmstrip: "What Else Do Mothers Do?" ECF202(The Wonderful World of Work Series 4-6)
2. What does your mother do?		
3. What does your father do?	Filmstrip-view and discuss.	Filmstrip: "What Else Do Fathers Do?" ECS201(The Wonderful World of Work Series 4-6)
	Discussion of what the students' fathers do.	
4. What do other people do?	Take picture of parent at work.	Camera-film
	View and discuss filmstrips on jobs.	Filmstrip:(A778-3) "What Is A Job"? SVE(SRA) "What Are Job Families"? (A778-4) SVE(SRA)
5. What jobs interest you?	Children bring in pictures and clippings for bulletin board over display.	Pictures of workers.
6. How many jobs can you list? Parents' jobs may be used here. Each child may interview parents about their work and make up their own skit to play that role in school.	Continued on individual basis.	Filmstrips:(ECF204-213) 204-Electrical Services 205-Gas and Oil Services 206-Telephone Services 207-Transportation 208-Manufacturing 209-Personal Services 210-Commerce
	View filmstrips related to their interest area. Have tour of library for sources of material.	

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Children were interviewed by class on jobs of parents.	211-Natural Resources 212-Instrumentation 213-Chemicals Library tour-Librarian
7. What do(_____) do? (role models representing interests of the interest groups) a. likes and dislikes b. hrs. and wages c. qualifications d. tie-in with education and specific subjects.	Bring role models(representing interest area) to be interviewed by the class.(Group method)	Role models from the community.
	Encourage role models to invite children to watch them at work. Take photo.	Camera Film Individual field trips-bus tours to view jobs and work in community of school and throughout the city.
	Each interest group construct shadow box scene.	Boxes and trivia
	Each interest group pantomine/ role play jobs in interest area. Alternative method: Audio-visual center for small groups and individuals may be used to view filmstrips and conduct research on job areas available. Each interest group compile a summary of that group's experiences. If there is an interest group related to secretarial work, that group could duplicate and distribute the summary reports. These reports	

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	could be added to each child's career booklet.	
	Individual reading.	Books: I Want To Be Books by Carla Greene(K-4)42 titles-1st grade Let's Go Community Books (2-4 reading level)19 titles. Let's Go Business and Industry (2-4 reading level)7 titles. Let's Go Transportation and Communication (2-4 reading level)6 titles. Let's Go To A Fish Hatchery Let's Go To A National Park What Does A Do (4-6 reading level)5 titles.
	Throughout entire unit the available books may be checked out for interest.	
	Parents may be invited to visit class and share their talents for a particular area of work.	From Occupational Information Materials Project in Ga. The Making of Grandpa's Patriotic Teeth Johnny and the Park Ranger My Sister Is A Dental Assistant Susie Two, The Shirt Maker Plus Uncle Is A Welder My Daddy Is An Ambulance Driver My Mother Is A Practical Nurse

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I Know a books. Putnam.

Let's Go books. Putnam.

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Our Working World: Families at Work. SRA, 1964.
Our Working World: Cities at Work. SRA, 1966.

Shay, Arthur. What Happens books. Reilly and Lee.

Wilkinson, Jean. Come to Work With Us books. Sextant Systems.

2. Filmstrips:

"The Wonderful World of Work series, 4-6." Denoyer-Geppert, 1969.
"Foundations for Occupational Planning" series. SVE, 1969.
"Community Workers and Helpers" series. SVE, 1971.
"Workers" series. Coronet, 1972.
"Community Helpers" series. Educational Reading Services, 1969.
"Workers for the Public Welfare" series. Eye Gate, 1961.

3. Study Prints:

Neighborhood Friends and Helpers. SVE, 1965.
Modern Workers, Set 1 and Set 2. Owen, 1967.
Community Helpers-Picture Packet. Standard, 1966.
Community Friends. Beckley-Cardy.
Community Friends. Instructo.
People We Know. Instructo.

4. Kit:

Focus on Self-Development, Stage Two: Responding. Science Research Associates, 1971.

5. Briefs:

Occupational Briefs. (400 titles) SRA, 1968-72.

C A R E E R E D U C A T I O N P R O G R A M

R A D F O R D C I T Y S C H O O L S

UNIT TITLE: JOBS IN VIRGINIA

APPROXIMATE GRADE LEVEL: GRADE 4

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

PROJECT COORDINATOR: RANDY WRIGHT

THE CAREER EDUCATION PROGRAM
THE RADFORD CITY SCHOOLS
1612 WADSWORTH STREET
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INTRODUCTION TO: Jobs In Virginia

This unit is designed for the fourth grade class. Since they study the history of Virginia, this unit on Jobs in Virginia will correlate very well with the subject matter. The unit will give an over-view of job opportunities in Virginia which stem from geographical factors of the State.

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BROAD OBJECTIVE: To help the children become aware of job opportunities that stem from geographical factors in Virginia.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What job opportunities would be found in the mountains and valley?	Bulletin board showing: coal mining coal trains and trucks farming different industries (foundry- textile, furniture, chemicals, quarrying, etc.) recreation-forest ranger, naturalists, geologist, archeologist.	
	ITV lesson(video taped) on coal fields and filmstrip.	ITV lesson from Geography of Va. Lesson No. 25(Coal Fields) Filmstrips: "Mining and Industry" Coronet "Fishing and Mining-Two Extractive Industries"
	Individual reading	Books: "Forests-A Renewable Resource" I Want To Be A Coal Miner Children's Press Markun, Patricia, The First Book of Mining, Watts, 1959. Caudill, Rebecca, My Appalachia, Holt, Rinehart, and Winston, 1969. Brooks, Maurice, The Appalachians, Houghton Mifflin, 1965.
	Field trips to Blue Ridge Parkway-interview park ranger and naturalist.	Field trip-Blue Ridge Parkway

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Construct models of different kinds of mines, furniture, etc.	Material for models
	Role play(miner, trucker, forest ranger, etc.)	
	Field trip to Pocahontas Exhibition Mine(if field trip impossible, order pictures and written information to look over and study).	Field trip-Pocahontas Exhibition Mine or pictures and written information.
	Archeologist bring artifacts to school.	Archeologist
2. What job opportunities would be found in the Piedmont section?	Bulletin board showing tobacco farming, furniture making, textile industry, chemical industry.	
	Take field trips to a furniture factory and a textile industry.	Field trips-furniture factory and textile industry.
	Show film on Virginia's agriculture.	Films:(From regional film library) Education Motion Pictures for Virginia's Public Schools: "New Fields in the Old Dominion"
	Show ITV lessons on Piedmont industry and agriculture (video taped)	ITV Lessons from Geography of Virginia Lesson No. 17
	Have models of tobacco farm, curing, manufacturing cigarettes	

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
3. What job opportunities would be found in the Tidewater section of Virginia?	Bulletin board showing commercial fishing, naval training station, shipyards, Virginia beach, tourist business, military posts, peanuts and hogs.	
	See video-taped ITV lessons on the Eastern Shore and ports and shipbuilding.	ITV lessons from Geography of Virginia, (from WBRA TV in Roanoke) Lessons No. 4,5,11,12
	View films about the commercial fishing industry, naval training station, and the shipyards.	Films from Educational Motion Pictures for Virginia's Public Schools 1. Marine Invertabrates of the Chesapeake Bay 2. Commercial Fishing in the Chesapeake 3. Shell fishing in the Chesapeake Bay 4. Virginia's Fishing Industry 5. The Oyster and Virginia
	View filmstrip on Chesapeake Bay.	Filmstrip: 250-5 SVE The Chesapeake Bay Area: A Case Study
	Suggested creative writing: motivated by reading poems about ships and the sea; some children could draw large pictures of ships while others write poems.	Drawing paper.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Construct models or displays of shipyards, naval training station, bay-bridge tunnel, large bridges.	Scrap lumber Clay Play dough Elmer's glue Boards/cardboard
	Use sea shells to make ornamental plaques.	Seashells(children bring)
	Role play commercial fishing.	
	Songs-introduce and sing.	New Music Horizons, Silver Burdette. "Down in a Coal Mine" "Freight Boats" "Men at Work" "Peanut Picking Song" "Rich Harvest"
	View filmstrips about Virginia	Filmstrips: Industry and Commerce in Virginia Agriculture in Virginia
	Map activities: Figure distances from Radford to other places in the state.	Road maps of Virginia for each child.
	Make relief maps of Virginia (individual projects)(2 parts flour, 1 part salt, enough water to mix). Paint the Tidewater, Piedmont, Mountains and Valley different colors.	Materials: Wax paper(to trace outline) Flour Salt Cardboard Paint

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CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Make an industries map of Virginia(class project).	Magazine cut-outs Poster board
	Mural showing industries and jobs in Virginia in the three sections.	Roll of paper.

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Let's Go Community Books (2-4, 19 titles)

Let's Go Transportation and Communication Books (2-4, 6 titles)

Let's Go To A Fish Hatchery

Let's Go To A National Park

2. Filmstrips:

This Is Your Life
The World of Work
Jobs in Virginia

SRA:

A Very Important Question, Focus on Self-Development Kit, Responding, Stage 2.

What Else Do Mothers Do? (ECF202) (The Wonderful World of Work Series, 4-6)

What Else Do Fathers Do? (ECF201) (The Wonderful World of Work Series, 4-6

What Is A Job? (FSA778-3)

What Are Job Families? (A778-4)

Services: Electrical, etc. ECF 204-213

Mining and Industry Coronet
Fishing and Mining-Two Extracting Industries

Filmstrips - Continued

SVE 250-255

The Chesapeake Bay Area: A Case Study
Industry and Commerce in Virginia
Agriculture in Virginia

3. Films:

(Regional Film Library) Educational Motion Pictures for Virginia's Public Schools:

New Fields in The Old Dominion

Marine Invertabrate of the Chesapeake Bay

Commercial Fishing in the Chesapeake

Shell Fishing in the Chesapeake Bay

Virginia's Fishing Industry

The Oyster and Virginia

C A R E E R E D U C A T I O N P R O G R A M

R A D F O R D C I T Y S C H O O L S

UNIT TITLE: WHO WORKS FOR THE CITY

APPROXIMATE GRADE LEVEL: GRADE 4

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

PROJECT COORDINATOR: RANDY WRIGHT

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INTRODUCTION TO: WHO WORKS FOR THE CITY

Who Works For The City is a unit designed for nine to eleven year old children. This unit specifically defines the framework of a city-manager type of government and explores job opportunities within that framework.

OBJECTIVES

1. The student will identify what constitutes a city and the basis for Radford's government, the charter.

2. The student will become aware of the interdependence of people and their need for government.

3. The student will become aware of divisions of the governmental organization of his city.

4. The student will identify the qualifications and responsibilities of the elected and appointed jobs available in the city's government.

5. The student will become cognizant of the economics involved in the operation of a city government.

6. The student will identify himself with services provided by the city.

7. The student will recognize his own responsibility as a citizen of his city.

8. The student's growth in self-discipline will be evidenced by his ability to keep materials together over a period of time and to organize these materials into a meaningful booklet.

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. Where do you live?	Slide presentation of Radford.	Slides from Radford High School library.
2. What is a city?	See filmstrips Read definition of a city in the Constitution of Virginia.	Filmstrips: Understanding Your Community - Series, Eye-Gate, 1971. Constitution of Virginia (Articles)
3. What is a charter?	Read and discuss.	Constitution Dictionary
4. Why do we need a system of government?	Detailed discussion	Text: The Social Sciences, Grade 4, Harcourt Brace, 1970.
5. What form of city government does Radford have?	Read and discuss.	Charter of the City of Radford.
6. What divisions are there in the government organization? A. Elected 1. City Council 2. Commissioner of Revenue 3. Clerk of the Court 4. Commonwealth Attorney 5. City Treasurer 6. City Sheriff	Make a chart of government organization for a large bulletin board - with plenty of room to add information about duties and qualifications of each position as the information is obtained. Make individual charts. Show film.	Film: Our City Government, Film Associates, 1966.

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CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
B. Appointed by City Council 1. City Manager 2. City Clerk and Auditor 3. Municipal Judge 4. City Attorney 5. City Physician 6. City Magistrates 7. Boards and Commissions a. School Board 1. Superintendent 2. Teachers b. Library Board c. Recreation d. Board of Zoning Appeals e. Interracial Council f. Child Care Board		
C. Appointed by the City Manager 1. Transportation a. Bus b. Shop 2. Utility Billing 3. Fire 4. Water a. Sewer b. Filtration Plant	Study the techniques of a good interview. Role playing - practice interviewing for the various jobs.	Exploring in English, 4 Laidlaw, 1972.

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CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
5. Custodian 6. Engineer 7. Police 8. Electricity 9. Streets a. Sewage Collection b. Refuse Collection 10. Animal Control 11. Storekeeper		
7. What are the duties and qualifications of each of the city employees?	Committees formed to investigate (1) elected positions, (2) council appointed positions, (3) boards and commissions, (4) City manager appointed positions,(4 jobs), (5) City manager appointed positions (4 more jobs). Investigate by: 1. Interview - in the classroom, or on the job with tape recorder or video tape recorder. 2. Read the City Code 3. Read the City Charter 4. Report to the whole class their findings and assemble this information on the class bulletin board.	Code of City of Radford, Virginia Charter of City of Radford

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CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	5. On an individual basis, students will make a booklet containing data on the city, its employees, and current news items. Materials for booklets could be kept in individual folders in a filing box until all material is assembled.	Folders Filing box (cardboard box) Newspapers: The Radford News Journal The Radford Messenger The Roanoke Times
	6. Field trip to City Council Meeting, Municipal Building, Jail, Filtration Plant.	
	7. See Film Loop.	Film Loop: City: Occupations, Singer.
	8. See Filmstrips.	Filmstrips: Workers for the Public Welfare series, Eye Gate. People Who Help You series Scott, 1972. Community Workers and Helpers series, SVE, 1971. (with cassette)

CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	9. Listen to records	Records: Classroom Journeys series, Educational Reading Services, 1971.
	10. Show films.	Films: Cities and Government - Governing Our Local Community, (47904 Cities and Protection - Protecting Lives and Property, (82004) Our City Government (41904)
	11. Read in library books	Books: see bibliography
8. Where does the city acquire the money to pay these employees?	Resource person	
9. How is the money apportioned?	Resource person Show film	Film: Our Community Services, (61409) Our Community, EBF, 1952. (84304)

CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
10. What services do you and your family receive from the city government?	At school, child makes list of services. At home he goes over the list with parents and adds to list. Check list in class and complete. Add to child's folder. Make class chart.	
11. What is your responsibility as a citizen of Radford?	Child and his parents discuss and list their responsibilities as citizens of the city. Add to folder. Class chart.	
	Make covers and assemble booklets.	Construction paper.

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Brindge, Ruth. All About Courts and the Law. Random, 1964.
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2. Documents:

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Code of the City of Radford, Michie City Publishing Co., Charlottesville, Virginia, 1969.

3. Filmstrips:

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4. Films:

(Educational Motion Pictures for Virginia Public Schools)
Cities and Government - Governing Our Local Community (47904)
Cities and Protection - Protecting Lives & Property (82004)
Our City Government (41904)
Our Community (84304)
Our Community Services (61409)

5. Film Loop:

City: Occupations (Singer) CFL-2
City: Policeman (Singer) CFL-3

6. Newspapers:

Radford Messenger
Radford News Journal
Roanoke Times

7. Record: (School Library)

Classroom Journey Series

C A R E E R E D U C A T I O N P R O G R A M

R A D F O R D C I T Y S C H O O L S

UNIT TITLE: EATING OUT - THE RESTAURANT

APPROXIMATE GRADE LEVEL: GRADE 4

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. BUTROUGH, SUPERINTENDENT

PROJECT COORDINATOR: RANDY WRIGHT

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INTRODUCTION TO: EARING OUT - THE RESTAURANT

This unit on eating out is designed for nine to eleven year old children. It is designed to teach the student the nutritional value of a properly balanced daily diet and to enable him to select a balanced diet. It will include the importance of a congenial atmosphere and good table manners. He will have the opportunity to become aware of the career opportunities available in the restaurant business and to evaluate his preference and suitability for one of the occupations.

OBJECTIVES:

1. The student will identify the four basic food groups and the nutritional requirements of a daily balanced breakfast, lunch, and dinner meal.

2. The student will discover his own body's need for nutrients. Hopefully, this will motivate him to select a balanced diet for consumption, when given the opportunity.

3. The student will udnerstand the value and importance of a congenial atmosphere during a meal and his part in providing that atmosphere.

4. The student will learn appropriate table manners and their value in a variety of situations.

5. The student will discover occupational information about the various jobs in a restaurant.

6. The student will become aware of the economics involved in operating a restaurant.

7. The student will become involved in decision making by choosing foods for diets and by choosing his job roles in the activities of the unit.

8. The student will relate the school curriculum to the requirements of the jobs in a restaurant.

9. The student will become aware of the importance of each work role portrayed in the operation of a restaurant.

10. The student will recognize the importance of punctuality, responsibility and following directions.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What do you eat?	Keep a record of everything eaten for three days (on an individual basis).	
2. What are the requirements of a balanced diet? A. What are the four basic food groups? B. Which foods belong in the meat group? in the bread and cereal group? in the fruit and vegetables group? in the milk group?	1. Read in a text. or 2. Research in a source book 3. Make bulletin boards of the four food groups. 4. View film 5. Related filmstrips on producers of foods can be available for learning centers.	Text: Laidlaw, Health, 4, Chapter 8. Magazine pictures Charts from the Dairy Council Film: Eat For Health, EVF, 1958. Filmstrips: Dairy and Beef Cattle, (Agriculture and Industry series) Educational Reading Service, 1969. Filmstrips and Cassettes: Living on a Farm series, Coronet, 1972 A Cattle Ranch, A Dairy Farm, An Egg Farm, A Fruit Farm, A Vegetable Farm. The Foods We Eat series, SVE, 1971: How We Get Bread, How We Get Fruit, How We Get Meat, How We Get Milk, How We Get Poultry and Eggs, How we Get Vegetables.

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
3. Why does your body need nutrients?	Reports and discussion on proteins, carbohydrates, minerals, and vitamins.	Library books Text: Laidlaw, Health 4, Chapter 9. Study Prints: Food and Nutrition, David C. Cook, 1966.
4. Did you eat a balanced diet each of the three days you kept a record?	Student assigns each food he ate to a food group and decides if he had a balanced diet each of the three days.	
5. Which foods do you enjoy eating for breakfast?	Itemize foods children eat at breakfast. From their suggestions set up 2 or 3 balanced breakfasts.	
6. Why is breakfast important?	Read in a text or research from the library. Dramatize a story about a child who did not eat breakfast and one who did.	Text: Laidlaw, Health 4, Chapter 8.
7. What makes a good lunch?	Children plan a balanced school lunch with the help of the school dietician or previous school menus.	Resource person: School dietician

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
8. Do you eat a balanced lunch?	Form an A+ Lunch Bunch. Make an A+ Lunch Bunch bulletin board. If the child eats all his lunch each day, he puts on the bulletin board a 2" x 3" tray (construction paper) with his name on it. This can be done daily for a period of 2 or 3 weeks. Hint: Make a master of the trays and run off on the ditto, one sheet of construction paper at a time.	Construction paper.
9. What makes a good snack?	Class discussion which stresses nutritional snacks eaten at the proper time. List foods good for after school snacks and assign each to a food group. (Soft drinks will not fit a food group.)	Text: Laidlaw, Health 4, p. 128-29.
10. What's for dinner?	Each child can make a balanced menu and make a small poster of it. He could either draw or cut out pictures of the foods.	Magazines Food charts Poster board or drawing paper.
11. How can you make dinner a pleasant time?	Class discussion. List points developed from discussion. Points to be stressed: good table manners at home, school, and public	

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	dining: learning to eat new foods; pleasant conversation; not using dinnertime as a "family troubles" time .	
	Use filmstrip and record on manners.	Filmstrips and records from Learning About Manners Series, SVE: CFL4 Manners at Home. CFL5 Manners at School.
	Role play dinner conversation.	
12. Where else do we eat?	Discussion about different types of eating out: at grandmother's, at a friend's house, at a drive-in, and at a restaurant. Lead the discussion toward the restaurant and the jobs available in a restaurant.	
13. What are the jobs in a restaurant?	List jobs available and make plans for resource people, preferably from the families of the students.	Resource people: waitress, cook, chef, dishwasher, manager, hostess, cashier, busboy.
14. How do we interview our resource people?	Individuals should start to develop a list of questions they want to ask and add to the list as they learn more about the jobs.	Text: Exploring in English, Laidlaw, 1972, p. 32.
	Role play interviewing for practice.	

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
15. What is it like to be a _____? (waitress, chef, waiter, cook, cashier, dishwasher, etc.)	1. View filmstrips 2. Listen to cassettes.	Filmstrips: My Mother Is A Waitress. (Mothers Work, Too series) IFC, 1968. The School Cafeteria Workers (Occupational Education series) Eye Gate, 1965. The Waitress (Occupational Education series) Eye Gate, 1965. Filmstrips and Cassettes: Workers Who Provide Food (Workers series) Coronet, 1972.
	3. Read books.	Books: See Bibliography
	4. Interview resource people by bringing them into the classroom, by field trips to a restaurant, or on-the-job interview by tape recorder or video-tape recorder.	Resource people: Waiter Waitress Chef or Cook Hostess Cashier Busboy Dishwasher

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
16. What is the role of the manager/owner? A. What is profit-margin? B. Why does a restaurant manager buy from a wholesaler? C. What determines the amount of food to be bought and prepared? D. How are salaries determined? What part does tipping pay?	Interview restaurant manager.	Restaurant manager or owner Elementary Economics Guide, Grade 4.
17. What does it cost to eat out?	Examine a restaurant menu. Determine the difference in the cost of a restaurant meal and the same meal prepared at home.	Resource person: A mother, or each child's own mother.
18. Shall we eat out?	Create a restaurant in the classroom, school lunchroom, or wherever space is available.	
	1. Students assume roles of all workers in the restaurant. They could apply for the jobs.	Application forms.

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	2. Students plan the menu for a meal (breakfast is suggested)	
	3. Students consult with school dietician for purchase of food, figuring the cost to determine the prices of items on the menu, and the amounts needed.	Food purchased by the school cafeteria from school funds.
	4. Students can make their own place mats and set the table.	Construction paper Crayons Magazine pictures.
	5. Students in their chosen roles prepare and serve the meal-to themselves-and clean up.	Materials will depend on the meal planned. Play money is suggested for paying the cashier.

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Film:

Eat for Health, EVF, 1958. (55204)

Filmstrips: (directly related to unit)

1. Food We Eat series (with cassettes)
   How We Get Bread
   How We Get Fruit
   How We Get Meat
   How We Get Milk
   How We Get Poultry and Eggs
   How We Get Vegetables

2. Learning About Manners series SVE, 1970.
   Manners at Home (with record)
   Manners at School (with record)

3. Occupational Education series, Eye Gate, 1965.
   The School Cafeteria Worker
   The Waitress

4. Workers series, Coronet, 1972.
   Workers Who Provide Food

Filmstrips: (indirectly related to unit)

Dairy and Beef Cattle (agriculture and industry series, ERS, 1969.
Living on a Farm series, Coronet, 1972 (with cassettes)
5 Titles

Study Prints:

Food and Nutrition, David C. Cook, 1966. (12 pictures)

C A R E E R E D U C A T I O N P R O G R A M

R A D F O R D C I T Y S C H O O L S

UNIT TITLE: THE TELEPHONE INDUSTRY

"WIRES THAT TALK"

APPROXIMATE GRADE LEVEL: GRADE 5

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

PROJECT COORDINATOR: RANDY WRIGHT

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INTRODUCTION TO: The Telephone Industry
Wires That Talk

Children at fifth grade level are normally becoming very conscious of, and curious about scientific developments and technological advancement. It is hoped that this natural curiosity, interest, and understanding can be harnessed and channeled through this unit in such a way that they will grow in concepts, skills, and appreciations.

Hopefully, the students will become aware of the fact that the telephone industry has played an important role in our society's growth, that it is an integral part of our lives now, and is continuing to contribute to future developments.

At the conclusion of the unit the children should realize that there are many and varied work roles in the telephone industry and that it may hold for them possible future employment.

MOTIVATING ACTIVITIES	RESOURCES AND MATERIALS
Why is the telephone industry important in modern society? Discussion Teacher will show pictures demonstrating the basic needs of our society and conduct oral discussion of the part the telephone plays in the satisfaction of these needs.	

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BROAD OBJECTIVE: To help children become aware of the part the telephone industry plays in our society.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. How does the telephone help in the satisfaction of the basic needs of our society?	List orally the basic needs of our society.	
	Make notes of all phone calls received at home one afternoon and night and classify according to needs they met.	
	Interview parents concerning kinds of calls they made during the day. What goods and services were asked for?	Parents
	Write a skit, "The Day the Telephones Went Dead." a. teacher tell first about N.Y. City's blackout. b. children discuss things that would happen.	
	Role play the above skit.	Play telephones
	Show filmstrip, "The Telephone" (Coronet)	Filmstrip: The Telephone" (Coronet) Projector
	Read poem "Eletelephony" and put to music.(Either original tune or adopt to another tune)	Childcraft Piano
	Show film-Here is Tomorrow	Film: Here is Tomorrow C&P Tele. Co.

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CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Write telephone conversation for the following, and role-play: a. giving a grocery order b. taking a message c. calling someone for your parents. d. checking a bus schedule e. calling a schoolmate for an assignment.	Language text-Our Language Today "Writing Conversation" p. 33-34
	Teacher call out impromptu assignments for making and receiving calls and let children role-play.	Play phones
	Construct a telephone booth from a refrigerator carton. a. measure b. figure cost of materials and labor in real life.	Refrigerator carton Masking tape Cold water paint Cellophane Yardstick Big paint brushes Glue Plastipak
	List cooperatively the different areas of usage of the phone: a. personal b. business c. emergency d. information	
	Show films: Crossroad Conversations	Films: (From C&P Tele. Co. Cables Across the Chesapeake

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIALS
	Work in groups and act out sample situations and telephone conversations for each category.	
	Make a list of rules of etiquette to be used in telephoning. Role play the rules of etiquette. Learn the telephone greetings around the world. Mimeograph world maps and have children locate the place of the different greetings.	Language text, Sharing Ideas- Grade 6, p. 85-87 World Book - Vol. 19
	Make a bulletin board showing the caller and string lines going through the switchboard to various areas of service. Make collages showing people served by telephone.	Bulletin board Small doll String Magazines for pictures Small thin box(1" thick)
	Make a board picture showing kinds of terrain the telephone lines cover - a. mountains b. residential areas c. shopping areas	
	Make shadow boxes showing kinds of terrain the telephone lines cover, putting in poles and wires.	Shoe boxes Construction paper Glue Crayon, string

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BROAD OBJECTIVE: To develop increased understanding of the interdependence of society and the telephone industry.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. How are people, places, and things in Radford and the people involved in the telephone industry dependent upon each other?	Children bring in newspaper clippings to illustrate any way the phone might have played a part in the development of events in the story.	Newspaper clippings.
	List industries in Radford and write paragraphs explaining how they use the telephone.	
	Make a telephone directory of the people in the room - a. set up printing company 1. sell advertisements 2. contract for printing 3. circulate directories 4. design cover 5. organize advertising into yellow pages.	Tagboard Typing paper White construction paper Yellow unruled paper
	Have rescue squad chief or policeman talk to children about the types of calls they get.	Chief of rescue squad or Chief of Police
	Invite telephone operator to tell about some types of long distance calls she has handled and the problems involved.	Telephone operator.

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Make a model of the telephone building from cardboard boxes.	Cardboard boxes. Masking tape. Clear cellophane.
2. How does the telephone industry affect the local economy?	Bring old telephone bills from home and work with the mathematics involved in compiling the total bill.	Old telephone bills. Math text
	Make imaginary long-distance calls and figure the cost.	Play phones.
	Invite local business manager or plant manager to school to explain the various facets of the cost involved in telephone service.	Business Manager
	Write "Thank You" notes to visitor.	Stationery. Language text-p. 40, 311, 337 Our Language Today
	Original poems may be written by students on subject of telephone.	

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BROAD OBJECTIVE: To promote a respectful attitude toward all kinds of work and to enable the students to identify the careers that can be considered a part of the telephone industry, recognizing the positive and negative factors in all types of work.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What different kinds of occupations are involved in the telephone industry?	Take a field trip to the telephone building to find answers to the question in the left column.	Bus and driver. Parents to accompany us.
	Take a field trip to the telephone maintenance headquarters.	
	Follow up field trip by making charts to show involvement by clusters: business, construction, transportation, manufacturing, marketing and distribution, communication, etc.	Poster board. Magic marker. Magazines Manila paper. Crayons Glue
	Learn the occupations listed in the above activity, and their spelling.	
	Read World Book on telephone "Career Opportunities", p.84D	World Book - T - p.84D
	Make pictures of workers in their work settings (Use tempera for backgrounds)	Manila paper. Tempera. Study print: Telephone man Telephone lineman
	Make a collage showing workers named above. Listen to cassettes. Show filmstrips.	Magazines Glue Manila paper Cassettes: Telephone Craftsmen Alex.Graham Bell Linemen Filmstrips: Telephone Workers Telephone Services

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Invite retired telephone operator to talk to children to compare work experiences in the past with those of the present.	Telephone operator.
	Make survey of the class as to related parental occupations.	
	Show filmstrip, "The Telephone"(Coronet)	Filmstrip: "The Telephone" by Coronet
	Invite telephone lineman into class to talk about his work and to demonstrate the equipment he uses.	Resource person-Telephone Lineman. Lineman equipment.
2. What are the advantages and disadvantages of working in the telephone industry?	Discuss the question.	
	Write paragraphs stating choice or rejection of employment in this area and give reason.	Textbook, "Our Language Today" p. 33, 108, 169, 155-159
	Make "good" and "bad" charts showing the above. (Children paste on charts)	Tag board Crayons Magic marker
	Discuss the implications of weather patterns on the industry.	
	Invite a troubleshooter into the class to describe his work, and relate it to good and bad features of his job.	Telephone Company employee (Troubleshooter)

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BROAD OBJECTIVE: To help children understand the part that growth and sophistication of society have played in technological development and work roles.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What were the circumstances surrounding the invention of the telephone? Who invented it? How did he go about it?	Child read to the class during after-lunch period, "Mr. Bell Invents the Telephone" (Barbara Cox)	Book: "Mr. Bell Invents the Telephone" (Barbara Cox)
	Read and report on biographies of Alexander Graham Bell and Thomas Alva Edison.	Encyclopedias Pamphlets
	Make a model of the first telephone.	Flat board Wires Spool Nails Tin can
	Role-play the first call by Bell. Show film, "We Learn About the Telephone."	Film: "We Learn About the Telephone" (C&P Telephone Co.)
	Children read at leisure pamphlets on reading table.	All printed material available.
2. What conditions have brought about changes and improvement of telephone services and equipment?	Trace westward movement on map and relate to problem.	U.S. map Social Studies text "Living in the America's" (Index under Pioneers)
	Discuss international trade and how that caused need for improved telephone communication.	

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CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Study pamphlet, "The Telephone in America"(Barbara Cox)	Pamphlet, "The Telephone in America"
	List groups of people who use telephone for long distance calling.	
	Use wall charts "Communications Prologue to Tomorrow".	Wall charts "Communications Prologue to Tomorrow". (C&P Telephone Company)
	List as many modern advances as possible which incorporate telephone technology. a. television & radio b. space program c. satellites d. teletype e. defense(the hot line)	
3. What are the changes which have been made in telephone equipment and service?	Read and report on Trans-Atlantic cable.	Encyclopedias
	Make large diagram of simple telephone circuit.	Golden Book Encyclopedia. Book: What Makes a Telephone Work
	Examine and compare a. crank phone b. conventional phone c. modern dial phone d. push-button phone	Crank phone-Buck Sutphin Conventional phone-K. Wilson Modern dial phone-C&P Tele. Co. Push-button phone-C&P Tele. Co.

CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Draw pictures showing improvements in the telephone from 1876 to 1972. Display these.	
	Show color film, "Party Line".	Film: "Party Line".

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BROAD OBJECTIVE: To increase understanding of and appreciation for the technical skills needed in the various phases of the telephone industry.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What makes a telephone work?	Read and report on "How the Telephone Work ".	Compton's Encyclopedia
	Make phone with tin cans and string and demonstrate usage.	Tin cans String Nails
	Demonstrate sound waves with pebble in water.	Bucket Water Pebble
	Tear apart a piece of coaxial cable and examine contents.	Coaxial cable.
	Discuss wire insulation and relate to safety.	Piece of telephone wire.
	Examine phone wire.	Piece of telephone wire.
	Show film, "The Wonder of the Telephone".	Film: "The Wonder of the Telephone"-Eye Gate House 4SD
	Read pamphlet, We Learn About the Telephone.	Pamphlet: We Learn About the Telephone(one per child) C&P Telephone Company
	Read pamphlet, The Magic of Your Telephone.	Pamphlet: The Magic of Your Telephone(Sandy Davidson)

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BROAD OBJECTIVE: To keep before the children things which will foster and keep alive their interest and enthusiasm for this unit.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Make bulletin boards and wall displays with flat materials. Exhibit manipulative materials. Set up a reading table with all available books, pamphlets, etc.	

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CULMINATING ACTIVITY:

CULMINATING ACTIVITY	RESOURCES AND MATERIAL
Make a cooperating class booklet showing all people connected with the telephone industry. 1. Children draw assignment for one occupation. 2. One page to each child. 3. Page to illustrate and describe work role. 4. Group to design and make the cover.	Large piece of cardboard. Cold water paint. Masking tape. Newsprint. Magic markers. Rings to put together booklet.

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C&P Telephone Company. Ten Men and the Telephone
C&P Telephone Company. We Learn About the Telephone

3. Charts:

C&P Telephone Company. Communications Prologue to Tomorrow

4. Filmstrips:

Telephone Workers. (Wonderful World of Work series,4-6) Denoyer-Geppert, 1969.
The Telephone. Coronet

5. Tapes:

C&P Telephone Company. Your Voice is You

6. Films:

C&P Telephone Company. Cables Across the Atlantic
Crossroad Conversations
Here Is Tomorrow
We Learn About the Telephone
Eye Gate House. The Wonder of the Telephone
State Film Library. Adventures in Telezonia

7. Single Cassettes:

A Message From Hearts Content/Aleck Bell Calls a Friend. (Development of Communication series) SVE, 1971.
American Occupations Series: Telephone Craftsman/Telephone Equipment Installer.
Lineman - Cable Splicer.
Telephone Repair - Installer.
World's Great Inventors Series; Educational Sensory Programming. Alexander G. Bell.

8. Study Prints:

Modern Workers - Set 1 - Instructo Publishing. (Telephone Lineman)
Child's World. People Who Come to My House. (Telephone Man)
Standard Publishing Company. Community Helpers. Picture Packet. (Telephone Man).

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Book of Popular Science - Vol. 2
Childcraft - Vol. 1
Compton's - Vol. 22
Golden Book Encyclopedia - Books 13 and 14
World Book - Vol. 19
Young People's Science Encyclopedia - Vol. 18

BEST COPY AVAILABLE

C A R E E R E D U C A T I O N P R O G R A M

R A D F O R D C I T Y S C H O O L S

UNIT TITLE: MONEY AND BANKING

"THE MONEY GOES ROUND AND ROUND"

APPROXIMATE GRADE LEVEL: GRADE 5

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

PROJECT COORDINATOR: RANDY WRIGHT

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INTRODUCTION TO: Money and Banking
The Money Goes Round and Round

The affluency of our modern society seems to be channeling children into an unhealthy disregard for the value of money and the many agencies involved in its creation and distribution.

This unit should bridge some of the gaps in their understandings about the world of money, and the many and varied people whose work world revolves around money and banks. It should also help the students build good spending and saving habits. There should be a definite carry-over into their present and future lives.

BROAD OBJECTIVE: To help children become interested in a study of money and banking.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What do we know about money and banking?	Read together orally and discuss the pamphlet, A Visit to the Bank.	Pamphlet, A Visit to the Bank.(in Career Ed. library)
	Child "secretary" list on the board key words from the story as the children identify them.	
	Students start individual word lists for recognition, meaning, and spelling.(These words should become a part of their vocabulary)	
	Children help compile a list of things they would like to know more about on this subject.	Tagboard, 12"x18"
	Show film "It's Only Money"	F.D.I.C., Washington, D. C.

BROAD OBJECTIVE: To help children understand more about the many facets of the minting, printing, handling, and distribution of money.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What is money?	Children show and count any money they might have with them and announce to the class.	
	Let other children guess which pieces of money were used to total the amount stated.	
	Show examples of each different coin and a bill, and talk about differences in their exchange value, and also of the differences in the materials in them.	Encyclopedias Tagboard
	a. one group use encyclopedias b. one group make charts showing examples of what each piece will buy and what change would be received.	
	Make written reports on the origin of money and the changes that have been made in the kinds of money used through the ages. (Group)(To be read to class)	Encyclopedias Pamphlet: Know Your Money p. 4 and 5 (in teacher's folder)
	Show film, The Nature of Money(Group)	Film: The Nature of Money U17001 Eye Gate

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	One student read pamphlet, Let's Learn Money, to the class. (p.4-8"What is Money?")	Pamphlet: Let's Learn Money (Virginia Banker's Assoc.)
	Through cooperative effort compile a definition of money.	
	Make poster "Money Through the Years."	Poster Board Encyclopedias Pamphlet: Know Your Money Steck Workbook(p. 4 and 5) Teacher's folder. New Journeys in Reading- p. 17,18.
	Make play money(use real money for patterns).	Math text, Mathematics 5 (p. 232)
	Study pamphlet, Know Your Money(p.6) to find characteristics of paper currency.	Pamphlet: Know Your Money Library book: Coins and Currency
	Discuss counterfeiting.	
	Use encyclopedias to find ingredients in coins.	Coinometry(in library)
	Children bring in coin collections for display.	Books on coin collecting in the library.
	Invite Paul Simptins to bring his coin collection and talk to class about it.	

CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Children bring in foreign money.	
	Make world map and paste the foreign coins on their homelands.	Newsprint Magic marker Library book: Coins and Currency.
	Make large models of different kinds of money to be displayed over blackboard.(Draw to scale.)	
	Teacher show bills of different denominations (or pictures of large bills)and have children write and learn the names of the people on the bills.	Pamphlet: Know Your Money (p 11)
	Children give oral reports on the making of money.	Encyclopedias Library Books: Let's Go to the U.S. Mint Nails to Nickels
	Teacher, or superior reader, read story to class, "What is Money and Where Does it Come From" in magazine, Children's Day(No.13) in library.	
	Work problems about money.	Text: Mathematics 5 (p. 232,233)

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
2. How is money used?	Children ask parents about the uses of money in the home; "What does money buy for us?" "What can we not buy with money?"	
	Make a bulletin board, centered with the caption, "The Uses of Money" with strings going to cut out pictures.	
	Teacher make bulletin board titled, "Uses of Money" with cardboard strips labeled: a. as a medium of exchange b. as a yardstick of value c. as a store of value d. as a standard for debts	Pamphlet: Let's Learn Money (p.8) Cardboard
	Children talk about and try to analyze each use(with teacher help in the analysis).	
	Show film, Money and Its Uses. (This must be ordered early)	Film: Money and Its Uses (Virginia Banker's Assoc.)
	Role play, "The Journey of a Dollar" after discussing it. a. from the Federal Bureau of Engraving & Printing to the consumer. b. from a consumer of one service through many other services.	
	Learn song 'That's Where My Money Goes'.	

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
3. How does the bank become the center of money distribution?	Children will interview parents to find out how the bank plays a part in their lives. Children tell of their experiences in banks. Children tell about their bank accounts and how they have helped them grow - a. jobs b. allowances c. gifts	
	Examine pamphlet, A Visit to the Bank.	Pamphlet: A Visit to the Bank
	Plan for field trip to a local bank: a. children compile list of things they would like to look for. b. teacher add to their list. to observe the overall operation, the workers, the teller's window (for future use)	
	Visit the bank.	Field trip to bank Books: At the Bank Let's Go to the Bank

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Children make lists of jobs observed(to be kept for future use)	
	Write an account of the visit to the bank to be used in the school newspaper.	
	Read "What Is A Bank?" in pamphlet, Let's Learn Money.	Pamphlet: Let's Learn Money
	Show filmstrip, It's All Mine	Filmstrip: It's All Mine (Virginia Banker's Assoc.)
	Follow up of filmstrip should include discussion and list of jobs and services shown.	
	Add to the above list using pamphlets, Let's Learn Money and Using Bank Services(p.6)	Pamphlets: Let's Learn Money (Virginia Banker's Assoc.) Using Bank Services (American Banker's Assoc.)
	Group of children interview a bank officer to find what these services mean.(Tape the interview)	Tape recorder and tape
	Add to the list of words for vocabulary usage and spelling.	
	Make a bank teller's window from a refrigerator carton.	Refrigerator carton Masking tape Brushes Tempera paint Table

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	One child make a master copy of a page in a checkbook (stub and check)using a real book for a pattern. Teacher(?)mimeograph checks. Children make checkbooks by stapling pages together. Children work math problems using check books.	Checkbook

BROAD OBJECTIVE: To help make children become aware of available job opportunities in the banking business.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What are the work roles associated with banking and how does banking play a part in community life?	Read in New Journeys in Reading(Steck)-The Beginning of Banks.	Workbook: Journeys in Reading (Steck)
	Refer to previously compiled list of workers and add to this list.	Teacher's list of workers — Bank officers Machine operators Cashiers Credit collectors File clerks Guards, watchmen Key punch operators Tellers Clerks Bookkeeper Typist Stenographer Trust officer
	Make a bulletin board (centered with picture of a local bank)to show many industries and businesses which use its services(using any object, picture, etc. which would be indicative of the industry or business).	S.R.A. Occupational Briefs
	Show film, A Banking Career.	Film: A Banking Career (Virginia Banker's Assoc.)

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Discuss the film with emphasis on the training necessary for the various careers.	
	Invite any parent who is a bank employee to visit the class and talk about some of the problems that arise in a bank.	Resource person - bank employee.
	Role play, "Going to the Bank." a. enact different reasons for the visit. b. children observe and discuss which worker would be involved.	
	Assign the learning of at least ten different jobs associated with banking.	
	Children will work in groups reading and studying "Occupational Briefs" connected with Banking and report to class.	SRA Occupational Briefs

BROAD OBJECTIVE: To help children develop constructive attitudes about the use of money.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. How do people get their money and why do some people have more money than others?	Discuss the question to point out the merits of honest labor and thrift.	
	Work out a budget, cooperatively, for a weekly allowance of one dollar. Do math computations here.	
	Let children compare their spending with the budget.	
	Interview parents to determine the items which have to be included in family spending.	
	Teacher read to class, "What Is Saving?" from pamphlet, Let's Learn Money.(p.29-34)	Pamphlet: Let's Learn Money
	Plan together for role playing experiences(earning, banking, saving, checking, and paying).	
	a. Explain payment for tasks completed in the room(clean-up, board, books, materials, assignments, etc.) Play checks will be used for this and payment will be made on Monday morning for previous week's work. Decide on pay scale.	

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	b. Children discuss and decide on job roles necessary for this project(timekeeper, payroll clerk)	
	c. Children role play interviewing the room chairman for these jobs.	
	d. Set up plan for depositing checks and drawing out money to pay for such things as borrowed paper or pencil, undone assignments, messy desks.(The bank teller's cage will be used here. Real deposit slips will also be used.)	
	e. Explain that end-of-week savings will enable the child to buy special privileges.	
	Carry out the above activities.	
	Make purses from leather. (Mr. Dunn will help with this.)	Leather and leather-making tools.

CULMINATING ACTIVITY:

CULMINATING ACTIVITY	RESOURCES AND MATERIAL
Why are banks and the money they handle so important to us? Visit the branch bank on Ingles Street. Discuss the similarities and differences in the two banks visited, and decide the reasons for these differences. Write lyrics to the melody of "The Music Goes Round and Round" using the money concept for the words.	Field trip to bank.

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Virginia Banker's Association - Let's Learn Money

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World Book - Vol. 2 and 13
Compton's - Vol. 2 and 14
Golden Book Encyclopedia - Vol. 9 and 16
New Book of Knowledge - Vol. 2 and 13

4. Films:

Eye Gate - The Nature of Money
F.D.I.C. - It's Only Money
Virginia Banker's Association - A Banking Career
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It's All Mine. Virginia Banker's Association
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C A R E E R E D U C A T I O N P R O G R A M

R A D F O R D C I T Y S C H O O L S

UNIT TITLE: AGRICULTURE - THE GOOD EARTH

APPROXIMATE GRADE LEVEL: GRADE 5

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

PROJECT COORDINATOR: RANDY WRIGHT

THE CAREER EDUCATION PROGRAM
THE RADFORD CITY SCHOOLS
1612 WADSWORTH STREET
RADFORD, VIRGINIA 24141
PHONE: 1-703-639-6673

INTRODUCTION:

Since Radford is in the midst of an agricultural area it opens many avenues of future employment for these children. It is desirable that they gain an understanding of the problems of farmers, and the dignity and importance of their jobs to our American way of life.

BROAD OBJECTIVES:

1. To help children grow in appreciation for the dignity and the beauty which accompany the drudgery of working in the soil.

2. To help children become aware of the problems of the farmer.

3. To help children develop an understanding of the economic situation involved in farming and the effect of farming on the economic status of the consumer.

4. To help children discover the many careers directly involved in, and related to agricultural pursuits and to understand the reasons for the choices.

5. To guide children into an evaluation of farming as a way of life and to recognize desirable characteristics of a person who chooses farming as a career.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
MOTIVATING ACTIVITY	Show filmstrips of general farming. or Make a frieze showing the various phases of farming. or Visit a farm.	
1. What are the careers available in the field of agriculture?	Teacher prepare a reading table. Discuss careers observed in filmstrips. Children make individual lists of careers. Start a vocabulary list. (Meaning and spelling) Collect pictures and make a bulletin board showing careers. (Teacher title bulletin board) Start a class scrapbook to be continued throughout the unit.	
2. What does farming involve?	Visit a farm.	

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Children draw pictures of what they saw on the farm.	
	Write stories "A Day on the Farm".	
	Interview members of the family who have lived on a farm and report orally to class.	
	Write thank-you notes to owner of farm visited.	
	Study Occupational Briefs on farm-related careers.	
	Learn songs about farming. "Boll Weevil" "Oh, What A Beautiful Morning"	Music teacher teach songs: "Boll Weevil" "Oh, What A Beautiful Morning" "Whistle While You Work" "Swannee River"
	Use filmstrip.	FA31 - Agriculture in Virginia
3. What are the problems of farmers?	Read in text.	Text, The Social Sciences Mountain Farm - p. 121-p.129 A Dry Region - p. 131 - p.141
	Discuss ideas brought out in text.	
	Invite county agent to talk to class about problems of farming.	Mr. Terry Altizer, County Agent, Montgomery County

CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Divide class into groups to role play various problems.	
	Make a display of farm machinery using a variety of techniques and materials.	
4. how does farming affect us?	Bring from home a display of products related to farming.	
	Groups make charts showing relationship of farming in relation to satisfaction of basic needs (food, clothing, shelter).	
	Interview parents concerning prices of commodities as compared with past prices, and bring report to class.	
	Invite grocer to discuss changes in prices and reasons for the changes.	Mr. Ted Bess Mr. Clyde Burcham Mr. Frank Harkrader
	Children make story problems with above information and solve.	
5. Why would you choose farming as a career?	Invite farmer to come into classroom and discuss the good and bad in farming.	A. B. Hylton, Montgomery County

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Children write character sketches about themselves and read to class. Class evaluate the sketch and discuss individual's adaptability to farming. Some children write and perform "The Good and the Bad About Farming".	
CULMINATING ACTIVITY	Make a roll box showing: a. careers in farming b. types of farming	Pasteboard box Long strip of paper Crayons Pencils Scissors Glue

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C A R E E R E D U C A T I O N P R O G R A M

R A D F O R D C I T Y S C H O O L S

UNIT TITLE: BOTANY - THE WORLD OF PLANTS

APPROXIMATE GRADE LEVEL: GRADE 5

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

PROJECT COORDINATOR: RANDY WRIGHT

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BROAD OBJECTIVES:

1. To help children to develop an appreciation for the beauty of plants and to gain knowledge of the fundamental feature of plant behavior, through the study of botany.

2. To help children to understand that botany is an important tool in many professions such as forestry, horticulture, plant breeding, soil conservation and bacteriology.

3. To help children to develop an understanding of the ways that plants effect our lives economically.

4. To help children to be aware of our dependence upon plants as a way of life.

5. To guide children into an evaluation of botany related careers so they will recognize desirable characteristics of a person who chooses any of the fields of botany.

INTRODUCTION:

This unit should give the children a better understanding about the world of plants, and also the many and varied people whose work involved plants and plant products.

Hopefully the students will become aware of how our lives depend upon plants and that they effect our lives economically.

It is desirable that during this unit the students will have a better understanding of the structure and function of plants. Also the study should open new avenues of exploration and experience in the world of work.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
MOTIVATING ACTIVITIES	Discuss the term "botany"	SRA Occupational Brief
	Bulletin Board: How Do Plants Function?	
	Have examples of different kinds of plants. Let children identify them.	Plants.
1. What is the function of the stem of a plant?	Read and discuss page 161.	Inquiring into Science. Transparent - Plants.
	Experiment: Showing how stems carry water from the roots to the leaves. Place a stalk of celery in red food coloring water. Make a drawing to illustrate.	Filmstrip: How Plants Live Introduction to Plants. Resource person - Biology Professor Jack Clark White construction paper. Crayons.
	Children make a collection of different kinds of stems, so they can observe the structure.	
2. What is the function of the roots of a plant?	Read and discuss page 160.	Inquiring into Science.
	Let children plant bean seeds on a soaked paper towel, when seeds germinate they can observe the roots.	Magnifying glass.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Children make a root collection, identify and label. (From growing plants.)	Chart.
	Display examples of roots that children bring in from home. Examples: beets, carrots, radish, etc.	
	Resource person.	Dr. Clark, Radford College
3. What is the function of the leaf?	Read, study and discuss text p. 237-238 to gain information about how a plant manufactures food in the leaves.	Text: Concepts in Science V
	Discuss the process of photosynthesis.	
	Use a filmstrip.	Filmstrips: Many Kinds of Leaves. Plant Factory.
	Let children make a drawing illustrating photosynthesis.	White construction paper Crayons
	Make a leaf print. Mount on construction paper, using different colors.	Construction paper, glue
4. What is the function of a flower?	Read and discuss p. 165.	Inquiring into Science
	Make a chart showing the parts of a flower.	Filmstrip: Parts of a Flower

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
		Filmloops: Many Kinds of Flowers. What is a Flower?
	Children look at the parts of a flower by using a microscope.	Microscope.
	Have children to make a flower model by using clay, colored toothpicks, gumdrops, cardboard center from a roll of paper toweling.	Clay Colored toothpicks Gumdrops Paper toweling
	Start a scrapbook to be continued throughout the unit.	Poster board Large rings
	Start a vocabulary list. Spelling and Understanding of words. Display on wall.	Chart
	Resource person.	Person from a greenhouse. Garden Club member - Miss Cardwell
5. What are some conditions for plant growth?	Make a list and discuss conditions.	Filmstrip Flannel Board - Study of Plant Growth.
	Grow several kinds of plants in room under different growing conditions. Keep a record as to how the plants respond to sunlight, temperature and moisture.	

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
6. What are some plant geography areas of the United States?	Use a large relief map. Locate the different areas.	Relief Map.
	Give each child a mimeographed map to fill in the areas.	Mimeograph map.
7. How would the plant geographic areas effect the careers of the people living in a certain area?	Discuss with children some of the careers that would involve botany in these areas.	
	Start a list of different types of careers that would be offered in botany.	
	Make a chart, hang on the wall. Collect pictures for chart that would represent a career.	Chart Pictures
	Do research on different careers that would involve plants, children can report findings to class.	Filmstrip - Picking Fruits.
	Children interview parents concerning jobs related to the unit. Report to group.	Filmstrips: My Dad Is A Carpenter. My Dad Works In A Super-Market.
	Children make a collection of materials that have derived from plants, use as an exhibit in room.	Filmstrip: Plants We Use Its the Growing Thing

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Make an additional list of things that you would like to learn about jobs that concern botany. "I'd Like To Know" Set up a bulletin board showing some of the jobs that were listed on the job chart. Each child make a booklet, use one page for each job. Page would include information about job, pictures and then the childs evaluation about the job.	
8. What are some products that would involve plants?	Discuss - make a list of products.	Filmstrips: Cotton Making Maple Syrup Coal Mine
9. What jobs would involve fibers, wood products, wood derivatives and latex?	Form groups to work on each product group. Discuss, do research, collect or draw pictures and report to group. Make a frieze that would have different products and pictures illustrating products and pictures showing the kind of job that was necessary to make the products.	Filmstrip - Lumber Mill Field trip - Furniture Factory Resource person - Chemist

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Discuss how products from plants effect our lives economically. Compare prices from a year ago.	Field trip - Grocery Store.
10. What careers are in the field of forestry and conservation?	Discuss. List careers that sould be offered in either. Do research. Report to class.	Filmstrip.
11. What is the future of jobs that are necessary in producing products from plants?	Do research by looking in newspapers, magazines, T V and re-	Newspapers, magazines, resource person, filmstrip.
CULMINATING ACTIVITIES	Let the children make own bulletin board, using the materials they have collected during the unit. Explain to class. Class present scrapbook. Different children explain one page. Filmstrip.	

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C A R E E R E D U C A T I O N P R O G R A M

R A D F O R D C I T Y S C H O O L S

UNIT TITLE: THE WONDERFUL WORLD OF TEXTILES

APPROXIMATE GRADE LEVEL: GRADE 5

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

PROJECT COORDINATOR: RANDY WRIGHT

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INTRODUCTION TO: The Wonderful World of Textiles

Many parents of the children attending Kuhn Barnett School are employed in factories which are related to textiles; consequently, the students are interested in this topic, though they have not categorized it as such.

Also, in grade five the social studies emphasis is centered around life in the Americas. An important facet of this study is the part the textile industry plays in the economic structure with attention focused on the reasons for its importance as it is related to climate, geographical features, population, and technological development.

It is desirable that, during this unit, the students will grow in understanding of the textile industry and its role in our progressive society. Also, the study should open new avenues of exploration and experience in the world of work.

MOTIVATING ACTIVITIES	RESOURCES AND MATERIALS
What do we mean by the term "textiles?"	
Examine equipment and materials in the classroom to discover use made of textiles.	
Discuss different materials in clothing worn by the students and identify as textiles or non-textiles.	
Discuss differences in these materials to discover the meaning of the term "textiles."	
Formulate a definition and compare with the dictionary.	Dictionary

BROAD OBJECTIVE: To help children understand the importance of geographical location on industrial growth and development of textiles in the southeastern states.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. Why has the textile industry grown in the southeastern states? (Make maps showing areas of growth of natural & textile materials, textile manufacturer, and production of man-made fibers.)	Read and discuss Farming in the Southeast.	Social Studies text - Living in the Americas, p. 208-213
	Make a products map of the southeast states showing the areas where plants and animals are grown for textile use.	Manilla paper - 9"x12". Materials brought from home. Magic markers.
	Learn to spell words such as southeastern states, the names of the states, textiles, climate, industry, growth, depend.	
2. In what other areas of the Americas is the textile industry important? Why?	Discuss ways of finding the answer to this question.	
	Follow up above activity by using the sources mentioned and making notes of books, encyclopedias, text, etc.	Library Encyclopedias Card catalogue Text
	Study the climate maps of these areas(text).	Text
	Draw pictures showing the various means of transportation which are indicated in different situations(display these).	Manilla paper - 9"x12". Crayons

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
3. How was the textile industry initiated in this country? How and why has it grown?	Read in pamphlet, The Wonderful World of Textiles and Textiles in American History.	Pamphlet: The Wonderful World of Textiles
	View filmstrip.	Filmstrip: Textiles: Measure of Civilization
	Use transparency 859, "Development of a Southern Plantation."	Transparency 859 Overhead projector
	Show filmstrip.	Filmstrip: The Story of Cotton 204-1, SVE
	Learn to spell words associated with the plantation.	Broom handles Box Wrapping paper Drawings Glue
	Make movie of: (1) Steps in early production of cotton. (2) Life on a plantation (3) Trip to Viscose (4) Textiles in use today	
	Write an outline of a day on the plantation.	
	Role play, "A Day on the Plantation."	

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Learn, "The Virginia Reel."	Record: The Virginia Reel.
	Show filmstrip, The Story of Wool 204-2	Filmstrip: The Story of Wool 204-2 (Society for Visual Education)
	Bring in raw wool a. wash b. card wool c. twist into fibers	Wool card Wool
4. What products are created in the textile industry and what materials are used in creating them?	Read World Book Encyclopedia T-p.173	World Book - T
	Make wall chart naming textiles.	Poster paper
	Children bring samples of all available fabrics from home.	
	Consult encyclopedia to find materials used in each fabric.	Encyclopedia
	Make a bulletin board of swatches which children have brought from home. a. label swatch and list materials used. b. supplement with teacher's cards. c. center the board with the sample card from Amer. Text. Man. Inst.kit.	Teacher's fabric sample cards(in folder) Swatch card from American Textile Manufacturer's Institute kit.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Working in groups, make charts of manmade and natural(plants, animals)fabrics.	Encyclopedias
	Test fabrics.	World Book - T - p.173
	Collect samples of fabrics with design. a. talk about these b. identify the geometric patterns.	
	Cut designs from construction paper and mount to show geometric or other designs in textiles.	Colored construction paper, scissors, glue
	Make designs on cotton fabric with potato prints (6"x9")	Potatoes Cotton cloth Tempera paint
	Tie and dye cotton cloth or children's old T shirts.	Dye Pans Cotton cloth
	Tissue paper collages showing types of design.	Tissue paper and glue
	Mount on tag board the potato designs for wall hangings.	Wooden framing Cardboard, screws, string
	Sandpaper designs showing texture.	Sandpaper and crayons
	Exhibit cotton ball and examine under microscope.	Cotton ball Microscope
	Children find costs of various materials by yard.(Compare and compute cost of given amount.)	

CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Invite a sheep grower into the class or have a child interview a sheep grower and report to the class.(Make pictures, if possible.) Field trip to see sheep being sheared.	Camera Film

BROAD OBJECTIVE: To help children recognize the importance of the textile industry as basic and essential to the American way of life. To help children appreciate the accomplishments of the industry in creating products that have raised our standard of living by lightening our labor and contributing to our convenience and leisure.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What are the uses of textiles?	Children survey their homes and make lists of textiles they can find in the homes.	
	Use pamphlet, Cotton to find the uses of cotton.	Pamphlet: Cotton
	List cooperatively all the uses of textiles.	Fabric charts Encyclopedias
	Make a frieze, using magazine pictures to show uses of textiles.	Magazines Wrapping paper Glue
	Read and report on biography of Eli Whitney.	Encyclopedias
	Show film, Eli Whitney.	Film: Eli Whitney - 47208 Radford
	Examine and discuss big chart on cotton, then display chart.	Chart: Cotton (in folder)
	Write stories telling how various textiles would be used in: a. a trip to the moon. b. our vacation at the beach.	
	Work in gps.; make collages showing people served by tex.ind.	Magazines, mtg.paper, glue, scissors

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	c. we go sleigh riding. d. our country's defense. e. we move into a new home.	
2. How is our standard of living affected by the textile industry?	Use the list, compiled earlier of textiles in the home and discuss the work that would be entailed if we did not have them.	
	List recreational uses of textiles.	
	Interview mothers(or have one come to the class)to find out how their work load has been lightened by the textile industry.	Resource persons - mothers
	Compare a day at home now with the previously written account of a day on the plantation.	
	Dress dolls to show the different clothing styles and textures for different climates.	Dolls Needle Thread Materials
	Read text, Living in the Americas to find answers to questions about plantation life: p. 141-144 p. 149-151 p. 208-209	Text: Living in the Americas

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Invite a home economics teacher to talk about the versatility and importance of new textiles in clothing and home furnishings.	Home Economics teacher

BROAD OBJECTIVE: To help children discover that most of the goods we buy are produced in factories and to discover some characteristics of factory production.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What part have technological and scientific developments played in the growth of the industry?	Visit Kenrose or Shirt Factory. Write paragraphs about different phases of the trip. Figure cost of trip-gas, driver, etc. Write letters of thanks to places visited & to resource people.	Field trip to textile industry.
	Write an account of the process in the mill.	
	List workers observed along the route of the tour.	
	Bring in a parent to describe his or her work in the mill and to discuss the negative and positive features.	Parent
	Weave mats on looms made in class from cigar box lids.	Cigar boxes Yarn Curtain rings
	Demonstrate advantages of assembly line production over individual production of whole product with paper weaving: a. measure paper and label b. cut paper c. measure strips d. cut strips e. weave f. trim g. glue edges	Pamphlet: The Wonderful New World of Textiles

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Read and discuss mimeographed teacher-prepared list of characteristics of factory production.	
2. What occupations are involved in the textile industry?	Children make individual lists and explain the role of various workers. Group make cooperative list based on the individual lists. Children choose the jobs they think they would like(but do not tell of choice). Write riddles to go with the choice and let other children guess or role-play the part and let the other children guess. Role-play job interviews and let the children decide which applicants would be employed. Write limericks about jobs. Children will read and report on jobs connected with the industry.	SRA Occupational Briefs

BROAD OBJECTIVE: To help children learn how the textile industry uses the discoveries of science for present and future improvement of textiles.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What scientific developments and inventions have influenced the textile industry?	Set up a display of tools and equipment used in early weaving (if these cannot be obtained, use pictures in folder on Colonial Life).	Tools
	Read and report on biographies of: a. Sir Richard Arkwright b. Samuel Compton c. James Hargraves d. Samuel Slater	Encyclopedias
	Invite chemist, Dr. Preston Durrill(at Radford College) to speak to class on the part chemistry has played in textile improvements.	Dr. Preston Durrill-Radford College

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CULMINATING ACTIVITY	RESOURCES AND MATERIAL
Invite the parents to attend a class display of their unit activities-stories, bulletin boards, charts, weaving, etc.	
Show pictures in the ATMI Kit on the opaque projector. Students will give explanations of each picture as it is shown.	Opaque projector Textile Teaching Kit Education Department American Textile Manufacturers Inst., Inc. 1501 Johnson Building Charlotte, North Carolina 28202
(1) Groups gather all work and display, describing each. (2) Reports on different aspects of types of jobs available in industry studied. (3) Reports on people responsible for industrial inventions and improvements. (4) Various art work to display showing texture, design, etc. (5) Other reports(from volunteers) dealing with advantages and disadvantages of various jobs. ALTERNATE: Make individual booklets of work on unit, and display these in room. a. Children write short reports to be distributed to all for inc. in booklet. b. Children make master copies for duplicating. (1) what materials are used in creating textiles? (2) where in the Americas & other countries is the industry important? (3) what products are created in the industry? (4) tests for fabrics	

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Wool
National Cotton Council of America.
Cotton

C A R E E R E D U C A T I O N P R O G R A M

R A D F O R D C I T Y S C H O O L S

UNIT TITLE: FEDERAL GOVERNMENT

UNCLE SAMMY CAME TO TOWN

APPROXIMATE GRADE LEVEL: GRADE 5

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

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INTRODUCTION TO: FEDERAL GOVERNMENT - UNCLE SAMMY CAME TO TOWN

Children at this level need to feel a strong sense of patriotism and a responsibility to our government. Hopefully, in this unit they will develop a background of information, a feel for their individual obligations, and understanding and appreciation of our democratic way of life. They should become aware of their individual freedoms and rights provided by our government.

OBJECTIVES:

1. To help children become aware of the many facets involved in the organization of the Federal Government.

2. To guide children into an understanding of the individual freedoms enjoued by citizens and the corresponding responsibilities involved under our form of government.

3. To help children understand and appreciate all the Federal Government does for us.

4. To develop an awareness of the career possibilities within the framework of the Federal Government.

5. To help children become aware of the relationship between the Federal Government and our economic situation, and the way it affects our way of living.

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
Motivating Activities	1. Display U.S. Flag. Talk about its history and meaning. Bulletin board.	Vertical File (The United States Flag)
	2. Pledge to the Flag and analyze.	Red Skelton, Analysis
	3. Teach patriotic songs.	Music Teacher Vertical File Patriotic Songs of America
1. What do we know about our Federal Government?	1. Discuss with children and make a cooperative list of facts.	
	2. Children find or draw pictures to accompany this and make it to a chart.	a. Long sheet of paper b. Magazines c. Scissors d. Crayons e. Glue
	3. Children interview parents for additional information or any materials they might bring.	
	4. Start a word list of new and associated words.	

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	5. Make a cooperative list of things they need or want to know.	
	6. Discuss sources of information to help in answering questions.	
2. Why did the need arise for a Federal Government?	1. Read text.	Text, The Social Sciences p. 209-223
	2. Role play situations of group interaction (conflict situations).	Text, p.237 Language, Text "Discovery in English" p.92-95 Text, p.212
	3. Make bulletin board showing three branches of government.	
	4. Divide class into groups to study and report on the branches of government.	Encyclopedias Any available printed material, text book, The Social Sciences. Vertical File a. American Documents
	5. Set up a system of governing within the classroom.	

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	6. Children and teacher establish a set of rules applicable to the classroom.	
	7. Outline branches of government.	
3. How are our lives affected by the Federal Government?	1. Bring in a resource person from city government, to tell about the city agencies which are wholly or partially controlled by the Federal Government.	a. City engineer b. City manager c. City treasurer
	2. Children make a chart illustrating learnings from resource person.	
	3. Take field trip to sewage disposal plant.	
	4. Visit a grocery store to discover government controls of food prices.	
	5. Visit civilian defense shelter at the hospital.	
	6. Build and stock a civilian defense shelter unit.	

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	7. Interview school personnel to discover parts played by the Federal Government in school administration.	
	8. Make collage showing ways in which individual lives are affected by the Federal Government.	
4. What are career possibilities within the framework of the Federal Government?	1. Bring in resource person from U. S. Employment Office.	Employment Office Manager
	2. Children use occupational briefs for reporting.	
	3. Make Virginia maps showing concentration of federal.	
	4. Bring in newspaper clippings about government affairs.	
5. How is our way of life affected by the Federal Government?	1. Discuss and list ways our lives are influenced by the Federal Government.	
	2. Children choose one item from above list for research and written reports.	Text, "Discovering in English" Paragraphing p. 36,37,340,341,338, 339,342-345

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
		Research p. 290,292,296,298,288, 289,286-287 Encyclopedia
	3. Make bulletin board items listed in No. 1.	
	4. Teacher prepare a reading table of all available printed matter.	
	5. Bring in resource person on pollution control.	
CULMINATING ACTIVITY	1. Make U.S. Flag with twisted crepe paper. a. Measure a flag and figure proper proportions. b. Draw flag. c. Children work in groups to paste on various parts of the flag.	
	2. Present class program: a. Patriotic songs. b. SPledge of Allegiance. c. Children recite rules of proper flag etiquette.	

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ABSTRACT: VOLUME II CONTAINS CAREER EDUCATION ACTIVITIES FOR GRADES 5-7 AND FOR SPECIAL EDUCATION CLASSES. THE UNITS ARE DEVELOPED AROUND SPECIFIC TOPICS AND INCORPORATE THE FOLLOWING ELEMENTS: SUBJECT-CONTENT RELATIONSHIPS, OCCUPATIONAL INFORMATION, RESOURCE SPEAKERS, INTERVIEWS AND REPORTS, PARENT-FAMILY INVOLVEMENT, HANDS-ON AND OTHER SENSORY EXPERIENCES, ROLE PLAYING AND SIMULATION ACTIVITIES, AND CAREER-RELATED FIELD TRIPS. EACH UNIT REQUIRES FOUR TO SIX WEEKS, AND TEACHERS MAY SELECT THOSE ACTIVITIES MOST APPROPRIATE FOR THEIR PARTICULAR STUDENTS. THE UNITS GENERALLY CONTAIN OBJECTIVES, CONTENT QUESTIONS, TECHNIQUES AND ACTIVITIES, RESOURCES AND MATERIALS REQUIRED FOR EACH ACTIVITY, AND A BIBLIOGRAPHY. SAMPLE UNIT TOPICS ARE CARTOGRAPHY, WEATHER, AND IRON WORKING. THE CAREER EDUCATION UNITS FOR SPECIAL EDUCATION CLASSES ARE DESIGNED FOR THREE INSTRUCTIONAL LEVELS: PRIMARY AND INTERMEDIATE EDUCABLE MENTALLY RETARDED, AND TRAINABLE MENTALLY RETARDED. THE SPECIAL EDUCATION SECTION COMPRISES ABOUT ONE THIRD OF THE DOCUMENT. (AUTHOR/RG)

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CAREER EDUCATION ACTIVITIES
GRADES K-7
Volume 2 of 2 Volumes

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C A R E E R E D U C A T I O N P R O G R A M

R A D F O R D C I T Y S C H O O L S

UNIT TITLE: MIND AND BODY

"ME AND MY SHADOW"

APPROXIMATE GRADE LEVEL: GRADE 5

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

PROJECT COORDINATOR: RANDY WRIGHT

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INTRODUCTION TO: Mind and Body
Me and My Shadow

Much of the science and health work in grade five is centered around a study of the body structure. Since children at this age level are becoming aware of their self images, and conscious of their body development, it seems good that they make a comprehensive study at this time of their mental and physical health with the ultimate aim of improving both. Such a study also affords an excellent opportunity for children to discover and relate to the job roles which are associated with general well-being of the people in the community, and for identification with these roles.

MOTIVATING ACTIVITIES	RESOURCES AND MATERIALS
1. Children draw shadow silhouettes of each other. Mix them up and let others guess the identity. 2. Children write paragraphs about themselves and read to class as riddles. 3. Discuss the importance of both images, physical and mental and relate this to the actual body(physical) and the shadow it casts(social, mental). 4. Mount the silhouettes and display them.	Filmstrip projector White construction paper(12"x18") Black crayon (cut out and paste to wall)

BROAD OBJECTIVE: To help children understand more about themselves and their individual personalities.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. Whc am I?	Show filmstrips in Getting to Know Me series.	Filmstrips:(In library) FA92 People are Like Rainbows FA93 A Boat Named George FA94 Listen, Jimmy FA95 Strike Three! You're Out
	Read health text-p.42-52 and discuss.	Health-Grade 5-Laidlaw Publishing Company
	Children make fact sheets about themselves and check anything they would like to change. a. physical traits b. abilities c. interests d. faults e. behavior f. manners, etc.	
	Children role play different life situations, with two groups for each situation. a. they have broken a neighbor's window while playing ball. What to do? b. parents are away and a neighbor child comes to visit. What to do? c. John sees his neighbor cheating on a test. What	

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	d. your team has won a ball game but you know you did not play fairly. What to do?	
	Show film, Clown.	Film: Clown- Radford College 65509
2. Why am I different from other boys and girls?	Make bulletin board with pictures of children- Heredity & Environment + Experience = You (Children bring in pictures to illustrate these things)	
	Read Health 5(text)p.14,15	Health-Grade 5 Laidlaw Publishing Co.
	Write paragraphs telling what they like to do best with their families.	

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
3. How do I feel about things?	Show filmstrip, Our Feelings.	Filmstrip: Our Feelings (Jam Handy) in guidance office
	Children tell stories about things that have happened to them and their reactions. (Happy, sad, exciting, frightening)	
	Other children discuss these stories by suggesting alternative reactions.	
	Discuss emotions	
	Collect pictures of people showing different emotions, and label them.	Magazines
	Show filmstrip, Leak in the Dyke.	Filmstrip: Leak in the Dyke FL15(in library)

BROAD OBJECTIVE: To make children more aware of their bodies as physical structures which house their beings.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What is the structural make-up of my body?	Review, through discussion, the role of cells in the body.	
	Read in science text, Concepts in Science, p.191.	Text: Concepts in Science-5
	Scan pages 192-205 in text to determine, from content headings, the kinds of cells which make up the body.	Text: Concepts in Science-5
	Teacher show transparency, Body Cells 81811	Transparency: Body Cells 81811 (in library)
	Examine charts on The Human Body.	Nystrom Physiology and Hygiene Charts.
	Children list the body systems.	
	Discuss functions of the body systems.	
	Children study and discuss p.196-205 in text.	Text: Concepts in Science-5
	Start word list to be displayed in the room, and assign them for spelling mastery.	

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Children make bulletin boards using anatomy charts.	Scientific Plastics, The Human Body
	Invite a doctor into the class to talk about the importance of the body parts working together.	Resource person - Doctor
	Display x-ray pictures and talk about how they are made.	X-ray pictures
	Children who have had x-rays made tell about their experiences.	
	Assign a small group to report on the x-ray machine, its inventor, and effectiveness.	Encyclopedias
	Divide class into groups to work on the various body systems and plan presentations to the entire class.	
	Establish guidelines for each presentation - a. name of body system b. good summary of the material in the science and health texts on the specific body system. c. duties of the system.	Science text: Concepts in Science-5(p.206-222) Health text: Health-5 (p.106-196) Science in Our World "Exploring Your Growth" (p.238-253) (in room library)

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	d. parts of body system e. charts, posters, and diagrams. f. models of body parts from clay when possible. g. dramatizations h. original ideas	
	Teacher set up display of all available material which are pertinent to the study.	Torso Visible man Skeleton models Skull collection
	Groups preview filmstrips on the body systems and present them to the class.	Filmstrips: FH15 The Skeletal System of the Human Body FH16 The Muscular System of the Human Body FH17 The Digestive System of the Human Body FH18 The Circulatory System of the Human Body FH20 The Nervous System of the Human Body
	Teacher show transparencies on the body systems for final discussion and fixation of concepts.	Transparencies: 818-1 The Digestive System 818-2 The Circulatory System 818-3 The Nervous System 818-4 The Skeletal System 818-5 The Respiratory System

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
2. What can I do to protect and care for my whole self?	List cooperatively the factors which contribute to good physical and mental health- a. food e. cleanliness b. rest f. medical care c. exercise g. leisure time activities d. clothing	
	Divide into groups to make posters illustrating each of these.	
	Each group plan and direct a class activity on its subject- a. plan menus b. direct phys ed., etc.	
	Have a hobby show with the children exhibiting their hobbies supplemented by resource people and their hobbies.	Rock collections Indian artifacts-Mr. Harris Stamp collections-Wayne Nester Dried flower placques-Ruth Duncan
	Invite guidance counselor into the class to talk to the children about maintaining good mental health.(Question and answer period)	
	Read health text-p.36,37.	
	Role play First Aid practices for simple accidents, using the health text(pages 35-36)	

BROAD OBJECTIVE: To help children discover the fact that many people contribute to the well-being of the mind and body.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. Who are the workers in the community who help me be a healthy, well-rounded person, and why do I need them?	Discuss home situations which have arisen recently which prompted a call for help from some community worker.	
	Invite the city manager or city engineer into the classroom to tell about the duties of city workers as related to the health of the citizenry.	Mr. Kyle Roop, City Manager Mr. Ron Miller, City Engineer
	Compile a list of all community agencies which contribute to the public welfare.	
	Show film loops, City: Occupations	Film loops: City: Occupations
	Group projects- a. one group make a frieze showing Main Street and all workers who contribute to health of citizens. b. one group make a bulletin board showing workers(cut-out)who contribute to the health and well-being of the family with arrows pointing from pictures to the family in the center. Caption-City Workers and My Family	Magazines

CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Children show and explain picture story study prints on Community Helpers and Urban Life.	Picture story study prints, Community Helpers, and Urban Life
	Make tagboard figures of workers for health and dress for the role.	Tagboard
	Children choose the occupation they would prefer and write stories telling why they think they are suited to it.	
	Pantomime the occupation and let children identify it.	

CULMINATING ACTIVITY:

CULMINATING ACTIVITY	RESOURCES AND MATERIAL
Each child make a booklet entitled My and My Shadow and divide it into three sections; When I Was Little Now I'm a Fifth Grader When I Grow Up a. interview parents and others to get information for writing paragraphs about self in each section. b. bring pictures from home. c. make camera picture of class and mount. d. write self description. e. make collage page using cut-outs identified with self. f. add pages for the future section which illustrate the aspects the child would like in his self image of the future and his aspirations for the future(education, occupation, family life, etc.).	

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2. Encyclopedias:

Popular Book of Science - Vol. 10
Science Library-The Body - Time-Life Books, N.Y., 1970
Young People's Science Encyclopedia - Vol. 19

3. Filmstrips:

A Boat Named George - Cathedral Films
Listen, Jimmy - Cathedral Films
People are Like Rainbows - Cathedral Films
Strike Three! You're Out! - Cathedral Films
Circulatory Systems of the Human Body - Educational Activities
Digestive Systems of the Human Body - Educational Activities
Muscular Systems of the Human Body - Educational Activities
Nervous Systems of the Human Body - Educational Activities
Skeletal Systems of the Human Body - Educational Activities
Our Feelings - Jam Handy

4. Film:

Clown - 65509 - Radford College Film Library

5. Film Loop:

City: Occupations - Society for Visual Education

6. Transparencies:

Body Cells - Instructo Products
Circulatory System - Instructo Products
Digestive System - Instructo Products
Nervous System - Instructo Products
Respiratory System - Instructo Products
Skeletal System - Instructo Products

7. Charts:

Nystrom Physiology and Hygiene Charts - Denoyer-Geppert
Scientific Plastics, The Human Body - Weslab, Inc.

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CAREER EDUCATION PROGRAM
RADFORD CITY SCHOOLS

UNIT TITLE: GETTING TO KNOW YOUR NEWSPAPER

APPROXIMATE GRADE LEVEL: GRADE 5

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

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INTRODUCTION TO: Getting To Know Your Newspaper

In grade five the language arts text includes a significant study of the importance of newspapers and the different sections related to newspapers. The grade five social studies text emphasizes the important role of the newspaper in early America, as well as the significance of a free press in our democratic society. These subject-related facts about newspapers will aid the work of this unit.

It is hoped that each student will grasp the importance of the development of the newspaper. It is also desired that this unit will reveal the many varied opportunities in the newspaper business. The variety and number of careers in newspapers will open a whole new dimension to the work of work.

MOTIVATING ACTIVITY	RESOURCES AND MATERIAL
What do you think of when I say "newspaper"?(news, communication, etc.)	
What is the definition of "newspaper"?	Dictionary and/or encyclopedia
Examine resource table of different newspapers and books about newspapers.	
Discuss area newspapers as to their names and delivery times.	
Ask each child to bring in one entire newspaper for this unit study.	

BROAD OBJECTIVE: To help students understand the historical development of writing and printing which led to the development of newspapers. Also, to help students understand how the newspaper is organized.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIALS
1. What is the history of writing and printing?	Let the children speculate as to why writing, and eventually printing, developed.	
	Read and discuss History of	Pamphlet: Newspaper In The Classroom
	Locate areas on world map where printing and writing developed(Egypt, China,etc.)	World map
	Show film on writing.	Film: "Writing Through the Ages".(1951- 11 min.)
	Discuss development of printing press and its significance.	
	Assign report on Johann Gutenberg and his contribution to printing.	Encyclopedia
	Examine several samples of writings.	Study prints 302 and 303 (Radford College)
	Take a field trip to a printing shop.	Field trip
	Read and discuss the history of newspapers.	Pamphlet: How To Get More Out of Newspapers.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIALS
	Discuss influence of a newspaper in colonial America.	
	Discuss importance of a "free press".	
	Read and discuss "freedom of press" rights in Constitution.	Copy of constitution and Bill of Rights.
	Speculate as to why people read newspapers.	
	Make a chart of different reasons why people read newspapers for bulletin board.	Posterboard, magic markers.
	Have each student write a paper on what he likes most and least in a newspaper and expalin why.	
2. What makes the news, and where are the most important news stories found in a newspaper?	Let children look for definition of news.	Dictionary
	Discuss types of news.	Language Arts text: Our Language Today(pp.101-102)
	Make a News Calendar showing each day of the week for the length of the unit. A different child will be chosen each day to bring an article to share with the class and pin to News Calendar.	Posterboard, magic markers, news articles.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Read and discuss newspaper terms, specifically parts of the front page. (i.e. flag, caption, main headline, etc.)	Individual newspapers. Pamphlet: Your Newspaper
	Examine individual newspapers for examples of front page terms.	Individual newspapers.
	Make a bulletin board with front page of a newspaper. Point out different parts of front page.	
	Learn to spell newspaper terms, such as flag, headline, index, and by-line.	
	Read and discuss what makes a good headline.	Our Language Today (pp. 98-100)
	Teacher will read some short news stories, and students will create their own headlines.	Paper and pencil news stories
3. How is a good news	Read and discuss leads and types of news stories.	Our Language Today (pp. 102-104)
	Discuss six questions answered in good lead of news story.	

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Each child will read news article from his own paper and identify the who, what, when, where, why, and how of the lead.	Individual newspapers
	Discuss slanted news.	Our Language Today (pp. 106-107)
	Students will discuss current events in their area and write their own news story with good headline and lead.	
	Volunteers will read their news stories before the class. Display news stories.	
4. How is the newspaper staff organized?	Ask the children to make a list of members of a newspaper staff on a sheet of paper. Write a composite of their answers on board.	
	Complete their list and discuss: 1. Editors/Feature Writers 2. Editor in-Chief 3. Columnists 4. Reporters 5. Artists/Cartoonists 6. Lay-out Editor	

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	7. Advertising writers: a. classified ads b. advertisements 8. Proofreaders	
	Divide class into eight groups to research one of the above. Report findings to the class.	Library: Card catalogue Encyclopedias Books
	Class will discuss different types of reporters and columnists found in area paper. (Sports, business, and society reporters or astrology columnists and such.)	Individual newspapers
	Book reports on members of a newspaper staff.	Books: This Is A Newspaper by L. H. Feigenbaum. Come To Work With Us On a Newspaper by Jean Wilkinson.
	A group of students will role play their interpretation of a reporter's job. Other characters may be editor, witnesses, police, etc.	
	Invite a reporter from a nearby newspaper to speak to the class concerning his job.	Resource person: A reporter

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Read and discuss mechanical staff of newspaper. (pressmen, linotype operators,etc.)	Pamphlet: Your Newspaper
	Show film "The Colonial Printer".	Film #05012: "The Colonial Printer".
	Make a chart of steps a news story takes from the scene of the event to the street.	Posterboard, magic markers.
	Show transparencies of Gutenberg press and rotary press. Compare and contrast the two.	Transparencies: (See: The Newspaper In the Classroom)
	Show film "The Newspaper Story".	Film #37708: "The Newspaper Story".
	Provide an activity centered around printing, such as potato or ink prints.	Potatoes, tempera paints, and/or ink, manila paper.

BROAD OBJECTIVE: To help children develop understanding of the various sections of a newspaper and an appreciation for each of these areas.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What are the different parts of a newspaper?	Children will make a list of different sections of a newspaper. A composite list will be written on the board. Discuss: 1. Front page 2. Society page 3. Entertainment/ book reviews 4. Editorial section 5. Advertising a. advertisements b. classified ads 6. Business 7. Sports 8. Comics	
	Prepare a bulletin board showing various sections of newspaper and what they contain.	
	Make a mobile showing examples of different parts of newspaper with their respective identifying tags.	String, magic markers, crayons, tagboard, articles from newspapers.
	Children will examine their own papers to find location and organization of newspaper sections.	Individual newspapers

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Read and discuss what is found on editorial page.	Pamphlet: Your Newspaper
	Examine editorial page of a local newspaper.	Individual newspapers
	Compare and contrast a well written and poorly written editorial.	
	Write editorials about recent events or articles.	
	Select a group of student to proofread articles.	
	Read and discuss letters to the editor.	Our Language Today (pp. 108-111)
	Children will write their own letters to the editor to disagree with a topic of their own choosing.	
	Display clippings of newspaper editorials and letters to the editor with those the children have created.	
2. How is the newspaper funded?	Ask children to explain how they pay for newspapers to be published.	
	Discuss price of a newspaper and compare with cost of producing one newspaper.	World Book Encyclopedia Volume 12

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Write a short paper on what advertisements you like and dislike. Explain why.	
	Read and discuss three types of advertising: 1. National 2. Retail 3. Classified ads	Pamphlet: Your Newspaper Our Language Today (pp. 113-114)
	Make collages of ads found in magazines.	Magazines, glue, tagboard.
	Discuss different commercial advertisement slogans and illustrations.	
	Create your own ads with slogans and illustrations. Display.	Tagboard, construction paper, glue, crayons.
	Create a large mural-type advertisement of coming event or assembly. Display.	Tempera paints and role of white paper.
	Read and discuss different types of want ads.	Our Language Today(p. 114)
	Examine classified ads of a local newspaper. Discuss how they are written.	Individual newspapers.
	Children will write own classified ads.	

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Write or create a large replica of a classified ad section and glue children's ads to complete the page. Display in room.	Posterboard, magic markers, glue.
	Examine newspapers to see cost of classified ad per word. Compute the cost of ads written by the children.	
3. What are the other parts of a newspaper and what is the role of each?	Discuss why some people specifically read the business section and others the sports page.	
	Discuss different types of people and their interests. Compare this with what they probably enjoy most in a newspaper(i.e. mother-society page; basketball player-sports page)	
	Examine comics in a local paper. Compare with Sunday edition of comics.	Individual newspapers.
	Divide class into groups to make lists of why people read comics. A speaker for each group will report ideas of groups.	
	Children will create their own individual comic strips.	White paper, pencils, crayons.

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Display comic strips for children to read.	
	Make a diorama of favorite comic strip characters.	Cardboard boxes, paints, caryons, construction paper.
	Read and discuss book reviews found in local papers.	Individual newspapers. Our Language Today
	Discuss how book reviews are written and why they are found in newspapers.	
	Create a book jacket(illustrate cover) and write book review on inside flaps.	White paper, crayons, ink pens.
	Write a book review of a recently read library book.	
	Make a notebook of all the children's book reviews. Display in library for use by other classes.	Notebook or cover for book reviews, tape, white paper for pages.
	Compare and contrast book and movie reviews.	Individual newspapers
	Discuss importance of business, sports, and society pages. Who reads them? Are there special reporters for these areas?	

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Learn basic points of how to read stock market reports.	
	Children will write papers to read before class on a favorite sports figure.	
	Invite a sports writer to speak before the class.	Resource person: A sports writer
	Make a wall hanging of a calendar of events for your school. Use society page calendar of events as an example and include PTA meetings, assemblies, and ball games. Display near school entrance.	Wooden strips for frame, heavy cardboard(white), magic markers.
	Select newspaper staff and create a class newspaper or newsheet. Allow entire class participation. Mimeograph for other classes. Advertise its arrival before circulation.	Paper, mimeograph paper, pens, etc.
	Take a field trip to a local newspaper to view production of a newspaper.	Field trip to local newspaper.

BROAD OBJECTIVE: To help students discover the numerous but varied jobs available in a newspaper business.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What career opportunities are available in the newspaper world?	Review list of members of newspaper staff.	
	Panel discussion of advantages and disadvantages of being a reporter.	
	Students will research the different jobs of staff members and report findings to the class.	Library: Card catalogue Encyclopedias Books
	Invite a member of local newspaper staff to speak on careers.	Resource person
	Make a movie of steps of a news story from even to newspaper on the street. The movie will show different jobs in order of occurrence.	Cardboard boxes, rolls of paper, paper sheets, crayons, wooden dowells, and glue.
	Research the possible incomes and education necessary for different jobs on a news staff. Report to class.	Library
	Illustrate the job you would most prefer in the newspaper business.	White paper, colored pencils, crayons.

CULMINATING ACTIVITY:

CULMINATING ACTIVITY	RESOURCES AND MATERIAL
Circulate a class newspaper or news sheet to other classes.	
Invite parents to view a display of papers, drawings, charts, movie, dioramas, and bulletin boards, and other activities of the unit.	
Show filmstrip, "The Neighborhood Newspaper Story".	Filmstrip: "The Neighborhood Newspaper Story"

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1. Books:

Bailey, Barnes, Horracks, Our English Language, New York: American Book Company, 1960.
Conlin, David A., Fillmer, H. T. et al., Our Language Today, New York: American Book Company, 1967.
Crosby, Muriel, The World of Language, Chicago: Follett Educational Corporation, 1970.
Cutwright, Jarolimek, King, Dennis, and Potter, Living in the Americas, New York: McMillan, 1966.
Feigenbaum, Lawrence, This Is A Newspaper, New York: G. P. Putnam's Sons, 1956.
Sterling, Edna L. and Rice, Mabel, English Is Our Language, Boston: D. C. Heath and Company, 1967.

2. Encyclopedias:

World Book - Vol. 12
Compton's Encyclopedia
Encyclopedia Britannica - Vol. 16
Britannica Junior Encyclopedia - Vol. 11

3. Pamphlets:

Your Newspaper(available free upon request fron Roanoke Times)
The Newspaper In The Classroom(also free from Roanoke Times)
How To Get More Out of Newspapers(Roanoke Times)

4. Filmstrips:

"The Neighborhood Newspaper Story"-Eye Gate House, Inc.

5. Films:

"Newspaper Story" - #37708 (Radford)
"Colonial Printer" - #05012 (Radford)
"Writing Through the Ages" - (Radford College)

6. Study Prints:

Caxton and Printing(#302-Radford College)
Writing Through the Ages(#303-Radford College)

7. Transparencies:

Gutenberg Press(available from Roanoke Times)
Rotary Press(available from Roanoke Times-pattern only for both)

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C A R E E R E D U C A T I O N P R O G R A M

R A D F O R D C I T Y S C H O O L S

UNIT TITLE: FORESTRY - THE TREE AND I

APPROXIMATE GRADE LEVEL: GRADE 5

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

PROJECT COORDINATOR: RANDY WRIGHT

THE CAREER EDUCATION PROGRAM
THE RADFORD CITY SCHOOLS
1612 WADSWORTH STREET
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PHONE: 1-703-639-6673

INTRODUCTION:

Though a great deal has been said and done about the ecological and conservational aspect of forestry, children need to know more about the part forests play in their present way of life. They need also to become cognizant of the many careers which are related directly to forestry. Children living in mountainous areas such as ours should be particularly interested in this as a resource for future decision making.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
MOTIVATING ACTIVITY	Invite forester to come into the classroom.	Jim Clarke, State Forestry Service (Christiansburg)
	or	
	Tour school to see uses of wood.	
	or	
	Children bring in leaf collection to be used in art project (shading leaves with crayon or making rubbings with leaves).	Variety of leaves. Crayons Paper
	Teacher make bulletin board - The Tree and I.	

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. How do forests contribute materially to our way of life?	Bring in pictures of things made of wood or cut out pictures in class.	Magazines
	Children work in groups to group these pictures into categories. (houses, furniture, transportation, recreation, etc.)	
	Make a frieze of the above with divisions.	Long strip of wrapping paper Pictures Scissors Glue Construction paper
	Assign individual reports on the making of paper from wood pulp.	Encyclopedias Pamphlets
	Use encyclopedias to find by-products of forests - tar, rubber, etc.	
	See filmstrip.	CFA 180 A Trip to a Lumber Mill CE-CT-A63 A Lumber Mill
	Visit lumber mill.	Sales Lumber Yard (Bethel Road)

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
2. How do forests help us in ways other than by supplying other commodities?	Children write V.P.I. for printed matter on the subject.	
	Write U.S. Forester in Roanoke for material.	
	Invite Mr. Jack Clark into classroom to talk about forests and conservation.	Mr. Jack Clark Radford College
	List questions to be asked of visitor.	
	Short word list using such words as: conservation erosion forestry specialist protection (children help make the list)	
	Make large chart of words and hang in room. (children do this)	Poster board Magic marker
	Learn poem (song) "Trees" by Joyce Kilmer.	Childcraft
	Invite scout leader to talk about safety and conservation in the forest.	Scout leader.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
3. What are the outstanding forest areas in the U.S.?	Locate forest areas in U.S. on U.S. map.	Social Studies book <u>Living in the Americas</u>.
	Read and discuss pamphlet "Let's Learn About the Forest".	Pamphlet, "Let's Learn About the Forest"
	Group work: a. Draw U.S. map and locate forests on it. b. Report on Redwood Forest in California. c. Report on National Forests. d. Report on Great Smokies.	Book, <u>Living in the Americas</u> Manilla Paper Crayon Encyclopedias Pamphlets on Smokies (children bring these in)
	Make sand table forest.	Pasteboard box Sand Tree Branches
4. How are different kinds of wood suited to different functions?	Display pictures of different kinds of trees.	Board over black board.
	Press leaves and draw pictures for booklet id[illegible]ifying leaves.	
	Children make [illegible] showing samples of kinds [illegible].	
	Invite cabinet maker a[illegible] carpenter (par[illegible]nt) int[illegible] room to talk abou[illegible] ples.	

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Make hot plate mats or wall plaques out of wood scraps. a. Cut out b. Smooth with sandpaper c. Paint d. Shellac	
	Invite local artist into class to teach children how to draw trees.	
5. How is our federal government involved in the forestry industry? Why?	Children write letters asking for information and free materials to: a. Dept. of Interior b. U.S. Forestry Service	
	Write paragraphs about the dangers of cutting trees without restrictions.	
	Children describe national forests they have visited and tell about regulations governing their use.	
	Role play two groups of campers: a. Careless campers b. Careful campers	

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
6. What is the need for people in the forestry service?	Find names of careers related to forestry. a. Use free printed matter.	Pamphlets and booklets in free material.
	b. Read Occupational Briefs.	Occupational Briefs
	c. Invite U.S. Forester into classroom.	Forest Technician Forester
	d. Listen to cassette, "I Want to be a Forester"	CE-CTA 132
7. What are the jobs related to the forestry service, and what are the good and bad features of each?	View filmstrip.	Filmstrip: "I Want to be a Forester"
	Study handbook.	Occupational Outlook Handbook - 1972-73 Edition
	Children read and report on Career Encyclopedia.	Encyclopedia of Careers Vol. II.
	Children interview Guidance Counselor for information on this question.	
	Invite Mr. McLean, Game Warden, Pulaski.	
	Exceptional readers read books about jobs in forestry, and report to class.	Books in H. S. Library. Your Future in Forestry. D. H. Hanaburgh Forest Ranger. John L. Floherty

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Children write personality sketches of themselves and tell why they think they will or will nor fit into a forestry career.	
CULMINATING ACTIVITY	Write garden club, and ask for assistance in securing and planting seedlings on the schoolground or at another locality. Plant the seedlings. Design plaque to be placed at site of planting.	

BOOKS IN KUHN BARNETT LIBRARY:

Baker, Eugene. I Want to be a Forester.

Bough, Glenn O. Lookout for the Forest.

Buckheimer, Naomi. I Know A Ranger.

Coombs, Charles I. High Timber.

Farb, Peter. The Forest.

Flaherty, John. Forest Ranger.

Frome, Michael. Whose Woods These Are.

Hurd, Alma. The Friendly Forests.

Hurd, Edith. This is the Forest.

Hyde, Wayne. What Does A Forest Ranger Do.

Selsam, Millicent. Birth of a Forest.

Zim, Herbert S. Trees.

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C A R E E R E D U C A T I O N P R O G R A M

R A D F O R D C I T Y S C H O O L S

UNIT TITLE: MERCHANDISING - FROM FACTORY TO ME

APPROXIMATE GRADE LEVEL: GRADE 5

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

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INTRODUCTION TO: MERCHANDISING - FROM FACTORY TO ME

One phase of Social Science on fifth grade level concerns the choices people have in making purchases of desired goods. Since children of this age are becoming more independent in their buying practices and have more money to spend than previous generaltions, emphasis on this part of their school experience should be interesting as well as worthwhile.

OBJECTIVES:

1. To help children understand what is involved in production of goods for retail sale.

2. To acquaint children with the transportation processes involved in getting products from

3. To help children recognize the role of supply and demand of goods in the production and distribution of same.

4. To help children determine what is involved in determining the prices paid for what they buy in stores.

5. To develop in children an understanding in a broad sense of kinds of jobs involved and skills needed for satisfactory fulfillment of these jobs that give them such economic choices.

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MOTIVATING ACTIVITIES

1. Let children read and report on their reading of newspaper advertisments of goods for sale (any kind).

2. Children make a poster of clusters of items they like to buy.

3. Children determine relationship between items 1 and 2.

4. Class relates their desires to their needs in goods purchased, writes paragraphs of explanation.

BROAD OBJECTIVE: To help children understand what is involved in the production of goods for retail sale.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. Where does the merchandise in our stores come from?	Have children list broad classifications of kinds of goods they can buy (i.e. food, clothing, furniture, etc.)	Chalkboard, chalk, paper and pencil.
	Show filmstrip.	CF-A-2[illegible] A Shopping Center, and record - CE-CT-A80.
	Have children discuss and name sources of goods (farm, factory, etc.) Use inquiry method of information seeking.	Chalkboard & chalk.
	Have children make fact sheets and include resume of findings in above discussions. a. Sources of supply. b. Types of manufacturers. c. Means & methods. (in broad terms)	Library references.
2. What kinds of jobs are required to produce and distribute these goods?	Children list any kind of work they think would apply to producing and distributing goods. Indicate which jobs in the list are sales jobs?	

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
3. Why are certain goods produced? What determines what shall be produced and marketed?	Locate manufacturing centers in U. S., and in Virginia.	Old Social Studies Textbook, Living in the Americas.
	Make pictorial map of same.	Construction paper, felt pens.
	Discuss briefly with children why these cities bacame manufacturing centers.	
	Initiate listing of reasons why products are made available for public use. a. profit motive b. need c. satisfaction of desires d. etc.	Chalkboard & chalk. Concepts and Values, p. 169 - 176, 198
	Have two students read and report on two books: one about Food, and the other, clothes.	Nothing to Eat but Food. Frank Jupo, (Aladdin, 1954) Nothing to Wear but Clothes. Frank Jupo, (Aladdin, 1953)
	Make bulletin board illustrating the "From Factory to Me" theme.	Construction paper Magazines to be cut apart for pictures. Colored string or yarn. Pins or staples.
	Show filmstrips.	CF-A229 Americans at Work (has captions) CF-A201 A Manufacturing Area and cassette CF-A-201

BROAD OBJECTIVE: To acquaint children with the transportation processes involved in getting products from the factory to the store and thence to the consumer.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What are different ways by which products may be transported from one area to another?	Initiate discussion by inquiry method of the main means of transporting goods in U. S. a. trucks b. railroads c. airplanes d. ships e. barges	Library references. Old Social Studies textbook, Living in the Americas.
	Assign groups to prepare posters illustrating each means of transportation.	Poster board, pens, pencils, magazines.
	Show filmstrips.	CF-A141 Modern Land Transportation (with captions)
	Play records.	CF-A75 Textiles: How They Get to Where You Shop & record C-Rec. A-49 Record C-Rec. A-51 Transportation.
	Invite long-distance Truck Driver to talk to class.	
	Write thank-you note to Truck Driver friend for coming to class.	Discovery in English, p. 254

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
2. Is there a profit involved by each business man or company as the products progress from factory to r.? Name some jobs involved. Which jobs appeal to you (student).	Read textbook and related materials. Ask for oral reports and discussions on material read. Trace one commodity from point of manufacturing to consumer. Show film on transportation processes. (optional)	Concepts and Values, p. 168-176. Library references. Film (to be selected).

BROAD OBJECTIVE: To help children recognize the role of supply and demand of goods in the production and distribution of same.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What is meant by supply and demand? Plant idea to be pursued as textbook material is read.	Read textbook material on subject. (Individual silent reading assignment).	Concepts and Values, pages 169-178, for one assignment.
	Discuss text material on pages indicated.	
	Make graphs on costs involved in production and distribution. Figure percentages of interest costs on bank loans.	Graph paper, rulers. Mathematics 5, pages 266-277. Graphs study Fraction study, p.136 review
	Make word list of vocabulary involved in discussion of text material.	Chalkboard, chalk. Concepts and Values, p. 176.
	Read textbook material continuing subject matter then have group discussions.	Concepts and Values, p. 178-187, to complete assignment.
	Show filmstrip.	Filmstrip (to be selected)
2. What effect does the role of supply and demand have on sales jobs?	Have children engage in group discussions to clarify terms and ideas.	
	Report to class orally on same.	
	Invite Store Owner or Manager to talk about guide lines for employing salesmen.	

BROAD OBJECTIVE: To help children determine what is involved in determining the prices paid for what they buy in the stores.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What determines the prices you pay for what you buy?	Use inquiry method of open discussion for answers.	
	Classify answers that children give (include supply and demand concept).	
	Assign textbook material pages for individual reading and reporting.	Concepts and Values, p. 188-197.
	List factors relating to prices involved in these transactions. a. Installment buying b. Banking practices c. Charge accounts d. Desires (culture) e. Weather effects & season on perishable goods.	
	Use study prints.	C-Sp-29 Learning About Money.
	Use filmstrips and records.	CF-C2, The Nature of Money and record C-Rec.-C2 CF-C-3, Services of a Bank and record C-Rec.-C-3.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Plan field trip to Credit Union, bank, or "money institution".	
2. How do your values help to shape your choice of what you buy? Define value.	Children make individual lists of material things they value most highly.	
	Use art lesson to demonstrate high-value things.	
	Read assigned textbook pages.	Concepts and Values, p. 200 & 291.
	Have class discussion after reading of textbook pages 200-201 (& having finished entire unit on Economic Choices); class relates their list of highly valued things or goods with lists of their highly needed items to determine stable ideas of value.	
3. How can you connect prices, values, and sales jobs?	Class has open discussion, and draws conclusions.	
	Make lists of items included in conclusions on chalkboard.	Chalkboard & chalk.
	Play cassette on Workers Who Sell.	CE-CT-A90 Workers Who Sell.

BROAD OBJECTIVE: To develop in children an understanding in a broad sense of the kinds of jobs involved and skills needed for satisfactory fulfillment of these jobs that give them such economic choices.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. After goods are produced in factories, what are different kinds of jobs that get merchancise to us as concumers? Focus attention on sales work.	Children visit library and read from selected books on reserve.	Library references (to be selected at individual schools)
	Engage class in open discussion listing all jobs involved in distribution of goods.	
	Use newspaper classified ad sections to illustrate kinds of jobs involved in selling.	Newspapers, state & local.
	Display clippings from newspapers for sales jobs.	Newspaper clippings, poster or tag board, crayons for decoration.
	Have children write ads and put on bulletin board for display.	
	Have class review lists of jobs and focus attention on the importance of sales work, listing kinds of salesmen they can name.	
	Show filmstrips illustrating sales jobs.	CF-A123 My Dad Works In A Supermarket. CF-A121 My Dad Works In A Shoe Store

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Play cassette tape to illustrate supermarket jobs.	CE-CT-A121 Getting to Know the Supermarket
	Plan a field trip to a grocery supermarket, or other appropriate retail outlets.	
2. How many new sales jobs can you name after the studies and trips that have been made?	Revise list of kinds of sales jobs. a. stores b. door-to-door c. auto d. insurance e. etc.	
3. What are the duties of sales people?	Divide class into four or five groups to do research into one of the sales jobs listed above.	Library Card catalogue Books
	Report findings orally to class.	
	Show films or filmstrips on subject of sales.	Film - to be selected - book not available. Filmstrip CF-A228 Your Stores
	Invite sales person to visit class and explain his work. (Parent if possible) Have question and answer period.	
	Write individual reports on findings. Write thank-you note to sales person.	

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
3. What skills or educational requirements are needed for sales jobs that get merchandise from factory to me?	Determine personality characteristics needed for good salesmen.	Library references. (To be selected at individual school)
	Have children interview sales people. Report findings to class and on paper. Study and discuss proper procedures.	Library references.
	Have children investigate ads in local papers for sales jobs which might appeal to them.	Newspapers.
	Assign each child to write a letter answering a newspaper ad for a job that appeals to him (real or imaginary).	Discovery in English, letter writing, p. 265-267.
	Review vocational skills and/or educational requirements. Emphasize varied educational requirements from below high school completion to professionally trained people.	Library references.
	Make collages illustrating kinds of jobs, and their own particular interests.	Magazines.
	Have children learn to count money and change, (if not known), to write cash receipts, to make price tags, to prepare inventories, etc.	

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
4. What are the advantages and disadvantages of sales work?	Make composite lists as class activity.	Library references.
CULMINATING ACTIVITY	Make bulletin board. Plan and present skit. Establish small groups in the class who will have the broad assignment of planning, preparation, and demonstration of a sales situation, suggestions given below. Each group is given designated space. Plans are to be approved by teacher. 1. Appliance store 2. Food market 3. Book store 4. Sporting goods store 5. Plant nursery 6. Pet store (stuffed or live) 7. Furniture store 8. Car dealer 9. Drug store (Apathocary)	

C A R E E R E D U C A T I O N P R O G R A M

R A D F O R D C I T Y S C H O O L S

UNIT TITLE: UTILIZATION OF RESOURCES
" YOU CAN'T FOOL MOTHER NATURE"

APPROXIMATE GRADE LEVEL: GRADE 5

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
Motivating Activities	1. Play game 20 questions. Headings are Animal, Vegetable and Mineral. All of these are resources.	
	2. Have a brainstorming session with the class after defining the word resources. Have children snap out a quick response of some resource.	
	3. Start a vocabulary list with the word resources at the top.	
	4. Have music teacher introduce songs that involve our resources. Learn others during the unit.	16 Tons Big John

BROAD OBJECTIVE: To help children understand that people adapt to and change their environment through the utilization of resources.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. How do our environments change due to geography?	1. Show filmstrips Geography, Climate and Natural Resources. Defining the Rocky Mountain Region.	Filmstrips: Geography, Climate and Natural Resources (The Rocky Mountain States) (The Southwestern States)
	2. Divide children into groups and make murals depicting scenes from different geographical areas. a. Jungle Lands b. Mountainous Land c. Desert Lands d. Cold Lands	Encyclopedias Library Books
	3. Have children interview parents to find out information on different areas they have lived in.	
	4. Have a map of the U. S. displayed, pinpoint place of birth of each student.	Map of U. S. Varied colored pins Yarn
	5. Have resource person (preferably parent) visit classroom and discuss environment of some area in which they have lived.	

CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	6. Write thank-you note to resource person.	
	7. Divide children into groups and work with study prints.	Interaction of Man and his Resources.
2. How do the farmers in a mountainous region change their natural environment?	1. Read Text pp. 121-129 A Mountain Farm and discuss material.	The Social Sciences pp. 121-129
	2. Review any information pertaining to mountain farming from filmstrip on Rocky Mountain States.	
	3. Let children choose one of the following activities:	
	a. Do the investigation into making an elevation map on page 124 in our Social Studies.	The Social Sciences p. 124
	b. Make a salt-flour map of a mountainous region. Try for a variety of places - California, Va., etc.	Salt-flour recipe.
	c. Make a physical map showing the elevation of some mountainous state.	Duplicated maps of Virginia, California, etc.

CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	4. Start a chart to be followed throughout the unit with the following headings: a. Crop b. Climate (or growing season) c. Soil d. Water	Large chart 24 x 36" Magic markers
	5. Visit the Claytor Lake or Little River Dam.	
	6. Show filmstrip A Trip To A Sewage Treatment Plant	Filmstrip projector.
3. What are the resources of the central valley of California?	1. Read textbook pp. 131-140 A Dry Region and discuss content.	The Social Sciences pp. 131-141
	2. In Science class discuss the conservation of water and land both in a mountainous region and a dry region. Make a cumulative list and record.	
	3. Have children draw a picture showing some form of conservation for bulletin board: a. Dam	Paper

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	b. Terracing c. Irrigation d. Levees e. Canals	
	4. Visit the Water Purification Plant.	
	5. Listen to record and filmstrip Trip to an Electrical Power Plant.	A Trip to an Electrical Power Plant.
	6. Write a thank-you letter to the Water Purification Plant.	

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BROAD OBJECTIVE: To help the children develop an awareness of the diversity of resources which they take for granted in their day-to-day life.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What are some of our resources?	1. Play the Game of Interdependence. Each group choose an item in the room secretly and find out: raw material, where it came from, where it was manufactured and how materials were trnnsported. Put these on clue cards and display on bulletin board.	The Social Science Teachers Edition, p.161
	2. Have a large map of the United States and display resources (using symbols) as we discuss them throughout the unit.	United States map.
	3. Discuss and make a cooperative list of resources.	Large chart.
	4. Have each child take one resource and prepare a report and chart for class. Presentation including: a. products made from resource b. put their resource on U. S. map.	Encyclopedias

CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	5. Do creative writing "If I were on a desert island without a match, what would I do to solve my problem?"	
	6. Have children work with study prints Interaction of Man and His Environment.	Interaction of Man and His Resources.
	7. See filmstrip.	The South, Resources and Manufacturing Industries. Rand McNally
		Utilizing Our Resources.
		Adding to Our Resources.
		Our Human Resources.
		Ill Fares the Land.

BROAD OBJECTIVE: To help the children gain an understanding of the scarcity of resources and the need for sharing resources through trade.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What are the resources necessary in steelmaking?	1. Read textbook. pp. 143-149. 2. Show filmstrips and play cassettes: A Trip to a Coal Mine. Blast Furnace, The Story of Steel. A Trip to a Steel Mill 3. In Science class, study the resources that are necessary in steelmaking; iron ore, coking coal, and limestone. 4. Take a field trip to the limestone quarry. 5. Have a resource person from Lynchburg Foundry to give information on: a. raw materials used b. variety of products c. transportation necessary to obtain materials and to distribute products. d. Occupational choices.	The Social Sciences pp. 143-149.

CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	6. Write a thank-you letter to the limestone quarry and resource person from Lynchburg Foundry.	
2. How do we share resources through trading?	1. Role play situations showing the necessity of sharing and trading of resources.	See The Social Sciences Teacher's Edition 167
	2. Do research on resources imported and exported by the United States and write up this information for presentation to class.	
	3. Working in pairs, have children make lists of foods, tools and clothing that are grown or manufactured in other regions.	
	4. Divide the children into groups and work with the study prints, Interaction of Man and His Resources.	Study print: Interaction of Man and His Resources.
	5. Do research into the effects that the need of a certain resource affects our economy. (i.e. selling grain to Russia)	

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CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
3. What are some occupations associated with steel? making skipmen stove tenders blowers keepers slaggers melter ladle cranemen steel pourer ingot stripper heater soaking pit cranemen roller shearman	1. Study occupational briefs. 2. Have children label the occupations and tell about the careers from the beginning to the end in the steelmaking processes by role-playing.	

BROAD OBJECTIVE: To help children perceive man's ability to use chemical technology to increase his resources and the variety of careers available in this field.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. How did the shortage of rubber during World War II create a need to find a new resource?	1. Read textbook pp. 150-151 Creating New Resources.	The Social Sciences.
	2. In groups of two or three, the children can identify a problem of shortage and come up with a solution.	
	3. Have volunteers find information and inform class on: a. natural rubber, b. synthetic rubber.	
	4. See filmstrip.	The Story of Rubber Encyclopedia Britannica
2. What are the careers related to the field of rubber?	1. Study occupational briefs.	
	2. Make list of occupations.	
3. What are some other synthetic materials? polymers - nylon, orlon, acrilan, dynel; plastics; synthetic leather	1. Read text Chemicals for Modern Industries p. 151	The Social Sciences p.151
	2. Have each child make list of synthetic products found in their own home.	
	3. Have children research material on synthetic products: a. the history of b. raw material,	

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CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	c. careers available.	
	4. Make a list of synthetic products.	Large sheet of tagboard. Magic markers.
	5. Write a crettive story: What would our life be like if suddenly all of the plastic simply disappeared?	
	6. Take field trip to Radva Plastic.	
	7. Have a debate - What consequences do synthetic products have on other industries?	
4. What are the careers that are available in synthetic materials?	1. Make a list of occupations after Radva Plastics trip.	
	2. Study occupational briefs.	
5. How is petroleum refined and what does technology produce with the wasted?	1. Show cassette and filmstrip: A Trip to an Oil Well.	Cassette and filmstrip: A Trip to an Oil Well.
	2. Bring in newspaper clippings on the energy crisis and display on bulletin board.	

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CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	3. Have group divided and do research and take notes on the petroleum industry: a. 1st group-refining oil. b. waste products petrochemicals. c. pollution problems. d. energy crisis.	Pamphlets on petroleum.
	4. Have a small group of students place symbols for petroleum on United States map.	
	5. Have class debate some problem of the petroleum industry. Would man be better off without industries which cause pollution?	
	6. Read text p. 152-153	The Social Sciences
	7. Have filmstrip Oil Wealth from the Ground for small group viewing.	Oil Wealth from the Ground.
6. What are the careers available in petroleum products?	1. Have groups review careers observed in filmstrip. 2. Study occupational briefs. 3. In Science class discuss the role the geologist plays in locating oil fields.	

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
What are some other ways that man is using his chemical technology to increase his resources? -oceanography -nuclear energy -thermonuclear energy -solar energy	1. Read text pp. 155-159	The Social Sciences pp. 155-159.
	2. Do experiment of distillation to show one method of desalting.	
	3. Have series on Oceanography in room for small group viewing.	Filmstrip and records Oceanography Singer
	4. Have children do research on desalting water and methods of collecting salt.	
	5. Have children make a bulletin board of "Food Favorites" and "Food Horrors" by compiling list of child's favorite food and a food he can't stand.	
What are the careers available in this field? -scientist - fishermen -sailors -merchant marines -off shore oil-drilling - ship-builders -divers -salvage workers	6. Have class view filmstrip.	A Trip To A Nuclear Waste
	7. Show filmstrip on A Career in Oceanography.	A Career in Oceanography.
	8. Discuss work roles of people making a living from the ocean.	

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
Culminating Activities	1. Read text pp. 161-163 Focus on the concept, then discuss. 2. Have discussion 'How do we recycle waste products'. -trash and garbage -glass -automobiles -paper -water 3. Have a general review of material covered, display outstanding work, snap-shots taken during unit. 4. Write a story, 'Out of all the different occupations we studied in this unit, I would like to be a _____. Why?	The Social Sciences.

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CAREER EDUCATION PROGRAM
RADFORD CITY SCHOOLS

UNIT TITLE: RECREATION-WORK WHILE YOU PLAY

APPROXIMATE GRADE LEVEL: GRADE 5

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

PROJECT COORDINATOR: RANDY WRIGHT

THE CAREER EDUCATION PROGRAM
THE RADFORD CITY SCHOOLS
1612 WADSWORTH STREET
RADFORD, VIRGINIA 24141
PHONE: 1-703-639-6673

INTRODUCTION TO: RECREATION-WORK WHILE YOU PLAY

This unit on careers in recreation is designed for the fifth grade class. It is hoped that the children will become aware of the need for a community recreation program as a part of everday living and of the ways in which it contributes to a well-rounded life. It is necessary, therefore, that children know about jobs related to recreation, and to gain an appreciation for this world of work.

OBJECTIVES

1. To help children understand the need for recreation as a part of wholesome living.

2. To help children develop and strengthen the concept that some play is necessary in a well-rounded life.

3. To point out to children the economic involvements in setting up a recreation program.

4. To guide children in developing an understanding of the numerous careers in recreation, and to realize how individual talents and interests and training may lead to procurement of jobs in this field.

5. To help children become aware of the advantages and disadvantages in recreation work.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
Motivating Activity	Invite Recreation Staff members to class to talk with children about their work in the Radford Recreation Department.	Mr. and Mrs. Joe Hodge
1. How does the recreation program in our city contribute to our way of life?	1. Make a cooperative list of facilities in our city which come under the direction of the Recreation Department.	
	2. Make a chart "Fun in Our Town" using the above list.	Tagboard Magic Markers
	3. Make a frieze on the blackboard or a long sheet of paper showing recreation areas in our town.	Paper Colored Chalk
	4. Children interview parents to determine the ways in which they use the recreation program, and report to the class.	Parents
	5. Discuss with the class types of recreational activities they have participated in during the summer. Present to class.	
	6. Draw pictures showing the above activities.	Manilla Paper Crayons

CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIALS
	7. Teacher set up a reading table of books and pamphlets on recreation activities.	
	8. Begin a collection of articles made by the children in any area of recreation activities.	
2. What are the recreational needs of our city?	1. Use chart of recreation facilities in our city as a guide and list additional civic needs such as: a. public swimming pool b. additional library facilities, etc.	
	2. Use city map to locate recreation areas.	Map of City of Radford.
	3. Choose one item from #1 and draw pictures showing the civic needs.	Paper Crayons
	4. Invite a member of Recreation Department to classroom to discuss recreation needs, and, what plans, if any, have been made as to fulfilling the same.	Mr. Dave Bisset
	5. Write Thank-You-Notes to Mr. Bisset.	

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
3. What does the field of recreation involve?	1. Make an individual list of all areas in which recreation is involved, such as: a. City Recreation Dept. b. Boy Scouts, Girl Scouts, Y.M.C.A., Kiwanis Club, etc.	
	2. Compile a composite list of the above.	Tagboard Magic Markers
	3. Collect pictures and begin a bulletin board showing the areas of involvement.	Magazines Scissors Glue
	4. Role play areas of involved activities.	
	5. Children bring in newspaper clippings about recreation activities in our city and report to class.	Newspaper - Radford News Journal
	6. Read from material on reading table and make a written report to be read to the class.	
	7. Children get city budget and enlarge the Recreation Department Budget and put on wall.	Budget, City of Radford
	8. Children research and report to class as to how the city program is funded.	
	9. Plan activity for making: a. bean bags b. checkerboard, etc.	Beans Material (cloth) scissors, needles, etc.

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
4. What are the careers that are available in the field of recreation?	1. Compile a list of the various jobs in the field of recreation. 2. Assign these careers to groups to prepare oral reports to be given to class. 3. Use reading table to research careers and discuss. 4. Make collages showing recreation careers. 5. Take a field trip to St. Albans to observe recreation facilities thers. 6. Show filmstrip 7. Plan and begin a class booklet on careers in recreation. 8. See filmstrip on careers.	Tagboard Magazines Scissors Glue St. Albans Filmstrip: Recreation Park and Playground Workers. CF=A155 The Library and the Librarian CF-A152
5. What qualifications are necessary for an individual to work in recreation?	1. Discuss with the class, and make a list of qualities necessary for an individual to have in this field, such as: a. Sincere interest in people. b. Leadership ability, etc.	

CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	2. Use comic books to read and role play careers.	C286-Comic Books "Popeye and Hospitality and Recreation Careers"
	3. Make a chart listing qualifications.	Tagboard Magic Marker
	4. Study and report to class from occupational briefs about recreation-related careers and qualifications.	C98-Occupational Briefs
	5. Bring in a staff member from Recreation Department to discuss the advantages and disadvantages of work in the field of recreation.	Recreation Department Staff Member.
	6. Children analyze their own personal traits as to ability, etc.	
	7. Children write articles about themselves as to their talents and interests in the field of recreation. Read these to class.	
Culminating Activity	Have a hobby show.	

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CAREER EDUCATION PROGRAM
RADFORD CITY SCHOOLS

UNIT TITLE: ROCKS AND MINERALS

TREASURES BENEATH YOUR FEET

APPROXIMATE GRADE LEVEL: GRADE 5

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

PROJECT COORDINATOR: RANDY WRIGHT

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1612 WADSWORTH STREET
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PHONE: 1-703-639-6673

INTRODUCTION TO: Rocks and Minerals
Treasures Beneath Your Feet

Much has been said in recent years about conservation and ecology and this has resulted in increased interest, on the part of children, in our natural resources and their importance to our economic and social life.

The study of rocks alone is intriguing to fifth graders and leads naturally into the study of other underground treasures and oddities.

It is desirable that after working on this project the students will experience an increased awareness of the value of underground treasures, as well as an understanding of the opportunities they may open up to them for employment in their adult lives.

MOTIVATING ACTIVITIES	RESOURCES AND MATERIAL
Discuss bulletin board, prepared by teacher, showing volcanoes and caverns. (a) Stress volcanoes as a source of rock. (b) Point out importance of heat and pressure to all rock formations.	

BROAD OBJECTIVE: To help students understand the value of the ingredients in the crust of our earth as part of our life style; to guide them in understanding that this part of our natural resources is vital in conservation efforts, and that many jobs are created because of the presence of these treasures and are essential to gaining maximum usage from them.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What are the treasures inside the earth?	Read, study and discuss text p. 35-45 p. 342-358	Text: Concepts in Science V
	Learn names of three rock groups and some kinds of rock in each group.	
	Learn spelling of the above.	
	On science table display, for handling and examination, commercial rock collections.	Rock collections from library
	Children make individual rock collections, identify, and label.	Rocks Boxes Paper labels
	Prepare reading table of books about rocks and minerals for free reading and examination by students.	Books from library
	Perform experiment to make crystals.	Text: Concepts in Science, p. 38
	Test limestone and marble to establish similarity.	Use vinegar on each to make carbon dioxide, proving presence of calcium carbonate.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	View filmstrips.	Filmstrips: Rocks & Minerals The Rock Families (Soc. for Visual Ed.)
	Invite geologist to give demonstration on collecting and identifying rocks.	Dr. Benson
	Compile a list of minerals and relate to geographical areas.	Encyclopedias
	Read and report on encyclopedia accounts of precious stones.	Encyclopedias
	Learn to spell most familiar metals, minerals, and rocks.	
2. How do these treasures affect our way of life?	Make charts of pictures showing different rocks, minerals, and precious stones.	Tag board Magazines Glue Rulers Magic markers
	Tour school plant to find any apparent uses of rocks and minerals.	
	Report on kinds of coal and relate to geographical areas.	Encyclopedias Maps
	Report on different methods of mining coal - strip shaft slope	Encyclopedias

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Discuss current problems caused by these methods and their relation to conservation.	
	Write letters to Bureau of Mines for information regarding safety regulations in mines.	
3. What careers are related to rocks and minerals?	Working in teams, study occupational briefs and report to class.	S.R.A. Occupational Briefs
	Locate on U.S. map industrial areas where coal is an important factor in production.	U.S. map
	Visit Lynchburg Foundry.	
	Make cut-out frieze showing job roles described in earlier reports.	Long sheets of wrapping paper. Construction paper Scissors Glue Crayons
	Role play jobs for class to guess identity of job.	

CULMINATING ACTIVITY:

CULMINATING ACTIVITY	RESOURCES AND MATERIAL
Field Trip: Visit the Radford Limestone Quarry to find answers to the previously established questions: 1. How is the limestone quarried? 2. What proce-ses are used in the plant after quarrying? 3. What are the different types of jobs seen? 4. What are good and bad features of the jobs?	

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The Rock Families

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Compton's
Golden Book Encyclopedia
World Book
Young People's Science Encyclopedia

4. Pamphlets:

Science Research Associates - Occupational Briefs

C A R E E R E D U C A T I O N P R O G R A M

R A D F O R D C I T Y S C H O O L S

UNIT TITLE: FOOD SERVICES

APPROXIMATE GRADE LEVEL: GRADE 6

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

PROJECT COORDINATOR: RANDY WRIGHT

THE CAREER EDUCATION PROGRAM
THE RADFORD CITY SCHOOLS
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INTRODUCTION TO: Food Services

This unit on Food Services is planned for a sixth grade class, but with alterations it could be used on other grade levels. The unit begins with a study of nutrition as this age group will eat those foods which appeal to their taste and convenience unless they have guidance in understanding the relationship of a well-balanced diet to health and strength.

The study of nutrition gradually leads to a study of food preparation in the home and finally to the food industry and the variety of associated occupations. Emphasis is placed on food producers and food service because of the great number of occupations involved.

Objectives:

1. To help students understand the importance of a well-balanced diet to health.

2. To help students develop an interest and awareness of the various job opportunities relating to food service.

3. To help students understand the importance of food services to the individual and the community.

4. To help students develop the attitude that all work has dignity and makes a contribution.

5. To review basic food groups and daily requirements of each.

6. To help students learn to plan menus.

7. To help students become conscious of food preparation in the home.

8. To help students become aware of the dependence of people on the food industry.

9. To help students become aware of the occupations associated with food service.

10. To help students relate the jobs associated with the food industry to themselves and their likes, dislikes, and abilities.

BROAD OBJECTIVE: To help the students become aware of the importance of a well-balanced diet.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What are you? (You are what you eat)	Class discussion about "what each person is." Body is many cells. View microscopic slides of different human body cells. Display posters of malnourished individuals vs. nourished ones. (Animals)	Human body model. City Health Director, Dr. Mary Tom Long. College Home Economics instructors. Book: Cobb, Cells Zappler, From One Cell to Many Cells. Pamphlet: Your Food-Chance or Choice? Booklet: How Your Body Uses Food.
2. What are the kinds of food our bodies need?	Students make a wall chart to include the foods(protein, fat, carbohydrates, water minerals, vitamins) and why we need them. Produce skits in class to show many ways of using energy. Display wall chart "How Your Body Uses Vitamins."	Book: Leverton, Food Becomes You. Filmstrip: You and Your Food Young American Film Health Education Guide Grades K-6 State Board of Education

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
3. What are the four basic food groups and the daily requirements of each?	Display poster of 4 basic food groups.	Text book: Laidlaw, Health, 1966, Grade 6 Chapters 4, 5 and 6, p. 58-108.
	Make paper mache foods to illustrate the 4 main groups.	
	Make tests for nutrients in food. (Class demonstration)	Iodine and bread-turns starch blue. Burn mashed fruit and carbohydrate is ash. Burn protein for bad smell.
	Students keep a record of all the food they consume in a 24-hour period and then evaluate what they have eaten in terms of daily food requirements and balanced meals.	Charts on wall for reference. Booklets on food passed out.
	Each pupil must plan a balanced menu for one day.	Dietician will be resource person at this point.
	The class together prepares school lunch menus for a week. School cafeteria manager will give assistance.	School cafeteria manager.
	Oral reports on food science and history of foods.	

CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	The teacher should encourage the students to use recipes and to try preparing food at home. Possibly a collection of favorite recipes could be started.	Children's Cook Books in library.

BROAD OBJECTIVE: To help the students become more aware of foods in the home.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What are things to be considered when planning a meal?	Class discussion of the range of food prices and differences from store to store.	
	Obtaining prices of items from the grocery.	
	Have students bring in empty boxes and cans which still have price on them.	Newspaper grocery ads.
	Discuss different methods of preparation. Have one mother come to class to discuss recipes and prepared mixes, etc., and the preparation of food in the home. Cooking time and food storage should be included.	Parents.
	Cook a dessert in the room. Invite teachers in to be served.	
2. How is a good eating invironment established in the home?	Practice table settings with each student having a turn.	
	Make centerpieces which might make a table attractive and interesting.	
	Make burlap place mats.	10 yards burlap.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Role playing activity portraying a typical family eating dinner.	
	Class discussion of good table manners.	Book: Book of Etiquette
	Home Demonstration Agent can come to class and explain her functions and also talk about meal planning and preparation in the home.	Resource Person: Home Demonstration Agent
	Students plan a meal and shop for the necessary items at several stores in order to spend the least amount of money.	

BROAD OBJECTIVE: To help the children become aware of the dependence of people on the food industry and the variety of occupations in this industry.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. Who are the food producers? Farmers 1. Dairy farms 2. Cattle farms 3. Vegetable farms 4. Grain farms 5. Livestock(hog) farms. 6. Peanut farms 7. Fruit farms or orchards.	Class discussion of the various food producers and the areas in which food is produced. Make a map of the U.S. and indicate areas where food is produced. Put a sample of the food in the appropriate area on the map.	Triggs Dairy Farm. A farmer Agricultural expert from V.P.I. Books from library: Johnson, Lois, What We Eat Wise, William, Fresh, Canned and Frozen. Tannenbaum & Stillman, Feeding the City. Eberle, Basketful Hammond, Wheat From Farm to Market. Petersham, Let's Learn About Sugar Orr, Feed Day, Eating and Cooking Around the World. Smaridge, The World of Chocolate Buehr, Salt, Sugar & Spice Hastings, At The Dairy
	View filmstrips: (Eye Gate) The Baker The Dairyman The Butcher The Fruit and Vegetable Store	Filmstrips: (Eye Gate) The Baker The Dairyman The Butcher The Fruit and Vegetable Store
	Display study prints on the dairy helpers.	Study Prints-The Dairy Helpers

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
2. What are the occupations associated with producting food?	Students begin making a series of occupational brochures portraying the various occupations. Farmer Farm manager Farm hand worker Rancher Agri-Extension Agent Vocational Agri Instructor Grain buyer Dairy manager Dairy workers Meat packers Home economist Home demonstration agent	Extension service at V.P.I. (Agriculture Instructor and Extension Agent) Dairy manager Field trip to dairy or to agriculture experimental station at VPI&SU Correspondence with food manufacturing company.
	Resource persons to visit class to give first-hand report on jobs and what they are like.	SRA work Widening occupational roles kit.
	Interview as many persons as possible who hold these jobs. Use instamatic camera to take pictures of the individuals interviewed.	
3. Who are the food distributors?	Exploration of the ways food is distributed to food manufacturers, produce companies, grocery chains, grocery stores, restaurants, institutions, and firally-the home.	Kroger Company official (Manager-Manpower) Sales representative(Mr. Hager) Small store owner (Ted Bess or Tony Darden)

CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	a. By individual research and illustrated reports. b. Kroger manager to visit class and describe the distribution of food to the stores in the Kroger chain. c. Small store owner to tell class about distribution to his store.	
4. What are the occupations associated with distributing food?	Students make occupational brochures portraying the various occupations to add to the class collection. Truck driver Dairy products plant manager Milk truck driver Sales representatives	Truck driver who delivers to the school. Milk truck driver.
	Have local driver speak to class about his job.	Resource person.
5. What are the occupations associated with grocery stores and chains?	Students make additional brochures for grocery stores. Store manager Check-out clerk Meat cutter or butcher Assistant store manager Bag boys Produce manager Stocker Bookkeeper	

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Have parents who may have these jobs come to class to talk about these jobs. Field trip to grocery store to see the different work stations, to gain an understanding of the responsibilities of each job and the importance of each job.	
6. What are the occupations associated with restaurants?	Make additional brochures for restaurant occupations. Waiter Waitress Bus boy Head cook-cook helper Manger Sanitation engineer Cashier Maintenance Hostess Menu Interview as many of these people as possible, take pictures of each and report to class. Have restaurant owner talk to class.	Restaurant manager (Hotel-Mr. Claflin) Filmstrip: The Waitress Waitress(Mrs. Barclay) A cook(Raymond Hill)

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
7. What are the occupations associated with food preparation at institutions? School and college Hospital Prison(Bland-self-supporting prison by producing all the foods used)	Students make brochures on the additional occupations not covered already: Dietician Nutritionist Sanitary engineer Bacteriologist Maintenance Interview persons with these jobs.	Radford College cafeteria administrator(Ted Gardiner) Bland Correctional Farm official.
	Field trip to school cafeteria to learn about the different jobs involved.	Filmstrip: The School Cafeteria Worker.
	Have Mrs. Landrum, cafeteria director, talk to the class.	Mrs. Landrum, school cafeteria director. Hospital Dietician(special diets)
	View film which gives a picture of the entire food industry.	Film: Where Do I Go From Here? State - 66212
	Have students choose the one job in the food industry which appeals to them most(while considering interests and abilities) and act out the duties of(in costume, if possible) that job for the class.	

SUBJECT MATTER TIE-IN

Social Studies

1. Where food is produced
2. What foods must be imported
3. Food price control
4. Surplus food supplies
5. Farm subsidies
6. Big business
7. Follow wheat products from beginning(filmstrip in library)
8. Farming

Language Arts

1. Manners associated with eating
2. Vocabulary list(spelling, penmanship, and enunciation)
3. Conversation in restaurants, etc.
4. Advertising products
5. Write letters of inquiry to large food companies

Math

1. Comparison of different prices for different brands
2. of a given food.
2. Totalling sums on grocery lists
3. Budgeting money
4. Comparison of cost of food items when packed in different size packages.
5. Study measuring units used in a store
6. Comparison of Thursday ad prices with special attention to "sales." Calculations of savings on "sales."
7. Breakdown of food cost per meal.
8. Salaries of employees, use of cash register, coupons, and trade stamps.

Art - activities including

1. Paper mache foods
2. Making place mats
3. Making table centerpieces

Music

1. Dining music

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The Baker
The Dairyman
The Butcher
The Fruit and Vegetable Store
The Waitress
The School Cafeteria Worker

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   SRA - WORK

   Widening Occupational Roles Kit

   SRA Occupational Briefs

4. Film: General Foods -

   "Where Do I Go From Here?"

C A R E E R E D U C A T I O N P R O G R A M

R A D F O R D C I T Y S C H O O L S

UNIT TITLE: ME----A CARTOGRAPHIST?

APPROXIMATE GRADE LEVEL: GRADE 6

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

PROJECT COORDINATOR: RANDY WRIGHT

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INTRODUCTION TO: ME----A CARTOGRAPHIST?

This unit written in contract from is designed for 6th grade Social Studies. The complete contract is given to each student, their designed grade is recorded, and work must be completed by a designated date. It shows the jobs involved in cartography. It helps develop the ability to read and interpret maps and globes.

BROAD OBJECTIVES:

1. To make students aware of present day careers in cartography.

2. To enable students to locate a place if given its latitude and longitude, to use map keys, and to secure different kinds of information from different kinds of maps (physical, political, special-purpose, etc.)

CONTRACT UNIT ON CARTOGRAPHY

NAME: _____

I understand that in order to receive a minimum passing grade (D) for this unit of study, I must complete all of the tasks marked required on the list below. In order to receive a grade of C, B, A, one must in addition complete the optional tasks specified below as required for those grades. I also understand that each task completed must be turned in and will be rated on pass or fail basis. If the task does not pass, it must be done over or revised and receive a pass before credit is given.

D - Complete only required work.

C - Required work + 6 optional tasks and at least a D average on quizzes.

B - Required work + 8 optional tasks and at least a C average on quizzes.

A - Required work + 10 optional tasks and at least a B average on quizzes.

The grade I wish to contract for is _____.

Parents Signature _____

Signed _____

I. Requirements:

1. A, B, C, student must take notes during class discussion.
2. Students must read carefully p. 325-330. The Social Sciences, Harcourt, Brace, Jovanovick. Do on paper questions p. 330.
3. Reading Requirements: (Related to Maps)
   (a) "Sea Rovers of the North", p. 64-70, Reading Power (Harcourt, Brace)
   (b) "Marco Polo's Great Adventure" p. 79-88, Reading Power (Harcourt, Brace)
4. View required films and filmstrips.
5. Field trip to drafting lab. at Community College.

II. Optional Tasks:

1. Make a chart showing the jobs in developing a completed map.
2. Make a vocabulary list with definitions of words related to cartography.
3. Write a two page report in ink on the topic, "How Maps Are Made". (World Book Encyclopedia)
4. Draw a map including longitude and laditude lines and color in the polar, temperate, and tropical zones.
5. Draw a population map. (Include a legend)
6. Draw a rainfall map with legend and scale.
7. Draw a physical map with legend and scale.
8. Draw a product map of a certain area of the world.
9. Draw a polar map with scale and legend.
10. Extra Reading:
    C=10 pages
    B=15 pages
    A=20 pages

    Suggested books for reading:
    Cutright, Living In The Old World.
    Ahlschwede, Exploring The Old World.
    McFall, Christe, Map Drawing.
    Oliver, John E., Map Drawing.
    Epstein, Sam, Maps.
    McFall, Christe, Maps Mean Adventure.
    Oliver, John, Maps.

11. Work and check three activity cards (as developed by teacher) related to map reading.
12. Make a booklet of several different types of ready-made maps.
13. (a) Write a formal business letter asking for an interview with Rand McNally & Company. (A prominent map making company)
    Progress in English, p. 355.
    (b) Role-play an interview with this company.
14. Fill out an application for a job as a cartographer with C. S. Hammond & Company. (Prominent map making company)
15. Using a school supply catalog, order a political map for use in a classroom.

16. Make a chart showing the history of map making from Columbus to present day.
17. As a small group, present to class an assembly line in making a map. (draftmen, lines, colors, words, numbers, symbols)
18. Make a relief map of one of continents using a salt-flour recipe.

AUDIO-VISUAL RESOURCES

Filmstrips:

Mapping The Earth Surface 55309

Maps and Their Meaning 44208

Maps Are Fun 87904

Maps, Land, Symbols, and Terms 43005

Maps and Globes D105

Interpreting Maps D106

Using The Right Map

Using Latitude and Longitude

Learning To Use Maps FS 366-371

Career Brief #181

Map Outline - "The World". Transparency Duplicating Book - Millihen Publicity Co.

BIBLIOGRAPHY

Follett Publishing Company, Exploring Old World.

Harcourt, Brace, The Social Sciences.

MacMillan, Living In The Old World.

Laidlaw Bros., Progress in English.

Harcourt, Brace, Reading Power.

Field Enterprizes, World Book, Vol. 13-M "Maps"

FILM LIST

Giant Step, The (1963) 16mm Sound 29 min.
Lochhead - Georgia Company
Motion Picture Film Library
Zone 30, B2 Building
Marietta, Georgia 30060

Mapping The World (1957) 16mm Sound 26 min.
U. S. Army Engineer District
200 East Julian St.
P. O. Box 889
Savannah, Georgia 31402

New Dimensions in Maps (1968) Sound filmstrip explaing 5 ingrediants of map - color, lines, words, numbers, and symbols.
Hammond Incorporated
Education Division
615 Valley Street
Maplewood, New Jersey 07040

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CAREER EDUCATION PROGRAM

RADFORD CITY SCHOOLS

UNIT TITLE: GREEK AND ROMAN MYTHOLOGY'S RELATIONSHIP WITH TODAY'S INDUSTRY

APPROXIMATE GRADE LEVEL: GRADE 6

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

PROJECT COORDINATOR: RANDY WRIGHT

THE CAREER EDUCATION PROGRAM
THE RADFORD CITY SCHOOLS
1612 WADSWORTH STREET
RADFORD, VIRGINIA 24141
PHONE: 1-703-639-6673

INTRODUCTION TO: "Greek and Roman Mythology's Relationship with Today's Industry"

This unit is designed for the sixth grade level in social studies.

It shows the relationship of today's industries with the myths of the early Greeks and Romans.

Since this grade level studies old world history, it is important that they learn the contributions made to our occupations of today.

Motivating Activity and Background Material:

Read to the students about the main Greek Gods. Have them look up in reference books and make reports on the various Gods.

Learn Greek and Roman names of the Gods.

Bullfinche's Mythology and book listed from the Library should be used for this activity.

BROAD OBJECTIVE: (1) To make students aware of present day careers as they relate to Greek and Roman myths.

(2) To make students aware of symbols from mythology used in relationship with occupations of today.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What symbols from mythology often appear in trade marks used today?	Students discuss these trade marks which are reminders of famous myths. 1. Goodyear Tire 2. Socony Mobil Oil 3. American Medical Assoc. 4. Florists Telegraph Delivery 5. Mercury Auto 6. Missiles-Thor and Nika	World Book-Vol. M-13 p.814
2. Who were the Greek and Roman gods?	Show a chart of gods and goddesses in Greek and Roman mythology. (Teacher develop) Students do individual research on mythology in library in books and encyclopedias. Reports on particular god or goddess in which they're interested.	World Book Encyclopedia-Vol. M-13 p.816 Field Enterprizes 1964 Library books listed in Bibliography on Greek and Roman myths.
<u>Language Arts Tie-In</u> What god or goddess interested you most?	Draw a picture illustrating the character as you see it. Write a story about it. Show overhead transparencies and filmstrips on Greek and Roman civilizations.	Filmstrips & transparencies. Ancient Civilizations: Greece and Rome (J.H. Pence Co.-Social Studies T)

CONTINUED: To help students gain an understanding of how we have come to possess and enjoy the comforts and conveniences of the present day through the influence of Greek and Roman mythology.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
3. What did the Greek god, Hermes, and the Roman god, Mercury contribute to our times?	Class discusses this myth of the messenger god and his winged feet whose symbol is used in florist telegraph delivery and Good Year Tire and Rubber Co. Other industries that could be studied at this time are: Ford's Mercury Space industry and missiles	Resource person from florist to explain how this delivery works.
4. How did the myth about Hephaestus and Vulcan inspire the pioneers in the blacksmith, automobile, rubber, and fuel industry?	Class discuss the blacksmith for the ideas which led to: 1. Iron industry and metallurgy (Lynchburg Foundry and Inland Motors) Students may ask Inland Motor representatives about Inland's connections with NASA.	Resource persons: 1. Leading metallurgy consultant(Wally Levi) Representative from Lynchburg Foundry shell shop. Representatives from Inland Motor(Ray Hoyt, Corwin Mathews)
5. How did the myth about Demeter and Ceres lead to: 1. Growing of flowers and vegetables?	Students read and discuss the myth of the god of agriculture. Discuss the growth of florist shops and nurseries, bringing in the careers involved, such as, flower arranging, decorating and landscaping.	Library books on myths(listed in Bibliography) Other resource people may be asked to come to the class to discuss their occupations: Interior decorator Architect Landscaper Nursery employee Florist arrange flowers

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Discuss the phases of farming and truck gardening in N.J.	Pamphlets from N.J. Chambers of Commerce.
	Discuss the growing of vast amounts of vegetables for refrigerated food industry and grocery chain stores, on Del-Mar-Va peninsula.	Representatives from A&P, Kroger, etc. could appear as resource people.
	Science tie-in - Grow beans in a glass jar to observe the root and the plant develop	Beans Jars Soil
5. 2. Making of breakfast foods?	Class selects its favorite breakfast foods. Make a chart showing pictures of breakfast foods and the ingredients necessary for body building.	Containers of breakfast foods and pictures from magazines to be used for charts. Poster board
3. Making of the calendar?	Class discusses early peoples' awareness of climate and seasons.	Almanacs
	How the calendar developed from early days to present time(bring in how the Greeks marked time with the Olympic games).	Books showing: Egyptian calendar Julian calendar Gregorian calendar
	Class can make the different calendars developed during the years and compare these with our calendar today.	World Book Encyclopedia Vol. C

CULMINATING ACTIVITY:

CULMINATING ACTIVITIES	RESOURCES AND MATERIAL
1. Students study the council meeting of gods and goddesses.	
Students make costumes representing gods and goddesses and conduct a council meeting of gods and goddesses.	Materials needed:
Students write dialogue for the council meeting.	
2. Along with this, other students could represent industries and careers of today that relate to the myths studied.	
Students make costumes or items representing the industry or career.	Ex. of materials: 1. Tire-Goodyear Rubber Ind. 2. Cardboard Mercury automobile 3. Missile out of tin cans from cafeteria.
Students write the dialogue to go with the council meeting.	
The culminating activities could be performed in an asrembly program for the other classes.	

The last part of this unit could develop into another unit showing how the early Greeks originated the Olympic games and how they have influenced recreation, sports, and body building. Also, the many careers stemming from them.

BIBLIOGRAPHY

1. Books:

Alexander, B. Famous Myths of the Golden Age. Random House, 1945.

Benson, S. Stories of the Gods and Heroes. Dial Press, 1940.

Fadiman, C. Adventures of Heroes. Random House, 1960.

Green, R. L. Heroes of Greece and Troy. Henry Z. Walck, 1961.

Hoffman, A. S. The Book of the Sagas. E. P. Dutton.

Lowrey, J. S. In the Morning of the World. Harper & Bros., 1944.

Sellew, C. F. Adventures with the Gods. Little, Brown & Co.1945.

White, A. T. Golden Treasury of Myths and Legends. Golden Press, 1959.

Books in Room Library

Baker, E. K. Stories of Old Greece and Rome.

McGuire, Edna. Glimpses into the Long Ago.

Southworth and Southworth. America's Old World Background.

Follett Publishing Company. Exploring Old World.

MacMillan Company. Living in the Old World.

Field Enterprizes. World Book-Vol. 13-M - Mythology.

Filmstrip and Transparency Set -

Ancient Civilizations: Greece and Rome. J. H. Pency Company.

C A R E E R E D U C A T I O N P R O G R A M

R A D F O R D C I T Y S C H O O L S

UNIT TITLE: ECOLOGY

APPROXIMATE GRADE LEVEL: GRADE 6 OR 7

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

PROJECT COORDINATOR: RANDY WRIGHT

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INTRODUCTION TO: ECOLOGY

This unit is written for a seventh grade science class and begins with a study of land biomes. The main objectives are to cause the students to become aware of the need for the protection of our natural resources and to acquaint the students with the occupations involved in conservation. The students should be allowed to explore various occupations and be guided to realize that each individual is responsible for his environment.

BROAD OBJECTIVE: To help students become aware of the variety of land biomes found on the earth and to increase student knowledge of the immediate environment.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What is a biome? Natural association of animal and plants in a given climate.	Play a game and match the picture of the land with a typical animal living there. Some will be more difficult than others.	Pictures of arctic, tundra, spruce-fir forest, temperate hardwood forest, tropical rain forest and desert surroundings available to be matched with a variety of wildlife pictures(National Wildlife Federation Animal Stamps).
	Discuss the relationship between plants and animals and climate and why certain animals live in certain regions.	Check BSCS Green Version High School Biology by Rand McNally - similar type of exercise.
2. What are some different biomes? Arctic, Tundra(Canadian Arctic), Spruce-fir forest, Temperate forest, Tropical forest, Desert, Mountains	Read section in text entitled, "Life from North to South", p. 44-50.	Text: Life, Brandwein, Burnett, Stollberg, p 42-57.
	View filmstrip series, Land Biomes.	Filmstrips: Eye Gate-The Desert, The Tropical Rain Forest, The Middle Latitude Deciduous Forest, The Tundra, The Mountains

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Make a frieze depicting the different biomes, including plants, terrain and animals.	Three large poster boards or paper on rolls
	Begin making student vocabulary lists.	
	Set up a reading table with several books and pamphlets.	Books: Berrill, Wonders of the Woods and Desert at Night. Dersal, Wildlife for America. Hastings, Animal Life in the Wilderness.
3. What is typical of the biome in which we live? A wide variety can be found in any small area.	Individual student reports on animals and plants characteristic to our area (temperate) and found in the city. Make a scrapbook of these reports with pictures and display on the reading table. One student can be chosen to design the cover. Take a trip to Wildwood Park to observe the wildlife present.	Book: Cohen, Animals of the City Encyclopedias

BROAD OBJECTIVE: To help students understand the necessity of environmental conservation.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. Why does man need to conserve resources? They cannot be replaced.	Read cases of disastrous misuse of the environment in text, p. 513-516. Discuss each separately.	Life, p. 513-516.
	Display posters of man-created pollution.	
	View filmstrip, "America's in Trouble," which explains which resources cannot be replaced. Have several interested students tape the narration and then reshow filmstrip.	Filmstrip: "America's in Trouble" National Wildlife Federation
	Collect newspaper clippings dealing with diseases related to pollution.	
	Listen to ecology songs.	Record: "The People are Scratching"
2. What are some local conservation problems? Litter(paper, cans, bottles) Vacant lots Air pollution Small sewage plant Burning of trash Water pollution Junk cars	Assign students certain areas in the city to observe photograph, and report to class about existing conditions. What is presently being done about these problems?	

CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Interview resource people if they cannot visit class. Examine the various conservation problems in our city.	Resource people: Sewage plant manager Sanitation Dept. official Water purification plant official Civic beautification commission president. Local Va. Air Control Board official.
	Discuss and plan a class project to help alleviate some local problems. Some possibilities are: Collection of trash on the streets. Beautification of school and/or school grounds. Students will be able to suggest others. A scrapbook of the project will be kept.	What about the economics of improving our environment? How will it effect the local tax rate? Two large green poster boards.
	Have students make clean-up, paint-up, fix-up poster depicting cleaning up Radford. Display these downtown and in our school.	65 pieces of oak tag board magic markers. Colored pencils.

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BROAD OBJECTIVE: To help students understand the different kinds of conservation and the variety of careers associated with each.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. Why is water conservation important? Economic importance. Necessity for life. Chemical pollution control. Watershed protection. Power production. Recreation.	Divide the class into groups for research of water topics. Provide books, pamphlets, etc. for research. Research should include personal interviews of local people involved in each area. Again the economics of thesituation must be considered. Will people lose jobs if a polluting plant is forced to close down?	Encyclopedias. Pamphlets: "The State of Virginia's Environment." "Industry, Environment, Virginia" Governor's office-others,also. Books: Carona, Water Green, Water Meyer, Water at Work Stevens, The Town That Launders Its Water Bauer, Water Riches or Ruin
	Obtain water samples from 3 locations in New River and test for certain pollutants.	Water testing kit.
	Collect newspaper clippings and magazine articles about polluted water or water conservation programs.	
	Take a field trip to the water filtration plant to observe the processing there. Attention to the employees will also be involved.	Field trip.
	View filmstrip, Water Conservation.	Filmstrip: Water Conservation

CONTINUED:

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
2. What are some occupations associated with water conservation? Filtration employees. Water patrol. Water safety instructor. Life guard. Pollution control chemist. Water Control Board employee. Dam construction engineer. Others students think of- Chemist Hydraulic engineer	Begin making a list of conservation careers and responsibilities of each on large poster boards to be displayed. Student research in SRA occupational briefs to find as many occupations as possible associated with water conservation.	4 poster boards. Large(12x18) white drawing paper. SRA occupational briefs. Booklets: "The State of Virginia's Environment." "Industry Environment Virginia"
3. Why is soil conservation important? Economic importance Protection against soil erosion by wind, water, fire damage. Protection of non-replaceable resources.	View filmstrip, Soil Conservation. Review pamphlets on soil conservation and how it is prevented. Discuss recent floods and reasons for floods. Collect soil samples from a variety of areas in the city and test these for the various minerals necessary for plant growth. Students can bring home garden soil samples.	Filmstrip: Soil Conservation Pamphlets Sudburry Soil Test Kit.

CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Germinate seeds and plant them in different kinds of soil to find out which soil is best for plants. Then use soil test kit to check for minerals present.	
	Discuss why metals should be recycled.	
	Plan a class activity to help with the city can collection.	
	View filmstrip, Mineral Conservation Today.	Filmstrip: Mineral Conservation Today
4. What are some occupations associated with soil conservation? Soil analyst, County agent, Agricultural Extension employee, Farmer, Scrap metal dealers	Add to list of conservation careers and responsibilities. Use SRA occupational briefs.	SRA occupational briefs
	Have a resource person talk to class about his own job (county agent, hopefully).	Resource person
5. Why is wildlife conservation important?	Individual student research on endangered species. Reports to class.	Library books: Van Dersal, Wildlife For America. Hess, The Curious Raccoons. Laycock, Wild Refuge. Smith, The First Book of Conservation.

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Important to stress inter-relationship between: animals - animals animals - plants water & mineral cycles food webs/chains	Hogner, Conservation in America. Green, Wildlife in Danger. May, The Big Island. Seton, Animal Tracks and Hunter Signs. Barker, Winter-Sleeping Wildlife. Hornblow, Animals do the Strangest Things. Selsam, Animals as Parents. Berrill, Wonders of Animal Nurseries. Barker, Wildlife in America's History.
	Display pictures of endangered species. Class discussion of why we need wildlife and the reasons some species are in danger of becoming extinct. Point out certain pamphlets on reading table having to do with wildlife.	
	Students make terrarium containing small animals and plants. Maintain in room.	Text: Life, p. 434-435. Magazines: National Wildlife Virginia Wildlife

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	View bird study prints available. Try to learn to identify different species of birds.	
	Make animal puppets and have a puppet show to role play animal problems.	Material needed to make puppets.
6. What are some occupations associated with wildlife conservation? 1. Forest ranger 2. Zookeeper Game warden Biologist Naturalist Zoologist Ornithologist Biological aid Veterinarian	Add to existing list of careers and responsibilities.	
	Have a game warden come to class and explain his job.	Resource person
	Interview other persons involved in occupations associated with conservation of wildlife.	
	Role play game warden doing his job.	

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
7. Why is conservation of forests important?	Make a collage of products from the forest using magazine pictures or drawings.	Old magazines which children bring from home.
	Discuss ways forests are damaged.	Paper Manufacters
	View filmstrip, Conservation of Forests Today.	Filmstrip: Conservation of Forests Today.
	List recreation provided by forests.	
	Map the location of the national parks.	National Geographic
	View filmstrip, Yellowstone National Park.	Filmstrip: Yellowstone National Park.
8. What are some occupations associated with conservation of forests?	Add to existing list of careers and responsibilities.	Book: Hyde, What Does a Forest Ranger Do?
Forester Firemen Tree markers Forestry aides Forest recreation supervisor. Naturalist	Have a naturalist from Claytor Lake State Park visit the class and discuss his job.	
	Individual student research in SRA occupational briefs.	SRA occupational briefs.

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
11. What are ultimate problems of conservation? People and population Individual responsibilities: 1. Be informed 2. Be interested 3. Write letters 4. Ask questions 5. Teach others	One of the filmstrips will have already given the facts about population growth. Have a panel discussion on how to deal with the problems of a rapidly increasing population. Maintain a conservation newsletter for the school to be published and delivered to each classroom.	

CULMINATING ACTIVITY:

CULMINATING ACTIVITY	RESOURCES AND MATERIAL
Play the game, "What's My Line," using the responsibilities associated with any career related to the environment as the clue. The class must guess the occupation.	
Hand out a word search puzzle to include the words in the vocabulary list.	
Make jewelry from scraps and discarded articles that would ordinarily be thrown away.	
Several interested students will make a nature trail at a local park. Signs will be made to mark the trail.	
Design a brochure advertising some site in the community of interest-possibly the school. Illustrate the brochure.	
Make posters for display in school to depict good conservation practices at school(tag board).	

SUBJECT MATTER TIE-IN

Language Arts

Oral reports
Written reports on reactions to resource persons or field trips.
Writing letters for information.

Math

Work problems dealing with mileage charts to and from park sites in Virginia, or national park sites.

Social Studies

Importance of forests and soil for products.
National Park Service.
Governmental agencies which protect the environment.
Legislation protecting the environment.
Problems resulting from too many people, crowding, etc.

Music

Ecology songs.
Students might write their own songs.

Art

Make a mural depicting scenes from a national or state park.

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Selsam, Millicent E., Animals as Parents, New York: William Morrow and Company, 1965.

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Russell, Solveig Paulson, About Saving Wild Life for Tomorrow, Chicago: Melmont Publishers, Inc., 1960.

Van Dersal, William R., Wildlife for America: The Story of Wildlife Conservation. New York: Henry 1970.

Books: Water

Bauer, Helen, Water: Riches or Ruin, New York: Doubleday and Company, Inc., 1959.

Carona, Philip B., Water, New York: Follett Publishing Company, 1966.

Green, Ivah, Water: Our Most Valuable Resource, New York: Coward-McCann, Inc., 1958.

Meyer, Jerome S., Water at Work, New York: The World Publishing Company, 1963.

Stevens, Leonard A., The Town That Launders Its Water: How A California Town Learned to Reclaim and Reuse Its Water, New York: Coward, McCann and Geoghegan, Inc., 1971.

Books: Conservation

Hogner, Dorothy Childs, Conservation in America, New York: J. B. Lippincott Company, 1958.

Hyde, Wayne, What Does A Forest Ranger Do?, New York: Dodd, Mead and Company, 1964.

Smith, T. C., The First Book of Conservation, New York: Franklin Watts, Inc., 1954.

2. Record:

Starner, Fred, Ecology: The People Are Scratching, New Jersey: Kimbo Educational Records.

3. Filmstrips:

Sinclair, Robert, Ph.D., Conservation for Today's America, Chicago: Society for Visual Education, 7 filmstrips, 4 records.

Klink, Karin E. 2-7: Land Biomes of the World, New York: Eye Gate House, 8 filmstrips, 4 cassettes.

America's in Trouble, National Wildlife Federation.

4. Booklets:

Governor's Council on the Environment, Richmond, Virginia. The State of Virginia's Environment
Industry Environment Virginia

C A R E E R E D U C A T I O N P R O G R A M

R A D F O R D C I T Y S C H O O L S

UNIT TITLE: "ITS NOT WHAT YOU SAY,
ITS HOW YOU SAY IT"

APPROXIMATE GRADE LEVEL: GRADE 6 OR 7

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

PROJECT COORDINATOR: RANDY WRIGHT

THE CAREER EDUCATION PROGRAM
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RADFORD, VIRGINIA 24141
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BROAD OBJECTIVES:

1. To acquaint the student with the careers involved in good speaking.

2. To develop skills in oral presentation.

CONTE.. QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What do we need to be a good speaker?	Discuss and list on board what makes a good speaker.	
2. Do I know any good speakers?	Scan table of content to find lessons that would help to develop speaking abilities.	Colin, David. Our Language Today, American Book Co., New York, N.Y. 1966. Hand, John S. Progress In English. Laidlow Bros., River Forest, Ill., 1972. Growth In English. Laidlow Bros., River Forest Illinois, 1972. Pollock, Words and Ideas. MacMillan Co., New York, N. Y., 1960.
3. In what careers do we need to be a good speaker?	Discuss poster that are displayed. Introduce people who will be coming as speakers. Organize questions students will want to ask resource persons.	Keefe, Barbara. Careers for Good Speakers. J. Weston Walch. Words and Ideas, p. 150.

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
4. What do persons in various careers do that requires good speaking?	Three or four of these will be asked to speak. Field trip to radio station to observe an announcer at work.	Possible resource areas for speakers: Lawyer Doctor Politician Interpreter Clergyman Sales Career Announcer Actor Personnel Clerk Receptionist
5. What career is of interest to me?	Choose a career for oral presentation and role play working situation. Schedule interview with chosen career person if possible.	
6. How do I schedule an interview? What questions should I ask?	Study and discussion of textbook pages.	Our Language Today, Grade 6, p. 256-257.
7. How do I present my career orally?	Give a 3 to 5 minute presentation on career choice. The class will score each person on a checklist for: Points - 3-Good 2-Fair 1-Poor	

Name	Posture	Pronunciation	Pitch and Stress	Poise	Total

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Hand. Progress in English and Growth in English. Laidlow Bros., River Forest, Ill., 1972.

Keefe, Barbara. Careers for Good Speakers. Posters, J. Weston Walch.

Pollock. Words and Ideas. MacMillan Co., New York, 1960.

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CAREER EDUCATION PROGRAM
RADFORD CITY SCHOOLS

UNIT TITLE: MEASUREMENT AND THE METRIC SYSTEM

APPROXIMATE GRADE LEVEL: GRADE 6 OR 7

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

PROJECT COORDINATOR: RANDY WRIGHT

THE CAREER EDUCATION PROGRAM
THE RADFORD CITY SCHOOLS
1612 WADSWORTH STREET
RADFORD, VIRGINIA 24141
PHONE: 1-703-639-6673

OBJECTIVES:

1. To help students recognize that his interest, aptitudes and achievements will influence his future.
2. To help students understand that preparation and proficiency are required for most jobs.
3. To help students recognize that behavior and skills used in school also are used on the job.
4. To help students understand personal interest and characteristics influence career decisions.
5. To help students develop some of the skills needed on the job.
6. To help students become aware of skills, attitudes and habits associated with employability.
7. To help students recognize that accepting a task he also acce s certain responsibilities.

INTRODUCTION TO: MEASUREMENT AND THE METRIC SYSTEM

This unit on measurement and the Metric System is planned for a sixth grade class, but with alterations it could be used on other grade levels. The unit begins with a study of the different types and units of measurement, to acquaint the students with the history of the units. The study then goes into precision and how precise one can be in measurement of linear, dry measure, liquid measure, time, and metric measure. Emphasis on the careers that use measurement and the percision each career requires.

MOTIVATING ACTIVITIES

Learning Center on Measurements and
Careers Using Measurement.
"What Job uses what measurement?"
List of careers.
List of measurements.
Match careers with measurements used
by the career.

BROAD OBJECTIVE: To help the students become aware of the different types and units of measurement.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What is the different measurements you use or could use?	List lengths, heights, weights, distances, and time. Examples: 1. Pupils height 2. Pupils weight 3. Classroom length 4. Distance between two towns 5. Cup of sugar 6. Gallon of milk 7. Day, hours	
2. What is the appropriate unit of measure for each measurement?	Use list and decide what unit would be used for each.	
3. Why do we use certain units of measure?	View filmstrips.	Filmstrips: History of the English System History of the Metric System
	Discussion on why we use different units for different measure.	
	View films.	Films: Measuring Units - An Interduction. Measurement.
	View filmstrip.	Filmstrip: Measurement.

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CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Reports on how we arrived at the: 1. inch 2. foot 3. yard 4. rod 5. mile 6. second 7. minute 8. hour 9. day 10. week 11. month 12. year 13. decade 14. century 15. ounce 16. pound 17. ton 18. cup 19. pint 20. quart 21. gallon 22. peck 23. bushel 24. meter 25. gram 26. liter 27. are	Charts on measurement Encyclopedias Book from library Filmstrips Films

BROAD OBJECTIVE: To stress precision in measurement (linear, liquid measure, dry measure, time, and metric measure) and help the student become aware of careers associated with each.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. Why is it important to be precise in linear measurement?	Have students measure the length and width of their Math book. List the different measurements on the black board.	Rulers.
2. Do we need a unit of measure?	Discussion on why the measures were not the same.	
3. What is the range of measurement?	Work problems on Measure and Measurement.	Textbook: Mathematics 6
4. Can we obtain an exact measurement in linear measure?	Precision. Numbers and Measures pp. 255-259	
	View films.	Films: Comparing - Getting Ready To Measure. Let Us Measure Inches, Feet and Yards.
	View filmstrip.	Filmstrip: English System of Measurement

CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
5. In what careers do you have to be precise? 1. Architect 2. Machinist 3. Draftsman 4. Carpenter 5. Surveyor 6. Pattern Maker 7. Cabinet Maker 8. Photographer	Start list of careers that use measurement. Information to be compiled on each career and made into a booklet. 1. Name of career. 2. List how they use measurement. 3. Tell how precise they have to be. 4. Working conditions. 5. Education. 6. Salary. 7. Pictures of person in his career.	Resource people. Films. Filmstrips. Encyclopedias. SRA Occupational Briefs. Parents Magazines. Newspapers.
6. How precise do these people have to be in their careers?	Discussion on how precise the students think each person has to be on their job.	
	Resource person from Lynchburg Foundry to talk about the job of Pattern Maker.	Resource person.
	Resource person - Drafting teacher from high school.	Resource person.
	Surveyor to talk about his job.	Resource person.
	Resource person from Inland Motors to talk abour precision in building motors.	Resource person.

CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Field trip to New River Community College to visit Drafting Dept. and Machine Shop.	Field trip: New River Community College.
	View films.	Films: Your Career in Architecture. Mechanical Drawing - Language of Drawing.
	View filmstrips.	Filmstrips: My Dad is a Carpenter. My Dad - The Photographer.
7. Can you measure and be precise?	Have students measure one room in their home to the nearest 1/2 inch. In class have them do a scale drawing of the room. 1/4 inch = 1 foot Have students draw a house plan to scale.	Ruler Paper Pencil
	View filmstrip.	Filmstrip: Working With Scale.
8. How do we measure water, sand and leaves or grass?	Discussion on different units of measure for: Dry Measure: 1. pints 2. quarts 3. pecks 4. bushel Liquid Measure: 1. ounces 2. cups 3. pints 4. quarts 5. gallons	

CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Weight 1. ounces 2. pounds 3. tons	
	Let the students bring containers to measure the water, sand, and leaves or grass.	Milk container, measuring cups, sand, water scales, leaves or grass.
	View films.	Films: Let Us Measure - Ounces, Pounds, and Tons. Let Us Measure - Pints, Quarts, and Gallons. Story of Weights and Measure.
	View filmstrip.	Filmstrip: Liquid Measure.
9. What are the different careers that have to be precise in weights, dry measure and liquie measure? 1. Chemist 2. Farmer 3. Check-out Clerk 4. Cook 5. Pharmacist 6. Painter 7. Home maker 8. Photographer	Add to list of careers compiling information to go into booklet.	
	Resource person who is a pharmacist to talk about his job and what he measures.	Resource person.
	Resource person - homemaker to talk about how they use measurement in the home.	
	View filmstrip.	Filmstrip: My Mother Works at Home.

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CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
10. What would happen if you measured wrong in: 1. a receipt 2. a chemical mixture 3. mixing paint 4. selling fruit 5. mixing medicine	Have students interview: 1. a cook or mother 2. a chemist 3. painter 4. check-out clerk or farmer 5. pharmacist to find their answers.	
11. What are some of the uses for which we use time measurements?	Students make list of uses. Examples: 1. age 2. time to get up 3. time to go to school 4. payment of wages 5. 300 yd. race 6. bus schedule 7. time zone changes 8. building schedule 9. plane time table	
12. What unit of time is associated with each measurement? 1. second 2. minute 3.hhour 4. day 5. week 6. month 7. year 8. decade 9. century	Using list decide which unit to use. Discussion on why we would use a certain unit of measure. Study units of time on page 254. View filmstrip.	Text book. Filmstrips: Time in Minutes Time

CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
13. What careers would use time measurement? 1. airplane pilot 2. navigator 3. cook 4. prof. athlete 5. photographer 6. x-ray technician 7. race car drivers	Add to list of careers to be made into a booklet. Resource people Students write and present skits on what would happen in each career if they didn't use time measurement.	Same resources. X-Ray Technician Photographer
14. Do you use time measurement?	Students list the different time measurements they see in a day.	
15. Is your time measurement precise?	Discussion on their list as to precision and being exact.	
16. Can we obtain an exact measurement in time measure?		
17. Can the Metric System be used to measure precisely?	Have students measure their book in centimeters.	Rulers.
18. What could be measured in: 1. mega 6. deci 2. kilo 7. centi 3. deca 8. milli 4. hecto 9. micro 5. units	List of objects, distances, areas, etc. that could be measured in each unit. Comparing the units with the English System. View filmstrips.	Filmstrips: The Metric System Characteristics of the Metric System.

CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
19. Do we use the Metric System?		
20. What are some of the things measured in the Metric units? 1. meters 2. grams 3. liters 4. are	Students being in pictures of products measured in metric units. Make a bulletin board using these pictures. Problems using Metric units of length - pp. 250-251	Magazines Newspapers Catalogs. Textbook.
21. What careers use the Metric units in measuring? 1. Chemist 2. Machinist 3. Photographer 4. Mechanic (imported cars) 5. Watchmaker 6. Pharmacist 7. Atom Physicist 8. Engineer	List of careers to be added to booklet. Resource person - Chemist. View filmstrip.	Same resources. Resource person. Why Go Metric.
22. Should we change over to the Metric System?	Debate on pros and cons of changing to the Metric System.	Filmstrip Book- Encyclopedias

CULMINATING ACTIVITY:

Puzzle on measurement.

Students interview parents to find out type of work they do and how they use measurement in their work.

Students role play different careers showing how they use measurement.

Booklets finished and displayed on Bulletin board.

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CAREER EDUCATION PROGRAM
RADFORD CITY SCHOOLS

UNIT TITLE: THE WONDERFUL WORLD OF GEOMETRY

APPROXIMATE GRADE LEVEL: GRADE 6 OR 7

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

PROJECT COORDINATOR: RANDY WRIGHT

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INTRODUCTION TO: THE WONDERFUL WORLD OF GEOMETRY

This unit was written for use in a seventh grade but could be deleted and used in part in a sixth grade. It is designed to create an interest in the beauty of geometric constructions and to give the student a better understanding of the occupations related to geometry.

MOTIVATING ACTIVITIES	RESOURCES AND MATERIALS
Arrange interest - arousing bulletin board displaying pictures which will illustrate some of the occupations relating to the study of geometry. With each picture, place a drawing of a geometric figure and on the drawing write the identification of the occupation. Leave space for students to add other occupations.	Bulletin board space. Pictures cut from magazines. Drawings of various plane geometric shapes.

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BROAD OBJECTIVE: To help students develop an appreciation of geometric construction in the world of art.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What does a person have in mind when he says, "That is a pretty home" or "I don't like the way this home is built"?	Have students mention and list the characteristics that might go into the making of a pretty home. Collect and display pictures of the exteriors of homes which are noticeably different.	Newspaper clippings (Roanoke Times, 6/14/73) Magazine pictures.
2. What are some of the shapes that you have observed from the pictures or that you recall from previous observations?	Have students illustrate these shapes. Have students identify the shapes by names. Have students illustrate an entrance to a home that is real or that might be a part of a dream home.	Compass, ruler, and protractor. Math Text Book Chapter 8. Geometric Charts (Plane) Geometric Solids Coordinate Paper
3. Do you know of any buildings (homes, business places, or any other type of building) that are especially interesting to you?	Have each student make a mental survey of his own neighborhood as well as other sections of Radford and surrounding area. Have lists compiled and placed on chalkboard.	Teacher of Virginia History to indicate places of historical interest. Chamber of Commerce to make suggestions regarding special geometric designs that appear in our city.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Plan and take field trip to observe places of interest in Radford. Observe architecture.	
	*Design and build home or special areas of a home. Use geometric designs.	Scrap lumber, popsicle sticks, Paint, Glue
	*Build replica of some well known building (Mt. Vernon, etc.)	
	*Group Work	
	Write reports on famous homes and other buildings.	English teacher.
	Write letter to the Association for the Preservation of Virginia Antiquities to ask for information about places in the Montgomery County which might illustrate special geometric designs.	Association for the Preservation of Virginia Antiquities English teacher.
	Plan and take field trip to observe designs of geometric nature in surrounding area.	Person to act as guide.
4. Do you know of any other types of constructions that might involve geometry?	Observe and discuss pictures in books and magazines.	Magazines and books.
	Show movie.	Movie.
	Show filmstrips.	Filmstrips.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
(Possible answers to No. 4): bridges, water tanks, TV towers, control tower at airport, forest ranger's observation tower.		
5. Why do you notice so many triangles in the construction of a bridge?	Visit and observe structure of bridges.	Popsicle sticks, glue, etc. for bridge construction.
		Field trip to observe general construction of bridges.
	Explore the use of the triangle in construction. Discuss rigidity and structural strength obtained through use of triangle.	
6. What are some of the interesting bridges that you have observed in your travels?	Compile list of famous well known, or special kinds of bridges.	Information from Virginia History Class.
7. Have you read about or seen pictures of others that interest you?	Check possibilities of such bridges in local area.	Teacher of Virginia History.
		Students who have observed such bridges in their travels.
8. What phase of geometry would be evident in the construction or use of a drawbridge?	Study and discuss various types of bridges including Bascule type.	Encyclopedia Britannica Volume 4, pages 192-203

CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Construct a bridge (possibly Bascule type).	Use the idea of weights in windows to cause them to remain open. Science teacher.
9. In buying a frame for a picture, we usually think of what shape?	Discuss Madonna of the Chair by Raphael.	Famous paintings.
10. Can you remember a famour painting that has another outline shape? (circle)	Have one or two students do some research on Raphael and write reports.	Teacher of Art from Radford College.
11. How does an artist use geometry in his paintings?	Discuss the reason for the shape used in this painting.	Field trip to Art Department at Radford College or New River Valley Community College.

BROAD OBJECTIVE: To acquaint students with the use of geometry in the construction of factory produced and family produced items used in our day-to-day living.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What factory-made items have you used today? Can you associate geometric shapes with any of them?	Make a list of items mentioned and geometric shapes associated with each.	
2. If we organized the list beginning with the time you awoke, maybe we could remember more.	Display charts showing plane geometry figures as well as solid shapes to be used to associate with thinking.	Plane geometry charts. Solid geometric solids. Text book, chapters 8, 9, 10.
3. What are some of the parts of our homes or the more permanent installations in our homes that relate to geometry?	Make a list of everything mentioned. Use overhead projector and reserve for future reference.	Overhead projector. Bulletin board with pictures related to content question # 3.
4. What was the first thing that needed to be done when your house was built?	Check names of geometric figures involved in excavated space.	Textbook.
5. How many dimensions do you use to measure your basement (foundation)?	Check textbook to find names for dimensions.	Textbook.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
6. What might you do with the dirt that is excavated? How would you measure it?	Work problems in volume from textbook.	Textbook - Jr. High School Mathematics 7
7. If you were using brick for your home, would you use volume or square measure in purchasing the bricks needed?	Determine the reason for using square measure.	Bricks for illustration. Brick mason.
8. What else about your home might require the use of volume?	Study formula for volume of a rectangular solid. Apply this to the refrigerator at home or in the cafeteria. Do the same for a freezer.	Refrigerator at home or school. Freezer at home or school.
9. What kind of hot water tank do you have in your home? How many gallons does it hold? Is it rectangular or cylindrical?		Formula for volume of rectangular prism: $V=LWH$ Formula for volume of cylindrical tank: $V=\pi R^2H$
10. How many gallons will one cubic foot hold?		Use visual aides, such as cubic foot, cubic yard and cubic inch.
11. You will have walkways somewhere about your home. Of what materials are they made?	Have students mention kinds of walkways. (concrete, brick, etc.)	

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
12. Most of you have mentioned concrete. Of what materials are concrete walks really made? Where do we get the concrete?	Mix small amount of concrete. Pour into previously built form at direction of resource person.	Science teacher. Small portions of sand, gravel, cement, and water. Person who builds concrete walks, walls, etc.
13. How do we measure the quantity of concrete needed for a walkway?	Discuss lingth, width and thickness as variables in the building of a walk. Solve problems from text book.	Formula for volume: V=LWH Text book, pages 276-280 Use a section of walk on schoolground for measuring and thus determining volume and possible cost.
14. Do you have flower gardens of geometric shapes? If not, could you?	List possible shapes and find area of each.	
15. How could you determine the quantity of grass seed for your lawn?	Decide what type of measure would be needed.	Work problems in finding area of lawns as designed by students.
16. Have you looked at the roof of your house? Is it flat? Why?	Draw quickly-done illustrations of the appearance of your roof.	Student's personal supplies for drawing. Rulers.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
17. Why do they all slope? How much do they slope? Are they the same?	Show how the right triangle enters into the discussion of slope.	
	Explain the Theorem of Pythagoras.	Burn's Board illustrating Pythagorean Theorem.
	Illustrate the geometric proof of the theorem.	Flannel Board
	Use string on flannel board.	Ball of twine.
	Write brief report on Pythagoras.	Encyclopedia.
18. Do you know about other people who have contributed to our knowledge of Geometry?	Have small group of students work in Library to try to find people related to #18. (Euclid, Plato, etc.)	Library resource material. Librarian who will guide them in finding material.
19. We spend several hours a day in our own classroom. Have you ever thought about how much air is in this room and how much each person in the room needs?	Have students decide on the shape of the room.	Text book for a study of various shapes.
	Have them suggest the unit of measure that might be used to measure the air.	Geometric solids.
	Have students measure the room and find the volume.	Insturments for measuring the room. Cardboard cubic inch, cubic foot and cubic yard. Science teacher to discuss importance of sufficient amount of air (15 cu. ft. per person)

CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
20. Since we have measured the air in the room, perhaps we should find out about proper lighting.		
21. how do we adjust the light in our room?		
22. What do we find is necessary to do when someone is writing on the chalkboard?	Close venetian blinds and turn lights off; close blinds and turn lights on; open blinds and turn lights off; open blinds and turn lights on. Determine the difference in the four situations.	Doctor to explain importance of proper lighting to vision. Electrician to evaluate lighting in the room and explain why it is arranged in present manner.
23. How can we determine the amount of light needed in our room? 24. Does the type of work affect the amount of light needed? 25. What unit is used for measuring the amount of light required?	Study foot candle as a unit of measure. (1 foot candle is the amount of light a standard candle will give at a distance of one foot.) 50 foot candles needed for desk work. 200-300 foot candles needed for extra fine industrial bench or machine work. The sun on a clear day will give as much light as 10,000 ft. candles.	Colliers Encyclopedia, Volume 8, Page 711. Victor, Science for the Elementary School. Page 701.

CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
26. What furnishes the natural light in a room? Do we need artificial light at all times? Why are some of the panes of glass in our room painted green?	Evaluate the window space. Find area of windows in both exterior and interior positions. Estimate those which can not be conveniently measured. Try to determine the number of foot candles of light.	Room windows. Venetian Blinds.
27. How do venetian blinds govern the amount of light entering the room?	Study the angles formed when blinds are lowered. (straight, acute and obtuse.) Observe that blinds are slightly concave (convex).	Charts Structure of venetian blinds.
28. When could we see actual preparation for some of the occupations that we have mentioned in our unit?	Visit Vocational Building at Radford High School.	Vocational Education Building at Radford High School. Supervisor and teachers in various vocational fields. Mr. Hopkins, Vocational Supervisor Mr. Robbins, Electricity Mr. Helms, Machine Shop Mr. Sayers, Drafting Mr. Hines, Carpentry Mr. Roane, Industrial Arts

CULMINATING ACTIVITIES

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
What can we do to keep some of the information that we have collected about vocations?	Compile information and place in booklet form. Have booklet pages reproduced so that each person may have a booklet.	Paper for reproducing pages of booklet.
	Use geometric art on cover of booklet.	Art materials.
	Organize a "What's My Line?" program.	
	Organize a "Classroom Quiz" program.	

The following items indicate a possibility for use in connection with this unit. Because it was not possible to preview them, they are not indicated in specific locations in the unit.

Filmstrips:

How We Build Bridges
The Neighborhood Optometrist
A Trip to an Airport
Father's Work - My Dad is a Carpenter
Assembling A Car
Building Houses
Workers Who Fix Things

Charts: (career cluster)

Mathematics C-107

Motion Pictures:

Geometry - Lines and Shapes
Geometry and You
Geometry In Action
Practical Geometry - Lines and Angles
Parallel Lines
Volumes of Cubes, Prisms, and Cylinders
What Is Area
Angles and their Measurement
Discovering Solids Part I
Discovering Solids Part II
Dynamics of the Circle

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C A R E E R E D U C A T I O N P R O G R A M

R A D F O R D C I T Y S C H O O L S

UNIT TITLE: MAKE ART YOUR "THING"!

APPROXIMATE GRADE LEVEL: GRADE 6 OR 7

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

PROJECT COORDINATOR: RANDY WRIGHT

THE CAREER EDUCATION PROGRAM
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BROAD OBJECTIVES: 1. To acquaint the students with careers of art.

2. To incorporate basic skills in research of art career.

3. To develop appreciation for the artistic person.

INTRODUCTION TO: MAKE ART YOUR "THING"!

This unit on Art Careers us planned for upper elementary. The unit is developed to be used as a management system over a period of several weeks in weekly art classes. It could also be used in a concentrated study.

It is designed to expose the student to many areas of art careers.

Teacher will introduce unit by displaying posters on art careers. A bulletin board with careers in art will be made and used as a management system to show student progress in a specific art aareer. Teacher will discuss various occupations and have student choose their preference. After introduction, students will proceed with their research on their own, recording process on bulletin board. Teacher will act as resource person in research and provide all available resources on art careers.

*Example of Management System:

ART TEACHER

A. Job Qualification ___
___
B. Job Availability ___
___
C. Salaries ___
___
D. Working Conditions ___
___
E. Example of Work ___
1. Role play job experience ___
2. Photograph of on job experience
3. Art object

F. Create personal example ___
___

Each student will compile information in a booklet to present to class as a culminating activity.

*OTHER CAREERS:

Architect
Mechanical Draftmen
Mechanical Engineer
Cabinet Maker
Interior Decorator
Sign Painter
Jewler
Art Teacher
Photographer
Displayman
Cosmetologist
Photo-engraver

Lithographer
Cartographer
Painter
Sculptor
Cake Decorator
Stage Designer
Fashion Illustrator
Greeting Card Illustrator
Museum Curator
Advertising Artist
Package Designer
Book Illustrator

Free Lance Artist
Art Gallery Manager
Glass Blower

Filmstrips:

CF-A239 Building Houses, Educational Reading Service
CF-A170 Crafting A Chair, Eye Gate.
CF-A175 How We Build Bridges, Eye Gate.
CF-A173 How We Build Cities, Eye Gate.
CF-A171 How We Build Houses, Eye Gate.
CF-A174 How We Build Roads, Eye Gate.
CF-A176 How We Build Ships, Eye Gate.
CF-A172 How We Build Skyscrapers, Eye Gate.
CF-A169 Making Clothing, Eye Gate.
CF-A119 My Dad Is A Carpenter, IFC.
CF-A132 My Dad The Photographer, Jam Handy.
CF-A123 My Dad Works In A Supermarket, IFC.
CF-A147 The Neighborhood Barber, Eye Gate.
CF-A148 The Neighborhood Beautician, Eye Gate.
CF-A142 The Shoemaker, Eye Gate.
CF-A156 Stocker In A Supermarket, Eye Gate.
CF-A143 The Tailor, Eye Gate.
CF-A159 The Variety Store, Eye Gate.
CF-A145 The Watchmaker and Jeweler, Eye Gate.

Transparencies:

CTR-2 Learning About Clothing, Creative Visuals

Possible Resource People:

Any parent involved in art career.
Art teacher from college.
Leggett's Department Store Display Artist.
Architect
Beautician
Professional photographer - display of.
Cabinet maker
Jeweler
Glass blower
Cake decorator

Possible Field Trips:

Radford College Art Department.
Visit a jewelry store.
Visit drafting lab. at Community College.
Visit a house being constructed in final stages.
Visit department store to observe displays.

Filmstrips:

Careers in Drafting Educational Dimension
Careers in Photography Educational Dimension
Art Careers in Advertising Educational Act. Inc.
Careers in Fashion Design
Careers in Illustration

C A R E E R E D U C A T I O N P R O G R A M

R A D F O R D C I T Y S C H O O L S

UNIT TITLE: CAREERS THROUGH MUSIC

APPROXIMATE GRADE LEVEL: GRADE 6 OR 7

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

PROJECT COORDINATOR: RANDY WRIGHT

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INTRODUCTION TO: Careers Through Music

This unit is designed for use with sixth and seventh grades. Through this unit students can gain a general knowledge of music and careers related to music. It is hoped that the students will also understand and appreciate music as a means of entertainment and relaxation.

BROAD OBJECTIVE: To help students gain a general knowledge of music as it relates to the social level of the community.

To help students understand the satisfaction gained not only in a musical career but in any career.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What is music?	Students define and discuss music as they understand it in their lives. Class listen to records portraying different categories. Teacher present categories of music: 1. Serious- opera, concert, chamber 2. Religious- Oratorio, spiritual, hymns, gospel. 3. Folk 4. Country 5. Jazz 6. Folk rock Students as performers may represent categories with their talents.	School records and students' records. Resource people from each category may appear before class. Instrumental Vocal
2. What is the history of music in the main cultures of the world through the years?	Students listen to record. Students read, report, and discuss musical history 1. Early music 2. Famous composers of: a. classics b. contemporary music	"Two Thousand Years of Music" (Barclay)

CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Show slides on composers of the classics.	Slides: Three B's, etc.
	Introduce and listen to records.	Narration of Bach's life and music(Record-Barclay) Recorded classics of famous composers(familiar to young and old).
3. How does music affect our everyday lives?	Students discuss entertainment in world of music 1. musicians 2. dancers 3. singers 4. performers (music supplying a background)	
	Discuss aspects of people who entertain us.	Resource talent in community may appear.
	On chalkboard list your favorite: 1. actors-actresses 2. dancers(dances) 3. singers 4. instruments 5. instrumentalists	

CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Students may be musical entertainers.	
	Students prepare for and take field trip.	Field trips: College(Special events) Radford High School (Band room, Chorus)
4. How is the entertainment world of today affected and influenced by music of the past?	Presentation of general theory and terms in music.	
	Students discuss relationship between past and present. 1. Music theory 2. Musical terms 3. Musical instruments	Special music teacher. Regular teacher.
	Math tie-in music theory: Fractions, percentage, decimals may be taught during reading of music, study of tempo, and rhythm.	
	Science tie-in: Musical sound-vibrations Human ear	
	Review: This was used in conversation unit.	

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Make simple musical instruments.	
	Show pictures of musical instruments.	Pictures of musical instruments in symphony and band.(Barclay)
	Make instruments for rhythm band.	Pictures of early instruments and their present-day counterparts or models.
	Show pictures of instruments.	Materials needed for instruments:

CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Show a gramophone, forerunner of victrola phonograph and stereo.	
	Show how first rock group (Beatles) copied Phrygian mode used by the early musicians in Asia Minor.	
	Play record for students.	Record: "Two Thousand Years of Music"(Barclay)
	Show how Johann Sebastian Bach was "Father of Modern Music"	Record: "Father of Modern Music"(Barclay)
5. How does a general knowledge and appreciation of music lead to job roles?	Students discuss and list careers related to interest and ability in music. 1. Teacher 2. Composer 3. Director-orchestra leader. 4. Critic or musicologist 5. Arranger or orchestrator 6. Supervisor of music 7. Radio-TV announcer 8. Entertainer 9. Musician-instrumental 10. Clergyman-director of religious education. 11. Librarian 12. Dancer	Career persons visit class: 1. Choral director 2. Band director 3. Vocalist 4. Music supervisor 5. Instrumentalist(versatile)

CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	13. Popular singer 14. Impersonator-Comedian 15. Choral director 16. Therapist-recreational and occupational 17. Piano technician and tuner.	
	Students role play the following: 1. Director 2. Entertainer-Impersonator-Comedian 3. Dancer 4. Et Cetera 5. Drummer 6. Pianists 7. Band students 8. Vocalists	Student participants Materials needed for the role playing activities.

CULMINATING ACTIVITY:

CULMINATING ACTIVITY	RESOURCES AND MATERIAL
Have students present a musical program composed of: 1. Dancers 2. Vocalists 3. Instrumentalists 4. Impersonators 5. Group singers 6. Skits(operetta type) Students become lyricists for units of study and occasions during year. This will be a continuing activity.	Materials needed for musical program:

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C A R E E R E D U C A T I O N P R O G R A M
R A D F O R D C I T Y S C H O O L S

UNIT TITLE: MAGNETISM AND ELECTRICITY

APPROXIMATE GRADE LEVEL: GRADE 6 OR 7

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

PROJECT COORDINATOR: RANDY WRIGHT

THE CAREER EDUCATION PROGRAM
THE RADFORD CITY SCHOOLS
1612 Wadsworth Street
RADFORD, VIRGINIA 24141
PHONE: 1-703-639-6673

INTRODUCTION TO: MAGNETISM AND ELECTRICITY

For over 2000 years, man has known of the mysterious force called magnetism. Magnetism and electricity plays an important role in our everyday life. Navigators use the magnetic compass to find direction. The operation of many useful devices such as the electromagnet, the electric bell, the telephone and telegraph, the electric motor, and radio depend upon the effects of magnetism and electricity.

MOTIVATING ACTIVITIES	RESOURCES AND MATERIAL
List the ways that magnetism and electromagnetism are used in everyday lives.	Students knowledge of magnetism and electricity.
Wire a simple elctric circuit.	Battery-wire and bulb.
Make bulletin boards on magnetism and electricity.	Construction paper.
Make a learning center on magnetism and electricity.	Film: Magnetism and Electricity
Make a display of the different kinds of magnets and label whether they are natural or artificial.	

BROAD OBJECTIVE: To help students better understand the operation of many devices, as well as the magnetism of the earth itself.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What is a magnet? What is a magnetic substance? 2. What are the kinds of magnets?	Discuss the origin of the work and find through research the different magnetic substances. Discuss in groups or individual students.	Dictionary - library research (World Book Encyclopedia) Filmstrip - Film: "Magnets"
3. What is the Law of Magnets?	Read and discuss with groups or individual students.	
4. What is a Magnetic Field?	Set up investigation to show a Magnetic Field.	Cardboard or glass, iron filings, bar magnets. Film: Magnet Force
5. How can you make a magnet by contact? 6. How can you make a magnet by induction?	Read and investigate.	Materials for contact: Steel knitting needle, bar magnet, Books. Materials for investigation on induction: Nail, bar magnet, and iron filings.
7. What is the difference between a temporary magnet and a permanent magnet?	Read and demonstrate.	Library.

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CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
8. How can we explain magnetism?	Reasearch - Various investigations set up by the students.	Books. Film: Magnetism
9. How can we demagnetize a magnet?	Read and discuss. Investigate and demonstrate.	Books. Materials: Hammer, source of heat.

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BROAD OBJECTIVE: To help students realize how temporary magnets are produced by an electric current.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. How can electricity create magnetism?	Investigation.	Materials: battery, bell wire, switch and iron filings.
2. How can you increase the strength of an electromagnet?	Read and investigate.	Film: Electromagnets - How They Work. Books - Filmstrips. Materials: wire, battery, switch, iron filing.

BROAD OBJECTIVE: To increase the students understanding about the uses of magnets and the earth as a magnet.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What are some of the uses of magnets? a. Electric Bell b. Telegraph c. Electric Motor d. Telephone	Do research to find out the operation of each device. Make a working model of the one of your choice.	World Book Encyclopedia. Materials selected by students for models.
2. Why is the earth considered a magnet?	Research.	Books.

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BROAD OBJECTIVE: To cause students to be aware of and understand static and current electricity.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What is static electricity?	Show film.	Electricity and How It Is Made.
2. What is current electricity?	Do library research.	Books.
	Show Filmstrip.	Introduction to Electricity C-70
3. What makes an electric current flow?	Read and discuss.	
4. What are the electrical units? a. Volts b. Ampere c. Ohms	Do research on each electrical unit and be able to give examples of each. Discuss with group or individual students.	
5. How is electric current measured?	Research and demonstrate.	
6. What is an electric circuit?	Read and demonstrate.	Books. Film: Electric Current. Materials: Switch, battery wire, socket and bulb.

BROAD OBJECTIVE: To help students understand the dry cell and storage cell.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What is the difference between a dry cell and storage cell?	Read and discuss.	Books (Encyclopedias)
2. What is the difference between series and parallel circuits?	Read and demonstrate.	Books. Materials: batteries, bulbs, sockets, wire.
3. What are the electric symbols?	Draw.	Poster board.
4. What are some of the uses of electricity? a. Generator b. Transformer	Read and discuss the principle of each.	Book.

BROAD OBJECTIVE: To have students from studying this unit realize the opportunities found in the work of the science of magnetism and electricity.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. Are there jobs available in the field of magnetism and electricity?	Invite a resource person to talk with the students. Make a bulletin board of the careers found in this field. Library research.	Resource person. Materials.
CULMINATING ACTIVITY	Trip to telephone company or Foundry. Role playing using the project they made in the unit.	

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CAREER EDUCATION PROGRAM
RADFORD CITY SCHOOLS

UNIT TITLE: WEATHER

APPROXIMATE GRADE LEVEL: GRADE 6 OR 7

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

PROJECT COORDINATOR: RANDY WRIGHT

THE CAREER EDUCATION PROGRAM
THE RADFORD CITY SCHOOLS
1612 WADSWORTH STREET
RADFORD, VIRGINIA 24141
PHONE: 1-703-639-6673

BROAD OBJECTIVE: To help student be more aware of the weather and how it affects their daily lives.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. Who cares about the weather?	Discuss and list the activities and jobs that are affected by the weather.	Book - Everybody's Weather.
	List the activities and jobs on overhead projector.	Overhead projector.
	Have some students make a bulletin board showing some of the activities and jobs.	Magazines Construction paper
	Role play a situation affected by the weather.	Students bring materials related to role.
	View film.	Your Career in Meteorology

BROAD OBJECTIVE: To help students understand the weather elements.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What are the six weather elements?	Read and discuss the following weather elements:	Books and encyclopedias.
	1. The temperature	Thermometer
	2. The air pressure	Barometer
	3. The direction and speed of wind. View filmstrip.	Anemometer Winds Around the World. SVE
	4. The humidity View filmstrip	Hygrometer Humidity and How It Affects Us.
	5. The kind and amount of precipitation. View filmstrip.	Rain guage. Moisture and Precipitation in the Air.
	6. The condition of sky View transparency.	Cloud chart. Clouds.

BROAD OBJECTIVE: To help students understand why the weather changes.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What causes the weather to change?	View filmstrip.	Weather Changes and Their Causes.
	Students investigate air masses, weather fronts, highs and lows.	Books.
	Class discussion on air masses, weather fronts, and highs and lows.	
	View filmstrip.	Air Masses and Weather Fronts.

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BROAD OBJECTIVE: To help students understand how to measure the weather.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. How is the weather measured?	Divide class into groups to investigate the instruments used to measire the weather. Have each group make one of the following instruments: 1. Barometer 2. Thermometer 3. Anemometer 4. Weather Vane 5. Wet-dry bulb thermometer 6. Hygrometer 7. Rain Gauge Class discussion to compare the actual instruments to student-made instruments.	Books. Resource book: Science For The Elementary School by Edward Victor.

BROAD OBJECTIVE: To help students understand how the weather is forecast.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What is the work of the weatherman?	View filmstrip.	How To Forecast the Weather.
	Have students set up a weather station using instruments made by students.	Student-make instruments.
	View film.	Weather Station.
	Have students make readings each day.	Field trip - NRCC Weather Station
	View filmstrip.	Visiting A Weather Station.
	Collect and compare forecast with actual weather.	
2. How are weather maps used?	Divide class into groups to study weather maps.	Weather maps. Woodrum Airport U.S. Weather Bureau
	Have students display: air masses, fronts and highs and low on felt map each day.	Felt map.
	View filmstrip.	Meteorologists.
3. How do weather satellites aid in forecasting the weather?	Read and discuss weather satellites.	Books.
	Have some students make diagrams, models, and/or bulletin boards on weather satellites.	Resource person from Woodrum Airport Weather Bureau.

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CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	View film.	Film - Weather Eye in The Sky.

BROAD OBJECTIVE: To help students understand violent weather.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. How may a thunderstorm form?	View film.	Film - Weather Understanding.
	Read and discuss how thunderstorms form.	Books.
2. What causes lightning and thunder?	View film.	Film - Thunder and Lightning.
	Read and discuss causes of lightning and thnuder.	
3. How do hurricanes and tornadoes differ?	View films.	Film - Tornado Hurricane Watch
	Discuss differences.	
	Have some students make charts and diagrams showing differences.	Poster, magic markers, crayons,etc.
	Collect pictures showing storms and damage. Display on poster board or bulletin board.	
	Show film.	Unchained Goddess.

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BROAD OBJECTIVE: To help students to be aware of research in controlling the weather.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. Can man control the weather?	Have students investigate the six areas in which research toward weather control is being directed. Areas of research: 1. increasing rainfall or snowfall. 2. inhibiting the fall of hail. 3. getting rid of fog. 4. curbing lightning. 5. controlling hurricanes and other violent storms. 6. large-scale modification of climate. Prepare a panel discussion on "Should The Weather Be Controlled?"	Library research.

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CULMINATING ACTIVITY

Make a collection of "Weather Sayings" and decide which sayings have any scientific basis based on information gained in the unit.

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C A R E E R E D U C A T I O N P R O G R A M

R A D F O R D C I T Y S C H O O L S

UNIT TITLE: THE BANK

APPROXIMATE GRADE LEVEL: GRADE 6 OR 7

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

PROJECT COORDINATOR: RANDY WRIGHT

THE CAREER EDUCATION PROGRAM
THE RADFORD CITY SCHOOLS
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INTRODUCTION TO: The Bank

This unit was written for implementation in a seventh grade math class. The suggested activities should provide the students with an understanding of money and banking in the American economy and an understanding of the total operation of banking. The services that the bank provides to a community are stressed along with the various occupations associated with banking.

Student involvement and participation are encouraged so that they might relate occupations in the bank to their interests and abilities.

MOTIVATING ACTIVITIES	RESOURCES AND MATERIALS
Hand out play $100 bills to each student. Tell them to pretend this money is real. Then ask what each child would do with this money. Class discussion around spending and saving. Some students can tell how they have earned money. Some discussion will develop on the "worth" of items.	

BROAD OBJECTIVE: To help the students become aware of the services of banks.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What services do banks provide for the community? Checking account Savings account Loans - short-term long-term Christmas funds Purchase of savings bonds. Safety deposit boxes Trust funds Bankamericard and Master Charge. Purchase of savings certificates. Wills & executors	View 16mm film on bank services "How to Use Your Bank." Read pamphlets: Let's Learn Money (good) Using Bank Services Role play situations to demonstrate the services provided by banks. Let the students make up skits to represent each service. Make a collage illustrating banking services with either pictures or drawings. Begin a vocabulary list of banking terms.	Film: "How to Use Your Bank" available Virginia Bankers Assoc. (Order early)
2. What interest do you receive on a savings account?	Encourage students to start a savings account. Have reading table supplied with books and pamphlets on banking.	Books from library: (Give reports on readings) Sootin, Let's Go To a Bank Rees, At The Bank Rosenfield, Let's Go To The U.S. Mint Campbell, Nails To Nickels Reinfeld, How to Build a Coin Collection Browin, F., Coins Have Tales To Tell
3. How do banks earn their money?		

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
		Hutchinson, Coins Masters & Reinfeld, Coinometry Arnold, Money Wade, From Barter to Banking
	Have a local banker come to class to tell about bank services. The students should plan questions they want to ask.	Local banker.
	Have students write their impressions of the discussion and explanations of the resource person.(language arts)	
2. What are the kinds of banks? A. Commercial banks B. Savings banks C. Central banks D. Trust companies E. Others(credit union, mortgage companies)	Divide the class into 5 groups. Each group can research one kind of bank and its functions. Later each group can report to the class using panel techniques. Panel should be a free exchange of information involving all students.	Encyclopedias Library books
		Trust officer from local bank.
		Credit union official from a local credit union.

CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Savings bank official to explain services provided by savings and loan companies.	Savings bank employee (First Federal Savings & Loan)

BROAD OBJECTIVE: To help the student become aware of what money is and how it functions.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What is money and how is it made?	View film, "Money and Its Uses."	Film: "Money and Its Uses" available from Virginia Bankers Association.
	Students give oral reports on the U.S. Mint and the making of money.	Book: Rosenfield, Let's Go to the U.S. Mint.
		Encyclopedias
	Ask students to bring coin collections to show to the class. Discuss collection of coins.	Library books on reading table.
		Resource person to bring coin collection to class.
2. What are the functions of money?	Class discussion of why we need money.	

BROAD OBJECTIVE: To help the students become aware of the overall operation of banks.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. How does a bank operate?	Local banker to visit class and explain bank reserves, the clearing of checks, and check travels. Students should view actual cancelled checks and be allowed to ask spontaneous questions.	Local banker. Pamphlets and books on reading table.
	Individual student research on bank operations.	
	View filmstrip, "Travel of a Check."	Eyegate filmstrip: U17004 Travel of a Check
2. What is the Federal Reserve System?	Read about formation of Federal Reserve System.	Encyclopedia Library books Pamphlets
	Students create display on a large wall map and mark off the areas of the Federal Reserve System. Diagram flow of money from U.S. Mint to a local bank.	
3. Why was the Federal Reserve System established?		

BROAD OBJECTIVE: To help the students become aware of the occupations associated with banking.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What are the careers involved in banking? Some are: Cashier 1. Mail teller 2. Savings teller 3. Collection teller 4. Ass't. head teller 5. Head teller 6. Assistant cashier 7. Cashier 8. Loan officer 9. Manager Clerical 1. Sorting clerk 2. Account analyst 3. Machine operator 4. Clearinghouse clerk 5. Ass't. transit dept. 6. Manager transit dept. Bookkeeping 1. Machine operator 2. Audit clerk 3. Bookkeeper 4. Ass't. bookkeeper 5. Accounting clerk 6. Balance clerk 7. Payroll clerk 8. Supervisor	View film, "A Banking Career." Field trip to bank to see the various working areas and departments. Request information about the jobs observed. Departments: Loans Business Savings Checking Bookkeeping Cashiers Tellers Bank Vault Safety Deposit Box Business Forms Security Devices Class discussion and analysis of the different activities observed should follow the field trip.	Film: A Banking Career, a film available from Virginia Bankers Assoc. Field trip.

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
Data Processing 1. Sorting machine operator. 2. Keypunch operator 3. Verifier 4. Programmer 5. Supervisor of computer operations. Secretarial 1. Typist 2. Clerk-Typist 3. Stenographer	View the filmstrip, "The Banker." Make a listing of all the known banking occupations. Find out the education, salary scale and job description of each(student research). Have parents who work in a bank come to class to discuss their jobs. Make a bulletin board showing the many phases of banking as related to the world of work. Students make a telephone survey to compare the services of local banks. The table to be used is attached.	Filmstrip: The Banker(Eyegate) Personal contacts. SRA occupational briefs.

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BANK SERVICES

Name of Bank	Safety Deposit	Safety Deposit Charges	Types of Loans: Home, Auto, Business, Personal, Education	Loan Rates	Interest Paid on Savings Account	Bank by Mail Service	Offer Drive In Service	Parking	How Do You Rate Their Service

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CULMINATING ACTIVITY: Plan a model bank and carry out simulated banking activities.

CULMINATING ACTIVITY	RESOURCES AND MATERIAL
Set up the necessary banking departments to carry out the following activities: (Students will receive tokens from other teachers for tasks well done, etc. A certain number of tokens may be spent to have the opportunity to do a "fun" activity such as paint or work a puzzle)	Refrigerator box for teller's window. This activity is appropriate for sixth grade use.
1. Writing checks	
2. Filling out deposit slips(use tokens)	
3. Filling out savings slip.	
4. Savings account passbook	
5. Figuring interest on savings a. daily b. monthly c. quarterly d. yearly	
6. Compound interest on savings account	
7. Loaning money for personal reasons(use tokens)	
8. Forms of collateral	
9. Fill out loan payment book a. car payment b. house payment c. television payment(use tokens)	Discuss reasons people borrow money and the importance of credit rating.
10. Sorting and preparing money for bank deposits. The students guided by the teacher could count money from the lunch program.	Retail credit resource person.

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CONTINUED

CULMINATING ACTIVITY	RESOURCES AND MATERIAL
a. pennies b. nickels c. dimes 11. Using shoe boxes, set up a model of a bank safety deposit box system. The boxes could be numbered and rented out for certain time periods to different students. These boxes could be used to hold pens, pencils, scissors, etc. Set up rules for depositing and withdrawing items from the safety deposit boxes. Students could design the forms to use for all the banking operations or blank forms can be obtained from a local bank.	

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SUBJECT MATTER TIE-IN

Science

1. Exploring the materials of which money is made.
2. Studying the alarm system.
3. Vault(materials of which it's made)
4. Wear and replacement of money.
5. Make an alarm system.

Social Studies

1. Location of Federal Reserve Banks.
2. History of banking.
3. American economy.
4. Bank failures(depression, recession)
5. Laws regulating banking.
6. Money and coins in other countries.
7. Different types of money that U.S. uses in comparison to the money of yesterday.
8. Stocks and stock market.

Language Arts

1. Vocabulary list of banking terms.
2. Penmanship.
3. Letter applications.
4. Notices of payments overdue.
5. Conversation with customers.
6. Applying for loans.
7. Reports on field trip to bank.
8. Reports on readings

Art

1. Posters
2. Maps
3. Making checks and bank forms.
4. Design layout of the model bank.

Music

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Shay, Arthur. What Happens When You Spend Money. Reilly & Lee, 1970
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Wilkinson, Jean. Come to Work With Us in a Bank. Sextant Systems, 1971.
Williams, Barbara. I Know a Bank Teller. Putnam, 1968.

2. Filmstrips:

How to Use Your Checkbook. (Occupational Education series) Eye Gate, 1959.
Money, Checks and Banks series. Eye Gate, 1970.
My Mother Works in a Bank. (Mothers Work, Too series)
Travel of a Check. Eye Gate.

3. Films:

"How To Use Your Bank" Virginia Banker's Association
"Money and Its Uses"
"A Banking Career"

4. Pamphlets:

Let's Learn Money Virginia Banker's Association
Using Bank Services

5. Single Cassettes:

Bank Clerk/Teller. (American Occupations series) Educational Sensory Programming.
Getting to Know the Bank. Troll Associates, 1971.

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CAREER EDUCATION PROGRAM
RADFORD CITY SCHOOLS

UNIT TITLE: WHAT'S IN AN AD?

APPROXIMATE GRADE LEVEL: GRADE 6 OR 7

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

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BROAD OBJECTIVES:

1. To acquaint a student with the careers in advertising.
2. To increase vocabulary and classify word groups.
3. To create advertisements for various media.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. Are any of your families involved in advertising?		
2. Are you and your family involved as consumers? Cite examples.		
3. What are familiar modes of advertising? T.V. magazines, newspaper, radio	Discuss these questions.	Progress in English, p. 28-29
4. What are the careers in advertising?	Bulletin board listing different occupations in advertising. Research in small groups of 2 or 3 the 10 careers and write its: 1. Working Conditions 2. Personal Qualifications 3. Educational Requirements	Career Brief - B-173 Advertising Workers, Educational Dimensions Corp., N.Y. Encyclopedia of Careers and Vocational Guidance, Revised Ed., Vol. I Planning Your Career. Hopke-author, J. G. Ferguson Publishing Co., Chicago, Ill., Doubleday & Co., Inc.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Worksheet on terms in advertising.	Glossary in Encyclopedia of Careers.
	View filmstrip and listen to cassette.	406-Writing Careers in Advertising - Cassette. Career As A Copywriter - Filmstrip.
	Bring to class an eyecatching ad for a product from a magazine.	For an example use ad on p.30, Progress in English.
5. What are "loaded" words?	Discuss the words in class. Do duplicating master 68.	Reading Power, 6 - Unit 8, page 354-365, "Critical Reading" and Masters.
	Underline loaded words in magazine advertisment.	Sharing Ideas 6, Pollock and Straub, MacMillan, New York, 1960. Chapter 8. Own magazine.
6. What word class are loaded words?	Discuss examples and placement to decide whether they are adjectives or adverbs.	
	Go back and circle those words used as adjectives.	
	Make a collage of magazine articles.	
	Field trip through business section of town. Look at window displays, list and/or draw	

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CONTINUED:

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	methods used to encourage buying from the trip.	
	Field trip to supermarket to look at section food displays.	Progress in English, p. 31.
	Choose a partner, think of a favorite food, and work togethter in making an advertisment for it.	
	With small groups, organize an advertising campaign.	Growth in English, p. 34 & 35.

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"Advertising Workers", Career Brief. B-173, Educational Dimensions Corporations, New York, New York.

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"Writing Career in Advertising" Filmstrip Educational Dimension Corporation, N. Y., N. Y.

Posters on "Careers for Writers" by Marion Roberts, J. Weston Walsh, Publisher.

CAREER EDUCATION PROGRAM
RADFORD CITY SCHOOLS

UNIT TITLE: "GET THE SCOOP - A NEWSPAPER CAREER"

APPROXIMATE GRADE LEVEL: GRADE 6 OR 7

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

PROJECT COORDINATOR: RANDY WRIGHT

THE CAREER EDUCATION PROGRAM
THE RADFORD CITY SCHOOLS
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INTRODUCTION TO: "GET THE SCOOP - A NEWSPAPER CAREER"

This unit is designed for the 6 - 7th grade level in language arts and/or reading.

It develops the skills of collecting and reporting news data.

Since these grades may be involved in editing a newspaper and reporting current, it is important that they learn the occupations related to news gathering.

BROAD OBJECTIVES:

1. To make students aware of present day careers in newspaper work.
2. To make students aware of journalistic terms in relationship to reading and writing a newspaper.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What is news?	Students discuss and conclude a definition for news: "Anything that is interesting enough to report".	Newspapers.
2. How do we classify news?	Circle local news in red. Circle state news in blue. Circle national news in black. Circle international news in green.	Newspaper (The Roanoke Times) Crayons and/or colored pencils.
3.	Discuss how a news article is developed (lead and supporting details) by answering the questions: Who? When? Where? How? Why? What?	Reporter from local newspaper.
4.	Discuss salaries, schedules, training, past experiences, etc.	Same reporter.
5. How are the questions: Who? Where? When? Why? What? answered in a newstory?	Study an actual newstory and list the answers to the 5 questions.	Growth in English, Grade 7. Page 285, "Eyewitness - Reporting An Event" "Story of an Eyewitness" by Jack London, Adventure for Readers, page 507.
6. How can I answer the 5 questions in a news article from a memory?	Use a well-known fairytale or nursery rhyme to write a newstory concentrating on answering the 5 questions. Share stories orally with class.	Example: Poster from magazine, "Learning".

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
7. How can I answer the 5 questions in a newstory as an eyewitness?	Report on an actual event such as: Skit presented by a person (informal such as entrance to deliver something to teacher.)	Resource person.
8. What do we learn from a newspaper?	Interest center.	"How to get more out of your newspaper" - booklet available from "The Roanoke Times".
9. What are common newspaper terms?	Worksheet with terms to match by using the glossary.	"Your Newspaper - A Living Textbook" from The Roanoke Times. Glossary in back - "Newspaper Terminology"
10. How can I locate different parts of the newspaper? Example: Index, Ears, etc.	Study poster on parts of paper then using a newspaper locate parts and label them with the same number according to study sheet.	Study sheet included in back. Newspaper for everyone. Colored pencils or crayons.
11. How do photographs add to a newstory?	Discuss choosing appropriate scene, angles, lighting, equipment, captions, salary, and hours.	Photographer from local newspaper.
12. Could a photograph add to the article (s) I've written?	Take photographs.	Camera, film.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
13. What are newspaper jobs?	Write job titles, descriptions, and qualifications.	Posters on Careers for Good Writers. Pencil and paper. Chalkboard or overhead. Poster from "Learning Magazine". Briefs - Editor #69 Reporters #216 Research Booklets - Journalism #19 Newsreporter #174 Newspaper Publishing #189 Photo Journalism-News Photography-#202 Sportswriter - Reporter - Journalist #266
14. How could I get a newspaper job?	Fill in applications for above job titles and submit to teacher.	Job application form.
15. How can we work together to produce a newspaper?	Designate job, select articles previously written, put together, cover with clear contact paper. Display.	Paper, typewriter.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
16. What have we done?	Film viewing.	#37708 - "Newspaper Story" 15 min. - Radford or State. and/or "The Newspaper" - Sound Filmstrip. and/or #65908 - "Newspaper Serves Its Community" - 14 min. - State.
	Small groups may wish to see.	"Jobs of a Printer" - Cassette and filmstrip.
17.	Field trip to The News Journal.	
18.	Bulletin board on "Great Reporters" as students study the unit, they may add great news person to the board and share a report on their contributions to the news world.	Adv. for Readers, Jack London, etc.

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The Newspaper, Educational Audio-Visual Inc., 3 parts.

The Newspaper Reporter, Singer, SVE.

Careers in Photography, Educational Dimension Corp.

Posters:

Careers for Good Writers by Marion Roberto, from J. Weston Welsh, pub.

Learning, Magazine.

SRA Briefs:

Research booklets from Careers Research Monographs.

Films:

"Newspaper Story" - 15 min. - Radford or State, #37708.

"Newspaper Serves Its Community" - 14 min., State.

Booklets:

"Your Newspaper - A Living Textbook" and "How To Get More Out Of Your Newspaper" from The Roanoke Times.

STUDY SHEET ON THE NEWSPAPER

Name _____

I. The front page contains the following parts:
   (1) flag
   (2) leads
   (3) major news item
   (4) dateline
   (5) by-line
   (6) main headline
   (7) index

II. A headline is mainly of two parts - the main headline and the "decks" which are below the headline and they provide additional information.

III. A summary of a news story that comes at the beginning of an article is called the lead.

IV. The lead in a newspaper story usually answers the questions Who? When? How? Where? What? and Why?

V. The most important information is given in the lead at the beginning of a news story. Important details follows immediately after the lead. Less important details are given at the end.

VI. Some types of leads are summary, quotations, pictures, questions and background.

VII. A headline that gives the reader a misleading idea is called a slanted headline.

VIII. Editorials express the opinion of the editor.

IX. Any matter that is considered interesting enough to report is news.

X. News is classified as local, state, and national or international stories.

MATCHING: PUT LETTER IN BLANK FOR ITS CORRECT TERM.

_____ 1. Banner Headline

_____ 2. Dateline

_____ 3. Ears

_____ 4. Editorial

_____ 5. Flag

_____ 6. Headline

_____ 7. Index

_____ 8. "Jump" story

_____ 9. Lead

_____10. News

_____11. Preview

_____12. Slanted Headline

A. The name of the newspaper.

B. Report of an interesting event.

C. A headline in large letters running across the page.

D. A brief alphabetical listing with page numbers indicating where items may be found.

E. Bits of information on either side of the flag.

F. Date and place of a news story.

G. Summary at the beginning of a news story.

H. Title of a news story.

I. Opinion of the editor.

J. Advance information about a radio or T. V. program.

K. A misleading headline.

L. Stories continued from the front page.

Seek and Circle 10 newspaper terms in the puzzle. They are written horizontally, vertically, and diagonally.

E C A P T I O N
D E P O D B X R
I Q N O U Y D T
T D E C K W A Z
I G R S B I E G
O M P P H J L O
N L E G M A N L

C A R E E R E D U C A T I O N P R O G R A M

R A D F O R D C I T Y S C H O O L S

UNIT TITLE: COMMUNICATION THROUGH CONVERSATION

"CONVERSATION THAT TURNS YOU ON!"

APPROXIMATE GRADE LEVEL: GRADE 6 OR 7

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

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INTRODUCTION TO: Communication Through Conversation
"Conversation That Turns You On!"

This unit has been developed to be used with 6th and 7th grade students. It is basically a language arts unit but other subject matter can relate to it easily. The unit may also be modified to work with other grade levels.

MOTIVATING ACTIVITIES	RESOURCES AND MATERIAL
Imagine how early man in prehistoric times, before they knew how to talk, might have expressed the thoughts which you express today by the following words: 1. This is mine 2. Go away! 3. Come here! 4. Hush! 5. Hurry! 6. Good-by!	

BROAD OBJECTIVE: To help students become aware of speech as it applies to job roles and careers.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What is conversation?	Students discuss why conversation is a source of communication in every day life: 1. Home 2. School cafeteria library main office 3. Jobs observe duties plus necessary conversation 4. Recreation observe directions necessary in P.E. Correlate all of this with history of speech and its need in civilization from early to modern times.	Text: History of Language
2. What occupations require good conversation?	Let students list various occupations. Discuss each of the occupations and describe how conversation is essential in each. Suggested occupations for consideration are: Editor — Reporter Teacher — Sales person Radio-TV announcer Librarian — Clergy Lawyer — Nurse Doctor — Stenographer Receptionist — Insurance sales	

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CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
3. What are the essentials of good conversation?	Students discuss: 1. Talking and listening parts in conversation (listen or thy tongue will keep thee deaf) 2. Topics chosen by students to talk about in ordinary conversation. Students engage in unrehearsed class conversation. Let each student hear his voice on the tape recorder. Check for inflection and enunciation. Have students list ways and means of improving their own conversation. 3. Aides in introduction of people. Introduce: Boys to girls Girls to boys Men to women Women to men Younger to older Older to younger Discuss response and conversation. 4. Students observe the necessity of courtesy in all communication and jobs. Compare pleasant to unpleasant conversation.	Tape recorder or cassette recorder.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Discuss how jobs and life are brighter if one thinks "you instead of thinking I".	
4. What type of conversation is necessary for a job interview?	Have students role play people waiting for a job interview. Have students notice the personal appearance of people. Students prepare conversation and props.	
	Have each student interview for a specific job.	Tape recorder or cassette recorder.
	Have each student complete a job application form.	
	Have each student write letter of resignation.	
5. How is conversation an important part of living with others?	Students discuss: 1. Aides to good conversation at: a. home b. school c. recreation d. job 2. Public relations: Have students prepare a job classification chart of many occupations dependent on conversation or related to conversation.	Resource people to speak to class on how conversation is used in their respective jobs.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	3. Have students prepare bulletin board showing job class available that depend on good conversation.	Bulletin board material needed.
6. How is conversation used in the news media?	Discuss occupational conversation in the news media. 1. newspaper 2. television Have students observe technicians' role in putting on news programs. Stage Klassroom Kwiz in class. Have students make props. Have students develop questions to be used.	Resource person: Editor Reporter Photographer TV
	3. Radio	Field trip to radio station or resource person from station.
	4. Telephone Emphasize importance of voice quality in reflecting personality, particularly over telephone. Have students draw their perception of peoples' faces behind the voices in cartoons. Listen to humorous tape recorded voices of typical telephone personalities. Have students list occupations related to telephone industry.	Resource person: Operator Resource people: Supervisor Lineman Service and repair

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Ernst, Margaret S. Words-English Roots-How They Grow, Alfred A. Knopf, Inc.

Epstein, S. and B. First Book of Words-Family Histories, Franklin Watts Co.

Jacobson and Mischel. First Book of Letter Writing, Franklin Watts Co.

Longman, M. What's Behind The Word, Coward-McCann, Inc.

Leaf, M. Grammar Can Be Fun, J. B. Lippincott Co.

Our Language Today by American Book Company

Sharing Ideas by MacMillan Company

Dale Carnegie Pamphlets

Emily Post Blue Book of Etiquette

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C A R E E R E D U C A T I O N P R O G R A M

R A D F O R D C I T Y S C H O O L S

UNIT TITLE: CAREERS THROUGH KNOWLEDGE OF SIMPLE ARITHMETIC

APPROXIMATE GRADE LEVEL: GRADE 6 OR 7

PROJECT SITE: RADFORD CITY SCHOOLS

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INTRODUCTION TO: "Careers Through Knowledge of Simple Arithmetic"

This unit on "Careers Through Knowledge of Simple Arithmetic" is designed for use with sixth and seventh grades. Through this unit students can gain a general knowledge of how arithmetic is important to them an individual, how it is important in the home, how it is important in recreation, and how arithmetic plays an important role in different careers.

BROAD OBJECTIVE: To help students understand how knowledge of simple arithmetic is needed in everyday living and on the job world.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. How is arithmetic important to you as an individual?	Students will participate in all activities to answer the need of simple arithmetic. Class discussion: 1. Allowances and how they are used. 2. Budget of allowance. 3. Make charts of job responsibilities at home. 4. Show how they are paid for these jobs-other than in money. (Rely on realization of bed and board given at home.)	
2. How is arithmetic important in the home?	Students discuss family need of arithmetic. Father of student appears before class to explain his role in management of finances at home. Examples: Budgeting his salary, measurements, etc. necessary in repairs at home. Mother may appear to do likewise-to show how she can enlarge or shorten recipes to fit size of family and how to use clothes patterns when sewing for family. Examples: Planning and management concerning food needed for	Resource people: Mother Father

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	family. Measure-regarding recipes, cooking, draperies, carpeting.	
3. How is arithmetic important at school other than in the regular class of mathematics?	Students discuss: 1. Lunch money-ice cream 2. Rental fees 3. Class picture fees 4. Library fee for overdue books. 5. Activity fee- school newspaper student handbook entertainment in auditorium Students assume responsibility of collecting money, especially daily lunch and ice cream. 6. In art class-measurement Alphabet cutouts from construction paper measures 2"x1 1/2" pasted on 9" x 12"(well balanced on sheet) 7. Physical education instructor will guide students through physical check-ups Height-weight Physical fitness(measure of distance-broad jump, dash, etc. Have students comput average height and weight in class.	Physical Education Instructor

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Make a graph showing weight and height of students.	
4. How is arithmetic important in recreation?	Students participate individually or in groups. Students discuss prices of: 1. movies 2. high school sports 3. plays 4. other activities Role play financial end for football season. Hands-on - Ticket booth Concession stands 5. Hobbies Records Tapes Collections - Stamps Coins Rocks 6. Bicycles and repairs	Materials needed:
5. How is arithmetic important in your jobs after school and during vacation?	Students discuss jobs and pay: 1. Baby sitting 2. Mowing lawns 3. Newspaper routes 4. Other jobs Director of News carriers may appear before class.	Books related to baby sitting, newspaper routes, etc. Resource people: Students

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
6. How is arithmetic important in the carcers you may choose, or in the world around you?	Have students list and discuss as many careers as they can that deal with arithmetic. Examples: 1. Waitress-bus boy 2. Grocery clerk 3. Department store clerk 4. Carpenter 5. Truckdriver 6. Secretary 7. Insurance salesman 8. Other careers Have resource people in any of these jobs appear before class. Take field trips to: Grocery store Department store Short order restaurants	Filmstrips Books in library.

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CULMINATING ACTIVITY:

CULMINATING ACTIVITIES	RESOURCES AND MATERIAL
Skits - written by students showing arithmetic in action in the community.	

2 of 6

SUBJECT MATTER TIE-IN

Language Arts

1. Spelling lists of math terms
2. Writing of skits

Social Studies

Discuss contributions made to field of mathematics by:

1. Early civilizations
   Babylonia
   China
   Arabia
   Egypt
   Greeks
   Romans
2. Renaissance period
3. 1700's
4. 1800's
5. 1900's - present day

Science

Discuss the following topics as they relate to arithmetic:

1. Time
2. Travel-train, auto, sea, space
3. Weather
4. Cooking(food unit)
5. Photography
6. Metric system

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4. First Book-Graphs, Dyno Lowenstein, Watts, 1969.
5. Take A Number; New Ideas + Imagination, J. Bendick; Marcia Lavin, McGraw-Hill, 1961.
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CAREER EDUCATION PROGRAM
RADFORD CITY SCHOOLS

UNIT TITLE: MACHINES AND ENGINES

APPROXIMATE GRADE LEVEL: GRADE 6 OR 7

PROJECT SITE: RADFORD CITY SCHOOLS

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MOTIVATING ACTIVITY: Invite a resource person (archaeologist) to bring a collection of ancient tools and speak to the class about tools and why early man found a need for them.

BROAD OBJECTIVE: To help students understand why man uses machines.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. Why does man use machines?	Students collect pictures to make a collage of common machines for display.	Magazines Paper
	Students interview their parents and list the machines (or tools) that each uses in his job. Students also take picture of one parent at work, if possible, for display in room.	Small cameras.
	Class discussion of the extensive use of machines and how even simple tasks are made easier with machines.	
	Have students operate a variety of hand tools and kitchen appliances showing how work is done with them.	Hammer, saw, screwdriver, scissors, egg beater, etc.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
2. What do machines do?	Have students complete investigations showing how machines: a. transfer a force b. increase amount of a force c. change the direction of a force d. increase speed or distance. View film loops. Set up reading table with a variety of books on machines. View film loops.	Materials will vary depending on the specific investigations chosen by the teacher. Reference: Science for the Elementary School by Edward Victor. MacMillan. Film loops on machines and how they work. (McHarg) Library books. Pamphlets. Film loops: Energy Makes It Move More Motion Requires More Energy

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BROAD OBJECTIVE: To help students become familiar with the six simple machines.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What are six simple machines?	View filmstrips.	Filmstrips: The Work of the Wheel and Axle. The Work of the Lever. The Work of the Pulley. The Work of the Inclined Plane, Screw and Wedge.
	Read and discuss the six simple machines in the text.	Text: Concepts in Science. Brandwein, Cooper, Blackwood and Hone.
	Divide class into six exploratory groups. Each group will be responsible for constructing a model of one of the following and demonstrating how work is done with it: a. Lever (1st class, 2nd class, 3rd class) b. Wheel and axle. c. Pulley (fixed and movable). d. Inclined plane. e. Screw. f. Wedge.	Resource Books: Concepts in Science. Science for the Elementary School. Scrap lumber, cardboard, nails, pulleys, thin cord, etc.
	Show transparencies on the six simple machines for review.	Transparencies on machines.
	Students report to class on famous inventors.	

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BROAD OBJECTIVE: To help students understand that compound machines are made from a combination of simple machines.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What are compound machines?	Students identify the simple machines that make up common compound machines as the scissors, can opener, pencil sharpener, meat grinder, water faucet, wrench, nutcracker, etc.	Students volunteer to bring the various common machines to class.
2. How are gears used?	View filmstrip.	The Use of Gears.
	Students make models of gears and manipulate these.	Cardboard - materials will vary.
	Examine a bicycle and discuss the gears with a chain.	Have a student bring a bicycle to class.

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BROAD OBJECTIVE: To help students understand how friction affects work done by machines.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What causes friction?	Students examine smooth and rough surfaces with hand lens, magnifying glasses and microscopes.	
	Do investigation into the force of friction.	Concepts in Science, p. 181.
2. How can friction reduce the amount of work done?	Have students rub their hands together and note the heat produced by the resulting firction.	
	Complete investigations that demonstrate the following concepts: a. The nature of the materials affect friction. b. The nature of the surfaces affects friction. c. The amount of area between surfaces affects friction. d. The pressure of the surfaces against each other affects friction. e. Sliding friction is less than starting friction. f. Rolling friction is less than sliding friction. g. Lubricants reduce friction.	Resource: Science For The Elementary School.

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	h. Rollers, wheels, ball bearings, etc. reduce friction. Class discussion of how friction can be helpful (on icy roads, etc.).	

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BROAD OBJECTIVE: To help students understand that engines provide the force needed to run complicated machines.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. Why are engines necessary?	View film.	Film: Energy and Work.
	Read and discuss how man has used the forces of wind, moving water, and heat on gases to supply force.	
	Students research and report on the industrial revolution.	Library books and reference books.
2. How does the windmill supply force?	Have students read and report on windmills (wheel and axle machine) and their uses.	Books, reference books, library books.
3. How does the water wheel supply force?	Students diagram the different kinds of water wheels.	Machines - Life Science Library by Robert O'Brien
	Read and discuss the different kinds of water wheels.	

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BROAD OBJECTIVE: To help students gain an understanding of different kinds of engines.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. How does the steam engine work?	Do investigations to demonstrate how steam can be used to do work.	Text: Concepts in Science.
	Have students diagram a steam engine.	
	Students research and report on the different uses of steam engines.	
	Construct a steam generator to demonstrate how a steam turbine works.	Science For The Elementary School.
	View film.	Film: Engines How They Work.
2. How does the gasoline engine work?	Read and discuss the gasoline engine.	Book: Concepts in Science.
	Students draw diagrams of gasoline engine cylinders.	
	Display posters of gasoline engines on bulletin board.	Posters from General Motors.
	Students research to find where gasoline engines are used and how many cylinders these engines have.	

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Have students look at the engines of several parked cars at school and determine the number of cylinders of each and identify certain parts.	Teachers cars.
3. How does the Diesel engine differ from the gasoline engine?	Discussion of comparison of the cylinder operation of the Diesel engine with that of the gasoline engine.	
	Draw diagrams or make models of Diesel engine cylingers.	Encyclopedias.
	Discuss the advantages and disadvantages of the Diesel engine. Make a list.	
4. How does the jet engine work?	Students diagram a jet engine.	Text: Concepts in Science.
	View film.	Film: Jet Propulsion.
	Discuss Newton's Law of Action and Reaction.	
	Let students attempt to design a car or cart that does work by jet propulsion.	Materials obtained from home.

BROAD OBJECTIVE: To help students become aware of the variety of careers involved with machines and engines.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What are some careers related to machines and engines?	Make a poster listing as many job opssibilities that students name. Leave the poster on display to add others later.	Poster Board.
	Students do individual research on careers in media center.	Pamphlets from General Motors.
	Invite personnel manager from Inland Motors Corp. to tell about job possibilities there.	
2. What activities are involved in the careers related to machines and engines?	Teacher video tape the work activities within Inland Motors and interview several employees asking questions about their jobs and responsibilities. Show video tape to class and discuss the different activities visible.	
	Invite an automobile mechanic to class to describe his job and his feelings toward his work.	
	Take a field trip to the high school machine shop. Interview high school students involved there to find out about their future plans, reaction to the industrial training, etc.	

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CULMINATING ACTIVITY: Have students make or design a compound machine that will actually do work, using the simple machines studied.

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C A R E E R E D U C A T I O N P R O G R A M

R A D F O R D C I T Y S C H O O L S

UNIT TITLE: CHEMISTRY

APPROXIMATE GRADE LEVEL: GRADE 6 OR 7

PROJECT SITE: RADFORD CITY SCHOOLS

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BROAD OBJECTIVE: To help students become aware of the many careers that need some knowledge of Chemistry.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What careers need some knowledge of Chemistry?	Bulletin board - Careers in Chemistry. Have students investigate various careers in Chemistry. Discuss and list careers. Some students make a poster listing careers for class display. View Tr. on Chemistry Related Careers. View Film - Challenging Careers in Chemistry.	Books and Booklets: A Bright Future for You as a Chemical Technician. Career Opportunities in Chemistry. Chemist. Chemistry Guidance Leaflet. Chemistry and Your Career. A Dozen Reasons Why Young People Choose Chemical Industry Careers. Finding Employment in the Chemical Profession. Is Chemical Technology the Career for You? Tr. Film.

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BROAD OBJECTIVE: To help students become aware of some famous chemists and their work.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. Who were the alchemists?	Have students read about the history of Chemistry.	Books.
2. What contributions have chemists made to our world?	Give students a list of famous chemists and have them investigate the work of several and report to class.	Encyclopedia and books.
	View film.	Film - Wonders of Chemistry.
		Resource person - Chemist from Radford College.

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BROAD OBJECTIVE: To help students learn to use the equipment and measurement system of the chemist.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What are some of the equipment used by the chemist?	Give students a list of equipment and demonstrate how each is used.	Equipment (will vary)
	Have some students make diagrams of equipment on poster for display in room.	Poster Magic marker
2. What system of measurement is used by the chemist?	View filmstrip.	Filmstrip - Metric System
	Have students make measurements of length, mass and volume.	Materials (will vary)

258

BROAD OBJECTIVE: To help students understand the properties of matter.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What are the properties of matter?	View filmstrip.	Filmstrip - Introduction to Chemistry.
	Have students read about the following properties of matter: 1. Volume 2. Mass and weight 3. Inertia 4. Elasticity 5. Granular structure 6. Electrical nature	
	Have students demonstrate some of the above properties.	
	Have students test material for physical and chemical properties.	Reference for teacher: ESS - Mystery Powders. NSTA - Atoms and Molecules.

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BROAD OBJECTIVE: To help students understand chemical and physical changes in matter.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What is the difference between physical and chemical changes in matter?	Have students read about chemical and physical changes. Demonstrate (teacher) chemical and physical changes. Have students observe and identify changes. View film or films.	Book. Materials (will vary according to the various chemical and physical changes demonstrated) Films: Chemical Changes About Us. Explaining Matter: Chemical Changes. How Materials Are Changed.

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BROAD OBJECTIVE: To help students understand the groups into which matter has been classified.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. How has matter been classified?	Discuss and list on overhead projector how matter has been classified into the following groups: 1. Elements - Atoms 2. Compounds - Molecules 3. Mixtures 4. Solutions, Suspensions, Colloids.	Overhead Projector. Resource person - Chemist from Radford College.
2. How do elements and compounds differ?	Read and discuss elements and compounds.	Book - Life and the Molecule
	View filmstrip.	Filmstrip - Elements, Compounds and Mixtures.
	Read and discuss how atoms and molecules relate to elements and compounds.	Book - Life and the Molecule.
	View two or more films to show how the chemist uses elements and compounds and how they are classified.	Films: Atomic Theory Erudence For Molecules and Atoms Chemical Families Family of Halogens Sodium Family World of Molecules World of Phosphorus

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	View filmstrips.	Filmstrips: Atoms, Molecules, and Ions
	Explain and discuss the chemist's shorthand.	Periodic System.
	View filmstrips.	Filmstrips: Symbols, Formulas, Equations. Atomic and Molecular Weights.
	Explain how the chemist uses chemical equations to show what happens in a chemical reaction. Interested students may want to: Calculate molecular weight. Balance equations Solve equations	
	Have some students make molecular models of compounds.	Toothpicks Small styrofoan balls
	Make charts to display some common compounds and formulas.	Poster board Magic markers
What is a solution, suspension, and a colloid?	Read and discuss solutions, suspensions, colloids.	Book - Life and The Molecule
	View filmstrip.	Filmstrip: Solutions, Suspension, Colloids

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Experiments: 1. Study Solutions 2. Solubility of Substances in Water 3. Temp. and Solubility of Solids in Liquids 4. Ways of making Solids Dissolve More Quickly in Water Have some students collect and display Elements, Compounds, Mixtures, Solutions, etc.	
CULMINATING ACTIVITY	Field trip to Chemistry Department at Radford College.	

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C A R E E R E D U C A T I O N P R O G R A M

R A D F O R D C I T Y S C H O O L S

UNIT TITLE: OCEANOGRAPHY

APPROXIMATE GRADE LEVEL: GRADE 6 or 7

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

PROJECT COORDINATOR: RANDY WRIGHT

THE CAREER EDUCATION PROGRAM
THE RADFORD CITY SCHOOLS
1612 WADSWORTH STREET
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INTRODUCTION TO: Oceanography

This unit is written for a seventh grade science class with emphasis on career opportunities currently available in and near the oceans. As the last frontier on earth, more information is being sought about the oceans in hopes that the wealth of resources there might be used to meet man's increasing needs. The career opportunities in this area will tend to increase in the future.

MOTIVATING ACTIVITIES	RESOURCES AND MATERIALS
Show film, Oceanography-Science of the Sea.	41605 Oceanography-Science of the Sea.

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BROAD OBJECTIVE: To increase students' knowledge of the importance of the oceans.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What is oceanography? The study of the ocean.	Discuss why it will be of benefit to increase our knowledge of the ocean. Read the quote by John F. Kennedy, "Knowledge of the oceans is more than a matter of curiosity. Our very survival may hinge upon it." Have students write letters for information concerning the oceans. Students begin to make individual scrapbooks on the oceans.	
2. What things does the ocean provide? Fish Industry: Food Iodine Fish oil(medicine, soap, etc.) Fish skin(billfolds) Mineral Products: Oil(mining) Gold(mining) Iron Uranium Sand, gravel,limestone Algae Food	Make a collage of products obtained from the ocean entitled, "Treasures from the Sea." Several assignments are given at one time so students may work at their own speed on individual research. Individual student research to explore the different products obtained from the fish industry. (In notebooks.)	Magazine pictures.

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CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
Additives in other foods Kelp	Divide class in groups. Each group can select a mineral and find out how man uses it. Then a class chart can be made. Several students may work on one chart.	
	Find magazine and newspaper articles about the oceans and ocean products(oil mining,etc.) for the scrapbooks. Have students bring old magazines to school for this.	Magazines and newspapers.
Aquaculture: Oysters Fish Seaweed Kelp Recreation: Boating Surfing Swimming Hobbies	Discuss how the flooding of rivers effects the growth and value of water crops.	
Transportation	View collections of sea shells of all types. Students can share their collections with the class.	Collection of seashells.

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	View filmstrip, "Marine Resources." Have resource person come to class to talk about water safety.	Encyclopedia Brittanica filmstrip. Resource person: Game Warden.

BROAD OBJECTIVE: To help students understand the characteristics of oceans.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. How many oceans are there?	Make a list of all the major oceans and seas. Discuss the difference. (Social Studies tie-in)	
	Let the children locate these on the globe and large world map.	Globe or world map.
	Set up reading table with various books about oceans. Encourage students to read and look at the pictures.	See bibliography.
2. What minerals does ocean water contain?	Students compile in scrap-books a list of the various minerals found in the ocean. A chart has already been displayed.	
	Obtain a sample of water from the ocean, lake and tap water. Let the water settle and examine the bottom of the containers.	

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
3. What causes currents in the ocean? Winds Sun's heat Earth's rotation Land formation	View transparency, Ocean Currents. Draw a map of the oceans and indicate the major currents (for scrapbooks).	Transparency: Ocean Currents
4. What causes waves? Friction between wind and water.	View transparency, Waves. Have student fill a bowl with water. Let students take turns blowing across the rim of the bowl-then blow harder. Surface water ripples then form larger waves. Have students who have been swimming in the Atlantic Ocean describe their experiences in the waves.	Transparency: Waves Bowl or pan.
5. What causes ocean tides? Gravitational attraction of moon. Highs and lows every 12 hours.	View film, Ocean Tides. Have students give individual reports on erosion caused by tides & life cycles depending on the tides. Refer to Va. Beach erosion problem under study. Have students who have been to the seashore tell about	Film Books on reading table. Encyclopedias

CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	why it is important to know when the tides occur.	
6. How does temperature, pressure and light vary in ocean waters?	Class discusses these differences in an effort to get an understanding of what conditions occur in the ocean. Discuss how certain animals are suited for certain ocean regions.	
	Read section in text, Life, Its Forms and Changes.	Science text: P. 31-33
	View transparency, Characteristics of Ocean Water.	Transparency: Characteristic of Ocean Water.
7. What is the ocean floor like? Continental shelf Trench Plain Ridge Guyot Faults	Students draw a map of the ocean floor.	
	With a flour water mixture let students make a model of the floor of the Atlantic Ocean. Paint the model.	Materials needed: A - Flour B - Water C - Paper D - Cardboard base E - Salt

BROAD OBJECTIVE: To help the students become aware of the variety of life forms in the ocean.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What kinds of plants live in the ocean? Phytoplankton Algae Kelp	View transparency entitled, Plant Life of the Oceans. Draw pictures of ocean plants in scrapbooks.	Transparency: Plant Life of the Ocean.
2. What kinds of animals live in the ocean?	View film Secrets of the Underwater World. Study and learn to identify the various shells. View transparencies of ocean animals. Have students construct a diorama illustrating life in the ocean, both plant and animal. Have students draw pictures of ocean animals in their scrapbooks. Students make individual reports in scrapbooks. Students dissect preserved starfish specimen(in groups of five).	Film: State 46309 Secrets of the Underwater World Transparency Large cardboard box. Construction paper. Clay.

BROAD OBJECTIVE: To help students understand how the ocean is being explored and occupations associated with this exploration.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. How do oceanographers explore the ocean? a. SCUBA b. Bathyscaphe	Invite oceanography professor to tell the class what oceanographers do and tell about careers in oceanography.	Dr. Scolaro, Radford College
	View transparency on Underwater Exploration.	Transparency: Underwater Exploration.
	Review necessity for SCUBA gear.	
	Student research on different industries employing scuba divers.	
	For an extra assignment, students can prepare a HISTORY of oceanography.	Books Encyclopedias
	Make clay models of the various ships which have been designed to explore the ocean depths.	Clay
	Discuss the various jobs of people on the ship and the preparation of each.	
	Find magazine pictures of equipment and supplies aquanauts use.	

CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Invite SCUBA diver to class to show his gear and tell principles of diving.	SCUBA Diver.
	View filmstrip, Ocean Engineering	Encyclopedia Brittanica filmstrip: A - Ocean Engineering
	Take a field trip to Claytor Lake. Observe wave action, take several samples of water, gather water plants, try to collect plankton and different algae types, collect sample of sand. After the trip, view the sand under the microscope. Try to identify the types of algae and plankton.	Field trip - Claytor Lake
2. What are other occupations associated with the ocean?	Have students investigate industries resulting from the sea. Letters for information may be sent.	
	View the filmstrip, A Career in Oceanography.	Encyclopedia Brittanica Filmstrip: A Career in Oceanography
	Make a bulletin board display of different careers.	
	Have a classroom quiz contest, girls va boys, to review all important facts.	

CULMINATING ACTIVITY:

CULMINATING ACTIVITY	RESOURCES AND MATERIAL
Prepare a skit or play depicting the problems and results of Sealab II. Refer to pictures and log of events in World Without Sun. Have students make the necessary gear and a model bathyscaphe to be used as props. Give presentation to another class. (See attached skit written by a student.)	Cousteau, J. I., World Without Sun, Harper and Row, 1965. Early, Margaret, Ed., Reading To Learn, "Men of the Sea," p. 325-335. Boxes, paint, construction paper, small lumber.

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OCEANOGRAPHY SKIT

By: Lynne Rutkowski
Grade 7

Narrator: It's June, 1952, an underwater exploration is going to take place. All the technicians and oceanographers have checked and double checked their machines and figures.....

Luke: Ready to go to the underworld for three whole months?

John: You bet I am! I've been waiting for this for five years, and now that we're finally going to do it, I'm gonna make the best of it.

Narrator: I can bet you're wondering what that was all about. Well it all started when a man worked on an underwater inhabitance. He called it a bathyscaphe.....

August: Well Carl, we've finally finished it. All the gauges are working and the levers work fine.

Carl: In all my years assisting you, Dr. Piccard, I thought I'd never see the day. While we were working on it, it seemed to take forever, but now it seems like we started it just a few days ago.

August: Well, now you've seen the day, and in five months it'll be in use, Underwater.

Narrator: So now you see who John and Luke are. They are the oceanauts who will be underwater for 3 months.

#1 Tech. Everythings set.

#2 Tech: Going down!

Narrator: As the submarine-like ship went slowly down into the blue-green water, I'm sure everybody's heart skipped a beat. Technicians, doctors, Scientists, and others must have been asking themselves the same questions: "Will they be safe?" "Will they succeed?"

Luke: When is the first time we go out to explore?

John: I don't know, I guess I'd better ask. Hello, Hello Mr. Rogers, when do we go out?

Mr. Rogers: (over the teletype) Maybe you'd better wait till an hour or so. We want to check and see if all the gauges are working.

John: O.K. Over and out.

Narrator: Hours later the two men went out into the bluish-green water to explore the unknown.

Luke: Look at that coral reef! All those colors.

John: Let's take a sample back to the tub.

Luke: Alright, I'll get some.

Narrator: As Luke took some coral a whole school of tiny purple fish came out.

John: Get some with your net!

Luke: O.K.! O.K.! I hear you.

Narrator: They stayed out for about half an hour more and then went back to the tub.

John: Man, I'm hungry.

Luke: Yea, let's fix some grub.

Narrator: They ate and then rested. Every once in awhile the above ship would call in to see how things were going.

#1 Tech.: Everything alright?

John: Fine. Everything's fine.

#2 Tech.: Just wanted to tell you that two doctors are coming down to check your health.

Luke: O.K.

Narrator: Fifteen minutes later two doctors came down in a bathysphere.

#1 Doctor: You're fine. Your blood pressure is a little high, but you'll be fine.

#2 Doctor: We'll be down tomorrow, the same time.

Narrator: The next morning the two oceanauts went out again, but this time they really got wrapped up in their work, and when I say wrapped up I mean wrapped up! The two had just went down 100 feet and were looking at some very interesting coral.

Luke: Hey, watch out.

John: Watch out for what?

Luke: Turn around and you'll see.

Narrator: John turning around probably almost jumped out of his suit because.....

John: Holy Smokes, we better get out of here and fast.

Narrator: And you know what was coming? The biggest octopus you've ever seen. The oceanauts started swimming fast, but so did the octopus.

Luke: You know something.

John: What?

Luke: I think he is following us.

Narrator: They got back to the tub just in time too, because that octopus was a ten yards away.

John: Whew! That was close.

Luke: A little bit too close for me.

Narrator: The doctors came down around five minutes later.

#1 Doctor: You both look a little bit pale. Did anything happen?

Luke: Oh, no. We just got chased all over by an octopus.

#2 Doctor: Man, you must have been scared.

John: No, not a bit! (Winks at Luke)

#1 Doctor: O.K. We'll be down tomorrow the same time.

Narrator: Time was passing quickly. They had gone out many times in the three month period. On the last time out they took many pictures and samples back to the ship.

#1 Tech: All set.

Luke: Yep.

#2 Tech.: Going up.

Narrator: In just a little while they were upon the surface talking to everyone especially to reporters.

Luke: I'll just say it was a worthwhile trip, and I'm glad I made it!

John: I'll second that motion!

THE END

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41605 Oceanography-Science of the Sea

43609 Underwater Life

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C A R E E R E D U C A T I O N P R O G R A M

R A D F O R D C I T Y S C H O O L S

UNIT TITLE: NUCLEAR ENERGY AND YOUR FUTURE

APPROXIMATE GRADE LEVEL: GRADE 6 OR 7

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

PROJECT COORDINATOR: RANDY WRIGHT

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BROAD OBJECTIVE: To help the student understand why knowledge of atomic energy is important.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. Why study atomic energy?	Bulletin Board - Careers in Atomic Energy.	Booklets: 1. Careers in Atomic Energy 2. Employment opportunities in the Atomic Energy Field 3. Selected Occupations Concerned With Atomic Energy
	Research various careers in library and materials in classroom.	Books and encyclopedias in library.
	Report to class.	
	Students write letters for information to Atomic Energy Commission.	
	Make a poster listing careers for class display.	Poster board.
	Read about famous nuclear physicists and tape record information to be used by other students.	Tape recorder.
	Show film.	Film: The Atom and Industry.

BROAD OBJECTIVE: To help the student understand the structure of the atom.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What is the structure of the atom?	Read about the structure of the atom.	Texts.
	Make a chart for class display on sub atomic particles.	Reference Books: Library Books, Encyclopedias
	View filmstrip.	Filmstrip.
	Have pupils investigate the properties and structure of various elements.	
	Construct models of atoms.	Wire, Clay, Beads, Foam blocks, Toothpicks, Gum Drops.
	Have a bulletin board display of pictures or diagrams of the structure of various elements and their properties.	
	Discuss how the chemist uses the periodic table.	Periodic Table. Filmstrip - Periodic System
	Have pupils find out how scientists discover the many different particles that are found in the nuclei of atoms.	Dr. Durrill - Radford College.

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Discuss how our concept of the atom is constantly changing. View transparency on atoms.	Transparency - Atoms
	Investigation - Sealed boxes.	Sealed boxes with unidentified objects inside.
	Discuss isotapes and atomic structure.	
	Film.	Structures of Atoms.

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BROAD OBJECTIVE: To help students understand how nuclear energy is obtained.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIALS
1. What is radioactivity?	Discuss the rays given off by radioactive elements. View transparency on Radioactivity.	Transparency: Radioactivity.
	Show film.	Film: Radioactivity 74708 13 min.
	Investigations: a. Effects of Radioactivity. b. Observe results of Atomic Disintegrations.	X-Ray Film. Watch or clock with dial painted with a radioactive substance.
	Have some pupils report on the uses and production of x-rays.	
	Discuss devices used to detect radioactivity.	Geiger Counter.
	Film.	Atomic Energy Inside The Atom.
2. How is the nucleus of an atom split?	Demonstrate (student) chain reaction.	Marbles, dominoes
	View film.	Neutrons and the Heart of Matter.
	Read and discuss - The Nuclear Reactor.	Books. Field trip - V.P.I. & S.U. Physics Department.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Make diagrams and models of Reactors.	Posterboard. Modeling clay, sugar cubes, toothpicks, shoe-box, dominoes, pencils.
	View film.	Nuclear Reactors for Research (AEC)
	Have a student interview a nuclear physicist at VPI & SU. Tape interview - Find out such information as safeguards that prevent a reactor from turning into a fission bomb.	Tape recorder.
	Read and discuss the cyclotron and other particle accelerators.	Books.
	Film.	Atom Smashers.

BROAD OBJECTIVE: To help students be aware of the many uses of nuclear energy.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. How do atomic bombs work?	Have students do reports on the various people who contributed to the success of the first atomic bomb.	Library books.
	View film.	Atomic Power.
	Discuss $E=MC^2$	
	Discuss nuclear fusion.	
	Make diagrams to show how fission and fusion differ.	
	View film.	Living With The Atom.
	Discuss Civil Defense.	Resource person on Civil Defense. Booklets from AEC.
	View film.	Film - 33612 Radiological Defense. 28 min.
2. How is nuclear energy converted?	Read and discuss Nuclear Power Plants.	Books.
	View filmstrip.	A Trip to A Nuclear Plant.
	Make diagrams and/or models of Nuclear Power Plants.	Posters.

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	View film.	Film - 66108 Controlling Atomic Energy 15 min.
3. What are radioisotapes?	View filmstrip.	Filmstrip: The Atom: Mans Servant.. Radiation and Its Practical Uses. F158B -(RC)
	Divide class into research groups to investigate use of radioisotapes in: Medicine Industry Agriculture	Books, Booklets, etc.
	View film.	Film: Opportunity Unlimited: Friendly Atoms in Industry (AEC)
		Field trip and/or resource person from Radford Hospital.

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CULMINATING ACTIVITY	RESOURCES AND MATERIAL
Role play the career or careers most interesting in this unit.	Boxes, paint, construction paper, small lumber, and materials needed to depict careers.

C A R E E R E D U C A T I O N P R O G R A M

R A D F O R D C I T Y S C H O O L S

UNIT TITLE: IRON WORKING IN VIRGINIA

THE IRON WORKER

APPROXIMATE GRADE LEVEL: GRADE 7

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

PROJECT COORDINATOR: RANDY WRIGHT

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INTRODUCTION TO: Iron Working in Virginia
The Iron Worker

This unit on the Lynchburg Foundry is structured for a social studies class. Since the seventh grade curriculum deals with the history and geography of Virginia, The Iron Worker begins as an outgrowth of colonial Virginia history with the discovery of iron ore at Germanna.

From this history, the unit develops all aspects of iron works concentrating on the processes at Lynchburg Foundry in Radford. Close attention is given to the variety of occupations involved in the operation there as many of the students' parents are employed by the foundry. Also, Lynchburg Foundry is the largest industry in the city and will provide future employment for many of our students.

MOTIVATING ACTIVITIES	RESOURCES AND MATERIALS
What things in our school are made of iron? Take a walk around the school and let the students compile a list of everything they find that is made of iron. Also, have students list the different uses of pipe within the school building.	Virginia History History of Iron Mfg. - from earliest times in reference books.

BROAD OBJECTIVE: To help the students become aware of the importance of iron and how it's made.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. When was iron first found in Virginia?	Read "Spotswood's Exploration" in text.	Text - Virginia p. 146-148
	Map a large wall chart of the U.S. iron ore deposits.	World Book, Vol. 10, p. 346
2. What things are made of iron?	From a collection of old magazines make a collage of materials made from iron.	Old magazines which students bring in or old magazines discarded by the school library. Poster board.
	Set up a reading table with books of interest about iron.	
3. What is the "recipe" for making iron? 1 ton iron: 1 3/4 tons of ore 3/4 ton of coke 1/4 ton of limestone 4 tons of air	Examine samples of raw materials used in making iron(iron ore, coke, limestone). Display these on a table in the room.	Steel Kit
	Students research to find out where raw materials come from.	Encyclopedias
	Discuss process of making iron and the different kinds of iron.	(Back-up material in science class)
	Make diagram of process on large poster to display. Draw diagram of blast furnace and display.	Poster Board

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CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	View filmstrip on how iron is made.	Filmstrip - "How Steel is Made" - from Steel Kit.
	Display steelmaking flow chart.	American Iron & Steel Institute.

BROAD OBJECTIVE: To cause the students to become aware of the iron works at Lynchburg Foundry.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What products are made at Lynchburg Foundry?	Representative from Lynchburg Foundry to give slide presentation from the Foundry showing the products and how they are made. The slides will also suggest jobs associated with the Foundry.	Lynchburg Foundry Representative(Mr. Tilley).
	Read and display pamphlets and advertisements made available by the Foundry.	Pamphlets - Foundry
	Discuss why the Foundry is located here and its economic importance to the community.	
	Make a model Foundry. (Different shaped. Students can bring boxes and paper rolls. The finished model can be displayed in the library showcase.	Boxes, paper tubes, styrofoam, clay and wood blocks.
	View some of the products made at the Foundry.	Samples from Foundry. Pictures in the Iron Worker.
	Have students become familiar with the Iron Worker, the Foundry publication and have students write a history of the Lynchburg Foundry at Radford.	Iron Worker The Radford Review, "Radford, Va.: Its Location, Growth, and Significance" by D.A.Cannaday.

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
2. For what are the products from the Foundry used?	Using empty paper rolls, set up a system of pipes to pipe something from one part of the room to another.	Students can collect empty paper rolls.
	Take a field trip to Steven's Supply, a wholesale dealer selling Foundry products.	Field trip.
	Refer to collection of Foundry advertisements. Display these in the room. Articles in the Iron Worker illustrate products in use.	The Iron Worker

BROAD OBJECTIVE: To help the students become aware of the occupations associated with the work processes in the Foundry.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What are the occupations associated with Lynchburg Foundry?	Have the personnel manager visit the class and tell about the various types of jobs.	Personnel Manager from Lynchburg Foundry (Mr. Bernard Tilley, Mr. Gary Mann, Mr. Coleman)
Business: Personnel manager Company officials Secretary Clerk	Have all the students' fathers who are employed by the Foundry come to class and tell about their particular jobs.	
Operations: Grinder Crane operator Molder Pattern maker Inspector Metalurgist Many others	Make a wall chart listing all the different jobs involved at the Foundry and the qualifications and duties of each.	Large posters. SRA occupational briefs
Maintenance: Plumber Electrician Safety & health officers Custodian Watchman	Students interview their neighbors who work at the Foundry and report to the class on these occupations and comments. The teacher should help make a list of suggested questions for the interview.	

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
Associated Jobs: City Engineers City Planners	Role play individuals applying for a job at the Foundry. Different students can interview for different jobs.	
2. What are some problems related to occupations in the Foundry?	Individual student research to find out about trade regulations and wage price control which would affect the operation at the Foundry. Then a panel discussion planned by the students could deal with these problems. Students make posters to represent their points of view.	Encyclopedias. Economics books.
	Organized labor could be studied by having a union official and a non-union employee from the Foundry come to the class and discuss labor management problems and the advantages and disadvantages of a union. (These persons might be interviewed if they can't come in person.)	Labor official from Foundry. Non-union employee. Pamphlet, "Why Unions", AFL-CIO.
	Role play labor and management discussions of problems.	

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Collect any news articles dealing with labor or union relations and make a bulletin board display.	Daily newspaper - students bring to class.
	Discuss the pollution factor at the Lynchburg Foundry. Resource person from Foundry should come to class to explain the recently installed filtering systems.	Resource people
	Have a Virginia Air Pollution Control Board official come to class to discuss the level of air pollutants in Radford.	Virginia Air Pollution Control Board official.
	Class discussion of the importance of the Foundry to the community vs. the pollution it creates.	

CULMINATING ACTIVITY:

CULMINATING ACTIVITY	RESOURCES AND MATERIAL
Set up a model Foundry in the room. Plaster of paris can be used to mold items which will be the products. Different stations set up in the room could include pattern making, molding, painting, advertising, production management, inspection, storage, maintenance, foreman. Enough products could be produced so that each student may have one to take home.	(Molding comparable to casting at the Foundry.)

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SUBJECT MATTER TIE-IN

Science

1. Magnetic properties(make electromagnets)
2. Centrifugal force
3. States of matter
4. Thermometer and temperature
5. Soil conditions, terrain, why we use one kind of pipe one place and another somewhere else.
6. Safety
7. Pollution, air and noise
8. Alloys
9. Rate of flow, gravity
10. Study of simple machines
11. Process of making iron and steel.

Language Arts

1. Interviewing people
2. Advertising the products
3. Writing orders
4. Reading orders - where to be shipped
5. Vocabulary of the trade
6. Letters for information
7. Stating fathers' jobs
8. Reports, research
9. Write own stories and poems

Math

1. Thermometer-reading
2. Measurement-diameter, linear, liquid
3. Salaries
4. Cost of raw materials(figuring profits)
5. Selling products
6. Geometric shapes
7. Weights of pipe
8. Distances of shipments

Music

1. Rhythm of sounds
2. Sounds of different sized pipes
3. Sounds of metal on metal, metal on wood
4. Write foundry songs
5. Sing the foundry song

Art

1. Sketch foundry
2. Sculpture
3. Designs in smoke
4. Making charts and posters
5. Building a model of the foundry
6. Colors involved in metals
7. Drawing pictures
8. Paint metal pieces
9. Safety posters

Physical Education

1. Chin-ups
2. Movements with pipes
3. Simulate motions

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Simkins, F. B., Jones, S. H., and Poole, S. P., Virginia, New York: Charles Scribner's Sons, 1964.

2. Periodicals:

Iron Worker, Lynchburg, Va.: Lynchburg Foundry Company, Hudson, V. O., Radford Review, Radford, Va.: Radford College, "Radford, Va.: Its Location, Growth and Significance," D. A. Cannaday, 1958.

3. Pamphlet:

"Why Unions" AFL-CIO

4. Chart: American Iron and Steel Institute

5. Steel Kit: United States Steel Corporation including filmstrip, "How Steel is Made."

BEST COPY AVAILABLE

CAREER EDUCATION PROGRAM
RADFORD CITY SCHOOLS

UNIT TITLE: "WHO DOES WHAT? A DICTIONARY OF CAREERS"

APPROXIMATE GRADE LEVEL: GRADE 7

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

PROJECT COORDINATOR: RANDY WRIGHT

THE CAREER EDUCATION PROGRAM
THE RADFORD CITY SCHOOLS
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INTRODUCTION:

This unit is designed for the 7th grade level in language arts and/or reading.

It shows the different occupations involved in dictionary development.

It's final product will be a reference book for students' basic career study.

BROAD OBJECTIVES:

1. To help students become aware of the various parts in a dictionary entry: diacritical markings, stress marks, definitions, word class, citation, etymology.

2. To help students develop a dictionary by putting various occupations to work.

3. To help students view the dictionary as a tool of necessity.

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. How and why was the first dictionary produced?	Brief introduction by teacher and discussion from class. Announce extra credit can be achieved by writing report or drawing a chart on history of dictionaries.	World Book Encyclopedia A Structural History of English.
2. What does a dictionary tell us?	Brainstorm, then do selected exercises for clearing understanding.	Our Language Today, 7, Chapter 11 Words and Ideas 7, pg. 339-345 Growth in English, pg. 394 Adventures for You, p. 473-474.
	View transparencies.	Book of transparencies and masters. Joys and Journeys, Skillbook. McHarg Library.
	View Filmstrip, "What's in The Dictionary?" Color, record and script.	
3. What dictionary terms should we know?	Use entry from dictionary or overhead. Label parts and list terms: Entry, guide words, diacritical marks, pronunciation key, word classes, accent marks, parenthesis, etymology.	Transparencies. Preceding grammar book references.

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Give them 5 words they are probably not familiar with in sentence which indicate meaning. They are to alphabetize and then write as a dictionary entry, including all parts. Possibilities: 1. Lexicographer 2. Linguist 3. Grammarian 4. Etymologist 5. Secretary	
4. In what occupation might you use a dictionary?	Brainstorm session. Bring in examples of different kind of dictionaries used in our home - put on display.	Chalkboard, chalk.
5. What are the kinds of dictionaries? general and specialized.	Look at dictionary exhibit and classify them.	Dictionaries students brought from home.
6. What kind of dictionary could we use for our study on careers?	Survey on parents' occupations. Do a small index card (size depending on container) which writes the career like a dictionary entry.	Index cards, container.
7. How do we compile information for publication?	Field trip to Commonwealth Press.	

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
8. How can we organize ourselves to make a dictionary?	Brainstorm job titles. When about 20 jobs are listed, divide the class into groups to do jobs with various occupations. Each group will need: (1) a linguist - Do pronunciation (2) grammarian - Do definitions, word class and sentence (3) etymologist - Do history of word, its root, and various prefixes and suffixes. (4) secretary - Record final draft on cards (5) part-time illustrator Groups can be divided as follows: Occupations beginning with Group I - A, B, C II - D, E, F III - G, H, I, J, K IV - L, M, N, O V - P, R, S VI - T, U, V VII - W, X, Y, Z	Chalkboard and chalk. Encyclopedia of Careers and Vocational Guidance, Vol. I, II. SRA Briefs - Proofreaders #373.
9. How important is accuracy in information before publication?	Resource person to discuss proper pronunciation, fitting definitions to words, career opportunities, salaries, etc.	A grammarian or publisher.

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
10. How can we put our dictionary together?	Student aid types dictionary directly from index cards. Illustrator work with her. Groups reorganize to: Group I - Put in guide words, numbers pages. Group II- Proofread, put in diacritical markings. GroupIII- Write an introduction, do title page. Group IV- Make a pronunciation key. Group V - Do any additional reference pages. Group VI- Staple, bind, and cover book. GroupVII- Make a poster to introduce dictionary to school and display in library, display case, etc.	

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Filmstrip:

"What's in the Dictionary?" McHarg Library

Briefs - Proofreaders #373

C A R E E R E D U C A T I O N P R O G R A M

R A D F O R D C I T Y S C H O O L S

UNIT TITLE: FOOD NUTRITION AND THE SCHOOL CAFETERIA "WHAT'S COOKIN'"

APPROXIMATE GRADE LEVEL: TMR

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

PROJECT COORDINATOR: RANDY WRIGHT

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SPECIAL EDUCATION INTRODUCTION

The career education program of the Radford City Schools was implemented in the Special Education Program consisting of a primary educable mentally retarded class, an intermediate EMR class and a TMR class, in the following ways:

1. Units geared toward all three levels incorporating sensory experiences, field trips, resource people, community resources, occupational information, subject-matter tie-in, role playing and interviewing skills were written.

2. Classroom Job Responsibilities

TMR Class
1. Care of animals
2. Straightening of tables & chairs
3. Office messenger
4. Delivering orders to cafeteria for milk
5. Cleaning desks & tables
6. Line leader
7. Distribute & collect papers, mats, & pillows

PEMR
1. Line leader
2. Care of animals
3. Wash board
4. Office errands
5. Distribute papers
6. Pledge leader
7. Clean tables

IEMR
1. Office errands
2. Clean & straighten book cases & shelves
3. Clean board and erasers
4. Straighten desks
5. Sweep floors
6. Vacuum the carpet
7. Open & close windows
8. Pass out papers
9. Empty trash

CONTINUED

3. Special Education students are permitted to apply and interview for the school-wide jobs pertaining to his own age level.

We found this program very effective and meaningful for children with special needs. Special activities increased interest and motivation in all subject matter areas.

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INTRODUCTION TO: FOOD NUTRITION AND THE SCHOOL CAFETERIA - " WHAT'S COOKIN'"

Children of the Trainable Mentally Retarded range need to become aware of the function of the workers involved in school cafeteria and the nutritional knowledge and work involved in planning meals and preparing meals at home and school.

MOTIVATING ACTIVITY

Ask each child individually to tell me what they would have for breakfast, lunch and dinner if they could eat anything they wanted. After conducting survey, read results of each child's menus to entire class and discuss why they chose what they did. Then try to decide if these are good choices and if not, what we can do to make better choices.

BROAD OBJECTIVE: Food groups and nutrition.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. How many different types of groups of foods do we have to choose from?	Introduce the 4 Basic Food Groups: 1. Dairy-Milk Products 2. Fruits and Vegetables 3. Breads and Cereals 4. Meat	Books: Johnson, Lois S., What We Eat. Jupo, Frank, Nothing to Eat But Food. Eberle, Irmengarde, Basketful: The Story of Our Foods. Beck, Barbara L., The First Book of Fruits.
	Have each child tell some of his favorite foods and decide which groups they would fit in.	Study Prints: CSP-28-Food and Nutrition David C. Cook
	Take each food group individually and have children make a chart for each group by cutting pictures from magazines. Spend at least one day on each group.	Filmstrips: The Food We Eat Series-SVE CF-H1-How We Get Bread CF-H5-How We Get Fruit CF-H3-How We Get Meat CF-H2-How We Get Milk CF-H4-How We Get Poultry and Eggs CF-H6-How We Get Vegetables CF-H8-The Story of Bread CF-H9-The Story of Fruits and Vegetables CF-H7-The Story of Milk

CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
		Cassettes: - SVE CE-CT-H1-How We Get Bread CE-CT-H3-How We Get Fruit CE-CT-H2-How We Get Meat CE-CT-H1-How We Get Milk CE-CT-H3-How We Get Vegetables CE-CT-H2-How We Get Poultry and Eggs
2. How do we know how many selections from each group we need each day to stay healthy?	Discuss with children that we need to include certain selections from all groups daily to keep fit and healthy and have a balanced diet.	
	Get large picture displays from local groceries of meats, produce, etc., and make costumes so children can act out their choice. Have for example, a 'meat' combine with a 'bread' and vegetable', etc., to produce a balanced meal.	Cardboard display pictures.
	Distribute 3 paper plates to each child and have them cut from magazines pictures of food to paste on plates to make a balanced breakfast, lunch	Paper plates, scissors, glue, magazines.

CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	and dinner. Display these in room as a bulletin board.	
3. How do the foods we eat daily affect the way we grow and the way we look?	Very simply discuss with children the caloric values of different foods and food groups. For example, breads and cereals have many more calories than fresh, green vegetables. However, stress that even if you're dieting, you still need some selections from Bread and Cereal group daily.	Calorie charts.
	Make a chart to keep account of what each child eats daily. Have them tell what they had for breakfast, lunch and dinner to see if they are eating a balanced diet.	Chart
	The ones that need to diet can be helped more extensively by keeping weight record and emphasizing exercise along with good nutrition.	

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BROAD OBJECTIVE: The School Cafeteria

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. Who decides what we eat for lunch at school?	Have dietician from school cafeteria visit our class and discuss what preparation and planning goes into school lunch's.	Resource person - School dietician, cooks. Study Prints: CSP-20-School Friends and Helpers - SVE
2. Does the dietician use the 4 basic groups and calorie count in planning meals?	Have dietician bring a weekly menu and show children the selections from each group in each lunch that is planned. The dietician will probably have additional charts and information to bring to class. Have he or she tell what sort of training was necessary to become a dietician.	Filmstrips: CF-A160-The School Cafeteria Worker-Educational Series, Eye Gate CF-A217-Workers Who Provide Food - Workers Series Coronet CF-A33-School Helpers CF-A58-School Workers
3. Who prepares the food for our lunches?	Ask cooks from cafeteria to visit class and explain their duties. Have them point out that merely cooking the food is not their only task. Someone must prepare food for cooking, serve it, clean-up, etc.	CF-A58-School Workers Cassette: CE-CT-A28-Helpers At School - Knowing our School Series - Encyclopedia Britannica- 1970.

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CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	If possible, have children visit cafeteria during the preparation of food and cleaning up process and possibly help with some tasks.	

BROAD OBJECTIVE: Other Cafeteria - Related Jobs

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. Who helps to keep our cafeteria clean?	Have custodians visit room and explain that once lunch is over, they must clean cafeteria and prepare it for next day. If cafeteria is used as multi-purpose room, tables & chairs must be put away for other activities.	Filmstrip: CF-A131-The Custodians and the Bus Driver Cassette: CE-CT-H10-Building Custodians
2. Who brings the food to the cafeteria?	Take such jobs as milkman, produce delivery man, meat delivery man and bread delivery man individually and explain that the dietician must know how much of each food to order and delivery men are responsible for getting right amount of food to cafeteria on time. - If possible, have children be in cafeteria when various things are delivered and let them interview the delivery men.	Record: CRec-A43-Dairy Product Delivery-The Wonderful World of Work Denoyer-Geppert Resource Persons-Delivery Men Books: Chapin, Cynthia-Dairyman Don Puzzle: C81-Milkman - Playskool Filmstrips: CF-A82-Dairy Product Delivery-The Wonderful World of Work, Denoyer-Geppert

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CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Culminating Activity Allow children to plan menu for a lunch at school and submit to dietician for a school-wide lunch.	"When I Grow Up, I Want to Be" - Flannel Board - Instructor

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C A R E E R E D U C A T I O N P R O G R A M

R A D F O R D C I T Y S C H O O L S

UNIT TITLE: HOME SERVICES AND CHILD CARE
"HERE WE GO 'ROUND THE MULBERRY BUSH"

APPROXIMATE GRADE LEVEL: TMR

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

PROJECT COORDINATOR: RANDY WRIGHT

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OBJECTIVES:

1. To help children become aware of the important role they can play in care of their home as well as in the world of work.

2. To strengthen children's ability to follow directions and routines involved in caring for a home.

3. To help children realize that they do have skills that can be developed into saleable occupational skills.

4. To make children aware of the economic benefits that even menial household jobs could mean to them. Also to show that one can, for example, bake one's own foods cheaper than buying them at a bakery.

5. To help children become more independent and make decisions on their own, such as which job would he prefer.

6. To incorporate basic skills in math, following directions in such things as following a recipe.

7. To show children that in order to obtain a job doing such things as housekeeping and/or babysitting one must be efficient and knowledgeable in those areas.

8. To develop an appreciation for the jobs their parents have at home and for the jobs they might one day obtain.

INTRODUCTION TO: HOME SERVICES AND CHILD CARE

Children of the Trainable Mentally Retarded range need to become aware of the many tasks involved in caring for a home and family, not necessarily their own home and family. However, with proper training and application, hopefully beginning in this unit of instruction, these children could occupy jobs such as housekeeper and babysitter.

MOTIVATING ACTIVITY

Ask children to think of a job their mother or father does around the house and role play it. The other children will try to guess the particular task being re-enacted.

Then ask what would happen if their mother or father got sick and they had to do these jobs?

BROAD OBJECTIVE: Cooking and Kitchen Tasks.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. How does your mother or father know how to cook your breakfast, lunch and dinner?	Have color-coded units of measurement (for example, teaspoon is always red) along with simple recipes re-written to coincide with color-coded units of measure. Pictures could be used to denote ingredients. Have children make own recipe booklets to take home. Begin by making something simple such as no-bake cookies. Have these for a snack later. Progress to cupcakes, cake, etc.	Units of measure. Recipes (re-written) Filmstrips: CREC-A37-The Junior Homemaker (K-3) Dennoyer-Geppert CE-CT-ALL-Cooks-Chefs-Ed. Sensory Programming Books: Berry, Erick. Eating and Cooking Around the World. Boyd-Orr, John. The Wonderful World of Food
2. Do all foods we prepare require a recipe?	Do some practical cooking such as boiling eggs or potatoes, toasting bread. Continue cooking at least one day weekly.	Janice. Little Bear Learns To Read the Cook Book. Buer, Walter. Salt, Sugar and Spice.
3. Why don't we just buy all the foods we eat already cooked and prepared?	Discuss with children as simply as possible the differences in cost of prepared foods and those we prepare ourselves.	Books: Buchheimer, Naomi. Let's Go To A Bakery.

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CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Discuss the bakery and if possible visit a bakery and compare prices. Also give attention to the various jobs required for a bakery to function.	Colonius, Lillian and Shroeder, Gelnn W. At The Bakery. C74-PlaySkool Puzzle - Baker C78-PlaySkool Puzzle - Cake Maker
4. Once the food has been cooked or prepared, is our job finished?	Discuss dishwashing and its important function. Have children wash dishes after all cooking endeavors. Have children set table. Prepare a simple meal.	Cassette: CE-CT-A114 - Getting to Know The Bakery - (Let's Imagine Going Places series) Educational Reading Service

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BROAD OBJECTIVE: Cleaning, Making Beds.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. How do we keep a home clean and neat?	Introduce by referring to jobs in classroom concerning cleaning such as washing board, desks; straightening books, shelves, tables; picking up trash, etc.	
	Have new job board pertaining only to cleaning jobs in the room and extend to vacuuming rug, mopping floor, waxing floor, washing windows, waxing tables and desks, dusting, etc.	Job Board Vacuum, cleaning materials such as wax, windex, soap, etc. Comic Books: C284-Popeye and Consumer and Homemaking Careers, King
2. Can a person earn money by cleaning homes, offices for other people?	Invite a resource person (maid, housekeeper) to come to classroom and tell what she or he does in their job. Invite school custodians.	
3. Does straightening your own room at home and making your bed help your mother and can it it help you?	Discuss how even simple tasks like this at home can train you for later employment. Bring in a cot for the children to make-up.	
	Resource person - have mother come in and talk about her duties and responsibilities at home.	Filmstrip: "My Mother Works at Home" IFC CF-A130

BROAD OBJECTIVE: Washing and Ironing Clothes.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What happens to our clothes when they become dirty - do we throw them away?	Have displays of different washing powders, soaps, fabtic softeners, bleaches and explain purpose of these items.	Washing powders, soap, fabric softener, starch.
	Discuss the price of washing powders, etc. in relation to the price of a new article of clothing, if they did discard soiled clothing. Show play money equivalent to the price of washing materials and then to the price of clothes.	Articles of clothing Clothes rack
	Have each child bring something from home that can be hand-washed. Wash it at school and hang on clothes rack to dry.	Iron Ironing board
	Have iron and ironing board. Explain importance of safety with using an iron.	
	Allow children to iron articles of clothing they have washed. Use spray starch on appropriate items and contrast starched and non-starched items.	Filmstrip: CF-A144-Our Neighborhood Laundry - Our Neighborhood Workers Series, Eye Gate.
	Field Trip: to laundry and dry cleaning establishment. If possible, take items of	

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CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	clothing to be washed and dry cleaned so children can actually see process while they are there.	

BROAD OBJECTIVE: Child Care.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. When you were a tiny baby could you walk, talk, bathe, dress and feed yourself?	Discuss helplessness of a tiny baby and how these needs are met by parents, babysitters. Discuss how small child must learn to do these things slowly and how they are still learning to do new and different things on their own.	Filmstrip: CE-CT-A36 - The Family Has A New Baby - SVE Living With Your Family series.
	Have a life-size doll to dress, bathe, diaper, wash and iron its clothes, etc. Possibility of having a small baby in our classroom for some real application.	Doll, clothes.
2. If you were asked to babysit for your younger sister or brother or a neighbor's child, could you do it?	Discuss how small children need to be guided very carefully so as not to harm themselves. Bring in such things as playing with sharp things, matches. Point out that it is the responsibility of the babysitter to insure their safety.	
	Field trip to a child care center if possible.	

CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
3. If a child gets sick or injures himself while he is in your care, what should you do?	Discuss and role play what a babysitter sould do if an emergency arose. Discuss importance of having emergency phone numbers such as doctor, police, fire department, or calling operator. Role play calling for help.	Phone

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C A R E E R E D U C A T I O N P R O G R A M

R A D F O R D C I T Y S C H O O L S

UNIT TITLE: CLOTHES AND SEWING - "A STITCH IN TIME"

APPROXIMATE GRADE LEVEL: TMR

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

PROJECT COORDINATOR: RANDY WRIGHT

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INTRODUCTION TO: CLOTHES AND SEWING - "A STITCH IN TIME"

Children of the Trainable Mentally Retarded range need to become aware of the process involved in making a garment. Also they need to learn to make their own decisions about appropriate dress, and to care for the mending of their own clothes and possibly sewing their own clothes.

MOTIVATING ACTIVITY	RESOURCES AND MATERIAL
Have children dress manakins (boy and girl) from Peabody Language Development Kit - Level P. Dress them for present season, then other seasons. Dress for school, bed, church, etc. Also children will dress flannel board dolls daily for the weather. Sing song "What Are You Wearing" and do movements record requires.	Books: Jupo, Frank. Nothing To Wear But Clothes. Alladdin. Waller, Leslie. Clothing, A Book To Begin On. Holt, Rinehart. Level P - Peabody Language Development Kit Instructo "We Dress For The Weather" Flannel Board Vol. I. "Learning Basic Skills Through Music" by Hap Palmer - Band "What Are You Wearing" Study Prints: CSP-91 - Clothing - Instructor Transparency: CTR-2 - Learning About Clothing - Family Relations Series Creative Visuals

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What different kinds of materials are clothes made of?	Have swatches of as many different kinds of materials as possible - especially different textures, patterns, etc.	Swatches of cotton, corduroy, wool, satin, netting, denim, fake fur, upholstery materials, leather, rubberized material, canvas, etc.
	Discuss the importance of being aware of the tactile sense when dealing with material or clothes selection (especially important when person can not read).	Filmstrip: CF-H16 The Feel of Your Skin. The Five Senses Series, Jam Handy.
	After exposure to different textures have "Feel Box" so children can reach in and try to guess what they feel and what it might be used for.	Books: Aliki, My Five Senses. Crowell
2. Where do we get these materials?	Ask children "Where do we get cotton, wool, rubber, silk?" to see if they have any concept of material sources.	Filmstrips: CF-A71 The Story of Cotton SVE CF-A72 The Story of Wool SVE
	Discuss sources of cotton, wool, silk, rubber and how they differ.	
	Show filmstrips and loops.	Film loop: CFL-1 Wool Into Clothing (Pioneer Village in the 1830's series) Coronet

CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
		Books: Rogers, Matilda. First Book of Cotton, Watts. Textbook (Grade 2) Learning About Our Neighbors. "Clothes are Made From Many Things" pp.92-97. Cavanna, Betty and Harrison, George R. The First Book of Wool, Watts, F.
3. Why do people wear different types of clothing?	Discuss with children people of other nationalities such as Eskimos, people who live in Africa, on the desert and how their climate affects their dress. Discuss also that where you are going and what you plan to do affects the dress you select. Discuss that you should have different clothes to play than ones you wear to school or church. Dressing manakins can re-inforce this.	Books: Kinne, Helen. Shelter and Clothing, Macmillan. Filmstrip: CF-A6 Food, Shelter and Clothing. Family Relations Series, Creative Visuals.

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CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Discuss what would be proper attire if you were looking for a job.	Cassette: CE-CT-A43 Dress for Interview. How to Do Series, Educational Sensory Programming.
	Make collages using materials and have them draw themselves and dress themselves, then tell where they would go and what they would do in that particular dress.	
4. Do different jobs require special clothing?	Discuss how many jobs, especially community helpers, require special dress or uniforms. Discuss firemen, policemen, waitress, nurse, doctor.	Flannel Board: CSP-88 "When I Grow Up, I Want To Be", Instructo.
	Have children dress dolls on flannel board with appropriate dress of different professions.	
5. Where do we get the clothes we wear?	Discuss with children that all the clothes we buy in a store must be made by someone. Ask them if they know of any places in our city where clothing is made.	Filmstrips: CF-A24 "How America is Clothed" America at Work series, Eye Gate.

CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
6. What jobs are involved in clothes manufacturing?	Talk about the many jobs designing pattern, making pattern, cutting material by pattern, sewing on an assembly line, finishing, packaging, inspecting, delivering, etc.- bring pattern and cloth to show children. Take a trip to a clothes manufacturing company so children can see first hand the cooperation of workers on an assembly, what comes before actual sewing and what occurs after garment is completed.	Filmstrips (cont.): CF-A "Your Assembly Line Helpers" People Who Help You Series, Scott. CF-A242 Manufacturing Clothing, Agriculture and Industry Series, Educational Reading S Services. Books: Meliher, Alice V. Textile Workers. Lazarus, Harry. Let's Go To A Clothing Factory. Putnam. C96 - Textile Teaching Kit American Textile Manufacturers.
7. Could you learn to sew your own clothes?	After field trip, set up a clothes manufacturing plant in the classroom with designing room, pattern layout & cutting, etc. Set up assembly line of sewing, packing, etc. Children could make simple triangle scafts for girls, hankerchiefs for boys.	Filmstrips: CF-A169 Making Clothing - How Things Are Made Series, Coronet. Cassette: CE-CT-A58 Making Clothing - How Things Are Made Series, Eye Gate. Study Print: CSP-92 - Clothing Accessories, Instructo.

CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
8. Could we be designers and create our own material?	Allow children to design material by tie-dyeing, potato and vegetable printing, object-printing and make into triangle scarfs, place-mats, table scarfs or something children might like to try. Have resource person visit class such as parent who sews or Home Demonstration Extension Agent and help children with endeavors. Teach children to sew on buttons and repair hems and ripped seams.	
CULMINATING ACTIVITY	Weave pot holders on nail-board looms for mothers for gifts and handkerchiefs for fathers. Continue sewing through-out year and let it be an individual project according to childrens' interests and abilities. Some could progress to embroidery, simple garments, etc.	

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C A R E E R E D U C A T I O N P R O G R A M

R A D F O R D C I T Y S C H O O L S

UNIT TITLE: GROCERY STORE

"RING'ER UP"

APPROXIMATE GRADE LEVEL: PRIMARY SPECIAL EDUCATION

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

PROJECT COORDINATOR: RANDY WRIGHT

THE CAREER EDUCATION PROGRAM
THE RADFORD CITY SCHOOLS
1612 WADSWORTH STREET
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BROAD OBJECTIVES:

The student will:

1. Realize his personal dependence on the neighborhood grocer.

2. Understand that the grocer receives his goods from many sources.

3. Be able to identify several tools and instruments used to perform specific tasks in a grocery store.

4. Understand that speed and accuracy in hadling money is important to both the grocer and the customer.

5. Be able to decide if he has any interest in careers related to the grocery store.

6. Realize that friendliness and courtesy is appropriate behavior for working in a grocery store.

7. Recognize responsibility and the importance of completing assigned tasks.

8. Understand and appreciate the importance of sanitation in the grocery store.

INTRODUCTION:

This unit should give students an idea of the great inter-dependence of people in our society. It is also intended to make the students aware of the various jobs related to the supermarket and the training needed to become successful in one of these careers.

MOTIVATING ACTIVITIES	RESOURCES AND MATERIALS
Pop corn in class. Serve kool-aid. Lead a discussion of where we got this food.	
Use opaque projector to make bulletin board related to supermarket.	Opaque projector. Bulletin board.
Read book. Discuss	Let's Go To a Supermarket, by J. Goodspeed.
Show filmstrip. Discuss	My Dad Works in a Supermarket. IFC.

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What is a supermarket? What is its function?	Listen to cassette.	Getting to Know the Supermarket. Educational Reading Services.
	Show filmstrips. Discuss.	A Shopping Center. Coronet. Robert Goes Shopping. SVE.
	Visit a supermarket. Emphasize the variety of jobs and the specific tasks each worker performs.	Field trip.
	Read books. Discuss.	What We Eat, by Lois S. Johnson. Feeding the City, by Beulah Tannenbaum. When Hunger Calls, by Anne T. White.
2. Who works at a supermarket?	Make a list of all workers students can recall seeing when they visited the supermarket. Display this chart in room.	Chart paper.
	Show filmstrip and discuss.	Supermarket Workers. SVE. Workers Who Provide Food. Coronet. Workers Who Sell. Coronet.

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CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Invite a supermarket owner and/or manager to visit the class. Let them discuss different workers and the responsibilities of each. Correlate spelling lesson to include words related to supermarket jobs.	Resource person.
3. What are some specific duties of each job?	Let students make an extensive study of the various careers related to the supermarket. Divide students into groups. Let them choose one specific career to study. Use media center so each group can view filmstrips dealing with their specific career. Let them read books and use reference books in library if necessary. Allow each group time to plan a presentation and time to present their information to the whole class.	Stocker In a Supermarket. Eye Gate. The Butcher. Eye Gate. Retail Clerk. Eye Gate. Study Prints: Supermarket Helpers. SVE. I Want To Be a Sales Clerk. by Eugene Baker. I Want To Be a Storekeeper. by Carla Greene.

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CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Invite a resource person to represent each specific job. Set up a panel discussion and let students ask questions pertaining to each job.	Resource persons.
	Let students do skits role playing various careers.	
4. Are there any jobs in the supermarket that do not require a high school diploma?	Let a group of students interview various workers on their job. Tape record the session and play it back for the whole class to listen. Discuss.	Resource persons Tape recorder.
	Make a list of all jobs and qualifications (age, skill, etc.) needed to obtain that job. Display in room.	Chart paper.
5. Where do the goods in a supermarket come from? How are they transported to a supermarket?	Read stories about people who grow, produce, process, transport, or sell foods.	Childcraft Vol. 7, <u>How We Get Things</u>.
	Show filmstrip. Discuss.	<u>How We Get Our Foods Series</u> EVE.
	Display study prints. Discuss.	<u>Interaction of Man and His Resources</u>. McNally.

CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
		Interaction of Man and Man. McNally.
	Visit a supermarket to observe all products being delivered.	Field trip.
6. The grocer provides food for us, but what do we give him in exchange?	Read story.	"When People Didn't Use Money." Childcraft Vol. 6, pp. 230-231.
	Correlate math lesson to give students an opportunity to count money, make change, etc.	Cash register. Play money.
7. Why is cleanliness important to a grocer?	Discuss state health standards and inspections by state officials. Emphasize fact that if stores do not pass inspection, they are not allowed to continue operation.	
	Show films. Discuss.	Cleanliness and Health (Rad.) #36004.
		Health - You and Your Helpers (Rad) #50505.

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CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
8. Why do people depend on a grocer so much?	Discuss how impractical it would be for all people (even in cities) to try to grow their own food, keep cows for milk, chickens for eggs, etc. Explain that people used to do this, but as the population grew and cities became crowded, this became impractical.	
	Show filmstrips. Discuss.	Your Stores. Scott. The Foods We Eat Series. SVE. The Fruit and Vegetable Store. Eye Gate.

CULMINATING ACTIVITIES	RESOURCES AND MATERIAL
Instruct students to bring empty boxes, cans, etc. to school (leave labels on). Set up a grocery store in the classroom. Allow each student to apply for the job of his choice. Have interviews. Include the clerk, manager, baggboy, stocker, butcher, etc. Correlate language arts lesson to allow students to write ads for the supermarket.	Empty food containers. Cash register. Play money. Grocery bags.
Role play each career. Let some students be customers so that the children see their store in actual operation.	
Read comic book.	Popeye and Marketing and Distribution Careers. King.
Work puzzle.	Grocer. Playskool.

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The Foods We Eat Series. SVE, 1971.
How We Get Our Foods Series. SVE, 1964.
The Butcher. Eye Gate, 1967.
The Fruit and Vegetable Store. Eye Gate, 1967.
Retail Clerk. Eye Gate.
Robert Goes Shopping. SVE, 1967.
Supermarket Workers. SVE, 1971.

2. Cassettes:

Getting to Know the Supermarket, Educational Reading Services.

3. Comic Books:

Popeye and Marketing and Distribution Careers. King, 1973.

4. Puzzles:

Grocer. Playskool.

5. Study Prints:

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C A R E E R E D U C A T I O N P R O G R A M

R A D F O R D C I T Y S C H O O L S

UNIT TITLE: CLOTHING

"WHAT'S IN MY CLOSET?"

APPROXIMATE GRADE LEVEL: PRIMARY EDUCABLE

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

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INTRODUCTION TO: Clothing
"What's in My Closet?"

After learning about oneself and one's home, a logical step is to learn about one's clothing. This unit will give students a view of the many careers involved in clothing manufacture and care. Occupations in these areas are realistic choices for special students, so the knowledge gained from this unit will hopefully be functional in each child's daily life.

MOTIVATING ACTIVITY	RESOURCES AND MATERIAL
Two dolls(a boy and a girl, appropriately dressed) will be placed on a display table. Also, on the table will be a display of sources of materials used in making clothing (piece of raw wool or picture of a sheep; piece of leather or picture of a cow; coal; wood; silk worm cocoon or picture; cotton ball, etc.). Class discussion and guessing game of parts of clothing made from each source on the table.	

BROAD OBJECTIVE: To help students develop an interest in clothing.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What are some of the reasons that people wear so many different kinds of clothing?	Make a list(children) of the types of clothing people wear (dress, shirt, boots, raincoat, etc.).	Textbook: Our Working World Families at Work Neighbors at Work
	Use pictures of clothing and clothing accessories from Instructor study prints.	Study prints: Instructor - Clothing
	Read(pupils) about the different kinds of clothing.	Textbook: A World of Surprises "The Jumping Hat" p.130 Going Places, Seeing People "Tito's Hats" p.29-34
	Learn and sing songs: 1. "Galoshes" p.39 2. "Green Dress" p.3	Music textbook: Music in Our Town
	Read story	Book: Story of Your Coat by Clara Hollos
2. What clothes are best suited for school, play, parties, church, and other occasions?	Students prepare a bulletin board using pictures appropriate to the best clothes to wear to school, church, etc.	Textbook: Sun and Shadow "Miss Poppy" p.132-157
	Read(pupil) stories about the appropriate clothing to wear.	
3. What workers need special clothing for their jobs?	Collect pictures and make posters of community workers, we have already studied about, in appropriate dress.	

CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Read story(teacher)	Childcraft Vol.10 p.220-221 "Making the Clothes You Wear"
4. How are "fashions" established?	Learn and sing songs: 1. "Hat Parade" p.60 2. "Here We Go" p.119	Music textbook: Music in Our Town
	Design fabric prints by using muslin and print with potato prints, soap prints or sponge stencils.	Art book: Arts and Crafts for Elementary Teachers

BROAD OBJECTIVE: To help students develop an appreciation of the cooperation of the many workers, in making, supplying and caring for our clothing.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What places and workers in our community provide our clothes?	Read(pupil) story.	Textbook: Going Places, Seeing People "The Elves and the Shoemaker" p.173-180. "A Visit To The Shirt Factory" p.98-102.
	Play act above story.	
	Social studies: read(pupils) "A Visit To The Shirt Factory"	
	Class discussion of workers in the shirt factory.	
	Read(teacher and pupils) "Let's Go To A Clothing Factory".	Library Book: Let's Go To A Clothing Factory by Harry (E-L) Lazarus, G. P. Putnam Sons, New York.
	Visit Kenrose dress factory, J. Freezer & Son shirt factory.	
2. What places and people help us care for our clothes?	Learn and sing songs: "The Shoemaker"	Music in Our Town(2) Music Now and Long Ago(3)
	Visit laundry and observe and talk with workers washing, cleaning & pressing clothes.	Silver Burdett(record G.2#5 p.75 and Grade 2 p.62) Cook's Clean Center workers.
	Send a familiar clothing item through the laundry. Compare its appearance before and after cleaning.	Clothing item

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BROAD OBJECTIVE: To help students gain an understanding of the different products used in making our clothing.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. Of what materials is our clothing made?	Make a "cooperative" list of all things children can think of which clothes are made from (wool, cotton, etc.)	Use samples of cloth for wool, cotton, silk, etc. Also, emphasize cloth patterns(stripes, solids, polka dots, checks, etc.)
	Social studies: Read(pupils) stories "Clothes are Made from Many Things".	Textbook: Learning About Our Neighbors "Clothes are Made From Many Things" p.92-97
	Spelling and language: Clothing vocabulary-class discussion, flash card word game.	The Instructor Publications P. O. Box 6108 Duluth, Minnesota #634 Clothing #637 Clothing accessories
2. From what sources do clothing materials come?	Learn and sing songs: "The Sheep Shearing" p.124 "The Tailor and the Bear" p.100 "I Had A Little Overcoat" p.96 "The Shoemaker" p.94	Music textbook: This Is Music 2
	Transparency: View & discuss Learning About Clothing	Creative Visuals transparency Family Relations-Learning about Clothing 301.#2AE-05
	Read stories(students)	Stories: The Youngest Camel by Kay Boyle; The Luck Llama by Alice Desmond.

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
3. How is thread made?	Read(teacher) and discuss process by which thread is made.	World Book-Vol. T
	Make dyes from plant sources-onion skin, beets, spinach, walnut.	
	Try making yarn or thread by hand from various fibers. Discuss how thread is made today.	
4. How is cloth woven?	Discuss pictures will be placed on bulletin board of spinning wheel, etc.	
	Weave small samples from yarn. Use either loom made from tongue depressors or one made from shoe box.	Loom and yarn.
	Read "Clothes Long Ago".	Textbook: Learning About Our Neighbors; "Clothes Long Ago" p.103
	Filmstrips: View and discuss The Story of Cotton The Story of Wool The Story of Rubber The Story of Leather	Filmstrips: 204-S How We Get Our Clothing (SVE)

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BROAD OBJECTIVE: To help students gain an understanding of the importance of wise and careful selection of our clothing.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. How can we take care of the clothing we have?	Learn and sing songs: "Hanging Out the Linen Clothes" "The Laundryman" Provide a lost and found box for misplaced clothing in room. Empty box daily by finding owners.	American Folk Songs for Children; Doubleday, Garden City, N.J. Music For Young Americans, American Book Co., New York. Sharing Music(Kindergarten)
2. Which is more practical for children's clothing-silk or cotton? Why?	Collect and label samples of clothing materials-leather, nylon, plastic, silk, linen, cotton, wool, rubber. Examine and discuss fibers, texture, etc. Deliberately stain with berry juice, etc. samples of above materials and try to wash them. See the results.	Samples of materials.
3. Should we play in the clothes our parents have provided us with for school and other activities?	Class discussion of "dos and don'ts" of wearing our school clothes to play in. Invite a mother in to discuss with class above subject and give her view. Write thank-you letters to mother who visited class.	Class mother

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
4. What would a complete "outfit" for me to wear to school in winter cost?	Read (pupils): "A New Hat and a New Dress" "New Clothes for Henry" List an ideal "outfit" for boy and girl and then visit a department store or use a catalog and list costs. Then add the total costs.	Textbook: Learning About Our Neighbors "A New Hat and a New Dress" p.109. "New Clothes for Henry" p.87.

CULMINATING ACTIVITY	RESOURCES AND MATERIAL
Have a "style" show (for other primary grades) with different children dressed to represent community workers; plus appropriate clothing for children at play, school, church, etc. The child appropriately dressed will recite a creative poem about his "fashion." Set up a clothing store. Use catalogs to price all clothing items. Use each child's coat, hat, mittens, etc. for motivation. Role play jobs of all those involved(farmer, sheep shearers, truck drivers, factory workers, store owners, salespeople, buyers, etc.) Use play money to show that each person involved receives a profit.	Primary Grade Activities Childcraft 1971 p.40

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C A R E E R E D U C A T I O N P R O G R A M

R A D F O R D C I T Y S C H O O L S

UNIT TITLE: SELF

"HOW OTHERS SEE ME"

APPROXIMATE GRADE LEVEL: PRIMARY EDUCABLE

PROJECT SITE: RADFORD CITY SCHOOLS

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INTRODUCTION TO: Self
"How Others See Me"

The development of enhanced self-concepts is an important goal in any special education classroom. After this unit is completed, each student should have a more realistic idea of how he looks to others. The role-playing of various occupations related to body care(such as barber and beautician) will hopefully eliminate the untidy personal habits so often found within a special class. For this reason and for purposes of getting acquainted, it is strongly advisable to begin the school year with this unit.

BROAD OBJECTIVE: To help children understand the concept of "Who Am I?" and to identify ways in which the child is unique.
To promote positive self-image.
To help him become aware of things important to him.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. Who am I?	Teacher asks the class this question and guides discussion. Teacher introduces self and tells about self. Make small bulletin board w/pictures from past to describe self. Show filmstrips-discuss.	Bulletin board Filmstrip: "Sometimes I Wonder" SRA-Awareness Series SVE-Getting to Know Me series Book: Debbie and Herself by Lois Lensky.
2. Who are you? How do you look to yourself? To others?	Let children look in full length mirror-tell name, describe clothing worn, color of hair and eyes, tell if they like themselves(in order to be a really happy person, you must first like yourself). Remind them to use whole sentences while speaking. Using newsprint, lie on floor and trace outline of each other. Color, cut out and display in room.	Full length mirror. Newsprint. Crayons. Books: Many Names for Eleen by Peggy Sullivan. The Very Little Girl by Phylis Krusilowsky.
3. How old are you? Where do you live? Who are your parents?	Using worksheets, teach each child his name, age, address, school, mother's and father's name. Let each child complete an application form using this information to get a classroom job.	Worksheets. Word cards. Hat.

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CONTINUED To help the children become aware of the feelings and rights of others.
To promote cooperation within the group.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Repeat this activity on the first day of each month so each child can have a new job. Make word cards of each child's mother's and father's name and put in hat. Draw one at a time and let rest of class guess whose mother or father this is to familiarize each student with other students' parents	
4. What can you do by yourself? What do you like and/or dislike?	Teacher guides discussion and exploration to see if child can zip, button, tie, brush teeth, bathe, etc. Discuss things we like and dislike. Make collage of things you like. Display on bulletin board with each child's name.	Manipulative objects for tying, zipping, etc. Construction paper. Old magazines. Bulletin board.
5. How do you feel?	Discussion of what makes us angry, happy, sad, etc. Show film: "Clown" and discuss emotions. Discussion of how to be a friend to others, what we expect of our friends, etc.	"Clown" Radford College Library 65509

CONTINUED To promote interest in and awareness of the occupations of barber and beautician.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
6. How can we improve our appearance?	Construct a beauty and barber shop to emphasize cleanliness. Style hair, shine shoes, file nails. Study details of being a barber and a beautician-hours of work, wages, training needed, etc. Role play in beauty-barber shop. Plan a skit and invite another class in to visit.	Shoe polish, comb and emery board for each student. Make-up, razor(w/out blade), hair rollers, colognes, hair clippers, shoe brush, curtains, wash cloth, towels, etc.

CULMINATING ACTIVITY:

CULMINATING ACTIVITY	RESOURCES AND MATERIAL
Let each child have a small bulletin board for one week to tell about himself.	Bulletin board

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3. Filmstrips:

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C A R E E R E D U C A T I O N P R O G R A M

R A D F O R D C I T Y S C H O O L S

UNIT TITLE: TRANSPORTATION - BUSES, TAXIS, TRUCKS

"KEEP ON TRUCKIN'"

APPROXIMATE GRADE LEVEL: PRIMARY SPECIAL EDUCATION

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

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BROAD OBJECTIVES:

1. Become aware of any interest he may have in careers related to transportation by bus, truck, or taxi.

2. Understand that information and skills he gains in the classroom can be applied to experiences he may encounter as a bus driver, truck driver, or taxi driver.

3. Understand that careers involved with transportation greatly depend on services from careers in areas such as fuel distributors, communication services, etc.

4. Recognize the economic implications related to a career in transportation.

5. Realize that decisions he will make concerning his work will affect other people.

6. Become aware of critical thinking skills and interpersonal behavior appropriate to a career with transportation.

7. Recognize responsibility and the importance of completing assigned tasks.

8. Understand that a job well done is rewarded by self-satisfaction and recognition from others.

INTRODUCTION:

Every person is either directly or indirectly affected by transportation careers. Through this unit, children will become aware of several modes of transportation for people and goods. Because transportation is such a broad topic, this unit deals only with careers related to buses, taxis, and trucks.

MOTIVATING ACTIVITY	RESOURCES AND MATERIAL
Let each student make either a taxi, a truck, or a bus from a shoe box. Let them construct the inside, paint it, etc.	Shoe Boxes Tempera Paint
Read book. Discuss.	I Want to Be A Truck Driver, by Carla Greene
Let children bring in pictures of buses, trucks, and taxis. Discuss sizes and shapes. Make a bulletin board (perhaps a collage).	Magazines Bulletin Board

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. How do people travel in our town? If a person didn't have a car of his own, how would he travel?	Class assignment: Instruct each student to sit in his yard for 15 minutes and record all different types of vehicles he sees. Class discussion the next day; compare different answers from different areas, etc.	
	Divide class into groups to develop skits portraying how they could catch a bus or taxi in a crowded city.	
	Discuss study prints.	Means of Transportation. Instructor. How People Travel in the City. SVE.
	Draw pictures to show people traveling by bus, taxi, etc.	Drawing paper. Crayons.
2. Who are workers who provide ways for us to travel?	Read books. Discuss.	I Want to Be A Taxi Driver. Eugene Baker. I Want to Be A Bus Driver. Carla Greene.
	Show filmstrip. Discuss.	The Custodian and the Bus Driver. Mc-Graw-Hill.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Invite a bus driver and a taxi driver to visit class. Let students interview them concerning their jobs.	Resource persons - bus driver and taxi driver.
	Work puzzle.	Bus. Playskool.
	View and discuss films and filmstrip.	Bus Driver. #40904 (Rad.) Buses that Serve Our Community. #27904 (State) Cities and Transportation. Eye Gate.
	Correlate spelling lesson to include words related to transportation by bus, taxi, and truck.	
3. What other jobs are necessary to keep transportation careers in operation?	Read books. Discuss.	Who Built The Highway. Norman Bate. Let's Go To A Garage. J. Goodspeed. I Want to Be A Mechanic. Carla Greene. About Roads. Norman & Madelyn Carlisle.
	Use media center to let each student view filmstrips. Discuss.	Gas and Oil Services. Denoyer-Geppert. Fixing a Flat Tire. Eye Gate. The Gas Station Attendant. Eye Gate. The Bus Station. Coronet. Buses. Jam Handy.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Let each student write a short story telling what would happen to bus and taxi drivers if there were no mechanics, service stations, etc.	Writing paper.
4. What is the difference between public and private transportation? Which is better?	Read books. Discuss.	Transportation. Wilma Cain. America Travels. Alice Dalgliesh. The Story of Transportation. Jeanette Eaton. The Wonderful World of Transportation. David Lambert & Laurie Lee. The Look-It-Up Book of Transportation. Bernice Kohn.
	Let students make a chart comparing public and private transportation. Display in room.	Chart paper.
	When bus driver and taxi driver visit class, ask questions concerning public versus private transportation.	Resource persons - taxi driver and bus driver.
5. Which type of public transportation do most people like best?	Let class do a survey of the most popular type of public transportation.	Chart paper.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	If possible, make notes on reasons for different choices. Make a chart comparing results. (This survey may be taken at home as well as in other classes.)	
	Have a class discussion on which type of transportation students see most and possible reasons for this.	
6. How should we behave while traveling on public vehicles?	Show filmstrips. Discuss.	Manners on Public Transportation. SVE.
	View film and discuss.	School Bus Safety. #31708 (State, Rad.)
	Divide class into 2 groups. Role play skits portraying a right and a wrong way to behave while traveling on public means of transportation.	
7. Do things (furniture, animals, etc.) travel the same way as people?	Read books. Discuss.	Trucks. Herbert Zim and James Skelly. Trucks on the Highway. C. B. Colby.
	Show study prints. Discuss.	Moving Goods for People in the City. SVE.
	Shoe film and discuss.	Transportation by Land. #5204 (State, Rad.)

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
8. What types of careers are related to transportation by truck?	Read books. Discuss.	Truck Drivers: What Do They Do? Carla Greene.
	Work puzzle.	Truck Driver. Playskool.
	Read comic book.	Popeye and Transportation Careers. King.
	Discuss fact that some services are needed for operation of trucks as for taxis and buses (gas stations, mechanics, etc.)	
9. What are some advantages and disadvantages to a career related to transportation?	Let several students interview a bus driver, truck driver, and taxi driver. Tape record each session. Emphasize financial implications, hours of work, etc.	Resource persons. Tape recorder.
	Make a chart comparing the three.	Chart paper.
	Let each student choose the career he would like most if he had to choose one in transportation.	

CULMINATING ACTIVITIES	RESOURCES AND MATERIALS
Take a trip to a bus station. Let students buy their tickets, check luggage, and take a bus ride. OR Visit a taxi stand. Let students listen to calls, etc. If possible, let them ride in taxi to pick up customer. OR Take a trip to a truck terminal. Observe trucks being loaded and unloaded. Interview several drivers about their jobs.	Field trips.
Let students make a model of a city. Emphasize importance of gas stations in different locations. Use taxis, buses and trucks to show movement around the city in one day.	Shoe boxes. Styrofoam. Large table.

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Buses. Jam Handy, 1957.

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The Custodian and the Bus Driver. McGraw-Hill, 1969.

Fixing A Flat Tire. Eye Gate, 1965.

The Gas Station Attendant. Eye Gate, 1965.

Puzzles:

Bus. Playskool.

Truck Driver. Playskool.

Study Prints:

How People Travel in the City. SVE, 1965.

Means of Transportation. Instructor, 1969.

Moving Goods for People in the City. SVE, 1965.

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Transportation. Bowmar, 1968.

Comic Books:

Popeye and Transportation Careers. King, 1973.

Films:

40904 Bus Drivers (Rad.)

27904 Buses That Serve The Community. (State)

31708 School Bus Safety. (State, Rad.)

05204 Transportation by Land. (State, Rad.)

C A R E E R E D U C A T I O N P R O G R A M

R A D F O R D C I T Y S C H O O L S

UNIT TITLE: HOTEL: NO VACANCY

APPROXIMATE GRADE LEVEL: PRIMARY SPECIAL EDUCATION

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

PROJECT COORDINATOR: RANDY WRIGHT

THE CAREER EDUCATION PROGRAM
THE RADFORD CITY SCHOOLS
1612 WADSWORTH STREET
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BROAD OBJECTIVES:

Each student will:

1. Become aware of any interest he may have in careers related to the operation of a hotel or motel.

2. Understand that information and skills he gains in the classroom can be applied to experiences he may encounter in the restaurant business.

3. Be able to identify some instruments and tools used to perform specific tasks in a restaurant.

4. Understand that speed and accuracy in handling money is important for a career in the hotel or motel business.

5. Realize that decisions he will make concerning his work will affect other people.

6. Realize that friendliness and courtesy is appropriate behavior for working in a hotel or motel.

7. Understand responsibility and the importance of completing assigned tasks.

8. Understand that his behavior toward customers would affect his financial gains from a career in a hotel or motel.

INTRODUCTION:

This unit is intended to make students aware of the various careers related to the operation of a hotel or motel such as the manager, clerk, bell-hop, maid, elevator man, and custodian. Since most large hotels and motels have restaurants, this unit is intended to be a follow-up to the unit on restaurant careers. In this way, the students will realize that the efficient operation of hotels and motels usually depends on the efficiency of the restaurant involved.

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MOTIVATING ACTIVITIES	RESOURCES AND MATERIAL
Show filmstrip. Discuss.	Workers and Their Work. Coronet.
Use opaque projector to make bulletin board related to hotel and motel.	
Role play incident of family on a trip looking for a hotel or motel. It is about bedtime and they are unable to find a place with vacancies.	

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What is a motel? What is a hotel? What are their functions?	Look up meanings in dictionary. Emphasize the difference between the two.	
	Let students draw pictures of their concept of a hotel or a motel. Study results and try to clear up any mis-conceptions they may have.	Drawing paper. Crayons.
	Invite a mother and father to visit the classroom to discuss the convenience of having hotel or motel accommodations available when they are on trips.	Resource persons.
2. Who works in a hotel or motel?	Visit a hotel and/or a motel. Observe various workers on the job.	Field trip.
	Make a list of all workers students saw on the trip. Display chart in the room.	
	Invite a hotel and/or motel manager to visit class. Let him discuss various workers whom he supervises and the responsibilities of each.	Resource person.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Correlate spelling lesson to include careers related to a hotel and motel.	
	Read book. Discuss.	Careers in Hotels and Restaurants by Litton.
3. What are some specific duties of a hotel or motel manager?	Invite a manager to visit class and tell about his job.	Resource person.
	Listen to cassette. Discuss.	Hotel Manager. Educational Sensory Programming.
	Begin making a booklet of color worksheets for each hotel and motel worker.	Color worksheets.
4. What are some specific duties of a hotel bell-hop?	Invite a bell-hop to visit class and tell about his job.	Resource person.
	Continue booklet of hotel and motel workers.	Color worksheet.
	Show filmstrip. Discuss.	At Your Service. Denoyer-Geppert.
5. What are some specific duties of a hotel or motel clerk?	Listen to cassette. Discuss.	Hotel Clerk. Educational Sensory Programming.

CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Continue booklet of hotel and motel workers.	Color worksheet.
	Show filmstrip. Discuss.	Become A Receptionist. Educational Sensory Programming.
	Correlate math lesson to allow students an opportunity to count money, make change, etc.	Play money. Cash register.
	Display study prints. Discuss.	Learning About Money. David C. Cook.
	Role play an incident of one person making reservations by phone and hotel clerk taking the call and getting all the necessary information accurately.	Play telephone.
6. What are some specific duties of a hotel or motel maid?	Invite a maid to visit class and tell about her job.	Resource person.
	Continue making booklet of all jobs related to hotel and motel.	Color worksheet.
	Let students set up a motel room in the class. (Use a cot for bed if there is not enough room for a large one.) Role play duties of maid such as	Bed or cot. Linens, chair, mirror, curtains.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	making the bed, cleaning the bathroom, replacing linens, etc.	
7. What are some specific duties of a hotel elevator man?	Invite an elevator man to visit class and tell about his job.	Resource person.
	Continue booklet of hotel and motel workers.	Color worksheet.
	Let a group of students take a tape recorder to a hotel and interview an elevator man about his job. Play it back and discuss it with rest of the class.	Tape recorder.
	Show filmstrip. Discuss.	Workers Who Provide Services. Coronet.
8. What are some duties of a hotel or motel custodian?	Invite a hotel or motel custodian to visit class and tell about his job.	Resource person.
	Continue booklet of hotel and motel workers.	Color worksheet.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Compare duties of hotel and motel custodians to custodians on other jobs. Decide if their incomes are comparable, working hours are good, etc.	
9. What are some other careers related to a hotel or motel?	Explain that all the careers we studied in our restaurant unit are necessary to the operation of a hotel or motel if it has a restaurant. Discuss fact that the operation of a hotel or motel is dependent on other careers such as laundry workers, food services, etc.	

CULMINATING ACTIVITIES	RESOURCES AND MATERIAL
Let each student choose his favorite career related to the hotel and motel. Allow them to make paper bag or sock puppets of that person. Role play operation of a hotel and/or motel.	Paper bags. Socks, crayons.
Make a mural representing the students' concepts of the operation of a hotel and motel. Compare this with pictures students drew prior to this unit. Display in classroom.	Roll of drawing paper. Crayons or tempera.

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Filmstrips:

Workers Who Provide Services. Coronet, 1972.

Become A Receptionist. Educational Sensory Programming.

Workers and Their Work. Coronet, 1972.

Workers In Professions. Coronet, 1972.

At Your Service. Denoyer-Geppert, 1967.

Books:

Careers in Hotels and Restaurants. Litton.

Cassettes:

Hotel Clerk. Educational Sensory Programming.

Hotel Manager. Educational Sensory Programming.

Study Prints:

Learning About Money. David C. Cook, 1970.

C A R E E R E D U C A T I O N P R O G R A M

R A D F O R D C I T Y S C H O O L S

UNIT TITLE: POSTAL SERVICES

"A LETTER OF YOUR OWN"

APPROXIMATE GRADE LEVEL: PRIMARY EDUCABLE

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

PROJECT COORDINATOR: RANDY WRIGHT

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INTRODUCTION TO: Postal Services
"A Letter of Your Own"

Each student's desire to receive and send mail provides concrete motivation for improving handwriting and learning the correct form of letter writing. These parts of the primary special education curriculum are easily incorporated into the postal services unit. Hopefully, each student will become aware of the job opportunities related to all areas of the postal services.

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BROAD OBJECTIVE: To help children see the relationship of the postal services to their lives.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. Do you ever receive any mail?	Book-read to the class. Discussion	
2. How do we get our mail?	Class discussion-let children present their ideas and thoughts.	
	Draw pictures to represent their ideas of how we re-receive our mail.	Material needed: Drawing paper

BROAD OBJECTIVE: To help children improve letter writing skills.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. When you write a letter, what things must you include?	Class discussion-bring in the different things that are included in all letters(heading, greeting, etc.). Make a chart by putting a letter on paper and labeling different parts.	Material needed: Chart paper
	Make a transparency-write a letter and as a class label the letter parts.	Material needed: Acetate sheet for transparency. Felt tip pen for writing on transparency.
2. Are all letters the same? Would you write the same type of letter to a friend as you would to a businessman?	Discuss the friendly letter.	
	Write letters-class activity. Display letters-on bulletin board.	
3. After you write a letter, what do you put it in(envelope)? Why do you use it? What do you put on the outside of the envelope?	Class discussion.	
	As a class activity make a large envelope and address it correctly. Let children address envelopes to go with the letters they have written.	

BROAD OBJECTIVE: To acquaint children with the various types of letters (ex.: air mail, special delivery) and the costs involved in mailing different types of letters.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. Is all mail classified the same?	Discuss different classes of mail. If possible, display different types.	
2. Why do we use stamps?	Read story.	Story: "About Stamps"-Going Places, Seeing People
	View stamp collection-perhaps a child can bring one in.	Material: Stamp collection
	Design a stamp.	
3. Do all stamps cost the same amount?	Class discussion-let different ones bring in stamps to see if all stamps cost the same and are alike. Refer back to stamp collection.	
4. What is a zip code? Why do we use zip codes?	Filmstrip-view and discuss.	Filmstrip: Home Services - ECF-107 Mail Delivery
	Make Mr. Zip Code-large enough for bulletin board.	
	Book-read and discuss.	Book: Mr. Zip and the U. S. Mail

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BROAD OBJECTIVE: To acquaint the children with the various personnel in the postal services and their specific tasks in mail delivery.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. Who are the different people involved in mail delivery?	Bulletin board using study prints.	Study prints: Set SP121-Postal Helpers
	Filmstrips-view and discuss.	Filmstrips: F-A7 Post Office Workers; F-A12 The Mailman; Workers for the Public Welfare-140C The Post Office and Postal Workers
	Film-view and discuss.	Films: Mailman 10 mins. co/bw 1947 El. Rad.
	Song-"The Postman"	Exploring Music
	Make individual mail boxes.	
2. Where do they work?	Filmstrip-view and discuss.	Filmstrip: Our Post Office-SVE p.29 221-5
	Film-view and discuss.	Film: Our Post Office-10804 11 min. co/bw 1966 El. Rad.
	Books-read and discuss.	Books: At the Post Office; Let's Go To A Post Office; The True Book of the Post Office and Its Helpers

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
3. What are their different jobs? How is a post office devided?	Book-read and discuss. Make a chart listing various jobs. Field trip Write letters asking permission to visit post office. Then write thank-you notes after visit.	Book: Behind the Scenes at the Post Office Material needed: Chart paper Visit post office
4. What are their jobs like? What are the dangers of the job?	Resource person-talk about his job. Write thank-you letter for visiting class. Role play different positions (Ex.: mailman in the snow, rain-sorter at Christmas time)	Resource person
5. Does anyone work in a post office at night?	Film-view and discuss.	Film: 20904 Night Community Helpers 11 min. co/bw 1968 El. State
6. What is involved in our mail delivery?	Book-read and discuss. Film-view and discuss. Write stories on mail delivery. Flannel board cut-outs on mail services.	The Pony Express Film: 86004 Helicopter Carries Mail 11 mins. co/bw 1965 P. Rad. Filmstrip: 53E The Mail Goes Through Eye Gate p.36 Obtain from kindergarten teacher.

CULMINATING ACTIVITY	RESOURCES AND MATERIAL
Construct a post office and a street mail box. Assign different roles to different class members, (ex., postmaster) and since the children have already constructed individual mail boxes, they can write letters and put them in their mail box or in the street mail box to be picked up by the mailman. The mail will then be taken to post office, sorted and eventually delivered. Reading session can then be held. The children are to use the forms for letter-writing and correct addressing of envelopes that they previously learned. They may use stamps on their letters which they previously designed. Send each student a letter to his home explaining that our postal unit is ending and expressing the desire that the student continue in the letter writing activity.	Materials needed: Refrigerator box Smaller box

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2. Teachers' Books:

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Early, Margaret and others. Going Places, Seeing People. Harcourt Brace Jovanovich, Inc. New York: 1970.

3. Filmstrips:

ECF-107 Mail Delivery
SVE Our Post Office
F-A7 Post Office Workers
Eye Gate 53E The Mail Goes Through
F-A12 The Mailman
Eye Gate 140C The Post Office and Postal Workers
Troll Associates, 1969. Special Delivery, Story of Our Post Office

4. Single Cassettes:

Mail Carriers/Postal Clerks (American Occupations series) Educational Sensory Programming.
Getting to Know the Post Office. Troll Associates, 1971.

5. Films:

86004 Helicopter Carries Mail
11 min. co/bw 1965 P. Radford

12205 Helpers Who Come To Our House
11 min. co/bw 1956 P. Radford

19104 Mailman
10 min. co/bw 1947 El. Radford

20904 Night Community Helpers
11 min. co/bw 1968 El. State

10804 Our Post Office
11 min. co/bw 1966 El. Radford

6. Study Prints:

SVE Community Helpers
Set SP-121 Postal Helpers

Flannel board cut-outs of postal services

C A R E E R E D U C A T I O N P R O G R A M

R A D F O R D C I T Y S C H O O L S

UNIT TITLE: "MAY I TAKE YOUR ORDER?" - THE RESTAURANT

APPROXIMATE GRADE LEVEL: PRIMARY SPECIAL EDUCATION

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

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BROAD OBJECTIVES

Each student will:

1. Become aware of any interest he may have in careers related to the restaurant business and understand his abilities to perform specific tasks related to that career.

2. Understand that information and skills he gains in the classroom can be applied to experiences he may encounter in the restaurant business.

3. Be able to identify some instruments used to perform specific tasks in a restaurant.

4. Recognize the economic implications related to a career in the restaurant.

5. Realize that decisions he will make concerning his work will affect other people.

6. Become aware of critical thinking skills and interpersonal behavior appropriate to a career with the restaurant.

7. Recognize responsibility and the importance of completing assigned tasks.

8. Understand that a job well done is rewarded by self-satisfaction and recognition from others.

INTRODUCTION:

Most students in an educable mentally retarded class can develop enough skill and competency to enter a career with a restaurant. This unit is aimed at building an awareness of the varied careers related to a restaurant - the manager, clerk, waiter, waitress, chef, cook, dishwasher, and custodian.

MOTIVATING ACTIVITIES	RESOURCES
Field trip to restaurant. Let students order own meal and pay at check-out counter. After eating, visit kitchen and discuss jobs.	Restaurant
Read story.	I Want To Be A Restaurant Owner by Carla Greene.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What do you think working in a restaurant would be like? What different kinds of jobs could you do in a restaurant?	Class will discuss types of work done in a restaurant based on prior knowledge and what they learned from field trip.	Filmstrip: CF-A125 My Mother Is A Waitress IPC
	Show filmstrip. Discuss	
	Begin booklet of different workers. (Color worksheets and/or newspaper clippings.)	Worksheets, magazines.
	Use opaque projector to do bulletin board of restaurant workers.	Opaque projector.
2. What appliances are needed to operate a restaurant? How does a restaurant look on the inside?	Recall things class saw at restaurant.	
	Draw a picture of what they remember.	
	Build a restaurant large enough for children to work in.	Refrigerator boxes.
3. What specific duties does a restaurant manager have?	Invite a manager to visit class and tell about his job.	Resource person: Restaurant manager
	Show filmstrip. Discuss.	CF-A218 Workers Who Provide Services Coronet

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CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Continue booklet of restaurant workers.	
4. What duties does a clerk have?	Invite a clerk to visit class.	Resource person - clerk.
	Continue booklet.	
	Correlate Math lessons dealing with adding money to get a correct sum and making change for a customer.	Cash register, play money.
5. What duties does a chef or a cook have?	Let a small group of students make an appointment to interview a cook and a chef. Let them tape record the interview to show with the rest of the class. Allow the class to decide on questions to be asked prior to the interview.	Tape recorder.
	Show filmstrip. Discuss.	Filmstrips: CF-A25 The Baker. EyeGate CF-A217 Workers Who Provide Food. Coronet CE-CT-A114 Getting to Know the Bakery. Ed. Reading Service.
	Work puzzle.	Puzzle: C74 Baker C78 Cake Maker Playskool.
	Read books.	Let's Go To A Bakery Naomi Buchheimer. At The Bakery Lillian Colonius.

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
6. What duties does a waiter or a waitress have?	Listen to cassette. Discuss	CE-CT-All Waiters - Waitresses. Ed. Sensory Program.
	Shoe filmstrip. Discuss	CFA157 The Waitress. Eye Gate.
	Work puzzle.	C79 Waitress, Playskool
	Invite waiter and waitress to visit class and discuss their jobs.	Resource persons - waiter and waitress.
	Correlate Math lesson to include discussion of how a waitress or a waiter's actions and attitudes directly relate to his financial gains (tips,etc.) Role play an example of a waiter's cheerful attitude and one of a bad attitude. Let one student be the customer and show the different tips he would give to the different waiters.	
7. What duties does a dishwasher or a custodian have?	Let students visit school cafeteria and observe clean-up after lunch. If possible, let them be aides to scrape plates, load dishwasher, etc.	School cafeteria.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Invite a custodian from a restaurant to visit class and explain his duties.	Resource person - Custodian
8. What other types of jobs could a person do after working in a restaurant?	Class discussion of their ideas. List on chart.	
	Show filmstrip. Discuss.	CF-A160 The School Cafeteria Worker Eye Gate
9. Why do most people enjoy eating at a restaurant?	Let several students take a tape recorder home to interview their mothers on why they enjoy eating out. They could also interview fathers, neighbors, etc. Play interviews and allow whole class time for discussion.	Tape recorder. Parents, neighbors.
	Show filmstrip. Discuss.	CF-H15 Your Tasting Tongue. Jam Handy 19
	Read books.	Salt, Sugar, & Spice. Walter Buehr. What We Eat Lois Johnson Nothing To Eat But Food Frank Jupe

CULMINATING ACTIVITIES	RESOURCES
Let each student choose his favorite restaurant job. Use restaurant students built to role play each career. After practising, let class choose a meru, cook a meal, and serve it. Emphasize the importance of each person's cooperation and responsibility. If possible invite another special class to come in and be customers.	Model Restaurant Food
Read book.	Little Bear Learns to Read The Cook Book. Janice. Eating and Cooking Around the World. Erick Berry.

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2. Cassettes:

Waiters - Waitresses. Ed. Sensory Program.

3. Filmstrips:

The Baker. Eye Gate.

Your Tasting Tongue. Jam Handy, 19.

My Mother Is A Waitress. IFC.

The School Cafeteria Worker. Eye Gate.

The Waitress. Eye Gate.

Workers Who Provide Food. Coronet.

Workers Who Provide Services. Coronet.

Getting To Know The Bakery. Educational Reading Services.

4. Puzzles:

Baker. Playskool.

Cake Maker. Playskool

Waitress. Playskool.

5. Study Prints:

Food & Nutrition. David C. Cook.

C A R E E R E D U C A T I O N P R O G R A M

R A D F O R D C I T Y S C H O O L S

UNIT TITLE: OUR HOMES - SHELTER

"THE ROOF OVER MY HEAD"

APPROXIMATE GRADE LEVEL: PRIMARY EDUCABLE

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. DUTROUGH, SUPERINTENDENT

PROJECT COORDINATOR: RANDY WRIGHT

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INTRODUCTION TO: Our Homes-Shelter
"The Roof Over My Head"

A study of homes is a logical extension of the study on self("How Others See Me"). After the student learns about himself, he will naturally be more curious about his home and family. Since occupations related to homes, the construction of homes, as well as the maintenance of homes, are realistic choices for special students. The experience and knowledge gained from this unit will be useful in later life.

MOTIVATING ACTIVITIES	RESOURCES AND MATERIALS
Filmstrip and story: (F-L8) Hansel and Gretel(Gingerbread House) Dramatize story Hansel and Gretel	Filmstrip: (F-L8) Hansel and Gretel

BROAD OBJECTIVE: To help students gain an appreciation of our homes.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What kinds of homes are in our neighborhood?	Read stories(pupils and teachers) Read poems Take field trip around school and in neighborhood where most of class reside to view kinds of homes. Filmstrip-view and discuss.	Story: Three Little Pigs (p.60) The House That Jack Built The City Mouse and the Country Mouse(p.94) Childcraft-Vol.2 Filmstrip: The Homes We Live In-Jam Handy Poem: There Was An Old Woman(p.31) The House of the Mouse(p.94) The Shiny Little House(p.16) Childcraft-Vol.2 (Mrs. Showalter's room)
2. What kinds of rooms does a house have?	Make a list of rooms in a home and the furnishings used in each room. Use picture cards of furnishings from Peabody Kit and match all furnishings with the room they should go in.	Childcraft-Vol.6(Mrs. Darden's room) 1. Adobe(p.127) 2. Apartment(p.123) Peabody Reading Kit
3. Why do we need homes?	Transparency-Home as a Place of Shelter. Class discussion of weather factors.	Transparency: Home as a Place of Shelter(creative visuals)

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Read stories(pupils) The Cloud House in the Sky p.94(Sun and Shadow) Moving Day-The Apartment p.116-122(Sun and Shadow) The Little Clay House p.97(Together We Go) A Baby in the House p.135(Together We Go) Tools for Work p.102(A World of Surprises) Two is a Team p.201-221(A World of Surprises) The Painted House p.8(Going Places, Seeing People) My Home p.46(Going Places, Seeing People) Plan one extra chore that you can do daily to help at home. Make a poster illustrating rules of courtesy at home. Make a chart of all home jobs, who does them, and which ones you can help with.	Science experiment: Why green lumber is not used in building by wetting a piece of plywood and drying as quickly as possible. Reading textbook: Sun and Shadow Reading textbook: Together We Go Childcraft-Vol.10, p.218-219 "The Carpenter's Cutting Tools"

BROAD OBJECTIVE: To help students develop an understanding of workers involved in building, furnishing and maintaining our homes.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What workers are needed to build a house? How did the workers learn their skills?	Class discussion of workers they can think of and how they learned the skills. Make a picture book of construction workers depicting as many different phases of their jobs as possible. Invite a carpenter, plumber, electrician(any other available person children might know) in to beiefly explain their work and how they learned their skills.	Childcraft(Mrs. Darden's room) Moving(Vol.7 p.83) Carpenter(Vol.7 p.91) Apron(Vol.9 p.221) Belt(Vol.10 p.68) Tools(Vol.10 p.192,219) (Vol.9 p.94,95) Electrician(Vol.10 p.130) Plumber(Vol.8 p.25-41, Vol.10 p.177) Painter(Vol.10 p.165)
2. Where do the materials to build our homes and furnishings come from?	Collect and make an exhibit of different kinds of materials used in constructing a house. Make a picture chart of household furnishings(emphasizing as many different types of materials used in each). Collect pictures and make a bulletin board of tools that would be used in bldg.a house. Filmstrip, records or cass.	Childcraft(Mrs. Darden's room) Bricks for Houses(Vol.7 p.76) Grass(Vol.5 p.290) Mud(Vol.5 p.282) Paper(Vol.5 p.71) Tree(Vol.5 p.142,286) How to Make Furniture (Vol.9 p.106) Filmstrip, records or cassettes: (Singer/SVE)World of Work: The Home We Live In How We Get Our Homes

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
3. What important tasks need to be done in our homes? Who performs these tasks?	Learn and sing songs: At Our House(p.8) Leaky Faucet(p.6) Making Cookies(p.10) Needle sing(p.11) Old House(p.83)	Music textbook: Music in our Town
	Pantomine the work of different kinds of duties in home. Have other children guess which worker is being represented.	Music textbook: Discovering Music
4. In what ways can we	Learn and sing songs: Helpers(p.44-Disc.Music) Help me Today(p.80-Disc.M) If You're Happy(p.8-This Is Music)	Music textbook: This Is Music
	Play rhythmic game- If You're Happy(p.8-This Is Music) Come Sing and Play(p.6-This Is Music)	
	Read stories(pupil) The Little Red Hen(p.46) Act out play, Little Red Hen	Textbook: Together We Go

BROAD OBJECTIVE: To help students develop a realization and appreciation of the many conveniences in our homes.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. How do we heat our homes in winter? How do we cool them in summer?	Class discussion of ways their homes are heated and cooled.	Childcraft(Mrs. Darden's room) Furnace(Vol.6 p.134, Vol.8 p.58-61)
2. What materials are used for insulation?	Invite school custodian to explain heating system in school.	
	Make an exhibit and label types of fuel. Discuss advantages and disadvantages.	Language textbook: Unit on "Labeling Things".
3. What furnishings does a home need? What purposes does furniture serve? Of what materials is furniture usually made?	Read poems(pupil or teacher)	Poems-Childcraft-Vol.1 (Mrs. Showalter's room) The Clock(p.64) My Bed(p.67)
	Class discussion of advantage and disadvantages of rugs, carpets, tile, cement, linoleum, bare wooden floors.	
	Cut out pictures of furniture for a room and arrange it several ways, deciding on the most convenient arrangement.	Poems-Childcraft-Vol.1 (Mrs. Showalter's room) The Clock(p.64) My Bed(p.67)

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Make something useful or decorative for the home. (Book marks, memo pads, napkin rings, door stops, letter-holder, pin cushion).	
	Make a list of labor-saving devices.	
4. What conveniences for the home have come in to use recently? How do they add to our comfort and well being?	View and discuss film.	Film: Pioneer Home(#80904 Rad.)
	Filmstrip and cassette-view and discuss.	Filmstrip and cassette: (Eye Gate) The Story of Houses What's Around Us-The Home
	Math-identify and work simple addition and subtraction problems with "sets" of objects and "groups" of workers, furniture, etc. in the home.	Childcraft(Mrs. Darden's room) Refrigerator(Vol.6 p.155) Telephone(Vol.6 p.281) Television(Vol.6 p.291) Dishwasher(Vol.6 p.177) Washer & dryer(Vol.8 p.223, Vol.6 p.173)
	Report on any particular book you think would interest the class(book report).	Books for reading table are included in back of unit.

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CULMINATING ACTIVITY:

CULMINATING ACTIVITY	RESOURCES AND MATERIAL
Construct a house Role play(people who build the house as well as family who lives in the house). Let each child construct his own house.	

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5. Transparency: Home as a Place of Shelter(Creative visuals)

Peabody Kit

C A R E E R E D U C A T I O N P R O G R A M

R A D F O R D C I T Y S C H O O L S

UNIT TITLE: FILL-HER UP - SERVICE STATION & GARAGE WORKERS

APPROXIMATE GRADE LEVEL: INTERMEDIATE SPECIAL EDUCATION

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

PROJECT COORDINATOR: RANDY WRIGHT

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BROAD OBJECTIVES:

1. To develop in the student an awareness that his interests, aptitudes, and achievements will influence his future occupational goals.

2. To help the student become aware that preparation and proficiency are required to enter a career in the mechanical field.

3. To develop an awareness that a job in the service station or garage is dependent upon his geographical location, his social needs, and his preparation.

4. The student will understand the social and economic relationships between life-styles and his career in the service station or garage.

5. To develop in the students the skills of gathering, organizing, and relating information about jobs in order to make a better judgement about selecting a career.

6. To develop a competency needed to use tools, equipment, and materials effectively and safely.

7. To develop an awareness that skills, attitudes and habits are associated with employability.

8. To develop an awareness of other jobs and their dependency of each other and to develop an appreciation for people in the mechanical fields, etc.

INTRODUCTION:

The Intermediate EMR student is at the age where he needs and is seeking a part-time job. The service station can provide this kind of job for many of our students, and therefore this unit will be used to familiarize them with their services.

MOTIVATING ACTIVITY:

Arrange a field trip, a tour around the city and let the children count the number of service stations and garages.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What does the word <u>service</u> mean?	Let the children discuss this and try to agree on a definition. Use dictionaries to find the word and apply it to their society. Write paragraphs about how we might be of some service to other people in the community.	
2. Why do we need fuel?	Discuss the motor and what makes it work. Bring in a model of a motor and show the parts and let the child see and touch them. If a child has a gas propelled car or plane, let him bring it to school and fill it with a limited amount of gas and see what happens when the fuel runs out. Discuss the effects the gas shortage might have on our society.	Gasoline, car

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Discuss and role play a family taking a trip and running out of gasoline. Discuss how you would handle this situation.	
	Make a collage of the modes of transportation that use our fuel supply.	Poster board, magazines, scissors, glue, etc.
	Do research as to where our fuel supply comes from.	Individual library work. Encyclopedias, books, etc.
3. Where can we get general service for our automobiles, trucks, etc.?	Draw blueprints of what a service station looks like.	
	Design and build a service station - (gas pumps, etc.)	
	Let the children take cameras and photograph people working at a gas station.	
	Discuss car wash and people who work there.	
	Let the kids set up own car wash.	

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
4. What are some of the jobs available at the gas station? Ex: 1. Service Station Attendant 2. Pump Gas 3. General Mechanic	Make a chart of all the jobs that you could find in a service station. Include job name, qualifications, walary, hours worked, etc.	
	View filmstrips.	CF-A158 Fixing A Flat Tire, Eye Gate, 1965. CF-A162 The Gas Station Attendant, Eye Gate, 1965. CF-A124 My Dad Works In A Service Station, IFC, 1968.
	Role play in the service station the various jobs you talk about.	
	Take a field trip to a service station and watch people at work. (Possibly give the students first hand experience at pumping gas, washing windows, checking oil, etc.)	
	Make a bulletin board showing all of the workers in a gas station.	
	Ask a resource person to come in and talk to the children about his job.	

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Read and report on study sheets pertaining to each occupation.	
5. Where can you get specific service for your automobile, truck, etc.?	Visit a garage and watch mechanics work on cars. Also go to the body shop and watch them.	
	Make a list of the garages in the city.	
	Have parents who may work at a garage come and talk to the class.	
6. What jobs are available in mechanic service?	Make a list of all the jobs available in garage work.	
	Discuss the jobs qualifications, training, etc.	
	Visit the auto-mechanics dept. of the Community College.	NRV-Community College.
	Role play the various jobs in the garage.	
	Bring in auto-mechanics parts books and let the children estimate the cost of repairing a car.	Available from garages.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Discuss guarantee and warranty on cars and work done by mechanics.	
	Compare wages made by mechanics and those of some other professional occupations.	Make on chart, pens, etc.
	Ask a mechanic and a body shop worker to visit the class and bring some of his tools.	Any garage that will cooperate.
	Let the class assemble some model cars and trucks.	Models donated by various stores.
7. What will happen to our demand for mechanics and service station workers if our country should run out of fuel?	Figure the price per gallon of gasoline and how much it cost to drive one mile today as compared to previous times.	
	Bring in newspaper clippings about the various stations closing because of fuel shortage.	
	Discuss supply and demand.	
	Role play a situation where a person is forced off his job because the business closed down. Ask students what will he do now?	

CULMINATING ACTIVITY

Service a car with the general service-

/assembly Line

Car Wash

/ group to wash and vacuum the car.

Gas Station Attendant

Fill-up with gas.
Check oil.
Clean windows.

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C A R E E R E D U C A T I O N P R O G R A M

R A D F O R D C I T Y S C H O O L S

UNIT TITLE: WHAT AM I LIKE?

APPROXIMATE GRADE LEVEL: INTERMEDIATE EDUCABLE

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

PROJECT COORDINATOR: RANDY WRIGHT

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INTRODUCTION TO: What Am I Like?

This unit is designed to develop in the EMR and TMR child a good self-concept and an awareness of the need to keep the body in a good working order. When teaching a unit of this type to a special education class, emphasis is placed on teaching the child how to keep the body neat, clean and healthy. This unit, although geared toward the primary EMR class, contains many ideas that should be taught on the intermediate level, however, in more depth.

As a result of this unit, the child will be more aware of the many occupations related to caring for the human body that are available through the public health service.

After the unit is completed it is hoped that the child will have a better insight as to how to answer the question, "What am I like?"

BROAD OBJECTIVE: To help students develop an awareness of the body and to help students develop a good self-image.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What am I like?	Class discussion on how the student feels that he looks like.	Instructor magazine-Feb. 1972 page 46.
	Let each child look at himself in a mirror and see just how he looks-ex. physical characteristics, etc.	Full length mirror is needed for this.
	Have pictures of boys and girls who look nice in appearance and those who don't and let the children fix the wrong one.	SRA-Focus on Self-development Stage One-Awareness Stage Two-Responding
	Let the children do silnouettes of each other to get a picture of his profile.	Black construction paper-Bright light-white paper.
	Let the children do drawings of each other. Have one child lie on a large piece of paper and let another trace his outline. The child then fills in the rest himself.	Recommended for Primary EMR and TMR's.
	Class discussion on how each child feels different things.	Also use SRA-Focus on Self-Development-Stage 2-Responding
	Have a sharing period each morning and let the children ask questions or talk about anything that bothers them or they are interested in.	Guidance-filmstrip-I Get Mad, Am I Glad - available from guidance.

Cont.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Show a film "Clown" and ask the children how they feel about the outcome.	"Clown" available from Radford College library.
2. How am I changing?	Make a chart of each child's weight, height, etc. and see how he is growing up.	
	Plant a fast growing vine early in the school year and start it around the room. Keep a chart on its growth.	Instructor: Feb. 1972, p. 48.
	Keep a classroom diary, letting each child help you keep it a week at a time. Record things that happen in the room, to the class, or to the community. This will show change.	Large scrapbook-excellent or you can let the children make this. - 9 1/2x11 manilla paper, pens, wood to make cover.
	Let the children draw their own time line. Put past, present and what they think the future will bring him-can write, draw, use cartoons, anything he wants to do.	Long sheet butcher paper, or other kind, crayons, or magic markers.
	Let each child have a small bulletin board for one week and let him put things on it about him and how he is changing.	
	May continue throughout year.	

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Have a puppet show and show how the class has changed. Also, could go into how the school has changed. Collect pictures from old magazines to show how man looked a long time ago.	
3. What will I be like?	Let the children write a short note to their parents. Right now, when I get big I want to be a _____. What do you think of this idea? Discuss each one. Let children draw pictures of what they would like to be like when they are older. Invite resource people in from various occupations and let the children ask them how they feel about their jobs and how they felt about what they would be like when they were small. Collect pictures of make individual collages of what he thinks	Instructor: Feb. 1972, p.50

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BROAD OBJECTIVE: To present to the class a broad idea of the functions of some main parts of the body. To create an awareness of how we are alike.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIALS
1. What is meant by the body functions of our vital organs? Include the brain, heart, eyes, ears, intestines	Bring in models of the brain, heart, ear and eye and let the class touch these, take them apart and put back together.	Available school library or from Radford College Curriculum Lab.
	Charts-showing all the parts of the body. Ask students to help you identify the parts.	A Study of the Human Body. Denoyer-Geppert Pub. Co.
	Draw a empty man and also cut out parts-let the children hang the pieces in the proper place after studying these.	Poster board - white magic markers.
	Class discussion on the importance of all of these organs.	
	Current newspaper articles, magazine articles, etc. on open heart surgery.	
	Class discussion on the dependence that the organs have on each other.	
	Make some models of these organs, especially the heart or brain.	Modeling clay

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
2. What happens if some vital part of your body becomes injured?	Class discussion on the treatment you need to help heal an injured organ. Include all occupations of the medical field.	
	Draw pictures of doctors and nurses at work.	
	Language arts-make reading sheets about each organ you study and the people involved in the healing process of the organ.	Run off and collect to form a book.(Stencils available in Spec. Ed. room)
	Perform a short skit showing some occupations in the medical field.	

BROAD OBJECTIVE: To help students realize the need for keeping the body clean and in good working order and to create an awareness of the occupations involved in these fields.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What do other people see when they look at you?	Let the children draw and display some pictures of happy faces.	
	Bring in some pictures of some healthy, happy children at play and at work.	Children bring pictures in from magazines they have at home.
	Have a class discussion on what people see in a face.	
	Write a finger play and then let the children give it for a group. Stress the aspects of Mr. Grumpy and Mrs. Pleasant and show how a smile means a lot.	
	Pretend that a rare bird has brought happiness to everyone and have everyone for one day say nice, pleasant things to each other.	
	Make posters of boys and girls who are neat and healthy and happy and of those who aren't. Cut out a smile and clean nails, hair, etc. for the children to paste on to make "sloppy" ones look neat.	Poster board, magic markers, tape.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
2. What are some of the things you should do to your body to keep it healthy and looking nice?	Class discussion on what kinds of foods you should eat to keep your body healthy.	Pamphlet: "Every Day Eat the 1-2-3-4 Way"(my files)
	Plan a breakfast, considering the types of food you should have. Discuss housewife and dieticians.	
	Cook breakfast in your classroom.	Ex.: Pancakes, bacon, juice, and milk is simple to fix and most kids enjoy it.
	Have a class discussion on why it is important to keep your face and hands clean.	
	For boys build a football locker and make sure everything is clean especially the athletes' finger-nails and hands.	Use one area of the room.
	Bring clippers and make sure the class has neat, clean nails.	Finger nail clippers, files, etc.
	Let the girls make a beauty parlor and give a manicure by clipping and cleaning nails.	
	Make a picture list of some workers who keep our bodies looking clean. a. beautician d. yourself b. shoe shine boy c. barber	

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Discuss why it is important to keep the hair clean and cut.	
	Let the kids build a barber shop and then invite a barber in to demonstrate his job.	A local barber or a retired barber.
	Discuss some tools used to keep the hair clean and neat. Ex.: shampoo, hair spray, hair oil, etc.	
	Sing some cute song advertising different products used to keep the body neat and clean.	
	Bring in some Q-tips and let the children learn how to keep the ears clean.	Q-tips
	Make a list of the do's and don'ts for keeping the ears clean.	Chart paper, magic marker.
	Talk about and draw pictures of the school nurse or ear specialist checking your hearing.	Drawing paper, crayons, etc.
	Make a dentist office and let the children role play a visit to the dentist.	
	Discuss the dentist, receptionist and nurse while role playing.	

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Bring in tooth brush, tooth paste, and discuss and make a list of the proper way to brush your teeth.	Toothbrushes, paste, etc. can often be gotten from local dentist who gives them as samples.
	Play the record and show the filmstrip, "The Mouth I Live In".	Available from Colgate.
	Borrow a Snellen Eye Chart from the office or eye doctor and let the children check each other's eyes.	Available in the library(P-H6)
	Ask an optometrist come in and talk to the class.	
	Plan a field trip to the health office where the children can see all of these occupations.	
	Books for children.	The Human Eye, Benjamin N. Schuman, M.D.-library. Your Skin and Mine by Paul Showers-library. How Many Teeth by Paul Showers-library. Your Eyes by Irving and Ruth Adler-library. YOur Ears by Irving and Ruth Adler-library. Why Glasses by George Sands-library.

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What happens to your body if you don't take care of it?	Watch a plant grow and talk about the care it needs and then don't give it this care and watch it gradually become "droopy" and sick. Invite a doctor in to talk with the class about his job and about what happens to people when they don't take care of their bodies.	
2. What are some things you can do to take care of your body?	Discuss and make a list of things you can do. a. rest b. proper clothing c. if sick, visit doctor Bring in felt dolls and let the children dress them for proper weather.	
3. What are some things that can harm your body?	Discussion on: a. alcohol b. drugs c. tobacco Resource person-ask a doctor or psychiatrist in to talk to class about the dangers of each. Make a list of the harms of each of these above things.	Resource person

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Show some filmstrips about these social problems.	F-A60 - I'll Choose the High Road-Smoking and Lung Cancer - in library.
	Discuss warning signals and bring in cigarette packs and let the children read the warning on it.	
Intermediate	*Resource person-a person who has been on drugs but now speaks against them-ask him to share some experiences with the children.	These people usually work with the public health service or a drug rehabilitation center.
	Bring in a drug kit and let children look at the dif.drugs.	This activity would be left to discretion of ind. school system. Avail. Radford College Curriculum Lab.

*This part of the unit will be covered lightly by the primary teach, however, it should be touched on to make the children aware of the dangers of these.

CULMINATING ACTIVITY:

CULMINATING ACTIVITY	RESOURCES AND MATERIAL
Present a skit showing the various occupations in the health service. Have different groups represent the jobs of dentist and helpers optometrist and helpers school nurse psychologist doctor mother and yourself adiologist Have the kids now write a short story telling who they are and what they hope to be. Make a large picture-word list of all occupations you have studied during this unit.	

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Schuman, Benjamin N. The Human Eye. New York: Atheneum, 1968.

Showers, Paul. How Many Teeth. New York: Thomas Y. Crowell Company, 1962.

Showers, Paul. Your Skin and Mine. New York: Thomas Y. Crowell Company, 1965.

2. Magazines:

Instructor Magazine - February 1972, page 46.

3. Films:

"Clown" available from Radford College.

4. Filmstrips:

"Alcohol"
"I'll Choose the High Road-Smoking and Lung Cancer"
"Getting to Know Me Series"
SRA-"Focus on Self-Development-Stage One and Two"
"The Mouth I Live In"-free from Colgate-Palmolive Company
"I Got Mad, Am I Glad" - Guidance Associates

5. Pamphlets:

"Every Day Eat the 1-2-3-4- Way"

Educational Materials -
Drug Kit - Radford College Curriculum Lab
A Study of the Human Body. Denoyer-Geppert Co.

C A R E E R E D U C A T I O N P R O G R A M

R A D F O R D C I T Y S C H O O L S

UNIT TITLE: CAMPING

"A HOME UNDER THE STARS"

APPROXIMATE GRADE LEVEL: INTERMEDIATE EDUCABLE

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

PROJECT COORDINATOR: RANDY WRIGHT

THE CAREER EDUCATION PROGRAM
THE RADFORD CITY SCHOOLS
1612 WADSWORTH STREET
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PHONE: 1-703-639-6673

INTRODUCTION TO: Camping
"A Home Under the Stars"

This unit on camping is geared toward our special education students, however, it could be adapted to almost any level. The emphasis on camping will hopefully give the student another means for enjoying his summer leisure time.

Many of the children in the intermediate EMR class are approaching junior high school level and are seeking summer jobs to earn some money. This unit will show them some job opportunities available to them at nearby Claytor Lake State Park.

MOTIVATING ACTIVITY	RESOURCES AND MATERIAL
The unit will be introduced by showing some films about our national parks and about camping.	

BROAD OBJECTIVE: To help students become aware of camping as a useful means of summer recreation and to become aware of the need to preserve our natural surroundings.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. How can we have an enjoyable time by going camping?	Discuss and list some of the ways people use camping for recreation. Make a collage of our national parks and the wildlife you find there.	Book: Four Cheers for Camping by Seymour Fleishman(library-4757) Book: Not A Teeny Weeny Wink by Richard Bennett (primary library-EB) Magazines: Friends-put out by Chevrolet is excellent. Let the children bring these.
2. Why is camping a good way to spend our leisure time?	Discuss and make a list of the things involved with camping. Show filmstrips on how leisure time needs to be used wisely and with a purpose.	Eye Gate-Leisure Time: Busy or Bored.
3. How should we treat our land so that the animals' homes and our vacation spots will be kept so we can go back?	Show filmstrip. Bring some pictures of our clean country and also of the dirt and litter and discuss how this kills our animals.	Filmstrip: "Saving What's Left." Eye Gate p.57.

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CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Go outside and clean up the school grounds or area around and discuss how if everyone was careful this wouldn't be necessary. Talk about the children's pets and discuss how their homes need to be clean like ours. Show filmstrips.	"Wildlife Conservation Today" F-27 - library. "Animals and Plants of the Forest". - library.

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BROAD OBJECTIVE: To help make the children aware of what things you take on a camping trip.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What kind of equipment do you take on a camping trip?	Class discussion on how much equipment weighs when you are carrying it to where your camp is. Make a list of everything the class thinks you should take and then have them narrow it down to what is absolutely needed, what's used occasionally and what's used seldom. If any of your class are boy scouts let them bring in equipment and explain to the class why it is needed. Bring in some camping catalogues and let the children go through and compare type of equipment and price and make up an order. Have a discussion on safety and the importance of always bringing the first aid kit. Bring in a pack and some small equipment and let the class pack it and see how much it weighs.	Book: The Young Sportsman's Guide to Camping by John L. Holden-library 796.54H The Real Book About Camping by Jim Roberts-library 796.5R

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
2. What type of clothing should you take on a camping trip?	Class discussion on the environment surrounding the campsite.	
	Make a picture list of the type clothing you should take on the trip.	
	Bring in different kinds of material and let the children experiment with them seeing which ones are durable when exposed to various conditions; ex. brush, rain, mud, etc.	Scrap material-children can bring this in or you can get it at some outlet stores.
	Let the children suggest numbers-(how many of each type clothing you would need).	
3. What kinds of food should you take on a camping trip?	Have a boyscout who has been camping come in and tell the children about what kinds of food to take.	Use boy from your own class but if one isn't available use any boyscout.
	Plan and keep a list of the meals you would want to have if you took a 2-day camping trip. Save for use later.	

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BROAD OBJECTIVE: To help students become aware of some of the methods of selecting and setting up a campsite.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. Where is the best place to set up a camp?	Let the children suggest places for camping-bring in area near water, problems with mosquitos and all environmental factors.	Book: First Camping Trip by C. B. Colby-library 796.54C
	Let the children give examples of experiences they might have had camping and where they went.	
	Plan a field trip to several campsite areas and study the environment surrounding the spots and point out both advantages and disadvantages of the area(stress safety).	Possibly Claytor Lake and several other areas around Radford.
	Have a park ranger or a boy scout director come and talk to the children about this.	
2. What are the different types of camp fires you can use and which is the best one?	Class discussion on the types of campfires you can make.	
	Let the children place on the bulletin board illustrations of the different kinds of campfires.	
	Bring in some logs and stones and let the children build different kinds of sites.	Let the class bring in some logs and brush.

4th

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Make a large chart showing illustrations of the different kinds of fires and a written explanation of each.	Use poster boards.
	Let the children write instructions for building a campfire site and see if another student can follow the directions and make the site. Stress the importance of having the proper site to prevent an uncontrolled open fire from spreading.	
	After list is compiled let the children talk about which would be the best.	
	Talk about how the Indians used campfires for sending smoke signals.	
	If you visit a campsite let the children make their own smoke signal guide and practice sending and receiving them.	
3. What kinds of tents and shelters can you use for camping?	Let a few children look this up in the encyclopedia and report to the class on this.	World Book Encyclopedia-1972 Ed. Vol. 3

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Make a tent that would be suitable for camping.	Can use poles, stakes, and a large piece of plastic or can use paper.
	Make a lean-to type shelter and discuss how it shelters you from the weather.	Wood-sticks you can get from the natural surrounding of the campsite.
	Draw illustrations for each type and place these on your camping bulletin board.	

BROAD OBJECTIVE: To make the students aware of the precautions necessary to take when camping.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What are the health precautions needed to take when camping?	Boil some water for five minutes to destroy any bacteria that it contains. Discuss a need to do this since you won't know about the water around you. Discuss the various means of obtaining clean water for drinking and cooking with. Ex. boil chemical tablets(halazone) bringing own water. Discuss and make a list of the water safety rules and go over until the children know them. Make a list of the do's and don'ts of camping. Bring in pictures or ask children to draw pictures of the different types of poison plants that are around most camping areas. Ex. poison oak. Discuss some of the things you do if a child comes in contact with these.	

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Discuss need for first aid kit. Bring one in and let the children discuss what each item is for. Practice making and using some simple bandages. By taking a field trip learn to identify and classify as to safe or not various food producing plants that could be used for survival.	First aid kit

BROAD OBJECTIVE: To create an awareness of some of the recreational activities that may extend from camping.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What are some activities you can engage in while camping?	Make a list with children's suggestions. Discuss each one and include safety precautions needed to be taken with each. Ex. swimming, fishing, hiking, boating, archery, hiking. Sing some campfire songs and play some games that you could play while camping. Read some book for individual interest.	Book: Canoeing by John Malo-library 797.1-M The First Book of Hiking by C. W. Harrison. Horseback Riding for Boys and Girls by Beverly and Margaret Mohan-library 798M Rounds are excellent for this. Book: Swimming for Boys and Girls by Harry Kramp and George Sullivan-library 797.2K Let's Fish by Harry Zarchy-library 799.1Z Fishing for Boys by Tom McNally-library 799.1M All About Mountains and Mountaineering by Anne Terry White-library 796.52W Sea So Big, Ship So Small by Jeanne Bendick-library 797.1B. I Learn To Swim by Ellie Fleuridas-library (primary)

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BROAD OBJECTIVE: To help make students aware of some occupations available in the park service.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What are some jobs that a high school boy or girl can get down at Claytor Lake during the summer? 1. Hiking guide 2. Horse stable attendent 3. Sell tickets 4. Pick up trash from beach. 5. Life guard 6. Showing movies at the outdoor theater.	Ask resource people to come in and talk about the jobs and who the boys and girls contact. Take a field trip to Claytor Park to see some of the jobs that young people are doing. Make a list of some of the jobs and tell how kids get them.	Personnel manager at Claytor Lake.
2. What are some jobs in the park service that are very important to campers? 1. Camp nurse 2. Forest ranger	Read brochures about the various national parks and the people that run them. Ask the forest ranger come in and talk to the kids about the park and camping. Tapes Books	"Forresters" "Forrestry Aids" 4506 - American Occupations Series "What Does A Forest Ranger Do?" by Wayne Hyde-library

CULMINATING ACTIVITY:

CULMINATING ACTIVITY	RESOURCES AND MATERIAL
Plan and take a week-end camping trip. Let the boys go fishing while the girls go hiking, help with meal planning, cooking, etc.	

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2. Encyclopedia:

World Book Encyclopedia; 1972 Edition Vol. 3.

3. Filmstrips:

"Animals and Plants of the Forest"
"Leisure Time: Busy or Bored" - series from Eye Gate.
"Saving What's Left" - series from Eye Gate.
"Wildlife Conservation Today"

4. Tapes:

"Forresters"
"Forrestry Aids" (Both available from the American Occupations series)

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C A R E E R E D U C A T I O N P R O G R A M

R A D F O R D C I T Y S C H O O L S

UNIT TITLE: PETER - THE PIPEMAKER - LYNCHBURG FOUNDRY

APPROXIMATE GRADE LEVEL: INTERMEDIATE SPECIAL EDUCATION

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

PROJECT COORDINATOR: RANDY WRIGHT

THE CAREER EDUCATION PROGRAM
THE RADFORD CITY SCHOOLS
1612 WADSWORTH STREET
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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
Motivating Activity	Bring some iron products into the room and ask the kids to discuss how these could have been made. Ask if they thought they could make these and how.	

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
What kind of material does the Lynchburg Foundry use in making their products?	1. Ask the students to make a list of things they think the Foundry uses to make their products.	
	2. Discuss iron and what it is made up of. 1 Ton Iron 1 3/4 tons of ore. 3/4 ton of coke. 1/4 ton of limestone. 4 tons of air.	
	3. Make charts showing where the raw materials are found.	Chart paper - pens.
	4. Where does most of our iron ore deposits come from? Put on the map of U.S.	Encyclopedias and books on this.
	5. Show a filmstrip on how iron is made.	Filmstrip: "How Steel is Made" - from Steel Kit.
What products do the Lynchburg Foundry make?	1. Make a collage of different products made from iron.	Poster Board - magazines.
	2. Bring in products from the Foundry and display them in the room for the class to look at.	Secure from Lynchburg Foundry.

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CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	3. Ask a resource person to come in and show a film-strip on their products.	From the Foundry - Mr. Tilly
	4. Bring in a video tape of the workers and the product at various stages of production.	
	5. Make a list of the products that come from the Foundry.	Chart paper, pens, etc.
	6. Make some of the products they produce. Ex. iron pipe, Use paper tubes and pipe a line around the room.	Christmas paper tubes, paper towel rolls, masking tape, paint.
	7. Set up an assembly line and show how everyone is important in the making of the final products.	

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
What jobs are available at the Lynchburg Foundry? Business: Personnel Manager Company Officials Secretary Clerk Operations: Grinder Crane Operator Molder Pattern Maker Inspector Metalurgist Others Maintenance: Plumber Electrician Safety & Health Officers Custodian Watchman	1. Have students interview parents who work at the Foundry. Report back to class. 2. Make a video tape of the workers at the foundry and view it. (This can be good since a field trip cannot be arranged there.) 3. Make a chart listing all the jobs we can think of connected with the Foundry. 4. Have the personnel manager or someone come to the school to talk to the class about the jobs. 5. Get applications for employment at the Foundry and let the children complete them and apply for a job. Show filmstrip.	Large chart paper, pens. Available from the company The Job Interview (Occupational Ed. Series) Eye Gate, 1965.

CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
How does one job at the Foundry affect another one?	1. Set up an assembly line of workers at the Foundry. (Choose according to job applications.) Discuss each jobs importance for the finished product. 2. Make plaster of paris moldings for each child. Use the above assembly line. Ex. Pattern Designers, Pattern Makers, Mixers, etc.	
What are some problems associated with the Lynchburg Foundry?	1. Talk about pollution and the affect it has on our community. 2. Write poems about pollution. 3. Talk about dangers of the jobs especially like the crane workers, etc. 4. Art lesson on the designs you might find in the smoke coming from the Foundry.	

CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	5. Discuss the labor versus management problems. Filmstrip on labor.	Labor & Labor Unions. (Fundamentals of Economics series) Eye Gate, 1964.
Why is the Foundry located here?	1. Do research on the environment needed for this type of industry. List these.	Encyclopedias - Books
	2. Talk about our city as an industrial area.	
	3. Discuss transportation needed to transport material, waste and products.	
	4. Bring in a resource person to explain why their industry is here.	
How does the Lynchburg Foundry affect our community?	1. Talk about all the jobs it provides for our students parents.	
	2. Talk about the strike and how being out of work affected their parents.	

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	3. Make a chart of the economic advantage of having the Foundry here. 4. Interview a representative from the Foundry about this. Report back to the class.	
	CULMINATING ACTIVITY Build a model of the Foundry to display in the room. Make a mural of the Foundry and display in the room.	Boxes, paper tubes, styrofoam and clay.

C A R E E R E D U C A T I O N P R O G R A M

R A D F O R D C I T Y S C H O O L S

UNIT TITLE: PETER - THE PIPEMAKER - LYNCHBURG FOUNDRY

APPROXIMATE GRADE LEVEL: INTERMEDIATE SPECIAL EDUCATION

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
Motivating Activity	Bring some iron products into the room and ask the kids to discuss how these could have been made. Ask if they thought they could make these and how.	

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
What kind of material does the Lynchburg Foundry use in making their products?	1. Ask the students to make a list of things they think the Foundry uses to make their products.	
	2. Discuss iron and what it is made up of. 1 Ton Iron 13/4 tons of ore. 3/4 ton of coke. 1/4 ton of limestone. 4 tons of air.	
	3. Make charts showing where the raw materials are found.	Chart paper - pens.
	4. Where does most of our iron ore deposits come from? Put on the map of U.S.	Encyclopedias and books on this.
	5. Show a filmstrip on how iron is made.	Filmstrip: "How Steel is Made" - from Steel Kit.
What products do the Lynchburg Foundry make?	1. Make a collage of different products made from iron.	Poster Board - magazines.
	2. Bring in products from the Foundry and display them in the room for the class to look at.	Secure from Lynchburg Foundry.

CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	3. Ask a resource person to come in and show a film-strip on their products.	From the Foundry - Mr. Tilly
	4. Bring in a video tape of the workers and the product at various stages of production.	
	5. Make a list of the products that come from the Foundry.	Chart paper, pens, etc.
	6. Make some of the products they produce. Ex. iron pipe, Use paper tubes and pipe a line around the room.	Christmas paper tubes, paper towel rolls, masking tape, paint.
	7. Set up an assembly line and show how everyone is important in the making of the final products.	

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What jobs are available at the Lynchburg Foundry? Business: Personnel Manager Company Officials Secretary Clerk Operations: Grinder Crane Operator Molder Pattern Maker Inspector Metalurgist Others Maintenance: Plumber Electrician Safety & Health Officers Custodian Watchman	1. Have students interview parents who work at the Foundry. Report back to class. 2. Make a video tape of the workers at the foundry and view it. (This can be good since a field trip cannot be arranged there.) 3. Make a chart listing all the jobs we can think of connected with the Foundry. 4. Have the personnel manager or someone come to the school to talk to the class about the jobs. 5. Get applications for employment at the Foundry and let the children complete them and apply for a job. Show filmstrip.	Large chart paper, pens. Available from the company The Job Interview (Occupational Ed. Series) Eye Gate, 1965.

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CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
How does one job at the Foundry affect another one?	1. Set up an assembly line of workers at the Foundry. (Choose according to job applications.) Discuss each jobs importance for the finished product. 2. Make plaster of paris moldings for each child. Use the above assembly line. Ex. Pattern Designers, Pattern Makers, Mixers, etc.	
What are some problems associated with the Lynchburg Foundry?	1. Talk about pollution and the affect it has on our community. 2. Write poems about pollution. 3. Talk about dangers of the jobs especially like the crane workers, etc. 4. Art lesson on the designs you might find in the smoke coming from the Foundry.	

CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	5. Discuss the labor versus management problems. Filmstrip on labor.	Labor & Labor Unions. (Fundamentals of Economics series) Eye Gate, 1964.
Why is the Foundry located here?	1. Do research on the environment needed for this type of industry. List these.	Encyclopedias - Books
	2. Talk about our city as an industrial area.	
	3. Discuss transportation needed to transport material, waste and products.	
	4. Bring in a resource person to explain why their industry is here.	
How does the Lynchburg Foundry affect our community?	1. Talk about all the jobs it provides for our students parents.	
	2. Talk about the strike and how being out of work affected their parents.	

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	3. Make a chart of the economic advantage of having the Foundry here.	
	4. Interview a representative from the Foundry about this. Report back to the class.	
	CULMINATING ACTIVITY	
	Build a model of the Foundry to display in the room.	Boxes, paper tubes, styrofoam and clay.
	Make a mural of the Foundry and display in the room.	

C A R E E R E D U C A T I O N P R O G R A M

R A D F O R D C I T Y S C H O O L S

UNIT TITLE: THE TELEPHONE AS A COMMUNICATION DEVICE

"WHO MAKES THE PHONE RING?"

APPROXIMATE GRADE LEVEL: INTERMEDIATE EDUCABLE

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

PROJECT COORDINATOR: RANDY WRIGHT

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INTRODUCTION TO: The Telephone As A Communication Device
"Who Makes the Phone Ring?"

Learning to communicate ideas is a persisting life problem which involves the acquisition of the essential habits, attitudes, understandings, and skills which commonly represent one's ability in the areas of reading, oral and written communication, listening and arithmetic.

This type unit is important because communication, the giving and receiving of ideas between people,is a vital part of everyday life, especially in our daily occupations. The EMR especially needs help in the area of learning how to communicate properly because:

1. It is often difficult for an EMR to express himself.
2. Inability to express oneself accurately may result in frustration and a poor self-image.
3. Communication is a basic social skill which the EMR needs to learn, to become a functioning member of society.

The telephone will be used as a special teaching device because of its usefulness in facilitating an understanding of such basic skills as:

1. Exchanging thoughts
2. Sharing ideas
3. Sending and receiving news
4. Giving and receiving information
5. Carrying on business

*Special emphasis will be placed on the occupations available within the telephone service.

An hands-on activity will be used to motivate the children for this unit. The children will build two telephone boothes - one a large enclosed boothe which will be constructed from a refrigerator box - the other will be a smaller opened boothe constructed from a cardboard box. The tin can phones will be wired from one boothe to the other.

The children will actually construct, paint, wire and use the phone boothes and the phones. With this, they will have some actual materials to get some first hand experience in constructing and using these communication tools.

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BROAD OBJECTIVE: To help students develop the skills of giving and receiving daily messages and to introduce the word communication.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. How do we give and receive messages from other people? What is communication?	Show pictures of various people communicating with one another. Decopage some pictures showing people communicating with each other(people at work or just friends). Class discussion - bring in how people communicate with one another when doing their jobs. Let the children communicate with their neighbor in the classroom.	Can be obtained from magazines, newspapers or study prints. Have children bring these from home. Materials: Scrap wood Maple stain Clear shellac Pictures Elmer's glue Screweyes Sand paper Paint brushes
2. Why is the telephone a good means of communication?	Show filmstrip. Play some current records and let the class see that a message is given in music and therefore it is a means of communication. Class discussion. List the advantages of using a telephone-ex. faster means, etc. Discuss how it has changed and is today one of our fastest means of communication and also a far-reaching service.	"Communications and the Community" (Available through the telephone company)

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BROAD OBJECTIVE: To help students learn to use the telephone correctly.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What are the 4 uses of the telephone? a. personal b. business c. service d. emergency	Have role playing situations where the child makes each type of call. Ex.: 1. call friend 2. give grocery order 3. take a message 4. call to make an excuse 5. check on bus schedule 6. call someone for one of your parents. 7. call to report a fire Class discussion-let the class evaluate each call. Write proper means of making these calls. Make a telephone directory-including numbers for making each of these types of calls. Include yellow pages-info. Include numbers at the beginning and friends' numbers. Show filmstrips Make individual dials-let the children bring their home phone numbers or those of a friend & ask them to dial it on their own dial. Put in hat and draw a number to give variety.	Use the telephones you have constructed with tin cans and string. Instructions: Darwin, Len; What Makes a Telephone Work? (Boston: Little, Brown & Co., 1970) p.17. Later use the two telephones or teletrainer if these are available from the telephone area. Filmstrips: "The Alphabet Works for Us" (Borrowed from Telephone Co.) "How We Use the Telephone" (Borrowed from Telephone Co.) Construction paper

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CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
2. What are some of the manners you should use when using the telephone?	Class discussion Make a wall chart of do's and don'ts on the telephone. Role playing-give some situations using these bad habits and then show the good manners and let the children see the difference. Put on a puppet show showing some of the good and bad manners. Have a resource person come and explain how using pranks on the telephone can get you into trouble.	Materials needed: Poster board or long sheet of paper. Make puppets of paper mache or other material. Resource person: Local telephone people

BROAD OBJECTIVE: To help students understand the processes of transmitting and receiving.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. How does sound travel?	Take a tube and have one child speak into it and let the other children hear the sound - class discussion on the vibrations of sound-make the tube solid by placing a towel in the tube-repeat the above procedure and the child doesn't hear the sounds. Stress importance of air in vibrations of sound.	
	Show the receiver in the telephone by taking an old phone apart.	Use old telephone if available from Telephone Company.
	Show long sound waves and short sound waves by plucking a guitar or any musical instrument.	Book: Your Telephone and How it Works, by Herman and Nina Schneider-Whittlesey House - McGraw-Hill Co., 1952.
	Let the children make some musical instruments to see how sound actually travels and is made.	Musical instruments- Elastic 2" wide Jingle bells, small scrap wood, sand paper, coffee cans, heavy twine and rubber, old light bulbs, paper mache, tempera paint(red, blue, yellow, etc.) large pencils, paper towel rolls, contact paper.

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
2. What carries the sound from one telephone to another?	Class discussion on electricity.	
	Show how the string in a straight line conducts the sound between your two cans or cups.	
	a. Place a longer string (longer than 6 foot) on the cans and see how much sound is lost.	Book: Science-Far and Near by Herman and Nina Schneider.
	b. Place something heavy on the string or make it go around the corner and see that it then no longer works.	
	Take a walk outside and see how the phone lines run to your school or to houses.	
	Resource man	Telephone lineman from the local Telephone Company.

BROAD OBJECTIVE: To increase the students' awareness of the various occupations available in the telephone company.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What are some of the jobs involved in the telephone company? Examples: Electrical engineer Lineman Operator Installer Repairman Custodians Accounting Secretary	Resource people Role playing-let the children as they learn the jobs become involved in situations. Construct switchboard and let each child be operator. Class discussion-let the children name these jobs. Make a list of each occupation including name, qualifications, salary, benefits, and problems. Let a child who is interested in each job tell you why and some of the tools he might use. Plan a field trip to the telephone company.	Books for children: David C. Knight; Let's Find Out About Telephones: New York: Franklin Watts, Inc., 1967.
2. How is each man's job important to the final end?	Resource people Class discussion on cooperation and team work. Set up an assembly line and plan ahead for one person to	Local Telephone Company

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	not do his part. See how the final end is difficult to reach due to this.	
3. How do the services of the telephone company help us?	Class discussion. Make a bulletin board with the telephone services in the center and branch off to all the people that it reaches. Let the children make a collage of people and places the telephone reaches. Let children hunt pictures from any kind of magazines.	

BROAD OBJECTIVE: To help make the students aware of the means of obtaining a telephone and the responsibilities he has for keeping the phone.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. How do you go about getting a phone installed in your home?	Have class discussion on how they think you might go about getting a phone.	
	Have a resource person come to tell the kids how to apply for a phone.	Local Telephone Company
	Discuss the installment fee in your community for a telephone.	
	Set up situation where one child in the classroom wants to get a telephone and have him come by the office for one. Go through procedures.	
2. How do they figure out your telephone bill?	Bring some old telephone bills and let the children figure out how the company got the total. (This involves multiplication, and addition and on a small level percentages.)	
	Class discussion on the subject on long distance calls being extra. Also tax on entire bill.	
	Class discussion on how to read the bill and figure out each section of the bill.	

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	With your telephone service set up a team of bookkeepers and accountants to figure out and keep a record of how much each child owes.	
3. What happens if you don't pay your bill at the assigned time during the month?	Role playing-situations where one student fails to pay. Let the children stop at a peak and write down what a solution will be. How do they deal with a non-paying customer. Compare these solutions to the solutions the telephone company are using.	

CULMINATING ACTIVITY:

CULMINATING ACTIVITY	RESOURCES AND MATERIAL
Role playing-let the children set up a telephone service with as many occupations being represented as possible. Let each child have a job and stress the importance of the whole team of workers. Give a skit with all of these jobs and invite parents or another room in to see this. You may also want a representative from the telephone company to come and see how much the children know about the services of his company.	

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Scheider, Herman and Nina. Your Telephone and How It Works. McGraw-Hill Company, 1952.

2. Filmstrips: (Available from C&P Telephone Company)

"Communications and the Community"

"How We Use the Telephone"

"The Alphabet Works for Us"

3. Pamphlets: (Available from C&P Telephone Company)

Alexander Graham Bell

The Magic Behind Your Dial

The Magic of Your Telephone

The Telephone in America

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C A R E E R E D U C A T I O N P R O G R A M

R A D F O R D C I T Y S C H O O L S

UNIT TITLE: FROM THE GROUND TO THE TABLE

APPROXIMATE GRADE LEVEL: INTERMEDIATE EDUCABLE

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. RUTROUGH, SUPERINTENDENT

PROJECT COORDINATOR: RANDY WRIGHT

THE CAREER EDUCATION PROGRAM
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INTRODUCTION TO: From the Ground to the Table

The EMR needs special help in developing and using the skill of selecting and purchasing food for his family. This unit, directed toward the intermediate EMR level, is designed to give the child a broad survey of the people and occupations involved with the growing and processing of food that is distributed through the supermarket. The supermarket is the main emphasis in this unit since it is an excellent resource for teaching how to get the most from your food dollar.

MOTIVATING ACTIVITIES	RESOURCES AND MATERIAL
As a motivating activity, the children will choose a recipe to either make cupcakes, candy or bread and list all the ingredients needed. Then we will plan a short trip to the store to purchase these ingredients, or plant a small box garden and talk about how the small seeds grow to be plants that produce the food they eat.	Ingredients and utensils necessary for cooking experience.
Field trip to A&P. Draw sketches of what they saw.	A&P Grocery Store Art materials

BROAD OBJECTIVE: To help students understand the processes of purchasing and distributing food.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. Where does food come from?	Class discussion on where different types of foods are grown or raised.	Filmstrip: "Making Maple Syrup"-F-S2(library)
	Ask children to relate experiences they might have had during the summer visiting a farm or helping to work in a garden.	"How Seeds Sprout and Grow into Plants."
	Visit a farm to see how different foods are grown.	
	Plant some seeds and watch the plants grow and stress how long it takes to produce food. A small box garden is especially good for this.	Place the seeds when cut open under microscope and study the structure of leaves & roots parts at intervals(need microscope)
	Read some stories for interest about why foods are like they are.	Childcraft-How We Get Things (Vol.7 p.4)
2. How does food get from the growers to the buyers?	Have a class discussion on how time is an important element in the delivering of goods.	Childcraft-What People Do (Vol.10 p.214) Getting Food Ready for Harvest
	Allow bread to mold in your room. Discuss the words perishable and non-perishable.	
	Make a chart, tracing one product-ex. corn from the field to	

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	the table. Include pickers, packers(canning, freezing, and fresh corn transporters, grocers and finally the home. Make this using seeds-then corn and use pictures to trace the other. Use a large poster or just large paper and put up on a wall.	
	Discuss each occupation involved in this process of getting the food to the grocery store.	
	Role play-having one child being a store operator and let him call to order food from the wholesale distributors. Discuss cost.	
3. How does the grocer distribute food to your family?	Discuss how the grocer is a purchaser as well as a seller.	
	Discuss how the grocer decides the cost to sell his goods for.	
	Bring in some old invoices and let the children see how much the grocer pays for groceries.	Obtain from some store or wholesale representative.
	Figure together how much one can will sell for after you get the actual cost to the grocer plus his profit.	

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Discuss how much profit a grocer should get. Let the children write down what they think would be a good amount to make. Compare this to the amount various types of stores get.	

BROAD OBJECTIVE: To help students become aware of the many jobs available in a grocery store.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What are some of the occupations(jobs) available to you in a grocery store?	Make a bulletin board of a large grocery store and place in the proper area the man who does that work. Make a chart to place somewhere near this board containing all information about that job. For instances-job title, qualifications for job, salary, duties, problems involved, etc. items he works with.	
a. stock clerk	Make a small wholesale house in one area of the room and a stock room in another area. Let the children collect small boxes, label each with the name, number of containers per box. Make your own order-make an invoice and by role playing let the children(some being distributors and some grocery store buyers) deliver and check in an order.	
b. produce department	Make a small weighing scale. Ex. place a one pound bag of coffee on one side and weigh out a pound of something else.	Filmstrip: F-S51 Fruits: "Their Growth andClassification" Study prints: Supermarket Helpers-library

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Have a class discussion about the temperature a produce area should be-also, make a chart of what fruits and vegetables should be kept at what temperature use thermometer.	
	Have a resource person come and talk about the jobs at the grocery store.	From one of our local stores-hopefully, a large chain store.
c. advertising	Set up an advertising room-with some artists designing signs to be placed in the store to advertise various prices, while others are writing catchy slogans to advertise their store to the public.	Magic markers 9 x 11 typing paper Write TV & radio commercials. Let the children practice, then tape, then do a skit for other classes.
	Build a check-out line and talk about the cash register.	Try to get a cash register if one is available at an office supply or store. Small one in libray.
	After talking about the various parts of the store and their workers and the items sold in each area-have a game "Where do I Belong?" Describe an item-such as chicken-tell how much it weighs, cost per pound and ask child-where do I belong, in the store; what special attention do I need? How much do I cost? and how much change	The Foods We Eat - will be available in the library.(6 filmstrips and records) Also some cassette tapes will be available in the library. Game: This is Your Life-Ex. a can of corn-child tells from bag, how seeds planted, trees

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	would you get back from a fixed amount of money if you bought me.	
e. stock boys	Have the store managers figure the prices of the items and let the stock boys stamp the prices on the collected items. Let the children role play the duties of the bag boys. Have different size bags and let the children decide which to use when given a specified amount of groceries.	
2. Why do we need each of the workers in the grocery store?	Class discussion on working together and helping each other. Let the children write some stories about the workers and how they help each other. Make a booklet of the workers in the store and how their jobs are interdependent upon each other.	
3. Why do we need the grocer and also how does he need us?	Bring in some pictures showing people spending money in a grocery store.	

CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	Have a class discussion of where the grocer gets his clothing, shelter or car. Show he purchases these with money you spend for food.	
4. Why do they need other workers in community?	Discuss strikes and their effect on grocer and prices.	

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BROAD OBJECTIVE: To help students become aware of the need to budget your money and shop wisely when buying food for your family.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
1. What type of grocery store should you shop at?	Plan field trips to a large supermarket and then to a small privately owned grocery store.	For instance-Kroger and then Bear Market
	Make a list of some prices from both stores and let the children discuss why the prices are different.	
	Bring in a grocery ad from Kroger or another large store and let the children discuss the weekly sales and how much bargain they get.	Thursday newspaper
	Resource person-have a salesman from a warehouse distributor come and discuss with the children how the grocer gets a lower cost if he buys a larger quantity rather than the small store who can't store a large quantity, and therefore small stores have to sell for a higher price.	
	After a list of both stores prices have been made give the child $5.00 and let him see how much he can buy from each store.	Play money

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
2. What foods should you buy to get the most for your money?	Plan meals for one day and talk about what you would need to buy from the store to prepare these meals. Give each child an assigned amount of money and let them budget it as far as food and grocery buying is concerned. Use the ads from the paper and the list of prices as well. Discuss the advantage of buying larger quantities if they will keep and if on special. Money saved by buying qt. rather than 2 pints. Let the children construct a money wheel where they divide their money down into the areas of the four main food groups. Have the children read the labels of the brand name products and the cheaper ones and compare ingredients. Discuss and make pictures of how one product can be prepared many ways to give variety to your meals.	Pamphlet-"How to get the most from your food Dollar" by Pauline Arnold and Percival White-copyright 1962 by Good Reading Rack Service Division, Koster-Dana Corp., 76 Ninth Ave., New York 11, N.Y.

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CULMINATING ACTIVITY:

CULMINATING ACTIVITIES	RESOURCES AND MATERIAL
Visit a grocery store where the children can see all of the occupations and how each is dependent upon the other. Make an actual store in your room-arrange everything you have made throughout the unit and give it a name and use as many workers as possible. Bring a bag of fruit and let the children buy it and pay for it with points or tokens they have earned while working at the store. Let them do the whole process-weighing, pricing, buying and eating.	

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C A R E E R E D U C A T I O N P R O G R A M

R A D F O R D C I T Y S C H O O L S

UNIT TITLE: HOMES & SHELTER "RAISE THE ROOF"

APPROXIMATE GRADE LEVEL: INTERMEDIATE EMR SPECIAL EDUCATION

PROJECT SITE: RADFORD CITY SCHOOLS

PROJECT DIRECTOR: DR. JAMES E. BUTROUGH, SUPERINTENDENT

PROJECT COORDINATOR: RANDY WRIGHT

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INTRODUCTION

The Intermediate EMR class needs to become aware of their environment. This unit was developed to help the student become aware of homes as means of shelter and also to familarize them with the occupations open in the construction field.

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
Motivating Activity	1. Make a bird house and talk about it as a home and shelter for the birds.	
	2. Visit one of the childrens homes to see all aspects of it.	
	3. Read stories about houses and homes.	Krauss, Ruth. A Very Special House. Harper, 1953.
		Krauss, Ruth. The Big World & The Little House. Harper 1949.
		Lindquist, Jennie D. The Little Silver House. Harper, 1959.
		Skaar, Grace. The Little Red House. Young-Scott, 1955.
		Waddell, John F. Our Home. MacMillan, 1939.

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
Why do we need homes?	1. Talk about shelter and the need for a place to live.	
	2. Transparency - "Homes as a Place of Shelter"	CTR-1 "Homes As a Place of Shelter" (Family Relations Series) Creative Visuals 1969.
	3. Filmstrips - Food, Shelter & Clothing	CF-A6 Food, Shelter and Clothing (The Wonderful World of Work) Denoyer-Geppert, 1969.
	4. Talk about the environment here and the type of homes you need for this area.	
	5. Talk about animals and what they use for shelter.	
How are homes different?	1. Take a field trip - walk around the school area looking at different types of homes.	
	2. Compare living in the city and the country--make a list of the different styles of homes.	
	3. Talk about apartment vs. house living. Interview students from each of these.	

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	4. Let the students take pictures of their houses and report to the class about the structure of them. Farm house, trailer, apartment, town house, etc.	
	5. Make a picture chart of the different types of houses.	
How have homes changed during history?	1. View a Filmstrip - "Homes in the U. S. Old & New"	CF-A22 "Homes In the U.S. Old & New" (The Story of Houses Series) Eye Gate, 1965.
	2. Talk about the first shelters or homes we know about.	Encyclopedias, Books, etc.
	3. Talk about any change that has occured in the child's own home.	
What are some homes like in different countries?	1. Study Prints on homes in different countries.	
	2. View a Filmstrip - "The Homes We Live In"	CF-A100 "The Homes We Live In (Our Community Series) Jam Handy, 1966.

CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	3. Set up some different types of homes in the toom. Ex. tepee, lean-to, igloo. Let the students make these themselves.	Tepee- poles, muslin, paint, etc. Lean-to - poles Igloo - chicken wire, wire clippers, wheat paste, paper
	4. Let the students do reports on different homes in our land.	
	5. Ask a resource person from another country come and talk about their homes. (or someone who has visited other countries.)	Eleanor Stone - lived with Navaho Indians.
What workers are involved in building houses?	1. Filmstrips on the various jobs in the construction fields.	
	The Home	CF-A21 The Home(What's Around Us Series) Eye Gate, 1971.
	Building Houses	CF-A239 Building Houses (Agric. & Industry series) Ed. Reading Services, 1969.
	How We Build Houses	CF-A171 (How We Build Things series) Eye Gate, 1972.

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	A Trip to a Lumber Mill	CF-A180 (Field Trips Out of the Ordinary Series) Eye Gate, 1972.
	Carpenter	CE-CT-A49 (Amer. Occupations series) Ed. Sensory Programming.
	Houses	CE-CT-A59 (How We Build Things series) Eye Gate, 1972.
	A Lumber Mill	CE-CT-A63 (Field Trip Out of the Ordinary series) Eye Gate, 1972.
	My Dad the Construction Foreman	CF-A134 (What Does Your Dad Do series) Jam Handy, 1970.
	2. Take a field trip to a house construction site and watch the people at work.	
	3. Interview construction workers and report back to the class.	
	4. Make a model house and assign the different jobs to different students. Role play the jobs.	Cardboard box, cellophane, lima beand, rice, paint, saws, tools.

CONTINUED

CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
	5. Make a chart of all the workers who build houses.	Long chart paper, pens.
	6. Invite resource people to the room to talk about their jobs. Ex.: Carpenter Painter Brick Layer Interior Decorator Electrician Plumber	Ask parents if they have this job, if not, get community resources.
What do you need to furnish your home?	1. Draw blueprints of a house and sketch the furniture that belongs in each room.	Large drawing paper, crayon, rulers, etc.
	2. Talk about interior decorators and their jobs.	Occupational briefs.
	3. Make a collage of different rooms of different types of homes.	Home decorator magazines Tag Board Scissors Glue
	4. View a filmstrip: Finishing the Home	CF-A70 "Finishing the Home" (How We Get Our Homes) SVE, 1959.
	Planning the Home	CF-A67 "Planning the Home (How We Get Our Homes) SVE, 1959.

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
Who makes the furniture that goes into your home?	1. Take a field trip to the furniture factory in Blacksburg. 2. Let children interview parents or neighbors who might work at the furniture company. Report back to class. 3. Make a list of some tools that furniture workers use. 4. Make a list of all the jobs you can remember about the furniture factory. Include job, salary, qualifications. 5. Have resource people come into the class and talk about their jobs.	
What are some dangers of working in the furniture factory?	1. Talk about some hazards of the jobs. Ex. saws, etc. 2. Talk about and list the age you must be to run a saw. 3. Have a resource person come in and talk about some dangers and safety precautions.	

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CONTENT QUESTIONS	TECHNIQUES AND ACTIVITIES	RESOURCES AND MATERIAL
<u>Culminating Activity</u>	1. Make a collage of homes here and abroad. 2. Design and do blueprints of the type of home you would like and of the furnishings you could put in it.	Tag Board, magazines, paste, scissors.

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EDRS PRICE: MF AND HC AVAILABILITY WILL BE ANNOUNCED IN VOL. 10, NO. 2.

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ABSTRACT: THE CAREER EDUCATION ACTIVITIES IN THIS VOLUME ARE ORGANIZED INTO FIVE MAJOR SUBJECT AREAS: ENGLISH, MATHEMATICS, SCIENCE, SOCIAL STUDIES, AND HEALTH AND PHYSICAL EDUCATION. THE INTENT OF THE ACTIVITIES IS TO ASSIST IN REFOCUSING TRADITIONAL SUBJECT MATTER CONTENT SO THAT CAREER ORIENTATION EVOLVES AS THE ORIGINAL CONTENT IS PRESENTED. FOR EACH TOPIC, THE FOLLOWING INFORMATION IS PROVIDED: GRADE LEVEL, BROAD OBJECTIVE, PERFORMANCE OBJECTIVES, LESSON PROCEDURES (ACTIVITIES), AND MATERIALS AND RESOURCES. SAMPLE TOPICS ARE: THE NEWSPAPER, CHECKING ACCOUNTS, ELECTRICITY AND RELATED JOBS, TRANSPORTATION CAREERS, AND MENTAL HEALTH. (AUTHOR/RG)

CONTRACT NUMBER: OEG-0-73-2990

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VT103 223

SECONDARY (8-12) CAREER EDUCATION ACTIVITIES

Volume III of III Volumes

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Research and Development Project
in Career Education

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James E. Rutrough, Director
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November, 1974

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RADFORD CITY SCHOOL'S CAREER EDUCATION PROJECT
RADFORD, VIRGINIA 24141

INTRODUCTION TO SECONDARY CAREER EDUCATION ACTIVITIES

The Career Education Program of the Radford City Schools is a pilot project of research and development for career education techniques and materials. It is funded through a grant from the United States Office of Education which extends until December 14, 1974.

The activity approach was utilized to implement career education concepts on the secondary level. The activities were developed in five major subject areas which include Mathematics, English, Science, Health and Physical Education and Social Studies.

The intent of the activities is to assist in re-focusing traditional subject matter content to the extent that career orientation evolves as the original content is presented.

Some career activities are short in duration while others may consume several weeks.

RADFORD CITY SCHOOLS
CAREER EDUCATION PROJECT

SECONDARY (8-12) CAREER EDUCATION ACTIVITIES

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1612 WADSWORTH STREET
RADFORD, VIRGINIA 24141
PHONE: 1-703-639-6673

ENGLISH

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"CONVERSATION"

GRADE: 8
SUBJECT: ENGLISH

BROAD OBJECTIVE:

To research the many careers that require the essentials of good conversation and the ability to converse easily.

PERFORMANCE OBJECTIVES:

To improve the skill of good conversation.

To learn which careers require the greatest need for language skills.

To learn how vital a role our language plays in some careers.

LESSON PROCEDURES:

Students will:

work in groups and give demonstrations to class on examples of "good" and "bad" conversation - that is effective and ineffective;

give reports or demonstrations of jobs that require conversation every day - examples: Teachers, T.V. announcers, Lawyers, Doctors, Receptionists, Nurses, Salesmen;

watch and discuss a T.V. announcer and review what makes him effective as a conversationalist.

MATERIALS AND RESOURCES:

Recordings:

"Developing Creative Ability". Valiant I.M.C. Comes in 4 tapes or 2 cassettes.
"Developing Language Arts Skills". Valiant I.M.C.

Resource People:

A sales person from a local department store.
An insurance salesman.
A radio announcer.

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"ADVERTISING"

GRADE: 8
SUBJECT: ENGLISH

BROAD OBJECTIVE:

For the students to become more aware of the world of advertising and the many job possibilities associated with this area of the world of work. Also for the students to see themselves as consumers and how they react to the pressures of mass media advertising.

PERFORMANCE OBJECTIVE:

For the students to study and analyze various advertising techniques--radio, television, newspaper, magazine and billboard advertising. They will discuss and study the impact that these techniques have on the consumer and how to judge the quality of the ad--whether it is believable and sincere.

LESSON PROCEDURE:

The students will begin the unit by listening to commercials which have been taped from television. They will bring in newspapers and magazine ads and discuss the strong and weak points. Ads from earlier years will be studied comparing the changes in advertising that have occured through the years. Students analyze the jobs associated with advertising (all areas) and individual reports are given on these jobs. The students, in a follow-up activity, will develop their own ads and present them to the class. Magazine and newspaper ads can be made with simple construction paper and put on the bulletin board, or sophisticated television commercials can be made with the video tape recorder.

MATERIALS AND RESOURCES:

Books:

Amstell, I. Joel. What You Should Know About Advertising. Ocean Publications, Inc., 1969.
Campbell, Hannah. Why Did They Name It? Fleet Press Corp., 1964.
Floyd Clymer's Historical Scrapbook Early Advertising. Bonanza Books, Division of Crown Publishers, 1955.
Wood, James Playsted. This is Advertising. Crown Publishing, Inc., 1968.

Newspapers:

Roanoke Times. Roanoke, Virginia.
Radford News Journal. Radford, Virginia.
The Acorn. School Newspaper.

MATERIALS AND RESOURCES: (Continued)

Filmstrips and Cassettes:

"What's Going on Here - Media and Propaganda". E.M.C. Corp., 1972.

Resource People:

A public relations person.
A newspaper publisher.
A radio announcer.

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"A FAMOUS MEDICAL RESEARCHER: DR. JONAS SALK"

GRADE: 8
SUBJECT: ENGLISH

BROAD OBJECTIVES:

1. To read an account of a famous American and become aware of his work.

2. To orient students to the jobs available in medical research.

PERFORMANCE OBJECTIVES:

1. The student will appreciate the contribution of Dr. Jonas Salk.

2. The student will be able to describe the various jobs in medical research.

LESSON PROCEDURE:

1. Class discussion of the disease poliomyelitis.

2. Individual research.

3. Oral or written reports.

4. Read "A New Vaccine is Born".

5. Writing assignment "A Career in Medical Research Would Be Interesting Because.....".

6. Resource person.

MATERIALS AND RESOURCES:

Books:

Colman, Hila. A Career in Medical Research. Cleveland: The World Publishing Company.
Pooley, Robert C. "A New Vaccine is Born". All Around America. Scott, Foresman and Company.

Audio Visual:

"Jobs in Health Service" Coronet Films, Chicago, 1971.
"Health Services" Westinghouse Learning Press, New York.

Resource People:

A medical researcher
A chemist

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"CREATIVE WRITING"

GRADE: 8
SUBJECT: ENGLISH

BROAD OBJECTIVE:

To research careers in which there is a need for persons with creative writing ability.

PERFORMANCE OBJECTIVES:

To improve expression of original and individual ideas.

To learn that there is a need for persons with creative writing ability in many careers and in which careers this need exists.

To learn basic skills needed to improve writing techniques.

LESSON PROCEDURES:

Student will:

have local author talk to class about his successful writing career.

have local newspaper advertising executive talk to class concerning the importance of creativity in effective advertising.

practice writing creatively - essays, short stories, ar[illegible] commercials and advertisements.

work in groups, researching a career in each group - report findings to class.

MATERIALS AND RESOURCES:

Films:

Jessamyn West - My Hand My Pen. 07310 Available from Educational Motion Pictures, Bureau of Teaching Materials, State Department of Education.
Consumer Power - Advertising. 01610 Available from Educational Motion Pictures, State Department of Education.

Resource People:

Author, advertising manager, creative writing teacher from [illegible] college

Recordings:

"Developing Creative Ability". Available from Valiant I.M.C.

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"UNUSUAL OCCUPATIONS"

GRADE: 8
SUBJECT: ENGLISH

BROAD OBJECTIVE:

To read the autobiographical selections from our literature book focusing in on the unusual occupations of the authors.

PERFORMANCE OBJECTIVES:

To learn what an autobiography is.

To become familiar with some contemporary writers.

To become acquainted with some unusual careers.

To develop an awareness that a person's career or job is a very vital part of his life.

LESSON PROCEDURE:

Read following selections from literature book:
"The First Day" - page 327
"Music Inside My Head" - page 334
"from Travels with Charley" - page 344

Read an outside autobiographical selection and make short oral report to class.

Have some local persons who have unusual careers to speak to class.

Work in small groups (3 or 4) and research an unusual occupation.

MATERIALS AND RESOURCES:

Eighth Grade Literature Book:

Foresman, Scott. Counterpoint in Literature. America Reads Series. Pooley, Daniel, Farrell, Gromman, Niles, editors.

Filmstrips, tapes, cassettes dealing with career opportunities (any that are available in a school audio-visual center will feature some unusual occupations)

Resource People:

A song writer or poet, an artist or photographer, a restaurant operator, dorm hostess from college, professional athlete or golf pro, Y.M.C.A. director or playground director.

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"THE NEWSPAPER"

GRADE: 8
SUBJECT: ENGLISH

BROAD OBJECTIVE:

To familiarize the students with the newspaper, and to introduce them to careers which are available in the writing, printing, and publishing fields.

PERFORMANCE OBJECTIVES:

To learn the different parts of the paper such as banner, nameplate, flag, headlines, by-lines, editorials, news stories, feature stories, and mast head.

To learn how the newspaper serves as a means of communication and how it influences the life of the community.

To learn what the jobs of editor, managing editor, lay-out and make-up editor, sports writers, feature writers, and news writers consist of.

LESSON PROCEDURES:

Students will:

visit offices of local newspaper, seeing make-up people at work;

have editor or managing editor speak to class on jobs in journalism;

study and discuss various newspapers including own school paper;

work in groups and learning centers to learn the parts of the paper;

make reports on the roles of people involved in the publishing of a paper and on careers in journalism;

publish a mimeographed paper with students assuming the various "jobs".

MATERIALS AND RESOURCES:

Films:

The Newspaper Serves its Community. 65908
Newspaper Story. 37708
Consumer Power - Advertising. 01610

MATERIALS AND RESOURCES: (Continued)

Films: (Continued)

Newspaper Layout. 06510

Films are available from Educational Motion Pictures, State Department of Education.

Resource People:

Staff of local newspaper.
Student editor of school newspaper.

Book:

Adams, Julian and Stratton, Kenneth. Press Time. Prentice Hall, Second Edition.

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"OUR TOWN"

GRADE: 8
SUBJECT: ENGLISH

BROAD OBJECTIVES:

1. To enable students to gather facts and to give an impression or reaction in their writing.

2. To make students aware of their town and its industries and businesses.

PERFORMANCE OBJECTIVES:

1. The student will develop skills in gathering information, interviewing, giving an oral report and writing.

2. The student will explore in depth five careers in his town that he finds unusual or interesting.

LESSON PROCEDURE:

1. Have students close their eyes and think about their town for one moment.

2. Have students list as many of the businesses and industries in their town they can think of.

3. Discussion and reaction from the class.

4. Proceed to projects and activities. (The teacher could use as many or as few as desired)

   Activities:

   A. Use as many adjectives as you need to describe the personality of your town.

   B. Develop a topic sentence for a paragraph about the advantages of your town.

   C. Develop a paragraph around the topic "What Our Town Needs Most".

   D. In a two minute talk give one impression of your town on a certain day, or at a certain time of year.

   E. Take an imaginary tour of five businesses or industries in your town and discuss one job you would prefer to do in each one.

   F. Research and oral and written reports.

LESSON PROCEDURE: (Continued)

Activities: (Continued)

G. Make a map of your town showing all places of business and industry.

H. Write a poem about your town.

I. Interview one person in your town who is involved in a career you think might be interesting.

J. Write a letter inviting someone you would like to hear to come to your class to talk about their job.

MATERIALS AND RESOURCES:

Books:

Wolfe, Don M., Hamilton, Lela T., and Doherty, Eugene N. Enjoying English 8. Syracuse: The L. W. Singer Company, Inc., 1966.

Kits:

Largo Desk Top Career Kit
SRA Occupational Exploration Kit

Audio Visual:

An American Sampler. Joshua Tree Productions, Inc. CBS News.
(a) "America: Variety and Individualism"
(b) "America And A Job Well Done"

"Where Will You Live and Work" FOM Filmstrip Club, Audio-Visual Division, Popular Science Publishing Company, Inc., New York.

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"A COURAGEOUS CAREER"

GRADE: 8
SUBJECT: ENGLISH

BROAD OBJECTIVES:

1. To study a character who displays courage.

2. To explore careers related to construction.

PERFORMANCE OBJECTIVES:

1. The student will appreciate the danger of high rise construction work and the interrelation of fear and courage.

2. The student will be able to describe occupations and skills required in construction jobs.

LESSON PROCEDURE:

1. Class discussion about fear and courage.

2. Read the short story "Danger in the Wind".

3. Individual research and reports.

4. Study of terminology.

5. Writing assignment concerning the dangers the main character faces in his job and his attitude about it.

MATERIALS AND RESOURCES:

Text:

Pooley, Robert C. "Danger in the Wind" All Around America. Scott, Foresman and Company.

Audio Visual:

"Construction" Career Education Clusters, Westinghouse Learning Corporation, New York.

Resource People:

A construction engineer

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"THE RADIO AND YOU"

GRADE: 8
SUBJECT: ENGLISH

BROAD OBJECTIVES:

1. To orient students to the ways in which radio affects them.

2. To explore careers related to radio broadcasting.

PERFORMANCE OBJECTIVES:

1. The student will be able to relate the use of language to the radio.

2. The student will be able to describe the various jobs, the requirements, salaries and benefits related to a career in radio.

LESSON PROCEDURE:

1. Class discussion concerning the role of radio today.

2. Listen to a radio play.

3. Listen to a record of the radio broad cast of "War of the Worlds".

4. Follow up discussion on the impact of radio.

5. Individual research on careers in radio.

6. Prepare a radio show and tape it.

7. Write an essay about a career in radio.

8. Prepare an advertisement for a new product to be introduced on radio.

9. Write a letter requesting information about a career in radio broadcasting.

10. Prepare a booklet, poster or collage of all the jobs related to radio.

MATERIALS AND RESOURCES:

Books:

Caroll, John M. "Your Career in Communications and Broadcasting" (Ch. V) Careers and Opportunities in Electronics. New York: E. P. Dutton and Co., Inc., 1963.

MATERIALS AND RESOURCES: (Continued)

Books: (Continued)

Gunston, David. Marconi, Father of the Radio. New York: Crowell-Collier Press, 1965.

Audio Visual:

"Broadcasting" Classroom World Productions. Bear Films, Inc., 1970.
"The Broadcast Technician" SVE, 1973.
"Television and Radio Service Technicians" Job Opportunity Series. Encyclopedia Britannica No. S81224.

Materials:

National Association of Broadcasters
Public Relations Department
1771 N. St.
Washington, D. C. 20036

Federal Communications Commission
Washington, D. C. 20554

Resource People:

A radio announcer
A radio technician

Field Trip:

Visit local radio station

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"THE WORLD OF COMMUNICATIONS"

GRADE: 8 AND 9
SUBJECT: ENGLISH

BROAD OBJECTIVE:

1. To orient students to the many types of communications that affect them.

2. To explore careers in the world of communications.

PERFORMANCE OBJECTIVE:

The student will be able to relate English to the world of communication and be able to describe the variety of jobs in the communications industries in terms of job title, requirements and salary.

LESSON PROCEDURE:

To make students aware of the necessity of communication, have several students give directions without communicating orally. Proceed by exploring the meaning of communication, tracing it's origin and discussing the various types of communications that affect us daily. Students could then be directed to a bulletin board and learning center that concentrates on one area of communications and its associated careers. Daily lesson plans could be done by either the teacher or students or both. These lessons should concentrate on one area, giving the class necessary background information. Students should then be allowed to work on related projects for the remaining class time under the direction of the teacher.

Projects:

1. Interview a person in a communications occupation.

2. Write a letter to an industry or corporation requesting information about your interest in a particular communications career.

3. Construct a booklet or poster related to a career in the world of communications. This must include one magazine article, one newspaper article, a want ad, and a picture or cartoon that is related to communications careers.

4. Develop an original skit about a communications career to be performed before the class and if possible to be video taped.

5. Make up your own product, write an advertisement for it, arrange to present it to the class and if possible to have it video taped.

Projects: (Continued)

6. Prepare your own news show, or weather report.

7. Write your own radio play, tape it and present it to the class (concentrate on sound effect).

8. Prepare and tape a radio announcement.

9. Write an essay "Why I Would Like To Be A _____" or "Why I Could Never Be A _____"

10. Prepare your own filmstrip and narrative on topic of your choice. For example: "How To Make A Movie".

MATERIALS AND RESOURCES:

Basic Text:

Agee, Warren K.; Ault, Phillip H.; Emery, Edwin. Introduction to Mass Communications. Dodd, Mead and Company, 1970.

Supplements:

Hogben, Lancelot. The Wonderful World of Communication. Doubleday, 1969.
Lineberry, William P., Editor. Mass Communications. H. W. Wilson, 1969.
Neal, Harry Edward. Communication From Stone Age to Space Age. Messner, 1960.

Filmstrips: (with cassette tapes)

"Mass Media: Impact on a Nation". Guidance Associates, 1971.
"Careers in Film Making". Educational Dimensions for Current Affairs, 1971.
"Writing Careers in Advertising". Educational Dimensions, 1968.
"Careers in Television". Educational Dimensions, 1968.
"And Now a Word From Our Sponsor". Grolier Educational Corp., 1970.
"Communications and Media". Westinghouse, 1973.

Tape:

"Broadcasting". Bear Films, Inc., 1970.

Charts:

Careers for Good Speakers. Walch, 1969.
Careers for Good Writers. Walch, 1969.
Newspaper Careers. Walch, 1969.

Resource People:

Director of Publicity and Information Services - College

MATERIALS AND RESOURCES: (Continued)

Resource People:

Disc Jockey
Newspaper Employee
Television Station Employee

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"COULD YOU HAVE BEEN HELEN KELLER'S TEACHER?"

GRADE: 9
SUBJECT: ENGLISH

BROAD OBJECTIVES:

1. To study an autobiography as a type of literature.

2. To explore careers in working with the blind and the deaf.

3. To appreciate the special qualifications of the teachers of the blind and deaf.

PERFORMANCE OBJECTIVES:

1. The student will be able to evaluate an autobiographical account of Helen Keller.

2. The student will be aware of occupations in working with the blind and deaf, training necessary, and the benefits.

LESSON PROCEDURE:

1. Class discussion of importance of sight and hearing.

2. Discussion of Helen Keller and Anne Sullivan.

3. Discussion and information regarding careers.

4. Individual reports.

5. Read "The Great Day".

6. Writing assignment: "Why I Would (or Would Not) Like A Career in Working With the Deaf and Dumb".

MATERIALS AND RESOURCES:

Books:

Brown, Marion Marsh and Crone, Ruth. The Silent Storm. New York: Pocket Books, 1968.
Pooley, Robert C. et al. Outlooks Through Literature. "The Great Day" (page 178) Scott, Foresman and Company, 1964.

Materials:

"The One-Hand Manual Alphabet"
"Understanding Braille"
American Foundation for the Blind, Inc.
15 West 16th Street
New York, New York 10011

MATERIALS AND RESOURCES: (Continued)

Materials: (Continued)

"Will You Be My Teacher?"
Alexander Graham Bell Association For the Deaf, Inc.
1537 35th Street, N.W.
Washington 7, D. C. 20007

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"WOULD YOU LIKE TO BE ANOTHER JULIUS CAESAR"
(Careers in Shakespeare's Play)

GRADE: 10
SUBJECT: ENGLISH

BROAD OBJECTIVES:

1. To familiarize students with the play, Julius Caesar.

2. To discover modern occupations parallel to characters' occupations within the play.

PERFORMANCE OBJECTIVES:

1. The student will have a working knowledge of a Shakespearian play.

2. The student will be more aware of positions in government, the law, and in political science.

LESSON PROCEDURE:

1. Read and discuss the play.

2. Bring in parallel occupations in discussion of characters' jobs within play.

3. At end of discussion of play, assign individual reports on parallel occupations.

4. Role playing and modernization of characters' occupations.

5. Resource people such as lawyers, judges, political scientists.

6. Rewriting of portions of the play with modern occupations - perhaps using well known people in government.

7. Use of audiovisuals and books.

MATERIALS AND RESOURCES:

Text:

Farrell, Edmund J., et al. Exploring Life Through Literature. Scott, Foresman and Company, 1973.

Books:

Bailey, F. Lee. The Defense Never Rests. Stein, 1971.
Batter, David. Politicians and What They Do. Franklin Watts, 1961.
Chamberlin, J. H. Law Enforcement. Walck, 1963.

MATERIALS AND RESOURCES: (Continued)

Audio Visuals:

Law. Law As A Profession. Classroom World Productions. (Cassette Tape)
Criminology. Classroom World Productions. (Cassette Tape)
Working In The Political World. Eye Gate, 1972. (Sound filmstrip)

Occupational Briefs. Occupations Explorations Kit. SRA, 1973.
#72 Foreign Service Workers
#9 Lawyers
#366 Political Scientists

"Your Career In Law". (Motion Picture) MAL, 1956.
"Is A Career In Government For You?" (Motion Picture) 1972, AIMS.

Other Resources:

Resource people from local government:

Lawyer
Judge
State Senator
Lieutenant Governor

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"A SOCIAL WORKER IS NEEDED!"
("Roy's Wound")

GRADE: 10
SUBJECT: ENGLISH

BROAD OBJECTIVES:

1. To teach the short story as a genre.

2. To teach social protest literature.

3. To discuss social work in relation to the story, "Roy's Wound".

PERFORMANCE OBJECTIVES:

1. The student will understand the short story as a particular and separate type of literature.

2. The student will observe black social literature.

3. The student will become conversant with the importance of social work.

4. The student will gather information concerning the qualifications necessary for becoming a social worker.

LESSON PROCEDURE:

1. Reading of "Roy's Wound".

2. Discussion of story as a genre.

3. Discussion of story as social protest.

4. Discussion of need for social worker to come to this family.

5. Assigning of reports on closely related fields of social work.

6. Resource person.

7. Books.

8. Audiovisuals.

MATERIALS AND RESOURCES:

Text:

Farrell, Edmund J., et. al. Exploring Life Through Literature. Scott, Foresman and Company, 1973.

MATERIALS AND RESOURCES: (Continued)

Books:

Ferguson, Elizabeth. Social Work. Lippincott, 1969.
Gell, Frank. The Black Badge: Confessions of a Caseworker. New York: Harper, 1969.
Public Affairs Pamphlet. Unlocking Human Resources: A Career In Social Work by Pat W. Soyka. The Public Affairs Comm., 1971.

Audio Visuals:

Social Worker. Classroom World Productions. (Tape)

Other Resources:

Social worker from City and from Community College.

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"ENGLISH SKILLS IN THE SALES FIELD"

GRADE: 10
SUBJECT: ENGLISH

BROAD OBJECTIVE:

To help students to become aware of the need for good basic English skills in the field of salesmanship.

PERFORMANCE OBJECTIVE:

To access the need for English skills in a selling occupation.

LESSON PROCEDURE:

1. Students are directed to a display of books, magazines, and pamphlets describing careers in salesmanship and their requirements with special attention to be given to how frequently these qualifications relate to good English habits.

2. An informal talk and discussion period will be led by Mr. Don Dobbins, instructor of Distributive Education, emphasizing the relationship between good English usage and success in Distributive Education and future employment in the sales field.

3. An informal talk and discussion period will be led by one or more local merchants or salesmen concerning the importance of good English usage on the job.

4. Several students who are presently employed in selling will present an oral report concerning how good English usage is necessary in his job.

5. The class will complete several activities pertaining to the ways skill in written English might be necessary to a salesman.
   a. the sales message
   b. orders
   c. order acknowledgements
   d. adjustments

MATERIALS AND RESOURCES:

Book:

Awner and Burtness. Effective English for Business Communication. South-Western Publishing Co., 1970.

MATERIALS AND RESOURCES: (Continued)

Sound Filmstrips:

Job Opportunities in a Department Store. Singer Educational and Training Products. Chicago, Illinois.

Marketing Careers:

Working With People. Avid Corporation, Instructional Systems Division. East Providence, Rhode Island.

Records:

Careers in Selling. Folkways Records and Service Corporation. New York, New York, 1961.
How to Open and Close A Sale. Businessmen's Record Club. Norman, Oklahoma.

Tape:

Selling. Bear Films, Inc. Baldwin, New York.

Magazine:

"Getting the Goods on Careers in Marketing and Distribution". Career World, Vol. 2, No. 8. Mid April, 1974. Curriculum Innovations, Inc. Highwood, Illinois, 1974.

Speakers:

Distributive Education Instructor
Local merchants and salesmen

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"A CAREER IN LAW"

GRADE: 10 OR 11
SUBJECT: ENGLISH 10 OR 11

BROAD OBJECTIVE:

To interpret the concept of justice through a study of the novels, To Kill a Mockingbird and The Ox-Bow Incident and to acquaint students with the possibilities of a legal career.

PERFORMANCE OBJECTIVES:

1. To study To Kill a Mockingbird and The Ox-Bow Incident as works of art.

2. To study the novel as a literary form.

3. To analyze the characters of each as individual types and to apply this analysis to the student's role in school and community.

4. To define justice and discuss its application to the novels and life in today's world.

5. To discuss the possibilities of a career in law.

LESSON PROCEDURE:

1. Each student will read and discuss the novels on a chapter by chapter basis with special attention to structure, plot, characterization, and the concept of justice and its application to the novels as well as to everyday life.

2. The class will discuss the role of the lawyer in his community including such practical aspects as requirements for a legal career, work performed, employment possibilities, and income.

3. Students will master a vocabulary list of legal terms.

4. An informal talk and discussion period will be led by a local lawyer.

5. Oral and written reports will be presented to illustrate the various areas of a legal career.

6. Television programs related to the legal field will be discussed.

MATERIALS AND RESOURCES:

Books:

Harper Lee, To Kill a Mockingbird.
Wilbur Van Tilburg Clark, The Ox-Bow Incident.
Occupational Outlook Handbook.

Television Programs:

Ironside
Owen Marshall

Tape:

Law As A Profession. Classroom World Productions.

Speaker:

Local lawyer

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"PREPARATION AND PUBLICATION OF A NOVEL"
(From Writer to Reader)

GRADE: 10 or 11
SUBJECT: ENGLISH

BROAD OBJECTIVES:

1. To teach the novel as an art form.

2. To explore careers connected with the writing and subsequent publication of a novel.

PERFORMANCE OBJECTIVES:

1. The student will be made aware of the wide variety of occupations necessary to the publication of a book.

2. The student will be conversant with the training and qualifications necessary for occupations such as the following:

   A. Editor
   B. Printer
   C. Proof-Reader
   D. Secretary
   E. Writer
   F. Promotions Managers - Businessmen
   G. Salesmen - Books
   H. Advertising

LESSON PROCEDURES:

1. Introduce, read, and discuss a modern novel. (20th Century)

2. Discuss careers necessary to the writing and publication of a work of literature.

3. List occupations suggested.

4. Assign individual reports on each occupation.

5. Use additional audiovisual materials.

6. Talk by local writer on how a book is published.

7. Talk by local printer.

8. Visit to local printing press.

9. Use of books and audiovisuals.

MATERIALS AND RESOURCES:

Text:

Salinger, J. D. The Catcher In The Rye.
(Any other suitable 20th Century Novel.)

Bocks:

Lobsenz, Norman. Writing As A Career. Walck, 1963.
Love, Albert, ed. Listen to Leaders In Business. Atlanta, Tupper, & Love, 1963.
Rogers, Frances. Painted Rock to Printed Page. Lippincott, 1960.
Swain, Dwight V. Tricks & Techniques of The Selling Writer. Doubleday, 1965.

Audio Visual:

Occupational Briefs in Occupations Explorations Kit. SRA, 1973.
#355 Book Editors
#63 Advertising Workers
#361 Advertising Copywriters
#113 Bookshop & Bookstore Salesclerks

Desk Top Kit. Careers, Inc., Largo, Florida, 1970.
#164 Advertising Workers
#130-39 Writer
#203 Typist
#209 Proofreader
#650-59 Printing Trade

"Your Career In Printing". (Motion Picture) MLA, 1956.

Secretarial Careers. Classroom World Productions, 1971. (Tape)

Secretarial Careers; A Poster Series by Jane White and Glenn Pearce. J. Weston Walch, 1970.
Careers for Good Writers: Posters by Marion Roberts. J. Weston Walch, 1970.
Writing Careers in Advertising. Educational Demensions, 1968. (Sound filmstrip)
Business and Office. Career Education Clusters. Westinghouse Learning, 1972. (Sound filmstrip)

Resource People:

A local writer (published)
A local printer

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"THE JOB INTERVIEW"

GRADE: 11
SUBJECT: ENGLISH

BROAD OBJECTIVE:

To enable students to prepare for and successfully complete a job interview.

PERFORMANCE OBJECTIVES:

1. To know the steps required in securing an appointment for a job interview.

2. To describe the proper dress and appearance necessary to create a good impression.

3. To describe the proper behavior and attitude for an interview.

4. To study hand-out sheets and basic information including vocabulary words.

5. To score 75% or above on a quiz pertaining to job interviews.

LESSON PROCEDURE:

1. The teacher will provide students with hand-out sheets. (see materials)

2. The teacher will provide students with basic information concerning a successful interview.

3. The teacher will provide vocabulary words and students will discuss the definition of these.

4. The students will view two filmstrips "Your Job Interview" and "The Job Interview".

5. The class will discuss the importance of being on time for the interview.

6. The class will discuss the importance of proper dress and a good overall appearance.

7. Students will discuss the importance of proper behavior and attitude.

8. An informal talk and discussion period will be led by the personnel director of a local firm.

LESSON PROCEDURE: (Continued)

9. Students will use role playing, several selecting a job in which they are interested and preparing for an oral interview for that job. The teacher will act as the interviewer and will acquaint the applicants with the criteria by which each will be evaluated(see materials). The interviewer and all other students will have a scoring instrument and will rate each applicant.

10. A quiz will be administered to test each student's awareness of the proper procedure for a job interview.

MATERIALS AND RESOURCES:

Sound Filmstrips:

The Job Interview. AVID Corp.
Your Job Interview. Guidance Associates.

Information Sheets:

#1 Terms and Definitions
#2 Why People Aren't Hired
#3 Questions Often Asked During the Interview

Books:

Career Exploration and Planning. Houghton Mifflin Company, 1973.
The Teenager and the Interview. Richards Rosen Press, Inc., 1971.

Speaker:

Personnel Director of local firm

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"WRITING A LETTER OF APPLICATION"

GRADE: 11
SUBJECT: ENGLISH

BROAD OBJECTIVE:

To learn the exact procedure for creating an effective and successful letter of application.

PERFORMANCE OBJECTIVES:

1. To realize the importance of the job application as probably the single most important factor in securing a job.

2. To learn the steps in correctly planning and writing a letter of application.

3. To become acquainted with the common errors many young applicants make and guard against these.

LESSON PROCEDURE:

1. The class will recognize the importance of creating a favorable appearance by using such tools as appropriate stationery, typewriting, neatness, etc.

2. Students will study the procedure used in writing the letter:

   a. establish a point of contact by stating your purpose;
   b. show an understanding of the employer's needs and the requirements of the position;
   c. show how your education and previous experience fit these requirements;
   d. mention your personal qualifications such as your interest in the employer's type of business;
   e. give references;
   f. make a direct request for an interview.

3. The students will discuss the importance of using concrete details, flashes of human interest, and good tone to increase the effectiveness of the letter.

4. The students will discuss such pitfalls to avoid as negative statements, misrepresentation of facts, illogical organization, lack of supporting details, and vague expression.

Activities:

1. Choose from your local newspaper several help-wanted advertisements which interest you and write an effective

LESSON PROCEDURE: (Continued)

Activities: (Continued)

letter of application for one.

2. Scan the yellow pages of your local telephone directory for a business firm at which you are interested in working. Write an unsolicited letter of application to the firm.

3. From your friend Miss Susan Black, a teacher of elementary education in your local elementary school, you have learned that a position will be open in January for a 4th grade teacher. As a college graduate with two years of experience, write a letter of application requesting an interview.

4. Pretend that you are a prospective employer and study a list of twenty sentences taken from applications. Point out errors or weaknesses in each.

5. Study several sample letters of application and evaluate them. Rewrite any which are not effective.

6. Pretend that circumstances make it necessary for you to quit school and enter the work force. Evaluate the skills you currently possess and list the jobs for which you would be qualified. Write letters of application for these jobs.

MATERIALS AND RESOURCES:

Books:

Aurner and Burtress. Effective English for Business Communication. Southwestern Publishing Co., Cincinnati, Ohio, 1970.

Sound Filmstrips:

The Job Application. Avid Corporation, Instructional Systems Division. East Providence, Rhode Island.

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"DO YOU WANT TO BE ANOTHER HENRY DAVID THOREAU?"

GRADE: 11
SUBJECT: ENGLISH

BROAD OBJECTIVE:

1. To familiarize students with the life and works of Thoreau.

2. To discuss careers similar to some of Thoreau's.

PERFORMANCE OBJECTIVE:

1. The student will be conversant in the works of Thoreau.

2. The student will learn several occupations similar to Thoreau's, specifically those of furniture maker, mason, writer, and farmer.

LESSON PROCEDURE:

1. Discuss Thoreau's life.

2. List occupations he held.

3. Discuss and assign reports on furniture maker, mason, writer, and farmer.

4. Filmstrips and other materials.

5. Read excerpts from texts on Thoreau in pursuit of his occupations.

6. Invite resource speakers.

MATERIALS AND RESOURCES:

Text:

Miller, James E. Jr., et. al. The United States In Literature. Scott, Foresman, 1973.

Books:

Lobsenz, Norman. Writing As A Career. Walck, 1963.
Rogers, Frances. Painted Rock To Printed Page. Lippincott, 1960.

Audio Visuals:

Occupational Briefs. Occupations Explorations Kit. SRA, 1973.
#22 Bricklayers
#23 Carpenters
#48 Farmers, Vegetables

MATERIALS AND RESOURCES: (Continued)

Audio Visuals: (Continued)

#124 Furniture Manufacturing Workers
#275 Writers, Free-lance

Desk Top Kit. Careers Inc., Largo, Fla., 1970.
#130-39 Writer
#861 Stonemason
#763 Furniture Finisher

The Bricklayer. Eye Gate, 1972.
Farming Industry. Classroom World Productions, 1972. (Tape)
Careers for Good Writers: Pouters by Marion Roberts. J. Weston Walch, 1970.

Resource People:

Local farmer
Furniture and cabinet maker
Mason
Local writer

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"A CAREER IN PSYCHOLOGY"

GRADE: 11
SUBJECT: ENGLISH

BROAD OBJECTIVE:

To read and interpret the novel The Scarlet Letter analyzing the psychological effect of sin upon each main character and to research the possibilities of a career in psychology.

PERFORMANCE OBJECTIVES:

1. To study The Scarlet Letter as a literary art form.

2. To analyze each of the four major characters in terms of Hawthorne's basic themes.

3. To relate this analysis to psychology as a career.

LESSON PROCEDURE:

1. Each student will read and discuss the novel on a chapter by chapter basis, paying particular attention to plot, structure, symbolism, and characterization.

2. The class will study Hawthorne's basic theme concerning the psychological effect of sin and will interpret each character's behavior in terms of that theme.

3. The class will study Hawthorne's supporting themes of Isolation and the Unpardonable Sin and will discuss how certain characters illustrate these themes and how some achieve redemption in the end.

4. The students will explore the field of psychology and the possible careers open in this field including the requirements for each.

5. Students presently taking the course offered in psychology will give oral reports to stimulate interest in and a better understanding of the field.

6. An informal talk and discussion period will be led by a local authority in the field of psychology or a representative of a local help center.

7. Students not participating in number 5 will do one of the following activities:
   a. a written paper concerning the psychological aspects of some other literary work we have studied.

LESSON PROCEDURE: (Continued)

b. an oral report by working students on how psychology relates to their job.

c. an oral report based upon an interview with someone in the community whose work is related to psychology.

MATERIALS AND RESOURCES:

Books:

Hawthorne, Nathaniel. The Scarlet Letter.

Speaker:

Local authority in the field of psychology.
A representative of a local help center.

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"THE GLASS MENAGERIE"
(Occupations in Play Production)

GRADE: 11
SUBJECT: ENGLISH

BROAD OBJECTIVES:

1. To study a twentieth century play.

2. To study play production.

3. To discuss several occupations necessary to the production of a play.

PERFORMANCE OBJECTIVES:

1. Each student will be knowledgeable in play production.

2. The student will be familiar with a modern work of drama.

3. The student will gather information on careers such as actor, director, musician, costumer, set designer.

LESSON PROCEDURE:

1. The class will read and discuss the play as a twentieth century art form; perhaps including role playing.

2. Discussion of how the play would be produced on stage will follow.

3. Filmstrips and other materials relevant to play production will be presented.

4. Reports by students on various careers within the field of drama.

5. Resource people.

6. Actual visitation of a theatre production.
   1. Radford College
   2. "The Long Way Home"

MATERIALS AND RESOURCES:

Text:

Miller, James E., Jr., et. al. The United States in Literature. Scott, Foresman, 1973.

MATERIALS AND RESOURCES: (Continued)

Books:

Ball, Zachary. Tent Show. Holiday, 1964.
Butler, Mildred Allen. Actress In Spite of Herself: The Life of Anna C. Mowatt. Funk & Wagnalls, N. Y., 1966.
Cole, Toby and Chinoy, Helen, eds. Actors On Acting. Crow, 1970.
Dalrymple, Jean. Careers and Opportunities In The Theatre. Dutton, 1969.
Fiore, Evelyn. Ginny Harris On Stage. Doubleday, 1965.
Rick, Alan. Careers and Opportunities In Music. Dutton, 1964.
Roth, C. J. and Weiss, Adele. Art Careers. Walck, 1963.

Audiovisuals:

Fine Arts and Humanities. Career Education Clusters. Westinghouse Learning Press, 1972. (Sound filmstrip)
Careers In Music: A Poster Series by Gene Stanford. J. Weston Walch, 1970.

Careers Desk Top Kit. Careers, Inc., Largo, Fla., 1970.
#150 Actors and Actresses
#187 Theatre Manager

Actor Part I and Part II, 1970 (Motion Picture)

Occupational Briefs. Occupational Explorations Kit. SRA, 1973.
#62 Actors and Actresses
#396 Composers
#142 Designers, Fashion
#98 Theatre Managers
#291 Arts, Fine

Other Resources:

Professors of play production - Radford College
Actors, directors, set designers from local theatre groups or "The Long Way Home".

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"EXPLORING THE OPPORTUNITIES IN THE FIELD OF NEWS REPORTING"

GRADE: 12
SUBJECT: ENGLISH

BROAD OBJECTIVE:

To understand the major duties and responsibilities of the news reporter.

PERFORMANCE OBJECTIVES:

1. To examine the qualifications and aptitudes of the news reporter.

2. To gain knowledge of the advantages and disadvantages of this occupation (news reporting).

3. To become familiar with the educational requirements and the personal characteristics needed for success in this field.

LESSON PROCEDURE:

Activities:

1. Study the filmstrip "The Newspaper Reporter" to learn what is expected of a reporter.

2. Invite a news reporter to describe his duties, his skills, and his qualifications for his position.

3. Study the format for writing news reports - understand that in news stories the reporter gives the main idea in the first paragraph.

4. Examine several news stories and note how carefully the reporter reports the facts without giving his opinion.

5. Select several news stories and find the five W's in the lead.

6. Compile a list of terms that the reporter would need to know.

7. On file cards or slips of paper write situations that a reporter might use for a news story. Deposit these suggested situations in a box. (Each member of the participating group may write several situations.) Draw one or two situations from the box and develop each into a news story.

LESSON PROCEDURE: (Continued)

Activities: (Continued)

8. Imagine that you are a news reporter and write a short paper on some of the disadvantages of being a reporter.

9. Write a letter to a friend telling him why you like being a reporter.

10. Read books (fiction or fact) about news reporters. Share your reading with others who are interested through book reviews or book discussions.

11. Invite staff members of the school newspaper to discuss their duties and explain some of their problems in news gathering.

12. Write news reports for the school newspaper and the local papers.

13. Gather information on news reporting and news reports and prepare questions for a quiz program dealing with this career.

14. Experiment with various grammatical forms for beginning a lead.

15. Interview the guidance counselor or the career coordinator to learn about educational offerings in the field of reporting.

16. Prepare a resume' of personal qualifications for success as a reporter.

MATERIALS AND RESOURCES:

Filmstrips and Cassettes:

Exploring the World of Work. Wilson Educational Cassettes.
702-709 Fresh Perspectives in Composition, "Tips on Writing the News Story". Eye Gate House.
161SATC The Newspaper in America. Singer Society for Visual Aids, Inc.
6103 The Newspaper Reporter. Singer Society for Visual Aids, Inc.

Books:

Emery, Ault and Agee. Introduction to Mass Communications. Dodd, Mead & Co., 1970.
Mott, George and Others. New Survey of Journalism. Barnes and Noble, Inc., 1970.
Westdal, Lockerbie. Success in Writing. Addison-Wesley Publishing Co., 1970.

MATERIALS AND RESOURCES: (Continued)

Other Resources:

Local newspapers.
Library books - fiction and fact.
Staff members of local newspapers and school newspaper.
Guidance and career education personnel.

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"WHAT'S MY LINE?"
(AN ORAL PRESENTATION OF ACTIVITIES IN VARIOUS OCCUPATIONS IN WHICH STUDENTS ARE ENGAGED)

GRADE: 12
SUBJECT: ENGLISH

BROAD OBJECTIVE:

To acquire knowledge of characteristic activities associated with a number of occupations.

PERFORMANCE OBJECTIVES:

1. To gain a broad understanding of many occupations.

2. To be able to use factual information about occupations to make vocational choices.

3. To know the classification of occupations in our society.

4. To understand the nature of work and the motive for work.

5. To be able to convey in concise, effective language the importance of work.

LESSON PROCEDURE:

1. Each student who is presently employed or who has participated in a summer work program will have an opportunity to present a demonstration of some skill or some phase of his employment.

2. Listening students will formulate questions concerning other phases of the work, and the speaker will answer these questions.

3. Students will compile a list of words which seem to be associated with each speaker's employment. These words will be recorded on a poster labeled Vocabulary For Careers and will be used in appropriate vocabulary activities.

4. Employers of the student speakers may be invited to give additional information about the various occupations and to re-enforce the student speakers' remarks.

5. Students will have an opportunity to do individual research. They may share their findings through documented papers and/or oral reports.

6. Students will compile a list of employment opportunities that are available for students in this area - some may wish to apply for some of the part-time or summer jobs.

LESSON PROCEDURE: (Continued)

7. Review methods of research and letter writing.

MATERIALS AND RESOURCES:

Desk Top Careers. Careers. Largo, Florida.

Occupational Handbook. Department of Labor, Bureau of Labor Statistics.

SRA O.E.K. Kit

Books:

Tanner, et. al. English 12. Addison Wesley Publishing Co.
Wiksell, Wesley. Do They Understand You? The Macmillan Co., 1967.

Resource People:

Student employees
Employers
Career Program Personnel
Guidance Counselors

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"EXPLORING OPPORTUNITIES FOR CAREERS IN NEWSPAPER AND MAGAZINE ADVERTISING"

GRADE: 12
SUBJECT: ENGLISH

BROAD OBJECTIVE:

To become familiar with opportunities for careers in newspaper and magazine advertising.

PERFORMANCE OBJECTIVES:

1. To explore the career opportunities in the advertising field and to discover the qualifications for advertising personnel.

2. To be able to evaluate newspaper and magazine advertisements for promotional effectiveness and consumer reaction.

3. To understand and evaluate propaganda devices that are used in advertising.

4. To be able to compose and lay out effective advertising copy.

LESSON PROCEDURE:

1. Make a chart of career opportunities and qualifications for advertising personnel.

2. Study newspaper and magazine advertisement technique and placement.

3. Study and discuss the value of advertising in mass communication.

4. Collect advertisements from newspapers and study the propaganda devices that are used. Make a collage of these advertisements.

5. Delete loaded words and phrases in advertisements or substitute less effective words and phrases to discover the impact of the right word in the right place.

6. Study the effect of color in advertisements. Make photostatic copies of colorful advertisements and study the difference in eye appeal.

7. Compile a set of questions pertaining to advertising careers and seek the answers from resource personnel or from research activities.

8. Invite local advertising managers or consultants to discuss opportunities in the advertising field.

LESSON PROCEDURE: (Continued)

9. Observe individually or in groups advertising personnel in local positions.

10. Compose copy for one or two effective advertisements and make lay out for each.

MATERIALS AND RESOURCES:

Newspapers:

The Roanoke Times
Richmond Times Dispatch
Radford News Journal
Other newspapers as needed.

Current Magazines

Books:

Alger, Ralph. The Road To Better English. Cambridge Book Co., Bronxville, New York.
Brewton, Kinnick, et. al. Using Good English. Laidlaw Brothers, Puglishers.
Emery, Ault and Agee. Introduction to Mass Communications. Dodd, Mead and Co., 1970.

Filmstrips:

Writing Careers in Advertising. 406, Educational Dimensions Corporation.

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"WHO AM I? WHAT CAN I DO?"
A SEARCH FOR IDENTITY IN THE WORLD OF WORK

GRADE: 12
SUBJECT: ENGLISH

BROAD OBJECTIVE:

To discover the individual's potential for success in a particular career and to assume the responsibility of developing that potential.

PERFORMANCE OBJECTIVE:

1. To become knowledgeable about various vocations.

2. To use a logical approach in critical thinking.

3. To evaluate one's self in terms of talent, personality, and objectives in regard to careers and to reach sound conclusions.

4. To synthesize and organize pertinent material for decision making.

LESSON PROCEDURE:

1. View and study filmstrips, "The World of Work", "An Introduction to Vocations", "Finding A Career", and "What Can You Do?".

2. Make a chart of three or four careers that interest you and list your personal characteristics that would be helpful in each career.

3. View the filmstrips, "Job Shopping" and "Working for Someone Else", then go shopping (visit as many places of employment as you can - be sure to get permission from the managers), observe the working conditions in these locales, talk to employees about the work, and write a report of each visit and each interview.

4. Find out all you can, by reading and observing, about the careers in which you are interested. Keep a folder of information that you gather.

5. Take standardized test (Ability and Interest) and have the guidance counselor interpret these in terms of your career choice.

6. Compile a list of vocabulary words related to your career interests and to the personal qualifications necessary for that career.

LESSON PROCEDURE: (Continued)

7. Study guidance material to find prerequisites for further study in your chosen career.

8. Write a short paper on why you are interested in a particular career.

9. Talk over your vocational plans with your parents and others who can give you insight.

10. Prepare questions for an interview with people who are engaged in work in which you are interested. Interview as many as you can. Keep notes on each interview and make comparisons.

11. If it is possible, secure part-time employment in the field in which you are interested or in a related field. Evaluate your interest and your accomplishments in this endeavor.

12. Seek information on educational opportunities in the field and become informed about requirements and advancements.

MATERIALS AND RESOURCES:

Filmstrips:

Finding Your Job
X340E "Getting A Better Job". Eye Gate House.
X340F "Finding A Career". Eye Gate House.
X340C "Job Shopping". Eye Gate House.
X340D "The Job Interview". Eye Gate House.
X340A "Working For Someone Else". Eye Gate House.
X340B "What Can You Do?". Eye Gate House.
Vocational Decisions
C788-2 "The World of Work". Eye Gate House.
C788-1 "An Introduction to Vocations". Eye Gate House.
C788-3 "Counselling in Vocational Decisions". Eye Gate House.

Occupational Handbook. Department of Labor.

Desk Top Careers. Careers. Largo, Florida.

Resource People:

Guidance and career program personnel.
Managers and personnel managers at locales.
Workers who are presently employed.

Current magazines.

Library books appropriate for individual needs.

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"CHAUCER'S PILGRIMS ARE ALIVE AND DOING WELL"
CAREERS OF CHAUCER'S TIME ARE STILL IN STYLE

GRADE: 12
SUBJECT: ENGLISH

BROAD OBJECTIVE:

To understand the permanence of vocations and professions.

PERFORMANCE OBJECTIVES:

1. To understand the growth of career opportunities from Chaucer's time to the present.

2. To realize the diversity of job opportunities in today's society.

3. To become better informed of advantages and disadvantages of certain occupations and professions.

LESSON PROCEDURE:

1. Make a list of occupations and professions of the Canterbury Pilgrims. Place an asterisk by each one that is a part of modern society.

2. Discuss the pilgrims' personality in relation to their occupations or professions.

3. Interview people in the community with occupations and professions comparable to those of Chaucer's Pilgrims to discover personal qualifications and appitudes that are necessary for success in various careers today.

4. Make a chart or bulletin board showing how various medieval occupations and professions have become diversified and how modern science and technology affect the world of work.

5. Discuss the educational and vocational opportunities that are available for the various fields of work.

6. Use role playing (a pilgrimage of modern workers) to emphasize the importance of various occupations and the interdependence of the vocations.

MATERIALS AND RESOURCES:

Book:

Chaucer, Geoffrey. The Canterbury Tales in England in Literature. Scott Foresman and Company, 1973.

MATERIALS AND RESOURCES: (Continued)

Resource People:

Local merchant, priest, lawyer, teacher or scholar, sailor, farmer, cook or chef, minister, doctor, and others that can give insight.

MATHEMATICS

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"DRAFTSMAN"

GRADE: 8
SUBJECT: ALGEBRA I - PART I

BROAD OBJECTIVE:

Mathematics is important in the field of drafting.

PERFORMANCE OBJECTIVE:

1. The student will learn how a designer produces a scale drawing.

2. The student will become aware of the use of geometric figures in design.

LESSON PROCEDURE:

1. The student will become familiar with simple scale drawings and construction of geometric figures.

2. A designer will speak to the class concerning basic techniques of original drawings of a proposed structure. He will also relate to the class specifics of his job. The students will be interested in the nature of his job, required training, salaries, and outlook of designers.

3. This unit will include a project that requires each student to make a scale drawing of a miniature golf course. Eighteen holes will be set in a 150' square. The student can use any geometric design for the greens.

4. Each project will be displayed so that others can appreciate the students creativity.

MATERIALS AND RESOURCES:

Textbook:

Junior High School Mathematics. Laidlaw Brothers, 1968.

Poster board, compass, straight edge, protractor, magic markers

Resource Person:

A designer

Films:

Educational Motion Pictures:
62809 Measuring. 16 minutes BW-1970E
39904 Measurement. 11 minutes CO/BW 1966 El-JH-CORE

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"CONTRACTING BUSINESS"

GRADE: 8
SUBJECT: MATH 8; ALGEBRA I - PART I

BROAD OBJECTIVE:

Mathematics is essential to the contracting business.

PERFORMANCE OBJECTIVE:

Students will recognize the importance of area and perimeter in the business of selling wall and floor coverings.

LESSON PROCEDURE:

1. The students will do exercises that relate to area and perimeter of rectangles.

2. An individual who sells carpet, fencing, paneling and wall paper will explain how to measure homes for these items. He will also explain the qualifications and working conditions of his job.

3. As a project the students will decide the amount of carpet, wall paper, paint, and paneling needed for various rooms of a six room house. Specific dimensions will be given for each room.

MATERIALS AND RESOURCES:

Textbook:

Junior High School Mathematics. Laidlaw, Brothers 1968.

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"PERCENTAGE"

GRADE: 8
SUBJECT: ALGEBRA I - PART I

BROAD OBJECTIVE:

Percent is necessary in many careers.

PERFORMANCE OBJECTIVE:

The student will become familiar with percent usage in banking and real estate.

LESSON PROCEDURE:

1. The students will learn to compute interest and work single reading problems relating to percents.

2. A local banker will be invited to briefly explain types of loans, types of savings accounts, how stock is obtained, how interest is computed, and a resume' of his duties.

3. A real estate agent will be invited to speak to the class about the role of percentages in selling property and commission distribution.

4. The class will do a sample problem to determine the amount of money the seller, listing agent, selling agent, sales manager, broker, and agency will receive when a house is sold.

MATERIALS AND RESOURCES:

Textbook:

Junior High School Mathematics. Laidlaw Brothers, 1968.

Resource People:

A banker
A real estate agent

Filmstrips:

SVE Educational Filmstrip: Interest, Banking and Investing. A539-4
Buying and Selling. A539-2

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"RATIONAL NUMBERS"

GRADE: 8
SUBJECT: MATH 8; ALGEBRA I - PART I

BROAD OBJECTIVE:

Many careers involve a working knowledge of rational numbers.

PERFORMANCE OBJECTIVE:

The students will become familiar with the use of rational numbers that relate to consumer buying, piece goods, and carpentry supplies.

LESSON PROCEDURE:

1. The unit will begin after the student understands the four basic operations on rational numbers. The student can adequately manipulate these numbers and are aware of how rational numbers relate in size to each other.

2. Four stations will be set up in the classroom:

   The grocery store will contain products that are alike but prices and volumes differ. (Ex. Three cans of peas that differ in size and price).

   The fabric shop will contain swatches of fabric priced by the yard and piece. Ribbon will be priced by the foot, yard, and inch.

   The carpenters shop will include pieces of wood priced by the foot, wrenches, nails, and sockets.

   The students will use these stations to play "The Shoppers Game". Rules for the game: Three persons will act as salespeople in the shops. Three persons will by buyers. The buyer will spin a classroom quiz type wheel to get his buying instructions.

   Sample problem: Buy 21/2 yds. of the most expensive fabric from the fabric shop. After the purchase and tax, how much change would one receive from a ten dollar bill?

   The seller tries to outwit the buyer during the transaction. If he succeeds and knows the correct answer, the seller gets a point. If he fails and the buyer knows the right answer, he wins the point. A team wins when five points are accumulated.

MATERIALS AND RESOURCES:

Textbook:

Junior High School Mathematics. Laidlaw Brothers, 1968.

Grocery containers
Pieces of fabric and ribbon
Wrenches, sockets, nails, pieces of wood
Classroom quiz wheel
Play money

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"SALES PERSONNEL"

GRADE: 8
SUBJECT: MATH 8

BROAD OBJECTIVE:

To develop student understanding of the math skills needed by sales personnel.

PERFORMANCE OBJECTIVE:

Each student will be able to determine the correct amount of change to be given back to a person who makes a purchase.

LESSON PROCEDURE:

A cashier in a store or a sales person from a store will come in and speak to the class about uses of math by sales personnel, proper procedures for making sales, and in general, the mechanics of being a sales person and meeting the public.

After the resource person has talked to the class, there will be a discussion of the procedures used to make change. This discussion will center around how a cashier adds rather than subtracts to determine how much change a person should receive back after a purchase. The student practice will include having each pupil act as a cashier, using play money and change, and determine for himself the amount of change a person will receive back after a purchase.

MATERIALS AND RESOURCES:

Resource Person:

Cashier or sales person from a store.

Play money and change

Text:

Eicholz, O'Daffer, Brumfiel, and Shanks. Basic Modern Mathematics. Addison-Wesley Publishing Co., Reading, Mass., 1965.

Film:

"Professional Selling Practices; Personalize Your Presentation". Bureau of Teaching Materials, State Department of Education, Richmond, Virginia 23216.

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"ESTIMATION"

GRADE: 8
SUBJECT: MATH 8

BROAD OBJECTIVE:

To develop student understanding of the importance of estimation in various occupations.

PERFORMANCE OBJECTIVE:

The student will be able to estimate to the nearest multiple of 10, 100, and 1000 and be able to identify occupations involved with estimating.

LESSON PROCEDURE:

The students will be introduced to estimation through class discussion and lecture. One presentation will deal with estimating the number of marbles or beans in a jar. Another project will be involved with guessing the price of certain objects, such as cars, tables, lamps or houses. The student will then be taught how to estimate numbers to the nearest multiples of 10, 100 and 1000.

After the students understand estimation and how it relates to math, then a resource person such as a house builder, plumber, professional mover, or any other person who makes bids to estimate the price of their services, will come in and talk to the students about their job. This resource person should relate to the students the uses of math in his job, and how estimation related to his services.

MATERIALS AND RESOURCES:

Some type of container and beans or marbles.

Text:

Eicholz, O'Daffer, Brumfiel and Shanks. Basic Modern Mathematics. Addison-Wesley Publishing Co., Reading, Mass., 1965.

Resource Speakers:

Building contractor, plumber, electrician, or mover.

Prices of various objects used in class discussions.

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"LANGUAGE OF MATHEMATICS TO COMMUNICATE"

GRADE: 8
SUBJECT: MATH 8; ALGEBRA I, PART I

BROAD OBJECTIVE:

Every individual needs the language of mathematics to communicate.

PERFORMANCE OBJECTIVE:

The student will become aware of the necessity of numbers in his environment.

LESSON PROCEDURE:

1. This activity will be administered during the first month of school on Friday to eighth grade math students who are taking Math 8 and Algebra I, Part I.

2. The students will take ten minutes and list the ways numbers are involved in his daily activities. The student will keep this list as part one of this project.

3. As an assignment the students will be asked to keep a detailed activity log (being very specific as to when, where, and how many) over a weekend.

4. On Monday, the student will write a brief paper explaining his weekend activities. He must be specific and avoid the use of numbers.

5. After his attempt to write the paper, the student will revise his list in part one.

MATERIALS AND RESOURCES:

None necessary

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"SPORTS STATISTICIAN"

GRADE: 8 AND 9
SUBJECT: MATH 8 AND 9, ALGEBRA I, PART I

BROAD OBJECTIVE:

To develop student understanding of the importance of math to a sports statistician.

PERFORMANCE OBJECTIVE:

Each student will be able to identify and perform mathematical operations needed to compute statistics for athletic contests.

LESSON PROCEDURE:

At the beginning of this lesson, the teacher will have a sports statistician from a local newspaper come to speak to the class about his job and how he obtains data and computes statistics for a basketball game. After this presentation by the resource speaker, there will be a class discussion of and student practice in computing statistics for athletic contests.

The teacher will set aside one day each week in which he will bring to class all the data from the previous week's basketball games and allow the students to work up the statistics for the games. Some of the statistics which can be figured in basketball are field goal percentage, free throw percentage, team percentages, individual player's point averages, team point averages, team defensive average, and many others. This lesson could be used for football and baseball also, and have the students work with data related to these sports.

As a final activity for this unit each student will have to watch some type of athletic contest and collect and analyze his own data.

MATERIALS AND RESOURCES:

Resource Speaker:

Local newspaper sports statistician or T V or radio sportscaster.

Data from sports contests.

Charts used to record data for a sports contest.

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"TRANSPORTATION"

GRADE: 8 AND 9
SUBJECT: MATH 8 AND 9, ALGEBRA I, PART I

BROAD OBJECTIVE:

To develop student understanding of the uses of math by truck drivers and other transportation related occupations.

PERFORMANCE OBJECTIVE:

Each student will be able to compute miles per gallon of gas, wages earned, rate, time, and distance and identify their importance in jobs related to transportation.

LESSON PROCEDURE:

At the beginning of this lesson, the teacher will introduce the students to rate, time, and distance and have them solve problems related to these areas. The students will also be taught how to figure the number of miles per gallon of gasoline a car will go and how to find weekly and monthly salaries of hourly wage personnel.

After the students have completed this lesson on computing rate, time, distance miles per gallon, and hourly wage salaries, then a truck driver or some other person involved in road travel will come to speak to the class. This resource speaker will explain to the class the uses of math in his occupation, the procedures of his job, and the qualifications and abilities needed to obtain a job in his field.

MATERIALS AND RESOURCES:

Maps and rulers

Resource Speaker:

Truck driver, taxi driver or salesman

Text:

Eicholz, O'Daffer, Brumfiel and Shanks. Modern General Mathematics. Addison-Wesley Publishing Co., Reading, Massachusetts, 1965.

Film:

"Truck Driver", #54108. Bureau of Teaching Materials, State Department of Education, Richmond, Virginia 23216.

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"VACATION TRIP"

GRADE: 8 AND 9
SUBJECT: MATH

BROAD OBJECTIVE:

1. To develop student awareness of the importance of math in planning leisure time activities.

2. To provide student experience in planning a vacation trip.

PERFORMANCE OBJECTIVE:

Each student will be able to plan a budget for a trip and properly prepare a financial statement of expected expenses.

LESSON PROCEDURE:

Each student will bring to class a poster or an advertisement of some place he would like to visit in the United States. This place must be at least 600 miles away and not more than 1000 miles. After choosing the destination, the student will plan a trip there. The trip must last for at least six days and five nights. The vacation budget will be planned for two people taking the trip.

After choosing the destination, each student will chart his course on a map. Each student should have a map illustrating the route.

The teacher will make out a form that the students will complete as they work on their project. This form will involve determining the most economical and efficient method of transportation, the cost of lodging and food, etc.

After each student has completed his planning for the trip, he will make a brochure explaining the details of his trip. This brochure will include relevant information from the trip form completed by the student.

As a final activity, the students will display and explain their brochures in the class.

MATERIALS AND RESOURCES:

1. Newspapers and magazines - to obtain ideas, and posters of places.

2. Hotel brochures and rates - can be obtained from local hotels - preferrably nationally known hotels, such as Holiday Inn, Marriott, Ramada, etc.

MATERIALS AND RESOURCES: (Continued)

3. Maps of United States - can be obtained from service stations - best source is probably the Automobile Association of America(AAA).

4. Rulers - for determining distances on the map.

5. Train rates and schedules.

6. Plane rates and schedules.

7. Bus rates and schedules.

8. Menus - from hotel restaurants preferrably.

9. The Chamber of Commerce.

10. Vacation trip form - attached.

VACATION TRIP

I. 1. Destination _____
2. Departure Date _____
3. Arrival Date _____
4. Distance to be traveled
a. One way _____ miles
b. Round trip _____ miles

II. Transportation
1. Plane
a. Cost of round trip ticket $_____
b. Departure time _____
c. Arrival time _____
d. Total length of flight _____ hrs. _____ min.
e. Point of departure _____
f. Point of arrival _____
g. Rent-A-Car
A. Cost per day $_____ per mile _____¢
B. Number of days will use car _____
C. Approximate number of miles will travel in car___
D. Approximate total cost of rental car $_____

2. Train
a. Cost of round trip ticket $_____
b. Departure time _____
c. Arrival time _____
d. Total length of train trip _____ hrs. _____ min.
e. Point of departure _____
f. Point of arrival _____
g. Expected Rent-A-Car cost $_____

3. Bus
a. Cost of round trip ticket $_____
b. Departure time _____
c. Arrival time _____
d. Point of departure _____
e. Point of arrival _____
f. Total length of bus trip _____ hrs. _____ min.
g. Expected Rent-A-Car cost $_____

4. Car

a. Miles per gallon gasoline car obtains _____
b. Number of miles to be traveled _____
c. Number of gallons of gas to be used _____
d. Cost per gallon gas _____¢
e. Total gas cost $_____
f. Availability of gas good _____ fair _____ poor ____
g. Total cost of running car (approximately 15¢ per mile for gas and wear and tear) $_____

5. Mode of transportation will use _____
Why? _____
_____

III. Motels (must stay in at least two different ones)

a. Name and location of motels
1. _____
2. _____

b. Telephone numbers (for reservations - include area codes)
1. _____ 2. _____

c. Restaurant with motel
1. _____ 2. _____

d. Cost per day of motel (double room)
1. $_____ 2. $_____

e. Number of nights will spend there
1. _____ 2. _____

f. Total cost of each motel
1. $_____ 2. $_____

g. Total motel cost for trip
$_____

IV. Food

a. Number of breakfasts _____
b. Number of lunches _____
c. Number of dinners _____
d. Approximate cost of breakfast (for two) $_____
e. Approximate cost of lunch (for two) $_____
f. Approximate cost of dinner (for two) $_____
g. Cost of breakfast for trip $_____
h. Cost of lunch for trip $_____
i. Cost of dinner for trip $_____
j. Total cost of meals on trip $_____

V. Places of interest to visit on trip (at least three)
1. _____
2. _____
3. _____

VI. Miscellaneous expenses (entertainment, snacks, etc.)
$_____

VII. Total cost of entire trip $_____

Amount of trip can charge on credit card
(gas, possibly motel) $_____

Amount of cash will need $_____

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"BUYING AND SELLING STOCKS"

GRADE: 9
SUBJECT: MATH 9 AND ALGEBRA I, PART I

BROAD OBJECTIVE:

To develop student understanding of the mechanics of buying and selling stocks.

PERFORMANCE OBJECTIVE:

Each student will be able to look in the newspaper listing of stocks and determine the worth of a particular stock.

LESSON PROCEDURE:

As an introduction to this lesson there will be a short explanation by the teacher on what stocks are and how their worth is figured. After the teacher's lesson, a stock broker will be invited to speak to the class on investing money, how stocks are bought and sold, local stocks of interest, what to look for when buying stocks, and the duties and responsibilities of his job.

As a final activity for this unit, each student will be given $1000 play money to buy stocks with from the teacher. The student must buy at least two different stocks and no more than three, and at least five shares of each. To determine the current prices of the stocks and which stocks they would like to buy, the students will look in the newspaper listing of stocks. After the students have purchased their stock, they must follow the ups and downs of their stock every day in the newspaper. Each pupil will keep a daily log on the price of his stock and how much money he is making or losing.

This project will last for four weeks. At the end of that time, each student must determine how much money they made or lost on their stock and if they would like to keep or sell their stock. Every stock used by the students will be put on the blackboard along with how much money was made or lost on the stock, so that everyone can see how stocks rise and fall.

MATERIALS AND RESOURCES:

Newspapers
Daily log sheet for each person.

Resource Person:

Stock Broker

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"MATHEMATICS FOR COMPUTERS"

GRADE: 9
SUBJECT: ALGEBRA I

BROAD OBJECTIVE:

Knowledge of mathematics is necessary for many careers.

PERFORMANCE OBJECTIVE:

The computer programmer uses mathematics.

LESSON PROCEDURE:

1. Class should study Digital Computer Methods as a part of the regular curriculum or as an enrichment unit.

2. Invite a speaker from the computer science department of a university, or a computer programmer from a local industry.

3. Show a film on computers, or plan a field trip to the data processing department of a local business.

MATERIALS AND RESOURCES:

Resource Person:

Computer programmer or computer science speaker.

Film:

"Computer Revolution", #19709. Bureau of Teaching Materials, State Department of Education, Richmond, Virginia 23216.

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"MACHINIST"

GRADES: 9 - 12
SUBJECT: ALGEBRA

BROAD OBJECTIVE:

Student awareness of mathematical abilities needed in some fields of industry.

PERFORMANCE OBJECTIVE:

To enable the student to recognize the mathematical competence needed by a machinist in the areas of his work.

LESSON PROCEDURE:

This will not deal with one particular aspect of algebra but with the course as a total. A resource person who is a machinist will be invited to tell of his mathematical background, and how he uses the different parts of algebra in his work as a machinist.

MATERIALS AND RESOURCES:

Resource Person:

Machinist

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"PYTHAGOREAN THEOREM"

GRADE: 9, 10, 11
SUBJECT: GEOMETRY

BROAD OBJECTIVES:

1. To help students gain some understanding of how Geometry (one small phase) can be used in a practical situation.

2. To correlate one of the concepts of Geometry to practical situations.

PERFORMANCE OBJECTIVE:

1. The student will be able to apply the Pythagorean Theorem to practical situations such as: (a) obtaining a square (90°) corner without the aid of a delicate instrument, (b) roughly being able to mark off a rectangle shaped area, (c) roughly being able to lay off foundation for building, (d) being able to check and see if some object is vertically alined, etc.

LESSON PROCEDURE:

To make students aware of the importance of the Pythagorean Theorem, each geometry class will spend a class period laying off square corners and checking to see when a pole is vertically alined. Each class will be broken down into groups of three students per group. Each group will have the following equipment to work with: (1) 9 short stakes, (2) a hammer, (3) one pole about 6 ft. in length, (4) up to 100 ft. of rope (cord, etc.).

Each group will erect at least two square corners with different leg measure for each corner. Also, they will erect one 6 ft. pole and make sure that it is vertically alined with the ground.

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"TRAVEL EXPENSE"

GRADE: 10
SUBJECT: MATH

BROAD OBJECTIVE:

In todays world people are constantly involved with travel.

PERFORMANCE OBJECTIVE:

The student will be able to plan a trip including the figuring of mileage, time, expenses, and incidentals involved with travel.

LESSON PROCEDURE:

Each student will select a spot somewhere in the continental U. S. where he would someday like to vacation. After selecting the spot, he will figure by use of maps the following:

1. Total distance traveled
2. Amount of gas
3. Time for travel
4. Lay-over
5. Food expense
6. Lodging expense
7. Incidental expenses

MATERIALS AND RESOURCES:

Maps
Atlas
Brochure of travel spots

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"PURCHASING A HOME"

GRADE: 10
SUBJECT: MATH 10

BROAD OBJECTIVE:

Most productive citizens are involved either directly or indirectly with the purchase of a home.

PERFORMANCE OBJECTIVE:

The student will be able to compute interest, amount of insurance, taxes, legal fees, and the amount of payment involved with the purchase of a home.

LESSON PROCEDURE:

Each student will select two houses which he would like to own.

He will research the areas of competitive prices, present interest rates, and current tax rates.

From the research he will compute the following:

(1) Price of house
(2) Amount of down payment
(3) Term of loan
(4) Interest rate
(5) Insurance needed
(6) Taxes
(7) Amount of payment

RESOURCES AND MATERIALS:

Resource People:

Real Estate Agent
Loan Officer from Bank

Text:

McNelly, A. E.; Olson, Milton C. Business and Consumer Arithmetic. 6th Edition. Prentice-Hall, 1969.

Materials:

Payment Book

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"CHECKING ACCOUNTS"

GRADE: 10
SUBJECT: MATH 10

BROAD OBJECTIVE:

Most careers require people to have and be able to use a checking account.

PERFORMANCE OBJECTIVE:

The student will be able to write checks correctly, fill out deposit slips, balance a checking account, and coordinate reconciliation statements.

LESSON PROCEDURE:

To start the unit on checking accounts, a banker will be brought in to explain the uses and procedures of checking.

The students will then be shown how to write checks correctly and will write checks for common bills (electric, phone, etc.).

Next the students will be shown the proper method for filling out deposit slips.

After the check and deposit slips are filled out, the students will be given bank statements and reconciliation statements and show the relationship between the two and how each is read and computed.

As a final "check", the students will be given a case of written checks, deposits, and service charges and will be asked to balance the bank statement.

MATERIALS AND RESOURCES:

Samples of bank statements, checks, stubs, deposit slips, and reconciliation statements.

Text:

McNelly, A. E.; Olson, Milton C. Business and Consumer Arithmetic. 6th Edition. Prentice-Hall, 1969.

Resource Person:

Cashier or Banker

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"MAINTAINING A HOME"

GRADE: 10
SUBJECT: MATH 10

BROAD OBJECTIVE:

Regardless of a chosen career, people will be involved with the maintenance of some type of dwelling.

PERFORMANCE OBJECTIVE:

The student will be able to estimate the cost of specific maintenance repairs such as painting, wallpapering, carpeting, and tile.

LESSON PROCEDURE:

Each student will draw detailed floor plans of their homes.

From these plans, they will figure areas to be covered and the square footage.

From these figures the student will compute the cost of each covering.

MATERIALS AND RESOURCES:

Text:

McNelly, A. E.; Olson, Milton C. Business and Consumer Arithmetic. 6th Edition. Prentice-Hall, 1969.

Materials:

Samples of coverings and cost (from Central Lumber Company or The Carpet Shop).

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"LINEAR MEASURE"

GRADE: 10
SUBJECT: MATH

BROAD OBJECTIVE:

Everyone needs a working knowledge of the concept of linear measure.

PERFORMANCE OBJECTIVE:

The student will be able to apply the concept of linear measures to a job task.

LESSON PROCEDURE:

A group of students will draw a scale drawing of a football field.

From this drawing they will mark and line off the football field for Thursday and Friday night games.

MATERIALS AND RESOURCES:

1. 100 foot tape measure
2. Paint sprayer
3. Blueprint of field markings
4. Boundary markers

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"MATHEMATICS IN SPACE"

GRADE: 10, 11, or 12
SUBJECT: ALGEBRA II OR MATH ANALYSIS

BROAD OBJECTIVE:

Mathematics has applications in many fields.

PERFORMANCE OBJECTIVE:

The principles of analytic geometry are used by aerospace engineers.

LESSON PROCEDURE:

1. Class should have recently completed a unit on conic sections.

2. Invite an Aerospace Engineer to speak to the class on the applications of analytic geometry to his work. The training necessary and the opportunities open for his field should be covered, as well as other opportunities for a career in aerospace.

3. On the day following the speaker, the class might have an open discussion on the ideas and careers presented to them.

MATERIALS AND RESOURCES:

Resource Person:

Aerospace Engineer

Films:

"Space Probes", #37305. Bureau of Teaching Materials, State Department of Education, Richmond, Virginia 23216.
"Science in Space", #15612. Bureau of Teaching Materials, State Department of Education, Richmond, Virginia 23216.
"Father of Space Age - Robert Goddard", #43808. Bureau of Teaching Materials, State Department of Education, Richmond, Virginia 23216.

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"ARCHITECTURE"

GRADES: 10 - 12
SUBJECT: ALGEBRA II

BROAD OBJECTIVE:

Student awareness of mathematical abilities needed in certain specialized occupations.

PERFORMANCE OBJECTIVE:

To enable the student to recognize the mathematical background that is needed by a person in the field of architecture.

LESSON PROCEDURE:

This will not deal with one particular part of Algebra, and thus there will be no one particular unit or lesson to study. A resource person in the field of architecture will be asked to tell of his own mathematical background. He will be asked to relate some parts of his job to the parts of algebra and geometry that the students have had, and show where these are necessary in his work.

MATERIALS AND RESOURCES:

Resource Person:

Resource person in the field of architecture.

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"MATHEMATICS FOR LAND SURVEYORS"

GRADE: 11 or 12
SUBJECT: TRIGONOMETRY

BROAD OBJECTIVE:

An understanding of mathematics is essential to land surveyors.

PERFORMANCE OBJECTIVE:

Surveying a piece of land in order for a plot to be drawn requires knowledge of geometry and trigonometry.

LESSON PROCEDURE:

1. Class should have completed a unit on the solutions of triangles using trigonometry.

2. Invite a Certified Land Surveyor to speak. He might discuss the training necessary, positions available, and some representative problems he can solve using trigonometry and other mathematics.

3. Class should spend the day following the visit from the surveyor in solving typical problems confronted by the surveyor.

MATERIALS AND RESOURCES:

Resource Person:

Certified Land Surveyor

Material:

Sample plots to display.

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"MATHEMATICS FOR PSYCHOLOGISTS"

GRADE: 11 or 12
SUBJECT: ADVANCED ALGEBRA/TRIGONOMETRY OR MATH ANALYSIS

BROAD OBJECTIVE:

Mathematical statistics has applications necessary to psychologists.

PERFORMANCE OBJECTIVE:

The analysis of test data requires the use of mathematics.

LESSON PROCEDURE:

1. Administer a short achievement test to students, or use heights of class members.

2. Using the scores from the test, or the heights, have the students make a frequency distribution of the scores, find the mean, medians, and mode, standard deviation, etc.

3. Each student is to evaluate his score in relation to the scores of his classmates.

4. The local school psychologist will make a presentation on the use of mathematical statistics in his work, both in group and individual testing.

MATERIALS AND RESOURCES:

Short achievement test which can be administered by classroom teacher.

Resource Person:

Local school psychologist, or other psychologist from the area.

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"MATHEMATICIAN"

GRADE: 12
SUBJECT: MATH ANALYSIS OR ADVANCED ALGEBRA/TRIGONOMETRY

BROAD OBJECTIVE:

Mathematicians are necessary in many fields.

PERFORMANCE OBJECTIVE:

Mathematicians may seek employment either in theoretical or applied fields, as well as in closely related areas, such as the sciences or engineering.

LESSON PROCEDURE:

1. Have each student choose a career in which a knowledge of higher mathematics is necessary. Avoid duplication by having students indicate their choice from a list supplied by the teacher.

2. Students are to do research on their selection. This should include finding out the required training for the position, what type of work is involved, and the availability of employment. Students should write to sources of career information, and interview or write to someone in the field.

3. When all reports are complete, each student should present his findings to the class.

MATERIALS AND RESOURCES:

SRA Occupational Briefs, 259 E. Erie St., Chicago, Ill. 60611.

Occupational Outlook Handbook, U. S. Department of Labor and Statistics Bulletin 1700.

Careers Inc., Career Kit, Largo, Florida.

SCIENCE

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"ELECTRICITY AND RELATED JOBS"

GRADE: 8 AND 9
SUBJECT: SCIENCE

BROAD OBJECTIVE:

To give the student experiences which will make him more aware of electricity as a major form of energy and more aware of jobs related to it's production and distribution.

PERFORMANCE OBJECTIVE:

The student will be able to explain the law of magnetism.

LESSON PROCEDURE:

1. Student will read "Magnetism as a Force", p. 182-185 in Physical Science for Progress.
2. Student will view filmstrip, "Magnetism".
3. Student will view transparency, "Magnetism and Electricity".
4. Student will view film loop, "What is Magnetism?".
5. Student will perform Experiment One, p. 84, in lab manual, "Discovery Problems in General Science".

MATERIALS AND RESOURCES:

Book:

Pella, Milton O. Physical Science for Progress. Prentice-Hall. Englewood Cliffs, New Jersey, 1970.

Filmstrip:

"Magnetism". General Science.

Transparency:

"Magnetism and Electricity". Singer.

Film Loop:

"What Is Magnetism?" ICF Study Guide.

Lab Manual:

Eckert, Theodore E. Discovery Problems in General Science. College Entrance Book Company. New York, 1971.

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"ELECTRICITY AND RELATED JOBS"

GRADE: 8 AND 9
SUBJECT: SCIENCE

BROAD OBJECTIVE:

To give the student experiences which will make him more aware of electricity as a major form of energy and more aware of jobs related to it's production and distribution.

PERFORMANCE OBJECTIVE:

The student will be able to explain how a generator produces electricity.

LESSON PROCEDURE:

1. Student will read "Electricity and Magnetism", p. 367-368 in The Physical Sciences, Investigating Man's Environment.
2. Student will view filmstrip, "How Electricity Is Produced".
3. Student will view transparency, "Magnetism and Electricity".
4. Student will view film loop, "Magnetic Fields, part 2".
5. Student will perform Experiments One and Two, p. 91 in lab manual, Discovery Problems in General Science.

MATERIALS AND RESOURCES:

Book:

Fishe and Blecha. The Physical Sciences, Investigating Man's Environment. Laidlaw. River Forest, Illinois, 1971.

Filmstrip:

"How Electricity Is Produced". Singer.

Transparency:

"Magnetism and Electricity". Singer.

Film Loop:

"Magnetic Fields, part 2". ICF Study Guide.

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"ELECTRICITY AND RELATED JOBS"

GRADE: 8 AND 9
SUBJECT: SCIENCE

BROAD OBJECTIVE:

To give the student experiences which will make him more aware of electricity as a major form of energy and more aware of jobs related to it's production and distribution.

PERFORMANCE OBJECTIVE:

The student will make a report on one of the many job opportunities in the city-owned utility department of the City of Radford, Virginia.

LESSON PROCEDURE:

1. Teacher furnishes a list of utility job positions.

2. Student groups select one position for research. (Duplication should be avoided if possible)

3. Student group may research by interview and use of career and occupational briefs.

4. Student group reports orally to class.

MATERIALS AND RESOURCES:

Occupational and Career Briefs:

Careers. Institute for Research. Chicago, 1971. Research numbers 120, 113, 37.

Chronicle Occupational Briefs. Chronicle Guidance Publications, Inc. Morovia, New York, 1972. Numbers 21, 58, 109, 204, 259, 318, 395.

Resource People:

Will include the city manager, electrical superintendent, the utility service billing manager and the personnel working under them.

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"ELECTRICITY AND RELATED JOBS"

GRADE: 8 AND 9
SUBJECT: SCIENCE

BROAD OBJECTIVE:

To give the student experiences which will make him more aware of electricity as a major form of energy and more aware of jobs related to it's production and distribution.

PERFORMANCE OBJECTIVE:

Student will explain the relationship between magnetism and electricity by describing the effect of an electric current on a compass needle.

LESSON PROCEDURE:

1. Student will read "Electricity and Magnetism", p. 366-367 in The Physical Sciences, Investigating Man's Environment.
2. Student will view filmstrip, "Magnetism from Electricity".
3. Student will view transparency, "Magnetism and Electricity".
4. Student will view film loop, "Magnetic Fields, part 1".
5. Student will perform Experiment One, p. 87 in lab manual, Discovery Problems in General Science.

MATERIALS AND RESOURCES:

Book:

Fishe and Blecha. The Physical Sciences, Investigating Man's Environment. Laidlaw. River Forest, Illinois, 1971.

Filmstrip:

"Magnetism from Electricity". Singer.

Transparency:

"Magnetism and Electricity". Singer.

Film Loop:

"Magnetic Fields, part 1". ICF Study Guide.

Lab Manual:

Eckert, Theodore E. Discovery Problems in General Science. College Entrance Book Company. New York, 1971.

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"ELECTRICITY AND RELATED JOBS"

GRADE: 8 AND 9
SUBJECT: SCIENCE

BROAD OBJECTIVE:

To give the student experiences which will make him more aware of electricity as a major form of energy and more aware of jobs related to it's production and distribution.

PERFORMANCE OBJECTIVE:

The student will explain how electricity is measured and sold.

LESSON PROCEDURE:

1. Student will read "Electrical Potential", p. 196-200 in Physical Science for Progress.
2. Student will read "Ohm's Law", p. 202-206 in Physical Science for Progress.
3. Student will view filmstrip, "Ohm's Law of Electrical Resistance".
4. Student will view transparency, "Magnetism and Electricity" (section on Ohm's Law).
5. Student will view film loop, "Ohm's Law".
6. Student will read "Electric Power", p. 211 in Physical Science for Progress.
7. Student will view filmstrip, "Electrical Work, Energy, and Power".
8. Student will view transparency, "Magnetism and Electricity" (section on Watt's Law).
9. Student will listen to a taped explanation of the electrical rate schedule. The tape will be made in an interview with the Utility Service Billing Manager of the city.
10. Student will solve problems in electrical calculations from p. 92, 93, 94 in the lab manual, Discovery Problems in General Science.

MATERIALS AND RESOURCES:

Book:

Pella, Milton O. Physical Science for Progress. Prentice-Hall. Englewood Cliffs, New Jersey, 1970.

MATERIALS AND RESOURCES: (Continued)

Filmstrips:

"Ohm's Law of Electrical Resistance". Singer.
"Electrical Work, Energy, and Power". Singer.

Transparency:

"Magnetism and Electricity". Singer.

Film Loop:

"Ohm's Law". ICF Study Guide.

Resource Person:

Utility Service Billing Manager

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"SEA FLOOR TOPOGRAPHY WITH EMPHASIS ON CAREER POSSIBILITIES"

GRADE: 9
SUBJECT: EARTH SCIENCE

BROAD OBJECTIVES:

1. To become familiar with the topographic features of the major ocean basins.

2. To become aware of occupations in the field of oceanography.

PERFORMANCE OBJECTIVES:

1. To be able to list and describe features of the sea floor.

2. To be able to read and use topographic maps.

3. To be able to construct relief models from topographic maps.

4. To be able to define and describe various jobs related to the field of oceanography.

LESSON PROCEDURE:

1. Introduce unit on sea floor topography with a film, such as "Earth Beneath the Sea" or "Oceanography - Science of the Sea".

2. Discuss features of ocean basins following text book.

3. Do activity in lab - Construction of a Topographic Profile of the Sea Floor.

4. Discuss topographic profile and how it is used to develop topographic maps.

5. Present basics of topographic maps, using the pamphlet, "Topographic Maps", put out by the U. S. Geological Survey.

6. Do lab exercise "Construction of a Bathymetric Map" from Laboratory Activities in Oceanography. Show film on Mapping.

7. Discuss how relief models can be made from topographic maps.

8. Construct models of the ocean basins with play dough.

9. Have class discussion on careers that use the techniques learned in class or are dependent on information about sea floor topography. (This can be woven into the unit or done separately)

10. Have an activity called "A Future in Marine Science". Set up learning centers around the room using Popeye comic book "Marine Science", filmstrips on Oceanography, filmstrip on

LESSON PROCEDURE: (Continued)

Marine Science, Career Education Cluster Books containing information about careers in oceanography, the tape "Oceanography as a Profession", and possibly a film such as "Challenge of the Oceans". Allow students to circulate to different areas.

11. Career Ideas:

underwater photography
submarine farming, mining
fishing industry (catching to processing)
research and development
government work
laboratories
oil companies
technical writing
weather and space research
ocean ecology
enfironmental protection
navigation
marine engineer
oceanography
map and chart making

MATERIALS AND RESOURCES:

Texts:

ESCP. Investigating the Earth. Houghton-Mifflin, 1968.
Leet and Judson. Physical Geology. Prentice-Hall, 1965.
Stokes and Judson. Introduction to Geology. Prentice-Hall, 1968.
Weyl, Peter K. Oceanography. John Wiley & Sons, Inc., 1970.

Lab Guide:

"Laboratory Studies in Oceanography". Directed Study developed by JoAnne McBath. Copies available on request.

Books:

Arnov, Boris. Homes Beneath the Sea. Little, Brown, 1969.
Briggs, Peter. Men in the Sea. Simon & Schuster, 1968.
Carlisle, Norman. Riches of the Sea. Rev. Ed. Sterling, 1971.
Cowen, Robert C. Frontier of the Sea. Rev. Ed. Doubleday, 1969.
Dugan, James. World Beneath the Sea. National Geographic Society, 1967.
Engel, Leonard. The Sea. Time, 1961.
Koralik, Vladimar. The Ocean World. Holiday, 1966.
Long, E. John, Ed. Ocean Sciences. Banta, 1964.
McKee, Alexander. Farming the Sea. Crowell, 1969.
Paradis, Adrian. Jobs to Take You Places Here and Abroad. McKay, 1968.
Piccard, Jacques. Seven Miles Down. Putnam, 1961.
Weiss, Malcolm E. Man Explores the Sea. Messner, 1969.

MATERIALS AND RESOURCES: (Continued)

Films:

Challenge of the Oceans. 13212
Deep Sea Trawler. 66009
Earth Beneath the Sea. 31812
Fresh Water from the Sea. 24805
Man Invades the Sea. 44112
Map Skills - Using Different Maps Together. 46005
Mapping the Earth's Surface. 55309
Mysteries of the Deep. 59312
Oceanography - Science of the Sea. 41605
Restless Sea. C & P 18012
What is Under the Ocean. 81708

Films are available from Bureau of Teaching Materials, State Department of Education, Richmond, Virginia.

Tapes:

"Oceanography as a Profession". Classroom World Productions 602-2, 1970. (Careers Unlimited)

Filmstrips:

"Landscapes of the Sea". New Portrait of Our Planet. Life.
"Marine Science". Career Education Clusters. Westinghouse Learning Press, 1972.
"Understanding Oceanography". Society for Visual Education, Inc.

Other:

Popeye Comic Book. "Marine Science Careers". King Features, 235 E. 45th Street, New York, New York 10017.
"Topographic Maps". U. S. Geology Survey. Department of Interior.

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"INVESTIGATING WEATHER PHENOMENA"

GRADE: 9
SUBJECT: EARTH SCIENCE

BROAD OBJECTIVES:

1. To acquire an understanding of weather phenomena.

2. To become familiar with occupations in the field of meteorology.

PERFORMANCE OBJECTIVES:

1. Be able to explain how the atmosphere participates in the water cycle through evaporation, condensation, and precipitation.

2. Be able to determine the relative humidity and dew point, given the temperature and vapor pressure.

3. Compute the height to which moist air must be lifted for condensation to occur, given the temperature and vapor pressure.

4. Distinguish between and be able to identify clouds and explain how they may be formed.

5. Explain how air masses are formed and how they may be modified to become stable or unstable.

6. Describe the life cycle of a frontal cyclone and the typical weather that it produces as its potential energy is converted to kinetic energy.

7. Be able to relate local weather changes to the spatial and temporal pattern of weather movement in general.

8. Be able to discuss the occupation of a meterologist and be familiar with related careers.

LESSON PROCEDURE:

1. Discuss the water cycle in the atmosphere.

2. Do investigation 8-2, "Investigating Evaporation".

3. Discuss evaporation controls, vapor pressure, relative humidity, condensation and adiabatic process.

4. Show film "Clouds Above".

5. Discuss cloud and precipitation types, their interrelation, and rain formation. (Display Cloud Identification Chart)

LESSON PROCEDURE: (Continued)

6. Show filmstrip on Weather.

7. Do investigation 8-9, "Weather Watch".

8. Collect weather maps and forecasts from newspapers.

9. Show films, "Reading Weather Maps" and "How Weather is Forecast". Discuss career of a meteorologist.

10. Discuss air masses and the development of cyclones.

11. Show film, "Operation Hurricane".

12. Perform Investigation 8-12, "Cumulus Cloud Formation".

13. Perform Investigation 8-13, "Investigating Weather Maps".

14. Show film "Weather Scientists" and conduct a class discussion afterwards on careers in weather science.

15. Invite a meteorologist to speak to the class. Allow time for students to ask questions about his job or related jobs.

MATERIALS AND RESOURCES:

Text:

BSCP. Investigating the Earth. Houghton Mifflin, 1968.

Books:

Atkinson, Bruce W. The Weather Business.
Batton, Lorris J. Harvesting the Clouds. Doubleday, 1969.
Career Opportunities: Ecology, Conservation, and Environmental Control. Ferguson, 1971.
Gaer, Joseph. Everybody's Weather. Rev. Ed. Lippincott, 1957.
Gallant, Roy A. Exploring the Weather. Rev. Ed. Doubleday, 1969.
Halacy, D. S. Weather Changers. Harper, 1968.
Lane, Frank Walter. The Elements Rage. Chilton Books, 1965.
Navarra, John G. Wide World Weather. Doubleday, 1968.
Ross, Frank. Weather. Lothrop, 1965.
Tannehill, Ivan Ray. The Hurricane Hunters. Dodd, 1955.
Thompson, Philip D. Weather. Time-Life Series. Time-Life Books, 1958.
Wells, Robert. Science Hobby Book of Weather Forecasting. Lerner, 1971.
Winchester, James H. Hurricanes, Storms, and Tornadoes. Putnam, 1968.

Films:

Air All About Us. 51704 CORF
Atmosphere and Its Circulation. 02604 EBF

Films: (Continued)

Clouds Above. 35105 BAILEY
How Weather is Forecast. 00805 CORF
Hurricane Watch. 24508 USWB
Operation Hurricane. 22909 USWB
Origins of Weather. 04409 EBF
Reading Weather Maps. 96708 CORF
Story of a Storm. 82504 CORF
Thunder and Lightening. 58704 MGHT
Tornado. 24909 USWB
Unchained Goddess. 23312 C&P
Weather Scientists. 67008 UEVA
Weather Station. 33204 MGHT

Films are available from Bureau of Teaching Materials, State Department of Education, Richmond, Virginia.

Chart:

Cloud Identification Chart

Posters:

Newton, David E. "Weather". J. Weston Walch, 1968.

Transparencies:

"Earth - Science - Weather". 3M Company.

Filmstrips:

"Understanding Weather and Climate". SVE.
"Weather". Studies in Science, Set II. Walt Disney Educational Materials Co. (Includes Records)

Career Summaries:

"Meteorologist". Career Summary S-84. Largo, Florida.

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"STUDY OF THE SOLAR SYSTEM"

GRADE: 9
SUBJECT: EARTH SCIENCE

BROAD OBJECTIVES:

1. To develop the idea of the isolated and generally empty nature of the solar system.

2. To study the individual members of the solar system.

3. To understand the fundamentals of planetary motions according to the law of gravitation.

4. To present modern theories on the origin of the solar system.

5. To provide information on careers in space related fields.

PERFORMANCE OBJECTIVES:

1. To be able to describe verbally or graphically the isolation and relative emptiness of the solar system.

2. To be able to list some known physical characteristics of the various planets and give some reasons for their differences.

3. To be able to describe the general mechanics of the solar system and relate the law of gravitation to planetary motion.

4. To be able to describe the physical characteristics and dynamic properties of the minor members of the solar system.

5. To be able to contrast different theories on the origin of the solar system.

6. To be able to list and describe some careers in the field of space science.

LESSON PROCEDURE:

1. Discuss planetary motion. Do activity with figure 23-1.

2. Show film on Planetary Motion.

3. Do Investigation 23-2, "Motions and Phases of Planet X. Discuss development of knowlege of planetary motion and Kepler's laws of motion.

4. Do Investigation 23-4, "Creating a Model of the Solar System."

LESSON PROCEDURE: (Continued)

5. Discuss major differences between planets, asteroids, meteors and comets. Show film, "Asteroids, Comets and Meteorites".

6. Show filmstrip, "Solar System".

7. Discuss possibilities of life on other planets.

8. Shoe film, "Mars and Beyond".

9. Discuss theories of the origin of the Solar System.

10. Divide class into teams of 3 students. Let each student draw a space-related career out of a hat. The topic should be kept secret and researched by each team. Then the team of 3 students will take turns posing as persons in the specific career, while the rest of the class serves as a panel in a classroom version of "What's My Line". In this way, knowledge of various careers in space science will be presented to the class.

MATERIALS AND RESOURCES:

Text:

ESCP. Investigating the Earth. Houghton-Mifflin, 1968.
Abel. Astronomy.

Books:

Alexander, Tom. Project Apollo. Harper, 1964.
Americans in Space. American Heritage, 1965.
Anderson, Paul. The Infinite Voyage. Crowell-Collier, 1969.
Arnold, Walter M. (Ed.) Career Opportunities for Technicians and Specialists: Engineering Technicians. J. G. Ferguson Publishing Co., 1969.
Asimor, Isaac. Environments Out There. Abelard - Schuman, 1967.
Berganst, Erik. Space Stations. Putnam, 1962.
Gallant, Roy A. Man's Reach into Space. Doubleday, 1964.
Gatland, Kenneth. Manned Spacecraft. MacMillan, 1967.
Newell, Homer E. Space Book for Young People. 3rd Ed. McGraw, 1968.
Pollack, Philip. Careers and Opportunities in Physics. Dutton, 1959.
U. S. Department of Labor. Occupational Outlook Handbook. 1972-73 Ed.
VonBraun, Wernher. Space Frontier. Holt, 1967.
Wells, Robert. Electronics, Key to Exploring Space. Dodd, 1964.

Films:

Asteroids, Comets and Meteorites. 29505 FA
Earth in Motion. 13101 EBF
Father of Space Age - Robert Goddard. 43808 Hearst

Films: (Continued)

How We Explore Space. 54608 FA
Mars and Beyond. 51012 Disney
Planetary Motion and Space Travel. 02906 Bailey
Planets Around Our Sun. 70408 UEVA
Space Science - An Introduction. 88809 CORF

Films are available from Burear of Teaching Materials, State Department of Education, Richmond, Virginia.

Filmstrips:

"Solar System". Studies in Science, Set II. Walt Disney Ed. Materials Co.

Career Summaries:

"Aircraft Mechanic". Career Brief 621 (5-80) Largo, Florida.
"Aerospace Engineer". Career Brief 002 (0-19.03_ Largo, Florida.
"Aerospace Engineering Technician". Career Summary, S-125 Largo, Florida.
"Astromomer". Career Summary S-99 Largo, Florida.
Career Pamphlets. Aerospace Industries Association of America, 15th and M Streets, N.W. Washington, D. C. 20005.

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"CAREERS IN EARTH SCIENCE: MINERALOGY"

GRADE: 9
SUBJECT: EARTH SCIENCE

BROAD OBJECTIVES:

1. To learn the properties of important minerals.

2. To relate the properties of minerals to the conditions under which they form.

3. To acquaint students with careers in mineralogy.

PERFORMANCE OBJECTIVES:

1. To be able to identify common minerals by their properties.

2. To be able to discuss the past environment of an area from its mineralogical make-up.

3. To be able to name careers in the field of mineralogy.

LESSON PROCEDURE:

1. Use filmstrip "Rocks and Mineralization" to introduce the properties used in mineral identification. In addition, the transparencies on Rocks and Minerals from 3-M may be used.

2. Give students Mineral Identification Keys and explain their use.

3. Spend several lab periods learning to identify common minerals in classroom.

4. Display posters of common minerals in classroom.

5. Display reference books on minerals.

6. Take a field trip to a local mineral museum or exhibit. Ask curator to speak to group about his job.

7. Ask gem cutter or jeweler to speak to class about how the properties of minerals are used in the jewelry business and about his work.

8. Discuss the formation of minerals under specific conditions using a chart of Bowen's Reaction Series.

9. Discuss the role of a geologist in interpreting the geologic history of an area from it's mineral make-up.

LESSON PROCEDURE: (Continued)

10. Show a film dealing with minerals, such as "Treasures of the Earth" which stresses conservation of valuable resources, or "Understanding Our Earth - Rocks and Minerals".

11. Discuss careers concerned with minerals. For example, have students think of the different types of jobs in the mining industry, such as: Mining engineering, Prospecting and exploration, Appraisal, Extraction - Open-pit mining, underground mining, drilling, Refinement of minerals, Marketing of minerals, Metallurgical research.

    Other related careers for discussion: Geophysicist, Petroleum Geologist, Jewelry Making and Gem Cutting, Museum Work, Metalworking, Petroleum Engineer, Petroleum Research.

MATERIALS AND RESOURCES:

Text:

ESCP. Investigating the Earth. Houghton-Mifflin, 1968.
Leet and Judson. Physical Geology. Prentice-Hall, 1965.

Books:

Baxter, W. Jewelry, Gem-Cutting, and Metalcraft. 3rd Ed. McGraw, 1966.
Bottley, E. P. Rocks and Minerals. G. P. Putnam's Sons, 1969.
Crescent Books. Gems and Jewels. Orbis Publishing Company, London, 1971.
Dana, E. S. Minerals and How to Study Them. 3rd Ed. Science Editions, John Wiley and Sons, Inc., New York, 1949.
Feirer, John L. General Metals. 3rd Ed. McGraw, 1967.
Gallant, Roy A. Discovering Rocks and Minerals. Natural History Press, 1967.
Gilbert, Miriam. Science Hobby Book of Rocks and Minerals. Lerner, 1971.
Loomis, F. B. Fieldbook of Common Rocks and Minerals. Putnam, 1923.
Ludwig, Oswald A. Metalwork: Technology and Practice. McKnight, 1969.
Pough, Frederick H. A Field Guide to Rocks and Minerals. 3rd Ed. Houghton Mifflin, 1960.
Slade, Edward. Metals in the Modern World. Doubleday, 1967.
U. S. Department of Labor. Occupational Outlook Handbook. 1972-73.

General References:

"Mining". Collier's Encyclopedia. Vol. 16.

Career Summaries:

"Geologists". SRA Occupational Brief. Science Research Association.

Career Summaries: (Continued)

"Mining Engineering". Director of Admissions, Colorado School of Mines, Golden, Col. 80401.
"Mining Engineer". Largo Career Summaries. S-90
"Penetrating New Frontiers With Mineral Engineers". The Society of Mining Engineers. 345 E. 47th Street, New York, New York 10017, 1969.
"Petroleum Engineer". Largo Career Summaries. S-210

Filmstrips:

"Metalworking - Manufacturing II". Set of 6 filmstrips. Acoustifone Career Exploration Series.
"Rocks and Mineralization". SVE (filmstrip and cassette)

Transparencies:

"Rocks and Minerals". 3 M Company, 1966.

Posters:

"Rocks and Minerals". J. Weston Walch, 1966.

Films:

Minerals Challenge. 65612, 1970. (information about the technology of finding and using minerals - good career information)
Rocks and Minerals. 41205, 1965.
Treasures of the Earth. 49304, 1966.
Understanding Our Earth - Rocks and Minerals. 09505, 1958.

Films are available from the Bureau of Teaching Materials, State Department of Education, Richmond, Virginia.

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"CHEMICAL CHANGES"

GRADE: 11, 12
SUBJECT: CHEMISTRY

BROAD OBJECTIVE:

To develop in the student an understanding of chemical changes, and to develop an awareness of how atoms react during chemical changes and how man uses his knowledge of chemical changes.

PERFORMANCE OBJECTIVE:

1. To be able to describe four types of chemical reactions.

2. Use chemical shorthand in working with chemical formulas and balance equations.

3. Explain the behavior of electrons in a chemical change.

4. Classify various compounds into categories known as acids, bases, salts and oxides.

5. Discuss how man uses his chemical knowledge in and for society.

LESSON PROCEDURE:

1. Show the film "Chemical Changes are About Us".

2. Devise a lecture about chemical changes and present it to the class, afterwhich a work sheet involving formula writing will be handed out for the students to complete.

3. Three labs involving chemical changes will be assigned to students. These labs will include (1) production and collection of oxygen (2) titration of an acid with a base (3) mixing of solutions to form a precipitate.

4. Play the tape "Chemistry As A Profession" and conduct classroom discussion afterwards.

MATERIALS AND RESOURCES:

Texts:

Cotton and Lynch. Chemistry: An Investigative Approach. Houghton Mifflin, 1970.
Duel, Metcalfe and Williams. Modern Chemistry. Holt, Rinehart and Winston, 1958.
Fisk and Blecha. The Physical Sciences. Laidlaw Brothers, 1971.

MATERIALS AND RESOURCES: (Continued)

Books:

Buler, Nelson. Experiments in Chemistry. Crowell, 1952.
Coulson, E. Test Tubes and Brakers; Chemistry for Young Experimenters. Doubleday, 1971.
Dillard, Clyde. Chemistry: Reactions, Structures and Properties. MacMillan, 1971.
Farago, Peter. Introduction to Chemistry. Arco, 1965.
Freeman, Ira. All About Wonders of Chemistry. Random, 1954.
Freeman, Mae. Fun With Chemistry. Random, 1962.
Gallant, Roy. The ABC's of Chemistry. Doubleday, 1963.
Goostray, Stella. Experiments in Applied Chemistry. Macmillan, 1966.
Occupational Outlook Handbook, 1972-73. U. S. Department of Labor.
Sackheim, George. Chemistry For the Health Sciences. Macmillan, 1973.
Vaczek, Louis. The Enjoyment of Chemistry. Viking, 1964.
Woodburn, John. Excursions Into Chemistry. Lippincott, 1965.

Films:

The following films may be acquired from The Bureau of Teaching Materials, State Department of Education, Richmond, Virginia:

"Chemical Change". 64208, 1960
"Chemical Changes All About Us". 64208, 1960
"Simple Changes in Matter". 17704, 1953

Filmstrips:

"Chemistry Series". McGraw Hill.
"The Chemistry of Iron". American Iron and Steel Institute.

Tapes:

"Chemistry As A Profession". Classroom World Productions, 1970.

Film Loops:

84-0231 "Reaction Rates". R. M. Whitney Roxbury Latin School. Cambridge, Mass. (NDEA), 1968.

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"NUCLEAR CHEMISTRY"

GRADE: 11 and 12
SUBJECT: CHEMISTRY

BROAD OBJECTIVES:

1. To develop an understanding of the nature, types, general properties and detection of radioactivity and to study representative uses of nuclear energy.

2. To gain an understanding of the emerging importance of nuclear chemistry in today's society and acquaint the student with careers relating to this field.

PERFORMANCE OBJECTIVES:

1. List the different types of radiation and explain the behavior of each type.

2. Explain how the various types of radiation can be detected.

3. Describe a nuclear reactor and the reactions which occur inside a reactor.

4. Diagram a decay chain.

5. Explain in detail how radioactive materials are used to treat diseases.

6. State some hazards and some benefits to health that can occur through the use of radioactive substances.

7. To be able to expound on the career opportunities in nuclear chemistry.

LESSON PROCEDURE:

1. Have a lecture which covers the basics of nuclear chemistry.

2. Show a film about Nuclear Structure.

3. Have the students construct a model of a nuclear reactor by using boxes, tubes, wires, and cans. Discuss the function of the various parts. Explain the steps in the conversion of nuclear energy to electrical energy.

4. Compare the advantages and disadvantages of nuclear energy with the energy produced by the burning of coal, oil or gas.

5. Have students construct a bulletin board display to illustrate the fission of uranium 235. Use styrofoam balls of various sizes and colors to represent nutrons and atoms.

LESSON PROCEDURE: (Continued)

6. Allow students time to visit the library to acquire information concerning careers in nuclear chemistry.

MATERIALS AND RESOURCES:

Texts:

Cotton and Lynch. Chemistry - An Investigative Approach. Houghton Mifflin, 1970.
Duel, Metcalfe and Williams. Modern Chemistry. Holt, Rinehart and Winston, Inc., 1968.
Fish and Blecha. The Physical Sciences. Laidlaw Brothers, 1971.
Williams, Metcalfe, Trinklein and Lefler. Modern Physics. Holt, Rinehart and Winston, Inc., 1968.

Books:

Asimor, Isaac. The Neutrino. Doubleday, 1966.
Cohen, Bernard. Heart of the Atom. Doubleday, 1967.
Davis, George. Radiation and Life. Iowa State University Pr. 1967.
Halacy, Daniel. Radiation, Magnetism and Living Things. Holiday, 1966.
Hillman, Hal. High Energy Physics. Lippincott, 1968.
Kogan, Philip. The Cosmic Power; Foundations of Nuclear Physics. Ginn, 1966.
McKnown, Robin. The Fabulous Isotopes. Holiday, 1962.
Occupational Outlook Handbook. 1972-73, U. S. Department of Labor.
Poole, Lynn. Carbon - 14 and Other Science Methods That Date the Past. Graw, 1961.

Films: The following films may be acquired from The Bureau of Teaching Materials, State Department of Education, Richmond, Virginia.

"Nuclear Fallout-Fiction and Fact". 27305, 1963.
"Nuclear Structure". 33209, 1957.
"Radioactivity". 74708, 1961.
"Radiological Defense". 33612, 1961.

Posters:

"Nuclear Energy and Environment". Atomic Energy Commission.

Filmstrip:

"Jobs In Health Service". Coronet Instructional Films, 1971.

Tapes:

"Nuclear Technician". Eye Gate, 357C, 1972.
"Scientific Research". Classroom World Productions, 1970.

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"MACHINES"

GRADE: 12
SUBJECT: PHYSICS

BROAD OBJECTIVE:

To introduce students to the power and energy saving machines and the related careers.

PERFORMANCE OBJECTIVES:

1. To be able to demonstrate the transformation of energy through the use of machines in the lab setting.

2. To list some careers which incorporate power and energy saving machines.

LESSON PROCEDURE:

1. Lecture to students about machines.

2. Use 16 mm film on "Simple Machines".

3. Have several lab periods which require the use of machines to transform energy.

4. Give students the assignment of building a model bridge. Have them organize a construction company and delegate responsibilities.

5. Ask a civil engineer from the community to speak to the class about career opportunities.

MATERIALS AND RESOURCES:

Text:

Williams, Metcalfe, Trinklein and Lefler. Modern Physics. Holt, Rinehart and Winston, Inc., 1968.

Books:

"Civil Engineers". Occupational Outlook Handbook. U. S. Department of Labor, 1972-73.
Meyer, Jerome, Machines. World Publishers, 1958.
Robbins, Paul H. "Engineering". Hophe, William E. The Encyclopedia of Careers and Vocational Guidance. Doubleday and Company, Inc., 1972.

Films:

Simple Machines 43804, 1942. Educational Motion Pictures for Virginia's Public Schools. Bureau of Teaching Materials, State Department of Education, Richmond, Virginia.

Films: (Continued)

Machines Do Work. 26204, 1958. Educational Motion Pictures for Virginia's Public Schools. Bureau of Teaching Materials, State Department of Education, Richmond, Virginia.

Tapes:

Construction. Classroom World Productions, 1970.
Engineering. Classroom World Productions, 1970.

Film Loops:

All-Around Machinists. Encyclopedia Britannica Ed. Corp., 1969.
Machining Occupations Electronics. Encyclopedia Britannica Educational Corporation, 1970.
Operating Engineers. Encyclopedia Britannica Educational Corporation, 1970.
Surveyors. Encyclopedia Britannica Educational Corporation, 1969.

Sound Filmstrips:

Machinists. ("Age of Electronics" Series) Bowmar, 1970.
The Work of Simple Machines. SVE Educational Filmstrips.

Pamphlets: (All from Careers, Inc., Largo, Florida)

"Civil Engineer". Career Brief, Largo, Florida.
"Civil Engineering Technician". Career Brief, Largo, Florida.
"Mechanical Engineer". Career Brief, Largo, Florida.
"Operating Engineers". Career Brief, Largo, Florida.

Resource Persons:

Engineers from the community.

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"PHOTOGRAPHY AS RELATED TO PHYSICAL OPTICS"

GRADE: 12
SUBJECT: PHYSICS

BROAD OBJECTIVES:

1. To expose the students to the principles of physical optics and answer the question, "Why and how does the camera work?".

2. To acquaint the students with careers related to photography.

PERFORMANCE OBJECTIVES:

1. To acquire an understanding of the laws of reflection and refraction of light.

2. To define images and list the two types.

3. To be able to list the basic parts of a camera,to tell their functions and the principles upon which these parts operate.

4. To list some of the careers associated with photography.

LESSON PROCEDURE:

1. Discuss and explain the concept of physical optics.

2. Design four labs which operate on a rotating basis. Each student will complete all four labs by the end of a designated time.

   Lab 1 - Discuss and demonstrate the formation of images by use of the pinhole camera.
   Lab 2 - Exhibit types of mirrors and develop diagrams for plane and curved surfaces.
   Lab 3 - Set up apparatus to demonstrate converging and diverging lenses.
   Lab 4 - Examine a camera which has been disassembled.

3. Show films which deal with the subject of light.

4. Create learning centers which display information about cameras, developing techniques and basic movie making techniques.

5. Show filmstrip entitled "Careers in Photography".

MATERIALS AND RESOURCES:

Text:

Williams, Metcalfe, Trinkleir & Lefler. Modern Physics. Holt, Rinehart and Winston, Inc., 1968.

Books:

Asher, Harry. Photographic Principles and Practices. Chilton Book Co., Philadelphia, 1968.
Feininger, Andrea. Successful Photography. Prentice-Hall, 1954.
Forsee, Aylesa. Famous Photographers. Macrae, 1968.
Gramet, Charles. Light and Sight. Avelaro, 1963.
Keppler, Victor. Your Future in Photography. Arco., 1971.
Meyer, Jerome. Prisms and Lenses. World Publishers, 1959.
Mueller, Conrad. Light and Vision. Time, Inc., 1966.
Neal, Charles. Exploring Light and Color. Childrens, 1964.
Occupational Outlook Handbook, 1972-73. U. S. Department of Labor.
Ruchlis, Hy. Wonder of Light. Harper, 1960.
Tannenbaum, Buelah. Understanding Light. McGraw, 1960.

Films:

The following films may be acquired from The Bureau of Teaching Materials, State Department of Education, Richmond, Virginia.

"Light All About Us". 01805, 1954.
"Light and Color". 88808, 1963.
"Light and Its Story". 66408, 1961.
"Light Lenses". 96004, 1952.
"Light - Let Us Talk About It". 56809, 1969.
"Light - Refraction". 95904, 1952.
"Light - Spherical Mirrors". 95804, 1950.
"Light - Wave and Quantum Theories". 88309, 1970.
"Light Waves and Their Uses". 93304, 1937.
"Introduction to Optics". 22312, 1963.
"Science of Light". 06005, 1961.

Tapes:

"Photography". Classroom World Productions, 1970.

Filmstrips:

"Photography - A History". Educational Dimensions Corporation.
"Photography As A Profession". Educational Dimensions Corp.

Pamphlets:

"Adventures in Existing-Light Photography". Eastman Kodak Company, 1969.
"Basic Developing, Printing and Enlarging". Eastman Kodak Company, 1972.
"Color As Seen and Photographed". Eastman Kodak Company, 1966.
"Color Photographs Outdoors". Eastman Kodak Company, 1960.
"Kodak Master Photoguide for Still Picture Taking". Eastman Kodak Company, 1968.
"Professional Printing in Black and White". Eastman Kodak Company, 1968.

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SOCIAL STUDIES

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"MONEY AND BANKING CAREERS"

GRADE: 8
SUBJECT: HISTORY

BROAD OBJECTIVES:

1. To help students explore the various careers in banking and related areas.

2. To enhance the students understanding of the world of money and the banking institution.

PERFORMANCE OBJECTIVE:

To help the student understand the following:
- interest
- checking account
- savings account
- loans
- other banking practices

LESSON PROCEDURE:

The class will be divided into groups, covering all the areas of banking. The class will create, as much as possible, materials needed to operate a bank. Each student will research his or her area of the banking world and either orally or written relate it to the class.

Various filmstrips, speakers, and books will be used to enhance the learning experience.

MATERIALS AND RESOURCES:

Books:

Pesek, Boris P., Saving, Thomas R. The Foundations of Money and Banking. MacMillan, 1968.
Smith, Kenneth H. Money and Banking. Lerner, 1970.

Basic Text:

Hartley, William H., Vincent, William S. American Civics. Harcourt, Brace, and World, 1967.

Kits:

Modern Consumer Education. Grolier Educational Corp., 1970.
Career Kit. Largo, Florida, 1972.
Occupational Exploration Kit. Science Research Associates, Inc., 1970. #11 Bank Workers, #46 Bank Officers.

MATERIALS AND RESOURCES: (Continued)

Filmstrips:

Just A Teller. Educational Activities, Inc., Freeport, New York, 1967.
Money Management. BFA Educational Media, Santa Monica, Cal., 1968.

Speakers:

Various Occupational Specialists.

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"CITY GOVERNMENT"

GRADE: 8
SUBJECT: HISTORY

BROAD OBJECTIVES:

1. To foster learning in the various public service careers in city government.

2. To enhance the students knowledge of governmental operations and how their own city operates.

PERFORMANCE OBJECTIVES:

1. To help the students locate geographically the locations of city offices and buildings.

2. To help the students understand the various responsibilities and duties of city employees.

LESSON PROCEDURE:

Each student will be assigned at least one city official or department to research. The student will show on the city map the location(s) of the department. Other items of research will be included as necessary.

MATERIALS AND RESOURCES:

Books:

Andrews, Richard. City Planning. Free Press, 1971.
Hoag, Edwin. Cities and Towns. Lippincott, 1969.
Sullivan, Mary. Careers in Government. Walch, 1964.

Kit:

Occupational Exploration Kit. Science Research Associates, Inc., 1967. #10, #96.

Filmstrips:

City Government in Action. Guidance Associates, 1969.
Perceptions: The City. Educational Dimensions Corp., 1970.

Map:

City of Radford

Basic Text:

Hartley, William H.; Vincent, William S. American Civics. Harcourt, Brace and World, Inc., 1967.

MATERIALS AND RESOURCES: (Continued)

Speaker:

Various Occupations

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"SAVING MONEY"

GRADE: 8
SUBJECT: SOCIAL STUDIES

BROAD OBJECTIVE:

To orient students to the importance of and the various ways to save money.

PERFORMANCE OBJECTIVE:

The student will be able to give the advantages and disadvantages of various ways of saving money and be able to describe the jobs of one involved in these areas in terms of educational requirements, hours, advancement and salary.

LESSON PROCEDURE:

1. Class discussion on money - why it has value, the fluctuation of buying power and importance of saving.

2. List ways to invest money.

3. Free choice for individual research.

4. Paper to be written on research accompanied by list of sources of information. May be from books, filmstrips, tapes, personal interviews or any other reliable source.

5. Oral reports, skits, etc. to be presented to entire class - may be accompanied by charts, filmstrips, tapes, speakers, etc.

MATERIALS AND RESOURCES:

Text:

Hartley and Vincent. American Civics. Harcourt, Brace and World, C. 1967.

Books:

Paradis, Adrian A. The Economists Reference Book. C. 1970.
Pask and Thomas. The Foundations of Money. C. 1968.
Wade, Wm. W. From Barter to Banking. MacMillian Company, C. 1967.
Whittlesey, Freedman, Herman. Money & Banking. MacMillian Company, C. 1968.

Audio and Visual:

"Banker". Career Division Laboratory TM. (Tape)

MATERIALS AND RESOURCES: (Continued)

Audio and Visuals:

"Money and You - Banks". Avid Corp. Filmstrip & Record
"The Credit Union". Money Management Series BFA, 1968.
Filmstrip and Record
"Insurance". Western Tapes; Ed. Products Co.
"Stock Broker". Career Division Laboratory. Tape

Resource People - Interviews:

Insurance Agent
Stock Broker
Banker
Member of Credit Union
Real Estate Agent
Jeweler
Art Collector
Antique Collector

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"CONSUMER AND OCCUPATIONAL EDUCATION"

GRADE: 8
SUBJECT: SOCIAL STUDIES

BROAD OBJECTIVE:

1. To orient the student with the area of consumerism.

2. To orient the student with the occupational world.

PERFORMANCE OBJECTIVE: (As A Consumer)

1. Help the student manage money.

2. Help the student understand the role of a provider.

3. Help the student understand modern buying habits.

4. Help the student understand his role in economics.

PERFORMANCE OBJECTIVE: (As A Worker)

1. Help the student manage an occupation.

2. Help the student to understand why and how to keep proper records.

3. Help the student understand profit and loss.

4. Help the student understand occupational requirements.

5. Help the student understand such things as: overhead expenses, insurance protection, and other occupational terminology.

LESSON PROCEDURE:

Each student plays a dual role of consumer and worker. Students can work together in groups of two in a business, but each one must maintain his own consumer role. Each student is to begin with an occupation of his choice which will make him self-sustaining in the class room. Students have to purchase the following before the close of the exercise: house, car, insurance on car, heat, food for all year, gas for all year, and clothes for all four seasons of the year. It is also recommended that students purchase the following: luxury item, plan a vacation, and insurance on all belongings and person.

Each student will have the following to begin the exercise: $1500 in play money, all occupational needs and products, and a house, which he must sell. The students will have a folder in which they will keep all their related material.

LESSON PROCEDURE: (Continued)

Each student should contact someone in their occupational area before the exercise begins. This will give the student insight into the requirements and responsibilities of their respective occupations.

The exercise will involve sixteen school days.

Evaluation of each student will be based upon the following: preparedness each day, records of each student, fulfillment of requirements, product displays, and money management.

MATERIALS AND RESOURCES:

Modern Consumer Education. Grolier Educational Corporation, New York, New York.

Resource People:

Resource people in various occupations.

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"ADVERTISEMENT"

GRADE: 8
SUBJECT: HISTORY

BROAD OBJECTIVES:

1. To evaluate careers in advertising.

2. To enhance the students understanding of the purpose, means, and impact of advertising on the American way of life.

PERFORMANCE OBJECTIVE:

To help the student understand the following:

- why advertise
- types of advertising
- false or misleading advertising
- how to advertise

LESSON PROCEDURE:

Students will work in pairs, and they will create a product to sell to the class. Various filmstrips, speakers, and books will be used to supplement the learning activity.

MATERIALS AND RESOURCES:

Aoker, David. Consumerism. Free Press, 1971.
Amstell, I. Joel. What You Should Know About Advertising. Oceans, 1969.
Campbell, Hannah. Why Did They Name It.....? Fleet, 1964.
Packard, Vance. Hidden Persuaders. McKay, 1957.
Wood, James Playsted. This is Advertising. Crown, 1968.

Tape:

Advertising. Classroom World Productions, 1970.

Filmstrips:

Art Careers in Advertising. Educational Dimensions, 1968.
Writing Careers in Advertising. Educational Dimensions, 1968.

Kits:

Career Kit. Largo, Florida, 1973.
Modern Consumer Education. Grolier Educational Corp., 1970.

Basic Text:

Hartley, William H. & Vincent, William S. American Civics. Harcourt, Brace, and World, Inc., 1967.

MATERIALS AND RESOURCES: (Continued)

Speaker:

Occupational Specialists

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"ARMED SERVICES"

GRADE: 8
SUBJECT: HISTORY

BROAD OBJECTIVES:

1. To help the student explore the various career opportunities in the armed services.

2. To help the student understand the volunteer army as opposed to the draft system.

PERFORMANCE OBJECTIVE:

To help the student understand the following:
- the new armed forces
- the old draft system
- why an armed service
- costs and sources of armed forces
- responsibilities of each citizen in regard to America's armed forces

LESSON PROCEDURE:

By the use of textbooks, filmstrips, discussion, and various speakers, the student will investigate the realm of the armed forces.

MATERIALS AND RESOURCES:

Books:

Burrowes, Thomas. United States Navy. Richards Rosen, 1965.
Calvert, James. United States Navy. McGraw, 1965.
Capron, Walter C. U. S. Coast Guard. Franklin Watts, 1965.
Engle, Eloise Katherine. United States Army Medical Service. John Day, 1967.
Fraser, Angus M. United States Marine Corps. Richards Rosen, 1969.
Harwood, Michael. Military Education. Meredith, 1968.
Harwood, Michael. Military Service Compulsory. Meredith, 1968.
MacClosky, Munro. United States Air Force. Praeger, 1967.

Kits:

Career Kit. Largo, Florida, 1971.
Occupational Exploration Kit. Science Research Associates, Inc., 1967. #161.

Pamphlets:

Various pamphlets from recruiting offices.

MATERIALS AND RESOURCES: (Continued)

Speaker:

Occupational specialists

Basic Text:

Hartley, William H.; Vincent, William S. American Civics. Harcourt, Brace and World, 1967.

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"HOUSING"

GRADE: 8
SUBJECT: HISTORY

BROAD OBJECTIVES:

1. To help the student evaluate the various careers in home construction.

2. To enhance the students knowledge in the historical development of the American home.

PERFORMANCE OBJECTIVES:

1. To help the student understand how a home is built, and who is involved.

2. To help the student understand why more people are needed to build a home today.

LESSON PROCEDURE:

Students will work in groups to construct a model home from a certain period of history, in which they will relate to the class what is used in building it and why.

As each period of history is covered, the students will understand how inventions have helped the homeowner.

A building contractor will be used to enhance learning in class.

MATERIALS AND RESOURCES:

Books:

American Heritage. An American Heritage Guide to Historic Houses of America. American Heritage, 1971.
Townshend, Gilbert and Dolzell, J. Ralph. How to Plan A House. American Technical Society, 1958.

Filmstrips:

Building Trade Workers Series. Eye Gate, 1972.
The Exterior Painter. Eye Gate, 1972.
The Interior Painter. Eye Gate, 1972.
The Sider. Eye Gate, 1972.

Slides:

Selecting a House Plan. NASCO, 1972.

MATERIALS AND RESOURCES: (Continued)

Kits:

Career Kit. Largo, Florida, 1972.
Modern Consumer Education. Grolier Educational Corp., 1970.

Speaker:

Building Contractor

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"CAREERS IN ANTHROPOLOGY"

GRADE: 9
SUBJECT: WORLD HISTORY AND/OR GEOGRAPHY

BROAD OBJECTIVES:

1. To orient students to the ways in which we have learned about pre-historic and early historic societies.

2. To explore careers in anthropology.

PERFORMANCE OBJECTIVES:

1. The student will be able to assess the contributions made by anthropologists to our knowledge concerning early man, modern primitive civilizations, and modern man.

2. The student will be able to describe the occupations of anthropologists in terms of educational requirements, methods and places of work, advancement possibilities, and approximate salaries.

LESSON PROCEDURES:

1. Class discussion relating to man and how we have obtained information about early man, his contributions to civilization, and his relationships to modern man.

2. Discussion specifically related to anthropology.

3. Free choice for individual research.

4. Oral or written reports. Oral reports may incorporate pictures, statistics, etc.

5. Filmstrips, films and other audio-visual materials.

6. Outside speakers to be invited either by instructor or students.

7. Field trips where applicable.

MATERIALS AND RESOURCES:

1. Texts:

Boak, Slesson, et. al. The History of Our World. Houghton Mifflin Company, 1964.
Jones & Murphy. Geography and World Affairs. Rand McNally, 1971.
Kohn & Drummond. The World Today. McGraw Hill, 1963.
Perry, Marvin. Man's Unfinished Journey. Houghton Mifflin Company, 1971.

MATERIALS AND RESOURCES: (Continued)

2. Books:

Brannum, Mary. When I Was 16. "Margaret Mead". Platt & Munk, 1967.
Dalton, George. Tribal and Peasant Economics. Natural History Press, 1967.
Hays, H. R. Explorers of Man. Crowell-Collier, 1971.
Mead, Margaret. Anthropologists and What They Do. Walts, 1965.
Oliver, Douglas. Invitation to Anthropology. Natural History Press, 1964.
Russell, W. M. S. Man, Nature and History. Natural History Press, 1969.
Stoddard, Hope. Famous American Women. "Margaret Mead". Thomas Y. Crowell Company, 1970.

3. Audio-Visual:

Africa: Continent in Change. "Adventures in Search of Early Man". National Geographic. (filmstrip with tape)
Ancient Times. "Adventuring into the Buried Past". National Geographic. (filmstrip with record)

4. Career Summary:

"Anthropologist". Careers, Inc., Largo, Florida, 1969.

5. Resource People:

Anthropologist

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"PROFESSIONAL OCCUPATION: HISTORIAN"

GRADE: 9
SUBJECT: WORLD HISTORY AND/OR GEOGRAPHY

BROAD OBJECTIVES:

1. To orient students to the role of the historian as a contributor to our store of information about society.

2. To explore careers related to the historian.

PERFORMANCE OBJECTIVES:

1. The students will be able to evaluate the contributions made by the historian to society and to appreciate sound, unbiased information.

2. The students will be able to describe the occupation of a historian and the related fields in terms of opportunities, educational requirements, methods of study and research, and remuneration, both tangible and intangible.

LESSON PROCEDURE:

1. Class discussion relating to history and how we have obtained this information.

2. Use of books, tapes, career summaries, films and other available materials for individual study.

3. Use of a simulated situation whereby the student may evaluate and record data in the manner of the historian.

4. Use of resource persons in the field.

MATERIALS AND RESOURCES:

1. Books:

Cantor, Norman E. and Schneider, Richard L. How to Study History. Thomas Y. Crowell Company, 1967.
Gray, Wood. Historian's Handbook: A Key to the Study and Writing of History. Houghton Mifflin Company, 1964.
Shafer, R. J. A Guide to Historical Method. Dorsey Press, 1969.
Turabian, Kate L. A Manual for Writers of Term Papers, Theses, and Dissertations. University of Chicago Press, 1967.

2. Career Summaries:

"Historian". Careers, Largo, Florida, 1972.
"Historians". SRA Occupatioan Brief, 1972.

MATERIALS AND RESOURCES: (Continued)

3. Miscellaneous:

Any materials the instructor may wish, to establish a simulated situation for evaluating historical material. This may be past or current.

4. Resource People:

Historian
Museum Curator

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"CAREERS IN ARCHEOLOGY, ANTHROPOLOGY, AND GEOLOGY"

GRADE: 9
SUBJECT: WORLD HISTORY

BROAD OBJECTIVE:

1. To orient students to the ways in which we have learned about pre-historic societies.

2. To explore the careers of archeology, anthropology, and geology.

PERFORMANCE OBJECTIVE:

1. The student will be able to assess the contributions made by archeologists, anthropologists, and geologists to our knowledge concerning early man.

2. The student will be able to describe the occupations of these three scientists in terms of educational requirements, methods and places of work, advancement possibilities, and approximate salaries.

LESSON PROCEDURE:

1. Class discussion relating to the contributions of early man and how we have obtained this information from pre-historic times.

2. Discussion specifically relating to archeology, anthropology, and geology.

3. Free choice for individual research.

4. Oral or written reports. Oral reports may be accompanied by pictures, statistics, filmstrips, tapes, etc.

5. Outside speaker to be invited either by instructor or student.

6. Incorporate role playing of various professions that relate to archeology, anthropology, and geology.

MATERIALS AND RESOURCES:

Text:

Boak, Slesson, et al. The History of Our World. Houghton Mifflin Company, 1964.
Perry, Marvin. Man's Unfinished Journey. Houghton Mifflin Company, 1971.

MATERIALS AND RESOURCES: (Continued)

Books:

Baldwin, Gordon C. Race Against Time. G. P. Putnam's Sons, 1966.
Cottrell, Leonard. Digs and Diggers. World Publishing Company, 1964.
Poole, Gray and Lynn. Carbon-14 and Other Science Methods that Date the Past. McGraw-Hill Book Company, 1961.
Wheeler, Margaret. History was Buried. Hart Publishing Company, 1967.

Audio Visual:

Africa: Continent in Change. "Adventures in Search of Early Man". National Geographic (filmstrip with tape).
Ancient Times. "Adventuring Into the Buried Past". National Geographic (filmstrip with record).

Resource People:

Archeologist
Anthropologist
Geologist

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"CAREERS IN ARCHEOLOGY"

GRADE: 9
SUBJECT: WORLD HISTORY AND/OR GEOGRAPHY

BROAD OBJECTIVES:

1. To orient students to the ways in which we have learned about pre-historic and early historic societies.

2. To explore the careers in archeology.

PERFORMANCE OBJECTIVES:

1. The student will be able to assess the contributions made by archeologists to our knowledge concerning early man.

2. The student will be able to describe the occupations of archeologists in terms of educational requirements, methods and places of work, advancement possibilities, and approximate salaries.

LESSON PROCEDURES:

1. Class discussion relating to the contributions of early man and how we have obtained information from pre-historic and early historic times.

2. Discussion specifically related to archeology.

3. Free choice for individual research.

4. Oral or written reports.

5. Filmstrips, films, and other audio-visual materials.

6. Outside speaker to be invited either by instructor or student.

7. Role playing of various areas of archeology.

8. Field trip to a "dig", if possible.

MATERIALS AND RESOURCES:

1. Texts:

Boak, Slesson, et. al. The History of Our World. Houghton Mifflin Company, 1964.
Jones and Murphy. Geography and World Affairs. Rand McNally, 1971.
Kohn and Drummond. The World Today. McGraw-Hill, 1963.
Perry, Marvin. Man's Unfinished Journey. Houghton Mifflin Company, 1971.

MATERIALS AND RESOURCES: (Continued)

2. Books:

Baldwin, Gordon C. Race Against Time. G. P. Putnam's Sons, 1966.
Brennan, Louis A. Beginner's Guide to Archeology. Stackpole Books, 1973.
Cottrell, Leonard. Digs and Diggers. World Publishing Company, 1964.
Daniel, Glynn. The Origins and Growth of Archeology. Thomas Y. Crowell Company, 1967.
Fortiner, Virginia J. The Science Hobby Book of Archeology. Lerner Publication Company, 1968.
Jessup, Ronald. The Wonderful World of Archeology. Doubleday & Company, Inc., 1968.
Poole, Gray and Lynn. Carbon-14 and Other Science Methods that Date the Past. McGraw-Hill Book Company, 1961.
Silverberg, Robert. Frontiers in Archeology. Chilton Book Company, 1966.
Wheeler, Margaret. History was Buried. Hart Publishing Company, 1967.

3. Audio-Visual:

Africa: Continent in Change. "Adventures in Search of Early Man". National Geographic. (with sound)
Ancient Times. "Adventuring Into the Buried Past". National Geographic. (with sound)
Archeologists at Work. Educational Motion Pictures for Virginia's Public Schools. (13 minute film)
Dr. Leaky And the Dawn of Man. Educational Motion Pictures for Virginia's Public Schools.

4. Resource People:

Archeologist

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"CAREERS IN GEOLOGY"

GRADE: 9
SUBJECT: WORLD HISTORY AND/OR GEOGRAPHY

BROAD OBJECTIVES:

1. To orient students to the contributions made by geologists to our knowledge of the world.

2. To explore careers related to geology.

PERFORMANCE OBJECTIVES:

1. The student will be able to evaluate the contributions made by geologists to our knowledge of the world.

2. The student will familiarize himself with the occupation of the geologist and related personnel with respect to educational requirements, methods and places of work, hours and salaries.

LESSON PROCEDURES:

1. General introduction to geology through the use of posters, etc.

2. Class discussion relating to contributions of geologists.

3. Specific discussion relating to geology (how and why).

4. Individual research with class presentations.

5. Speakers utilizing community resources.

MATERIALS AND RESOURCES:

1. Texts:

Jones & Murphy. Geography and World Affairs. Rand McNally, 1971.
Kohn & Drummond. The World Today. McGraw-Hill, 1963.

2. Books:

Fenton, Carroll Lane. Rocks and Their Stories. Doubleday, 1951.
Ogburn, Charlton. The Forging of Our Continent. American Heritage, 1968.
Poole, Gray and Lynn. Carbon-14 and Other Science Methods that Date the Past. McGraw-Hill Book Co., 1961.
Quennell, Majorie & C. H. B. Everyday Life in Prehistoric Time. G. P. Putnam's Sons, 1968.

MATERIALS AND RESOURCES: (Continued)

3. Posters:

Robinson, Hungerford. Rocks and Minerals. J. Weston Walch, 1966. (18 posters)

4. Career Summaries:

Geologist. Careers, Inc., Largo Florida.
Geologists. SRA Occupational Brief. Science Research Association.

5. Film:

Rocks that Reveal the Past. Educational Motion Pictures for Virginia's Public Schools.

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"TRANSPORTATION CAREERS: TRUCKING"

GRADE: 9
SUBJECT: WORLD HISTORY AND/OR GEOGRAPHY

BROAD OBJECTIVES:

1. To acquaint the students with the importance of the trucking industry as to the major means of transporting goods in todays society.

2. To explore the many careers related to the trucking industry.

PERFORMANCE OBJECTIVES:

1. The students will learn the major road routes for trucks and why they are located where they are; relating to terrain, resources, and industries.

2. The student will be able to describe the occupations relating to the trucking industry. He will have knowledge of educational or training requirements, hours, wages, benefits and opportunities in the field.

LESSON PROCEDURES:

1. Class discussion on various means of transportation, using prints on transportation.

2. Film strip on Transportation; Horseback to Jet.

3. Use of books, tapes, film loops, career summaries, and filmstrips for individual study.

4. Role playing as a means for job descriptions for class, using any equipment they may find.

5. Resource people in field.

MATERIALS AND RESOURCES:

1. Filmstrips:

   The Automotive Mechanic. SVE, 1973. (sound)
   The Long Haul Driver. SVE, 1973. (sound)
   Transportation: Horseback to Jet. Life, 1955.

2. Prints:

   Transportation. Documentary Photo Aids.

3. Tapes:

   Transportation. Classroom World Productions, Inc.

MATERIALS AND RESOURCES: (Continued)

4. Film Loops:

Local Truck Driver. Encyclopedia Britannica Educational Corp.
Truck Mechanic and Bus Mechanic. Encyclopedia Britannica Educational Corp.

5. Career Summaries:

Power Truck Operation. SRA, 1970.
Long-Distance Truck and Bus Drivers. SRA, 1970.
Diesel Mechanic. Careers, Inc., Largo, Fla., 1973.
Mechanic, Truck and Bus. Careers, Inc., Largo, Fla., 1973.
Driver, Heavy Truck. Careers, Inc., Largo, Fla., 1973.
Automotive Brakeman. Careers, Inc., Largo, Fla., 1973.

6. Books:

Coombs, Charles I. Wheels, Wings and Water. World, 1963.
Occupational Outlook Handbook, 1972-73, "Driving Occupations". U. S. Department of Labor, 1973.
Sullivan, George. How Does It Get There. Westminister, 1973.
Tunis, Edwin. Wheels. World, 1955.

7. Films:

American Road
Transportation by Land
Trucks and Trains
Trucks in our Neighborhood

(All of the above films are available from Educational Motion Pictures for Virginia's Public Schools.)

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"CAREERS IN MARINE SCIENCE"

GRADE: 9
SUBJECT: WORLD HISTORY AND/OR GEOGRAPHY

BROAD OBJECTIVES:

1. To familiarize students with the oceans and their potential use to man.

2. To acquaint the students with the varied job opportunities related to the oceans.

PERFORMANCE OBJECTIVES:

1. The student should have specific information on the various uses of the oceans such as transportation, minerals, possible water supply, food, etc.

2. The student should have summaries of the various jobs relating to marine science that would include educational requirements, work hours, wages, advancement, etc.

LESSON PROCEDURES:

1. Individual assignments using books, career summaries, and cassettes to be discussed in round table manner.

2. Introduce with the SFS on Marine Science.

3. Discussion of filmstrips.

4. Listing various uses of oceans and their importance.

5. Round table discussion with questions from the class to be answered by panel or teacher.

6. Film to be shown as culminating activity.

MATERIALS AND RESOURCES:

1. Texts:

Boak & Slesson, et. al. The History of Our World. Houghton Mifflin Company, 1964.
Jones & Murphy. Geography and World Affairs. Rand McNally, 1971.
Kohn & Drummond. The World Today. McGraw-Hill, 1963.
Perry, Marvin. Man's Unfinished Journey. Houghton Mifflin Company, 1971.

MATERIALS AND RESOURCES: (Continued)

2. Books:

Briggs, Peter. Men in the Sea. Simon & Schuster, 1968.
DeBorhegyi, Suzanne. Ships, Shoals and Amphores; The Story of Underwater Archeology. Holt, 1961.
Kovoalik, Vladmir. The Ocean World. Holiday, 1966.
Long, John. Ocean Sciences. Banta, 1964.

3. Career Summaries:

Oceanographer. Careers, Inc., 1973.
Oceanographers. Science Research Associates, 1973.

3. Cassettes:

Oceanography. Classroom World Productions, Careers Unlimited, 1970.

5. Filmstrips:

Understanding Oceanography. Society of Visual Education, Inc. (sound)
Marine Science. Career Education Cluster, Westinghouse. (sound)

6. Films:

Oceanography - Science of the Sea. Educational Motion Pictures for Virginia's Public Schools. (11 min.)

7. Resource People:

Oceanographer

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"TRANSPORTATION CAREERS: RAILROAD"

GRADE: 9
SUBJECT: WORLD HISTORY AND/OR GEOGRAPHY

BROAD OBJECTIVES:

1. To acquaint students with the importance of transportation to the capitalistic system.

2. To orient students to the importance of railroad transportation to the whole transportation system.

3. To explore the many careers related to the railroad industry.

PERFORMANCE OBJECTIVES:

1. The student will be able to follow the advances in transportation and to evaluate the importance of railroad transportation to our modern system.

2. The student will learn the opportunities available in the field of the railroad industry.

LESSON PROCEDURES:

1. Introduce the unit with the filmstrip, American Transportation: Horseback to Jet.

2. Initiate general discussion on transportation, culminating with a discussion of railroads and their importance to the individual.

3. Oral or written reports, supplemented by appropriate maps, charts, pictures, etc. Reports will be selected according to student interest.

4. Field trip, if possible.

5. Use of community resource persons.

6. Use the movie, Transportation in the Modern World, as a culminating activity.

MATERIALS AND RESOURCES:

1. Texts:

Boak, Slesson, et. al. The History of Our World. Houghton Mifflin Company, 1964.
Jones & Murphy. Geography and World Affairs. Rand McNally, 1971.
Kohn & Drummond. The World Today. McGraw-Hill, 1963.
Perry, Marvin. Man's Unfinished Journey. Houghton Mifflin Company, 1971.

MATERIALS AND RESOURCES: (Continued)

2. Filmstrips:

American Transportation: Horseback to Jet. Life, 1955.

3. Books:

American Heritage. Railroads in the Days of Steam. American Heritage, 1960.
Burt, Oliver W. The Story of American Railroads. Day, 1969.
Stover, John F. American Railroads. University of Chicago Press, 1961.
U. S. Department of Labor. Occupational Outlook Handbook. Railroads. U. S. Department of Labor, 1972-73.
Zarchy, Harry. Model Railroads. Knopf, 1955.

4. Career Summaries:

Railroad Brakeman. Careers, Inc., Largo, Florida, 1971.
Operating Railroad Workers. SRA, 1970.
Railroad Track Workers. SRA, 1970.
Railroad Dining-Car Waiters. SRA, 1972.

5. Films:

Freight Train
Freight Trains Today
Passenger Train
Railroad Builders
Trucks and Trains
Transportation in the Modern World

(All of the above films are available from Educational Motion Pictures for Virginia's Public Schools.)

6. Resource People:

Community resource persons for fields related to railroad transportation.

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"ENVIRONMENTAL CAREERS: FORESTRY & OTHERS"

GRADE: 9
SUBJECT: WORLD HISTORY AND/OR GEOGRAPHY

BROAD OBJECTIVES:

1. To emphasize the importance of the conservation of our environment.

2. To acquaint the students with the jobs related to forestry and other environmental areas.

PERFORMANCE OBJECTIVES:

1. To be able to list the resources that are most endangered.

2. To be able to give possible solutions for our endangered resources.

3. To be able to summarize the duties of those involved in forestry.

LESSON PROCEDURES:

1. Use study prints on Vandalized Environment to encourage discussion.

2. Tape on forestry for class to hear.

3. Individuals may explore the occupations related to forestry and any other careers pertaining to the environment.

4. A composite of the researched occupations will be made for the class.

5. Endangered resources will be listed with possible solutions for the problem.

MATERIALS AND RESOURCES:

1. Texts:

Jones & Murphy. Geography and World Affairs. Rand McNally, 1971.
Kohn & Drummond. The World Today. McGraw-Hill, 1963.

2. Books:

Environmental Careers. Career World, November, 1973.
Floherty, John Joseph. Forest Ranger. Lippincott, 1956.
Occupational Outlook Handbook. U. S. Department of Labor, 1972-73.

MATERIALS AND RESOURCES: (Continued)

3. Films:

Forest People. Educational Motion Pictures for Virginia's Public Schools.

4. Filmstrips:

Environmental Careers. Career Cluster, Westinghouse, 1972. (sound)
Age of Electronics. Experimental Test Technicians. (sound)

5. Prints:

Vandalized Environment. Documentary Photo Aids.

6. Tapes:

Forestry. Classroom World Productions, 1972.

7. Career Summaries:

Forester. Careers, Inc., Largo, Florida.
Tree Surgeon. Careers, Inc., Largo, Florida.
Forest Technician (Aide). Careers, Inc., Largo, Florida.
Forest Technician. SRA.
Foresters. SRA.

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"TRANSPORTATION CAREERS: AIRLINE"

GRADE: 9
SUBJECT: WORLD HISTORY AND/OR GEOGRAPHY

BROAD OBJECTIVES:

1. To acquaint students with the importance of transportation to our modern way of life.

2. To make students aware of the rapid changes and advances in transportation.

3. To explore the many careers related to air transportation.

PERFORMANCE OBJECTIVES:

1. The student will be able to trace the rapid advances in transportation and to assess the importance of air transportation to his own life.

2. The student will learn of the many opportunities available to him in a career in air transportation.

LESSON PROCEDURES:

1. Introduce the unit with the filmstrip, American Transportation: Horseback to Jet.

2. General class discussion on transportation advances, with the leader manipulating the discussion to arrive at the advances in air.

3. Free choice for individual research and projects.

4. Oral presentations by the students to the class. These presentations may be accompanied by maps, charts, pictures, etc.

5. Utilization of available community resource persons.

6. Role playing relating to the various job opportunities.

MATERIALS AND RESOURCES:

1. Texts:

Boak, Slesson, et. al. The History of Our World. Houghton Mifflin Company, 1964.
Jones & Murphy. Geography and World Affairs. Rand McNally, 1971.
Kohn & Drummond. The World Today. McGraw-Hill, 1963.

MATERIALS AND RESOURCES: (Continued)

1. Texts: (Continued)

Perry, Marvin. Man's Unfinished Journey. Houghton Mifflin Company, 1971.

2. Filmstrips:

The Air Age. Life, 1956.
American Transportation: Horseback to Jet. Life, 1955.
Air Lines: Stewards. Society for Visual Education, 1973. (sound)
The Airline Attendant. SVE. (with sound)
Transportation Careers. Westinghouse, 1973.

3. Film Loops:

Air Lines - Stewardess. Eye Gate.
Air Planes - Pilot Training. Eye Gate.
Airplane Mechanics. Encyclopedia Britannica.
Airplane - Jet Engine Mechanic. Eye Gate.

4. Books:

American Heritage. History of Flight. American Heritage, 1962.
Coombs, Charles. Aerospace Pilot. Morrow, 1964.
Coombs, Charles. Wheels, Wings, and Water. World, 1963.
Danforth, Paul M. Transportation: Managing Men on the Move. Doubleday, 1968.
Goerner, Fred. The Search for Amelia Earhart. Doubleday, 1966.
Hood, Joseph F. Skyway Round the World. Charles Scribner's Sons, 1968.
Lindberg, Charles. "We". G. P. Putnam's Sons, 1927.
Richards, Kenneth G. People of Destiny: Charles Lindbergh. Childrens Press, 1968.
Rickenbacker, Edward V. Rickenbacker. Prentice-Hall, 1968.
Scribner, Kimball J. Your Future as a Pilot. Richards Rosen, 1968.
Stoddard, Hope. Famous American Women. "Amelia Earhart". Thomas Y. Crowell Company, 1970.
Thomas, Lowell. Famous First Flights that Changed History. Doubleday, 1968.
Whitehouse, Arch. The Skys the Limit. Macmillan, 1971.

5. Films:

Transportation in the Modern World
Helicopter Carries Mail
Air Power - The Early Days
Airplane Trip by Jet
Airplanes Work for Us

MATERIALS AND RESOURCES: (Continued)

5. Films: (Continued)

Airport in the Jet Age
Busy Airport
Jet Pilot
Transportation by Air

(All of the above films are available from Educational Motion Pictures for Virginia's Public Schools.)

6. Career Summaries:

Airline Dispatchers. SRA Occupational Briefs, 1972.
Airline Pilots. SRA Occupational Briefs, 1972.
Airline Stewards and Stewardesses. SRA Occupational Briefs, 1972.
Airline Traffic Agents and Clerks. SRA Occupational Briefs, 1972.
Airport Managers. SRA Occupational Briefs, 1972.
Aeronautical Draftsman. Careers, Inc., 1970.
Aerospace Engineering Technician. Careers, Inc., 1970.
Aircraft Mechanic. Careers, Inc., 1970.
Airline Dispatcher. Careers, Inc., 1970.
Airline Clerical Jobs. Careers, Inc., 1970.
Airline Stewardess. Careers, Inc., 1970.
Airline Ticket Agent. Careers, Inc., 1970.
Airport Superintendent. Careers, Inc., 1970.
Air Traffic Controller. Careers, Inc., 1970.
Architectural Technician. Careers, Inc., 1970.
Traffic Manager. Careers, Inc., 1970.
Helicopter Pilot. Careers, Inc., 1970.
Pilot, Commercial. Careers, Inc., 1970.

7. Resource People:

Community resource people for any related area of air transportation.

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"CAREERS IN CARTOGRAPHY"

GRADE: 9
SUBJECT: WORLD HISTORY AND/OR GEOGRAPHY

BROAD OBJECTIVES:

1. To orient students to the ways we have learned about the universe and the importance of this knowledge to society.

2. To explore the careers related to cartography.

PERFORMANCE OBJECTIVES:

1. The student will be able to assess contributions made by cartographers.

2. The student will be able to read maps, understand their construction, and understand various projections.

3. The student will learn terminology and be able to use it intelligently.

4. The student will learn the educational requirements, methods and places of work, possibilities for advancement, and approximate salaries.

LESSON PROCEDURE:

1. Introductory class discussion relating to the different kinds of maps.

2. Use of filmstrips or films to reinforce discussion.

3. Discussion specifically related to cartographers and their contributions.

4. Use of outline maps for individual study.

5. Guest speaker where applicable or available.

MATERIALS AND RESOURCES:

1. Texts:

Jones & Murphy. Geography and World Affairs. Rand McNally, 1971.
Kohn & Drummond. The World Today. McGraw-Hill, 1963.

2. Books:

Tannenbaum, Beulah & Stillman, Myra. Understanding Maps. McGraw-Hill Book Company, 1973.
U. S. Department of Labor. Occupational Outlook Handbook, "Geographers". U. S. Department of Labor, Washington,

MATERIALS AND RESOURCES: (Continued)

2. Books: (Continued)

D. C., 1972-73.

3. Career Summaries:

Cartographer. Careers, Inc., Largo, Florida, 1973.
Cartographers. SRA Occupational Brief, 1970.

4. Aids:

Individual Outline Maps
Wall Maps
Atlases
Globes

5. Filmstrips:

Learning to Use Maps. Encyclopedia Britannica Educational Corporation, 1958.
Maps and Map Projections. World Geographic Series, McGraw-Hill Corporation, 1964.

6. Films:

Map Skills - Using Different Maps Together. (11 min.)
Mapping the Earth's Surface. (16 min.)
Maps - Coastal Symbols and Terms. (20 min.)
Maps - Where am I? (11 min.)
Maps Add Meaning to History. (11 min.)
Maps and Their Meaning. (15 min.)
Maps are Fun. (11 min.)
Maps in a Changing World. (11 min.)
Maps of Our Locality. (11 min.)
Maps of Our World. (11 min.)
Maps, Land, Symbols and Terms. (14 min.)

(All of the above films are available from Educational Motion Pictures for Virginia's Public Schools.)

7. Resource People:

Cartographer
Teaching Specialist in Cartography

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"CAREERS IN EMPLOYEE AND LABOR ORGANIZATIONS"

GRADE: 11
SUBJECT: U. S. HISTORY

BROAD OBJECTIVES:

1. To inform students of the main purposes of employee and union associations; their operations and accomplishments.

2. To explore career opportunities in these organizations.

PERFORMANCE OBJECTIVES:

1. To be able to access the main contributions of these organizations in strengthening bargaining power with employers for better wages and working conditions.

2. To understand how these organizations operate and the extent of member participation.

3. To realize that several organizations and unions conduct apprentice training programs where the trainee may earn and learn.

LESSON PROCEDURE:

1. Class discussion.
2. Introduce filmstrip, Rise of Industrial America.
3. Individual research and study.
4. Reports, oral or written.
5. Resource speakers.
6. Filmstrip: Growth of the Labor Movement.
7. Identify occupations, requirements, wage scale.

MATERIALS AND RESOURCES:

Filmstrips:

Growth of the Labor Movement. Guidance Associates, 1968.
Rise of Industrial America. Eye Gate, 1969.

Books:

Coleman, James S. Union Democracy. ARNO, 1969.
Greenstone, J. David. Labor in American Politics. Knopf, 1969.
Paradis, A. A. Labor in Action, The Story of the American Movement. Messner, 1969.

Resource Material:

V.E.A. Virginia Education Association, Richmond, Va.
N.E.A. National Education Association, Washington D. C.

MATERIALS AND RESOURCES: (Continued)

Resource Material: (Continued)

A.F.L. - C.I.O. New River Valley Central Labor Council, Fairlawn, Virginia.

Careers, Inc., Largo, Florida. 5328 Labor Arbitrator (Conciliator) S-38 Industrial and Labor Relations Director.

SRA Occupational Brief No. 393 (Union Business Agents)

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"CAREERS IN THE AMERICAN BUSINESS SYSTEM"

GRADE: 11
SUBJECT: U. S. HISTORY

BROAD OBJECTIVES:

1. To explore the broad spectrum of the world of business in a free enterprise system.

2. To acquaint students with the many occupations now available and the implications for career opportunities.

PERFORMANCE OBJECTIVES:

1. Will be able to examine the types of business: (Production and Sales and Service) Single ownership, partnership, the corporation, the conglomerate, the consortium.

2. Student will recognize the role of the two kinds of people in a corporation: the investor and the employee.

3. To be aware of the kinds of securities offered investors and explore the stock market and recognize the vocabulary of investment.

LESSON PROCEDURE:

1. Filmstrip: Industrial Revolution in America.
2. Discussion around main street business.
3. Brochures and financial statements and reports to stock holders.
4. How to read the Stock Market Report.
5. Individual research - reports.
6. Filmstrip: The Corporation.
7. Outside speaker - or trip to Brokerage Firm.
8. Identify the job classifications, requirements, pay scales.

MATERIALS AND RESOURCES:

Book:

Sarnoff, Paul. Wall Street Careers. Julian Messner, N. Y.

Filmstrips:

The Corporation. Guidance Associates, 1969.
The Industrial Revolution in America. Guidance Associates, 1971.

Newspaper:

Stock Market Reports in most papers.
Wall Street Journal

MATERIALS AND RESOURCES: (Continued)

Booklets:

Annual reports from major corporations.

Periodicals:

Fortune Magazine
Business Week
Forbes

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"CAREERS IN MASS TRANSPORTATION"

GRADE: 11
SUBJECT: U. S. HISTORY

BROAD OBJECTIVES:

1. To examine the need to establish and maintain mass transportation systems to conserve energy. (fossil fuels; oil, gas, coal)

2. To explore mass transportation today and be aware of career opportunities in these fields. (Railroad, air, water, bus, truck)

PERFORMANCE OBJECTIVES:

1. To become aware of the enormous consumption of energy in single vehicle conveyance as compared with mass transportation.

2. To understand the role of government, past and present, in mass transit systems.

3. To recognize the various occupations relating to training requirements, advancement, and salaries.

LESSON PROCEDURE:

1. Filmstrip: Transportation, Horseback to Jet.
2. Discussion - energy crisis - costs.
3. Independent study. (Choice)
4. Oral and written reports.
5. Resource people.
6. Use of newspaper.
7. Library study.
8. Films: Transportation in the Modern World.
9. Identify occupations - educational and training requirements, salaries.

MATERIALS AND RESOURCES:

Filmstrips:

Airlines: Stewards. SVE, 1973.
American Transportation Careers. Westinghouse, 1973.
Transportation, Horseback to Jet. Life, 1955.
The Automotive Mechanic. SVE, 1973.

Films:

Transportation in the Modern World. Educational Motion Pictures. Richmond, Va.
Transportation by Land. by Air.
Trucks and Trains.
Railroad Builders.

MATERIALS AND RESOURCES: (Continued)

Films: (Continued)

Airport in the Jet Age.
Jet Pilot.

Books:

American Heritage. History of Flight. 1962.
Burt, Olive. The Story of American Railroads. Day, 1969.
Coombs, Charles. Wheels, Wings and Water. World, 1963.
Dauforth, Paul. Transportation: Managing Man on the Move. Doubleday, 1970.
U. S. Department of Labor. Occupational Outlook Handbook.
"Driving Occupations", 1973.
"Railroads", 1972-73.
"Airlines", 1972-73.

Periodicals:

Fortune Magazine, Dec., 1973, p. 110. "New Outbreak of Zepplin Fever" by Tom Alexander.

Careers, Inc., Largo, Florida. (Career Summaries)

S. R. A. Occupational Brief.

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"CAREERS IN AGRIBUSINESS"

GRADE: 11
SUBJECT: U. S. HISTORY

BROAD OBJECTIVES:

1. To explore this gigantic field of production; supplies and services; mechanics; product processing, storage and marketing.

2. To become aware of occupations in this most important business and the educational and job requirements, as well as earnings in the many sectors.

PERFORMANCE OBJECTIVES:

1. The student would be able to access that the present U. S. boom in farming is largely due to bad weather in many parts of the world, and also because of devaluation of the dollar.

2. To be aware of the fact that our government uses agriculture as a major point in diplomatic and trade negotiations.

3. Will recognize that present federal government policies of subsidies and price supports are not needed to restrain production.

LESSON PROCEDURE:

Class discussion on Cost of Food.
View filmstrip on The Farm Question.
Free choice of research.
Oral or written reports.
Resource person from the area.
Film: Foreign Marketing.
Filmstrip: Environmental Career.
Identify careers - requirements - training.
Career Education Cluster - Westinghouse Learning Corporation.
Filmstrip: "AgriBusiness and Natural Resources"

MATERIALS AND RESOURCES:

Films:

The American Farmer.
Breakthrough - The Challenge of Agriculture Research.
Agriculture U.S.A.
Agriculture Story.

Books:

Environmental Careers. Career World, Nov., 1973. Curriculum Innovations, Inc.

MATERIALS AND RESOURCES: (Continued)

Filmstrips:

Environmental Career. Career Cluster. Westinghouse, 1973.
Foreign Marketing. Department of Education, Richmond, Virginia.
The Farm Question. Guidance Associates, Inc., 1969.

Booklets: (Free)

"Careers in Soil Conservation Service"
U. S. Department of Agriculture
Washington, D. C. 20250

"Your Farm Background and Agribusiness Selling"
Sales and Marketing Executives International
630 Third Avenue
New York, New York 10017

"There's a New Challenge in Agriculture"
American Farm Bureau Federation
225 Touhy Avenue
Park Ridge, Illinois 60068

"Engineering Careers in the Worlds Largest Industry"
American Society of Agricultural Engineers
2950 Niles Road
St. Joseph, Missouri 40986

Magazine:

Career World. Volume 2 - No. 9, May, 1974. Curriculum Innovations, Inc.

Resource:

V. P. I. and State University
College of Agriculture and Life Sciences
Blacksburg, Virginia 24060 (Write Dean)

Kits:

S.R.A. Occupational Brief Kit. No. 202, 192. 47, 214, 211, 232, 255, 262. Science Research Associates, Inc., 259 East Erie St., Chicago, Ill. 60611.
Careers, Inc. Kit. S.145, S-63.

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"CAREERS IN A PEOPLE'S GOVERNMENT"

GRADE: 11
SUBJECT: U. S. HISTORY

BROAD OBJECTIVES:

1. To reorient the student to the need for citizen participation in a people's government on three levels of government.

2. To recognize the great wealth of careers in public service.

PERFORMANCE OBJECTIVES:

1. The student will be aware of the role of the citizen in a people's government. (A nation born out of love of liberty and freedom must recognize the need of duty.)

2. To understand the role of government - to protect and to serve.

LESSON PROCEDURES:

1. Discussion relating to today's scene.

2. Individual research, Our Federal Government(filmstrip), library study.

3. Use of daily news reports.

4. Resource person for summary.

5. Study reports from students.

6. Summary of opinions and finalize.

7. Visit governmental body units and observe.

MATERIALS AND RESOURCES:

City Charter of Radford, Virginia
Virginia Constitution
U. S. Constitution

Filmstrips:

City Government in Action. Guidance Associates.
Our Federal Government Series. Is A Career in Government for You? Educational Motion Pictures. Richmond, Virginia.

Film:

Community Governments - How they Function. Educational Motion Pictures. Richmond, Virginia.

MATERIALS AND RESOURCES: (Continued)

Books:

Sakell, Achilles. Careers in Foreign Service. Henry Z. Walck, Inc., New York.
Magruder, F. A. American Government. Allyn and Bacon.

Institutes and Training Programs:

Public Personnel Training Programs - Lynchburg, Virginia.
Institute for City and Town Councilmen, Mayors, Administrators. University of Va., Charlottesville, Va. Yearly, August 26, 28, 1974.
Institute of Government. University of Va., Charlottesville, Va. Yearly, August 26, 28, 1974.

Magazine:

Career World, Feb., 1974. Curriculum Innovations.

Booklet:

"Working for the U.S.A." (Free)
U. S. Civil Service Commission
Washington, D. C. (or area)

SRA Occupational Brief No. 168, B-159 Professional Careers in Federal Government 324

BEST COPY AVAILABLE

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"CAREER EXPLORATION: STOCK MARKET"

GRADE: 12
SUBJECT: AMERICAN GOVERNMENT

BROAD OBJECTIVES:

1. To introduce students to the idea of how a company, corporation or conglomerate obtains money necessary to operate.

2. To understand the experience needed to become a broker or other related careers.

PERFORMANCE OBJECTIVES:

1. Students will be able to understand various terms in business operations.

2. Students will understand daily stock market quotations.

3. Students will be able to understand how to obtain and sell stock shares.

4. Students will assess training of a broker and other stock related careers.

LESSON PROCEDURE:

1. Class information presented and discussed on meaning and usage of terms such as kinds of businesses, stocks, fluctuations, etc.

2. Usage of daily newspaper and television in stock quotations.

3. Students visit local brokers office for information and observation of the stock quotation board in action.

4. Students will buy stocks from actual listings, then set up "Wall Street" in classroom for buying and selling of these stocks.

5. Keep and use worksheets on gains or losses for several months, following daily newspapers.

6. Visits to classroom by various resource people such as brokers and trust officers to explain needed information on shares of stock, profit, loss, etc.

MATERIALS AND RESOURCES:

Books:

Annual Educational Readings in Economics. Dushkin Publishing Group. Guilford, Connecticut.

MATERIALS AND RESOURCES: (Continued)

Books: (Continued)

Eckstein, Otto. Foundations of Modern Economics Series. Prentiss Hall, Inc., Englewood Cliffs, New Jersey.
Leamer, Thompson. American Capitalism. Third Edition. Council for Advancement of Secondary Education, Washington, D. C.
McConnell, Campbell. Economic Principles, Problems and Policies. McGraw Hill Book Company, New York.
Sarnoff, Paul. Wall Street Careers. Julian Messner, New York.
Smith, Augustus. Economics for Our Times. McGraw Hill Book Company, New York.

Current newspapers and periodicals.

Stock Market Game.

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"CAREERS IN INCOME TAXING"

GRADE: 12
SUBJECT: AMERICAN GOVERNMENT

BROAD OBJECTIVES:

1. To understand the role of taxes in our society.

2. To recognize the importance of our tax system and voluntary compliance.

3. To understand the various careers involved in taxing such as Certified Public Accountants, Lawyers, etc.

PERFORMANCE OBJECTIVES:

1. To prepare accurate tax returns.

2. To understand the need for taxation.

3. To be able to relate taxation to welfare and services performed for us as individuals in a democracy.

LESSON PROCEDURE:

1. Provide tax booklets for each student to prepare returns.

2. Research answers to various tax questions.

3. Collect cartoons explaining points in taxation.

4. Select "tax experts" in class to help others in filing tax returns.

5. Set up student competitive quiz programs on taxation.

6. Prepare bulletin board on tax aids.

7. Use crossword puzzle on tax terms.

8. Invite tax specialists and other related specialists to share career opportunities and rewards.

MATERIALS AND RESOURCES:

"Understanding Taxes", Student Text and Teacher's Guide. Department of Treasury, Internal Revenue Service.
"Your Federal Income Tax", Publication 17, IRS.
"Farmer's Tax Guide", Publication 225, IRS.

Tax films available at IRS District Office.

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"CAREERS IN INTERNATIONAL SERVICE"

GRADE: 12
SUBJECT: AMERICAN GOVERNMENT

BROAD OBJECTIVES:

1. To help students realize the diversity and challenging opportunities of work in the Department of State to careers in international organizations.

2. To aid students in the understanding that international service is a personal one using individual talents, linguistics, etc.

PERFORMANCE OBJECTIVES:

1. Students will realize that Americans are everywhere.

2. Students understand that they will be serving their country and aiding themselves at the same time.

3. Students will appreciate their possible contribution to world peace.

4. Students will be able to recognize capabilities and training for foreign service appointments and professions.

LESSON PROCEDURE:

1. Class discussion relating to attractiveness and reward in international service.

2. Reports on different facets of foreign service from international jet pilots to missionaries.

3. Resource speakers on related areas and topics.

4. Role playing and simulations on various contemporary foreign situations.

5. Current events discussions.

6. Maintenance of a current foreign policy file.

MATERIALS AND RESOURCES:

Books:

Krosney, Herbert and Mary. Careers and Opportunities in International Service. E. P. Dutton and Company, New York, 1965.

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"COURTS"

GRADE: 12
SUBJECT: AMERICAN GOVERNMENT

BROAD OBJECTIVES:

1. To help students realize the important contribution of courts to society.

2. To assist students in understanding the personal nature of careers involved in our judicial system.

PERFORMANCE OBJECTIVES:

1. Students will be able to understand various court terms and their application.

2. Students will assess various experience and training of court personnel - judges, lawyers, reporter, etc.

LESSON PROCEDURE:

1. Through research, discussion, question/answer, introduce meaning and understanding of courts and personnel.

2. Show filmstrips related to subject.

3. Visit local court in session.

4. Set up mock trial using students as actual participants in a criminal trial.

5. Analyze (students) the training and rewards involved in the metering out of justice.

MATERIALS AND RESOURCES:

Books:

Magruder. American Government. Allyn Bacon, New York, 1974.
Virginia's Government. State Chamber of Commerce. Richmond, Virginia.

Filmstrip:

"This Honorable Court". Guidance Associates, Pleasantville, New York.

MATERIALS AND RESOURCES: (Continued)

Filmstrips:

"Is A Career in Government For You?" Educational Motion Pictures. Richmond, Virginia.
"Governing the City". Educational Motion Pictures. Richmond, Virginia.

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"GOVERNMENT SERVICE - LOCAL"

GRADE: 12
SUBJECT: GOVERNMENT

BROAD OBJECTIVES:

1. To realize the vast opportunities available in government service.

2. To appreciate the many offerings and services of government.

PERFORMANCE OBJECTIVES:

1. Students will be able to relate most any job preference to government service.

2. Students will be able to assess the contributions made by government workers.

3. Students will develop a greater pride in assuming responsibilities of citizenship.

LESSON PROCEDURE:

1. Using vast numbers of brochures, resource people, books, filmstrips to acquaint students with format of government, state and locally.

2. Students will research individual areas and offerings.

3. Using identical procedure of local nominations and elections, set up a local government within classes.

4. Enter into a cooperative experience with city officials allowing students to take office realistically for one full day.

5. Elected Student City Council to have realistic agenda that is later considered by regular council.

MATERIALS AND RESOURCES:

Virginia (or any state) Constitution
City Charter

Books:

Virginia's Government. Virginia State Chamber of Commerce. Richmond, Virginia, 1974.
Magruder. American Government. Allyn Bacon, New York, 1974.

MATERIALS AND RESOURCES: (Continued)

Books: (Continued)

Plano, Olton. The International Relations Dictionary. Holt, Rhinehart, Winston, New York.
Sakell, Achilles. Careers in the Foreign Service. Henry Z. Walck, Inc., New York, 1962.
Yost, Charles. The Insecurity of Nations. Frederick A. Praegar, New York.

HEALTH AND PHYSICAL EDUCATION

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"SAFETY IN THE HOME, SCHOOL, AND COMMUNITY"

GRADE: 8
SUBJECT: HEALTH AND PHYSICAL EDUCATION

BROAD OBJECTIVE:

To help the student gain a knowledge of what constitutes safe practices and apply this knowledge in the school, home, and community.

PERFORMANCE OBJECTIVE:

The students will be able to relate vocations created by practicing and enforcing safety.

LESSON PROCEDURE:

Lecture: Discussing automobile accident facts available from the National Safety Council.

Group Discussion: Discuss activities you engage in daily that may lead to some type of accident.

Guest Speaker: Invite an insurance agent to discuss accident and home owners insurance and to give a description of his job.

Film: "Safety Rules for School".

Filmstrips: "Fire Safety in Your School and Other Buildings" and "Preventing Fires in Your Home".

Preparing an emergency plan for evacuating one's home in case of fire.

Field Trip: Visit the Fire Department and Rescue Squad to observe the equipment, and discuss the various occupations involved.

Bulletin Board: "Bicycle Safety".

MATERIALS AND RESOURCES:

Texts:

American National Red Cross. First Aid and Personal Safety, 1973. Doubleday and Company, Inc., Garden City, New York.
Jones, Wright, Behlmer. Living in Health and Safety, 1966. J. B. Lippincott and Company, New York, New York.

Films:

Safety Rules for Schools, 1968. Educational Motion Pictures, 1972. State Department of Education, Richmond, Virginia.

Filmstrips:

Fire Safety in Your School and Other Buildings and Preventing Fires in Your Home. Virginia State Board of Education, Richmond, Virginia.

Bulletin Board

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"HOW TEETH AFFECT APPEARANCE AND HEALTH"
(CAREERS IN DENISTRY AND DENTAL HYGIENE)

GRADE: 8
SUBJECT: HEALTH AND PHYSICAL EDUCATION

BROAD OBJECTIVE:

1. To help the student become conscious of the serious dental problem in our country.

2. To instill an understanding of the importance to health and appearance of taking good care of the teeth and gums.

3. To create an awareness in the student of career opportunities in the field of denistry and dental hygiene.

PERFORMANCE OBJECTIVES:

1. Each student shall be able to list at least four careers related to dentistry, the qualifications and duties of each.

2. The student shall be able to write paragraphs on the seriousness of the dental problem in our country and be able to list suggestions for improving it.

3. Each student shall name and describe three diseases of the gums.

LESSON PROCEDURE:

1. Introduce the unit with a discussion of how clean, sparkling teeth affect your appearance and health.

2. Have students read from the text the section on care of the teeth.

3. Give a demonstration of proper and improper brushing techniques.

4. Show filmstrips on dental assistants and dental lab technicians.

5. Assign reports on topics related to dental care and dental science.

6. Bring in resource persons to discuss dental problems and dental careers.

7. End unit with a written evaluation of what has been learned.

MATERIALS AND RESOURCES:

Books:

Collins, Daniel A. Your Teeth, A Handbook of Dental Care for

Books: (Continued)

the Whole Family. Doubleday and Company, Inc., Garden City, New York, 1967.
Frost, Jane C. Your Future in Dental Assisting. Richards Rosen Press, Inc., New York, 1970.
Jones, Wright, and Behlmer. Living in Health and Safety. J. B. Lippincott Company, New York, 1966.
Otto, Julian, and Tither. Modern Health. Holt, Rinehart, and Winston, Inc., New York, 1967.
Paffenbarger, Pearlman, and Brown. Frontiers of Dental Science. Scholastic Book Series, New York, 1965.

Filmstrips:

Jobs in Health Service. "Dental Assistant", "Dental Laboratory Technician". Coronet Films

Resource Persons:

Dental Assistant
Dental Hygienist
Dentist
Receptionist
Oral Surgeon
Orthodonist

Career Briefs:

Occupational Exploration Kit. Science Research Associates. Careers. Largo, Florida.

Films:

Some Careers are More Rewarding. Modern Talking Picture Service. 16 mm, Sound, 12 minutes.

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"CAREERS RELATED TO ILLEGAL USE OF MARIJUANA"

GRADE: 8
SUBJECT: HEALTH AND PHYSICAL EDUCATION

BROAD OBJECTIVE:

To help the pupil develop an understanding of the nature, uses and dangers of marijuana.

PERFORMANCE OBJECTIVE:

To relate to the student vocations created out of the illegal uses of drugs.

LESSON PROCEDURE:

Lecture on the difference between smoking cigarettes and smoking marijuana.

Group discussion on "Why some people cannot obtain relaxation, laughter, and a sense of well-being without a drug".

Filmstrip with Sound: "Marijuana".

Demonstrate the odor of marijuana by using a synthetic substance.

Bulletin Board on the different ways marijuana is used.

Students write an essay on "Whether or not he thinks he would develop an emotional and psychological dependence on marijuana.

Guests from Bland Correctional Farm to discuss the penalty for using, possessing, and distributing marijuana.

Various vocations will be brought in with the daily lesson plan.

MATERIALS AND RESOURCES:

Text:

Jones, Wright, Behlmer. Living in Safety and Health, 1966. J. B. Lippincott Co., New York, New York.

Books:

Hackett, Lewis, Pierce. Educational Perspectives on the Drug Crisis. Jarman Press, Charlottesville, Virginia, 1971.
Health and Education Service. Health Education, 1971. State Department of Education, Richmond, Virginia.

Filmstrip: (With Sound)

Marijuana. Guidance Associates, Pleasantville, New York, 1969.
Bulletin Board on the different ways marijuana is used.

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"NUTRITION: SELF-IMPROVEMENT"

GRADE: 8 AND 9
SUBJECT: HEALTH AND PHYSICAL EDUCATION

BROAD OBJECTIVES:

1. To teach the students that nutrition can affect how you look.

2. To instill a desire in each student to make intelligent choices about foods, food fads, and sensational claims.

3. To develop an interest in careers related to the field of nutrition.

PERFORMANCE OBJECTIVES:

1. Each student shall show by a written examination that she has learned the importance of good nutrition.

2. Students will be able to list and give duties and qualifications for at least three careers in the field of nutrition.

LESSON PROCEDURE:

1. Each girl will access her goals -- just what does she hope to gain from this unit in the way of weight control.

2. A survey will be conducted of all foods eaten by the students for a three day period. Calorie charts will be available so that each girl can total her calorie intake for each of the three days. Information will be available as to how many calories should be taken in by each student in order to maintain present weight, to gain weight, or to lose weight.

3. The importance of wise food choices; the dangers of fad dieting; how nutrition can affect your appearance, self-confidence, and relationship with others; and the fact that the individual has the primary responsibility for her good nutrition will be discussed.

4. A film will be shown.

5. Dieticians, home economists, or nutritionists will be brought in to speak to the class on the importance of good nutrition and also about a career in this field.

MATERIALS AND RESOURCES:

Pamphlets:

Personality "Plus" Through Diet. Booklet, 25¢, 20 pages, jh-sh-c, 1965, No. 299. Public Affairs Pamphlets, 381 Park Avenue, S. New York, New York 10016

Pamphlets: (Continued)

To Breakfast or Not to Breakfast? Leaflet, jh-sh-c-ad, Kellogg Company, Department of Home Economics Services, Battle Creek, Michigan 49016

Your Age and Your Diet. American Medical Association, 535 North Dearborn Street, Chicago, Illinois 60610, 1967.

Weight Control Source Book. Booklet, 19 pages, sh-c-ad. National Dairy Council, 111 N. Canal Street, Chicago, Illinois 60606

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"PREVENTION AND CONTROL OF DISEASE"

GRADE: 9
SUBJECT: HEALTH AND PHYSICAL EDUCATION

BROAD OBJECTIVE:

To help the pupil acquire a knowledge of communicable diseases and to realize the importance of keeping germs from entering the body.

PERFORMANCE OBJECTIVE:

The students will become aware of the communicable and non-communicable diseases, their symptoms, causes, and preventions. They will also become aware of the job opportunities available in these areas.

LESSON PROCEDURE:

Lecture on common signs and symptoms of communicable and non-communicable diseases.

Essay on the "Contributions of scientists in the field of health and how these contributions have helped in prevention and control of disease".

Films, "Body Defense Against Disease" and "Infectious Diseases and Natural Body Defenses".

Students bring in clippings from newspapers and magazines on recent medical advances.

Filmstrips, "Keeping Foods Safe to Eat" and "Population and Food".

Field trip to local water and sewage department.

Bulletin Board, "Danger Signs of Cancer".

MATERIALS AND RESOURCES:

Text:

Jones, Wright, Behlmer. Living in Safety and Health. J. B. Lippincott Co., New York, New York, 1966.

Book:

Health and Physical Education Service. Health Education. State Department of Education, Richmond, Virginia, 1971.

Films:

Body Defenses Against Disease. Educational Motion Pictures. State Department of Education, Richmond, Virginia, 1972.

Films: (Continued)

Infectious Diseases and Natural Body Defenses, 1961. Educational Motion Pictures. State Department of Education, Richmond, Virginia, 1972.

Filmstrips:

Keeping Foods Safe to Eat and Population and Food. Filmstrip of the Month Clubs. Popular Science Publishing Company, Inc. New York, New York.

Bulletin Board

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"MENTAL HEALTH AND RELATED CAREERS"

GRADE: 9
SUBJECT: HEALTH AND PHYSICAL EDUCATION

BROAD OBJETIVES:

1. To help students see themselves as others see them.

2. To give the students an understanding of many approaches that may be used to assist with poor mental health habits.

3. To create interest in mental health careers.

PERFORMANCE OBJECTIVES:

1. Students shall be able to explain themselves in a "Me" Project* that will be turned in and checked by the teacher.

2. Each student shall demonstrate a knowledge of careers in the field of mental health and will be able to give the duties and qualifications of those careers in a written test.

LESSON PROCEDURE:

1. Students will pair off and talk for 10-15 minutes, relating their likes, dislikes, strengths, and weaknesses as well as ambitions to their partner. The partner will then predict what would be a good vocation for the student to whom she has been talking. Students change places and repeat the procedure.

2. Discussion and lecture on various aspects of mental health with emphasis on factors what affect mental health and on the necessity of being able to use maturity in dealing with life situations.

3. Show filmstrips on personality.

4. Have a school psychologist in to discuss careers in mental health and the various aspects of psychology as it relates to the student.

*5. As a culminating activity, have each student turn in a "Me" Project that will present the facts of her life and personality. The project may take any form the student desires, and creativity and originality are encouraged. A diary, scrapbook, poetry, log, or tape recording are a few suggestions that may be used.

MATERIALS AND RESOURCES:

Books:

Barrett, Morris. Health Education Guide, A Design for Teaching

Books: (Continued)

K-12. Health Education Associates, Ltd., Wynnewood, Pennsylvania, 1971.
Health Education Guide 7-12. State Department of Education, Richmond, Virginia, 1971.
Jones, Wright and Behlmer. Living in Health and Safety. J. B. Lippincott Company, Philadelphia and New York, 1966.
Otton, Julian, and Tether. Modern Health. Holt, Rinehart and Winston, Inc., New York, 1967.

Resource People:

School Psychologist
Psychiatrist
Social Worker
Juvenile Judge
Probation Officer
Psychiatric Aide
Mental Hospital Physician or Nurse

Pamphlets:

Health Careers. Virginia Council on Health and Medical Care.
Facing Up to Modern Life. Stevens, 1960.
How to Deal With Mental Problems. National Association of Mental Health.
Mental Health and School Health Services. American Association of Health, Physical Education and Recreation.
Psychologists in Action. Public Affairs Pamphlet No. 229.
Because You Like People...Choose a Career in Mental Health. National Association of Mental Health.

Films:

To See Ourselves. Aetna Life and Casualty Company. 16 mm sound, 141/2 minutes, 1960.
Emotional Health. McGraw Hill Book Company. 20 minutes, b and w, sh-c-as.

Filmstrips:

"Your Personality: The You Others Know". Guidance Associates, Pleasantville, New York, 1969.
"Dare to be Different". Guidance Associates, Pleasantville, New York, 1968.

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"AIR POLLUTION"

GRADE: 9
SUBJECT: HEALTH AND PHYSICAL EDUCATION

BROAD OBJECTIVE:

To have the pupil develop an understanding of the problem, it's cause and harmful effects of air pollution and man's role in preventing it.

PERFORMANCE OBJECTIVE:

The student will be able to demonstrate a broad awareness of occupations that contribute to air pollution control.

LESSON PROCEDURE:

1. Assigning certain students research papers on diseases caused by air pollution and report findings to class.

2. Making a bulletin board depicting source, cause, and the elimination of air pollution in the school and community.

3. Having certain students give reports on "Smog", "Smaze", etc; their cause, dangers, and what steps are being taken to prevent these conditions.

4. Having certain students giving reports on the correlation between the increase in population and air pollution.

5. Having students list and discuss the different types of career occupations associated with air pollution control.

MATERIALS AND RESOURCES:

Supplies:

Vacuum Cleaners, Tissue Paper, Spark Plugs, Auto Muffler

Book:

Otto, James H. Modern Health. Holt, Rinehart, Winston, Inc., New York, 1967.

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"LEISURE TIME PURSUITS - HOBBIES AND CRAFTS"

GRADE: 9
SUBJECT: HEALTH AND PHYSICAL EDUCATION

BROAD OBJECTIVE:

To help girls develop interests and abilities in crafts and hobbies that will provide life long interests for them.

PERFORMANCE OBJECTIVE:

Each girl will be able to demonstrate her ability to perform at least five new crafts, hobbies, or games as a result of this unit.

LESSON PROCEDURE:

1. Each girl will be asked to share a hobby, craft, or game with the class. She will teach it to the entire class.

2. Girls will be asked in advance to bring materials so that they may participate in actually doing the activities themselves.

3. Community and school resource people will be brought in to teach such activities as macrame', needlepoint, cake decorating, origami, flower making, flower arranging, etc.

MATERIALS AND RESOURCES:

Books:

DePew, Arthur M. The Cokesbury Game Book. Abingdon Press, Nashville, Tennessee, 1960.
Egge, Ruth Stearns. How to Make Something from Nothing. Coward-McCann, Inc., New York, 1968.
Harvey, Virginia. Macrame': The Art of Creative Knotting. Van Nostrand Reinhold Co., New York, 1967.
Hunt, Sarah Ethridge. Games and Sports the World Around. Ronald Press, New York, 1964.
Johnston, Mary Grace. Paper Sculpture. Davis Publications, Inc., Worcester, Massachusetts, 1964.
Pluckrose, Henry. The Book of Crafts. Galahad Books, New York, 1971.
Young, Helen. Here is Your Hobby: Doll Collecting. G. P. Putnam's Sons, New York, 1964.

Films:

Bright Ideas With Aluminum Foil. Reynolds Metals Company, 1968. 16mm sound, 131/2 minutes.
Of Lines and Flowers. Smithers-Oasis, 1961. 16mm sound, 45 minutes.

Films: (Continued)

Origami--The Folding Paper of Japan. Consulate General of Japan. 16mm, sound, 16 minutes.
Wonderful World of Bikes (S-320) Association--Sterling Films, 1966. 16 mm, sound, 27 1/2 minutes.

Brochures:

Creative Crafts. Available to teachers only (use post card when requesting this material). Best Foods, a Division of CPC International, Inc.
Creative Crafts
P.O. Box 307
Coventry, Connecticut 06238

Easy-toMake Gifts. Available in classroom quantities.
Johnson Wax Golden Rondelle
Consumer Education Center
Department FTC-H
Racine, Wisconsin 53403

Gum Wrapper Sculpture Booklet. Single copies available to teachers and librarians.
Clark Gum Company
Gum Wrapper Sculpture Booklet
Corporate Relations Department
100 Park Avenue
New York, New York 10017

Happy Holiday Series. Single copies available to teachers and librarians.
American Art Clay Co., Inc.
4717 West Sixteenth Street
Indianapolis, Indiana 46222

Needlepoint Instruction Sheet. Limit 2 copies, available to teachers only.
Heirloom Needlework Guild, Inc.
Educational Division
15 East 26th Street
New York, New York 10010

Tie-Dye...The Great Color Explosion. Limit of 100 copies, available to teachers.
Color Explosion
Post Office Box 307
Coventry, Connecticut 06238

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"BONE FRACTURE"

GRADE: 9
SUBJECT: HEALTH AND PHYSICAL EDUCATION

BROAD OBJECTIVE:

To help the student develop skill in detecting and treating injuries to bones, joints, and muscles.

PERFORMANCE OBJECTIVE:

The student will be able to demonstrate a broad awareness of first aid as it applies to job roles and careers.

LESSON PROCEDURE:

1. Viewing film on fractures and first aid procedures.
2. Having students play career roles, such as, nurse, first aider, surgeon, etc.
3. Having students apply slings, ankle wraps, knee wraps, etc.
4. Inviting a local physical therpaist to meet with class to discuss first aid for springs, dislocations, etc.

MATERIALS AND RESOURCES:

Books:

American Red Cross. First Aid.
Otto, Julian, Tether. Modern Health. Holt, Rinehart, Winston, Inc., New York, 1967.

Films:

Danger is Your Companion. American Red Cross.
First Aid Now. Bureau of Mines.

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"EXPLORING CAREERS IN FIRST AID"

GRADE: 10
SUBJECT: HEALTH

BROAD OBJECTIVES:

1. To learn first aid techniques.

2. To investigate careers available in this and related fields.

PERFORMANCE OBJECTIVES:

1. The student will be able to demonstrate properly the techniques of first aid.

2. The student will be able to describe some of the careers in the field.

LESSON PROCEDURE:

1. Following the discussion and demonstration of techniques of first aid, the students will practice them.

2. Artificial respiration will be discussed and techniques demonstrated.

3. Show film on artificial respiration.

4. Have the students practice giving artificial respiration.

5. Ask the local Life Saving Crew to show their equipment and to talk about qualifications.

6. Have a Red Cross Life Saving Instructor talk to the class.

MATERIALS AND RESOURCES:

Text:

First Aid. American Red Cross.

Audio Visual:

Public Service II. Acoustifone (filmstrip) Career Exploration Series.
Mouth-to-Mouth Resuscitation. Ayerst Laboratories. (film)

Resource People:

Life Saving Crew
Red Cross Life Saving Instructor

"ResuciKate" (A Doll)

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"SPORTS EVENT"

GRADE: 10
SUBJECT: HEALTH AND PHYSICAL EDUCATION

BROAD OBJECTIVE:

To make students aware of the various people involved in careers or activities related to athletics.

PERFORMANCE OBJECTIVE:

Students will be aware of the job duties for various occupations associated with a sports event.

LESSON PROCEDURE:

Announce to your class that they will produce a basketball game to be played with all the supporting personnel found at a regular interscholastic sports event. Allow students, with supervision, to choose occupations that they would like to research and portray. Some possible choices are players, coaches, referees, score keeper, announcer, clock operator, first aid (trainers), equipment manager, custodian, policeman, commercial artist and printer for programs, ticket takers, statistician, photographer, reporter, refreshment salesman, cheerleaders, assistant principal and principal. The students will then gather information about their occupation by reading career pamphlets and interviewing people who perform the jobs they will portray.

The game will be more realistic if there are spectators present so plan to invite other classes to attend.

The day of the game be sure all of the electrical equipment is set up in advance and in working order. During the event create opportunities for everyone to carry out his role: the custodian can sweep the floor between quarters, the first aid people attend to an injured player, the policeman can maintain order, the principal can be introduced at half time to make an announcement, the printer and commercial artist can distribute their programs at the door.

As a follow up activity have the reporter and photographer submit a story and pictures to the school and/or local newspapers. Discuss with the class the contributions each person makes to the total operation of a sports event.

MATERIALS AND RESOURCES:

Desk Top Career Kit. Careers. Largo, Florida.
Occupational Exploration Kit. S.R.A.

MATERIALS AND RESOURCES: (Continued)

Physical Facilities and Equipment:

Basketballs, uniforms, microphone, time clocks, whistles, clip boards, camera, tickets, dust mop

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"GUN SAFETY"

GRADE: 10
SUBJECT: HEALTH AND PHYSICAL EDUCATION

BROAD OBJECTIVE:

To help the student better understand the safe operation of rifles, shot guns, and pistols.

PERFORMANCE OBJECTIVE:

The student will be able to demonstrate a broad awareness of career opportunities associated with outdoor life.

LESSON PROCEDURE:

1. Invite a resource person (Game Warden, Policeman, F.B.I. Agent, etc.) to talk with the students.

2. Viewing of films on guns and gun safety.

3. Make a bulletin board depicting safety, careers, and hazards, associated with guns and outdoor life.

MATERIALS AND RESOURCES:

Films:

Nobody Victim. Virginia State Department of Education, Richmond, Virginia.
Safe Gun Handling. Remington Arms Company, Inc.
Teaching Gun Safety in Public Schools. Daisy/Heddon.

Books:

Otto, Julian, Tether. Modern Health. Holt Rinehart and Winston, Inc., New York, 1967.
Whelen, Colonel Townsend and Angler, Bradford. Mister Rifleman. Petersen Publishing Company, 1965.
Serven, James E. The Collecting of Guns. The Stackpole Company.
Smith, Joseph E. Small Arms of the World. The Stackpole Company, 1973.

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"MENTAL HEALTH"

GRADE: 10
SUBJECT: HEALTH AND PHYSICAL EDUCATION

BROAD OBJECTIVE:

To help the pupil develop an appreciation for the importance of proper care of the body and mechanisms which control mental and emotional aspects of life.

PERFORMANCE OBJECTIVE:

The student will be able to distribute leisure time wisely, and understand the various careers that contribute to one's mental well-being.

LESSON PROCEDURE:

1. Assigning study projects on the various aspects of maintaining a healthy nervous system and reporting to the group.

2. Making a list of the leisure time activities used by the group and discuss the range of careers associated with each activity.

3. Having pupils discuss their favorite leisure time activities and the importance of the benefits derived from them.

4. Discussing reasons why physical fitness might influence a person's state of mental health.

MATERIALS AND RESOURCES:

Books:

Otto, James H. Modern Health. Holt, Rinehart, Winston, Inc., New York, 1967.
Williams, Dorothea. Building Health. Holt, Rinehart, Winston, Inc., New York, 1967.

Career Briefs. Occupational Exploration Kit. Science Research Associates.

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"EXPLORING CAREERS IN DRIVING"

GRADE: 10
SUBJECT: DRIVER EDUCATION

BROAD OBJECTIVES:

1. To know the rules of the road.

2. To investigate the career opportunities in the field of driving.

PERFORMANCE OBJECTIVES:

1. The student will be able to list the rules of the road.

2. The student will be able to list 5 careers and qualifications of each in the field of driving.

LESSON PROCEDURE:

1. Show film Ten Little Engines.

2. Study and discuss the rules of the road.

3. Invite a judge from traffic court to discuss the rules and the consequences of breaking them.

4. Investigate the career opportunities in the field.

5. Invite an official from a trucking concern to talk with the students on career opportunities in the field.

6. Ask a representative from a professional driving school to talk on careers.

MATERIALS AND RESOURCES:

Text:

Sportsmanlike Driving. McGraw Hill Book Company, 1970. 6th Ed.

Filmstrips:

Municipal Law Enforcement-Protection of People. Acoustifone. Career Exploration Series.
Public Service-Public Services II. Acoustifone.
Trucking-Land Transportation. Acoustifone.

Film Loops:

Over the Road Truck Driving. Encyclopedia Britannica, 1970.
Mail Carriers. Encyclopedia Britannica, 1970.
Local Truck Drivers. Encyclopedia Britannica, 1970.

MATERIALS AND RESOURCES: (Continued)

Pamphlet:

Driving Like A Pro. Greyhound Corp.

Books:

Aaron, James E. Driver and Traffic Safety Education. The MacMillan Company, 1970.
Halsey, Maxwell N. Skillful Driving. Doubleday and Company, 1959
Weiers, Ronald M., License to Kill. Chilton Book Company, 1968.

Film:

Ten Little Engines. Aetna Life and Casualty, Film Library, 151 Farmington Avenue, Hartford, Conn. 06115

Resource People:

Trucking Company Representative
A Judge
A Representative from a Professional Driving School

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"CAREERS ASSOCIATED WITH OBTAINING A DRIVER'S LICENSE"

GRADE: 10
SUBJECT: DRIVER EDUCATION

BROAD OBJECTIVE:

1. To learn how to get a driver's license.

2. To investigate careers available in this field.

PERFORMANCE OBJECTIVES:

1. The student will be able to get his learner's permit.

2. The student will be able to describe some of the careers in the field.

LESSON PROCEDURE:

1. Show the film Your Permit to Drive.

2. Study the D.M.V. Manual.

3. Ask an examiner to talk with the class about getting a license and careers in the area.

4. Invite a representative of the Governor's Highway Safety Commission to talk to the class.

5. Ask a Highway Patrolman to talk with the class.

MATERIALS AND RESOURCES:

D.M.V. Manual. Division of Motor Vehicles. Richmond, Virginia.

Film:

Your Permit to Drive. General Motors Corp., Public Relations Staff-Film Library, General Motors Building, Detroit, Michigan 48202.

Resource People:

D.M.V. Examiner
Representative from Highway Safety Commission
Highway Patroman

RADFORD CITY SCHOOLS CAREER EDUCATION PROGRAM

"EXPLORING CAREERS IN INSURANCE"

GRADE: 10
SUBJECT: DRIVER EDUCATION

BROAD OBJECTIVES:

1. To understand the types of automobile insurance and the necessity of each one.

2. To investigate the career opportunities related to this field.

PERFORMANCE OBJECTIVES:

1. The students will be able to explain the different types of automobile insurance.

2. The students will be able to describe careers in the field and qualifications needed for them.

LESSON PROCEDURE:

1. Read and discuss material in the textbook on automobile insurance.

2. Use periodic literature for up-to-date information on automobile insurance.

3. The students will investigate careers through the use of Career Briefs and Careers by Largo.

4. Invite an insurance agent to talk about insurance and careers in the field.

MATERIALS AND RESOURCES:

Text:

Sportsmanlike Driving. McGraw-Hill Book Company, 1970.

Pamphlet:

Its Up to You. Education Services. Institute of Life Insurance, New York.

Magazines:

Progress Report No Fault Insurance Coming On Strong. U. S. News, October, 1973.
Insurance Man: Claims and Cancellations. Sat. Review, Oct., 1971.
How to Buy Auto Insurance Today. Changing Times, July, 1971.

MATERIALS AND RESOURCES: (Continued)

Kits:

Careers by Largo. Largo, Florida.
Career Briefs. Occupation Exploration Kit. Science Research Associates.

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PERSONAL AUTHOR: SMITH, GENEVIEVE

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ABSTRACT: THIS REPORT SUMMARIZED RESULTS OF A FOLLOWUP SURVEY OF TENNESSEE VOCATIONAL EDUCATION SENIORS OF 1973-74 AND 1974-75. A QUESTIONNAIRE TO COLLECT INFORMATION RELATING TO EMPLOYMENT, EDUCATION, AND EVALUATION OF VOCATIONAL PROGRAMS IN THE STATE WAS MAILED TO STRATIFIED SAMPLES OF 2,086 VOCATIONAL EDUCATION SENIORS OF 1973-74 AND 5,219 OF 1974-75 WITH A TOTAL RESPONSE RATE FOR BOTH YEARS OF 13.8 PERCENT (1,846). THE DATA WERE CATEGORIZED ACCORDING TO VOCATIONAL FIELD AND ARE PRESENTED IN TABULAR FORM ACCORDING TO: CHOICE OF VOCATIONAL PROGRAM, COMPLETION OF VOCATIONAL PROGRAM, ENROLLMENT IN MORE VOCATIONAL EDUCATION, EVALUATION OF SCHOOL SERVICES, AND INFORMATION RELATING TO EMPLOYED STUDENTS. TABLES ALSO PRESENT INFORMATION ON THE EMPLOYMENT AND EDUCATIONAL STATUS OF STUDENTS ACCORDING TO THE VARIABLES OF SEX, RACE, AND REGULAR, DISADVANTAGED, OR HANDICAPPED STATUS. SOME OF THE CONCLUSIONS ARE: VOCATIONAL OFFERINGS GENERALLY MET THE DEMAND WITH A CONSIDERABLE NUMBER OF RESPONDENTS INDICATING SATISFACTION WITH VOCATIONAL PROGRAMS; A MAJORITY COMPLETED THEIR PROGRAM; EQUIPMENT AND FACILITIES WERE RATED ADEQUATE, ALTHOUGH JOB PLACEMENT WAS CONSIDERED POOR BY ONE-FOURTH; MOST ACQUIRED JOBS WITH A MAJORITY INDICATING SOME RELATIONSHIP BETWEEN THEIR VOCATIONAL TRAINING AND PRESENT JOB; AND APPROXIMATELY 33 PERCENT WERE ENROLLED IN SOME TYPE OF SCHOOL OR COLLEGE. (NJ)

INSTITUTION NAME: TENNESSEE UNIV., KNOXVILLE. OCCUPATIONAL RESEARCH AND DEVELOPMENT COORDINATING UNIT.; TENNESSEE STATE BOARD FOR VOCATIONAL EDUCATION,

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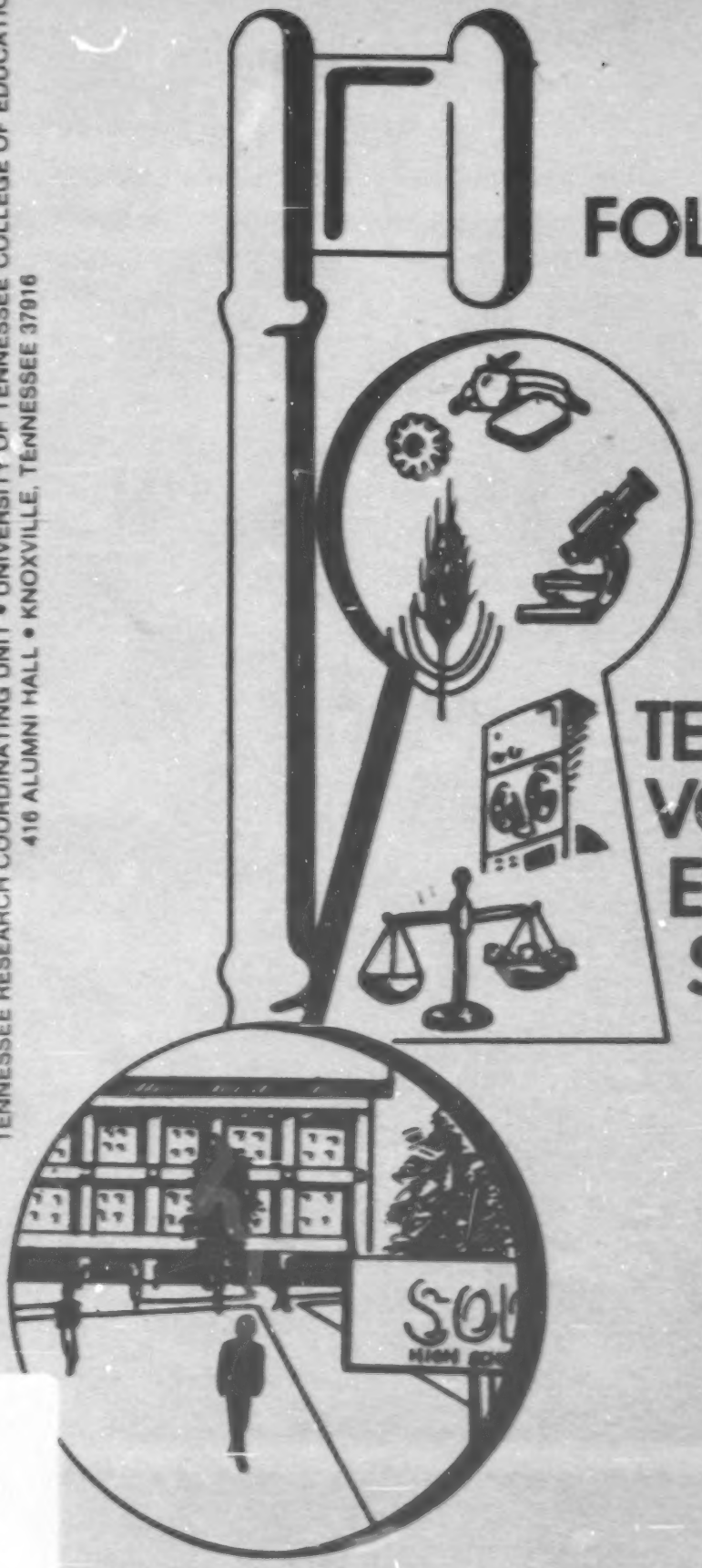

FOLLOW-UP STUDY OF TENNESSEE VOCATIONAL EDUCATION SENIORS

1973-74
1974-75

VT 103 224

A FOLLOW-UP STUDY OF TENNESSEE VOCATIONAL EDUCATION SENIORS 1973-74 AND 1974-75

Tennessee Research Coordinating Unit
University of Tennessee College of Education

and

Tennessee State Board for Vocational Education
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Nashville, Tennessee 37219

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INTRODUCTION

More and more states are developing a computer-based Management Information System (MIS) which collects and summarizes vocational education data about staff, students, facilities and equipment, financial accounting, and manpower demand. The MIS simplifies the collection and organization of information needed for completing local, state, and federal reports. In addition, it provides the program planner with comprehensive information about the existing educational system.

When the Tennessee Management Information System (TMIS) was first established, vocational teachers supplied all of the feedback about former students. However, to obtain more detailed information about students after they had left school, the Tennessee Research Coordinating Unit developed a follow-up component in which students themselves provided information about their status. The first student follow-up, based on the TMIS, was completed in March 1975 and provided comprehensive information about 1972-73 vocational education seniors in Tennessee.[1]

Recently, a bill, H. R. 12835, amending the Vocational Education Act of 1963, was passed in the House of Representatives.

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[1] Robert Coker, Charlotte Wallen, and Lynn Guess. A Follow-up Study of Tennessee Vocational Education Enrollees, Twelfth Graders, 1972-73. Tennessee Research Coordinating Unit, The University of Tennessee College of Education and the Tennessee State Board for Vocational Education. March, 1975.

H. R. 12835 mandates that programs within a State which claim to impart entry-level job skills shall be evaluated according to the extent to which "program completers and leavers find employment in occupations related to their training, and are considered by their employers to be well-trained and prepared for employment."[2]

In addition, the bill states that each program shall be evaluated "according to the extent to which program completers and leavers 1) earn a decent wage, 2) progress in occupations of their choice, 3) are satisfied with their jobs, 4) are satisfied with the training they received, or 5) upgrade their skills through additional education or training."[3]

These objectives have already been met by TMIS which has continued to collect and summarize these types of information about vocational education seniors who left high school in 1973-74 and 1974-75. This report presents a summary of those results and is offered to administrators, teachers, and guidance counselors who require reliable information about the educational and employment status of vocational students who have left school. By using former students as a primary data source, educators have access to valuable information for improving existing vocational programs and establishing new programs that will meet the needs of students and community.

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[2]Ninety-fourth Congress, 2d Session of House of Representatives. March 29, 1976.

[3]Ibid.

THE PURPOSE

The purpose of the study was to determine the status of Tennessee's vocational education seniors of 1973-74 and 1974-75 by administering a questionnaire to collect information relating to the following:

1. employment;
2. education; and
3. vocational education programs in Tennessee.

METHODOLOGY

A stratified random sampling plan was used to select 2,086 students from the 103,920 vocational education seniors of 1973-74 and 5,219 students from the 112,833 vocational education seniors of 1974-75 from the Tennessee Management Information System. A larger sample was selected for 1974-75 because the 1973-74 sample produced a smaller response than desired.

The questionnaire from the 1972-73 student follow-up questionnaire was adapted for the study (Appendix A) and included 23 questions and five sections relating to enrollment in the vocational program, evaluation of the vocational program, and the employment and educational status of students. After each initial mailing, students who had not replied were sent a second questionnaire. Results of the mailings are shown in Table 1.

Table 1

RESPONSE OF STUDENTS IN FOLLOW-UP STUDY
1973-74 AND 1974-75

Group	Mailings	No. Distributed	No. Returned	No. Usable Returns	Percentage of Return
1973-74	July 1975	2,086	226	226	10.8
seniors	August 1975	1,950	168	166	9.1
1974-75	November 1975	5,219	782	772	15.0
seniors	January 1976	4,447	699	682	15.7
	Total	13,602	1,875	1,846	13.8

After the responses from 1973-74 students declined, a random sample was selected of students who had not returned the questionnaire. These students were labeled "non-respondents" because they had not replied by mail. Telephone calls were made to collect information from the non-respondents. This same procedure was followed for the 1974-75 follow-up. The number of students contacted for information by telephone totaled 120 (1973-74) and 167 (1974-75). The interview guide and non-respondent questionnaire used for the telephone survey appear in Appendix B.

Upon completion of data collection from the respondents and non-respondents of 1973-74 and 1974-75, questionnaires were scanned, keypunching performed, and computer programming and processing initiated in preparation for data analysis.

COMPARISON OF RESPONDENTS AND NON-RESPONDENTS

To determine if the respondents were representative of seniors enrolled in vocational education programs during 1973-74 and 1974-75, comparisons were made between each group of respondents (those who had replied to the questionnaire) and each group of non-respondents (those who had not replied to the questionnaire).

In comparing respondents and non-respondents by sex, it was noted that non-respondents in both groups included more males and fewer females than the respondents. Table 2 depicts the percentage of males and females involved in the study.

Table 2

PERCENTAGE OF RESPONDENTS AND NON-RESPONDENTS BY SEX

Sex	N = 392/120* 1973 - 1974		N = 1,454/167* 1974 - 1975	
	Respondents %	Non-Respondents ** %	Respondents %	Non-Respondents ** %
Male	35.2	45.0	44.2	50.3
Female	64.8	55.0	55.8	49.7
Total	100.0	100.0	100.0	100.0

* Respondents followed by non-respondents.
** Former students contacted by telephone because they did not respond to the questionnaire.

Compared to respondents, more non-respondents were employed full- or part-time, according to Table 3. A greater percentage of respondents than non-respondents were unemployed.

Table 3

COMPARISON OF EMPLOYMENT AND EDUCATIONAL STATUS
OF RESPONDENTS AND NON-RESPONDENTS

	N = 392/120 1973 - 1974		N = 1,454/167 1974 - 1975	
	Respondents %	Non-Respondents %	Respondents %	Non-Respondents %
Employed (Full- or Part-Time)	46.9	53.3	42.8	45.5
Employed and attending school	14.8	13.3	11.5	11.4
Unemployed	23.5	22.5	21.5	18.0
Attending school/ college	14.8	10.9	24.2	25.1
Total	100.0	100.0	100.0	100.0

Table 4 shows that respondents liked their jobs very much while non-respondents liked their jobs somewhat. However, fewer non-respondents than respondents had much dislike for their jobs.

Table 4

COMPARISON OF JOB ATTITUDES OF RESPONDENTS AND NON-RESPONDENTS

	N = 242/80 1973 - 1974		N = 790/95 1974 - 1975	
	Respondents %	Non-Respondents %	Respondents %	Non-Respondents %
Like it very much	52.5	50.0	45.9	44.2
Like it somewhat	25.2	27.5	27.7	33.7
Neither like nor dislike	11.2	10.0	16.3	16.8
Dislike it somewhat	7.8	11.2	5.9	4.2
Dislike it very much	3.3	1.3	4.2	1.1
Total	100.0	100.0	100.0	100.0

Compared to non-respondents, more 1973-74 respondents had jobs for which they were trained or jobs highly related to training. Over one-half of the non-respondents in both groups held jobs only slightly related or unrelated to their training. Table 5 presents this information.

Table 5

RELATION BETWEEN VOCATIONAL TRAINING AND PRESENT JOB OF RESPONDENTS AND NON-RESPONDENTS

	N = 237/80 1973 - 1974		N = 768/95 1974 - 1975	
	Respondents %	Non-Respondents %	Respondents %	Non-Respondents %
Job same for which trained	12.7	10.0	13.2	16.9
Job highly related to training	20.7	13.8	18.2	12.6
Job only slightly related to training	24.9	25.0	26.0	12.6
Job not related to training	36.7	51.2	42.6	57.9
Total	100.0	100.0	100.0	100.0

The average number of hours per week worked by all four groups was less than 40, as shown in Table 6.

Table 6

COMPARISON OF AVERAGE WORK HOURS PER WEEK OF RESPONDENTS AND NON-RESPONDENTS EMPLOYED FULL- OR PART-TIME

	N = 234/80 1973 - 1974	N = 775/88 1974 - 1975
	Hours	Hours
Respondents	37.01	36.22
Non-Respondents	34.26	37.59

Table 7 indicates that all respondents traveled farther to work than non-respondents.

Table 7

COMPARISON OF AVERAGE COMMUTING DISTANCE (ONE-WAY) OF RESPONDENTS AND NON-RESPONDENTS

	N = 226/77 1973 - 1974	N = 705/79 1974 - 1975
	Miles	Miles
Respondents	8.55	8.49
Non-Respondents	6.35	7.77

The 1973-74 non-respondents achieved the highest average hourly wage ($2.86), according to Table 8.

Table 8

COMPARISON OF AVERAGE HOURLY WAGE RATE OF RESPONDENTS AND NON-RESPONDENTS

	N = 232/76 1973 - 1974	N = 747/78 1974 - 1975
	$	$
Respondents	2.65	2.80
Non-Respondents	2.86	2.77

To determine if respondents were representative of all 1973-74/1974-75 seniors, comparisons were made between respondents and non-respondents. A significant difference was determined on only two variables -- work hours per week and one-way commuting distance (Appendix C). Therefore, data from the four samples were

considered representative of seniors enrolled in vocational education programs during this period.

FINDINGS

Many kinds of data were collected, summarized, and analyzed in the course of this study. The information was categorized according to vocational field so that it would be more useful to program planners. Numerous tables, designed to simplify the answer-finding process, are presented in the same order as the questions in the questionnaire (Appendix A).

The number (N) of students responding to questions varies from table to table for the following reasons: 1) a number of students failed to answer questions which they should have answered, and 2) a number of students gave multiple answers to a question, thereby eliminating the response completely.

Choice of Vocational Program

A majority of vocational education students received their first choice of program. Table 9 presents this information.

According to Table 10, approximately one-third of the respondents did not enroll in their vocational program of first choice because it was not offered.

Only a small percentage of students were placed on a waiting list for a vocational program of their choice. The greatest number of students on a waiting list occurred in 1974-75 when 20.2 percent waited to enroll in Special Programs, as shown in Table 11.

Table 9

PERCENTAGE OF ENROLLEES RECEIVING FIRST, SECOND, OR THIRD CHOICE OF VOCATIONAL PROGRAM

	N = 373 1973-1974			N = 1,365 1974-1975		
	1st Choice %	2nd Choice %	3rd Choice %	1st Choice %	2nd Choice %	3rd Choice %
Agriculture	80.0	6.7	13.3	78.4	16.2	5.4
Non Farm Agriculture	68.2	18.2	13.6	81.1	10.5	8.4
Distributive Education	89.1	7.8	3.1	85.9	10.7	3.4
Health	91.6	5.6	2.8	94.2	5.8	0.0
Occupational Home Economics	81.5	11.1	7.4	72.2	19.4	8.4
Office	87.9	11.0	1.1	87.2	9.3	3.5
Technical	100.0	0.0	0.0	93.2	3.4	3.4
Trade & Industry	85.1	12.2	2.7	85.2	9.2	5.6
Special Programs	85.7	0.0	14.3	79.5	19.5	0.9

Table 10

REASONS GIVEN BY STUDENTS FOR NOT ENROLLING IN VOCATIONAL PROGRAM OF FIRST CHOICE

	N = 45 1973-1974	N = 183 1974-1975
	%	%
Courses Were Filled	24.4	28.5
Courses Not Offered	28.9	36.7
Lacked Prerequisites	15.6	10.8
Other	31.1	24.0

Table 11

PERCENTAGE OF STUDENTS PLACED ON WAITING LIST
FOR VOCATIONAL PROGRAM OF CHOICE

	N = 387 1973-1974		N = 1,421 1974-1975	
	Yes %	No %	Yes %	No %
Agriculture	11.8	88.2	6.4	93.6
Non Farm Agriculture	18.2	81.8	14.4	85.6
Distributive Education	16.2	83.8	15.3	84.7
Health	9.9	90.1	12.8	87.2
Occupational Home Economics	14.3	85.7	12.7	87.3
Office	7.5	92.5	10.5	89.5
Technical	0.0	100.0	3.3	96.7
Trade & Industry	12.7	87.3	17.1	82.9
Special Programs	12.5	87.5	20.2	79.8

Completion of Vocational Program

As shown in Table 12, a majority of 1973-74 enrollees (316) and 1974-75 enrollees (1,377) completed vocational programs. The highest percentage of non-completers occurred in the Special Program category for 1974-75.

The majority of students terminated vocational programs before completion because they 1) changed plans, 2) got a job, or 3) for financial reasons, according to Tables 13 and 14.

Enrollment in More Vocational Education

Approximately one-half or more of the students in Health, Occupational Home Economics, and Technical Programs (1973-74) indicated a desire to enroll in more vocational education within the

Table 12

PERCENTAGE OF STUDENTS COMPLETING VOCATIONAL PROGRAMS

	N = 272 1973-1974		N = 1,277 1974-1975	
	Yes %	No %	Yes %	No %
Agriculture	86.7	13.3	85.7	14.3
Non Farm Agriculture	81.0	19.0	80.0	20.0
Distributive Education	91.2	8.8	91.4	8.6
Health	91.3	8.7	83.3	16.7
Occupational Home Economics	88.9	11.1	84.7	15.3
Office	80.2	19.8	85.4	14.6
Technical	100.0	0.0	82.1	17.9
Trade & Industry	77.3	22.7	78.6	21.4
Special Programs	88.9	11.1	74.3	25.7

Table 13

REASONS GIVEN BY STUDENTS FOR TERMINATING VOCATIONAL PROGRAM BEFORE COMPLETION (1973-1974)

N = 51

	Changed Plans %	Got Job %	Financial Reasons %	Marriage %	Disliked School %	Transferred %	Poor Health %
Agriculture	0.0	2.0	2.0	2.0	0.0	0.0	0.0
Non Farm Agriculture	2.0	2.0	0.0	2.0	0.0	0.0	0.0
Distributive Education	2.0	2.0	0.0	3.9	0.0	2.0	0.0
Health	2.0	0.0	0.0	2.0	2.0	2.0	0.0
Occupational Home Economics	0.0	0.0	3.9	0.0	2.0	0.0	0.0
Office	12.0	5.9	3.9	2.0	2.0	2.0	0.0
Technical	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Trade & Industry	5.9	5.9	5.9	3.9	3.9	5.9	2.0
Special Programs	0.0	0.0	2.0	0.0	0.0	0.0	0.0

Table 14

REASONS GIVEN BY STUDENTS FOR TERMINATING
VOCATIONAL PROGRAM BEFORE COMPLETION (1974-1975)

N = 184

	Changed Plans %	Got Job %	Financial Reasons %	Marriage %	Disliked School %	Transferred %	Poor Health %
Agriculture	1.1	1.0	1.6	0.0	1.0	0.0	0.0
Non Farm Agriculture	4.8	2.0	0.5	0.5	0.0	0.5	0.0
Distributive Education	1.6	4.2	0.5	2.0	1.6	1.6	0.5
Health	3.7	2.6	1.1	0.0	0.5	1.0	1.6
Occupational Home Economics	3.7	0.0	2.6	1.1	0.0	0.5	0.0
Office	6.2	3.7	2.1	2.1	2.6	2.6	1.1
Technical	1.1	0.5	0.5	0.0	0.5	0.5	0.0
Trade & Industry	5.8	5.6	2.6	1.1	3.2	1.1	1.0
Special Programs	1.6	5.3	1.1	1.1	1.6	1.1	0.0

next two years. Over 40 percent or more of the 1974-75 seniors in every vocational field indicated plans for more vocational education. Table 15 presents this information.

Tables 16 and 17 indicate the fields specified by students for further training. Some of the 382/1,404 respondents indicating plans to take more vocational education (Table 15) failed to specify the fields in which they intended to enroll. Table 18, ranking the fields in importance, indicates that both groups considered Office Programs as first in importance.

Table 15

PERCENTAGE OF STUDENTS PLANNING TO ENROLL IN MORE VOCATIONAL OR TECHNICAL EDUCATION WITHIN NEXT TWO YEARS

	N = 382 1973-1974		N = 1,404 1974-1975	
	Yes %	No %	Yes %	No %
Agriculture	37.5	62.5	46.2	53.8
Non Farm Agriculture	31.8	68.2	44.7	55.3
Distributive Education	36.8	63.2	47.7	52.3
Health	49.3	50.7	52.5	47.5
Occupational Home Economics	60.7	39.3	54.7	45.3
Office	32.6	67.4	43.3	56.7
Technical	50.0	50.0	44.8	55.2
Trade & Industry	40.3	59.7	48.6	51.4
Special Programs	12.5	87.5	50.4	49.6

Table 16

PERCENTAGE OF STUDENTS SPECIFYING FURTHER TRAINING IN A GIVEN FIELD (1973-74)

N = 171

Field	Agr. %	Non Farm Agr. %	Dist. Ed. %	Health %	Oc. Home Economics %	Office %	Tech. %	Trade & Ind. %	Spec. Prog. %
Agriculture	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non Farm Agriculture	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Distributive Education	0.0	0.0	1.8	0.0	0.0	0.6	0.0	0.6	0.0
Health	0.0	0.0	2.3	16.4	3.5	5.3	0.0	0.0	0.6
Occupational Home Economics	0.0	0.0	0.6	0.0	2.9	1.2	0.0	0.0	0.0
Office	0.0	0.7	5.8	2.9	3.5	11.1	0.0	5.8	0.0
Technical	0.6	2.9	1.8	1.8	0.6	1.8	0.0	5.8	0.0
Trade & Industry	2.3	1.0	2.5	0.6	0.6	1.2	0.0	9.4	0.0
Special Programs	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 17

PERCENTAGE OF STUDENTS SPECIFYING FURTHER TRAINING IN A GIVEN FIELD (1974-75)

N = 842

Field	Agr. %	Non Farm Agr. %	Dist. Ed. %	Health %	Oc. Home Economics %	Office %	Tech. %	Trade & Ind. %	Spec. Prog. %
Agriculture	1.5	1.8	0.6	0.0	0.1	0.0	0.0	0.7	0.4
Non Farm Agriculture	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Distributive Education	0.1	0.1	2.9	0.0	0.4	0.7	0.0	0.5	0.2
Health	0.5	0.4	2.1	7.5	1.3	2.2	0.0	0.6	0.6
Occupational Home Economics	0.0	0.1	0.8	0.2	2.4	1.2	0.0	0.5	0.4
Office	0.0	1.0	7.0	1.1	2.5	15.3	0.0	2.4	1.8
Technical	1.3	1.4	3.0	0.0	0.2	1.0	1.4	4.6	1.7
Trade & Industry	1.7	1.9	3.2	0.2	2.0	1.0	4.2	7.1	3.4
Special Programs	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 18

RANK IN IMPORTANCE OF FIELDS SPECIFIED BY STUDENTS FOR FURTHER TRAINING

	N = 177 1973-1974 Rank	N = 842 1974-1975 Rank
Agriculture	7	8
Non Farm Agriculture	8	7
Distributive Education	6	7
Health	2	4
Occupational Home Economics	5	5
Office	1	1
Technical	4	3
Trade & Industry	3	2
Special Programs	9	9

Evaluation of School Services

Students were asked to rate school services on a three-point scale: 1) very good, 2) average, or 3) poor. Table 19 shows how students rated vocational instruction. In 1973-74, vocational instruction was considered very good by a majority of students in seven vocational fields. By 1974-75, vocational instruction was rated as very good in all nine vocational fields.

Instruction in Technical and Agriculture Programs showed the greatest improvement during the two periods. From 1973-74 to 1974-75, the percentage of students rating vocational instruction as very good decreased in Non-Farm Agriculture, Health, Occupational Home Economics, Office, Trade 1:4 Industry, and Special Programs.

Table 19

RATING OF VOCATIONAL INSTRUCTION

	N = 374 1973-1974			N = 1,288 1974-1975		
	Very Good %	Average %	Poor %	Very Good %	Average %	Poor %
Agriculture	70.2	19.8	5.9	92.7	41.9	5.4
Non Farm Agriculture	63.6	36.4	0.0	57.0	37.1	6.0
Distributive Education	56.5	42.5	1.0	87.4	38.1	4.5
Health	73.2	24.6	1.3	63.8	32.6	3.6
Occupational Home Economics	65.4	32.0	2.6	60.4	36.0	3.6
Office	69.7	29.2	1.1	63.2	35.3	1.5
Technical	0.0	100.0	0.0	60.0	36.7	3.3
Trade & Industry	57.0	38.7	4.3	55.9	37.2	6.9
Special Programs	77.8	22.2	0.0	57.0	42.9	0.1

In rating other types of instruction, Table 20 shows that students generally considered instruction in non-vocational classes as average.

Table 20

RATING OF ALL OTHER INSTRUCTION

	N = 365 1973-1974			N = 1,346 1974-1975		
	Very Good %	Average %	Poor %	Very Good %	Average %	Poor %
Agriculture	23.5	76.5	0.0	22.9	70.0	7.1
Non Farm Agriculture	36.4	59.1	4.5	22.4	70.5	7.1
Distributive Education	34.8	62.2	3.0	30.9	65.3	3.8
Health	37.9	57.6	4.5	41.9	57.4	0.7
Occupational Home Economics	44.0	52.0	4.0	27.1	69.2	3.7
Office	28.7	69.0	2.3	28.2	68.2	3.6
Technical	50.0	50.0	0.0	57.1	42.9	0.0
Trade & Industry	28.8	63.0	8.2	27.5	67.2	5.3
Special Programs	57.1	42.9	0.0	25.7	70.5	3.8

According to Table 21, vocational shops or labs were rated as average by both groups. Technical, Non-Farm Agriculture, Health, and Occupational Home Economics facilities received very good ratings by a majority of enrollees.

Guidance and counseling services yielded average ratings by a majority of 1973-74 students in Non-Farm Agriculture, Occupational Home Economics, Office, Trade and Industry, and Special Programs.

In contrast, a majority of 1974-75 students in six vocational fields rated guidance and counseling services as very good.

Table 21

RATING OF VOCATIONAL SHOP OR LAB

	N = 354 1973-1974			N = 1,306 1974-1975		
	Very Good %	Average %	Poor %	Very Good %	Average %	Poor %
Agriculture	18.8	68.8	12.5	38.9	48.6	12.5
Non Farm Agriculture	54.5	36.4	9.1	44.9	40.8	14.3
Distributive Education	30.8	52.3	16.9	33.1	52.8	14.2
Health	48.4	45.3	6.3	53.4	38.9	7.6
Occupational Home Economics	37.5	58.3	4.2	51.4	46.7	1.9
Office	41.0	55.4	3.6	42.7	50.0	7.3
Technical	100.0	0.0	0.0	55.2	44.8	0.0
Trade & Industry	44.4	45.8	9.7	41.9	48.3	9.9
Special Programs	42.9	57.1	0.0	45.0	45.0	10.0

Distributive Education and Health students considered guidance and counseling services as very good during both school years, as shown in Table 22.

A majority of 1973-74 students in three vocational fields rated job placement as average. However, approximately one-fourth or more of the students in each vocational field considered job placement to be poor, with the exception of students in Distributive Education. Table 23 presents this information.

Information Relating to Employed Students

A majority of 1973-74 and 1974-75 students who were employed either had a job before leaving school or spent two weeks or less looking for work. Students in Occupational Home Economics appeared to have the most difficult time in finding employment since almost

Table 22

RATING OF GUIDANCE AND COUNSELING

	N = 370 1973-1974			N = 1,348 1974-1975		
	Very Good %	Average %	Poor %	Very Good %	Average %	Poor %
Agriculture	23.5	41.2	35.3	37.5	44.4	18.1
Non Farm Agriculture	40.9	54.5	4.5	35.7	44.9	19.4
Distributive Education	46.3	44.8	9.0	47.9	43.0	9.1
Health	45.6	44.1	10.3	59.6	30.9	9.6
Occupational Home Economics	40.0	44.0	16.0	53.8	36.8	9.4
Office	42.2	46.7	11.1	48.8	40.1	11.1
Technical	0.0	0.0	100.0	51.7	37.9	10.3
Trade & Industry	38.4	46.6	15.1	48.3	39.7	12.0
Special Programs	42.9	57.1	0.0	38.8	43.7	17.5

Table 23

RATING OF JOB PLACEMENT

	N = 358 1973-1974			N = 1,315 1974-1975		
	Very Good %	Average %	Poor %	Very Good %	Average %	Poor %
Agriculture	6.3	31.2	62.5	12.9	45.7	41.4
Non Farm Agriculture	14.3	57.1	28.6	14.0	41.9	44.1
Distributive Education	35.4	52.3	12.3	37.6	41.5	20.9
Health	33.8	32.4	33.8	32.6	43.9	23.5
Occupational Home Economics	15.4	46.1	38.5	22.6	50.9	26.5
Office	17.6	42.4	40.0	20.1	47.1	32.8
Technical	0.0	0.0	100.0	19.2	42.3	38.5
Trade & Industry	20.8	50.0	29.2	18.5	45.4	36.1
Special Programs	14.3	57.1	28.6	15.5	48.4	36.1

40 percent of them spent over two months seeking work. Table 24 indicates the time spent by employed students in job hunting.

Sources of assistance used to get the first job are shown in Tables 25 and 26. Table 27, ranking the sources, indicates that relatives, friends, and vocational teachers were the major persons assisting students with job entry.

The majority of students in both groups had held one or two jobs since leaving school. Table 28 indicates the number of jobs held by students, according to vocational field, since leaving school. A majority of Occupational Home Economics students (66.7 and 68.3 percent) appeared to have held only one job.

The average number of hours worked per week by 1973-74 students was 37.01 (Table 5). In comparison, 1974-75 students worked an average of 36.22 hours per week. As shown in Table 29, Technical employees had the highest average, 50 hours in 1973-74 and 45.91 hours in 1974-75.

The average hourly wage of 1973-74 students was $2.65; 1974-75 students averaged $2.80 per hour (Table 8). Table 30 presents the average hourly wage according to vocational field.

On the average, 1973-74 students traveled 8.55 miles to work; 1974-75 students traveled 8.49 miles to work. The average distance students commuted, according to vocational field, is presented in Table 31. Agriculture, Non-Farm Agriculture, and Technical workers appeared to travel the farthest.

The majority of students working less than 35 hours per week indicated that enrollment in school was the reason for the shorter work week. Table 32 provides this information.

Table 24

TIME SPENT BY EMPLOYED STUDENTS IN SEEKING WORK

	N = 244 1973-1974					N = 835 1974-1975				
	Had Job %	2 wks. or less %	3-4 wks. %	1-2 mos. %	over 2 mos. %	Had Job %	2 wks. or less %	3-4 wks. %	1-2 mos. %	over 2 mos. %
Agriculture	42.9	21.4	0.0	7.1	28.6	50.9	18.9	18.9	3.8	7.5
Non Farm Agriculture	62.5	12.5	0.0	12.5	12.5	53.8	16.9	10.8	7.7	10.8
Distributive Education	70.6	11.8	2.0	7.8	7.8	71.9	9.7	3.3	5.4	9.7
Health	56.8	16.2	10.8	2.7	13.5	47.3	16.4	7.3	10.9	18.2
Occupational Home Economics	25.0	12.5	25.0	0.0	37.5	20.8	22.6	7.6	9.4	39.6
Office	37.3	18.6	15.3	11.9	16.9	38.6	18.5	8.2	14.7	20.0
Technical	50.0	50.0	0.0	0.0	0.0	36.4	27.3	0.0	18.2	18.1
Trade & Industry	60.0	8.0	8.0	10.0	14.0	51.3	14.7	6.0	14.0	14.0
Special Programs	28.6	28.6	0.0	14.3	28.5	50.6	11.4	2.5	8.9	26.6

Table 25

PERCENTAGE OF STUDENTS USING VARIOUS SOURCES OF ASSISTANCE
TO GET FIRST JOB (1973-74)

N = 261

	Vocational Teacher %	School Job Placement %	Other School Personnel %	State Emp. Agency %	Private Emp. Agency %	Relative/ Friend %	Other %
Agriculture	0.0	0.0	0.0	0.0	0.0	3.1	1.9
Non Farm Agriculture	0.8	0.0	0.0	0.4	0.4	4.6	0.4
Distributive Education	6.9	1.1	0.4	0.8	0.0	8.4	3.0
Health	5.7	1.1	0.0	0.4	0.4	5.0	1.9
Occupational Home Economics	0.8	0.0	0.0	0.0	0.0	1.5	0.8
Office	6.9	1.5	1.9	1.1	0.4	11.9	3.0
Technical	0.0	0.0	0.0	0.0	0.0	0.4	0.0
Trade & Industry	5.0	0.4	0.0	1.5	0.0	9.6	3.0
Special Programs	0.0	0.0	0.0	0.0	0.0	2.3	0.5

Table 26

PERCENTAGE OF STUDENTS USING VARIOUS SOURCES OF ASSISTANCE TO GET FIRST JOB (1974-75)

N = 867

	Vocational Teacher %	School Job Placement %	Other School Personnel %	State Emp. Agency %	Private Emp. Agency %	Relative/ Friend %	Other %
Agriculture	0.2	0.1	0.1	0.1	0.0	4.5	1.2
Non Farm Agriculture	0.5	0.0	0.0	0.2	0.2	5.0	1.4
Distributive Education	4.9	0.2	0.6	0.3	0.2	10.4	3.9
Health	2.7	0.8	0.2	0.2	0.1	2.7	0.6
Occupational Home Economics	0.7	0.2	0.0	0.5	0.0	3.3	0.7
Office	5.0	0.8	0.8	1.3	0.6	11.4	3.6
Technical	0.2	0.0	0.1	0.0	0.0	0.7	0.3
Trade & Industry	2.7	0.7	0.6	0.3	0.1	10.4	2.5
Special Programs	1.0	0.3	0.1	0.3	0.3	6.1	1.1

Table 27

RANK IN IMPORTANCE OF SOURCES OF ASSISTANCE USED BY STUDENTS TO GET FIRST JOB

	N = 261 1973-1974 Rank	N = 867 1974-1975 Rank
Vocational Teacher	2	2
School Job Placement	5	5
Other School Personnel	6	6
State Employment Agency	4	4
Private Employment Agency	7	7
Relative/Friend	1	1
Other	3	3

Approximately one-third of the 1973-74/1974-75 students had jobs that were the same or highly related to the vocational training program (Table 5). This information is given by vocational field in Tables 33 and 34.

Table 35 indicates that the majority of students did not move away from where they were trained. The largest percentage of students moving away was in the Technical group.

Over 60 percent of all the respondents stated that they liked their present job very much or somewhat, according to Tables 36 and 37.

At least 25 percent or more of the 1973-74 students in seven vocational fields used training-related knowledge and skills frequently on the job. Training-related knowledge and skills were used considerably by 25 percent or more of the 1974-75 students in five vocational fields, as shown in Table 38.

Table 28

NUMBER OF JOBS (FULL- OR PART-TIME) HELD BY STUDENTS
SINCE LEAVING SCHOOL

	N = 239 1973-1974						N = 800 1974-1975					
	One %	Two %	Three %	Four %	Five %	Six or More %	One %	Two %	Three %	Four %	Five %	Six or More %
Agriculture	38.5	38.5	23.0	0.0	0.0	0.0	67.3	21.8	7.3	3.6	0.0	0.0
Non Farm Agriculture	56.3	12.5	6.3	0.0	12.5	12.4	46.8	43.5	8.1	1.6	0.0	0.0
Distributive Education	44.0	24.0	30.0	0.0	2.0	0.0	63.1	28.5	6.1	1.1	0.6	0.6
Health	55.6	30.6	13.8	0.0	0.0	0.0	79.2	15.1	3.8	0.0	0.0	1.9
Occupational Home Economics	66.7	22.2	11.1	0.0	0.0	0.0	68.3	29.3	0.0	0.0	0.0	2.4
Office	59.3	27.1	11.9	1.7	0.0	0.0	72.8	22.3	4.3	0.6	0.0	0.0
Technical	50.0	0.0	50.0	0.0	0.0	0.0	63.6	36.4	0.0	0.0	0.0	0.0
Trade & Industry	57.4	25.5	8.5	4.3	4.3	0.0	56.2	30.6	4.9	5.6	0.6	2.1
Special Programs	42.8	14.3	14.3	14.3	0.0	14.3	57.7	31.0	7.1	1.4	2.8	0.0

36

Table 29

AVERAGE WORK HOURS PER WEEK OF STUDENTS EMPLOYED FULL- OR PART-TIME

	N = 234 1973-1974 Average	N = 779 1974-1975 Average
Agriculture	43.75	41.30
Non Farm Agriculture	37.87	40.25
Distributive Education	35.50	34.76
Health	34.20	30.08
Occupational Home Economics	32.89	34.95
Office	36.28	34.40
Technical	50.00	45.91
Trade & Industry	38.73	38.96
Special Programs	45.00	35.29

Table 30

AVERAGE WAGE RATE PER HOUR (EXCLUDING OVERTIME) OF STUDENTS EMPLOYED FULL- OR PART-TIME

	N = 232 1973-1974 Average	N = 747 1974-1975 Average
Agriculture	2.80	2.35
Non Farm Agriculture	2.46	2.77
Distributive Education	2.49	2.64
Health	3.15	2.35
Occupational Home Economics	2.50	2.18
Office	2.49	2.29
Technical	2.83	3.02
Trade & Industry	2.69	2.84
Special Programs	2.47	2.69

Table 31

AVERAGE COMMUTING DISTANCE OF STUDENTS EMPLOYED FULL- OR PART-TIME

	N = 226 1973-1974 Average	N = 705 1974-1975 Average
Agriculture	13.27	11.36
Non Farm Agriculture	5.71	13.80
Distributive Education	9.19	6.19
Health	8.03	7.62
Occupational Home Economics	7.10	10.32
Office	10.65	8.17
Technical	7.00	16.43
Trade & Industry	6.48	8.01
Special Programs	3.00	8.29

Table 32

RANK IN IMPORTANCE OF REASONS WHY STUDENTS WORKED LESS THAN 35 HOURS PER WEEK

	N = 56 1973-1974 Rank	N = 251 1974-1975 Rank
Cannot find job	2	2
Workweek less than 35 hours	2	4
Temporary layoff	4	4
Enrolled in school	1	1
Don't want full-time job	3	5
Other	5	3

Table 33

RELATION BETWEEN VOCATIONAL TRAINING AND PRESENT JOB OF STUDENTS EMPLOYED FULL- OR PART-TIME (1973-74)

N = 237

	Job Same as Trng. %	Job Highly Related %	Job Slightly Related %	Job Not Related %
Agriculture	14.3	14.3	21.4	50.0
Non Farm Agriculture	[illegible].7	20.0	33.3	40.0
Distributive Education	12.5	35.4	29.2	22.9
Health	32.4	11.8	23.5	32.3
Occupational Home Economics	11.1	11.1	11.1	66.7
Office	20.3	23.7	30.5	25.5
Technical	0.0	50.0	0.0	50.0
Trade & Industry	16.3	12.2	18.4	53.1
Special Programs	14.3	14.3	14.3	57.1

STATUS OF STUDENTS

Of the 386 students (1973-74), 176 were employed full- or part-time, 93 unemployed, 59 employed and attending school or college, and 58 attending school or college. The following year, 587 of the 1,418 students were employed, 313 unemployed, 167 employed and attending school or college, and 351 attending school or college. Tables 39 and 40 present this information.

As shown in Tables 41 and 42, a majority of the students in both groups enrolled in vocational programs to upgrade skills or get a job.

Table 34

RELATION BETWEEN VOCATIONAL TRAINING AND PRESENT JOB OF STUDENTS EMPLOYED FULL- OR PART-TIME (1974-75)

N = 768

	Job Same as Trng. %	Job Highly Related %	Job Slightly Related %	Job Not Related %
Agriculture	13.7	13.7	27.5	45.1
Non Farm Agriculture	6.6	19.7	29.5	44.2
Distributive Education	17.3	23.7	29.5	29.5
Health	26.9	15.4	23.1	34.6
Occupational Home Economics	8.1	5.4	21.6	64.9
Office	12.5	28.4	23.3	35.8
Technical	15.4	15.4	7.7	61.5
Trade & Industry	10.4	6.7	32.6	50.3
Special Programs	7.1	12.9	15.7	64.3

Table 35

PERCENTAGE OF STUDENTS MOVING AWAY FROM WHERE TRAINED

	N = 242 1973-1974		N = 798 1974-1975	
	Yes %	No %	Yes %	No %
Agriculture	7.1	92.9	9.1	90.9
Non Farm Agriculture	12.5	87.5	9.8	90.2
Distributive Education	25.5	74.5	22.2	77.8
Health	8.3	91.7	12.7	87.3
Occupational Home Economics	33.3	66.7	21.4	78.6
Office	11.9	88.1	10.6	89.4
Technical	50.0	50.0	33.3	66.7
Trade & Industry	11.5	88.5	8.4	91.6
Special Programs	28.6	71.4	10.8	89.2

Table 36

STUDENTS' FEELINGS ABOUT PRESENT JOB (1973-1974)

N = 242

	Like Very Much %	Like Somewhat %	Neither Like nor Dislike %	Dislike Somewhat %	Dislike Very Much %
Agriculture	28.6	35.7	14.3	7.1	14.3
Non Farm Agriculture	46.7	26.7	13.3	6.7	6.6
Distributive Education	49.0	28.6	14.3	4.0	4.1
Health	67.6	17.6	5.9	8.9	0.0
Occupational Home Economics	44.4	33.4	11.1	11.1	0.0
Office	63.3	21.7	8.3	6.7	0.0
Technical	100.0	0.0	0.0	0.0	0.0
Trade & Industry	38.5	28.8	15.4	13.5	3.8
Special Programs	71.4	14.3	0.0	0.0	14.3

Table 37

STUDENTS' FEELINGS ABOUT PRESENT JOB (1974-1975)

N = 790

	Like Very Much %	Like Somewhat %	Neither Like Nor Dislike %	Dislike Somewhat %	Dislike Very Much %
Agriculture	40.7	25.9	20.4	11.1	1.9
Non Farm Agriculture	46.0	28.6	17.5	6.3	1.6
Distributive Education	50.0	31.8	12.5	2.3	3.4
Health	56.9	27.5	11.8	3.8	0.0
Occupational Home Economics	35.9	33.3	20.6	5.1	5.1
Office	45.3	28.7	14.9	8.3	2.8
Technical	61.5	15.4	23.1	0.0	0.0
Trade & Industry	44.9	22.6	18.1	7.2	7.2
Special Programs	38.8	25.3	21.3	5.3	9.3

Table 38

STUDENTS' USE ON JOB OF KNOWLEDGE AND SKILL
ACQUIRED FROM VOCATIONAL TRAINING

	N = [illegible]39 1973-1974				N = 782 1974-1975			
	Frequently %	Occasionally %	Seldom %	Never %	Frequently %	Occasionally %	Seldom %	Never %
Agriculture	30.8	30.8	7.7	30.7	11.5	42.3	28.8	17.4
Non Farm Agriculture	26.7	26.7	13.3	33.3	27.0	34.9	14.3	23.8
Distributive Education	28.6	42.9	10.1	18.4	36.[illegible]	29.6	17.0	17.0
Health	47.1	11.8	23.5	17.6	39.3	23.5	17.6	19.6
Occupational Home Economics	22.2	22.3	33.3	22.2	22.0	24.4	17.1	36.5
Office	51.7	25.0	13.3	10.0	41.8	18.1	20.3	19.8
Technical	50.0	0.0	50.0	0.0	30.8	7.7	38.4	23.1
Trade & Industry	20.0	26.0	20.0	34.0	17.0	26.7	25.9	30.4
Special Programs	28.5	42.9	14.3	14.3	18.9	23.0	13.5	44.6

Table 39

EMPLOYMENT STATUS OF STUDENTS (1973-1974)

N = 386

	Employed %	Not Employed %	Employed and Attending School %	Attending School %
Agriculture	64.7	11.8	5.9	17.6
Non Farm Agriculture	63.6	22.7	13.7	0.0
Distributive Education	47.1	22.1	17.6	13.2
Health	27.9	19.1	22.1	30.9
Occupational Home Economics	17.9	64.2	14.3	3.6
Office	50.1	21.7	15.2	13.0
Technical	100.0	0.0	0.0	0.0
Trade & Industry	51.3	23.8	11.1	13.8
Special Programs	66.7	11.1	11.1	11.1

Table 40

EMPLOYMENT STATUS OF STUDENTS (1974-1975)

N = 1,418

	Employed %	Not Employed %	Employed and Attending School %	Attending School %
Agriculture	51.3	13.7	18.8	16.2
Non Farm Agriculture	48.5	12.1	11.1	28.3
Distributive Education	44.5	17.4	14.7	23.4
Health	19.9	24.1	15.6	40.4
Occupational Home Economics	23.6	42.7	11.9	21.8
Office	43.3	21.6	9.4	25.7
Technical	36.6	6.7	6.7	50.0
Trade & Industry	46.9	21.9	9.6	21.4
Special Programs	48.8	30.1	8.9	12.2

Table 41

REASONS GIVEN BY STUDENTS (PERCENTAGE) FOR ENROLLING IN VOCATIONAL PROGRAMS (1973-1974)

N = 394

	To Get Job %	To Upgrade Skills %	For Hobby %	For High School Credit %	Other %
Agriculture	0.3	3.3	0.3	0.8	0.0
Non Farm Agriculture	1.8	2.8	0.3	1.3	0.3
Distributive Education	4.3	7.6	1.3	4.6	0.5
Health	3.0	5.8	0.3	3.8	4.6
Occupational Home Economics	3.0	1.8	0.0	0.6	0.5
Office	7.9	13.5	0.0	2.5	2.0
Technical	0.0	0.3	0.0	0.3	0.0
Trade & Industry	5.8	7.6	0.0	2.5	3.0
Special Programs	0.0	1.0	0.0	0.3	0.5

Table 42

REASONS GIVEN BY STUDENTS (PERCENTAGE) FOR ENROLLING IN VOCATIONAL PROGRAMS (1974-75)

N = 1,499

	To Get Job %	To Upgrade Skills %	For Hobby %	For High School Credit %	Other %
Agriculture	0.6	2.7	0.2	1.5	0.4
Non Farm Agriculture	0.8	3.9	0.5	1.1	0.5
Distributive Education	4.3	9.7	0.4	3.7	1.0
Health	2.7	4.3	0.2	1.5	1.3
Occupational Home Economics	3.2	2.6	0.3	1.7	0.5
Office	7.8	13.7	0.1	2.1	1.4
Technical	0.4	1.0	0.1	0.1	0.4
Trade & Industry	4.1	7.0	1.2	1.9	0.9
Special Programs	2.2	3.9	0.3	1.3	0.5

Students Enrolled in School or College

Of the 149 students (1973-74) in school or college, the majority were attending four-year colleges, two-year colleges, and area vocational schools in that order. Former Health students (43) accounted for the largest part of the total.

Over three-fourths of the Office group were attending a four-year college; Distributive Education students made up the highest percentage of students (34.5 percent) in a two-year college; the greatest proportion of students (33.3 percent) in an area vocational school came from Agriculture.

Approximately 60 percent of those students in a school or college indicated some relationship between high school vocational training and their present educational program.

In the 1974-75 group attending an educational institution, 135 students of the 596 were former Office enrollees. The majority of 1974-75 students were enrolled in four-year colleges, two-year colleges, and area vocational schools in that order. A large percentage of the four-year college enrollees came from Agriculture and Non-Farm Agriculture. At least one-fourth of the students in Agriculture, Distributive Education, Health, Occupational Home Economics, Office, and Special Programs attended a two-year college. The highest percentage of area vocational school enrollees came from Non-Farm Agriculture (18.6 percent). Approximately 66 percent of those students attending an educational institution indicated a relationship between high school vocational training and their current educational program. Tables 43 and 44 present this information.

Table 43

PERCENTAGE OF STUDENTS CURRENTLY ENROLLED IN SCHOOL OR COLLEGE FULL- OR PART-TIME (1973-74)

N = 149

	Voc. High School %	Pub. High School %	2-Year College %	Pub. Postsec. Tech. Inst. %	4-Year College %	Private Voc. or Bus. School %	Area Voc. School %	Other %
Agriculture	0.0	0.0	16.7	0.0	50.0	0.0	33.3	0.0
Non Farm Agriculture	0.0	0.0	0.0	0.0	50.0	0.0	25.0	25.0
Distributive Education	0.0	0.0	34.5	3.4	48.3	0.0	3.4	10.4
Health	0.0	0.0	18.6	0.0	55.8	4.7	9.3	11.6
Occupational Home Economics	0.0	0.0	0.0	0.0	71.4	14.3	0.0	14.3
Office	0.0	0.0	11.8	2.9	76.5	0.0	8.8	0.0
Technical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Trade & Industry	4.2	0.0	29.2	8.3	33.3	4.2	16.6	4.2
Special Programs	0.0	0.0	0.0	0.0	50.0	50.0	0.0	0.0

Table 44

PERCENTAGE OF STUDENTS CURRENTLY ENROLLED IN SCHOOL OR COLLEGE
FULL- OR PART-TIME (1974-75)

N = 588

	Voc. High School %	Pub. High School %	2-Year College %	Pub. Postsec. Tech. Inst. %	4-Year College %	Private Voc. or Bus. School %	Area Voc. School %	Other %
Agriculture	3.2	3.2	25.8	3.2	38.7	9.7	9.7	6.5
Non Farm Agriculture	0.0	0.0	9.3	2.3	58.1	7.0	18.6	4.7
Distributive Education	0.9	3.6	26.1	3.6	47.7	7.2	6.3	4.6
Health	1.2	4.8	26.2	2.4	46.4	3.6	7.1	8.3
Occupational Home Economics	8.7	10.9	26.1	2.2	26.1	4.3	17.4	4.3
Office	0.0	0.0	28.1	3.0	38.5	11.9	13.3	5.2
Technical	0.0	0.0	16.7	16.7	55.5	0.0	5.5	5.6
Trade & Industry	5.7	6.8	23.9	4.5	33.0	3.3	14.8	8.0
Special Programs	3.1	3.1	28.2	0.0	28.1	9.4	15.6	12.5

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In responding about the relationship of the present educational program to the high school vocational course, a greater percentage of the 1973-74 students indicated that their present school program had little or no relationship to high school training. The 1974-75 students appeared to be taking courses that had a greater relationship to their high school vocational program. Table 45 contains these figures.

Unemployed Students

More of the 1973-74 unemployed students were seeking work than not seeking work. An even greater percentage of the 1974-75 unemployed students were looking for employment, according to Table 46.

Table 47 shows that the majority of unemployed students in both groups had spent more than two months looking for work. Of the 1973-74 students, Special Program enrollees appeared to have the most difficulty in finding employment. Three-fourths of the Occupational Home Economics enrollees (1974-75) had spent over two months looking for work.

Of the 185 students (1973-74) responding about their efforts to find employment, the majority used employers, friends/relatives, and newspaper ads in that order. The 1974-75 students indicated that friends/relatives, employers, and newspaper ads were used to find employment, as shown in Tables 48 and 49.

SELECTED INFORMATION

Sex and Race of Students

Females predominated in Distributive Education, Health,

Table 49

RELATIONSHIP OF PRESENT EDUCATIONAL PROGRAM TO
VOCATIONAL COURSE TAKEN IN HIGH SCHOOL

	N = 151 1973-1974				N = 596 1974-1975			
	Same Field %	Highly Related %	Only Slightly Related %	Not Related %	Same Field %	Highly Related %	Only Slightly Related %	Not Related %
Agriculture	33.3	0.0	33.3	33.4	18.8	31.3	15.6	34.3
Non Farm Agriculture	0.0	0.0	0.0	100.0	18.6	18.6	39.5	23.3
Distributive Education	13.3	16.7	10.0	60.0	9.7	21.2	26.6	42.5
Health	65.0	14.0	7.0	14.0	50.6	18.8	14.1	16.5
Occupational Home Economics	28.6	42.8	0.0	28.6	22.0	0.0	24.3	53.7
Office	20.6	20.6	14.7	44.1	34.8	19.8	18.9	26.5
Technical	0.0	0.0	0.0	0.0	44.4	27.8	11.1	16.7
Trade & Industry	16.7	16.7	20.8	45.8	18.4	18.5	18.5	44.6
Special Programs	0.0	0.0	0.0	100.0	20.0	10.0	17.5	52.5

Table 46

PERCENTAGE OF UNEMPLOYED STUDENTS SEEKING WORK

	N = 132 1973-1974		N = 619 1974-1975	
	Yes %	No %	Yes %	No %
Agriculture	40.0	60.0	56.0	44.0
Non Farm Agriculture	60.0	40.0	52.6	47.4
Distributive Education	47.6	52.4	65.6	34.4
Health	55.2	44.8	45.8	54.2
Occupational Home Economics	70.6	29.4	80.5	19.5
Office	50.0	50.0	67.9	32.1
Technical	0.0	0.0	50.0	50.0
Trade & Industry	73.1	26.9	70.1	29.9
Special Programs	33.3	66.7	80.4	19.6

Table 47

TIME SPENT BY UNEMPLOYED IN SEEKING WORK

	N = 75 1973-1974			N = 402 1974-1975		
	Less Than 1 month %	1-2 months %	More Than 2 months %	Less Than 1 month %	1-2 months %	More Than 2 months %
Agriculture	50.0	0.0	50.0	35.7	14.3	50.0
Non Farm Agriculture	0.0	33.3	66.7	30.0	50.0	20.0
Distributive Education	30.0	10.0	60.0	21.7	18.3	60.0
Health	0.0	18.8	81.2	18.9	27.0	54.1
Occupational Home Economics	8.3	8.4	83.3	6.2	18.8	75.0
Office	7.7	7.7	84.6	19.0	20.0	61.0
Technical	0.0	0.0	0.0	40.0	40.0	20.0
Trade & Industry	5.6	11.1	83.3	22.2	11.1	66.7
Special Programs	0.0	0.0	100.0	23.5	11.8	64.7

Table 48

PERCENTAGE OF STUDENTS USING VARIOUS SOURCES OF ASSISTANCE IN FINDING JOBS (1973-74)

N = 185

	School Placement Service %	Public/Private Emp. Agency %	Employers %	Friends/ Relatives %	Newspaper Ads %	Other %
Agriculture	0.5	0.5	1.1	0.5	0.0	0.0
Non Farm Agriculture	0.0	0.0	1.6	0.5	0.0	0.6
Distributive Education	0.5	0.5	4.9	2.7	2.7	0.6
Health	1.1	4.3	6.5	5.4	3.8	2.8
Occupational Home Economics	0.5	2.7	4.9	4.3	3.2	1.7
Office	1.6	3.8	4.3	4.9	3.8	3.3
Technical	0.0	0.0	0.0	0.0	0.0	0.0
Trade & Industry	1.6	2.2	4.3	5.4	3.2	0.6
Special Programs	0.0	0.5	0.5	1.1	0.5	0.0

Occupational Home Economics, and Office Programs (1973-74/1974-75).

According to Table 50, whites predominated in every program except for Occupational Home Economics (1974-75) where 64.4 percent of the enrollees were blacks. Table 50 indicates the percentage of students according to sex and race.

Regular, Disadvantaged, and Handicapped Students

The highest percentage of disadvantaged students were enrolled in the 1974-75 group in Special Programs (52.4 percent). Occupational Home Economics had 45.8 percent disadvantaged students enrolled during the same school year. Handicapped students accounted for 11.9 percent of the 1974-75 enrollment in Occupational Home Economics. However, regular students yielded the highest percent-

Table 49

PERCENTAGE OF STUDENTS USING VARIOUS SOURCES OF ASSISTANCE IN FINDING JOBS (1974-75)

N = 1,020

	School Placement Office %	Public/Private Emp. Agency %	Employers %	Friends/ Relatives %	Newspaper Ads %	Other %
Agriculture	0.5	0.4	1.0	1.1	0.3	0.0
Non Farm Agriculture	0.2	0.4	1.4	1.4	0.5	0.2
Distributive Education	1.1	2.1	4.2	4.6	2.8	1.6
Health	1.0	0.6	2.1	2.5	1.5	0.8
Occupational Home Economics	1.6	2.1	3.4	4.8	2.7	0.7
Office	2.7	4.6	6.6	7.6	6.1	2.0
Technical	1.2	0.3	0.6	0.4	0.3	1.2
Trade & Industry	0.0	2.3	3.5	4.0	1.9	0.0
Special Programs	0.5	1.2	1.9	2.1	1.0	0.4

Table 50

PERCENTAGE OF STUDENTS ACCORDING TO SEX AND RACE

	N = 392 1973-1974					N = 1,454 1974-1975				
	Male %	Female %	White %	Black %	Other %	Male %	Female %	White %	Black %	Other %
Agriculture	94.1	5.9	94.1	0.0	5.9	96.3	3.7	84.0	16.0	0.0
Non Farm Agriculture	90.9	9.1	95.5	4.5	0.0	94.0	6.0	89.0	11.0	0.0
Distributive Education	39.7	60.3	85.3	14.7	0.0	46.0	54.0	72.8	26.8	0.4
Health	2.8	97.2	70.8	29.2	0.0	8.3	91.7	64.6	34.7	0.7
Occupational Home Economics	0.0	100.0	53.6	46.4	0.0	16.1	83.9	35.6	64.4	0.0
Office	5.3	94.7	86.2	13.8	0.0	3.1	96.9	78.3	21.4	0.3
Technical	0.0	100.0	100.0	0.0	0.0	100.0	0.0	100.0	0.0	0.0
Trade & Industry	77.5	22.5	75.0	23.8	1.2	77.4	22.6	72.6	27.0	0.4
Special Programs	66.7	33.3	77.8	22.2	0.0	74.2	25.8	67.7	32.3	0.0

age of enrollment in every vocational program, as shown in Table 51.

SUMMARY

The purpose of the study was to determine the status of vocational education seniors of 1973-74 and 1974-75, by administering a questionnaire to collect information relating to employment, education, and vocational education programs in Tennessee.

Through a stratefied random sampling plan, 2,086 seniors of 1973-74 and 5,219 seniors of 1974-75 were chosen from the Tennessee Management Information System. Questionnaires were mailed to these students. After replies were received, another sample was chosen from those students who had not returned the questionnaire. Telephone calls were made to this group to collect information similar to that in the questionnaire.

CONCLUSIONS

In analyzing the status of Tennessee's vocational education seniors of 1973-74 and 1974-75, the following conclusions were reached, based upon an interpretation of the data.

Vocational Education Programs in Tennessee

Because the majority of vocational students were able to enter their program of first choice, vocational offerings generally met the demand. Waiting lists were minimal. With approximately one-third of the students in each vocational field indicating a desire to enroll in more vocational education within the next two years, a considerable number of students indicated satisfaction with

Table 51

PERCENTAGE OF REGULAR, DISADVANTAGED, AND HANDICAPPED STUDENTS

	N = 392 1973-1974			N = 1,454 1974-1975		
	Regular %	Disadvantaged %	Handicapped %	Regular %	Disadvantaged %	Handicapped %
Agriculture	100.0	0.0	0.0	91.4	7.4	1.2
Non Farm Agriculture	95.5	0.0	4.5	90.0	7.9	1.0
Distributive Education	98.5	0.0	1.5	87.9	11.7	0.4
Health	98.6	1.4	0.0	82.6	16.7	0.7
Occupational Home Economics	92.9	7.1	0.0	42.4	45.8	11.8
Office	100.0	0.0	0.0	86.9	12.3	0.8
Technical	100.0	0.0	0.0	100.0	0.0	0.0
Trade & Industry	97.5	0.0	2.5	85.9	10.7	3.4
Special Programs	88.9	11.1	0.0	46.0	52.4	1.6

vocational programs. Upgrading skills and getting a job were the major reasons given for taking vocational courses.

The majority of enrollees completed vocational programs. Change of occupational plans and getting a job were the main reasons offered by the small number of non-completers who terminated vocational programs. Although 1974-75 seniors did not rate vocational instruction as highly as 1973-74 seniors, vocational instruction was still considered superior to other types of instruction.

Vocational equipment and facilities, generally rated as average, were adequate as far as students were concerned. Guidance and counseling services in vocational programs increased in effectiveness during this period. Job placement was considered poor by one-fourth or more of the students in eight vocational fields (1973-74) and seven vocational fields (1974-75), indicating a need for improvement. Apparently, vocational teachers were effective in assisting students with job placement.

Employment Status of Former Students

A majority of vocational students demonstrated the ability to acquire a job before leaving school or soon after leaving school. Relatives, friends, and vocational teachers were major sources of job placement assistance.

Similar to other workers, vocational students averaged almost 40 work hours per week, were paid an average hourly wage above the minimum wage, and generally traveled about nine miles to work. Their work habits appeared to be consistent since the majority of

the employed had held only one or two jobs since entering the labor market. Those who were working less than 35 hours per week were enrolled in school or college, indicating a desire to improve their job knowledge and skills.

A majority of the employed indicated some relationship, ranging from slight to considerable, between their vocational training and present job. Knowledge and skills developed in high school vocational programs were being used by a sizeable number of workers. The employed appeared to be working near their high school training site, indicating a local demand for the type of skills taught in the community high school's vocational programs.

Considerable job satisfaction was indicated by a majority of both groups. Former Health enrollees appeared to be the most satisfied. In spite of the down trend and fluctuations in the economy from 1973-1975, the majority of vocational students managed to be employed full- or part-time, indicating their ability to compete in today's job market.

Compared to over one-half of the 1973-74 unemployed looking for work, two-thirds of the 1974-75 unemployed were seeking jobs. The major sources of employment assistance used by both groups were employers, relatives or friends, and newspaper ads.

Educational Status of Former Students

Approximately 33 percent of both groups were enrolled in some type of school or college; 12 percent of both groups were working and attending an educational institution. Four-year colleges

were the choice of the majority with two-year colleges and area vocational schools following in order of importance. Approximately two-thirds of all the former students attending school or college indicated a relationship between high school vocational training and their present educational program.

IMPLICATIONS

As a result of this study, the following implications appear evident.

1. Although females dominate vocational education enrollees, there is no evidence of their being encouraged to enroll in programs other than those which are traditionally female-oriented. Similarly, males are still enrolling only in programs which are traditionally male-oriented. Both sexes need information about the career possibilities existing for males and females in each vocational program. An intense effort should be made to introduce all students to the career benefits prevalent in existing vocational programs. Equal opportunities should be provided for exploring these programs at the junior high level so that students will have career information on which to base career decisions. Equal opportunities should also prevail at the secondary level for enrolling in vocational programs.

2. Even though the majority of enrollees received their first choice of vocational program, 10 percent or more of the enrollees had to enroll in programs of second or third choice. This points to the need for expanding vocational offerings. This need is

reaffirmed by the fact that 228 respondents indicated that the program of first choice was not offered.

3. The percentage of students completing vocational programs was high. Yet over 10 percent of the enrollees did not complete the program in six vocational fields (1973-74) and in eight vocational fields (1974-75). Distributive Education programs had the lowest percentage of non-completion, leading to the belief that cooperative work experience plays a big part in retaining enrollees. With 12 to 18 percent of the respondents indicating financial reasons for early termination of vocational programs, it appears that cooperative work experience offers a solution to at least a portion of the non-completion problem. Because approximately one-fourth of the respondents indicated job entry as the reason for terminating vocational programs, paid work experience coupled with supervised instruction is a realistic solution to reducing the number of non-completers.

4. Although a considerable number of students indicated an intent to enroll in more vocational education, a sizeable percentage responded negatively. Since continued education is an important ingredient in career advancement, students need to become aware of this fact. Apparently, many of the enrollees considered program completion as absolutely final in the sense that no more training would ever be required. Students should learn that increasing changes in technology, society, and the economy are accelerating the need for continued education, formal and informal, at area

vocational-technical schools, community and junior colleges, private business and training schools, and colleges and universities. The average worker will change jobs at least three or more times during his work life, making additional training essential.

5. With Office, Trade and Industry, Technical, and Health Programs specified as prospective training fields by a considerable number of students, it is important that these programs be made available in sufficient quantity. Since a sizeable percentage of students indicated placement on a waiting list for Trade and Industry and Health Programs, special efforts should be made to increase these offerings.

6. Vocational instruction, rated superior to other types of instruction, was still considered average by many vocational students. Over 5 percent of the respondents considered instruction poor in Agriculture, Non-Farm Agriculture, Trade and Industry, and Special Programs. To improve vocational instruction and achieve above-average ratings more frequently, an ongoing professional development program should be initiated to increase the effectiveness of vocational teachers.

7. A definite need exists to improve guidance services, considered average or below-average, by a sizeable number of students. Again, an effectively designed professional development program can be a major step toward bringing about improvement in this area. Vocational teachers and guidance personnel will both profit from an in-service program designed to build guidance and counseling skills.

8. With job placement receiving the lowest rating accorded school services, it is essential that priority attention be given to assisting students with job entry. Although vocational students demonstrated competence in entering the labor market, a major need exists for developing a program which will eliminate students' dependence upon relatives, friends, and vocational teachers for placement assistance.

9. Training programs in Technical and Occupational Home Economics need careful scrutiny since a high percentage of these students indicated that their training had no relationship to their jobs. Special Programs students also indicated frequently that their jobs had no relationship to the training received. However, since remediation in communication skills is the primary objective of this program, students might perceive little relationship between those skills and their jobs. However, without adequate communication skills, effective job performance is impossible.

10. A considerable number of students in Distributive Education, Occupational Home Economics, and Technical Programs moved to find jobs, indicating that these types of skills were not in demand locally. Improved matching of job skills with employer demand is possible by utilizing manpower information effectively when planning programs. An in-service program is needed to train administrators, teachers, and guidance personnel in using manpower data.

11. The vocational programs in which training is seldom or never used on the job should be studied so that outdated instruction and methods can be eliminated. Course content should be updated

continuously in order to meet the needs of students and employers.

12. A considerable number of students were either attending school or college or working full- or part-time and attending an educational institution. This speaks well for those vocational students who apparently understand the need for continued education and are motivated toward self-improvement.

It was interesting to note that a considerable percentage of Special Programs students were enrolled in a private school, possibly pointing to the fact that these institutions frequently give students individualized instruction. Occupational Home Economics and Office students appeared to be moving from four- to two-year colleges for additional education with the four-year college being the institution of choice for the majority of vocational students. Traditionally, the vocational student has been viewed as being unable to succeed in the four-year college. Because so many former students were enrolled in the four-year college, the traditional picture of the vocational student appears to be undergoing change. Perhaps a major difference emerging between today's vocational student and the academic student is the vocational student's job skills which ease entrance to the labor market.

13. Even though the job market was tight from 1973-75, a considerable percentage of the unemployed indicated that they were seeking work, again emphasizing the ability of the vocational student to compete for jobs. Many students had jobs when they left school. The time spent by the unemployed in seeking work decreased from 1973 to 1975, signaling the upward climb of the economy.

14. Only a small number of disadvantaged and handicapped students participated in vocational programs. Occupational Home Economics enrolled the greatest number of disadvantaged and handicapped, probably because the job skills taught are related to service occupations. Generally, service occupations are low-paying and require limited skills. The disadvantaged and handicapped can benefit greatly from vocational education which equips them with a variety of skills for entering the job market. Efforts should be made to meet the special needs of these students by providing individualized vocational instruction in other than low-paying service occupations. These groups should be afforded opportunities to develop skills in occupations other than the ones traditionally considered appropriate for individuals with various levels of disadvantagement.

If the needs of these students are to be met, in-service education stands high on the priority list. Vocational instructors require special training if they are to work effectively with the disadvantaged and handicapped, enabling them to become a productive and satisfied segment of society.

APPENDIX B

STUDENT FOLLOW-UP QUESTIONNAIRE
1973-74/1974-75

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SECTION II Continued

10. What is the wage rate per hour of your present job excluding overtime? _____
Note: If you are paid weekly, bi-weekly or monthly, please divide your salary by the number of hours in your pay period.

11. How far is your place at work from your present residence? (Mark number of miles) _____

12. If you are currently working less than 35 hours per week, please mark the reason(s) for doing so.
- Cannot find full-time job ○
- Full-time work week less than 35 hours ○
- Temporary cut-back by the employer ○
- Enrolled in school or college ○
- Do not want full-time work ○
- Other (Please specify below) ○

_____

13. Which of the following statements best describes the relationship between your present job and the training program in question one? (Mark one)
- Job same for which trained ○
- Job highly related to the training ○
- Job only slightly related to the training ○
- Job not related to the training ○

14. Have you moved away from where you were trained?
- Yes ○
- No ○

15. How do you feel about your present job?
- Like it very much ○
- Like it somewhat ○
- Neither like nor dislike it ○
- Dislike it somewhat ○
- Dislike it very much ○

16. How often on your present job do you use the knowledge and skill acquired from your training?
- Frequently (use most of the time) ○
- Occasionally (use only some times) ○
- Seldom (use only rarely) ○
- Never (never use it) ○

0	0
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9

0	0	0	0
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9

EXAMPLE: $ 0 2 . 0 0 per hour

III. THIS SECTION FOR EVERYONE

17. What is your present status? (Mark only one)
- Employed
- Not employed
- Employed and attending school
- Attending school or college

18. Why did you enroll in a vocational program?
- To get a job
- To upgrade my job skills
- For a hobby
- For other high school credit
- Other (please specify below)

_____

IV. THIS SECTION FOR THOSE NOW ENROLLED IN SCHOOL OR COLLEGE

19. What is the type of institution in which you are presently enrolled? (Mark one)
- Vocational high school
- Public high school
- Two year junior or community college
- Public post-secondary technical institute
- Four year college or university
- Private vocational or business school
- Area vocational school
- Other

20. How related is your present educational program to the vocational course you took in high school?
- Same field
- Highly related
- Only slightly related
- Not related

V. THIS SECTION FOR THOSE NOT NOW WORKING

21. Are you looking for a job?
○ Yes ○ No

22. If "Yes" how long have you been looking?
- Less than a month
- More than one but less than two months
- More than two months

23. What have you done most recently to look for a job? (Mark all that apply)
- Checked with school placement service
- Checked with public/private emp. agency
- Checked directly with employers
- Checked with friends or relatives
- Placed or answered newspaper ads
- Other

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NAME OF EMPLOYER

ADDRESS OF EMPLOYER

DIRECTIONS FOR MARKING ANSWERS

- Use black lead pencils (No. 2½ or softer).
- Make heavy black marks that fill circle completely.
- Erase clearly any answer you wish to change.
- Make no stray marks on this sheet.

INCORRECT CORRECT

SOCIAL SECURITY NO.

STUDENT I.D.

I. THIS SECTION FOR EVERYONE

1. **Was this vocational program identified in the heavy box above your first, second, or third choice at the time you enrolled? (Mark one)**
   - First choice ○
   - Second choice ○
   - Third choice ○

   If it was not your first choice, why didn't you enroll in the program you wanted?
   - Courses were filled ○
   - It was not offered at my school ○
   - I didn't have the requirements ○
   - Other (Please specify below) ○

2. **Were you ever placed on a waiting list to enroll in a vocational program of your choice?**
   - Yes ○
   - No ○

3. **Did you complete the vocational program identified in the box above?**
   - Yes ○
   - No ○

   If "No", please indicate the reason(s) for terminating the program before completion.
   - Change of occupational objective ○
   - Work on a job ○
   - Financial reasons ○
   - Marriage ○
   - Dislike for the school ○
   - Transfer to another school district ○
   - Poor health ○

4. **Are you planning to enroll for more vocational or technical education within the next two years?**
   - Yes
   - No

   If "Yes", please specify the field(s) in which you want further vocational education (Mark all that apply)
   - Vocational agriculture education
   - Distributive education
   - Health education
   - Home economics education
   - Office or business education
   - Technical education
   - Trade and industrial education

5. **Please rate the following services of your school by marking one of the circles in each case.**

Very Good	Average	Poor	
○	○	○	Vocational instruction
○	○	○	All other instruction
○	○	○	Voc. shop or laboratory
○	○	○	Guidance and counseling
○	○	○	Job placement

II. THIS SECTION FOR THOSE NOW WORKING ON A JOB.

6. **After leaving school, how much time did you spend looking for your first job?**
   - Had the job before leaving school
   - Looked for two weeks or less
   - Looked for three to four weeks
   - Looked for one to two months
   - Looked for more than two months

7. **Who helped you get your first job? (Mark all that apply)**
   - Vocational teacher
   - School job placement service
   - Other school personnel
   - State employment agency
   - Private employment agency
   - Relatives and friends
   - Other (Please specify below)

8. **How many jobs - including the one you now have - have you had since leaving school?**
   - One
   - Two
   - Three
   - Four
   - Five
   - Six or more

9. **How many hours per week do you usually work on your present job? (Mark number of hours)**

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APPENDIX B

INTERVIEW GUIDE AND
NON-RESPONDENT QUESTIONNAIRE

TELEPHONE INTERVIEW GUIDE

Follow-up of 1973-74 Secondary Students

Introduction

The following interview guide will be used in contacting non-respondents of the Secondary follow-up. By all interviewers using the same guide, the chance of biased responses will be greatly reduced.

At all times proper telephone etiquette should be observed. If for any reason a student wishes not to respond to a question or all questions, indicate this on the form, but do not force an answer from the person.

Interview

This is _____ with the Research Coordinating Unit. Several weeks ago a follow-up questionnaire was mailed to a sample of individuals who as seniors in 1973-74 were enrolled in a vocational program. Since we have not received a completed questionnaire from you, could I have a few minutes of your time to ask part of the questions that are on the questionnaire? This information will be treated as confidential, and your name will not be revealed in any reports.

Follow the questionnaire form. Name all possible responses before asking for a response.

Question 1 (a). If a person responds as being employed, move to questions under For Those Now Employed.

(b). If a person is not employed, move to questions under For Those Not Employed.

(c). If a person responds as employed and attending school, ask questions both For Those Now Employed and For Those Now Attending School.

(d). If a person responds attending school or college, move to For Those Now Attending School.

Questions under For All Persons will be asked of all persons.

1974-1975

NON-RESPONDENT QUESTIONNAIRE
SECONDARY FOLLOW-UP

Name _____ Phone No. _____

Student No. _____ Male _____ Female _____

Social Sec. No. _____ Program Area _____

What is your present status?

Employed
Not Employed ____
Employed and Attending School ____
Attending School or College ____

FOR THOSE NOW EMPLOYED:

1. Which of the following statements best describes the relationship between your present job and the training program you were enrolled in?

   Job same for which trained
   Job highly related to training ____
   Job only slightly related to training ____
   Job not related to training ____

2. How do you feel about your present job?

   Like it very much
   Like it somewhat ____
   Neither like nor dislike ____
   Dislike it somewhat ____
   Dislike it very much ____

3. How many hours per week do you work on your present job? _____

4. What is the wage rate per hour of your present job excluding overtime? _____

5. How far is your place at work from your present residence? _____

FOR THOSE NOT EMPLOYED:

1. Are you looking for a job?

   Yes ____
   No ____

FOR THOSE NOW ATTENDING SCHOOL:

1. What is the type of institution in which you are presently enrolled?

   Vocational High School ____
   Public High School ____
   Two-year Junior or Public Post-secondary Technical Institute ____
   Four-year College or University ____
   Private Vocational or Business School ____
   Area Vocational School ____
   Other _____ ____

2. How related is your present educational program to the vocational course you took in high school?

   Same field ____
   Highly related ____
   Only slightly related ____
   Not related ____

FOR ALL PERSONS:

1. Did you complete the vocational program in which you were enrolled?

   Yes ____
   No ____

2. Are you planning to enroll for more vocational or technical education within the next two years?

   Yes ____
   No ____

3. Please rate the following services of your school on a scale (1) very good; (2) average; or (3) poor:

	Very Good	Average	Poor
Vocational instruction	____	____	____
All other instruction	____	____	____
Vocational shop or laboratory	____	____	____
Guidance and counseling	____	____	____
Job placement	____	____	____

APPENDIX C
STATISTICAL TESTS

Table 52

COMPARISON OF EMPLOYMENT AND EDUCATIONAL STATUS
OF RESPONDENTS AND NON-RESPONDENTS -(1973-74)

	N = 392 Respondents % - N	N = 167 Non-Respondents % - N	Chi-Square Value
Employed (Full- or Part-time)	46.9 - 184	53.3 - 64	
Employed and attending school	14.8 - 58	13.3 - 16	
Unemployed	23.5 - 92	22.5 - 27	
Attending school/ college	14.8 - 58	10.9 - 13	1.964

*Significant .05 ≥ 7.815. (with 3 df)

Table 53

COMPARISON OF EMPLOYMENT AND EDUCATIONAL STATUS
OF RESPONDENTS AND NON-RESPONDENTS -(1974-75)

	N = 1,454 Respondents % - N	N = 167 Non-Respondents % - N	Chi-Square Value
Employed (Full- or Part-time)	42.8 - 622	45.5 - 76	
Employed and attending school	11.5 - 167	11.4 - 19	
Unemployed	21.5 - 313	18.0 - 30	
Attending school/ college	24.2 - 352	25.1 - 42	1.143

*Significant .05 ≥ 7.815 (with 3 df)

Table 54

COMPARISON OF JOB ATTITUDES OF RESPONDENTS AND NON-RESPONDENTS - (1973-74)

	N = 242 Respondents % N	N = 80 Non-Respondents % N	Chi-Square Value
Like it very much	52.5 - 127	50.0 - 40	
Like it somewhat	25.2 - 61	27.5 - 22	
Neither like nor dislike	11.2 - 27	10.0 - 8	
Dislike it somewhat	7.8 - 19	11.2 - 9	
Dislike it very much	3.3 - 8	1.3 - 1	1.636

*Significant .05 ≥ 9.488 (with 4 df)

Table 55

COMPARISON OF JOB ATTITUDES OF RESPONDENTS AND NON-RESPONDENTS - (1974-75)

	N = 790 Respondents % N	N = 95 Non-Respondents % N	Chi-Square Value
Like it very much	45.9 - 363	44.2 - 42	
Like it somewhat	27.7 - 219	33.7 - 32	
Neither like nor dislike	16.3 - 129	16.8 - 16	
Dislike it somewhat	5.9 - 47	4.2 - 4	
Dislike it very much	4.2 - 32	1.1 - 1	3.946

*Significant .05 ≥ 9.48 (with 4 df)

Table 56

COMPARISON OF RESPONDENTS AND NON-RESPONDENTS ON WORK HOURS PER WEEK, ONE-WAY COMMUTING DISTANCE, AND HOURLY WAGE RATE - (1973-74)

	Respondents			Non-Respondents			
	N	Mean	Std. Dev.	N	Mean	Std. Dev.	t
Work Hours per Week	234	37.01	10.99	80	34.26	11.11	3.59*
One-Way Commuting Distance	226	8.55	8.41	77	6.35	7.05	6.34*
Hourly Wage Rate	232	$2.71	1.87	76	$2.86	1.13	-.68

*Significant .01 $\geq$ 2.586 (with 691 df)

Table 57

COMPARISON OF RESPONDENTS AND NON-RESPONDENTS ON WORK HOURS PER WEEK, ONE-WAY COMMUTING DISTANCE, AND HOURLY WAGE RATE - (1974-75)

	Respondents			Non-Respondents			
	N	Mean	Std. Dev.	N	Mean	Std. Dev.	t
Work Hours per Week	779	36.22	13.35	88	37.59	9.37	1.99
One-Way Commuting Distance	705	8.49	10.46	79	7.77	8.22	2.17
Hourly Wage Rate	747	$2.82	4.11	78	$2.77	0.82	.15

*Significant .01 $\geq$ 2.586 (with 691 df)

ACCESSION NUMBER: VT103225

PUBLICATION DATE: JUL74

TITLE: REVAMP: REVITALIZE THE VOCATIONAL AND ACADEMIC MULTIFARIOUS PROGRAM THROUGH CAREER EDUCATION. FINAL REPORT.

PERSONAL AUTHOR: MACLEOD, GEORGE H.

DESCRIPTOR: *CAREER EDUCATION; ELEMENTARY SECONDARY EDUCATION; POST SECONDARY EDUCATION; *CURRICULUM GUIDES; *CAREER AWARENESS; DEVELOPMENTAL PROGRAMS; PROGRAM DESCRIPTIONS; *LANGUAGE ARTS; *LEARNING ACTIVITIES; OCCUPATIONAL GUIDANCE; COURSE DESCRIPTIONS; CAREER EXPLORATION

EDRS PRICE: MF AND HC AVAILABILITY WILL BE ANNOUNCED IN VOL. 10, NO. 2.

DESCRIPTIVE NOTE: 596P.; RELATED DOCUMENT VT 103 226. A LANGUAGE ARTS CURRICULUM GUIDE FOR GRADES 7 TO 12 IS CONTAINED IN THIS ISSUE.

ABSTRACT: DESCRIBED IN THE REPORT ARE THE ACTIVITIES AND ACCOMPLISHMENTS OF A THREE-YEAR CAREER EDUCATION PROJECT FOR GRADES K-14. IN ADDITION TO THE COMPONENTS OF CAREER AWARENESS, ORIENTATION, EXPLORATION, AND PREPARATION, THE PROGRAM RECYCLING COMPONENT PROVIDED COURSE WORK AND COUNSELING SERVICES FOR ALL OUT-OF-SCHOOL YOUTH AND ADULTS IN THE COMMUNITY. APPENDED PROJECT MATERIALS CONSTITUTE THE MAJOR PORTION OF THE DOCUMENT AND INCLUDE TWO CURRICULUM GUIDES. THE CAREER AWARENESS GUIDE FOR GRADES K-6 (198 PAGES) CONTAINS LEARNING ACTIVITIES ORGANIZED AROUND THE FOLLOWING THEMES: SELF-AWARENESS, INTERPERSONAL SKILLS, DECISIONMAKING, WORK AWARENESS, MANIPULATIVE SKILLS, ECONOMIC AWARENESS, THE VALUE OF WORK, AND RELEVANCE OF EDUCATION. A SECOND SECTION OF THE GUIDE DETAILS USE OF COMMUNITY RESOURCES THROUGH FIELD TRIPS AND RESOURCE VISITORS. THE LANGUAGE ARTS CURRICULUM GUIDE FOR GRADES 7-12 (229 PAGES) PRESENTS ACTIVITIES FOR THE JUNIOR HIGH SCHOOL GROUPED UNDER SPECIFIC TOPICS. FOR EACH TOPIC, AN OVERVIEW, OBJECTIVES, RESOURCES, ACTIVITIES, AND EVALUATION METHODS ARE LISTED. COURSE DESCRIPTIONS FOR 35 HIGH SCHOOL ENGLISH COURSES PROVIDE A STATEMENT OF OBJECTIVES, MATERIALS REQUIRED, AND A COURSE OUTLINE. OTHER APPENDED MATERIALS ARE: A CAREER GUIDANCE INSTITUTE REPORT, DIRECTORY OF RESOURCES, AND A HIGH SCHOOL CAREER GUIDANCE HANDBOOK. (RG)

CONTRACT NUMBER: OEG-0-73-5305

INSTITUTION NAME: SOUTH PORTLAND SCHOOL DEPT., MAINE.

SPONSORING AGENCY NAME: OFFICE OF EDUCATION (DHEW), WASHINGTON, D.C.

VT 103 225

FINAL REPORT

Project No. V361112

Grant No. OEG-0-73-5305

REVAMP: REvitalize the Vocational and Academic Multifarious Program through Career Education

Exemplary Project in Vocational Education
Conducted Under
Part D of Public Law 90-576

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July 1976

VT 103 225

2

Final Report

Project No. V361112
Grant No. OEG-0-73-5305

REVAMP: REvitalize the Vocational and Academic Multifarious Program through Career Education

Exemplary Project in Vocational Education
Conducted Under
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July 1976

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5.(a) The time period covered was July 1, 1973 to June 30, 1976.

5.(b) Goals and Objectives

The South Portland schools propose a developmental program in career education for grades Kindergarten through 14 with the following objectives included:

Career Awareness (Grades K-6)

1. Students will demonstrate an awareness about themselves including interests and abilities and gain a knowledge of a variety of career opportunities throughout 15 clusters.

Career Orientation (Grades 7-8)

1. Students will demonstrate insight into a diversity of career opportunities.
2. Students will be able to describe how a positive attitude toward work improves both personal job satisfaction and quality of product.
3. Students will relate interests and abilities to possible career selections.
4. Students will narrow career possibilities to three of the 15 USOE job clusters.

Career Exploration (Grade 9)

1. Students will make in-depth analysis of three job clusters of their choice.
2. Students will be involved in exploration through job shadowing.
3. Students will be administered the General Kuder Preference Record to better evaluate their interests.

Career Preparation (Grades 10-12)

1. Students new to the program will increase self-awareness, orientation, and exploration through individual or small group guidance.
2. Students will use tests such as: Kuder Preference Record - all forms, Holland's Self-Directed Search, or the Strong Vocational Interest Blank.
3. Students expected to drop out will be provided with a variety of vocational training opportunities so they may, upon leaving school, have a salable skill.
4. Students will receive placement services as a guidance function.

5. Students will be provided pre-vocational orientation courses in grade 10 in cooperative work-study, distributive education and business education so that they are ready for cooperative placement in grade 11.

Program Recycling (Grades 13 and 14)

1. All out-of-school youth and adults will be provided the opportunity to use high school guidance functions: testing, counseling, educational planning assistance, and placement.

2. All out-of-school youth and adults will be provided the opportunity for course work in adult education to complete credits for high school graduation, further vocational training or refresher courses.

3. The Assistant Director will structure the provision of these services on a regular evening basis and publicize this service through community media.

5.(c) Procedures

To meet the objectives of career education, the following procedures were utilized:

Career Awareness (Grades K-6)

1. The elementary curriculum coordinator, in collaboration with the elementary curriculum directors and REVAMP assistant director, established career awareness emphasis in all areas of the existing elementary curricula.

2. A sequential plan for developing units of studies in career awareness was completed by the elementary curriculum coordinator in conjunction with teachers in the four project schools and the elementary curriculum directors.

3. Provisions were made for the staff of the four project schools to receive in-service workshops.

Career Orientation (Grades 7-8)

1. A guidance assistant was added to each junior high staff so that each school would have two full professional counselors, a guidance assistant and a clerk.

2. In grades 7 and 8, students were involved in the orientation to a wide range of career opportunities. Emphasis was placed on the diversity of career opportunities and their relationship to school offerings with activities and experiences in all employment levels related to the 15 USOE clusters. The guidance department offered 100 hours per year of career education.

Career Exploration (Grade 9)

1. Career exploration program elements emphasized experience-centered activities. These included real or vicarious experiences in areas selected by the students.

2. To develop a more realistic secondary curriculum, one experienced, flexible South Portland junior high teacher was released from regular classroom duties to develop career education materials for infusion into the curriculum. Academic courses that would better complement vocational training areas in which the students have shown an interest were developed. In-service training was offered to all junior high school teachers.

Career Preparation (Grades 10-12)

The high school guidance department and Assistant Director complemented the career education program in the following ways.

1. Grade 10 provided a testing program using either the Kuder Preference Record - all forms, the Strong Vocational Interest Blank or Holland's Self-Directed Search. In group sessions counselors interpreted the tests.

2. Grade 11 offered follow-up of previous interests. Continuous individual and group counseling helped to develop a positive attitude toward work.

3. Grade 12 afforded, for some, detailed involvement in specific areas of interest. A major objective of the guidance department was that all students be helped in making decisions regarding post-high school plans.

Program Recycling (Grades 13-14)

The high school guidance department and Assistant Director complemented the career education program in the following ways:

1. Testing was available.

2. The implementation of this program depended much on the development of the resource center, the hub of guidance services.

3. An additional counselor at the high school was necessary to keep the student-counselor ratio a workable one. This afforded more time for the out-of-school population.

4. The guidance department enlisted the aid of vocational and business schools and colleges in the area.

5.(d) Results and Accomplishments

In reviewing career education in South Portland it was reassuring to note that no amending was required of the original project proposal.

This indicated that the needs identified at the outset were valid and realistic. All too frequently, federal grants could be and were revised to the extent that the final product in some ways did not resemble the application which had been approved in Washington.

As the three year project drew to a close, it was apparent that career education had developed a firm foothold in South Portland. The project director's plan of internal staffing assured that these changes would remain permanent. Career education staff enthusiasm and teacher response to them have been factors of success. Accomplishments resulting from career education funding in South Portland were categorized in four major project areas: system-wide management, elementary curriculum, secondary curriculum and secondary guidance.

System Wide K-12

1. The composition and functions of the Advisory Board were essential to the REVAMP director and assistant director in determining programs and acquiring business resources and contacts.

2. Though the third party evaluation process required adjustment and reassignments the first year, throughout all three years the team's support and assistance guided project successes.

3. Following teacher and school board approval, the Career Development Design, a sequential plan for grades K-12 developed by the REVAMP staff, became the official policy for career education in South Portland.

4. Each year a larger number of South Portland school personnel participated in inservice workshops such as the Career Guidance Institutes, K-6 career education workshops, secondary career/curriculum workshops, and local and regional professional conferences.

5. The combined efforts of the assistant director, curriculum coordinators, and guidance assistants enabled South Portland to accurately log system-wide staff involvement in the many facets of its career education programs.

6. The second year, pre-tests for 2nd, 5th, 8th, and 11th graders and post-tests for the same students the third year were administered to determine student needs and to compare student growth over a one year period. Other personal aptitude and interest tests were incorporated into each student's guidance program.

7. South Portland educators came to realize the importance of thorough documentation. Over the three year period they refined several forms and processes to keep accurate records of vital information.

8. Dissemination procedures included the use of South Portland educators for in system, state and New England presentations, distribution of specially selected South Portland, commercial and other school developed materials, news media presentations and publications, along with the specific Bangor contract for local, state, and university workshops and the state contract for the Language Arts Curriculum Guide, Grades 7 - 12.

9. The third year realized the completion of the content, locations, and distribution of the elementary and secondary human resource directories.

Elementary Curriculum

The elementary career education coordinator in the first two years of the program worked with four project schools. During the third year, that number was expanded to include the other eight schools in the system and the one private parochial school in the area. The elementary handbook, developed during the first year, underwent a complete revision and during the third year was prepared for publication. Activities found in the book were tested in the classroom or developed at workshops led by the coordinator.

Secondary Curriculum

The areas of mathematics, English, and social studies were selected for in-depth studies. The original process chart followed by the math coordinator served as well for the others. With the aid of teachers at workshops, the coordinator devised a sequential math program for vocational and general students. The coordinators for English in the second year of the project developed a curriculum guide for grades 7-9. In the third year the product was a Language Arts Guide for grades 7-12. Coordinators for social studies revised the curriculum, making decided changes in both junior and senior high courses. Career education emphasis in their area was placed on moral development.

Although the project did not include other academic areas, the math coordinator worked throughout the three years with all secondary teachers. Most important was her ability to demonstrate methods of infusing career education into the curriculum. She was extremely successful in proving that career education is not an isolated subject.

Guidance

The guidance department has undergone a permanent change as a result of its in-depth needs assessment. Through surveys of students, graduates and parents, counselors identified the guidance needs of students and determined the most efficient

means of meeting them. A decided shift has been made - moving from one to one counseling to the more effective small and large group guidance sessions. Counselors have attended departmental meetings in all academic areas, enabling them to work more closely with teachers. The establishment of Career Guidance Centers was responsible in part for the successes of the project. A further outcome has been the publication of a sequential career guidance handbook for parents and students.

5.(e) Evaluation

The contract for the third party evaluation during the three year span of the project was with the New England Resource Center for Occupational Education. Dr. Richard A. Gustafson acted as the chief evaluator and after the first year was assisted by Dr. Arthur O. Berry and Dr. Robert Read. With the insistence of the project director, near the close of the first year, each of the three evaluators was assigned to a specific area. Dr. Gustafson evaluated all of the project administration and the elementary component, Dr. Berry evaluated the secondary curriculum component and Dr. Read the secondary guidance component. The evaluators required South Portland to meet all the original objectives. The project director and assistant director, each of the last two years, negotiated with the evaluators the upcoming years evaluation design, detailing specific sub-objectives, determining procedures that would be used to meet the sub-objectives and establishing what criteria and data would be used for evaluation. The plan specified the years work in advance with specific interim dates when procedures would be completed and data would be submitted to the evaluators.

Although the third party evaluators always maintained the role of critically analyzing our accomplishments, it became apparent that the procedure established during the last two years of this project became a positive force with project personnel endeavoring to reach the goals ahead of schedule and then proceeding to overachieve.

5.(f) Conclusions

As the third year of the project draws to a close, the career education staff concludes:

Mr. Seekins, Superintendent, and the Board of Education continue to merit respect for fulfilling their commitment to the original proposal.

In the South Portland school system, the elementary teachers most readily received and implemented the project design.

Over the three year period, a definite change in career education philosophy has evolved at the elementary level.

Because of internal staffing, curriculum changes implemented through career education should have a more lasting effect.

Teachers at all levels were involved in the process of change; hence, the programs developed became theirs.

The charge made to coordinators and to guidance was to affect a change for vocational and general students. We find that courses and studies for these students have undergone the greatest revision.

As a result of the project, the South Portland secondary guidance department has become a career guidance department.

The project was unable to completely meet its objectives set for grades 13-14 because of lack of authority at this level.

5.(f) Recommendations

In reviewing the past three years, the REVAMP staff recognized problems and solutions concerning three levels: Career Education Office of the USOE, State Departments of Education, and local school systems. Fourteen recommendations follow.

It is recommended that the Career Education Office of the USOE:

1. Exclude grades 13-14 from projects proposals in those states having no legislative authority for public education at that level.
2. Assure that project application readers carefully check to ascertain that sufficient clerical staffing has been budgeted.
3. Schedule any three year grant on a graduated budget to account for an annual rate of inflation.
4. Provide fourth year extended funding for dissemination when a project has proven itself to be valuable and successful.
5. Require 3 and/or 5 year follow-up studies after termination of federal funding to determine the continuance of project objectives.
6. Specify guidelines of expected areas of achievement that students should accomplish.
7. Support research to develop and/or identify valid standardized tests to measure growth in career and self-awareness.
8. Determine a standard data collection system to help facilitate documentation procedures required of local school systems.

It is recommended that the State Departments of Education:

1. Receive joint dissemination funding and responsibility with a successful model, such as South Portland, to implement a state-wide career education program.
2. Become a clearing house for recommended and newly developed career education materials and information.

It is recommended that local school systems:

1. Employ a career education director of Fred Freise's caliber to provide the vital and long overdue link between business and education and to coordinate system-wide career education activities, curriculum, and resources.

2. Demand a more balanced curriculum in addressing itself equally to cognitive, affective and psychomotor domains.

3. Recognize that, though federal funding justifiably expects dissemination, the project staff should determine and maintain a reasonable schedule for this.

4. Expect that the results of career education curriculum revision become the responsibility of curriculum directors, department chairmen, and assistant chairmen with annual school board and administrative review and evaluation.

6.(a) Statement of Problem

Although the role of the public school must continue with its responsibility for the cognitive and affective development of each student so that he may fulfill his potential as a contributing member of society, the role of the public school must be expanded to broaden occupation aspirations and opportunities for the students.

Since 80% of today's youth do not continue through their educational program to receive a bachelor's degree, and since general course programs in secondary schools are not designed to equip students with employable skills, and since few of the secondary schools in the country have a truly comprehensive program, it behooves local educational agencies to examine existing programs and design curricula to better meet future career needs of all the students.

The growing drop-out rate, continuing erosion of the work ethic, disproportional youth unemployment statistics, and increasing crime rate are creating pressure for changes in the public educational system enabling better preparation for adult life.

The structure and staffing of existing guidance departments in secondary schools are well equipped for college placement of students. Pressures for college placement results on counselors together with an unfavorable counselor-pupil ratio have not allowed for adequate counseling services for the non-college bound students.

This void, in our opinion, will best be filled through career education objectives so that students may be better equipped for decision making in occupations with reference to their awareness of their own abilities and interests.

If educators are to prepare people to earn a living, programs must be expanded to reach into the community so as to better relate school activities to the "world of work". This will only be accomplished

by improving communications and cooperation not only with the various manpower agencies, such as the State Employment Agency, but also with labor organizations, business and industry.

Although it is difficult to pinpoint a few sources upon which the project was built, we will try to give a few examples of our sources. The many teachers and administrators have been formulating their suggestions from reading professional journals, attending conferences, and their experiences in dealing with students and the business community.

The following are examples of research that have determined the direction of the proposed project:

1. Initial impetus was derived from a speech at the MTA Convention in October, 1970, by Dr. Melvin Howards and from the publication "Northeastern University Laboratory School Curriculum Educational Component of the Boston Neighborhood Youth Corps", Dr. Melvin Howards, Director.

2. Further impetus was obtained through staff members attendance at the Spring 1971 meeting of the Maine Personnel and Guidance Association, the Governor's Conference on Career Education and the National Association of Secondary Principals.

3. The 1971 Maine State Plan for Vocational Education points out that while 36% of Maine secondary students are in a vocational education program, only 3/100 of 1% of secondary students enter post secondary vocational education.

4. The 3rd and 6th Annual Reports by the National Advisory Council on Vocational Education call for a basic change in education and a change in counseling and guidance services.

5. Meetings with career education exponents from other Maine career education projects, staff representatives from the State Department of Education and Cultural Services, and reports of other New England exemplary career education projects.

6. Consultant services of Alvin N. Johnson and Peter Pellenz of the New England Resource Center for Occupational Education, Newton, Massachusetts.

6.(b) Objectives

The South Portland schools propose a developmental program in career education for grades Kindergarten through 14 with the following objectives included:

<u>Career Awareness</u> (Grades K-6)

1. Students will demonstrate an awareness about themselves and a better understanding of their abilities and interests.

2. Students will demonstrate a greater awareness of the world of work and the 15 occupational clusters.

3. Students will recognize that all work is part of life and important to society.

4. Students will develop a positive attitude toward the work ethic and have respect for others.

Career Orientation and Exploration (Grades 7-9)

1. Students will demonstrate insight into a diversity of career opportunities and their relationship to school subjects.

2. Students will demonstrate awareness of their interests and abilities.

3. Students will be able to describe how a positive attitude toward work improves both personal job satisfaction and quality of product.

4. Students will relate their interests and abilities to possible career selections.

5. As the students complete the orientation segment, they will narrow their tentative career possibilities to three of the 15 USOE job clusters.

6. Students will be involved in exploration through job shadowing.

7. Students will make in-depth analysis of three job clusters of their choice.

8. Students will be administered the General Kuder Preference Record so that they may better evaluate their interests.

9. A differential guidance staff will provide and service a resource center.

Career Preparation (Grades 10-12)

1. Students new to the program will increase self-awareness, orientation, and exploration through individual or small group guidance.

2. Students will use tests such as: Kuder Preference Record - all forms, Holland's Self-Directed Search, or the Strong Vocational Interest Blank.

3. Students expected to drop out will be provided with a variety of vocational training opportunities so they may, upon leaving school, have a salable skill. (Short courses emphasizing immediate job entry skills will be created.)

4. Students will be provided pre-vocational orientation courses in grade 10 in cooperative work-study, distributive education and business education so that they are ready for cooperative placement in grade 11.

5. The placement component will be an integral function of the High School Guidance Department.

6. The High School Guidance Department will assist all students upon leaving school in all job, college and other post high school training and education.

7. The Guidance Department will serve as a clearing house with area businesses and industry for job placement.

8. The placement office in the High School will coordinate its activities with the State Employment Office.

9. The placement office will assist students with part-time and summer employment while they are full-time students with special concern for assisting students in career development.

10. A differentiated guidance staff will have developed and documented guidance services to students.

11. The math, social studies, and English academic course offerings will be developed to focus more on career development and to complement vocational courses.

Program Recycling (Grades 13 and 14)

1. All out-of-school youth and adults will be provided the opportunity to use all high school guidance functions including: testing, vocational investigation, counseling, educational planning assistance, vocational training, and placement.

2. All out-of-school youth and adults will be provided the opportunity for course work in adult education to complete credits for high school graduation, further vocational training or refresher courses, and enrichment courses.

3. The Assistant Director will structure the provision of these services on a regular evening basis and publicize this service through community media.

Using standardized instruments and checklists, the evaluators will determine whether pre-post changes regarding these objectives are statistically significant.

6.(c) Design and Procedures

Design

The overall project provided each student from K-14 developmental activities beginning with self-awareness, awareness of the world of work in K-6, orientation and exploration in grades 7-9, and preparation and placement in grades 10-12. The opportunity was extended in grades 13-14 to supplement or recycle through any of the previous procedural steps.

AWARENESS (Grades K-6)

In order to reach the objectives of career education the elementary segment of the project emphasized the following tenets:

1. Self-awareness helped the students develop a better understanding of their abilities and interests. Career motivation was provided through career education infusion in all areas of the existing elementary curricula. Students investigated career clusters and examined potential satisfactions.

2. Awareness of the world of work generated pupil motivation to obtain occupational and educational information for various careers.

3. Value of work developed a positive attitude toward all work as well as respect for others and their job contributions.

CAREER ORIENTATION AND EXPLORATION (Grades 7-9)

Students were evaluated to determine need for further development in awareness phase of the project. In grades 7 and 8 career orientation was instituted. Specific exploration component was covered in grade 9.

1. Career orientation provided an opportunity for all students to learn about a wide range of career areas with emphasis on the diversity of opportunities and relationship of school offerings to different careers. Students examined each of the 15 USOE clusters of occupations and emphasized career opportunities relating to their own interests. A differentiated guidance staff provided expanded career education services as well as useful supportive materials and resources for classroom teachers. Individual and small group counseling was utilized. Specific activities included field trips to businesses and industries, and use of various A-V and printed materials correlated for easy reference in the junior high Career Guidance Center.

2. Career exploration was placed in grade 9 so that students might be better equipped to make preliminary career decisions prior to academic and pre-vocational course selections in grade 10. Exploration focused on at least three occupational taxonomies, with both observation and hands-on experience available in business and industry, school laboratories, area vocational centers, and/or school classes. Grade 9 students continued in-depth study of specific job clusters and refined study to more specific areas within the cluster. Emphasis was placed on the continuing development of positive attitudes through individual and group counseling, field trips, outside speakers, bulletin boards and occupational educational information.

VOCATIONAL PREPARATION (Grades 10-12)

Opportunities were made for students to spend time, if needed, in the areas of awareness, orientation, and exploration. A continual effort was made through the Guidance Department to provide the services necessary for reasonable career decisions. Counselors helped students develop the academic and vocational courses of studies necessary to meet their goals. Through the differentiated staff, guidance functions were divided into professional and non-professional services so that the guidance assistant and clerk could carry out the non-professional services, leaving more time for the professional counselors to concentrate on individual and group counseling. The addition of a fourth counselor and the guidance assistant greatly increased the availability of career guidance services to each student. The Guidance Department was equipped to meet expanded career education student needs through the addition of the Career Guidance Center. The academic and vocational course offerings at the high school were redesigned to better equip students for career preparation. Two new courses were added in September of 1973 to offer pre-vocational training in cooperative work-study and distributive education. These courses were funded independently of the NEVAMP project, but provided supportive resources for NEVAMP efforts at the high school level.

POST HIGH SCHOOL (Grades 13-14)

Through an expanded Adult Education Program and NEVAMP project funds, all available high school guidance services were offered to out-of-school youth and adults during evening hours. These services included career orientation through the Career Guidance Center, career exploration on small group or individual basis, opportunities for internships, on-the-job training programs and job placement. In addition, the adult education program was expanded through local funding to offer more office skill development courses.

PROFESSIONAL STAFF DEVELOPMENT (K-6)

The elementary curriculum coordinator, in cooperation with the elementary curriculum directors and the NEVAMP Assistant Director, assisted teachers in the development of career educational materials to be integrated as part of the existing curricula, set up and organized in-service training for orientation and staff development in career education, located the areas, organized and supervised field trips, developed supplemental bulletin board and poster materials for use in all elementary schools.

PROFESSIONAL STAFF DEVELOPMENT (7-12)

The secondary curriculum coordinator, in cooperation with the guidance department and the NEVAMP Assistant Director, organized orientation and in-service training for all teachers so that they might become acquainted with career education objectives. Project

personnel helped develop materials to be useful in all subject matter areas. Since all students must take English, math and social studies, the major thrust in curriculum development was placed in these areas. Each year, one department was selected with two experienced, flexible South Portland teachers being freed from their regular classroom duties to serve as curriculum coordinators. Secondary curriculum coordinators developed career education materials and revamped curriculum to be more sensitive to preparing students with an employable skill.

The curriculum coordinators worked closely with the department chairmen and the REVAMP Assistant Director to develop course offerings. In order that career education activities could occur in the classroom prior to this comprehensive revamp, project staff disseminated career education materials generated at other career education sites, and led and coordinated career education modification of existing curriculum.

RESEARCH

The following references and sources were used in formulation of this project:

1. "Glenville Career Development Program" in Cleveland, Ohio.
2. "Maryland Career Development Project"
3. "Cobb County, Georgia Project - A Development Program of Occupational Education"
4. "New Opportunities for Work" in Lewiston, Maine
5. "Maine Career Resource Center Project" in Farmington, Maine
6. Wisconsin VTA System for Adult Education
7. New England Resource Center for Occupational Education

Procedures

In order to meet the objectives in career education, the following procedures were utilized.

CAREER AWARENESS (Grades K-6)

1. An experienced, flexible South Portland elementary teacher, with orientation to career education objectives was given a leave of absence from the classroom and became the elementary curriculum coordinator with 100% of the time devoted to this project. The elementary curriculum coordinator, in collaboration with the elementary curriculum directors and REVAMP Assistant Director, established career awareness emphasis in all areas of the existing elementary curricula. This career education infusion gave positive reinforcement to the concept of selecting careers which would bring satisfaction to the individual, develop motivation for pupils to continue career investigation, and develop a positive attitude toward the work ethic.

2. The first major emphasis was the development of the curriculum. A sequential plan of developing units of studies in career awareness appropriate to the grade level was completed by the elementary curriculum coordinator in conjunction with teachers in the four project schools and the elementary curriculum directors. The elementary curriculum coordinator worked with the assistant director to schedule program consultants, speakers, classroom demonstrators and field trips for a variety of occupations.

3. In order for the project to be effective, provisions were made for the staff of the four project schools to receive orientation to introduce the objectives, scope and sequence of the program. In-service training included review of career awareness guidelines, consideration of evaluation criteria, and study of methods and materials and present sources of information in vocational and occupational areas. The teachers determined their self-awareness and value judgment in relation to the work ethic.

CAREER ORIENTATION (Grade 7-8)

1. A project guidance assistant was added to each junior high guidance staff so that each school would have two full time professional counselors, a REVAMP guidance assistant and a clerk. With this differentiated staff, a re-defining of guidance functions - professional (eg. counseling) or non-professional (eg. receiving vocational and educational information), and utilizing both individual and group counseling, guidance services to students were markedly increased.

2. In grades 7 and 8, students were involved in the orientation to a wide range of career opportunities. Emphasis was placed on the diversity of career opportunities and their relationship to school offerings with activities and experiences in all the employment levels related to the 15 USOE clusters of occupations. The prime responsibility for the career education orientation program fell on each junior high school guidance department, utilizing small and large group instruction, AV aides and materials, various pamphlets and brochures correlated in the Career Guidance Center. The guidance department, in conjunction with the Assistant Director, organized field trips, assembly programs, community consultants and speakers from business and industry. The guidance department, in conjunction with the junior high teachers and administrators, offered 100 hours per year of career education. Each student was assisted, before making high school course selection near the end of grade 8, in completing an analysis work sheet of interests and abilities. This was the responsibility of the guidance department.

CAREER EXPLORATION (Grade 9)

1. Career exploration program elements emphasized experience-centered activities. These included real or vicarious experiences in areas selected by the students, focusing on at least three of the occupational clusters. The exploration offered experiences in business and industry, in school labs and shops, area vocational centers, and school classes. The prime responsibility for the organization of activities was that of the junior high guidance department in conjunction with the Assistant Project Director, with 100 hours per year for each student.

2. In order to develop a more realistic secondary curriculum, one experienced, flexible South Portland junior high teacher (one each year from math, English, social studies) was released from regular classroom duties to develop career education materials for infusion into the curriculum. Academic courses that would better complement vocational training areas in which students had shown an interest were developed. The coordinator, in conjunction with the high school subject career coordinator, department chairmen, and the Project Assistant Director, sought available curriculum materials to be tried with classes to determine the appropriateness of such material. The department chairman and junior and senior high school curriculum coordinators, during the course of the year, compiled course information in outline form so that direction and sample material were ready for the curriculum development workshop during the summer at the close of that school year. Selected teachers from the designated department spent eight weeks under the guidance of the department chairman to complete course guides, select and/or develop the curriculum material necessary. As with career awareness, orientation and in-service training were offered to all junior high school teachers.

CAREER PREPARATION

The high school guidance department and Assistant Director complemented the career education program in the following ways.

1. Grade 10 provided a testing program using either the Kuder Preference Record - all forms, the Strong Vocational Interest Blank or Holland's Self-Directed Search. These tests served as a method of exploration into various areas. The test was also a catalyst for involvement in areas previously unconsidered. In group session counselors interpreted the tests and discussed the meanings of the various interpretations.

   As a follow up, field trips allowed students first hand acquaintance with careers exposed in testing.

   Continuing individual and group counseling was a resource for students.

2. Grade 11 afforded follow up of previous interests to include some degree of participation in the vocations. This was in the form of going to a particular industry for a few days to get an appreciation of a specific job or by doing in-depth research in vocation or profession.

   There was a certain amount of redefining of the curriculum in order to supplement the practical experiences with meaningful academic experiences. This meant the development of mini-courses taught in clusters with a direct relation to the students' vocational interests.

   Continuous individual and group counseling was a method of helping develop a positive attitude toward the world of work. It was most important that students see dignity in all vocations and professions.

3. Grade 12 provided for some, detailed involvement in specific areas of interests. This served as a pre-apprenticeship for some vocations or it served as an actual training period which resulted in regular employment on completion of high school.

   All students were helped in making decisions regarding their post-high school plans. This was the major objective of the guidance department.

   The necessity of a flexible academic schedule was obvious if direct involvement with the world of work were to take place - the degree of flexibility had to extend to evening courses in order to allow students an opportunity to meet all graduation requirements.

4. The placement office was located in the guidance department of the high school and manned by the guidance assistant, under the supervision of the project Assistant Director.

   All guidance and project personnel actively solicited both student and business support for the placement services through letters, bulletin boards, announcements and personal contacts. Since continual personal contact was essential, the project Assistant Director utilized all staff personnel and especially Business Education Department chairman and teachers, Distributive Education and Cooperative Work-Study teachers in maintaining contact with the area businesses.

   Efforts were made in September and October of 1973 to register all interested high school students. In subsequent years, all incoming tenth graders were encouraged to register for part-time employment. The guidance assistant maintained a file of all student registrations, as well as a file of all job openings. Job opportunities were posted on bulletin boards and announced over the school intercom.

All students had been placed in positions, follow up data was gathered from the employer and employee to be used for curriculum evaluation and for future counseling purposes.

PROGRAM RECYCLING (Grades 13-14)

The high school guidance department and the Assistant Director complemented the career education program in the following ways.

1. Entry level business education skill courses were added to evening adult education curriculum under local funding.

2. As a result of the REVAMP program, counselors arranged time in the afternoon for counseling services and helped with job placement. Facilities were also made available Wednesday evenings.

3. High school guidance counselors adopted the philosophy that once students were assigned to them upon entering school, they would remain the counselors of those students whether they stayed in school or dropped out.

Many efforts were made to work with Southern Maine Vocational Technical Institute for a cooperative post-high school program. However, due to Maine's statutory limitations, authority for grades 13-14 is not part of the school system. The career education staff was at a distinct disadvantage in trying to fulfill the obligations stated in the grant requirement. Moreover, S.M.V.T.I. was hampered by budget cuts and extreme budget limitations. South Portland did make a decided effort but was unable to realize any significant results.

METHODS AND MATERIALS

Each of the three secondary schools developed a Career Guidance Center. The junior high centers expanded their existing occupational and educational materials and organized them for easy reference. The junior high centers were a function of the guidance department and were manned by the REVAMP guidance assistant, who was trained in cataloging and use of the material so counselors could be freed for more group and individual counseling. The high school Career Guidance Center was developed as a function of guidance with a wide range of occupational and educational materials catalogued for easy reference. This center also developed a placement service to act as a clearing house for all students, the state employment agency, as well as business and industry. The high school center was manned by the REVAMP guidance assistant.

Career education materials for the regular classrooms were obtained by the project staff and were organized for easy access by the teachers. REVAMP staff personnel also reproduced materials that were not available commercially. Career education materials continued to be gathered from the various career education exemplary projects in the country with the library at New England Resource Center for Occupational Education serving as the prime source.

Students not only received career education information that had been infused into the curricula, but also had opportunities for field trips, outside speakers, assembly programs, on-the-job observation and hands-on experience. High school students had a wider variety of career opportunities with flexibility in scheduling both academic courses and added job taining opportunities.

This project was designed to involve the South Portland staff in all stages of planning and development. It was our conviction that for any long range results all classroom teachers should feel they were a part of the program with opportunities to feed in their ideas and to take advantage of worthwhile in-service training. It should be noted that released time was provided with local funds so that not just the few project personnel received the advantages of visiting other projects, conferences or schools.

SCHOOLS AND LOCATION

All principals in South Portland were asked to discuss career education with their faculty after all teachers received descriptive material on career education and to indicate to the Superintendent whether their staff wished to take part in the project. All three secondary schools (2 junior highs and 1 senior high) were interested in the project. Elementary schools were selected from those that expressed an interest. Care was taken to represent a cross section of the elementary population.

Of the thirteen elementary schools, seven met the criteria needed to be designated as Title I schools under ESEA. With up-to-date statistics developed in June of 1972, all Title I schools had more than 7.8% of their students from low-income families, 9.9% of South Portland children received Aid to Dependent Children, 4.3% received free milk, 8.8% received free or reduced-price lunches, 9.4% of the families fell in low income bracket from the 1970 census, and 2% received free dental clinic services.

South Portland is a suburban community with a balance of industry and housing. Occupations span a wide range from professional to laborers. The city is almost entirely white (95%) with no ethnic group concentration.

Initial population serviced by Project REVAMP in 1973 is charted below:

Name	Grade Level	# Students Enrolled	Tea.	Counselors	Para Prof.
*Dyer School	K-6	287	13		1
Lincoln	K-6	257	14		1
Redbank	K-6	298	15		1
Small	K-6	264	11		1
Mahoney Jr. High	7-9	703	40	2	4
Memorial Jr. High	7-9	715	40	2	4
S.P.H.S.	10-12	1143	64	3	8
	Total	3667	197	7	20

*Non-Title I School

K-6	1106
7-9	1418
10-12	1143
	3667

The second chart shows the 1976 population:

Name	Grade Level	Students	Tea.	Counselors	Para Prof.
Brown	K-6	212	11		1
Dyer	K-6	243	10		1
Hamlin	K-6	149	7		1
Henley	K-6	196	10		2
Kaler	K-6	230	10		1
Lincoln	K-6	231	11		1
Redbank	K-6	264	12		2
Roosevelt	K-6	193	9		1
Skillin	5-6	147	7		1
Small	K-6	219	10		1
Thornton Hts.	K-4	274	12		1
Willard	K-5	119	6		1
Mahoney Jr. High	7-9	687	39	2	4
Memorial Jr. High	7-9	680	40	2	4
S.P.H.S.	10-12	1167	61	4	8
	Total	5011	255	8	30
	K-6	2477			
	7-9	1367			
	10-12	1167			
		5011			
Holy Cross	K-6	163	7		1

PARTICIPANTS

Initially 67% of South Portland school students were involved. Addition of remaining elementary schools brought participation to 100%.

Although the one private school in South Portland is not located in any of the elementary school districts included in the project, all opportunities for in-service training of professional staff were extended to the teaching personnel and assistance given by the elementary curriculum coordinator to help prepare materials which the private school might desire.

In addition to the number of public school participants noted above, it is estimated that 50 out-of-school youth and adults were included in the first year of the project. Every effort was made by the existing guidance staff and project personnel to locate any interested persons in South Portland. The 50 out-of-school youth were for the most part part-time or short term students, taking advantage of only the guidance services or one academic course.

6.(d) Results and Accomplishments

Systemwide

Advisory Board

South Portland established a Career Education Advisory Board in July of 1973 to assist in developing a career education plan for grades K-14. This group proved to be the essential component needed to open and maintain channels of communication between business and education.

Meetings were held monthly for the first year of the project. Later the Board met three or four times a year when a need for their services warranted. To meet more often was not feasible.

The primary functions of the Advisory Board were as follows:

1. to be valued consultants.
2. to provide expertise as questions arose.
3. to evaluate the project.
4. to make recommendations to the staff and the Board of Education.
5. to give direction to project programs and activities.
6. to serve as contact people.

CAREER EDUCATION ADVISORY BOARD

DIRECTOR:	George H. MacLeod
ASSISTANT DIRECTOR:	Frederick E. Freise
ELEMENTARY TEACHER:	Carolyn Corcoran, Director of Curriculum
SECONDARY TEACHER:	Carl Miller, Business Education Dept. Chairman
REPRESENTATIVES:	UMPG - Ms. Linda Hoch, Placement Director SMVTI - Joseph DeCourcey, Dean of Students STUDENT - David Mahoney PARENT - Carolyn Murphy, Manager Casco Bank & Trust Company

CIVIC GROUP:	James Doughty, Vice President & Treasurer Blake, Hall & Sprague Insurance Company
LABOR:	Thomas Curtis, Director Manpower Training Associated General Contractors of Maine
	Allen P. St. Pierre, Business Representative International Association of Machinists
BUSINESS:	Marilyn Allen Shortill, Personnel Manager Maine Savings Bank
	John Baird, President Crosby Group - Laughlin Plant

Third Party Evaluators

During the first year of Project REVAMP, the evaluation team consisted of four people who visited once a month and evaluated the entire project. This procedure was changed for the second and third year of the project.

At the beginning of the second year, the responsibility of the evaluation team reflected the four major areas of the project. In this way, the staff worked with the same evaluator in their area and for the entire year. The team consisted of Dr. Richard Gustafson, Assessment of Management and Testing; Dr. Robert Read, Counseling and Placement; and Dr. Arthur Berry, Secondary Curriculum Component and In-Service. Dr. Gustafson had the responsibility of evaluating the Elementary Curriculum Component; Dr. Berry assisted in visiting the elementary schools.

Under the direction of the evaluators, staff members developed a plan of process objectives for the year. This outline indicated intent and procedure and facilitated the work of evaluators at each quarterly session. The assistant director worked from an overall management action chart.

Evaluators' visits were arranged each month according to their planned agenda. As a rule, the evaluators met with the director and assistant director and then with the staff. After the visit a memorandum was sent which documented the observations and findings. This helped bring everyone together and lent more support, solidarity and purpose to their efforts.

Developing a Career Development Design and a Sequential Plan for Career Education

The original framework of South Portland's Project REVAMP was AWARENESS (of self, of world of work, and of value of work), ORIENTATION, EXPLORATION, and PREPARATION. The staff soon discovered that many important goals were missing and that the design must be expanded.

Other projects were examined and over 100 goals and objectives were identified, clustered, and classified. Duplicates were eliminated and new concepts were added. An attempt was made to select goals which

involved the cognitive, affective and psychomotor domains. Finally, in the second year, the eight goals of South Portland's Career Development Design were drafted. (Appendix A)

To provide sequence for the Design, eight goals for each of the four levels were written. These 32 components of the Design determined both the scope and sequence of the career education plan for South Portland.

The next step was to use the Design as a basis for coordinating career education projects. The terms used in this process are defined below:

Goal - A phrase which indicates an educational direction.

General Objective - A general statement which describes more concisely what the intended outcome is to be.

Activity - An educational experience instigated by a teacher for the purpose of changing behavior.

Evaluation - Any method which demonstrates to the teacher that the desired behavior change has occurred.

General objectives were written by the staff. These are subject to future revisions as the concept of career education is infused. The staff and teachers developed classroom activities and teaching units which are keyed to the goals and general objectives. Activities, resources, and evaluations are also included in each unit.

A collection of sample activities appears in the elementary guide Awareness K-6 Revised 1976, the Language Arts Curriculum Guide 7-12, and in math and social studies units developed by South Portland teachers and career education curriculum coordinators.

In-Service

An overview of career education and project objectives was provided by in-service for administrators, counselors and teachers. The activities were broadly defined by the project to include field trips, conferences, workshops, seminars, and university courses. Educators were involved in experiences directly related to their subject areas.

Field Trips offered staff members a clearer understanding of the world of work. They provided information and materials that could be implemented by teachers through curriculum revisions, classroom activities and the Career Guidance Center. Field trips added to the professional growth of teachers.

Conferences involved one or more staff members who attended regional or national meetings related to their areas of interest. These afforded excellent opportunities to exchange ideas and share conference materials with South Portland teachers. In several instances, consultants were brought in to discuss topics of interest with the career education staff.

Workshops enabled teachers to become better informed about career education concepts and to relate this knowledge to classroom activities. These sessions, conducted during vacation periods, released teachers from classroom responsibilities and afforded the opportunity to share with teachers of other disciplines and grade levels.

Miscellaneous in-service activities included discussions, seminars and visits to other projects to develop ideas and improve our career education program.

The following table indicates the total involvement of administrators, counselors, and teachers in in-service activities for the three year period. All events have been thoroughly documented.

	Number	Participants Duplicated Account
Field Trips	48	202
Conferences	15	46
Workshops	45	976
Miscellaneous	19	279
Total In-Service Activities*	127	1503

*Career Guidance Institutes are not included.

Career Guidance Institute

Through the efforts of Fred Freise and the National Alliance of Businessmen, the Career Guidance Institute was established as an important in-service career education activity. The first two years were supported financially by the National Alliance of Businessmen; the third year was completely sponsored by the career education staff and the South Portland School Department.

The purpose of the Institute was to create attitudinal changes and develop insight into the world of work. The Institute was visualized as an in-service activity for educators in the South Portland schools and was designed to enhance their career education program.

A total of 130 South Portland teachers participated in the Career Guidance Institute during the three year period. The course required 60 hours of visitation/workshop time over a six month period. A total of 245 businessmen donated their time and efforts to make the Institute a learning experience for the teachers. The total involvement is shown on the chart on page 25.

Each year thorough documentation appeared in the form of C.G.I. Reports. (Appendix B) Each volume includes school and business participants, pre and post test results, and detailed accounts of visits to schools, business and industry.

C.G.I. INVOLVEMENT

(1974 - 1976)

	1974	1975	1976	Total
PARENTS				
Elementary	5	6	7	18
Secondary	-	-	8	8
TOTAL PARENTS	5	6	15	26
STUDENTS				
Elementary	-	-	11	11
Secondary	5	7	35	47
TOTAL STUDENTS	5	7	46	58
SCHOOL PERSONNEL				
Teachers				
Elementary	-	9	15	24
Secondary	18	24	25	67
Total Teachers	18	33	40	91
Counselors				
Elementary	-	-	-	-
Secondary	6	5	7	18
Total Counselors	6	5	7	18
Administrators				
Elementary	-	1	5	6
Secondary	6	6	3	15
Total Administrators	6	7	8	21
TOTAL SCHOOL PERSONNEL	30	45	55	130
BUSINESSES (DONATED TIME)				
Personnel	51	49	145	245
Tour Sites	20	21	54	95

Involvement

During the three years of the Career Education Project in South Portland, the primary concern of the Superintendent of Schools, the Project Director, and project personnel has been to actively involve our classroom teachers and curriculum supervisors in the development and implementation of career education in the South Portland school system.

The basic approach was to incorporate career education as an integral part of the existing program by utilizing the South Portland professional staff for development, rather than hiring outside consultants to try to superimpose their program on the South Portland school system. The existing curriculum supervisors played a major role not only in overseeing curriculum development but also in initially defining student needs and establishing short and long range goals. The value of this approach seemed to be more in the attitudinal change on the part of the professional staff as a result of having participated in the process, rather than the products that were developed.

100% of the elementary school students and over 90% of all secondary students were directly involved in at least one career education activity during the three years of the project. Since career education became an integral part of the elementary curriculum and since the classroom teacher and elementary curriculum directors were involved from the beginning in developing the program, we have had 100% participation from elementary staff personnel.

During the three years, 128 secondary teachers of 139 (92%), have been directly involved with career education as a part of their instructional program. A major inservice program, implemented by Mr. Freise, the Assistant Director, has been three Career Guidance Institutes which have involved 130 professional personnel in 60 hours inservice training time.

In order for a Career Education Project to be successful, the business community must be actively involved. As a result of our involvement with the Career Guidance Institutes, 245 business personnel from 95 different companies have donated at least two hours each in working with the 130 professional teachers. For each of the three years, 50 area businesses have each donated a day for a total of 150 man-days to establish an 8th Grade Career Fair. The business community has also donated employees' time of over 1000 days to provide job shadowing opportunities for 9th graders. Personnel Managers of the Greater Portland area have provided mock-interviewing sessions for all seniors during each of the three years, donating over 150 man-days.

With the enthusiasm of the professional staff and the willingness of the business community, we feel that South Portland has an excellent chance of maintaining and improving its career education effort.

Testing

The standardized testing utilized by South Portland at the elementary level was the Career Educator Questionnaire (CEQ) and the Self-Observation Scale (SOS). This test was administered to four project school classes and four non-project school classes, in both the second and fifth grade during the fall of 1974. The post-test was given to the same students as 3rd and 6th graders in the spring of 1976.

At the secondary level, the full battery of the Assessment of Career Development (ACD) was administered to 120 - 8th graders and 125 - 11th graders randomly selected during the fall of 1974. The post-test was administered to the same students in the 9th and 12th grade during the spring of 1976.

Evaluation interpretation of the test results was completed by Dr. Richard Gustafson, our chief third party evaluator, and is included in the third party report.

Documentation

Documentation is essential to an exemplary project and a conscientious effort was made to document all activities and events as they occurred. An Involvement Book contained all pertinent data and was recorded on a daily basis. A few of the documenting forms that were developed and used by the Career Education staff were as follows:

Activity Report Form - a list of classroom activities compiled into a summary of elementary activities by grades and description of activities.

In-Service Form - documentation of all conferences, field trips and workshops.

Dissemination Form - a record of all project visits, presentations, talks, and materials.

Project Visit Evaluation Form - an assessment by visitors to the project.

Dissemination Records Form - an up-to-date tally on all material disseminated.

Workshop Evaluation Form - an appraisal of workshops by participants.

Audio-Visual Evaluation Form - a report on audio-visual materials.

Staff Meetings Form - documentation of all staff meetings.

Teacher Involvement Chart - an account of all teacher Career Education activities and use of the Resource Rooms at the secondary level maintained by the guidance assistants in the Resource Rooms.

Weekly Work Schedules - a list of the schedules of the curriculum coordinators and high school guidance staff.

Junior and Senior High Acitivities Check List - an account of activities, projects involving career education.

Dissemination

The Assistant Director has defined dissemination as any materials which inform others about Project REVAMP or those activities which provide in-service training to parents and professionals. Audiences for dissemination have been categorized South Portland, In State, or Out of State individuals and agencies.

South Portland has maintained a completely open policy on sharing its time and talents when requests have been received.

Two sub-contracts resulting from REVAMP experience were conducted this year. After months of meetings, writing, and revisions, the secondary English coordinator produced the Language Arts Curriculum Guide Grades 7-12. 400 copies have been distributed throughout the state. With the assistance of South Portland educators, the secondary mathematics coordinator provided a series of workshops in Bangor to assist them in implementing a K-12 Career Education Model for Northern Maine. A total of 113 consultant days was provided by South Portland personnel.

Dissemination of Materials

A matrix has been developed for each of these three audience categories which lists the individuals and agencies on the vertical axis, and the various documents which the project has available for dissemination on the horizontal axis (see sample page). Each person or agency receiving a document from the South Portland project is duly recorded in the appropriate cell of the matrix.

Dissemination records can be a relatively simple process with all the necessary facts documented in the following manner:

Preparation of Materials

1.) Assign a number to every article to be disseminated.
2.) List name of article on dissemination chart.
3.) Set up a numerical file corresponding to the chart where a supply of the product to be disseminated is readily available.

Actual Dissemination

1.) Fill in dissemination form with specific data (see sample page).
2.) Record number of articles to be disseminated on chart by category.
3.) Mail or distribute material.

The Career Education Office was responsible for keeping the dissemination chart up to date with the staff feeding information to the office. Although we maintained one list of materials to be disseminated, it would now seem appropriate to have two lists — one for materials actually developed by the South Portland staff, and the other for materials produced outside the project.

The cost of disseminating materials is one of the major problems. This entails reproducing materials as well as paying postage. This can be a substantial amount if the budget has not allowed for such an expenditure. Library postage rates are far less costly when sending material to libraries or educational institutions.

SAMPLE DISSEMINATION CHART

DISSEMINATION OF SOUTH PORTLAND CAREER EDUCATION "REVANG" MATERIALS

WITHIN SYSTEM

	1 Elementary Handbook	2 Resource File	3 Job Shadowing	4 Career Fair	5 Career Days	6 Sophomore Orientation	7 Senior Day	8 Career Guidance Handbook	9 Group Guidance	10 Job Analysis	11 English Recommendations	12 Math Recommendations	13 Social Studies Recommendations	14 Language Arts Curriculum Guide	15 Career Development Guide	16 OCI Visitations & Info	17 Involvement Chart
C. E. Advisory Board (12)																	
School Board (7)																	
Superintendent																	
Ass't. Superintendents (2)																	
Curriculum Directors (3)																	
High School Principal																	
Jr. High Principals (2)																	
Elementary Principals (4)																	
H. S. Guidance Counselors (4)																	
Jr. H. Guidance Counselors (4)																	
H.S. Resource Personnel (1)																	
J. H. Resource Personnel (2)																	
Elem. Resource Personnel (4)																	
Special Teachers (24)																	
Medical Services (4)																	
Librarians (5)																	
Special Services (19)																	
High School Teachers (59)																	
Jr. High Teachers (78)																	
Elementary Teachers (49)																	
Department Heads																	
Students																	
Holy Cross School																	
C.G.I. Participants																	
Career Education Staff																	

SOUTH PORTLAND CAREER EDUCATION

DISSEMINATION OF MATERIALS - 1973 - 1976

	South Portland	In State	Out of State	Total
1974	287	84	156	527
1975	2867	381	227	3475
1976	248	2006	197	2451
Total	3402	2471	580	6453
	Bangor Project 1975-76			6472
	Language Arts Curriculum Guides			400
(6/30/76)				13,325

SOUTH PORTLAND CAREER EDUCATION - DISSEMINATION MATERIALS

Career Education Materials

Elementary Handbook
Resource File, Secondary
Job Shadowing
Career Fair
10th Grade Questionnaire
ASVAB
Career Days
Sophomore Orientation
Senior Day
Career Education Course
Junior High Orientation
Career Guidance Handbook
Group Guidance
Job Analysis
English Recommendations
Math Recommendations
Social Studies Recommendations
Career Development Design
CGI Visitation & Information
Language Arts Curriculum Guide
Bangor Project
Dissemination
Documentation
Senior Survey Form
1 & 5 Year Follow-up Form
Drop-Outs Form
Involvement Chart
Workshop Evaluation
Use of Career Consultants
REVAMP Proposal
CGI Proposal
CGI Letter
CGI Schedule
Evaluation Team Visitation Schedule
Quarterly Reporting Guidelines
Career Education Survey Card
Resource Room Diagram
Recommended Career Education Resources
Math Teachers & Student Feedback Questionnaire
Math Workshop Booklet
Final Reports
Certificates for C.G.I.
SOS Sheet
Video Letter & Schedule
2nd Year Objectives
Follow-up Questionnaire
English Activities
Math Activities
Social Studies Activities
English Rationale
Bibliography
Documenting Forms
K-6 Continuance Plan
Doing a Needs Assessment for a Career Resource Room
Resource Sheet

Other Materials

Cluster Chart by Discipline
D.O.T. Outline
Career Education Digest
Rhode Island Career Education English Guidelines
Dr. Bell's Speech
Straight Answers on Career Education
National Policy on Career Education
Questions Teachers Ask Most Often on Career Education
C.E. Publication List
C.E. Publication List and Addresses
Free & Inexpensive Materials
Language Arts Microfiche List

Free Loan Film Agencies
Resources: Arts
Foreign Language
Health Jobs
Home Ec.
Industrial Arts
Language Arts
Math
Music
Phys. Ed.
Science
Social Studies
Career Education Microfiche List
Free Career Planning Films

Dissemination of Information

The South Portland career education staff was responsible for disseminating information through presentations, talks, visits to the project, and news media. Requests were forthcoming from schools, the university, parent-teacher clubs, service organizations, state agencies, professional groups, career education projects, the city council, school board, and business groups.

The following chart covers the period from July 1, 1973 to June 30, 1976.

	Organizations or Schools	Number of People	S.P. Staff Involved
Project REVAMP Visitors	28	74	136
Project Presentations	26	838	65
Talks	11	241	25
Miscellaneous	13	109	14
Bangor Workshops			113
TOTAL	78	1262	353

This chart does not indicate the information disseminated by telephone. This was a time consuming phase of the project, one which was extremely difficult to control and document.

PUBLICITY - 1973 - 1976

Project REVAMP (General)

'73-'74	3 Articles	41"
'74-'75	10 Articles	97"
'75-'76	12 Articles	207"
	25 Articles	345"

Senior High School

'74-'75	7 Articles	93" + 2 minutes 10 seconds
'75-'76	4 Articles	88" + 2 minutes
	11 Articles	181" + 4 minutes 10 seconds

Junior High School

'73-'74	5 Articles	121"
'74-'75	5 Articles	228" + 1 minute 20 seconds
'75-'76	1	10"
	11 Articles	359" + 1 minute 20 seconds

Elementary

'73-'74	3 Articles	13"
'74-'75	2 Articles	50" + 2 minutes
'75-'76	3 Articles	22" + 4 minutes 20 seconds (2)
	8 Articles	85" + 6 minutes 20 seconds

Oth.

'73-'74	2 Articles	38"
'74-'75	2 Articles	24"
'75-'76	2 Articles	11"
	6 Articles	73"

TOTAL	61 Articles	1043" + 11 minutes 50 seconds (6 separate news showings)

Bangor - South Portland

The South Portland sub-contract with Bangor's Comprehensive Career Education Project, under the direction of Dr. Charles Ryan, added a new component to the South Portland program. The $15,002 provided supplies, travel, substitute's pay, and a replacement for the mathematics coordinator. She was kept on the project after 2 years of math revision and career education implementation to coordinate consultants and workshops. Bangor and South Portland staffs agreed to the 14 dates, topics and locations for August through June.

By working with Bangor, South Portland was able to save them much time in research and implementation. It was natural to wonder how much more could have been accomplished if another school system had been available to model for South Portland in 1973-74.

Bangor and South Portland are similar in school enrollment, business community accessibility, sociologically and economically. This certainly enhanced the success of the model strategy. The workshop strategy of theory-practicum combination was excellent. The three pronged state, university and school system approach touched all components to establish a uniform concept of career education and a process of implementation throughout the state.

Bangor was definitely not the only school system which benefited from this exchange. The staff was most generous in welcoming guests to their workshops. State Department Education personnel and surrounding community educators attended regularly. These state and university components will have a great influence throughout Maine.

All South Portland-prepared workshop materials were used for both school systems. Either the material was in existence due to previous South Portland implementation, or having devised presentations especially for Bangor, these materials were then disseminated to South Portland teachers.

South Portland, through this contract, had the means to acknowledge the hard work and professionalism of some of its many excellent teachers. Their commitment to career education was reaffirmed as a result of their participation.

The future of career education in Bangor rests in many areas. Without doubt, project teachers have experienced a growing commitment, and career education will remain an integral part of their teaching.

Vital to the success of any educational process are two factors - a united, dedicated teaching force and openly supportive administrators. Each building principal is the key to positive, comfortable feelings teachers have concerning their activities and ideas. Continued staffing, perhaps reduced in number from the original career education staff, is necessary. Bangor still needs people and time to organize and disseminate project ideas and materials. Under the direction of a career education staff, this year 33 Bangor participants will now be able to

model for the remainder of the Bangor staff. A great deal of time and organization is necessary to represent all career education elements in each subject area and at all grade levels. This is no easy chore, but it is a must in thoroughly orienting educators to the goals, objectives and implementation of career education.

Sincerest thanks and congratulations are due Dr. Ryan for devising this most creditable plan for Maine. The Bangor Board of Education is to be commended for their support of this program. Dr. Miller's organizational talent and consistent concern have been significant factors in the success of the workshops and overall project. Phil Gonyar's dedication and concern go a long way in the present and future plans for career education in Bangor.

None Thompson has been a competent, conscientious leader in Bangor. The card from her own project teachers says it perfectly, "Without you, we would never have been so infused.....or enthused!" Bangor owes her a debt of gratitude for her totally professional manner. She has been a constant source of inspiration and encouragement to the project teachers.

All in all, Bangor has had a consistently hard working team. Personally and professionally, it has been a privilege to work with them. I extend my sincerest thanks to the South Portland and the Bangor Board of Education and administrators for allowing me this opportunity.

SOUTH PORTLAND PERSONNEL CONSULTANT DAYS

PART I

Overall participation of South Portland personnel is summed up in the following charts.

A. Total South Portland Consultant Days

First Half Year		Second Half Year	
In South Portland	16	In South Portland	—
In Bangor	56	In Bangor	29 + 1 student
At University	7	At University	4
	79		33 + 1 student

Total - 112 South Portland personnel and 1 South Portland student

B. Tally of Different South Portland Personnel

First Half - 36 different South Portland staff members

4 Administrators	8 Career Education Staff	5 Counselors
12 Elementary teachers	7 Secondary teachers	

Second Half - 22 different South Portland staff members and one student

1 Administrator	4 Career Education Staff	1 Counselor
10 Elementary teachers	6 Secondary teachers	1 Student

Total - 52 different South Portland staff members

4 Administrators	8 Career Education Staff	6 Counselors
21 Elementary teachers	13 Secondary teachers	

Community Resource File

The mechanics for establishing a Community Resource File were accomplished at the elementary level with the assistance of the head librarian. Two standardized forms were developed - Resource Form and Activity Form. The librarian will be responsible for the up-dating of this file as teachers make use of parents and community members who have expressed a willingness to visit schools.

At the secondary level, a resource file was developed for teacher and student use. The booklet, entitled, SIFTED, lists people who give their time to projects and activities. (Appendix C) Their services are keyed to the title SIFTED: Shadowing, Interviewing, Field Trips, Talks, Educational Materials and Demonstrations. These booklets will be kept in the Career Guidance Center. Responsibility for continuance of the file remains with the guidance assistant.

Elementary Curriculum

At the conclusion of three years of career education under Project REVAMP, we believe that the high degree of success achieved is due to the following people.

1. Curriculum Directors
2. Principals
3. Library Staff
4. Teachers
5. Parents and Business Persons
6. Evaluation Team

Curriculum Directors

From the beginning, the administration gave full support to career education. The three elementary curriculum directors met regularly with the career education staff developing curriculum goals and units to assure a unified philosophy and a sequential development throughout the system. Without adding a new subject, career education was infused into the existing elementary curriculum. The curriculum directors played a key role in that process.

Principals

The principals were consulted regularly and were included in the decision making process whenever possible. Their commitment inspired the teachers to a high degree of involvement.

Library Staff

The elementary library staff informed themselves about career education and assisted the teachers in locating and ordering materials on self and career awareness. They prepared a list of library holdings in these fields and introduced the teachers to them at a workshop.

Teachers

The teachers are the backbone of any educational innovation, and without their cooperation, there can be no implementation. During Project REVAMP, 100% of South Portland's elementary teachers held career education activities in their classrooms. This high degree of involvement results from the strong orientation and support given the teachers. All teachers attended the two required workshops each year. Many other opportunities were provided for the teachers to participate voluntarily in curriculum development and career education courses.

Support was given to the teachers by the curriculum coordinator who had herself been a classroom teacher in the system for 9 years. A non-threatening relationship was established as the coordinator visited each school on a regular basis to consult informally with the teachers to help locate resources and to make activity suggestions. Further support and encouragement were also given by the curriculum directors and principals as they worked with the teachers.

Parents and Business Persons

Through informal contacts and the Parent Survey, the school has made use of the talents and resources of people and businesses in the area. These volunteers have enriched the educational experiences of our students.

Evaluation Team

Much credit for the success of the elementary component is due to the fine relationship between our staff and the MEDCOE evaluation

team. The evaluators often acted as consultants, giving thoughtful suggestions and offering encouragement. Being an exemplary project can be a lonely and awesome responsibility. The evaluators, John Faust and Dr. Richard Gustafson, were friendly guides.

The results and accomplishments for the elementary component of the project may be listed in the following areas:

1. Curriculum Development
2. Inservice
3. Teacher Resource
4. Documentation
5. Personal Growth
6. Dissemination
7. Testing
8. Continuation

Curriculum Development

In close cooperation with the elementary curriculum directors, a teachers' guide was written during the first year of the project. Later, a sequential plan was developed and the guide was revised to correlate with the plan. Twenty-six teachers worked in two separate semester workshops to develop materials for the guides. All teachers in the system kept records of their activities and many of these were incorporated into the guide. The curriculum directors and the school superintendent wrote the philosophy and did the final editing of the guides. Copies of the revised guide will be distributed to the teachers next fall. (Appendix D)

Inservice

During the first two years of the project, four elementary schools with 50 teachers were involved. In the third year, all twelve public schools and one parochial school were included. Every year workshops were held to meet the needs of the teachers in these schools. The workshops were on: an orientation to career education; methods for the teaching of values, decision making, psychomotor skills, and work awareness; the use of career education resource materials, video tape, and ITV; the business community; and curriculum development.

In the third year of the project, South Portland teachers led their own workshops and shared their experiences with one another. A number of teachers traveled to Bangor or welcomed Bangor teachers into their classrooms. One hundred and twelve presentations and demonstration lessons were made by South Portland elementary teachers this year. Dissemination of this kind proved to be an excellent form of inservice for the participating teachers.

Third Year Teacher Involvement in Inservice/Dissemination

October 9 Workshop Presenters	17
March 9 Workshop Precenters	40
Bangor Presenters	21
Bangor Demonstration Lessons	32
Other Maine Presenters	2
	112

Teacher Resource

The curriculum coordinator visited the teachers in the four project schools every week during the first two years of the project for the purpose of disseminating ideas, assisting with resources, photography and video tape. In the third year, all twelve schools and the parochial school were visited less frequently, but on a regular basis for three months. Although the four project schools received little support from the coordinator during the third year, they continued with a high level of activity. The new project schools amazed everyone with the speed and extent of their orientation and involvement.

A Parent Survey was conducted in all the schools to identify persons and places to be used as resources.

A Community Resource File is partly completed. This file is maintained by the library staff and is used by the classroom teacher to locate persons, field trips, and free materials. Information on the Parent Survey and the Community Resource File is in the revised guide.

Documentation

During the second and third years of the project, classroom activities were reported and documented each quarter. A summary shows that 100% of the teachers participated each year in a wide variety of activities in the three areas: self awareness, work awareness and the value of work.

Anecdotal records of comments made by teachers, students, administrators, and parents show an enthusiastic support of the program. Other documentation of teacher workshops and pupil activities has been made with video tape, 8mm film, slides, and photographs.

Personal Growth

The curriculum coordinator was a participant in Dr. Kenneth Hoyt's Ohio mini-conference, is a member of the State Planning Board for the Houston Conference, has served as a reader for state career education projects, and is a member of an evaluation team for the Berwick project. She has attended the CGI three years, taken courses in career education and elementary guidance, and has both attended and directed numerous workshops on career education.

Dissemination

Information about Project REVAMP has been disseminated in a variety of ways. Presentations have been made with other members of the staff. These have been presented to parent and civic groups, and to schools in and out of Maine. We have served as consultants to visitors from other schools. News media have carried stories of elementary activities. The original teachers' guide in its complete and abbreviated forms has been distributed to educators all over the country. In the third year of the project, the responsibility for dissemination has been assumed largely by the curriculum directors, the principals, and the teachers.

Testing

Pre and post tests were administered to project and control groups in the 2nd and 5th grades in December 1974 and to the same children in the 3rd and 6th grades in March of 1976. The work awareness test showed growth in both groups, especially in the project schools. The self awareness test showed lower scores in the post test in both groups. Informal assessments made in interviews with teachers and pupils showed an improvement in attitudes of the students, however.

Anecdotal records are kept in each pupil's permanent record folder. Pupils and teachers, together, record the child's interests, strengths, and career preferences (if any) on a "C" sheet. This ongoing record may serve as a resource to high school guidance personnel.

Continuation

We are assured that career education will continue in the years to come. Mrs. Carolyn Corcoran, Director of Curriculum, has been assigned responsibility for elementary career education. She will provide inservice training for the teachers and continue with the curriculum revisions. An aide has been hired to serve as a resource to the teachers and to assist Mrs. Corcoran. The librarians will continue to circulate resource materials in career education. They will also keep the Community Resource File, located in each library, up to date. The principals with the curriculum director will offer support to the classroom teachers. The Revised Guide, in loose-leaf form, to allow for future revisions, will be distributed to each teacher in September. It will be a tool for continued implementation. We are confident that career education will not die in South Portland. It is not in the hardware that can break down, or in personalities who will leave the system, but it is a concept in the minds of the teachers and at the core of the renewed curriculum.

On June 28, 1976, members of the South Portland School Department were participants in the National Elementary Guidance Conference held at the University of Maine at Orono.

Carolyn Corcoran, Director of Curriculum (grades 5-6) presented an overview of the philosophy and career development design. Ruth Roberts, Elementary Career Education Coordinator, presented slides depicting activities related to the eight goals of the program. Mr. Andre Hamond, Head of the Guidance Department, shared with the group the changes in the philosophy of the guidance program in South Portland and Rose Athas, a classroom teacher, talked with counselors and teachers about the activities she had used with her own class.

Dr. Kenneth Hoyt, National Director for Career Education, was presented with the revised South Portland Career Education Guide by John Seekins, Jr., Superintendent of Schools. Dr. Hoyt made the following statements: (1) listen to what these people are saying — they have no elementary guidance counselor yet they have proven that with realistic goals, instruction in achieving these goals and the cooperation of the administration and staff the necessity for an elementary guidance counselor has gone; (2) the classroom teacher with day to day concern and involvement is the needed ingredient for bringing about change in student attitude and directing the student toward future success and (3) the time has come for guidance counselors to forget the importance of their title as a status symbol and take advantage of the resource which is at their disposal, the classroom teacher. Their time could be much better spent by working with and training teachers effectively if they wish to ensure their survival.

Secondary Curriculum Coordinators - Grades 7-12

As indicated in the project design, the secondary curriculum coordinators worked closely with the department chairmen and REVAMP Director to develop course offerings. Studies of the existing South Portland secondary programs and those of other schools led to a modification of the courses of study.

Each year two teachers were released from the classroom, one from the junior high and one from the senior high to review the math, English and social studies programs. They carried out the duties assigned in the project design:

1. Assess the needs of the academic curriculum 7-12 through a survey of parents, teachers, students, business, and industry.

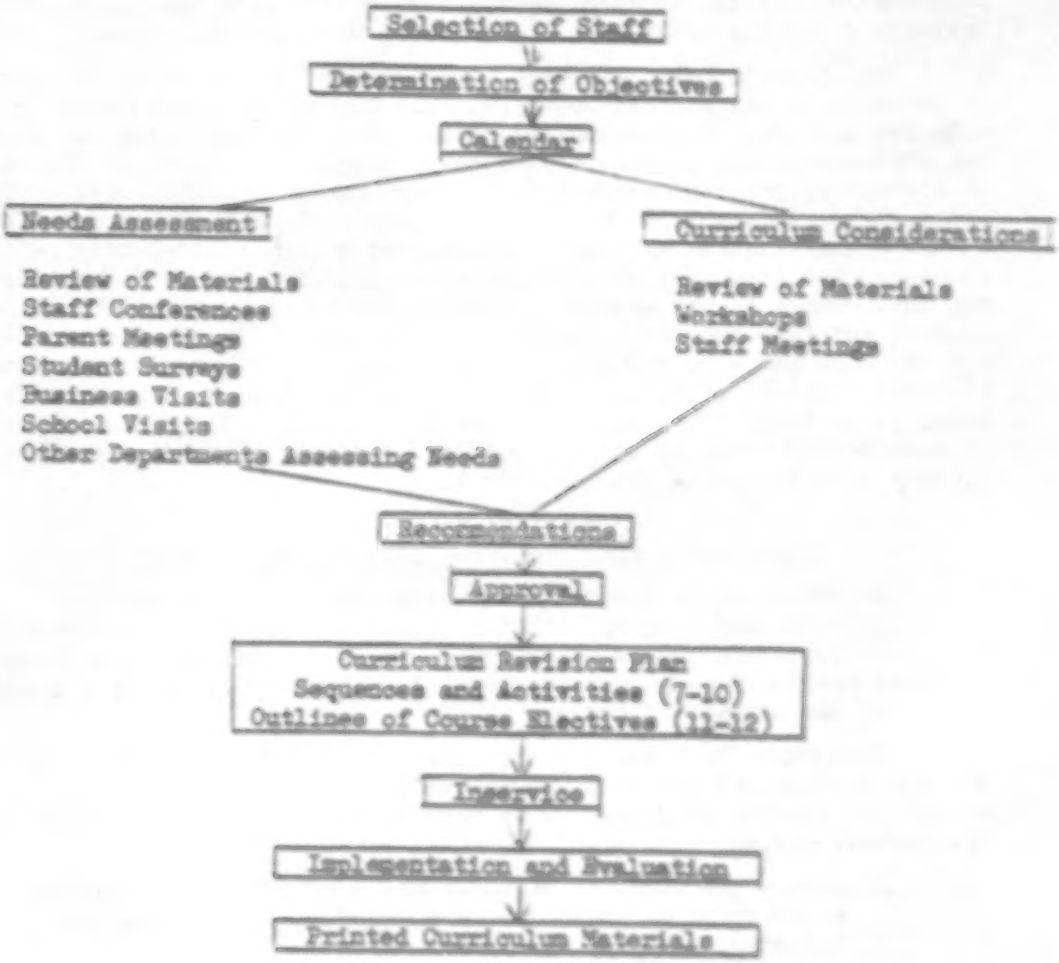
2. Revise the course offerings and infuse Career Education into courses after a study of resource areas, schools, vocational education areas, libraries, and colleges.

3. Seek personal growth and development by attending meetings, institutes and conferences pertaining to curriculum and Career Education.

4. Assist in planning and carrying out Career Education in-service training for secondary teachers and aid the Guidance Department in planning and scheduling demonstrations, consultants, and field trips.

5. Research and purchase upon teacher evaluation and recommendation, texts and materials to complement the established and revised courses.

South Portland Curriculum Revision Process



The culmination of these activities was a list of recommendations submitted to the South Portland Board of Education. Approval was granted after necessary modifications were made. The implementation of the various courses now becomes the responsibility of the department chairmen and associate department heads.

Mathematics 1973-76

The math department - first of three to undergo curriculum revision through Project REVAMP - deserves credit as a pioneer in career education infusion. Charged with the specific duty of reviewing the existing math program to determine its relevance for all students, the secondary coordinators were admonished about past curriculum committee pitfalls. Highest on the list was that courses for either the exceptionally gifted or slow learners seemed to have received most attention. Yet programs for the general/vocational students had unintentionally received much less time and concern. Also, coordinators were urged to make math offerings useful by consulting parents, students, and businesses as well as educators for input prior to final recommendations. The majority of changes did take place in the designated general/vocational area.

As determined in the Secondary Mathematics Curriculum Recommendations of March 1, 1974, and Secondary Mathematics Revision Follow-up of May 16, 1976, Phase II math implementations have progressed according to schedule.

With emphasis on basic math skills in grades seven and eight, continued infusion of career education concepts saw more bankers, insurance and real estate agents, credit union representatives, cash registers, social security and income tax materials in the classrooms.

Algebra I, part 1, remained successful at the ninth grade level. Enrollment at the two junior high schools for 1975-76 was 92 students. The projected enrollment for 1976-77 is 128 students. To balance the amount of material presently included in Algebra I, part 1, and Algebra I, part 2, one chapter of the part 2 text will be covered in part 1. All junior and senior high teachers involved agreed this would enhance success for the part 2 students without deterring that of part 1 students.

Consumer A and Technical Mathematics offerings for 9th and 10th graders have nearly completed a second year with three classes, 42 students, and 2 classes, 37 students, respectively at the junior highs. At the high school a total of 40 students are enrolled in two Consumer A classes and 21 students in one Technical Math class. Meetings with present and former instructors of these courses were valuable and productive. As originally intended, consumer/tech courses were designed to meet student interest as well as need. A stereotyping has arisen resulting in all male or all female class populations. Since both courses include a first half year of basic math review, followed by a half year of consumer or technical math applications, principals are being requested to block these courses back to back, intermingling the consumer and technical math students.

The first half year will be the same for all groups: basic math review, one consumer unit, and one technical unit. At the half year students will choose the final semester of consumer or technical math. Along with clinching the interest factor, it is hoped the stereotyping situation might be eliminated. The combined materials of the three consumer math teachers identified the goals and content for Consumer A, and have firmed the Consumer B course for 1976-77.

This year's Technical Algebra I students progressed with less disruption caused by the first year's misunderstanding of course difficulty. As originally indicated, Technical Algebra I is of equal difficulty to Algebra I.

The natural progression of Applied Algebra I and Technical Algebra II from Technical Math and Technical Algebra I, respectively, ran with little difficulty this year. Two classes of Applied Algebra had a total enrollment of 42 students, Technical Algebra II, 19.

At present it has been determined that all the courses will be offered next year with the exception of Technical Algebra III. The recent tabulation indicated only four students signed up for September 1976. They will have the opportunity to complete this course as independent study.

Of the 21 math teachers, grades 7-12, slated for the 1976-77 school year, over 70% have participated in at least one of the RMVAMP math workshops. Ten of the department members will have taught or be teaching one of the new courses. These concerned, conscientious and competent individuals will continue revision and involvement.

The past three years have been times of constructive self criticism and evaluation within the secondary mathematics department. Channels of communication and cooperation have opened up and flourished. The best possible education for all students comes when educators constantly review the offerings of their curriculum. Since some courses have now almost completed a second full year, meetings have come a long way from the time when course projections were identified from research and theory. Teachers are now talking from experience, and each has valuable views to contribute. South Portland draws heavily on that experience with students, to evaluate and redesign curriculum, so that it most appropriately meets the needs of all students.

The key question is: "What are we doing for students?" The answer is: "Trying to provide the best possible education to meet each student's needs, interests, and abilities." South Portland strives for good education. Therefore, curriculum evaluation and revision is a never ending process, and South Portland is fortunate to have the teachers who will meet that challenge.

During the three year revision and implementation period valuable factors in the math and overall career education program successes were the wise guidance of Dr. Arthur Berry, secondary curriculum evaluator, the inimitable aid of the PRIME Resource Center staff and the supportive backing of South Portland administrators and Board of Education.

English 1974-76

The curriculum coordinators for English were fortunate to have served on the career education staff for two years. The charge had been to affect a change in education in South Portland. Granted, interest in career education was slow in coming to many and granted, all have not yet accepted the career education philosophy. Yet, we believe changes did occur and career education did make a difference both to teachers and to students.

Before working with teachers, we began a learning process - gathering information from the math and elementary coordinators who shared all they had gained the previous year. Our project evaluator, Dr. Arthur Berry, provided a valuable lesson in creating a process chart. Research was vital to our endeavor. We found microfiche at the State Library, guides at the State Curriculum Office, professional books at college libraries, films and other materials at Prime Resource Center.

We then sought teacher involvement. We suggested that such involvement meant sharing. To accomplish our purpose, we offered the option of meetings - individual, small group or departmental. Teachers new to South Portland and those with long years of experience participated. Workshops were held during school vacations and in the summer. Teachers received $15 a day to work together to develop units to be tested in the classroom. Attendance at other workshops - Career Guidance Institutes - led to increased understanding of the relationship between school and community.

Did students benefit from the changes brought by career education? Teachers, acknowledging that others could assist in teaching, opened their classrooms. "Book Fair - A Community Resource" was a project designed to make the best use of facilities in the local area. "Lifestyles" introduced students to people following a unique way of life. Career education can be awareness of one's own talents as was demonstrated in "Self and Career Exploration". Students taught both teachers and classmates in this project. A career education course required of all ninth grade students - taught differently at each junior high - has been approved by the Board of Education. Although teachers of other disciplines have assisted in teaching this course, it was originally a recommendation of the English coordinators.

Nowhere has the change for students been more in evidence than in the phase elective course offerings at the high school. Work in this area began shortly before career education came to South Portland. Yet it was coordinators - math and English - who helped with course outlines, research, microfiche searches and community resources. The folklore and film study courses received much time, attention and support from many of the career education staff.

The guidance and English departments have worked closely together. Career Fair, the ninth grade course, Senior Day - all attest to the cooperative ventures of these two departments.

In the spring of the first year of the project, a Language Arts Curriculum Guide - Grades 7-9 was published. Later a grant was made possible through the cooperative efforts of the project director, assistant director and Dr. Charles Ryan of the University of Maine. The project title, "Integration of the Career Education Concepts into the Secondary English Curriculum", indicates the task assigned. Funding was provided for a teacher replacement who made it possible for one coordinator to be released from the classroom for a second year. Another coordinator, Sarah Lee Wright, although unable to complete her work, made a major contribution to the Language Arts Curriculum Guide - Grades 7-12. Her commitment to her work, her gift for writing and her belief in career education are reflected in the Guide. (Appendix E)

Social Studies

Two social studies teachers were released from the classroom, one from a junior high and one from the senior high, to review the social studies curriculum. Multiple goals included denoting and reinforcing present strengths, discovering and dealing with current weaknesses, and infusing career education.

The process to achieve these goals included: 1) conducting a needs assessment; 2) creating a new curriculum based on the results of the needs assessment; 3) broadening the outlook of the coordinators by attending meetings, institutes and conferences and by much personal study in order to best devise a new curriculum; and 4) providing workshops for social studies teachers to become familiar with new areas of concern such as moral reasoning and career education, and to participate in the creation of the new curriculum offerings.

The coordinators were very much concerned with developing students' skills, values and attitudes, and enlarging the repertoire of teachers by expanding teacher methodology.

A social studies skills sheet was devised that breaks down skills into various categories, tells when each of the skills should be introduced in the school system, should be reinforced, etc. The coordinators also provided all social studies teachers with practical suggestions as to how these skills can be built and reinforced.

In regards to values and attitudes, the coordinators discovered and brought to the attention of all social studies' teachers, Kohlberg's system of moral reasoning. A workshop, meetings, and much material were provided teachers by the coordinators for them to be able to utilize this approach within their classrooms in order to help students reach higher stages of moral reasoning.

Teacher methodology was a major concern of coordinators and teachers. The coordinators provided a great number of suggestions for different approaches and also ran workshops where teachers could share ideas and work together to create different methods for making their classes more interesting and valuable.

A social studies notebook was compiled by the coordinators for each member of the social studies department, grades seven through twelve. The notebook includes virtually everything of value discovered or created by the coordinators during the course of the year. This brings together in one place the fruits of this years labor and provides a basis for the continued building of a superior social studies program.

Recommendations:

1. It is recommended that the work done by the coordinator be furthered over the year by continuing the momentum created. This means the high school department chairman and the junior high associate department chairmen provide social studies' teachers with the opportunities to get together periodically for purposes of sharing ideas and problems.

2. It is recommended that people from within the system be used for curriculum study and revising because they are familiar with local needs and conditions but that they endeavor to expand their horizons as fully as possible by attending conferences, workshops, etc., that will provide further new approaches, ideas and concepts that may be applied locally.

Miscellaneous 1973-76

As soon as school started in September 1973, it was obvious that career education activities would be limited not only to the mathematics department. Interest was high with many individuals in all of the secondary departments. Though time for the coordinators was spread very thinly, every request and concern stated by any South Portland school department personnel was promptly supported and acted upon by the coordinators. For three years the coordinators' services were available to all teachers.

Materials, speaker, or field trips have been arranged for math, English, social studies, science, home economics, industrial arts, career education, art, business education, work study, distributive education, first aid, French and health classes. These experiences and resources served as a basis when the math and English coordinators worked with the assistant director to organize SIFTED. This directory will be basic to the future of career education in South Portland.

An excellent aid for all disciplines was free loan films. Many agencies distribute worthwhile films to schools. PRIME Resource Center was a treasure to work with and South Portland owes much to their dedicated staff and up-to-date facilities.

The second free loan film/filmstrip arrangement was preview of commercial materials for purchase. Evaluation forms prepared by PRIME

were superb for maintaining accurate recommendation records. Teachers were honest in their evaluations and appreciative of the convenience of testing materials, since coordinators ordered, circulated and returned materials for them. When funds were available, there was an accurate report on materials worth buying. Following this procedure, a school system has a better assurance that materials will be used.

The math coordinator worked with all three guidance assistants to devise an appropriate teacher talent survey. A great number of teachers responded positively to sharing their backgrounds and experiences in special areas should any teacher desire class presentations.

Working with the guidance assistants, the math coordinator provided workshop orientation, in the use of cameras, slide and super 8 talkie, and the video tape equipment.

The high school guidance assistant and math coordinator opened career resources to all subject areas through the Career Days programs. Each month jobs from two of the 15 USOE job clusters were highlighted. Teachers attended with classes on a volunteer basis.

Career education has prompted educators to utilize the news media to make the community aware of classroom activities. The career education staff assisted many teachers in contacting television and newspaper personnel. This has been successful in projecting a favorable image towards education.

The following chart gives an indication of time spent each month with South Portland counselors and teachers individually and in small groups for program planning. Time period is the school months January 1975 to April 1976.*

Month	Meetings	No. Different Individuals
January	45	25
February	28	25
March	30	22
April	26	18
September	23	20
October	26	15
November	10	9
December	4	7
January	7	20
February	10	6
March	14	6
April	17	20

*These figures do not include the meetings held for Bangor workshops or the countless telephone conversations.

Secondary Guidance

Prior to Project REVAMP, the South Portland guidance department delivered most of its student-centered services on a one to one basis. Neither the guidance services nor the spheres of counselor influence were well defined. Though follow-up studies were an integral part of the services, tabulations were not used to promote program revision. Entry level and immediate full and part-time job placement were not given the same emphasis as was placed on post secondary educational placement.

Curriculum revision and the gradual change to elective programs required a more thorough understanding of the various disciplines. Since a wide variety of courses were developed to meet the needs and career interests of all students the counselors identified their responsibility to attend department meetings in all subject areas. Counselors cover the subjects related to their academic backgrounds. A further result was a closer cooperative effort among parents, students, and counselor.

Needs Assessment

The guidance and counseling department of South Portland was identified as a critical component in the overall approach to career education. If counselors were to make a significant difference in the lives of students, it was essential that a needs assessment survey, based on students' needs, be taken. This was accomplished by conducting the following tests and surveys:

1. 10th grade student survey
2. College Board ATP Summary Reports
3. Assessment of Career Development Test (ACD)
4. Follow-up for South Portland Class of 1969 and 1974
5. Senior Survey Class 1975
6. Health Workshop Evaluation
7. Career Resource Room Follow-up

Results indicated 63% of our students indicated need in improving study skills, 89% need help in making career plans, 61% indicated need for help in obtaining money for education.

In order to best serve these needs, the guidance staff devised a plan of action covering self-awareness and interpersonal relationships, decision making and goal setting, career and educational planning and placement. Each of these respectively took up 31.5%, 26%, 31.5% and 10% of each counselor's time. In order to reach all students the means of delivery and percentage of time spent was: one to one 24%, small groups (6 to 12 students) 43.5% and large groups 31.5%. These figures add to 99% because 1% of counselor time is addressed to "non-people" duties. Some of the programs initiated to meet the four objectives are Career Fair, Job Shadowing, Senior Day, Career Days, workshops on social issues such as venereal disease and alcoholism, sophomore decision making unit and extended testing program.

In addition to Career Guidance Center facilities, a high school classroom has been turned over to guidance. These accommodations were primary in facilitating small and large group sessions.

Guidance Design

Project REVAMP expanded guidance services in a number of ways. It provided an additional counselor at the high school. Rather than have this individual identified as "the career education counselor", the guidance staff shared the career education responsibility for all students. Total commitment was indicated by 100% counselor participation in the Career Guidance Institutes. Guidance personnel addressed themselves to the following four areas: (1) development of the Career Guidance Centers, (2) establishment of formal placement services, (3) better use of community resources, and (4) expansion of survey and follow-up studies.

Career Guidance Centers were established in all three secondary schools. Each was staffed by a guidance assistant who oriented teachers and students to the Centers and made them aware of the materials and services provided there. The assistant also had the responsibility for maintaining current career information. Other tasks included assisting in special career education projects, publishing newsletters, arranging for speakers, organizing film festivals and creating career displays. Junior high assistants developed student organizations called K.R.O.W. Club (work spelled backwards) and J.A.W.S. Corps (Jobs, Attitudes, Work Skills).

A formal placement service for full time and part-time jobs was initiated. In the junior highs, this service was negligible because of the age factor. In order to encourage the work attitude and ethic, volunteer programs were promoted at this level. At the senior high, the job bank is an integral part of the Career Guidance Center. It is used extensively by members of the student body as well as alumni. The community is well aware of the job bank. Because job offerings called in by employers are expedited efficiently, members of the business community avail themselves of this service on a regular basis.

Students are introduced to the world of work by use of community resources: Career Fair, job shadowing, a ninth grade career education course, Senior Day, Career Days, and field trips to explore vocational options.

Career Fair

"Exploring the World of Work" has been the theme of the Career Fair designed for eighth grade students. Each year over fifty exhibitors demonstrated or simulated their skills for students and teachers during the day and for students with parents in the evening. English teachers assisted guidance in orientation and evaluation activities with students.

Job Shadowing

In the first two years of Project REVAMP, job shadowing was the joint effort of the guidance and English departments. During the third year it was incorporated into the ninth grade career education course. The project again demonstrated that the business community can assist the school in offering exploration. Shadowing at the junior high level has been a requirement. At the high school it is optional and carried out on an individual basis.

Senior Career Day

The guidance department initiated a program to involve all seniors in interviewing sessions with local professional personnel people. In English classes, counselors conducted discussions and role playing exercises on interviewing techniques. English teachers assisted students in writing resumes. Students selected for interviews representatives of business, education, Armed Services and apprenticeship programs. Each student had the best of personnel to be found in the local area.

Surveys and follow up studies identified in the needs assessment narrative above were conducted. Dr. Robert Read, the guidance evaluator, was an immense help in this area. The various questionnaires were gathered from several different student sources.

Parent Student Handbook for Career Guidance

The guidance handbook was created out of the need to interpret for parents and students the many facets of the guidance program. The sequential design indicates the scope - ranging from junior high orientation through the testing program to senior high vocational and educational options. (Appendix F) The production of the Handbook was a lengthy process. The first draft was a compilation of data submitted by all counselors. After substantial revision by the Director of Guidance and the English curriculum coordinator, the Parent Student Guidance Handbook was completed in the third year of the project.

6.(f) Conclusions

Members of the Board of Education have given their continued support to the project. The Director, in writing the original proposal, reflected those things recommended by the staff. The goals were theirs, not his. More than anyone else, the Assistant Director was responsible for the openness between the school system and the business community. Evaluators developed a good working relationship with staff members. The support of the advisory committee has been an asset; their assistance has been valuable in showing the means for the best use of business and industry.

In the approved budget for 1976-77, although the Board of Education was forced to cut $558,000, they have included an excess of $30,000

to continue career education in South Portland. Fourth year continuance provided for guidance counselor, 3 guidance assistants and an elementary teacher assistant.

When the first edition of the elementary handbook was being written, all projects were developed from classroom activities. Since that time, a gradual evolution has taken place. Philosophy became the focus and career education became truly infused.

Since all three elementary curriculum directors worked so closely with the elementary coordinator, the Career Awareness Handbook now becomes their responsibility.

Teachers in South Portland were released from classes to serve as coordinators and to infuse career education into academic subjects. All coordinators - elementary and secondary - worked in the same area. This provided support for all members and offered a greater chance for K-12 coordination. Continuity was assured because there were few personnel changes.

There has been a gradual increase in the number of teachers being involved. Rather than being offered a finished product in which they had no participation, their involvement was sought and their contributions were major. A pronounced attitudinal change has been noted in teachers who participated in the three Career Guidance Institutes.

Students have recognized that career education is important. They feel someone has an interest in them. Moreover, they have been offered career options. After three years they have said, "We hope South Portland continues the career education programs."

Changes in curriculum revision have been real, not superficial. The Board of Education will require follow-up studies of revisions made. All handbooks and guides have been produced in loose-leaf form to facilitate change.

Guidance has offered services to fit student needs which were expressed in student surveys.

Guidance services have been more clearly defined and the direction of the guidance staff has been moving more steadily toward the implementation of major program objectives. A better utilization of time has resulted.

The fact that the Career Guidance Room was established beside the offices of counselors brought students to guidance for other than crisis counseling. This increased voluntary student interest. Locating the Centers next to guidance offices made it imperative for counselors to gain greater knowledge of vocational information.

If career education is to continue to succeed there must be a cooperative effort - parents, teachers, students and the community. Open communication must continue between elementary and secondary as well as between academic departments.

6.(f) Recommendations

It is recommended that the local school system:

- retain Fred Freise as Career Education Assistant Director. A school system requires a person who will coordinate career education activities. Through his efforts, over 300 teachers and 250 business people have been brought together repeatedly for the benefit of students. His sincerity and firm belief in what he is doing have caused the business community to respond to his requests as they would to few others. In order to maintain this rapport, he should be named Career Education Assistant Director.

- provide a more realistic balance of instruction acknowledging the affective and psychomotor as well as the cognitive domain. For years education has directed its attention to the academic understanding of the child. As teachers have applied the training gained in the affective and psychomotor workshops the past three years, more students have experienced success. Results have been equally pleasing to students, parents, and teachers.

- limit the number of on-site visitation days and determine the maximum number of presentations within a designated length of time. Upon accepting federal funds, a project is justifiably bound to aid other school systems. South Portland carried out a completely open policy in this area. REVAMP staff was heavily taxed as indicated under Dissemination in 6.(d) of this report. Personnel would be protected if a policy were determined and maintained from the outset.

- charge the department chairmen and associate department heads with the responsibility of implementing the approved curriculum revisions. Each department will determine a system of record keeping to assure that all eight goals of career education are infused. This will be used in conjunction with the plan of internal and annual review and the evaluation of new and revised courses required by the Board of Education and the school administration.

It is recommended that the State Department of Education:

- assume the leadership, with the assistance of a successful project such as REVAMP, to coordinate a systematic state-wide implementation of career education. The second and third year of Project REVAMP realized a close working relationship between a local and state Department of Education. Fred Freise and George MacLeod served as members of the State Task Force for establishing a state plan for career education. Mr. MacLeod and the South Portland English coordinator for career education wrote the budget and proposal for a revised plan.

- serve as a clearing house for career education materials. Using feedback from local systems, the State Department would coordinate and disseminate current career education information. Their contacts with other states would further benefit local school systems.

It is recommended that the Career Education Office of the USOE:

- exclude in special cases the grades 13-14 requirement in career education proposals. In states where grades 13 and 14 are not a legislated component of public schools, applicants for career education funds should not be required to include these grades in their programs. There exist no authority, staff facilities or channels of communication available to create meaningful outcomes at this level.

- screen proposals for adequate budgeting of clerical assistance. Readers of projects should be concerned that applicants include sufficient clerical staffing. Within three months of the start of Project REVAMP, our error was obvious. There was no way the original clerical staff, however skilled, could have completed the work demanded by the project.

- assign increasing annual budgets to three year projects. When funds for that time period are granted, the Career Education Office should schedule an approximate cost of living increase each year. Inflation cut so drastically into expenses that some aspects of the project had to be curtailed. With federal funding at an equal level each year and the project operating at full cost the first year, inflation effected second and third year expenses and accomplishments.

- grant fourth year dissemination funds to systems which have completed worthwhile projects. South Portland has devoted much time these three years in disseminating project information. Due to travel and postal costs, this will cease. The desire to continue sharing with others is there but the means are not.

- require a 3 and/or 5 year follow-up study in systems that receive federal project money. This is no assurance that program goals would continue after funding stopped. However, this requirement would encourage accountability and responsibility for living up to project objectives.

- should determine and specify expected student outcomes as a result of career education implementation into a school system. Project schools should be given guidelines denoting anticipated growth of students in math, reading, or other basic skills.

- extend a concentrated effort to identify and distribute valid standardized tests to enable an accurate documentation of student achievement in career education areas - decision making, self

awareness and career awareness. The various instruments administered by REVAMP staff left much to be desired.

- develop guidelines for a standardized data collection system. This would save a great deal of time and talent for project staffs. From the outset of a project, educators would be able to keep complete and accurate account of information deemed useful. Duplicated records of several projects or even within a single project would be eliminated. If precise guidelines were distributed, personnel would not waste time recording areas of little or no importance. Staff would not have to guess at what is or is not expected in Washington. These would also prove useful to third party evaluators.

PROJ. VOC 1112
GRANT OEG-0-73-5305

REVIAR
G. H. MALLO

SOUTH PORTLAND, MAINE - CA

GOAL

	PRIMARY	INTERMEDIATE
SELF AWARENESS	Demonstrate an awareness of his own interests, skills and feelings.	Demonstrate an appreciation of his own skills, interests, feelings and values.
INTERPERSONAL SKILLS	Demonstrate cooperation in social situations.	Develop an appreciation of the differences between individuals or groups.
DECISION MAKING	Use his senses to gather data and to develop concepts.	Develop skills in making generalizations, hypothesizing and predicting.
WORK AWARENESS	Gain knowledge of workers in the home, school, and community.	Identify the personal and environmental factors which influence a worker.
MANIPULATIVE SKILLS	Develop psychomotor skills.	Improve psychomotor skills.
ECONOMIC AWARENESS	Understand that people are paid for their work and use that money to satisfy their needs and wants.	Recognize that each individual is a consumer, producer and citizen, and as such has certain rights and responsibilities.
VALUE OF WORK	Identify ways that workers are of service to the community.	Recognize that an individual can find satisfaction through his work.
RELEVANCE OF EDUCATION	Recognize that school is a place to learn.	Recognize that schooling is necessary for future careers.

[redacted]

REER DEVELOPMENT DESIGN

JUNIOR HIGH	SENIOR HIGH
Recognize that his talents, values, interests, and limitations relate to career goals.	Make goal-oriented choices related to his career requirements and future employability skills.
Develop the interpersonal skills required for work roles, recognizing that trust and respect are factors in human relations.	Demonstrate an understanding of the importance of human relationships in volunteer and part and full time work.
Develop an awareness of the results of decisions which will give him a sense of control over his future.	Identify realistic alternatives based on education, work experience and counseling and accept responsibility for career decisions.
Explore and analyze the common and unique characteristics of jobs within the 15 U.S.O.E. job clusters.	Recognize that social, environmental, and technical factors influence career trends and as a result workers must be flexible, adaptable and mobile.
Identify and use manual skills that are essential to many careers and leisure time activities.	Develop competence in use of manipulative skills required in one's future career or educational plans.
Develop an awareness of the financial and legal consumer resources as they relate to personal and family economics.	Understand and appreciate, as a worker and consumer, the complexities of the American economic system.
Understand impact of one's career on his lifestyle.	Gain insight into personal and social value of employment through simulated or real work experience.
Recognize that mental, physical and communicative skills are basic and applicable to all career fields.	Identify the relation between mastery of content knowledge and educational or vocational plans.

1976

PROJ. V361112
GRANT OEG-0-73-5305

"REVAMP"
G.N. MACLEOD, DIR.

APP. B

CGI FINAL REPORT

JUNE 1, 1975

SOUTH PORTLAND SCHOOL SYSTEM
SOUTH PORTLAND, MAINE

61

FINAL REPORT

OF THE

CAREER GUIDANCE INSTITUTE

June 1, 1975

PROJECT COORDINATORS

Frederick E. Freise
Dr. Arthur O. Berry

SPONSORED BY

South Portland Public Schools
National Alliance of Businessmen

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G - Group Presentation Guide

H - Pre-Post Test Questionnaire

I - Certificates Awarded

HISTORICAL BACKGROUND

During the 1974-75 academic school year, South Portland Public Schools and the Greater Portland Chamber of Commerce collaborated in the operation of a Career Guidance Institute under the sponsorship of The National Alliance of Businessmen and the United States Department of Labor. The purpose of the Institute was to create an interface between parents, educators, students and businessmen. Of major concern was the extent of career opportunities in the Greater Portland Area for non-college bound and disadvantaged students and career ladder potential for those gaining employment.

The Institute was also visualized as an inservice educational activity for educators in the South Portland Schools and was designed to enhance their career education program. More specifically, to expose them to the world of work, and the implications it could provide for education, the teacher, and the classroom environment.

Institute ojbectives were based on the "Dimensions of Career Education" as approved by the Career Education Advisory Committee and Institute design consisted of a refinement of procedures utilized in the 1974 Career Guidance Institute model with consideration given to recommendations published in the CGI Final Report, June 1, 1974.

Dr. Arthur Berry, Director of Vocational-Technical Education, University of Maine at Portland-Gorham, was designated as Workshop Coordinator to work with Frederick E. Freise, Assistant Director of REVAMP, who assumed directorship of the 1974-75 Career Guidance Institute.

INSTITUTE GOALS AND OBJECTIVES

General goals as presented in the specifications by The National Alliance of Businessmen were accepted as the basis for the CGI. At the conclusion of CGI, in accordance with "Dimensions of Career Education", the participants will:

1. identify values, interests, abilities, needs and other self characteristics as they relate to occupational roles. (self dimension)
2. explore occupational areas and describe opportunities, potential satisfactions, required roles of workers and other related dimensions. (occupational information dimension)
3. describe the psychological meaning of work and its value in the human experience. (psychology of work dimension)
4. describe modern work structure, and work environments, and organizational characteristics. (organizational dimension)
5. tell how the individual's role in work is tied to the well-being of the community. (social contribution dimension)
6. demonstrate planfulness in striving to achieve occupational goals and objectives. (planfulness dimension)
7. demonstrate through work-relevant behavior that one is acquiring a concept of self as a productive person in a work-centered society. (work ethics dimension)
8. describe that relationship which exists between basic skills, marketable skills, and interpersonal skills and the jobs one can reasonably aspire to in adult life. (school-work relationship dimension)

9. demonstrate possession of a reasonable degree of basic skills, knowledges, and behavioral characteristics associated with some type of work or occupational area. (occupational preparation dimension)

10. be aware of desirable work-relevant behavior, an ability to learn, adjust to, and advance in a chosen occupation. (work adjustment dimension)

OVERVIEW OF THE INSTITUTE

The Career Guidance Institute was structured on the model developed in 1974, however, scheduling was changed based on participant recommendations. Participants were divided into two groups; those individuals from elementary schools, or those with a focus towards career emphasis at the elementary school level; and those from secondary schools, or those with a focus towards career emphasis at that level.

Elementary participants met on Tuesdays while secondary met on Thursday. Two industry-visitations were held followed by a worksession.

In order to provide relevance to the Career Education program, occupational clusters, as identified by the United States Office of Education, were selected and companies within these clusters in the Greater Portland Area were contacted regarding the Institute and their willingness to become involved. In addition to the occupational clusters, consideration was also given to the curriculum materials currently in use in the South Portland Public Schools and an attempt was made to match visitations and careers to these materials. Those industries or businesses indicating a willingness to participate were provided with a list (Appendix A) of information desired from the company and a "business-industry tour" (Appendix B) information guide.

The resource material solicited (Appendix A) was compiled and placed in the career resource centers of the South Portland Public Schools for use by teachers, counselors and students. The "business-industry tour" guide (Appendix B) provided each business participant was designed to assure that the visitation would be structured and appropriate to institute objectives.

The formate of each tour-visitation was as follows: A 15 minute briefing, a 45 minute tour, and a 60 minute discussion period.

Worksessions were held following two industry-business visitations for each group of participants. Following the last visitation session, both groups of participants met jointly to compare their experiences and evaluate institute effectiveness. A feedback mechanism (Appendix C) was utilized after all visitations and worksessions and provided the Director and Coordinator with a bases for restructuring sessions to make them more relevant.

Each tour-visitation, as well as workshop session, was taped, edited and published by the Institute. The publication "Career Opportunities in Greater Portland, Maine--Visitation Notes and Info" Volume No. 2 was distributed to all Institute participants as well as guidance counselors and other interested parties in the Greater Portland area. Volume No. 1 is currently being utilized as a text and reference in a number of cooperative work-experience programs. Volume No. 2 provides them with additional resource material.

Education and its relevance to the world of work was a major institute objective. At each work session participants were asked to identify a minimum of ten terms relating to careers that they thought a student should understand, or be aware of. These words, or terms, were compiled into a master list (Appendix D) and at the final worksession each participant was asked to indicate the grade level at which it should be introduced into the curriculum. Responses on Career Terms (Appendix E) were compiled for curriculum use.

Participants were also asked at the final worksession to respond to the following question:

> "Based on your tours and worksessions, list those areas or facts that need emphasis or change in education if we are to better prepare youth for job entry."

There responses were added to those identified from the tapes (Appendix F) and presented to the participants.

Small groups reacted to the composite listing and made specific recommendations for the South Portland Public School System.

The program, on a week by week basis, was as follows:

October 10 - Worksession

a. Orientation to Project
b. Pre-test
c. Goals of Institute
d. Pre-tour Information
   Portland Water Front
   Portland Pipeline
   Bluerock Industries
   American Hoist and Derrick

October 15

Tour-visitation
   Portland Waterfront

October 17

Tour-visitation
   Bluerock Industries

October 22

Tour-visitation
   Portland Pipeline

October 24

Tour-visitation
   American Hoise and Derrick

October 29 - Worksession

a. Overview - Career Education
b. Overview - Proposes of Education
c. Pre-tour Information
   Imperial Homes
   Maine Egg Products
   U.S. Post Office and Federal Building
   S.D. Warren
d. Feedback

November 5

Tour-visitation
   Imperial Homes

November 7

Tour-visitation
   U.S. Post Office and Federal Building

November 14

Tour-visitation
S.D. Warren Paper Mill

November 19 & 21 - Worksessions

a. Career Education Review
b. Review of Tour-visitations
Group A - Presentation
Waterfront
Group B - Presentation
Imperial Homes
Group C - Presentation
Portland Pipe Line
Group D - Presentation
Bluerock Industries
Group E - Presentation
American Hoist and Derrick
Group F - Presentation
U.S. Post Office and Federal Building
Group G - Presentation
S.D. Warren Paper Mill
c. Behavioral and Performance Objectives
d. Pre-tour Information
Hannaford Brothers
South Portland Fire and Police
Blue Cross and Blue Shield
e. Feedback

November 26

Tour-visitation
Hannaford Brothers

December 3

Tour-visitation
South Portland Fire and Police

December 5

Tour-visitation
Blue Cross and Blue Shield

December 10 - Worksession

a. Review Behavioral Objectives
b. Test on Performance and Behavioral Objectives
c. Review of Tours
Hannaford Brothers
South Portland Fire and Police
d. Career Terms - Development
e. Pre-tour Information
Hoods Ice Cream
Sebago Shoe
g. Feedback

December 12 - Worksession

a. "The Economic System"
   Russell Day - Training Director
   S. D. Warren Company
b. Pre-tour Information
   Noyes Tire
   Burnham and Morrill

January 7

Tour-visitation
   Hoods Ice Cream

January 9

Tour-visitation
   Noyes Tire

January 14

Tour-visitation
   Burnham and Morrill

January 16

Tour-visitation
   Sebago Shoe Company

January 21 & 23 - Worksessions

a. Where Are We?
b. Discussion on Tour-visitation
   Burnham and Morrill
c. Career Terms - Development
d. Competency Based Education
e. Strategies from Goals and Objectives
f. Pre-tour Information
   Osteopathic Hospital of Maine
   Holiday Inn
   W. H. Nichols Company
g. Feedback

January 28

Tour-visitation
   Osteopathic Hospital of Maine

January 30

Tour-visitation
   Emery Waterhouse

February 4

Tour-visitation
   Holiday Inn Downtown

February 6

Tour-visitation
W.H. Nichols Company

February 11 & 13 - Worksessions

a. Systems Approach to Education
b. Strategies for Implementation
Elementary Career Ed
c. Group Work
1. What do individuals want most from their Jobs?
2. Career Terms Development
3. Analysis of educational needs
d. Review of tour guide sheets
Osteopathic Hospital of Maine
Emery Waterhouse
Holiday Inn Downtown
W.H. Nichols Company
e. Pre-tour Information
Weyerhaeuser
Presteel Corporation
Reiche School
f. Feedback

March 4

Tour-visitation
Weyerhaeuser

March 6

Tour-visitation
Presteel Corporation

March 13

Tour-visitation
Reiche School

March 20 - Worksession

a. Overview of tour
Reiche School
b. Summarization - National Workshop on Career Education
c. Group reactions
Presteel Corporation
Weyerhaeuser
d. Individual development implications for education
e. Concepts of evaluation session
d. Post-test

March 25 - Evaluation Session

a. Post-test
b. Career terms
    Prioritize by grade level
c. Educational recommendations
    Group development
d. Institute evaluation
    Individual and group reaction

EVALUATION OF THE CAREER GUIDANCE INSTITUTE

From the outset, it was planned to evaluate the Institute in a variety of ways. These include:

1. Administration of a Pre-Test and a Post-Test (Appendix C) to all participants and to analyze the results.

2. Utilization of a feedback device (Appendix C) to ascertain relevance of worksessions and achievement of institute goals.

3. An informal discussion of the strengths and weaknesses of the Career Guidance Institute by participants, business representatives, and staff at the last worksession.

4. Informal appraisal by the project staff. Some highlights of the appraisal are:

PRE-TEST AND POST-TEST:

The Pre-Test and Post-Test (Appendix H) were designed to determine achievement of Institute objectives. Responses on a 0-10 rating scale were not designed to be used for statistical comparisons but to serve as indications of general change in attitude, knowledge and understandings. The results, as shown on the "Pre-Test - Post-Test Profile" reveal a positive growth on all 19 assessment items.

PRE-POST TEST PROFILE

Career Guidance Institute - 1974-75
South Portland School System
South Portland, Maine 04106

PRE-POST TEST QUESTIONNARIE

This institute is designed to help you increase your knowledge regarding careers and career opportunities and to improve communication between educators, businessmen, and the community. Listed below are questions related to areas which will be discussed during the activities of the institute. You are being asked to complete this questionnaire in order that some evaluation of these activities may be made.

Each question or statement is followed by a ten-point rating scale. Read each question and circle the number on the scale which most nearly corresponds to your own assessment of your present degree of knowledge, understanding, skill, or attitude referred to in the question.

1. How would you rate your present degree of knowledge of business and industry in the Greater Portland area?

PRE-TEST - 10/74 POST-TEST - 3/75

0 1 2 3 4 5 6 7 8 9 10

2. Indicate the degree to which you are familiar with current employment trends in the Greater Portland area.

0 1 2 3 4 5 6 7 8 9 10

3. Indicate your knowledge of career opportunities for non-college bound students in the Greater Portland area.

0 1 2 3 4 5 6 7 8 9 10

4. Indicate your knowledge of the skills needed by business and industry in the Greater Portland area.

0 1 2 3 4 5 6 7 8 9 10

5. Indicate the degree of your present knowledge about distressed and disadvantaged areas in the Greater Portland area.

0 1 2 3 4 5 6 7 8 9 10

6. To what extent are you aware of the attitudes of the disadvantaged toward gainful employment?

0 1 2 3 4 5 6 7 8 9 10

7. To what extent are you aware of the attitude of employers toward employment of the disadvantaged?

0 1 2 3 4 5 6 7 8 9

8. To what extent is the community attuned to the needs of non-college bound student?

0 1 2 3 4 5 6 7 8 9

9. To what extent is the administration of your school system attuned to the needs of the non-college bound student?

0 1 2 3 4 5 6 7 8 9

10. Indicate the degree to which you understand the educator's role in working with non-college bound youth.

0 1 2 3 4 5 6 7 8 9

11. To what extent are the teachers in your school system committed to providing relevant education for non-college bound students?

0 1 2 3 4 5 6 7 8 9

12. How would you rate your present degree of knowledge of local training opportunities and programs for non-college bound students?

0 1 2 3 4 5 6 7 8 9

13. Indicate the degree of your present understanding of Career Education or the Career Education concept.

0 1 2 3 4 5 6 7 8 9

14. Indicate the degree to which you are familiar with the dictionary of occupationsl titles and career clusters.

0 1 2 3 4 5 6 7 8 9

15. Indicate to what extent has Career Education been introduced to the secondary classes in your school system.

0 1 2 3 4 5 6 7 8 9

16. Indicate to what extent you are familiar with Career Education programs available in the schools of Greater Portland.

0 1 2 3 4 5 6 7 8 9

17. Indicate the degree of your understanding of a realistic role for the guidance counselor in occupational or career guidance.

0 1 2 3 4 5 6 7 8 9 10

18. How would you rate the potential for a regular flow of communication between school administrators, teachers, counselors, and business and industrial personnel within the Greater Portland area?

0 1 2 3 4 5 6 7 8 9 10

19. Indicate the degree of your positive feelings about completing this questionnaire.

0 1 2 3 4 5 6 7 8 9 10

FEEDBACK EVALUATIONS:

Feedback Evaluations (Appendix C) were designed for each worksession and used to determine understanding of material presented and to solicit comments regarding the worksession, how to imporve it, and what the participants gained from the session. In all 12 worksessions were held. Participant reaction to content and instructional techniques was indicated by agreement to strong agreement on each item asked.

The comments regarding improvement of tours and worksessions were taken into consideration by the project staff and when feasible and consistent with Institute goals, were implemented.

Major items mentioned were:

More time for questions
Utilization of small groups
More contact with employees
Shorten worksession
Bring company representative to worksessions
More student participation
Focusing tours on entry level jobs
Discussion relating to attitude development
Relate tours to resource packets
More emphasis on job opportunities, advancement, etc.

A second aspect of feedback was concerned with:

What Specific New Knowledges Did You Gain From Your Tour and Worksession? A sampling of responses was:

Attitude is the most important thing that employees are looking for. (2) Business letters and English are also on the top of the list. (3) If a person is willing to work, if he is willing to learn - then the employee is willing to put in the time and the money to train him.

I was very interested the W. H. Nichols only produces two items. Also the worksheet rating the 10 job ratings proved quite interesting. A follow-up of employees opinoins would be of interest.

I'm learning how to pin down personnel managers to answer questions and not to allow them to be evasive. Maybe I'm getting to be more tenatious.

I learned about a new occupation that I never knew existed.

Attitudes play a tremendous degree on the part of the employee.

New teacher performance standards. Math is badly needed for business. Conditions on most jobs are good to excellent. Companies like to promote from within.

Vocabulary-needs for growth of Osteopathic Hospital.

There seems to be a great deal of enthusiastic employees (on the surface anyway) in most companies.

I am learning that employers and educators share similar goals and demands of young people.

Feel a better understanding of behavioral objective.

I have learned so much that it is difficult to list everything in this space. Some examples are - a better general understanding of the careers available in the Portland area.

I question whether or not we are doing an adequate job of preparing students to work together in class activities. So often in visiting we have found the importance of one worker to another in completing work successfully.

Changing materials of work - need for adaptability in students - attitudinal development emphasis - production of goods and services not known before.

Better understanding of job opportunities. More convinced that we better do a better job of basic academic skills and development of attitudes.

I found that the employers, on the tours we had been on, have little use for highly skilled or intelligent people.

What is actually needed from the school system. Problems of the high school students who step right into jobs.

Don't think I realized the extent to which students have poor attitudes in employment.

Tension in industry due to competition.

Respect for all people in all jobs.

Go to a visitation at another type of work to learn and seek to understand different hopes (or jobs) for different folks = democracy. What makes teachers think they would qualify for some of these jobs - sometimes we are not the kind of persons they would like to be like either - or turn about is fair play - Good Lord! That's a teacher!?

To be as proud to be a teacher as Chief McGouldrick is to be a member of the Fire Dept. A gun does not make a policeman a human.

More awareness of various employments.

More aware of conditions and requirements for specific areas.

I think our oral sessions give insight to things we may have forgotten and maybe weren't aware of.

Your doing a good job! The wheels are beginning to turn!!! (in my head)

Have seen a variety of skills and working tools that I had not seen before.

Being new to the area, the tours and worksessions have been a great help to know the community and the people. The tours give a great insight to what goes on behind the doors of the various areas.

Limitations in local openings and opportunities for advancement.

Specifics of weaknesses in applicants, particularly attitudionally. Was impressed with sensitivity and awareness of employers to problems of non-college bound students.

Some more facets of how inflation is affecting people, jobs, etc. More awareness of requirements for jobs.

Enjoyed the tours - more insight on what other people are doing. I consider this an opportunity to see other people at work - many of us don't realize what some of our kids folks are doing for work, or what is in store for them after school

I knew very little about careers and industrial opportunities in the Portland Area since I have lived in the area a relatively short time. I find it helps in making students aware of opportunities in their own geometric area.

I learned how actual jobs tie in with career clusters.

A better underseanding of the scope of employment opportunity.

Attitude of business toward education, Hiring procedures. What industry is looking for in future workers.

A third aspect of feedback provided for General Comments on each tour or worksession. A sampling of responses was:

I enjoyed today's session - especially filling in the

sheet on what people want most out of their jobs. Find it interesting breaking up into groups and discussing them.

We have been discussing the tours in several of my classes and the students seem very interested. Attitude in business is hard for students to understand.

Today's activities were interesting and instructive, but too long for the time provided - hence frustrating.

(Perhaps this in itself is a good lesson for teachers)

As with other visits, I continue to gain a great appreciation of teaching as a career.

Again I would ask for more conversation in relation to our tours rather than the multitude of outside information that takes up most of the class time. It seems we have many loose ends. Even though I can distinguish with the front part of the sheet as to my personal knowledge of specific questions, I still feel confused when it comes to what we should be gearing our attention to on educational implications of this course.

The people have been very cooperative and the tours have been informative and pleasant. I enjoyed the group work in the get-together wrap-up session.

There is a point of saturation - there are too many of the same operations with terminology, needs, and interests that are similar.

I am enjoying the course and the tours.

Holiday Inn was the best/most informative yet. Osteopathic Hospital was (One) doctor's views and not an overview of health occupations/education.

Very disappointing. Also I do not like being read to -- I can read the handouts myself.

These tours provide a good general education regarding that "third environment". It is not the specific information that is valuable to me so much as the background picture of the business or industry. As a teacher, I expect to be more realistic in the classroom and to make my teaching more practical.

I have enjoyed learning about industry in this area and the communication developing between industry and educators. I feel the educational system must become more career oriented and make education relevant to the everyday (work day) of most of us.

The tours were both very interesting. The tour to Neyos seemed to be the best organized. It took a few minutes to figure out how each part of the shoe operation fitted in, but both taught a lot.

I have discussed each tour with my classes. The students seem very interested in the world of work. I can see at the seventh grade level, that in the future we (society) are going to have a real problem with attitude!

The CGI has been both educational and enjoyable. I have found that much of what I have learned has been material which I can put to practical use. The people involved have been interesting, informative, and most cooperative.

The tours and work sessions are making one realize how inaffective we are at hitting the real human needs in homes and at school.

Keep up the good work!

I'm learning a great deal about the world of work. The

tours have been organized well and are interesting.

The fact that kids don't understand the basic principle of the free enterprise system bothers me a good deal.

The course is getting livelier and thus more exciting. I am glad to be involved but not at my arrival after school to this area of another school.

Very satisfied with tours and worksessions.

Attitude is very important. Am looking at the whole spectrum of careers much more seriously than before!

The negative feeling about job prospects made me wonder - why bother? As was mentioned during the work session - the poor attitudes shown by many job seekers was blamed in part on the schools. This makes me angry!

Have been able to implement more detail in a classroom. Children are becoming more aware of the world of work and can express their feeling about this also.

I am happy I took the course and am willing to learn about world of work (it is generalized that we teachers do not understand the real world). I think whoever makes this generalization forgets that some of us married someone outside the teaching profession, or that we may have worked for 2 years or more as a chemist where one worked with objects and not people.

The tours have been very interesting and most enjoyable.

There is a value to C.G.I. - parts of today's lecture on U.S.A. for example and tours to places never before visited - should be again more small group work.

Impressed with the workshop to this point.

I wish more teachers would become involved. There is so much we need to know about the community and the employers of our students (and our neighbors).

EVALUATION BY DISCUSSION

Feedback provided the Institute staff with continous input from participants. In addition, an opportunity was provided at the last worksession for specific recommendations concerning strengths and weaknesses of the Career Guidance Institute. Participants were asked to react to the following question:

"If another Career Guidance Institute were to be held, what changes, or recommendations, would you make to planners, directors or coordinators?"

Major recommendations were:

1. Visit post-secondary institutions in the local area and identify potential educational opportunities.
2. Identify and visit alternative service agencies available to students, the disadvantaged and for drop-out.
3. Utilize speakers from other learning options, ie: apprenticeship, employment security commission, in plant training.
4. Later school visitations, ie: secondary into elementary.
5. Explore careers for handicapped.
6. More parent involvement.
7. Develop alternate scheduling. Vary day of week.
8. Greater exploration of Government and public service job opportunities.
9. Involve students who are not college bound.

APPRAISAL BY THE PROJECT STAFF

The Institute staff was involved in all worksessions and tour-visitations. In doing so, the staff had an opportunity to evaluate the program as it envolved. Observations are:

1. Grouping of participants into elementary and secondary provided a basis for planning Institute experiences which could be related directly to the educational setting.
2. Participants quickly recognized and accepted the thrust of the Institute.
3. Once introduced to the business scene and into communications with the business community, enthusiasm for the project grew markedly among the majority of participants.
4. The business community was warm and courteous in their reception to participants and enthusiasm for the Institute and its goals.
5. Participants liked group activity and this area of the worksession should be expanded.
6. Consideration should be given to restructuring another Institute. Small group tours could be utilized with monthly reports to all participants individualized visitation also holds promise.

CONTRIBUTIONS AND RECOMMENDATIONS

The Career Guidance Institute was conceived as an in-service educational activity for educators in the South Portland Public Schools and was designed to enhance their exemplary Career Education Program. At the final work-session, each participant was asked to review a list of "Career Terms" which was complied during the work sessions and to indicate the grade level at which the term should be introduced into the schools curriculum. Appendix E shows how the terms were prioritized according to the following categories: primary K-2, elementary 3-6, junior high 7-9, and senior high 10-12. It is recommended that teachers utilize these to make their content and experiences more relevant to the world of work. In addition the list provides a basis for the Career Education dimension within the revised English curricular, a 1974-75 Career Ed project priority.

A major contribution can be summed up in the remarks of one participant: "I think it has made some teachers think relovancy and accountability. A realization that many students do survive without taking college courses. What steps are we taking in preparing students for the world of work?".

In addition to its contribution to the Career Education Program, specific implications for education were identified (Appendix F) and summary of recommendations made for consideration by the South Portland School Department. They are:

1. Greater emphasis in all areas on development of a positive attitude, emphasis on values, self discipline ethical behavior and acceptance of responsibilities.

2. Provide experience in development of job application and interviewing skills.

3. Provide workshops and orientation for all teachers in the area of value clarification.
4. Involvement of students in industry-tour visitations.
5. More emphasis on communication skills.
6. Development of human relation skills in individual or group courses or activities.
7. Consideration of mini-course in "How to Succeed in The World of Work".
8. Make greater use of business-industry resources and personnel in educational activities.

GENERAL CONCLUSIONS

Institute goals and objectives were met in a variety of ways:

1. Tour-visitations provided an interface of the business and educational communities.
2. The Pre-Post Test indicated growth in attitudes knowledges and understandings.
3. Volume #2 - "Career Opportunities in Greater Portland, Maine - Visitation Notes And Info" was developed for use by teachers, counselors, and students.
4. Resource materials were added to the Career Resource Centers of the South Portland Public Schools.
5. Additional business-industrial personnel were added to those willing to serve as resource persons for educational purposes.
6. Participant awareness of local business-industry and its implications for the Career Education Program were identified.
7. A listing of Career Terms was developed and prioritized for usage in the educational program.
8. Educational needs were identified and recommendations made to local school authorities.
9. The Career Guidance Institute model, developed in 1974, was refined and tested as to its effectivness as an inservice technique for educational purposes.

BUSINESS-INDUSTRY VISITATION PARTICIPANTS

In order to provide relevance to the Career Education Program, career clusters as identified by the United States Office of Education provided the basis for tour-visitations.

In selection of business-industry participants, consideration was given to the curriculum materials currently used in the South Portland Public Schools and an attempt made to match visitations and careers to these materials.

The following were visited by workshop participants. Individuals named served as contacts and resource personnel for the Institute.

TRANSPORTATION

Bureau of Waterways
Edward Langlois, Director
Portland Pipeline
Wallace McGreen, Vice President

MANUFACTURING

American Hoist and Derrick Company
John A. Baird, President
Weyerhaeuser Company
Robert Parent, General Manager
S. D. Warren Company
Russell R. Day, Director Manpower Development
Sebago Shoe Inc.
John Marshall, Vice President - General Manager
Presteel Corporation
William Moio, General Manager
Burnham & Morrill Company
William Bush, Personnel Manager
W. H. Nichols Company
Herbert Carmichael, Personnel Manager
Noyes Tire Company
John Meredith, Personnel Manager

CONSTRUCTION

Imperial Homes
James F. Maguire, President
Bluerock Industries
Robert Nunley, General Manager

HEALTH

Blue Cross and Blue Shield
Russell D. Bonney, Personnel Manager
Osteopathic Hospital
John Pecteau, Executive Director

PUBLIC SERVICE

Howard Reiche School
Richard McGarvey, Principal
South Portland Police Department
Thomas J. Carmody, Community Relations Officer
South Portland Fire Department
Pilip D. McGouldrick, Chief
Portland Post Office and Federal Building
John M. Kelley, Manager Retail Sales and Service

MARKETING AND DISTRIBUTION

Emery Waterhouse Company
Joan Conover, Personnel Manager
Hannaford Brothers Company
David Dillman, Personnel Manager

HOSPITALITY AND RECREATION

Holiday Inn Downtown
Gustave Tillman, General Manager

INSTITUTE WORKSHOP PARTICIPANTS

Cathy M. Aikins, Student, South Portland High School

Jean L. Beaudreau, Parent

Rachel Beckford, Student, South Portland High School

Elizabeth P. Braley, Elementary Teacher, Lincoln School

Nancy Carroll, Elementary Teacher, Lincoln School

Eileen Connolly, Parent

Eileen Cullinan, Elementary Teacher, Redbank School

Linda Eastman, Parent

Michael Eastman, Elementary Principal, Lincoln School

Donna Federico, Student, South Portland High School

Molly Foster, Parent

Rita Huntley, Elementary Teacher, Skillin School

Elizabeth Knowlon, Teacher of Social Studies, Mahoney Junior High School

Blanche Mack, Career Education Resource Center Aide, South Portland High School

Ruth McLellan, Elementary Teacher, Small School

Carlene Mooney, Elementary Teacher, Redbank School

Colleen Norton, Elementary Teacher, Small School

Bonnie Philbrick, Home Economics Teacher, South Portland High School

Sandra Pilisbury, Elementary Teacher, Lincoln School

Ruth Roberts, Elementary Career Education Coordinator

Cindy Sanborn, Career Education Resource Aide, Mahoney Junior High School

Rosemary Skillin, Parent

Beverly Theriault, English Teacher, Mahoney Junior High School

Patricia Akerley, Teacher Aide, South Portland High School

Pamela Beal, English Teacher, Mahoney Junior High School

Robert Burbank, Graphic Arts Teacher, South Portland High School

Linda Carr, Math Teacher, Mahoney Junior High School

John Chapin, Social Studies Teacher, South Portland High School

Claire Chase, French and German Teacher, Mahoney Junior High School

Mary Cruise, English Career Education Coordinator

Martha Foster, Home Economics Teacher, Memorial Junior Junior High School

John Gailey, Assistant Principal, Memorial Junior High School

Ann Gilmore, Guidance Dirrector, South Portland High School

Arthur Giroux, Math Teacher, South Portland High School

Elizabeth Hascall, Commercial Teacher, South Portland High School

Sandra Jones, Career Education Resource Aide, Memorial Junior High School

John Kennett, Social Studies Teacher, South Portland High School

David Lawrence, Student, Memorial Junior High School

Carlton Miller, Business Education Department Chairman, South Portland High School

Maxine Morris, Social Studies Teacher, Memorial Junior High School

William O'Gara, Social Studies Teacher, Mahoney Junior High School

James O'Reilly, Social Studies Teacher, Mahoney Junior High School

Gertrude Parker, Guidance Teacher, Memorial Junior High School

Marshall Sawtelle, Commercial Teacher, South Portland High School

David Scribner, Science Teacher, Mahoney Junior High School

Terry Sotiriou, Secondary Career Education Coordinator

Jane Swett, Student, Memorial Junior High School

Keith Thompson, Principal, South Portland High School

Arthur Tordoff, Social Studies Teacher, South Portland High School

Michael Towle, Social Studies Teacher, Mahoney Junior High School

Linda Warden, Student, South Portland High School

Elizabeth Wildes, Student, South Portland High School

Sarah Wright, English Career Education Coordinator

INSTITUTE STAFF

Arthur O. Berry, Director, Vocational Technical Education, University of Maine at Portland-Gorham, Gorham

Frederick E. Freise, Assistant Director, REVAMP, South Portland School System

ADVISORY BOARD

DIRECTOR:	George H. MacLeod	
ASSISTANT DIRECTOR:	Frederick E. Freise	
ELEMENTARY TEACHER:	Carolyn Corcoran, Director Curriculum and Instruction Memorial Junior High School	
SECONDARY TEACHER:	Carl Miller, Department Chairman Business Education South Portland High School	
REPRESENTATIVES:	UMPG	Ms. Linda Hoch Placement Director 96 Falmouth Street Portland, Maine 04103
	SMVTI	Joseph DeCourcey Dean of Students Fort Road South Portland, Maine 04106
	Student	Mary Lou Santerre 47 Foswick Avenue South Portland, Maine 04106
	Parent	Carolyn Murphy, Manager Casco Bank Cape Elizabeth, Maine 04107
CIVIC GROUP:	James Doughty, Vice President and Treasurer Blake, Hall and Sprague Insurance Co. 22 Cottege Road South Portland, Maine 04106	
LABOR:	Allen P. St Pierre, Business Representative for International Association of Machinists 12 Eighth Street South Portland, Maine (SP & CE Rotary)	
	Thomas Curtis, Director, Manpower Training Associated General Contractors of Maine Box (N), Whitten Road Augusta, Maine 04330	
BUSINESS:	Diane Boissonneault, Administrative Supervisor, Affirmative Action 1380 Riverside Street Portland, Maine 04103	
	John Baird, President American Hoist and Derrick Company 1248 Broadway South Portland, Maine 04106	

APPENDIX

APPENDIX A

INFORMATION DESIRED FROM EMPLOYERS

Company structure

How are job openings made known?

Who is contact person for a job inquiry?

Employment application procedures

Application form

Testing and evaluation procedures

Kinds of jobs available

Career ladders

Opportunities for advancement

Evaluation of employees

Job descriptions

Brochures on company

Company benefits

Brochures on pay rates, schedules, incentives (tuition assistance)

Human resources available to education - What will industry or business supply?

Library resource materials (training films, etc.)

Potential summer employment for teachers

Academic and skill requirements of potential employees

Weakness you see in education

Hiring and practices regarding disadvantaged

Equal opportunity plan

Annual statement

How much profit made by company?

APPENDIX B

BUSINESS-INDUSTRY TOURS
Information Guide

1. Overview of Company Operations

   a. Briefly identify the main functions of your business or industry.

   b. Briefly discuss your company's future and its potential for growth.

2. Employment Needs and Requirements - General

   a. Describe the occupations which are found in your company.

   b. What are your recruitment and employment practices.

   c. Describe the minimum job requirements, wages, educational requirements for each occupational area.

   d. Explain how your employment applications are screened and any pre-employment tests used.

   e. Relate your employment requirements to the general understandings and basic skills of a secondary school graduate. What are strengths and weaknesses of the high school graduate?

3. Employment of Economically Disadvantaged

   a. Indicate the percentage of your employees who are from minority groups. Disadvantaged?

   b. Indicate how you recruit from high schools in disadvantaged areas. Discuss any employment advantages offered to those youth.

   c. Review your employment procedures and practices. Do they contain any elements which would be difficult for disadvantaged youth to meet? References, etc.

   d. Describe the present employment outlook for youth, in particular disadvantaged.
      1) In what areas do needs exist?
      2) Part-time jobs
      3) Future employment trends

   e. Relate potential job advancement to the disadvantaged.

4. Orientation and Training of New Employees

   a. Discuss orientation procedures for new employees.

   b. Discuss on-the-job training activities.

   c. Discuss incentives and other training programs for employee up-grading.

5. Articulation Between Business-Industry and Schools

   a. Discuss specific ways a counselor or teacher can assist high school graduates and/or dropouts to gain employment with your firm.

   b. Suggest provisions and procedures for continuing a meaningful relationship between counselors and your firm.

APPENDIX C

FEEDBACK INFO
WORKSESSION

Session #7 February 11, 1975

The following statements reflect some views about the work session. Please respond to these statements by circling the response which best reflects the extent to which you agree or disagree.

I. CONTENT

1. I understand the concept of competency bases teacher education.	SA	A	U	D	SD
2. I can prepare a behavioral objective containing the three required parts.	SA	A	U	D	SD
3. The visitation to Osteopathic Hospital and Holiday Inn gave me new insights into careers and career opportunities.	SA	A	U	D	SD
4. The group discussion session clarified my understanding of career opportunities in the hospitality and health areas.	SA	A	U	D	SD
5. I am more aware of the processes, procedures, and requirements related to employment.	SA	A	U	D	SD
6. The tour and worksession provided insight into educational needs necessary for employment.	SA	A	U	D	SD
7. The orientation to Weyerhaeuser and Richie School gave me an overview of the next tour and what to look for.	SA	A	U	D	SD
8. The session was interesting enough to hold my attention.	SA	A	U	D	SD

II. INSTRUCTION

1. Group involvement provided enthusiasm for the subject.	SA	A	U	D	SD
2. The variety of approaches used provided for more participant involvement.	SA	A	U	D	SD
3. The vocabulary used was confusing.	SA	A	U	D	SD
4. Too much info was covered.	SA	A	U	D	SD

III. How could the tours or worksession have been improved?

IV. What specific new knowledges did you gain from the tours and worksession?

V. COMMENTS:

VOCABULARY

Below are listed vocabulary words identified as relating to careers. Review the list and indicate the grade (1-12) that you think would be appropriate for inclusion in the curriculum.

Maine Human Rights Commission
Maine Employment Security Comm.
horizontal
verticle
gears
inter-dependence
scrap
preliminary
cross-train
OSHA
minimum age
tool and die
orbiting type motor
disc
commutating parts
rotational torque
stabilize
steam-tempering
induction-hardened
assembly room
turrit system
metric
manufacturing
brief
franchise
personnel
merchandise
facility
aptitude
safety
customer
differential
observation
inventory
advertisement
commercial
administration
specialist
competitor
raw material
utilized
habits
microfilm
gerotor

Personnel Manager
product engineer
chambers
combustion
general practice
osteopathic
internship
allopathic
therapist
orderlies
anesthesia
Executive Director
Board of Trustees
spelling
interest
self-confidence
appearance
portable salad bar
Executive Chef
micro-wave oven
deep freezers
flat-top stoves
Gaylord hood
electric skillet
port-buffet wagons
theme decorating
interior decorating
soup chef
banquet
buffet
bake, broil, fry, steam grill
menu
gratuity
suite
porter
wait/er, tress
bus boy
desk clerk
maid
cleanliness
description
growth
gauges
gerotons

pressure
contour grinding ma
energy
divorced (as used)
grinding
machine operator
on-the-job training
pride in work
scrap
shifts
probationary
raise
vocational training
tedious
promotion
shipping & receivin
turnover
payroll clerk
switchboard
flexible
volume
displacement
warehouse
cubic feet
monitor
quality control
management
attitude
maintenance
process
salary
plant
sophistication
employment
responsibility
pilferage
handicapped
conference
minimum
housekeeping
application
surveyer
gerolers
contour grinding

reer Guidance Institute -- 1974-75
uth Portland School System
uth Portland, Maine 04106

CAREER TERMS

At each Career Guidance Institute worksession participants were asked to identify terms related to careers. A master list of terms was developed, and each participant indicated the grade level at which a student should be exposed to the term. The listing below is a summarization of participant responses.

PRIMARY K-2

scrap
metric
brief
safety
customer
advertisement
habits
spelling
interest
self-confidence
appearance
menu
waiter/waitress
bus boy
desk clerk
maid
cleanliness
growth
pride in work
raise
attitude
salary
patrol car
fingerpring
Officer Friendly
ambulance
equipment care
"doughnuts"
ladder truck
uniform
tanker
fire inspection

ELEMENTARY 3-6

horizontal
vertical
gears
inter-dependance
preliminary
disc
assembly room
manufacturing
franchise
personnel
merchandise
facility
aptitude
differential
observation
inventory
commercial
administration
specialist
competitor
raw material
utilized
microfilm
chambers
combustion
general practice
therapist
orderlies
anesthesia
portable salad bar
Executive Chef
micro-wave oven
deep freezers
flat-top stoves
Gayiord hood
electric skillet
port-buffet wagons
theme decorating
interior decorating
soup chef

bake, brown, fry, steam grill
gratuity
suite
porter
description
gauges
pressure
energy
divorced (as used)
grinding
machine operator
shifts
probationary
tedious
promotion
shipping and receiving
turnover
payroll clerk
switchboard
flexible
volume
warehouse
cubic feet
monitor
quality control
maintenance
process
plant
sophistication
employment
handicapped
conference
minimum
housekeeping
application
surveyer
stock
code number
hourly employees
mass production

milling machine
hydralic
displacement
tedious
valves & cylinders
equipment
linear movement
creating & transmitting information
valve pump
stock
code number
broaching machines
production output
hobbing section
heat treating
carbonizing
hourly employee
nitriting
key punch
tolerance (accuracy)
mass production
R.N.
LPN
cardiac
intensive
inhalation
malfunction
diagnosis
skeletal
manipulation
flow chart
clinical & office occupations
machine sewn
brand names
cylindrical
retread
vulcanize
design molds
"scorches"
specifications
employee benefit package
firing range
patrol car
Youth Aid Bureau of Dept.
retail
wharf
"black gold"
dikes

probationary
sprocket
volume of fluid
partial vaccuum
industrial earth moving
torque
generalist
conamatics
recycle
secruity area
tolerance
economic slump
non-union
stock appreciation
data
oxidation
quenching
administrative position
customer relations
inter-dependent
function room
pulvarize
hoist
conveyor belt
packing room
end of run
raw material
piece work
union shop
turn-over
manual dexterity
pattern
hand crafted
embossing
cured
hot-shop
extruder
casing
"rubber tree"
hand labor
fingerprint
Officer Friendly
ambulance
equipment care
distribution
bumpers
lead lines
sauna

transmitting
linkage
revolution
apprentice
truck bay
rotary motion
deburring machine
"doughnuts"
executive
defective
credit
efficient
production line
hard-hat area
pension
salaried worker
accident rate
transcribing
researchers
entry-level
chambermaid
sterilization
vat
pallet
labeling
retourt
finished product
die making
non-union shop
overtime/ time an
stamina
cobbler
upper leathers
buffing
casing
checkpoint
rubber milling
"sets up"
percentage
expansion plans
nozzle gun
dispatcher
ladder truck
uniform
equity
crude oil
tanker
fire inspection

Elementary cont'd. 3-6

cardiac
intensive
inhalation
malfunction
diognosis
skeletal
machine sewn
brand names
cylindrical
retread
design molds
firing range
Youth Aid Bureau or Department
wharf
"black gold"
dikes
probationary
recycle
security area
tolerance
economic slump
data
function room
pulvarize
conveyor belt
packing room
end of run
raw material
piece work
pattern
hand crafted
embossing
cured
hot-shop
hand labor
distribution
bumpers
sauna
transmitting
linkage
revolution
apprentice
truck bay
rotary motion
executive
defective
credit
efficient
production line

hard-hat area
salaried worker
accident rate
researchers
chambermaid
sterilization
vat
pallet
labeling
finished product
cobbler
percentage
dispatcher
crude oil

JUNIOR HIGH 7-9

Maine Human Rights Commission
Maine Employment Security Commission
cross-train
OSHA
minimum age
tool and die
orbiting type motor
commutating parts
rotational torque
stabilize
Personnel Manager
product engineer
osteopathic
internship
allopathic
Executive Director
Board of Trustees
contour grinding machine
on-the-job training
vocational training
displacement
pilferage
milling machine
hydraulic
displacement
valves and cylinders
linear movement
creating & transmitting information
valve pump
production output
key punch

JUNIOR HIGH cont'd. (7-9)

tolerance (accuracy)
manipulation
flow chart
clinical & office occupations
vulcanize
"scorches"
specifications
employee benefit package
sprocket
volume of fluid
partial vaccuum
industrial earth moving
torque
generalist
non-union
stock appreciation
oxidation
quenching
administrative position
customer relations
inter-dependent
hoist
Union Shop
turn-over
manual dexterity
extruder
casing
"rubber tree"
lead lines
deburring machines
pension
transcribing
entry-level
retourt
die making
non-union shop
overtime/time and a half
stamina
upper leathers
buffing
casing
checkpoint
rubber milling
"set-ups"
expansion plans
nozzle gun
equity

SENIOR HIGH 10-12

steam-tempering
induction-hardened
turrit system
gerotor
gerotons
gerolers
contour grinding
broaching machines
production output
hobbing section
heat treating
carbonizing
nitriting
conamatics

APPENDIX F

Composite Listing

EDUCATIONAL NEEDS

Below are listed educational needs as indentified through business-industry tours, by speakers and by participants in the Career Guidance Institute:

Typing - office skills
Apperance - clothing for job
Develop self confidence
Spelling
Confidentiality stress
Self-starter
Getting along with people
Basic math - percentages
Punching time clocks
Stress to students - need for education
Provide more actual exposure to careers
Part-time try-out experience
Teachers serve as examples
Understanding of unions
Interviewing techniques
Establish realistic career goals
Involve parents in school
Make subjects relevant to careers
Common sense
Make academic courses relevant (This doesn't mean vocational)
Course in social living
Pride in one's self
Use business and industry more
Management-employee relations
Group dynamics
Oral expression
Honesty
How to apply for a job
Read and spell well
Self discipline (shortcoming of new employees)
Decision-making skills
Know jobs and make application for specific job
Lack of discipline
Sense of responsibility
Willingness to work
Prepare youngsters to take oral exams
Attitudes
Human relation skills
Working as a team
Need skills to live in society
Absenteeism
Work habits
Part-time experiences
Reading skills
Math - basic and practical
Acceptance of responsibility
Employers' expectations
Communication skills
Obligations to employer
Trucking vocabulary
Articulation
Self confidence
Sense of humor
Role-playing roles to give actual involvement
Experience in making out job applications

APPENDIX G

GROUP PRESENTATION

Outline of Points to Cover

1. Describe purpose of company or organization

2. Describe your tour
   Where you started, areas or departments visited, and function of each.

3. Careers identified

4. Employment opportunities

5. Orientation, inhouse training, incentives

6. Educational needs of potential employees

7. Implications for education

APPENDIX H

PRE-TEST QUESTIONNAIRE

This institute is designed to help you increase your knowledge regarding careers and career opportunities and to improve communication between educators, businessmen, and the community. Listed below are questions related to areas which will be discussed during the activities of the institute. You are being asked to complete this questionnaire in order that some evaluation of these activities may be made.

Each question or statement is followed by a ten-point rating scale. Read each question and circle the number on the scale which most nearly corresponds to your own assessment of your present degree of knowledge, understanding, skill, or attitude referred to in the question.

1. How would you rate your present degree of knowledge of business and industry in the Greater Portland area?

   0 1 2 3 4 5 6 7 8 9 10

2. Indicate the degree to which you are familiar with current employment trends in the Greater Portland area.

   0 1 2 3 4 5 6 7 8 9 10

3. Indicate your knowledge of career opportunities for non-college bound students in the Greater Portland area.

   0 1 2 3 4 5 6 7 8 9 10

4. Indicate your knowledge of the skills needed by business and industry in the Greater Portland area.

   0 1 2 3 4 5 6 7 8 9 10

5. Indicate the degree of your present knowledge about distressed and disadvantaged areas in the Greater Portland area.

   0 1 2 3 4 5 6 7 8 9 10

6. To what extent are you aware of the attitudes of the disadvantaged toward gainful employment?

   0 1 2 3 4 5 6 7 8 9 10

7. To what extent are you aware of the attitude of employers toward employment of the disadvantaged?

   0 1 2 3 4 5 6 7 8 9 10

8. To what extent is the community attuned to the needs of non-college bound student?

0 1 2 3 4 5 6 7 8 9 10

9. To what extent is the administration of your school system attuned to the needs of the non-college bound student?

0 1 2 3 4 5 6 7 8 9 10

10. Indicate the degree to which you understand the educator's role in working with non-college bound youth.

0 1 2 3 4 5 6 7 8 9 10

11. To what extent are the teachers in your school system committed to providing relevant education for non-college bound students?

0 1 2 3 4 5 6 7 8 9 10

12. How would you rate your present degree of knowledge of local training opportunities and programs for non-college bound students?

0 1 2 3 4 5 6 7 8 9 10

13. Indicate the degree of your present understanding of Career Education or The Career Education concept.

0 1 2 3 4 5 6 7 8 9 10

14. Indicate the degree to which you are familiar with the dictionary of occupational titles and Career Clusters.

0 1 2 3 4 5 6 7 8 9 10

15. Indicate to what extent has Career Education been introduced to the secondary classes in your school system.

0 1 2 3 4 5 6 7 8 9 10

16. Indicate to what extent you are familiar with Career Education programs available in the schools of Greater Portland.

0 1 2 3 4 5 6 7 8 9 10

17. Indicate the degree of your understanding of a realistic role for the guidance counselor in occupational or career guidance.

0 1 2 3 4 5 6 7 8 9 10

18. How would you rate the potential for a regular flow of communication between school administrators, teachers, counselors, and business and industrial personnel within the Greater Portland area?

0 1 2 3 4 5 6 7 8 9 10

19. Indicate the degree of your positive feeling about completing this questionnaire.

0 1 2 3 4 5 6 7 8 9 10

The South Portland Public School System

Hereby Commends

_____

for contributing to programs in

CAREER EDUCATION

_____ _____

Date

The South Portland Career Education Project

CAREER GUIDANCE INSTITUTE

Hereby Certifies that

_____

has successfully completed the requirements for

IE. 530 PRACTICUM-VOCATIONAL GUIDANCE

Conducted by the University of Maine Portland-Gorham

_____ _____

Date

FOR FURTHER INFORMATION CONTACT:

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ASSISTANT DIRECTOR REVAMP
SOUTH PORTLAND PUBLIC SCHOOLS
637 HIGHLAND AVENUE
SOUTH PORTLAND, MAINE 04106

PROJ. V36112
GRANT OEG-0-73-5305

"REVAMP"
G. N. MacLeod, Dir.

APP. C

PROJECT REVAMP

CAREER EDUCATION

SOUTH PORTLAND, MAINE

A HUMAN RESOURCE DIRECTORY FOR TEACHER AND STUDENT USE

S SHADOWING

I INTERVIEWING

F FIELD TRIPS

T TALKS

E EDUCATIONAL MATERIALS

D DEMONSTRATIONS

1976

S I F T E D: A RESOURCE DIRECTORY

This directory contains a list of career consultants, materials and agencies available to teachers and students involved in Career Education activities throughout the South Portland schools. Each name in the Index is keyed to an information card located in the Consultant Card File in each of the three secondary Career Guidance Centers.

CONTENT

The definitions of the letters S, I, F, T, E, and D appear on page 2.

The 15 career clusters designated by the United States Office of Education are found on page 3. Consultant cards are filed under these clusters. Four sample careers are listed for each job cluster.

The Index on page 4 lists the Career/Topic, cluster, last name of the consultant, and code letters for the S I F T E D activities and materials.

Names of local, state and federal organizations and agencies, which provide personnel and materials for school use, are located on page 13. Addresses and telephone numbers of these agencies are located in the back of the card file under Organizations: Local, State and Federal.

PROCESS

Step 1: To find the resource person or information needed, locate the Career/Topic in the Index. Use the S I F T E D code to identify the consultant who meets your need. Note both the name and the career cluster given.

Step 2: Use the consultant card file found in each secondary Career Guidance Center. Under the Career Cluster, locate the card for the consultant's name, title, company, address, telephone number, and S I F T E D code. Additional information and restrictions may be recorded.

DEFINITIONS OF S I F T E D

The code letters S I F T E D are used as key letters in identifying resource people in the following areas of the Career Education Program:

Shadowing - offers a personal experience in career exploration. Individually or in small groups, students spend a full or half day observing a relative, friend or concerned individual at work. Volunteer work also provides a type of shadowing experience.

Interviewing - may be of two types. In one, a career consultant would answer student questions regarding his or her field of interest. The other enables students to experience a simulated job interview.

Field Trips - provide the opportunity for classes or small groups of students to become aware of community workers and career opportunities.

Talks - are given by resource speakers in the classroom. These presentations afford students the advantage of gaining knowledge about a specialized occupation or an area of interest.

Educational Materials - include audio-visual aids as well as information available from business and industry to supplement the offerings of the school curriculum.

Demonstrations - enable students to watch or participate as a craftsman simulates a particular skill.

THE ABOVE AREAS ARE REPORTED, DISCUSSED, AND DOCUMENTED BY TEACHERS OR STUDENTS.

LIST OF THE FIFTEEN OCCUPATIONAL CAREER CLUSTERS

1. Agribusiness and Natural Resources
   - dairy farmer
   - forest ranger
   - horticulturist
   - landscaper

2. Business and Office
   - actuary
   - cashier
   - computer programmer
   - stenographer

3. Communications and Media
   - reporter
   - editor
   - radio station manager
   - telephone operator

4. Construction
   - engineer
   - architect
   - carpenter
   - electrician

5. Consumer and Homemaking
   - cook
   - interior decorator
   - consumer affairs advisor
   - waiter

6. Environmental
   - forester
   - urban planner
   - fish and game warden
   - soil conservationist

7. Fine Arts and Humanities
   - piano instructor
   - potter
   - museum curator
   - actor

8. Health
   - dentist
   - doctor
   - medical technologist
   - licensed practical nurse

9. Hospitality and Recreation
   - coach
   - hotel/motel manager
   - travel agent
   - professional athlete

10. Manufacturing
    - shipper
    - quality control engineer
    - tool and die maker
    - sheet metal worker

11. Marine Science
    - boat mechanic
    - diver
    - oceanographer
    - fisherman

12. Marketing and Distribution
    - retail merchandiser
    - food transporter
    - public relations worker
    - advertising copywriter

13. Personal Services
    - cosmetologist
    - mortician
    - pet shop owner
    - barber

14. Public Service
    - librarian
    - postman
    - teacher
    - fireman

15. Transportation
    - heavy equipment operator
    - pilot
    - bus driver
    - truck mechanic

INDEX

Some careers could be listed in more than one cluster; however, the following designations have been made to the most obvious:

CAREER/TOPIC	CAREER CLUSTER	NAME	CODE S	I	F	T	E	D
Accounting	Business & Office	Gibbons	S					
		Johnson			F			
Actuary	Business & Office	Durland				T		
		Jensen				T		
Admissions/Ass't.Dir.	Public Service	Akerman		I	F			D
		Lenfest					E	
Admissions Director	Public Service	Hager						D
		Munsey						D
		Newman						
		Littlefield		I				
Advertising/Public Rel.	Communications&Media	Maxwell	S					
Airline/Personnel	Transportation	Carpenter			F			D
		Foley			F			D
Airport Operations Mgr.	Transportation	Rooney			F			
Air Traffic Controller	Transportation	Ryan	S					
Alumni Rep.	Public Service	Taylor						
Animal Grommer	Personal Service	Trefry						D
Appliances(small)Instr.	Public Service	Sevigny						D
Apprenticeship Prog.C.	Business & Office	Dyer				T	E	
Architect	Construction	Christopherson	S					
		Stevens						D
Armed Service-Air Force	Public Service	Chamberlain		I			E	D
Armed Service-Army	Public Service	Lee		I			E	D
Armed Service-C.Guard	Public Service	Harvey		I			E	D
		Riley	S					
		Smith	S					
Armed Service-Marines	Public Service	Gordon		I				D
Armed Service-Navy - (ASVAB) Ed.Testing	Public Service	Lefreniere			F	T	E	
Armed Service-Navy	Public Service	Alonso	S					
Armed Service-Navy	Public Service	Hager		I				D
		McIntyre		I				
		Parker		I				
		Thrower			F			
Art Museum/Ed.Curator	Fine Arts&Humanities	Robeson				T		
Art School Registrar	Fine Arts&Humanities	Gross			F		E	
Astrologist/director	Fine Arts&Humanities	Lowry				T		
Automotives/dealer	Marketing & Dist.	Pape	S					
Automotives/Instructor	Public Service	Johnson						D
Automotives/Painting & Body Repair	Transportation	Blanchard	S					
Automotives/Service Advisor	Transportation	Cleaves	S					
Aviation Instructor	Public Service	Kimball				T		

CAREER/TOPIC	CAREER CLUSTER	NAME	CODE S	I	F	T	E	D
Baker	Consumer&Homemaking	Jordan	S					
Banking:	Personal Service	Giddinge				T		
		Upton	S					
Ass't Personnel Mgr.	Personal Service	Dow		I	F			
Manager	Personal Service	Caterina				T	E	
Manager	Personal Service	Murphy		I	F		E	
Personnel	Personal Service	Barter						D
		Carroll						D
		Mulkern						D
		Reed		I	F			
		Lohmeyer		I				
		Allen			F	T		
		Pemberton		I				
		Whitney		I				
Personnel Interviewer	Personal Service	Parker		I				
Personnel Mgr.	Personal Service	Shortill		I	F			
		Geletka		I				
		Currier		I				
Public Relations	Personal Service	Lavenger			F	T		
		Warren				T		
Seller	Personal Service	McGovern	S					
Barber	Personal Service	Boudreau			F			
Beautician	Personal Service	Connolly	S					
		Hannaford	S					
		Sayward	S					
		Saleeby		I				D
Beautician/Owner	Personal Service	Pierre				T		
Blind Institution	Public Service	Boyle						D
		Bradbury						D
		Thompson						D
Building Const.Instr.	Construction	Lavigne						D
Carpenter	Construction	Bakker						D
		Jalbert	S					
Case Worker	Health	Jerome						
Cashier Trainer	Marketing & Distri.	Morton						D
City of S.Portland								
City Manager	Public Service	Stewart			F			
City Manager Assistant	Public Service	Dutton		I				
Personnel Manager	Public Service	Ireland			F			
Super. of Public Works	Public Service	Erskine				T		
Super. of Schools	Public Service	Seekins						
Cleaner/Rug	Consumer&Homemaking	Thompson		I				
Clergyman	Personal Service	Clark						D
		Onos						D
		Reny						D
Clown Club Coordinator	Fine Arts&Humanities	Ellis						D
Coach	Hospitality&Recreation	Freise				T		
		Kahill				T		
		Sullivan				T		
College Rep.(local)	Public Service	Martin						
Computer Parts/Per.Mgr.	Manufacturing	Gilmore		I	F			
Computer Parts/Plant M.	Manufacturing	Nigro		I	F			

CAREER/TOPIC	CAREER CLUSTER	NAME	CODE S	I	F	T	E	D
Computer Progr.Super.	Business & Office	Smith			F	T		
Consultant/Business	Business & Office	Manolakis		I		T		
Consumer Affairs Adv.	Consumer&Homemaking	Frosch			F			
Contractor	Construction	MacLeod	S					
		Maguire			F			
Contractor/Gen.Super.	Construction	Rhoda			F			
Counselor/CED	Public Service	Mader		I				
Counselor/Dean of Stu.	Public Service	DeCourcey		I				
Counselor/Vocational	Public Service	Cesario			F			
		Muzzy			F			
Craftsman	Fine Arts&Humanities	Kilgore						D
		Orcutt						D
Credit Counselor	Consumer&Homemaking	Brosnan				T		
Credit Union Mgr.	Business & Office	Hannah					E	
		Fowler				T	E	
Culinary Arts Instr.	Public Service	Brisse			F		E	D
Data Processor	Business & Office	Bearor	S					
Day Care Project	Public Service	Hagerty			F			
Dental Hygienist	Health	Linskey						D
		Vaughan						D
Dentist	Health	Despres	S					
		Hutchinson	S					
		Sahrbeck						D
		Estabrook						
Distributor/Appliances	Marketing&Distribution	Conover			F		E	
Distributor/food	Marketing & Distr.	Dillman				T		
Distributor/food	Marketing & Distr.	Topham			F			
		Sullivan		I		T		
Doctor	Health	Bellino						D
		Briggs			F			
Drafting Instructor	Public Service	Gabaree						D
Ecologist	Environmental	Bloomhagen						D
		Priest				T	E	
Educator/Asst. Dir.	Public Service	Kelly			F			
Educator/CED Dir.	Public Service	Mortensen			F		E	
Educator/Dir. of Ed.Ser	Public Service	Hymoff			F		E	
Educator/Director	Public Service	Young			F			
Educator/Principal	Public Service	Thompson	S					
Educator/Voc.Admin.	Public Service	Fehlau			F		E	
Electrician	Construction	Darling				T		D
Electrical Instructor	Public Service	McCarthy						D
Engines(small) Instr.	Public Service	Gray						D
Engineer/Civil	Construction	Banks		I	F			
		Haskell		I				D
Engineer/Instructor	Public Service	Marshall		I		T		
Engineer/Physics	Construction	Arbegast	S					
Engineering/Vice Pres.	Construction	Richardson				T		

CAREER/TOPIC	CAREER CLUSTER	NAME	CODE S	I	F	T	E	D
Engineer	Construction	Langford						D
		Tupper				T		
Farmer	Agribusiness&Nat.Res.	Knight			F	T		
Farmer/Truck	Agribusiness&Nat.Res.	Maxwell			F			
Fashion Merchandising Instructor	Public Service	Brooks						D
		Cesario						D
Ferry Service/Pub.Rel.	Transportation	Bubier			F	T		
Fireman	Public Service	McGouldrick	S		F	T		D
Fire Technology Instr.	Public Service	Kitchen						D
Floor Coverer	Consumer&Homemaking	Daniels						D
Floral Designer	Fine Arts&Humanities	Goode						D
		Minott						D
Food Marketing Agent	Marketing& Distri.	Caterson			F			
		Thomas			F			D
Food Processor	Manufacturing	Bush		I				
		Conley	S					
		Pike			F			
		Tabor		I				
		Thomsen			F			
Forestry Specialist	Agribusiness&Nat.Res.	Bissell				T	E	
Furniture Repairman	Consumer&Homaking	Rowe						D
Furniture Touch-up	Consumer&Homaking	Woodworth						D
Game Warden Inspector	Environmental	Dyer						D
		Sarty	S			T		D
Heating&Air Cond.Instr.	Public Service	Flink						D
Heavy Equipment Prom.M.	Marketing & Distri.	Dionne			F			
Heavy Equipment Salesman (caterpillar)	Marketing& Distri.	Blackwood			F			
Horticulturist	Agribusiness&Nat.Res.	Mucci						D
Hospital:								
Administrator	Health	Ham			F		E	
Director	Health	Fecteau			F		E	
Dir.Operating Rm.Tech.	Health	Boulliard					E	
Dir.X-ray Technician	Health	Parsons						
Employee Education Dir.	Health	Sharpe			F		E	
Personnel	Health	Corinne		I				
Personnel Secretary	Health	Herbert		I				
Personnel Manager	Health	Bean		I				
		Huff		I	F			
		MacLeod		I	F			
Public Relations Dir.	Health	Cobb			F		E	
		Harris			F	T		
Hotel-Motel Adminis.	Hospitality & Rec.	Cowan	S					
Hotel-Motel Gen. Mgr.	Hospitality & Rec.	Tillman			F		E	
		D'Aoust			F			
Hotel-Motel/Public Rel.	Hospitality & Rec.	Street			F			

CAREER/TOPIC	CAREER CLUSTER	NAME	CODE S	I	F	T	E	D
Insurance:								
Personnel	Personal Service	Andrews			F	T		
		Richards			F		E	
		Stauber				T		
Personnel Manager	Personal Service	Bonney		I		T		
Real Estate	Personal Service	York	S					
Special Agent	Personal Service	Shafto						
Supervisor	Personal Service	Crockett				T		
Training Coordinator	Personal Service	Cox			F	T		
Vice President	Personal Service	Doughty		I		T		D
Interior Decorator	Consumer&Homemaking	Daniels	S		F			
		Massey			F			
Interior Dec./Painter	Consumer &Homemaking	Mooney						D
Journalist	Communications&Media	Galbraith			F			
Judge	Public Service	Devine	S					
Law Enforcement/Instr.	Public Service	Gaines						D
Law School/Asst.Dean	Public Service	Julavits			F			
Lawyer	Personal Service	Davis				T		D
		Jones				T		
		Perkins	S					
		Thaxter						D
Legal Secretary Instr.	Public Service	Honan						D
Library/Director	Public Service	Alexander			F		E	
Library Techn.Instru.	Public Service	Agazarian				T		
Lobsterman	Marketing&Dist.	Muise						D
		Ricker						D
Machine Tool Instruc.	Manufacturing	Jewett						D
Manufacturer:								
General Manager	Manufacturing	Parent			F		E	
Office Manager	Manufacturing	Perry						D
Personnel	Manufacturing	Carmichael		I	F			D
		Hogan		I				
		Meredith		I	F	T		
		Polito		I	F	T		
		Prescott		I				
		Wescott			F	T		
		Wiberg		I	F			
Personnel Assistant	Manufacturing	Oxton		I				
		Hyde		I				
Personnel Manager	Manufacturing	Thomas			F			
Personnel Specialist	Manufacturing	Zimmerman		I				
President	Manufacturing	Baird		I	F			
		Pingree						
Public Relations Dir.	Manufacturing	Vanselow				T		
Vice President	Manufacturing	Marshall			F			

CAREER/TOPIC	CAREER CLUSTER	NAME	CODE C	I	F	T	E	D
Marketing Research Analyst	Business & Office	Shaw						D
Meat Cutter	Consumer&Homemaking	Small				T		D
		Perry						
Mechanic	Transportation	Hill	S					
		Kimball	S		F			
		Tweedie	S					
Mechanic/Service Fore.	Transportation	Howe				T		
Mechanic/Service Mgr.	Transportation	Brown			F			
Medical Technologist	Health	Guinard		I		T		
		Doucette				T		
		Holmes				T		
Military Intelligence	Public Service	Kahill				T		
Model	Marketing & Dist.	Burke						D
Newspaper/Bus.Mgr.	Communications&Media	Houghton			F			
Newspaper/Editor	Communications&Media	McNabb				T		
Newspaper/Gen.Mgr.Asst.	Communications&Media	Marshall			F			
Newspaper/reporter	Communications&Media	Kimball				T		
		Saunders				T		
		Scott	S					
Nurse	Health	Dickson				T		
		Powers						D
		Withee			F			
Nursing Instructor	Public Service	O'Brien						D
Paper Industry Machinery/Mgr. of Manufacturing	Manufacturing	Butler		I				
Paper Manufacturer/ Manpower Developer	Manufacturing	Day			F	T		
Paper Manufacturer/ Public Relations	Manufacturing	Lowell			F	T	E	
Paper Manufacturer/ Personnel	Manufacturing	Purple				T		
Pet Shop Owner	Personal Service	Diamon	S					
Photographer	Fine Arts&Humanities	Simpson	S					
Physical Ed.Instruc.	Public Service	Jackson	S					
Physical Therapist	Health	Wicken						D
		Atwood		I				
		Hart	S					
Physical Therapy/Asst. Administrator Controller	Health	Ham			F			
Piano&Vocal Instruc.	Fine Arts&Humanities	Smith				T		
Pilot/(former)	Transportation	Boulos				T		
Pilot	Transportation	Sorensen				T		D

CAREER/TOPIC	CAREER CLUSTER	NAME	CODE S	I	F	T	E	D
Pipe Line/Vice Pres.	Transportation	McGreen			F			
Plating/Personnel Mgr.	Manufacturing	Chetwynd		I				
Plumber	Personal Service	Caron			F			D
Policeman	Public Service	Kearns	S					
Policeman	Public Service	Libby	S					
Police/Personnel	Public Service	Learned				T		
Police/Pub.Relations D.	Public Service	Ridlon				T		
Police/Youth Aid Off.	Public Service	Amoroso			F			
		Costigan			F	T		D
Post Office	Public Service	Burkill			F			
		Kelley			F			
Potter	Fine Arts&Humanities	Adlerstein	S					
Power Co./Personnel D.	Public Service	Holt				T		
Probation Officer	Public Service	Parker	S					
Publisher/Newspaper Owner	Communications&Media	Foote			F			
Publisher/School Text	Communications&Media	Walch			F			
Quarry Industry	Construction	Goodwin		I				
Quarry Industry/Gen.Mg.	Construction	Nunley		I	F			
Radio Disc Jockey	Communications&Media	Brine				T		D
		Max				T		D
		Ryder				T		D
		Sebastian	S					
		Snyder						D
Radio Station Mgr.	Communications&Media	Dow			F			
Radio&TV Gen.Mgr.(Radio	Communications&Media	Crosby			F			
Radio&TV/TV News Reporter	Communications&Media	Silverbrand				T		
Radiologist	Health	Wright						
Railroad/Public Rel.	Transportation	Galvin			F	T		
		Peters			F			
Real Estate Agent	Personal Services	Boulos				T		
		Mezoian				T		D
Repairman/small engine	Consumer&Homemaking	Mullins						D
Repairman/T.V.	Consumer&Homemaking	Stackhouse						D
Research	Agribusiness&Nat.Res.	Larson			F			
Restaurant Manager	Hospitality & Rec.	Percival						D
		Priest		I				
Restaurant/Personnel	Hospitality & Rec.	Davis		I				
Retail Sales/Dept.Store	Marketing&Disbribution	Hunter		I				
Asst. Personnel Dir.		Hores		I				
Retail Sales/Dept.	Marketing & Dist.	Austin	S	I				
Store Personnel		Ivey			F			
Retail Sales/Dept.Store	Marketing & Dist.	Longway			F			
Retail Sales/Dept. Store Personnel Mgr.	Marketing & Dist.	Palmer		I				
Retail Sales/Food Store Manager	Marketing & Dist.	Patenaude		I		T		

CAREER/TOPIC	CAREER CLUSTER	NAME	CODE S	I	F	T	E	D
Retail Sales/Oil Co. President	Marketing& Dist.	Harris				T		
Retail Sales/Paint Store Clerk	Marketing & Dist.	Driskell	S					
Sales Rep./Car-Truck	Marketing & Dist.	Harding				T		
Salesman/Heavy Equip.	Marketing & Dist.	Barr				T		
		Pettingill				T		D
Sales Rep/Office Equip.	Marketing & Dist.	Shaw				T		
Secretary	Business & Office	Adams						D
		Davis	S					
Sheet Metal/Fabricator	Manufacturing	McBrady			F			
Sheet Metal/Instructor	Public Service	Donovan						D
Ship Chandler	Marketing & Dist.	Roberts	S					
Shopping Center/Mall Manager	Marketing & Dist.	Gailey			F			
Siding Contractor	Construction	Bilodeau						D
Sign Painter	Fine Arts&Humanities	Fowler						D
Social Worker	Public Service	Kaningas	S					
Steel Worker	Manufacturing	Niles	S					
Stewardess	Transportation	Hamblet						D
Surveyor	Construction	Webber						D
Tax Consultant	Personal Service	Knipp				T	E	
Teacher	Public Service	Kahill				T		
Teacher-Elementary Curriculum Coord.	Public Service	Corcoran				T		
Technologist/Soil Inst.	Public Service	Churchill						D
Technologist/Wastewater	Environmental	Baker						D
Telephone/Education Coordinator	Communications&Media	Nash			F			D
Telephone/Personnel	Communications&Media	McDonald			F			
		Staszko				T		
Telephone/Public Rel.	Communications&Media	Walsh				T		
Ticket Agent	Hospitality & Rec.	Charles	S					
Travel/Domestic Mgr.	Hospitality & Rec.	Duffy						D
Trucking/Driver	Transportation	Bryant				T		D
Trucking/Mover	Transportation	Wildes	S					
Trucking/Office Mgr.	Transportation	Young			F	T		
Trucking/Rental	Transportation	Schairer				T		
Trucking/Terminal Mgr.	Transportation	Webber			F			
Vending Machine Agent/ Food	Marketing & Dist.	Lano	S					
Veterinarian	Health	Pease				T		D

CAREER/TOPIC	CAREER CLUSTER	NAME	CODE S	I	F	T	E	D
Veterinarian	Health	Robison						D
Water District/Admin.	Public Service	York	S					
Water District/ Personnel	Public Service	Lane		I				
Water District/Treas.	Public Service	Small			F			
Waterfowl Museum Dir.	Fine Arts&Humanities	Nason			F	T		
Weather Broadcaster	Communications&Media	O'Wril				T		
Welding/Instructor	Public Service	Shaw						D
Waterway Director	Transportation	Langlois			F			

LOCAL ORGANIZATIONS

Abilities and Goodwill

American Legion

Arthritis Foundation

Bakery and Confectionery Workers

Boy Scouts of America Pine Tree Council

Camp Fire Girls

Catherine Morrill Day Nursery

Cerebral Palsy Center

Community Counseling Center

Greater Portland Chamber of Commerce

Greater Portland Landmarks Incorporated

Human Relations Services (Diocesan)

Jewish Community Center

Junior Achievement of Greater Portland Incorporated

Junior Chamber of Commerce (Jaycees)

Kennebec Girl Scout Council Incorporated

Kiwanis

League of Women Voters of Portland Area

Lions Club

Maine Institution for the Blind

Maine Mall Businesses

Maine Medical Center

Maine Oil Dealers Association

LOCAL ORGANIZATIONS - (continued)

Maine State Grocers Association

Maine Truck Owners Association

Mercy Hospital

National Alliance of Businessmen

National Association of Accountants

Portland Boys' Club

Portland Public Library's Learners Advisory Service

Portland Shipping Association Incorporated

Prime Resource Center

Red Cross

Rotary Club

Salvation Army

Savings Bank Association of Maine

Senior Citizens Centers System

South Portland Board of Industry and Commerce

South Portland Boys' Club

South Portland Family Service Association

South Portland Public Health Nursing Association

Sweetser - Childrens Home

United Service Organization

Women's Literary Union

Young Men's Christian Association

Young Women's Christian Association

STATE AGENCIES

Associated General Contractors of Maine

Automobile Registration Bureau

Boys Training Center

Comprehensive Employment and Training Administration

Educational and Cultural Services Department

Engineering Societies in Maine

Environmental Protection Department

Fish and Wildlife Department

Forestry Department

Governor Baxter School for the Deaf

Human Services Department (Speakers Bureau)

Hospitality Associates of Maine

Maine State Museum

Manpower Affairs Department (Employment Security Comm.)

Probation and Parole Division

Southern Regional Alcoholism Council

State of Maine Courts

State Police

Transportation Department

RESOURCE PUBLICATIONS

Maine Buyers Guide

Maine Human Resources Index

FEDERAL AGENCIES

Agriculture Department

Armed Services

Commerce Department

Congressional Representatives

Courts (United States)

Custom Service

Defense Department

General Service Administration

Health, Education and Welfare Department

Internal Revenue Service

Justice Department

Labor Department

Postal Service

Social Security Administration

Transportation

Treasury

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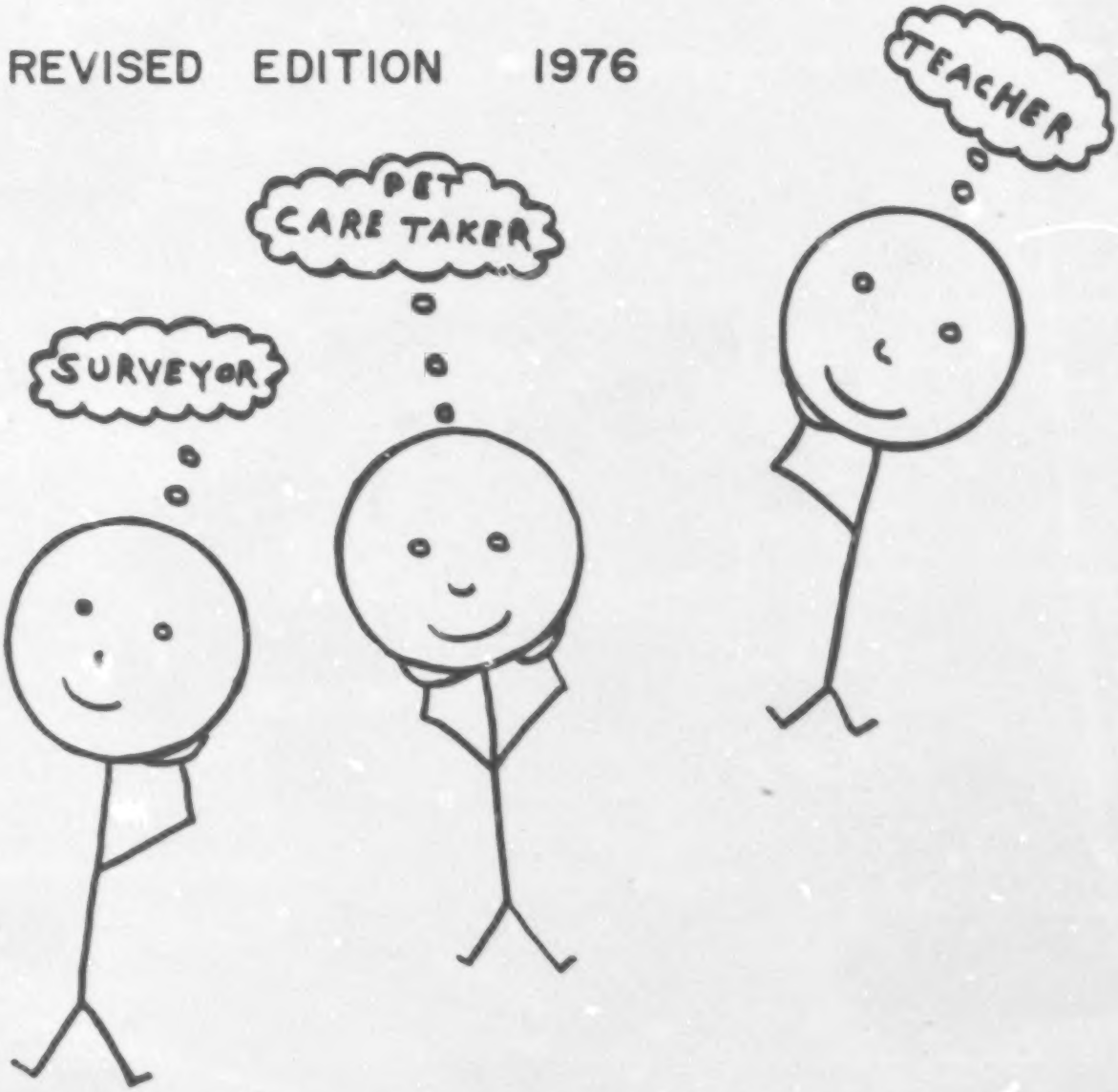
CAREER EDUCATION

AWARENESS PROGRAM K-6

GUIDE FOR THE ELEMENTARY TEACHER

REVISED EDITION 1976



SOUTH PORTLAND SCHOOL DEPARTMENT

SOUTH PORTLAND, MAINE

Career Education

AWARENESS PROGRAM K - 6

Guide for the Elementary Teacher

Revised Edition 1976

Printed by Prime Resource Center Print Shop, Portland, Maine

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South Portland, Maine
1973-1976

AFFIRMATIVE ACTION STATEMENT

In keeping with federal and state guidelines, the South Portland School Department does not and will not discriminate on the basis of sex, race, color, religion, national origin, ancestry, age, or physical handicap, in the educational programs or activities which it operates, and is required by Title VII of the Civil Rights Act of 1964 as amended by the Equal Employment Opportunity Act of 1972 and Title IX of the Educational Amendments of 1972 and Part 86 of Title 45, Code of Federal Regulations not to discriminate in such a manner.

The requirement not to discriminate in educational programs and activities extends to employment practices in the school system and to the admission and treatment of students.

To insure non-discriminatory practices and procedures, the South Portland Board of Education, with the assistance of an Affirmative Action Committee, is developing an Affirmative Action Plan and other compliance procedures.

It has also appointed an Affirmative Action Office to coordinate its efforts to comply with and carry out its policies and responsibilities regarding non-discrimination.

Inquiries concerning the application of Title VII, Title IX and Part 86 to the School Department should be addressed to the Affirmative Action Officer, Ralph W. Egers, Jr., Curriculum Office, South Portland School Department, 130 Wescott Road, South Portland, Maine 04106, telephone 775-6501.

FOREWORD

If a difference is to be made, it is the teachers who will make it -- Again, the teachers of South Portland have stepped forward with thoughtful and constructive change. This Teachers' Guide for Career Education, Awareness Program K - 6, reflects unstinting effort by the teachers and members of the supervisory staff serving on the committee. And, it reinforces our awareness of the tremendous source of creativity and dedication that has been drawn from the entire faculty -- creativity and dedication which will continue to build better programs for South Portland youth.

To all who have worked to make this Guide a reality, and, thereby, to point to new and better ways of developing a healthy self-awareness and an appreciation for the work ethic, I express appreciation.

JOHN I. SEEKINS, JR.
Superintendent of Schools

ACKNOWLEDGEMENTS

The implementation of Career Education could only be possible with the full support and encouragement of the South Portland Board of Education and John I. Seekins, Jr., Superintendent of Schools.

Special thanks are extended to the members of the Career Education Advisory Committee for giving freely of their time in order to provide valuable assistance and practical recommendations for the three year project.

A great deal of effort and interest has been given by the Elementary Curriculum Directors. Their contribution to the overall organization and structure will ensure the implementation and infusion of Career Education into the elementary school program.

Much credit for the success of this guide belongs to the elementary principals, teachers, and librarians in South Portland who have demonstrated their enthusiasm, creativity, and adaptability in integrating career education into the elementary curriculum.

Special recognition is due those teachers who participated in the curriculum workshops and gave generously of their time and talents in the preparation of the guides, Career Education Awareness Program K - 6 and Career Education Awareness Program K - 6 Revised 1976. These people were actively involved in the preparation of the guides:

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DEVELOPING A CAREER EDUCATION GUIDE

South Portland made a commitment in 1973 to develop the concept of Career Education throughout the school system.

It soon became evident, that if this concept were to be an integral part of the total elementary curriculum, some tool had to be provided as a guide for the classroom teacher.

An informal needs assessment indicated that teachers and curriculum directors felt a need for a brief statement of philosophy, some means of incorporating this concept into the existing curriculum and practical suggestions for the implementation of these findings.

The Elementary Career Education Coordinator, as the resource person, initiator, and coordinator for this project, reviewed and evaluated materials submitted from various sources; contacted resource persons; and encouraged teachers to try some of the activities and procedures which had proven successful in other situations.

During the school year 1973-74 a workshop was conducted with 15 teachers representing the various grade levels, the elementary curriculum directors, and the career education coordinator. They participated in the development of a philosophy, completed a review of curriculum areas where the concept of career education could be infused, and compiled activities which could provide a means of implementation. The final editing was done by the administration and curriculum directors.

The guide was distributed to all teachers to study, to use, and to evaluate. It then became apparent that if continued growth and development of career education as a concept were to be assured, revisions had to be made.

During the school year of 1974-75, the Career Education Staff expanded the three original goals to eight. A career development design for K - 12 which, hopefully, would help to ensure the realization of these suggested goals was recommended to the supervisory staff.

A second assessment was made during this period of time. A workshop conducted by the Career Education Coordinator was held in the spring. The eleven teachers participating in this workshop were charged with the responsibility of making revisions in Parts II, III, and IV of the guide.

As a result of the workshop three major changes in the guide evolved: (1) all activities were designed to relate to and nurture a better understanding of the eight goals; (2) a process for collecting, recording, and retrieving

information regarding community resources was formulated by the elementary librarian, and (3) an index keyed to subject areas was developed.

The revised materials were again edited and the new handbooks were distributed to classroom teachers for another round of study, use, and evaluation - the process of developing the concept thus becoming the program.

PART I - OVERVIEW

Career Education: Philosophy

Career Education in South Portland

CAREER EDUCATION: PHILOSOPHY

We believe:

That the concept, Career Education, because of its concern with self awareness, the world of work and the value of work, can be a catalyst for the South Portland Schools as they endeavor to develop effective, happy and well-adjusted citizens now and in the future.

Our elementary students should then have:

the opportunity to honestly examine and discuss their own characteristics as they gradually develop realistic goals for daily living and future well-being;

the opportunity to observe, discuss and explore the varied types of work opportunities offered in the immediate area;

the opportunity to grow in an understanding and appreciation of each person's contribution as a worker in the school or the community.

The teachers should:

provide a classroom atmosphere which is comfortable, stimulating and conducive to the growth of interpersonal communication;

provide many opportunities for exposure to the varied forms of employment found in the community;

provide opportunities for students to develop a respect for the basic skills as steppingstones in their chosen careers.

The curriculum should:

be sufficiently flexible to allow for the infusion of career education goals.

The community should:

be supportive and actively involved in helping students become aware of skills and attitudes which lead to productivity in the world of work.

CAREER EDUCATION IN SOUTH PORTLAND

Elementary

The elementary component of career education is awareness. From kindergarten through grade six students become involved in activities designed to help them become aware of themselves as individuals, develop an awareness of the world of work, and gain an appreciation for the value of work.

Self awareness is developed through many discussions devoted to helping students become aware of their interests, skills, feelings, and values. Activities are designed to help students put their findings into practice. School experiences offer many opportunities to develop tolerance, cooperation, and the means for handling such emotions as fear and anger. Through practice in the use of the decision making process, the students learn the need for commitment; they also learn that sometimes they must live with the unpleasant results of a decision.

The scope of awareness broadens from the self to include workers in the home, school, and community. Participation in field trips, mini-trips, classroom visitations, and interviews helps students learn about working conditions, tools needed in various trades, and the economic realities facing the producer and the consumer.

Since school is the child's world of work, it is here that he acquires attitudes about the value of work and the relevance of education. The inner satisfaction of completing a task well and the feeling of pride in accomplishment are factors constantly emphasized by the teacher. The value of work is also stressed by many of the workers interviewed. Class discussions help the student to identify and assess the contributions made by workers to society and the personal satisfaction gained.

Career Education for the elementary child is, in part, a knowledge of the world of work and workers, but of more importance, it provides for an understanding of one's self and one's values as a basis for future career planning.

Secondary

Grades seven through twelve progress from simple awareness techniques to programs and activities which sequentially provide an orientation to, exploration of and preparation for the world of work.

At the secondary level, the responsibility for implementing the career education concept lies with the guidance personnel and a nucleus of classroom teachers.

Resource centers in each junior high and senior high school provide information about careers to all students. Specific orientation to the center is given to all seventh grade students.

Eighth grade students add to their involvement by becoming exposed to over fifty different workers at a career fair held each spring.

Ninth grade students are required to take a basic course in career education. Self-awareness, career awareness and a shadowing experience receive major emphasis at this level.

Seniors are offered a semester elective in career preparation. Career testing, counseling, and job placement are services which are also made available to them. A simulated job interview with a business representative is the culminating activity which helps to bring the total program into focus.

All teachers at elementary and secondary levels have an opportunity to participate in the Career Guidance Institute. This course gives the teacher a chance to become more knowledgeable about employees and their specific responsibilities in the world of work.

Teacher teams have done a good deal of research in the areas of mathematics, English and social studies. As a result of the research and involvement in the above mentioned activities, curriculum changes have been implemented in an endeavor to make school more relevant to students in meeting their career needs.

Dropouts and graduates are encouraged to use the resource room and the services of the guidance staff for career counseling or as a placement service.

Community

The school is actively seeking the cooperation of the community in the implementation of career education. Information about the concept is disseminated to the community through the media, and at civic and parent-teacher meetings. The Career Guidance Institute, a career education course, is offered annually to school administrators, parents, business personnel, students and teachers. A free exchange of ideas from these groups is encouraged.

An advisory board, also composed of a cross section of education and community representatives, makes recommendations which help to shape educational policies.

Parents and business persons serve frequently as resources to the classroom teacher. Classes visit local industries and interview and shadow workers or have the opportunity to listen to visiting business personnel at their schools. Parents give their services as volunteer aides by teaching mini-courses in crafts, demonstrating skills, or chaperoning and chauffeuring groups on field trips. This assistance from the parents and the business community is invaluable to the school system.

PART II - SEQUENTIAL PLAN K - 6

The Career Development Design

Objectives, Activities, and Evaluative Techniques

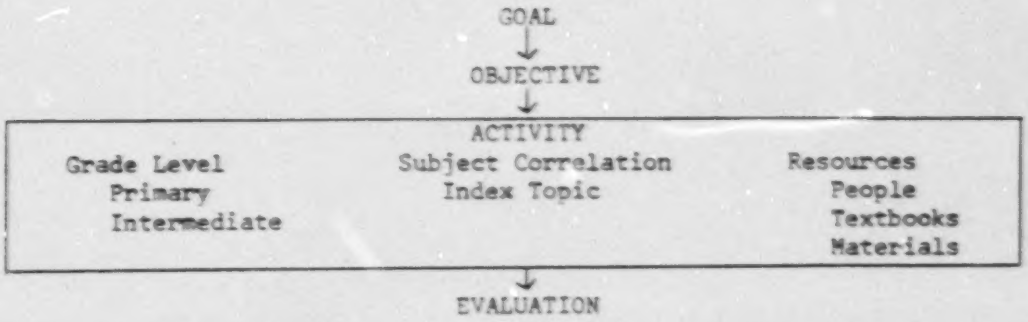
Selected Lesson Plans

PART II - SEQUENTIAL PLAN K-6

This section presents activities to assist classroom teachers in meeting the career development needs of elementary students. The list is not intended to be an outline of a prescribed course of study. Instead, it is expected that the teacher will adopt or adapt the suggestions presented to serve the needs of the class.

The activities are classified according to the eight goals and the general objectives of the career development design, and according to primary or intermediate levels. They offer a variety of teaching methods and are correlated with all school subjects and with the textbooks used in the South Portland system. Each has been keyed to an index topic to help the teacher infuse the activity within the established curriculum. Resource materials and textbook references are frequently included in the description of the activity. Suggestions for evaluating the activities appear at the conclusion of each section of the sequential plan.

Several selected lesson plans appear at the end of this section. These detailed units offer several activities around a single theme. Generally, they include multiple objectives, evaluations, resources, and subject correlations. All the activities described in this guide have been successfully used by South Portland teachers.



The Career Development Design

From the three areas of awareness - self, world of work, and the value of work - have evolved the eight goals of South Portland's Career Development Design. Each of these goals is directed toward the needs of the pupil at the primary, intermediate, junior high and senior high school levels. The following sequential design provides a guide for the classroom teacher in selecting career education activities.

SOUTH PORTLAND, MAINE - CAREER DEVELOPMENT DESIGN

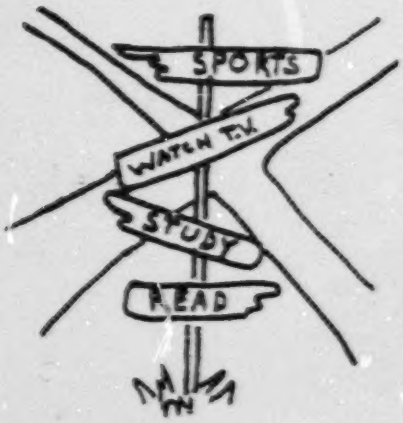
I. SELF AWARENESS

	The students will:
Primary	demonstrate an awareness of their own interests, skills, and feelings.
Intermediate	demonstrate an appreciation of their own skills, interests, feelings and values.
Junior High	recognize that their talents, values, interests, and limitations relate to career goals.
Senior High	make goal-oriented choices related to their career requirements and future employability skills.

II. INTERPERSONAL SKILLS

	The students will:
Primary	demonstrate cooperation in social situations.
Intermediate	develop an appreciation of the differences between individuals or groups.
Junior High	develop the interpersonal skills required for work roles, recognizing that trust and respect are factors in human relations.
Senior High	demonstrate an understanding of the importance of human relationships in volunteer and part and full time work.

III. DECISION MAKING



The students will:

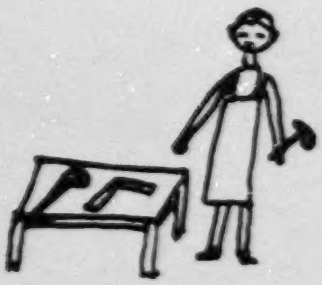
Primary	use their senses to gather data and to develop concepts.
Intermediate	develop skills in making generalizations, hypothesizing and predicting.
Junior High	develop an awareness of the results of decisions which will give them a sense of control over their future.
Senior High	identify realistic alternatives based on education, work experience, and counseling and accept responsibility for career decisions.

IV. WORK AWARENESS

The students will:

Primary	gain knowledge of workers in the home, school, and community.
Intermediate	identify the personal and environmental factors which influence a worker.
Junior High	explore and analyze the common and unique characteristics of jobs within the 15 U.S.O.E. job clusters.
Senior High	recognize that social, environmental, and technical factors influence career trends and as a result workers must be flexible, adaptable and mobile.

V. MANIPULATIVE SKILLS



The students will:

Primary	develop psychomotor skills.
Intermediate	improve psychomotor skills.
Junior High	identify and use manual skills that are essential to many careers and leisure time activities.
Senior High	develop competence in the use of manipulative skills required in one's future career or educational plans.

VI. ECONOMIC AWARENESS

The students will:

Primary	understand that people are paid for their work and use that money to satisfy their needs and wants.
Intermediate	recognize that each individual is a consumer, producer and citizen, and as such has certain rights and responsibilities.
Junior High	develop an awareness of the financial and legal consumer resources as they relate to personal and family economics.
Senior High	understand and appreciate, as a worker and consumer, the complexities of the American economic system.

VII. VALUE OF WORK

The students will:

Primary	identify ways that workers are of service to the community.
Intermediate	recognize that individuals can find satisfaction through their work.
Junior High	understand the impact of career on lifestyle.
Senior High	gain insight into personal and social value of employment through simulated or real work experience.

VIII. RELEVANCE OF EDUCATION

The students will:

Primary	recognize that school is a place to learn.
Intermediate	recognize that schooling is necessary for future careers.
Junior High	recognize that mental, physical and communicative skills are basic and applicable to all career fields.
Senior High	identify the relationship between mastery of content knowledge and educational or vocational plans.

GOAL I - SELF AWARENESS

PRIMARY THE STUDENTS WILL DEMONSTRATE AN AWARENESS OF THEIR OWN INTERESTS, SKILLS, AND FEELINGS.

INTERMEDIATE THE STUDENTS WILL DEMONSTRATE AN APPRECIATE OF THEIR OWN SKILLS, INTERESTS, FEELINGS, AND VALUES.

OBJECTIVES

PRIMARY/INTERMEDIATE

Interests: The students will:

identify their interests or develop new interests.

associate their personal interests with future careers.

Skills: The students will demonstrate an awareness and appreciation of:

their ability to care for many of their physical needs.

their ability to act responsibly in social situations.

their ability to use their minds.

their physical and aesthetic skills.

their ability as workers.

Feelings: The students will:

identify a variety of feelings.

recognize some factors which influence feelings, and will identify alternate methods of handling negative feelings.

develop some positive attitudes about themselves.

Values: The students will identify some values which are important to them.

GOAL I - SELF AWARENESS ACTIVITIES

PRIMARY/INTERMEDIATE

OBJECTIVE: THE STUDENTS WILL IDENTIFY THEIR INTERESTS OR DEVELOP NEW INTERESTS.

ACTIVITIES

This is My Bag

Have the children cut out and paste on the outside of a paper bag, pictures or handwritten labels which represent their own interests. They may put inside the bag anything they do not wish to share. At a later date children may wish to share the contents, but they should not feel compelled to do so.

[Decision Making]

Hands Up

Have the children make an outline of their hands and fill it with drawings of things they like to do. [Decision Making]

Pet Unit

Allow those who have pets to bring them to class one at a time and tell how they care for the pet. Make a bulletin board with snapshots of the children with their pets. Visit a pet shop or veterinarian listed in the Community Resource File.

[Pet Care]

Hobby Show

Have the children display their hobbies on their desks. Let them tell the class how they started, what skills and knowledge are required, and how they feel about the hobby. Let the class vote for the three best displays. Invite other classes to view the show. [Oral Expression]

Taped Interviews

Have the children interview one another with a tape recorder. They will ask, "What do you like to do best of all?"

[Interviewing]

Me Collage

After locating and mounting pictures in a collage of personal interests, have the children share the self portraits in small groups. [Oral Expression]

ACTIVITIES

Interest Shield

Have the students decorate coats of arms to identify their personal interests and values. See Values Clarification by Simon, Howe & Kirschenbaum, Strategy No. 47. [Values]

Acrostic

Using the letters of the student's first name, let him/her name some personal interests. Use the dictionary and thesaurus to improve vocabulary skills.

Example: M A T H E M A T I C S

I L L U S T R A T I O N S

C O L L E C T I O N S

H A N D B A L L

A I R P L A N E M O D E L S

E X E R C I S E

L I S T E N I N G T O R E C O R D S

[Vocabulary]

Leisure Time Unit

Discuss, "Does it matter how I use my leisure time?" List options and discuss those which require special training, cost money, may be done alone or with others. Invite parents or others to share their leisure time interests. Keep a journal for a week on "How I Spend My Leisure Time." Write about "A Leisure Time Activity I Enjoy." [Leisure Time]

Project Choice

List a variety of projects which students may select: i.e. make a suitable home for an insect, an ant farm, a collection of insects, or a notebook on insects. Students will select, complete and share their projects. Discuss what has been learned about one's own interests. [Decision Making]

SELF AWARENESS

PRIMARY/INTERMEDIATE
INTERESTS

OBJECTIVE: THE STUDENTS WILL ASSOCIATE THEIR PERSONAL INTERESTS WITH FUTURE CAREERS.

ACTIVITIES

Careers We Are Thinking About

Make a chart of job preferences of the class members. Have the students explain how their personal interests influence the job they selected. [Work Awareness]

Science Careers

Survey the science text and identify 7 careers. Rank order the list according to personal preference. Write a paragraph giving the reasons for the choice. [Work Awareness]

Career Scrapbook

Have the children select a career they are interested in and make a scrapbook about it. Each picture must be labeled with a complete sentence. [Sentence Construction]

Career Comparisons

Have the children compare a career of their choice with their parents' careers. [Work Awareness]

OBJECTIVE: THE STUDENTS WILL DEMONSTRATE AN AWARENESS AND APPRECIATION OF THEIR ABILITY TO CARE FOR MANY OF THEIR PHYSICAL NEEDS.

ACTIVITIES

Blindfold Game

Blindfold a child and have him/her dependent upon a partner for five minutes. Switch roles and then discuss the use, care and safety of the eyes. [Eyes]

Footwear Display

Display a collection of children's footwear. Discuss the importance of proper fitting footwear and the selection of suitable footwear. [Feet]

Nutrition Unit

Following a discussion and research on nutrition, make posters and have a tasting party. Eat in a restaurant and order a nutritious meal, or plan a meal to be served in a restaurant, or plan and prepare a meal to be served in the classroom. [Nutrition]

Dress Code

After a discussion on grooming, have the class prepare a class dress code. Show the film "Posture Habits," PRIME MP-58. [Grooming]

SELF AWARENESS

PRIMARY/INTERMEDIATE SKILLS

OBJECTIVE: THE STUDENTS WILL DEMONSTRATE AN AWARENESS AND APPRECIATION OF THEIR ABILITY TO ACT RESPONSIBLY IN SOCIAL SITUATIONS.

ACTIVITIES

Safety Chart

List safety rules on a chart in preparation for a field trip. Write a chart story for each safety rule. [Safety]

Telephone Reminder

Following a discussion of emergency use of the telephone, make a card bearing all emergency numbers to place near the telephone. Borrow Telezonia, a working model of the telephone from the telephone company or PRIME resource center. [Telephone]

Safety Court

Have the students give tickets and try cases of classmates who disobey safety rules. [Safety]

OBJECTIVE: THE STUDENTS WILL DEMONSTRATE AN AWARENESS AND APPRECIATION OF THEIR ABILITY TO USE THEIR MINDS.

ACTIVITIES

Magic Circle

Following a discussion of American Indians and how they used an inquiring mind to get food, shelter, and clothing, ask the students to tell about a time when they were able to solve a problem by using an inquiring mind. [Indians]

Peer Teaching

Ask a student to review a chapter and prepare a worksheet to present to the class. Or, have the class prepare a math activity, story or puppet show to present to younger children. [Work Awareness]

SELF AWARENESS

PRIMARY/INTERMEDIATE SKILLS

OBJECTIVE: THE STUDENTS WILL DEMONSTRATE AN AWARENESS AND APPRECIATION OF THEIR PHYSICAL AND AESTHETIC SKILLS.

ACTIVITIES

Simon Says
Touch various parts of the body when asked to do so by the leader. [Sensorimotor]

Physical Fitness Exercises
Keep individual record sheets of physical skills such as galloping, skipping, hopping, etc. Let the children help record their accomplishments. See Daily Sensorimotor Training Activities, Education Activities, Inc. [Physical Education]

Bicycle Rodeo
Give a bicycle demonstration for another class. [Bicycle Safety]

Creative Dance
Allow students to move freely within a certain space, with or without music. [Dance]

Dramatization
Have the children plan and present a play about dental health. [Teeth]

OBJECTIVE: THE STUDENTS WILL DEMONSTRATE AN AWARENESS AND APPRECIATION OF THEIR ABILITY AS WORKERS.

ACTIVITIES

Work Chart
Following a discussion about helping at home and at school, make a picture chart of "Things I Do To Help." [Responsibility]

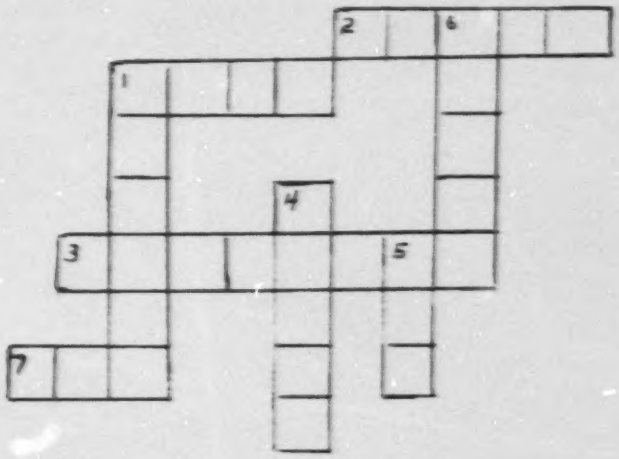
Seasonal Careers
After a discussion on ways we can earn money and jobs we are qualified to perform, make a bulletin board of seasonal careers to show the way fourth graders can earn money during the different seasons. [Seasons]

OBJECTIVE: THE STUDENTS WILL IDENTIFY A VARIETY OF FEELINGS.

ACTIVITIES

Puzzle

Make a crossword puzzle using the feeling words below: angry, bored, brave, jealousy, lonely, love, sad, shy.



Answer Block:

Across

1. love
2. brave
3. jealousy
7. shy

Down

1. lonely
4. bored
5. sad
6. angry

ACROSS

1. Parents ____ their children.
2. When you dive off a high board, you are ____.
3. To envy someone is to show _____.
7. When you are afraid to speak, you are ____.

DOWN

1. If you have no friends, you are ____.
4. If you have nothing to do, you may be ____.
5. Not happy
6. Mad.

[Vocabulary]

Magic Circle

Follow the techniques for a magic circle outlined in the Human Development Program. Discuss topics such as, "I feel good when I'm ____," "The first time I did ____, I was a little scared," "I feel angry when ____," "I am proud that ____."

[Oral expression]

Drawings

Make a picture of a place where you feel happy...something you enjoy doing with a friend...a time you felt lonely. [Art]

ACTIVITIES

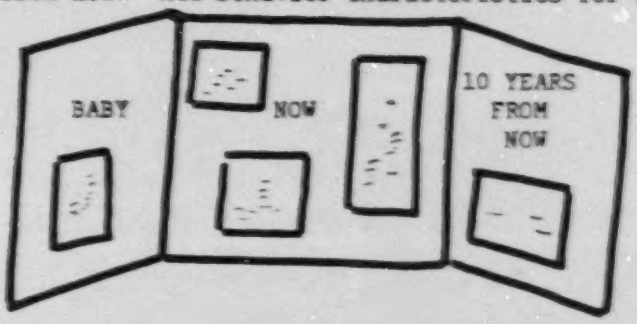
Time Line

Have the students make a pictorial time line of their lives. Use snapshots or drawings to indicate the highlights.

[Autobiography]

Past, Present & Future

Have the children describe the kind of person they would like to be when they grow up. Include physical, mental, and social traits. Have the students make a tryptic illustrating how they looked as a baby, at the present, and how they will look ten years from now. Add behavior characteristics for each age.



[Growth]

Autobiographical Sketch

Have the students pantomime or write one or more of the following topics: "A Frightening Experience," "My Favorite Activity," "Something I Do Well."

[Autobiography]

Video Tape

Have the students prepare, tape, view, and evaluate one or more of the following: physical education routine, musical selection, dramatic presentation, discussion or debate.

[Self Expression]

SELF AWARENESS

PRIMARY/INTERMEDIATE
FEELINGS

OBJECTIVE: THE STUDENTS WILL RECOGNIZE SOME FACTORS WHICH INFLUENCE FEELINGS AND WILL IDENTIFY ALTERNATE METHODS OF HANDLING NEGATIVE FEELINGS.

ACTIVITIES

Full Length Mirror

Have the children look into the mirror and evaluate their personal grooming of the hair, face, teeth, and dress.
[Grooming]

Who Are You?

Show the filmstrip, "Who Do You Think You Are?" by Guidance Associates. Repeat the question, "Who are you?" Have the students give different answers each time as they identify themselves in a variety of roles. [Oral Expression]

Simulation

Eat on the floor, Japanese style, during snack time. Later, let the students choose to eat on the floor or at their desks. Discuss how our culture influences our customs. [Japan]

Discussion

Compare the passing from childhood into adulthood in the Inca society and our own. [Inca]

Magic Circle

Read "The Boy Called Booie" from Enchanted Gates. Have students recall a time when they did something they really didn't want to do and it turned out for the best. [Reading]

Rank Ordering

Make a list of math units and activities done in class and have the students rank order them by difficulty. Discuss feelings about the math units. [Math]

OBJECTIVE: THE STUDENTS WILL DEVELOP SOME POSITIVE ATTITUDES ABOUT THEMSELVES.

ACTIVITIES

What's So Special About You?

Each week a different child has his name and address posted on the bulletin board. He wears a crown, may carry the toy mouse, and displays on the bulletin board any items of importance to him. When he can recite his name, address, telephone number and birthday, take his picture with a Poloroid camera and display it on the bulletin board.

You're In the Limelight Today

Outline a flannelboard with miniature Christmas lights and put the children's names in the limelight. They are privileged to do special errands, bring a visitor or pet to school, and to have some private time alone with the teacher that day.

Student of the Week

Provide a sweatshirt labeled "Student of the Week" to be worn by a class member. On Monday when he is out of the room, have the others write positive statements about him. When he returns to the room, he is given the statements to keep in his notebook for reference on a blue day. Everyone has an opportunity to be student of the week.

Yellow Pages Ads

Have students write an ad to sell their talents as they might appear in the yellow pages. Offer extra credit to anyone whose talent is called upon by a classmate.

SELF AWARENESS INTERMEDIATE VALUES

OBJECTIVES: THE STUDENTS WILL IDENTIFY SOME VALUES WHICH ARE IMPORTANT TO THEM.

ACTIVITIES

Word of the Week

Post, discuss, and reinforce a word with value overtones, i.e. justice, discipline, concern, trust. [Justice]

Posters on Maine

Following a discussion on what you like about Maine, and why others might like to live here, have the children make posters on "What I Like About Maine." [Maine]

Letter To A Legislator

Have the children write to a state or federal legislator about a concern. [Letter Writing]

Lifestyle Comparison

Write a paragraph to complete the following thought: "Of the six families we've studied, I'd most like to be part of the _____ family because ..." Correlate with People in America, Unit I. [Cultures]

Opinion Game

Mark a continuum on the blackboard: Strongly Agree - Agree - Undecided - Disagree - Strongly Disagree. Raise questions and allow students to position themselves for the answers. Sample question: "How do you feel about girls playing the Little League?" See Houghton Mifflin Game Box, Career Insights and Self Awareness, "Interests Continuum." [Decision Making]

GOAL I SELF AWARENESS EVALUATIVE TECHNIQUES

PRIMARY/INTERMEDIATE

Interests

1. Display pictures representing ten interests such as playing outdoors, watching TV, helping mother or father, caring for a pet, making things, etc. Give the children each three tokens with their names, and let them indicate their interests.

2. Prepare a list of activities and have the child check each: "Very Interesting, Interesting, or Not Interesting."

3. Have each student match a list of personal interests to career requirements. i.e. spelling - secretary; outdoors - forester.

4. Have each student write a paragraph on "Why I Would Make a Good _____."

Skills

5. Keep individual charts showing performance of each child's responsibilities: Appropriate Dress, Brushed Teeth, Clean Hands, etc.

6. Have the students role play behavior in emergency situations. Students should demonstrate responsible behavior.

7. Administer a multiple choice test on alternate behaviors in a crisis situation.

8. Present an unfinished story to the class. Let each student offer a solution to the problem. Have the students evaluate the contributions of each member by a discussion of the merits of each choice.

9. With the physical education director, prepare individual charts of physical skills appropriate for the children. Have the pupils keep records of their achievements.

10. Hold a class arts festival. Let each pupil make a contribution in drama, dance, sculpture, art or music.

11. Have the class prepare a check list of the qualities of a good worker, then each pupil will evaluate his own performance of a school task, a home task, a paying job, and a volunteer project on a scale of 1 - 5.

Feelings

12. After reading a story aloud, have the students identify the feelings of the characters in the story.

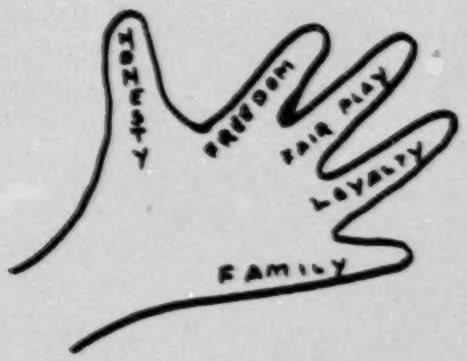
13. Show a picture of people expressing emotions. Have the pupil explain why these people may feel the way they do. Accept reasonable responses.

14. Present the students with a hypothetical situation in which a child has been unfairly treated by a parent, teacher or peer. Ask them to identify the feeling, determine its cause, propose, and rank order three rational behavioral responses.

15. In an individual conference, or in paragraph form, have the children share some ways they feel they have improved this year.

Values

16. Have the students trace around their hands and write one value on each finger that is important to them. Example: fair play.



GOAL II INTERPERSONAL SKILLS

PRIMARY THE STUDENTS WILL DEMONSTRATE COOPERATION IN SOCIAL SITUATIONS.

INTERMEDIATE THE STUDENTS WILL DEVELOP AN APPRECIATION OF THE DIFFERENCES BETWEEN INDIVIDUALS OR GROUPS.

OBJECTIVES

PRIMARY: The students will identify their roles as members of a group at home, at school, or in the community, and will demonstrate a respect for the rights and feelings of others in those groups.

INTERMEDIATE: The students will demonstrate an appreciation of the rights and contributions of other individuals or groups.

The students will develop skills in social reasoning and interaction.

GOAL II INTERPERSONAL SKILLS ACTIVITIES

PRIMARY

OBJECTIVE: THE STUDENTS WILL IDENTIFY THEIR ROLES AS MEMBERS OF A GROUP AT HOME, AT SCHOOL, OR IN THE COMMUNITY, AND WILL DEMONSTRATE A RESPECT FOR THE RIGHTS AND FEELINGS OF OTHERS IN THOSE GROUPS.

ACTIVITIES

Family Unit

Have the children draw pictures of their families. Discuss the role of each member and the likenesses and differences between families. Show the film "Families Are Different and Alike," PRIME MP-1139. [Home]

Ground Rules

Discuss problems in the classroom and on the playground. Make a chart of rules together. Make posters to illustrate the school rules which the group has agreed upon. [Safety]

Friendship Bulletin Board

Select a number of attractive pictures of friends interacting. Discuss the pictures and list the qualities of a friend. Have the children write about "What Things We Look For In a Friend." Put the stories and the pictures on the board. See Focus On Self Development, SRA, photoboards. [Friendship]

Puppetry

Role play good and bad behavior while being a guest in a friend's house. Dramatize a situation in which an individual refuses to cooperate. See Alphatime, Miss "O". [Cooperation]

What About Gum?

Use a discussion and chart story to present the problems associated with gum in school, on the playground, and in a public place. See Alphatime, picture card #8. [Manners]

Everround

Present a make-believe community with a different culture to gain a new frame of reference. See The Communities We Build, T.M. page 53. [Tolerance]

ACTIVITIES

Group Activities

Before orienting the children to the overall project, discuss some of the advantages and problems of group work. Cooperatively agree on rules for the group and make certain the students understand their roles and responsibilities to the total group.

Safety Posters: Allow four children to work in each group to plan and prepare a safety poster. [Safety]

Communication Workers: Divide into groups to prepare a dramatization, written report, bulletin board, or classroom display in the field of communication. [Communication]

Measuring: Work in teams and measure the room, hall, wall, locker area, bulletin board, etc. [Measurement]

Games: Play games which require partners, such as Tic-Tac-Toe. The loser congratulates the winner. [Sportsmanship]

Neighborhood Litter Patrol: Have the group plan and carry out a program of litter control. [Environment]

OBJECTIVE: THE STUDENTS WILL DEMONSTRATE AN APPRECIATION OF THE RIGHTS AND CONTRIBUTIONS OF OTHER INDIVIDUALS OR GROUPS.

ACTIVITIES

We Are All In the 4th Grade, But We Are All Different

Prepare a silhouette of each student. On another sheet, have students write their interests and skills, and share them. Discuss individual differences, then display the silhouettes and personality sketches. [Self Awareness]

Peer Teaching

Assign certain students to assist others in arithmetic or reading. Discuss acceptance of individual differences. [Tolerance]

Handicapped

Invite a deaf or blind person to visit the class. Read biographies of Helen Keller or Louis Braille. Blindfold half the class and let the other half lead them around. Discuss the difficulties of the handicapped. [Empathy]

Speaker From Israel

Contact the local synagogue or the foreign student advisor at the local university or high school. Or check the Community Resource File in the library for the name of a person familiar with this foreign country. [Israel]

Cultural Data Chart

Have groups of students list the differences and similarities between the Incas and the Mundurucu. Compare the family life, work, education and values. See "Latin America," People in Change, T.M., p. 38. [Cultures]

Language Tree

Make a tree depicting national groups as the roots and derived words as the fruit. See "Language in Early America" in Language and How To Use It, Grade IV. [Cultures]

Discussion

"How would the world be diminished if it contained only people like me?" See People in America, T.M., p. 37. [Cultures]

OBJECTIVE: THE STUDENTS WILL DEVELOP SKILLS IN SOCIAL REASONING AND INTERACTION.

ACTIVITIES

Personal Profiles

Have the students fill out forms describing their favorite foods, sports, animals, subjects, TV shows, and their spare time activities. Share the results in small groups. Discuss "How important are our differences?" "How well can you predict how another will answer?" Graph the data. [Self Awareness]

Discussion

After reading a story such as "Miles of Smiles" from Magic Word, discuss the difference between laughing at someone and with someone. Tell about a time you tried to make someone feel comfortable about a joke. [Tolerance]

Spaceship Game

Use the Coca Cola Spaceship Game or discuss "What restrictions are imposed on a closed environment such as a spaceship or a raft like the Kon Tiki?" [Environment]

Group Dynamics

Divide the class into two groups. Let one group observe as the other group deals with the problem. The group must agree on how to spend $2.00. After ten minutes, or when agreement is reached, the observers will discuss the interactions they observed. [Money]

Hot Issues

Following a ten minute discussion on a controversial issue such as prayers in schools, busing, taxes, women in sports, have the class analyze the way the group interacted as they sought a solution. [Current Events]

ACTIVITIES

Group Planning

Discuss with the group the advantages and disadvantages of group planning. Help the group identify the problem and determine options. Allow the group to work on a specific project together and to assess their ability to work together.

Collage: Select pictures which show interpersonal relationships and make a collage. See Bread and Butterflies Guide, page 64. [Decision Making]

Service Project: Following a discussion of the needs of individuals in institutions, have the students prepare Christmas stockings, Easter baskets, books, cards or make friendly visits or sing carols at nursing homes. [Empathy]

Fund Raising: Have the class take responsibility for a booth at the school fair, make crafts, cook food or raise plants to sell. [Money]

Do-It-Yourself-Custodian: Make arrangements with the janitor not to clean the room for a week. Have the pupils develop a plan to keep the room clean. [Responsibility]

GOAL II INTERPERSONAL SKILLS EVALUATIVE TECHNIQUES

PRIMARY

1. Have the students make drawings of positive and negative behavior in a variety of social situations.

2. Have the students recall three school rules which have made the school a happier place to learn.

3. With a partner, let the student pantomime something a friend would do and something a friend would not do.

4. Have the pupils list three ways they cooperate with others at home.

5. Have the students use check lists to evaluate their ability to work cooperatively:

	YES	NO	SOMETIMES
I take turns and share materials.	___	___	___
I do my own part on time.	___	___	___
I am helpful to others without being bossy.	___	___	___

6. Keep anecdotal records of the students' behavior during a group project. Identify cooperative, obstructive, and neutral behavior. Repeat the evaluation in several months and compare the results.

INTERMEDIATE

1. Have the students identify three things they admire in a classmate.

2. Ask the students to identify three groups or cultures different from their own, and list at least one contribution made by each.

3. Prepare a check list to evaluate the student's ability to interact with others. The evaluation may be completed by the student, a peer or the teacher.

Listens to others and is willing to compromise	1 2 3 4 5
Accepts responsibility for the overall project	1 2 3 4 5
Is helpful to others in the group	1 2 3 4 5

4. Have the class analyze an interpersonal problem and offer possible solutions. Note those children who are able to take the perspective of all parties. Suggested resource: "First Things: A Strategy for Teaching Social Reasoning," filmstrip series by Guidance Associates.

5. Have students role play a typical day in the life of a person of a different culture. Note their ability to identify with a person of a different background.

GOAL III DECISION MAKING

PRIMARY THE STUDENTS WILL USE THEIR SENSES TO GATHER DATA AND TO DEVELOP CONCEPTS.

INTERMEDIATE THE STUDENTS WILL DEVELOP SKILLS IN MAKING GENERALIZATIONS, HYPOTHESIZING AND PREDICTING.

OBJECTIVES

PRIMARY: The students will develop skills in observation, identification and classification of a variety of tangible and intangible objects.

The students will demonstrate their ability to identify simple cause and effect relationships.

As the students make simple decisions, they will develop an awareness that decisions involve choices based upon individual interests and values, and that decisions often require a commitment.

INTERMEDIATE: The students will develop a beginning skill in the use of the following decision making process:

1. Identify the problem. Recognize that a problem does exist and state clearly just what the problem is.

2. Gather data. Review all known information about the problem, and locate new information. Organize the information for the purpose of making generalizations.

3. Evaluate the data. Analyze and assess the information, and identify the alternatives.

4. Plan a course of action. Recognizing that the decision is tentative, select an alternative and plan a course of action.

5. Reassess and evaluate. After implementing the course of action, determine whether there is a need to do further study or to change the conclusions.

As the students use the above process, they should:

Begin to develop an awareness of their autonomy as decision makers.

Recognize that decision making may be subjective, since the individual's interests, culture and values influence the choice of alternatives.

Begin to recognize the effect their decisions have on others, their responsibility for the consequences of their decisions, and their ability to change a course of action through reassessment.

GOAL III DECISION MAKING ACTIVITIES

PRIMARY

OBJECTIVE: THE STUDENTS WILL DEVELOP SKILLS IN OBSERVATION, IDENTIFICATION, AND CLASSIFICATION OF A VARIETY OF TANGIBLE AND INTANGIBLE OBJECTS.

ACTIVITIES

Button Sorting

Distribute buttons of various shapes, sizes, and colors, and allow the children to classify them. Correlate with Alpha-time, Mr. B. [Attributes]

Construction Materials Exhibit

Have the children contribute to a classroom display of various kinds of wood, rock, and minerals used in the construction of a house. [Construction]

Picture Study

Study pictures of workers in a supermarket and in a factory. Discuss which workers provide goods and which provide a service. [Work Awareness]

Job Classification

Have the children assist in the preparation of flash cards which name familiar careers. Arrange the cards in families: transportation, food, health, business, etc. [Work Awareness]

ACTIVITIES

Problem Writing

Each child will make up one problem which requires addition or subtraction to solve. Let each pupil read the problem aloud and have the class decide which process must be used. [Math]

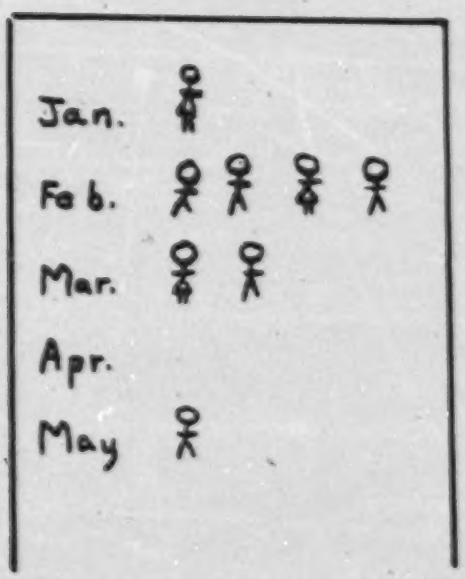
Measurement Attribute Game

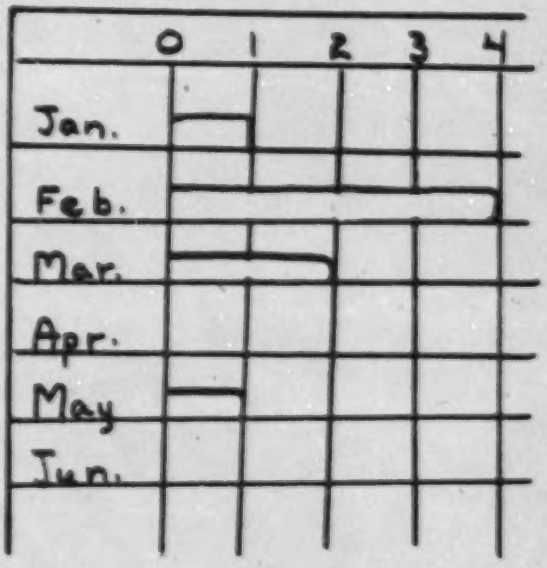
Distribute pictures of products and have the children classify those which could be purchased by the pound, ounce, inch, yard, quart or bushel. [Measurement]

Birthday Graphs

When the children have learned their birthday month, make a class picture graph as follows. Let each child draw a 6" figure of himself. Use a Smiley stamp for the head to assure uniform size. List the months on a chart. Let the children paste their images next to their birthday months. Later, cut paper strips in various lengths to make a bar graph by matching the strips to the number of children listed for each month.

Other graphs may include line graphs for daily temperatures at 9:00 A.M. and 1:00 P.M., or visual records of hair and eye color, or the distance each child can jump. [Graphs]





OBJECTIVE: THE STUDENTS WILL DEMONSTRATE THEIR ABILITY TO IDENTIFY SIMPLE CAUSE AND EFFECT RELATIONSHIPS.

ACTIVITIES

Filmstrip

View and discuss the problem presented in the filmstrip "You Promised" from First Things by Guidance Associates. Help the children to determine the cause and effect relationship. [Reasoning]

Experiment

Fill a glass jar with water, place it in a paper bag, then put it in the freezer. The ice will expand and break the jar. Repeat the experiment as often as necessary until the children can express the concept: water expands as it freezes. Use this activity as enrichment with "Five Thousand Cannon Balls" from Better Than Gold. [Water]

Cook Macaroni

Observe and taste the difference in macaroni before and after cooking. Correlate with Alphatime, Mr. M. [Cooking]

Neighborhood Walk

Look for signs of people, plants, and animals getting ready for seasonal changes. Arrange data on an experience chart in three categories: people, animals, and plants. [Seasons]

Paper Doll

Prepare a life size paper doll with a variety of outfits. Have the children select the appropriate dress for various types of weather. [Weather]

Safety Posters

Following a discussion of swimming safety rules, make posters illustrating safe and unsafe conditions. Correlate with "The Boy Who Couldn't Swim" from Shining Bridges. [Safety]

OBJECTIVE: AS THE STUDENTS MAKE SIMPLE DECISIONS, THEY WILL DEVELOP AN AWARENESS THAT DECISIONS INVOLVE CHOICES BASED UPON INDIVIDUAL INTERESTS AND VALUES, AND THAT DECISIONS OFTEN REQUIRE A COMMITMENT.

ACTIVITIES

Unfinished Story

Present a moral dilemma such as that found in "The Stolen Picture" in More Than Words. Have the children make up endings to the story and share their ideas with the group. [Reasoning]

Choose A Pet

Draw pictures of different animals a child would choose at the pet shop. Have him explain his choice to the class. [Animals]

Needs and Wants Chart

Prepare a display of various items or pictures representing needs and wants such as: fruit, candy, clothing, housing, motor boats, water, washing machines. Ask students to identify each and tell which are most essential. [Needs & Wants]

Room Bank

Have the children set a goal such as a class trip or party. Discuss the money needed and the necessity for saving. The teacher will keep a room bank with a security box and homemade passbooks. Students are encouraged to earn their own money with which they make deposits. [Banking]

OBJECTIVE: THE STUDENTS WILL DEVELOP A BEGINNING SKILL IN THE USE OF THE DECISION MAKING PROCESS.

ACTIVITIES

Magic Circle

"Have you ever wanted two items and only had money for one? How did you decide which you would buy?" Following the sharing of experiences, present the five steps in the decision making process listed in page [Money]

Alternate Routes

Have groups plan a thirty day tour of the United States by plane, rail, bus or car. Design travel brochures with cost and advantages of each tour. Refer to steps in the decision making process throughout the activity. [United States]

Menu Planning

Following a presentation of rules of nutrition, have the students plan and prepare a well balanced meal. They may collect money, purchase the food, prepare and serve the meal. Have the group consciously use the decision making process in planning the menu and putting on the meal. [Nutrition]

First Aid Flash Cards

Prepare a set of cards which give a description of a situation with the condition of the victim. On the back give three alternative courses of action. Have students use their knowledge of first aid and the decision making process to select the best solution. Let students explain how they used each step of the process to reach a decision. [First Aid]

OBJECTIVE: Step 1. IDENTIFY THE PROBLEM. RECOGNIZE THAT A PROBLEM DOES EXIST AND STATE CLEARLY JUST WHAT THE PROBLEM IS.

ACTIVITIES

Room Election

Present the situation: help is needed to keep the classroom operating smoothly. Have students define the problem and reach a solution such as a room election. Let the students list necessary workers and the qualities needed for each position. Let them decide how the workers will be chosen. Suggested workers: line leader, board washer, messenger, desk monitor, song leader, bulletin board chairman, hospitality chairman, room librarian.

Review the decision making process used and stress the importance of identifying the problem as a starting point.

[Community Living]

Playground Observers

Ask the class, "Do people ever act against their wishes because they don't know how to make a decision?" Have the students observe children from other classes playing in groups. Assign each student the task of finding one situation in which one group member is pressured to do what the rest wish him to do. Share observations and then discuss how a person can gain autonomy through decision making. [Interpersonal Skills]

Mushrooming Problems

Prepare a bulletin board showing a field of mushrooms. Have the children label each stem as an environmental problem. On the cap they will indicate the agencies or people responsible for the solutions. [Environment]

OBJECTIVE: Step 2. GATHER DATA. REVIEW ALL KNOWN INFORMATION ABOUT THE PROBLEM, AND LOCATE NEW INFORMATION. ORGANIZE THE INFORMATION FOR THE PURPOSE OF MAKING GENERALIZATIONS.

ACTIVITIES

Classified Directory

Make a classified guide of goods and services found in the neighborhood. Let students decide upon the classification base. Recall that gathering and analyzing data is an important phase of the decision making process. [Alphabet]

Classification

Following a study of the characteristics of living things, have the students classify an assortment of pictures: living, non-living; plants, animals; vertebrates, invertebrates, etc. Discuss with the students their ability to make generalizations from a list of facts. [Plants & Animals]

Debate

Resolved: The mountains of Maine should be set aside as areas to remain forever wild with limited public access given.

Review the decision making process and recall the importance of gathering and assessing data before making a decision. [Environment]

Fact or Fancy?

Have the students write original stories, read them aloud, and ask members of the class to decide "Could this be true?" Emphasize the importance of assessing the data in the decision making process. [Creative Writing]

OBJECTIVE: Step 3. EVALUATE THE DATA. ANALYZE AND ASSESS THE INFORMATION AND IDENTIFY THE ALTERNATIVES.

ACTIVITIES

Opinions or Facts?

Raise a question such as: "What characteristics make a good leader?" "Which country has the best government?" "Which state is the best to live in?" After soliciting opinions, apply the decision making process. Point out that step 3 involves individual values and interests; therefore, not all will agree. [Government]

A.V. Evaluation

Evaluate a film on predetermined criteria.

	Poor	Fair	Good	Excellent
Photography	P	F	G	E
Content	P	F	G	E
Interest	P	F	G	E
Music	P	F	G	E

Compare the evaluations and note that evaluation of data is often subjective. [Photography]

Then or Now?

Identify six common occupations which existed in Maine 200 years ago. Have the students research one career at a time at learning stations. Use a chart such as that below to organize the information. Ask the students in which period they would rather work and why. Discuss the impact of one's values as well as knowledge of a subject that influences a decision.

	THEN		NOW	
	Pro	Con	Pro	Con
Farming				
Fishing				
Lumbering				
Homemaking				
Military Life				
Manufacturing				

[History]

OBJECTIVE: Step 4. PLAN A COURSE OF ACTION. RECOGNIZING THAT THE DECISION IS TENTATIVE, SELECT AN ALTERNATIVE AND PLAN A COURSE OF ACTION.

ACTIVITIES

Poster Contest

Have the class make posters on bicycle safety for the lower grades. Use decision making skills to plan the context, select the winners and arrange the display. [Safety]

Merchandising

Have the students work in groups to create an effective desk top display of a product. This activity may be correlated with the story "Southpaw" from High Roads. Before the activity, list the 5 steps of the decision making process for the groups to follow. Challenge the students to use the process in their activity. [Business]

Editorials

Have the students identify a problem and write a reform article about it. These sample topics may be used: "Girls Should Be Allowed to Play on the Boys' Team," "All Bottles Should Be Nonreturnable," "Schools Should Be Required to Have Swimming Programs for All Students," "Schools Should Have Hot Lunches Available for All Students." Have the students use the decision making process as they prepare the article. The editorial should include a course of action to be pursued by the individual or the group. [Newspapers]

Task Completion

When the class is familiar with the decision making process, assign the students a simple task such as making a picture of a room full of fire hazards. Then have each explain the thought process he experienced, following the 5 steps of decision making. [Safety]

OBJECTIVE: Step 5. REASSESS AND EVALUATE. AFTER IMPLEMENTING THE COURSE OF ACTION, DETERMINE WHETHER THERE IS A NEED TO DO FURTHER STUDY OR TO CHANGE THE CONCLUSIONS.

ACTIVITIES

Unfinished Story

Read the beginning of a story to the class. Include the characters, setting and a dramatic problem. Have the students write logical endings in the light of the information given in the introduction. Read the endings aloud and let each student reassess his own ending. [Creative Writing]

Career Judgments

Assign science careers at random to the students. Ask them to guess whether or not they are suited to these careers. Have the students research the field and then reassess the original hypothesis. [Work Awareness]

Estimating

Ask the students to quickly estimate a page of examples without doing them. Discuss reasonable short cut methods. Try different techniques and evaluate them. [Math]

Budget Writing

Have the students develop a personal weekly budget using items such as specific standards and figures, i.e.,

school lunch	$1.25
savings	.25
recreation	1.00
school supplies	.25
club dues	.25

Encourage the students to live within a budget for two weeks and then evaluate it, making necessary changes. [Money]

GOAL III DECISION MAKING EVALUATIVE TECHNIQUES

PRIMARY

1. Have the children list 25 different objects in the classroom and classify them in different ways. They may arrange them according to size, color, use, or composition.

2. Present the pupils with a specific situation and have them evaluate the situation, then role play or illustrate the effect.

riding a bicycle carelessly	- causes accidents
not coming directly home	- causes punishment
being selfish with a new toy	- causes loneliness
doing your share at home	- causes happiness
using tools carelessly	- causes accidents
changing of seasons	- causes change of outer wear

3. Give a multiple choice test to measure the pupil's understanding of simple cause and effect relationships.

   A. If farmers do not plant seeds this spring, then
      1. they will need a tractor
      2. their crops will not grow
      3. there will be no rain all summer

   B. Because people started using machines 100 years ago to make things, they discovered
      1. they should eat the four basic foods each day
      2. they could move goods faster by boat than by horses
      3. they could make more products in less time with machines

4. In a magic circle, ask, "If I gave you all 1/2 hour of free time right now to spend as you wish, do you think everyone in the class would decide to do the same thing? Why, or why not?" In the discussion, note each child's understanding that a decision involves choices based upon a person's interests and values.

5. Discuss Mark's problem with the children and indicate on a scale of 1 - 5 the pupil's position on commitment to a promise.

   "Mark promised his mother that he would help at home by doing the dishes all week. The second day he did not do the dishes for one of the following reasons. Was he doing the right thing to break his promise?"

   a. The house burned down.
   b. His mother asked him to go to his grandmother's on an errand instead of doing the dishes.
   c. Someone else in the family offered to do the dishes for him.
   d. His friend came over to visit.
   e. He had some homework to do.
   f. His favorite TV program all week was on.
   g. He felt like watching TV instead of doing the dishes.
   h. He didn't want to do them anymore.

INTERMEDIATE

1. Select 10 study prints which indicate that a problem exists. Have the students write a one-sentence description of the problem pictured. Examples of pictures: children arguing or teasing, litter, a careless act, etc.

2. Have each student prepare a report on how a natural resource is made into a product. Information should be organized in sequence such as, the product and how it is obtained, transportation to a factory, and the manufacturing process.

3. Have each student prepare a chart on the various kinds of transportation, and list the advantages and disadvantages of each.

4. Have each small group determine the average number of books per student in the group. Note those who are able to organize for action.

5. Ask each child to tell about a time when he, or someone else, did what he thought was best and it turned out wrong. Then, have him tell what could have been done differently to make it turn out right.

GOAL IV WORK AWARENESS

PRIMARY THE STUDENTS WILL GAIN KNOWLEDGE OF WORKERS IN THE HOME, SCHOOL, AND COMMUNITY.

INTERMEDIATE THE STUDENTS WILL IDENTIFY THE PERSONAL AND ENVIRONMENTAL FACTORS WHICH INFLUENCE A WORKER.

OBJECTIVES

PRIMARY: The students will identify a number of workers in the home, school and community.

The students will recognize that many careers are related.

The students will list three or more responsibilities of a number of workers.

INTERMEDIATE: The students will continue to identify, classify, and gain information about many careers.

The students will identify a number of personal and environmental factors associated with a variety of careers.

GOAL IV WORK AWARENESS ACTIVITIES

PRIMARY

OBJECTIVE: THE STUDENTS WILL IDENTIFY A NUMBER OF WORKERS IN THE HOME, SCHOOL, AND COMMUNITY.

ACTIVITIES

Parents' Careers

Have the children interview their parents and then dictate stories about their jobs. Attach each story to the child's drawing of the parent at work. If a parent is not working, let the child find out about a previous career or a career goal of that parent or another significant adult in his life. [Family]

Our Mothers' Jobs

Have the children assist in the making of a classroom chart on careers such as the one below:

OUR MOTHERS' JOBS				
Name	Job	Uniform?	Tools?	Duties

[Family]

Our School Workers

Display labeled snapshots of every school employee who serves the children in the building. Display the pictures in the school lobby. [School]

School Tour

After listing the workers in the school, make a tour of the building and talk with the employees. Review the jobs with a chart story or bulletin board picturing the workers. [School]

Neighborhood Workers

Make a map of the neighborhood. Use the map to locate and identify the workers in the area. Or, let the children paint the exterior of an old refrigerator carton on four sides - North, East, South, and West - picturing the places of business found in the neighborhood. [Community]

ACTIVITIES

Hat Display

Have each child bring a hat to class and tell about the worker who uses it. [Community]

Career Flash Cards

Let the pupils help prepare a set of 4x12 cards with job titles. Pass the cards to the children secretly and let them pantomime the careers for the class to guess. Tape or pin a card to a pupil's back and let the child ask 20 questions to discover the career. Cards may also be used for vocabulary practice. [Vocabulary]

"I See" Career Game

To introduce a variety of careers, play this guessing game. "I see." "Whom do you see?" "I see someone writing a book. Who is he/she?" Answer: author. [Vocabulary]

Business District

Take a walking trip to the downtown area. Visit five or six small stores. Let the children talk with the workers and learn what they do. Follow up activities may include listing the workers, drawing pictures, writing a chart story, and using toy telephones to role play the workers offering goods and services. [Community]

Bus Tour

Hire a bus and tour the metropolitan area. Identify the residential, business, and industrial areas. Let the bus serve as the classroom as the class learns about the community. [Community]

OBJECTIVE: THE STUDENTS WILL RECOGNIZE THAT MANY CAREERS ARE RELATED.

ACTIVITIES

Workers' List

Following a field trip to the supermarket, make a list of all the workers observed. [Supermarket]

Bulletin Board

When studying a topic such as Animals, display pictures of workers in that field. [Animals]

Diorama

Following a visit to the dentist's office, let the children prepare shoebox dioramas to illustrate the workers they saw. [Dentist]

Research

While studying a unit on Community Helpers, take the children to the library and help them gather information on their careers. Work with the school librarian in advance to make certain there are sufficient materials available. [Library Skills]

ACTIVITIES

Pantomime

Identify a number of careers in the construction industry and let the children pantomime a worker for the class to guess the identity. Examples: carpenter, plumber, mason, earth mover, architect, electrician, etc. [Construction]

Movie Making

Have the children draw a series of pictures depicting workers involved with the raising, transporting, processing, and distributing of food. Paste the pictures in a strip to make a "movie." Share the movie with another class. [Food]

Dramatization

Have the children plan and present a costumed play on hospital workers. Each child represents a different hospital worker. [Health]

Puppet Show

Use paper bag puppets to dramatize the work and lifestyle of people who work underground. Correlate the activity with the story "Holes! Holes! Holes!" in Through Happy Hours. [Community Helpers]

OBJECTIVE: THE STUDENTS WILL LIST THREE OR MORE RESPONSIBILITIES OF A NUMBER OF WORKERS.

ACTIVITIES

Career I.D.

Have the students print their surnames in large letters on construction paper. Then decorate the letters and background with drawings related to a chosen career. [Self Awareness]

What's Your Bag?

Have the children think of a career, find pictures relating to it, paste the pictures on a small bag, and wear it as a hat. Let the classmates guess the career. [Self Awareness]

Collage

Have the children help locate pictures of professional athletes. Prepare a collage for the bulletin board. Discuss the skills and training required of a professional athlete. [Athletics]

Tool Exhibit

Have the children contribute to a classroom display of carpenter's tools. Write chart stories about each tool and its use. Invite a carpenter, handyman, or the school janitor to demonstrate some of the tools. Let the children practice fashioning model tools from clay. [Construction]

ACTIVITIES

Field Trips

Visit a place of business associated with the needs and interests of the class. Interview the workers to determine their responsibilities and the training required for their work. Consult the Community Resource File for places to visit. [Community]

Resource Persons

Invite workers to class and have them describe their work and answer questions about their responsibilities. Use parents, friends, other teachers, or consult the Community Resource File. [Community]

Farm Mural

After listing the tasks of a farmer, make a mural showing the things that must be done on the farm each day and each season. [Farm]

Community Helpers Unit

To reinforce learnings about any community helper, let the children dramatize the role of the worker. They may make and wear a hat or use Puppet Playmates by Instructo. See the wide selection of materials on community helpers in the library. [Community]

OBJECTIVE: THE STUDENTS WILL CONTINUE TO IDENTIFY, CLASSIFY, AND GAIN INFORMATION ABOUT MANY CAREERS.

ACTIVITIES

Recording

When the class goes on a field trip, provide the students with a booklet in which they can make notes. Indicate the letters of the alphabet on one page, and have the students list all the careers they observe while traveling. [Alphabet]

Model City

Have the children build a model city from cardboard boxes or toys brought from home. Make and position labeled images of the workers in the city. Use the images as finger puppets and role play each worker's task. [Community]

A - Z Careers

Have the children locate newspaper articles about workers. Paste them by job titles in alphabetical order. Keep hunting for "Q" and "Z." Read What Will I Be From A to Z by National Dairy Council. [Alphabet]

Rebus

Have the children prepare a rebus for a career name and allow classmates to guess it. Motivate with the Career Flash Card Rebus by CFI. [Rebus]

Career Match Game

Cut out pictures of 25-30 workers and mount them on cards. Have the children look up and write a description of one worker on another card. Include both obvious and little known information. When the student reads the description, the class will attempt to match it to the picture. [Reporting]

Yellow Pages

Refer to the yellow pages in the telephone directory to find a list of careers in the area. Have the students find five new occupations and look them up in the dictionary. [Dictionary]

ACTIVITIES

Flow Chart

Diagram the progress of a food item such as wheat, from production to a farm, its transportation to the mill, the processing and manufacture of a product, and its final distribution to the consumer. [Food]

Wall Chart

Make a diagram of government careers at local, state, or federal levels. [Government]

List

With the students, prepare a list of careers related to agriculture. [Farm]

Discussion

Discuss "Which careers other than a forest ranger allow a person to work in the wilderness?" Use the Dictionary of Occupational Titles for suggestions. [Environment]

Mini Trips

Plan a series of mini trips around a related career such as education. Let some students visit the school board, others visit the superintendent, others visit the high school principal or college president. The class will then prepare a combined report on the workers in education. [School]

Class Career Booklet

Have the class prepare a list of workers in a hospital and research the responsibilities and requirements for employment for each worker. The reports may be compiled in a class booklet with illustrations. [Health]

ACTIVITIES

Career Notebook

Have each student select a career and collect pictures about the career for a notebook. Each picture must have a caption written with at least one complete sentence.

[Creative Writing]

Learning Station

Set up a career station in the classroom. Change the assignments weekly. Have the students research careers related to the content subjects or view filmstrips on work from the library. [Reporting]

Bulletin Board Collage

Combine pictures and items used by a gardener: tools, seeds, plants, peat moss, fertilizer, soil, etc. [Plants]

Law Unit

Have a lawyer come and speak to the class. Then, arrange for the class to visit court. [Law]

Interview/Report

Following a discussion of interview techniques, have each student prepare and conduct an interview with a worker. Have the students photograph and tape record the interview and then prepare a presentation for the class. [Interviewing]

What's My Line?

Have each student secretly research a career. When prepared, the student sits before the class and is questioned about the work. The class is given three minutes to identify the line.

[Research]

OBJECTIVE: THE STUDENTS WILL IDENTIFY A NUMBER OF PERSONAL AND ENVIRONMENTAL FACTORS ASSOCIATED WITH A VARIETY OF CAREERS.

ACTIVITIES

Haiku

Have the students capture the essence and feeling of a particular career in Haiku verse. [Poetry]

Shadowing

Arrange for the students to shadow different school workers. Have them observe or assist the secretary, janitor, librarian, kindergarten, music, art, or physical education teacher for part of a day. Let the students share their feelings about the work observed. [School]

Resource Persons

Invite parents to speak about their work, and explain how every job requires a particular temperament and aptitude. [Self Awareness]

Discussing Aptitudes

After reading "What's Going On Here?" from Open Highways, discuss the responsibilities, and the physical and mental conditioning required of a professional athlete. [Self Awareness]

ACTIVITIES

Guest Speaker

Invite a personnel manager or employer to speak to the class and answer the following questions: How important is attitude in any job? How important is team work? What do you do if you do not like your job? [Self Awareness]

Group Discussions

Have the students discuss what difference it makes whether people are on time at their work...whether they do their best...whether they have good health...whether they get along well with other people. [Value of Work]

Changing Careers

Invite persons who have had two or more careers to speak to the class and discuss their reasons for making a career change. [Decision Making]

Movin' On

Discuss the reasons people move. Have the students name some careers in which they would expect to move several times, and name others which require permanence. Correlate the discussion with "Making A Start" from Magic Word. [Decision Making]

ACTIVITIES

A Cowboy's Lifestyle

Have the class compare the lifestyle of a cowboy with that of their fathers'. Discuss the environmental factors that influence careers. Are there cowboys in Maine? Correlate this discussion with the reading of "The Prairie Fire" from High Roads. [Lifestyle]

Historic Tour

Visit local sites of industries of long ago. Discuss ways the environment influenced the economy. [History]

Discussion

Identify the work done by each of the three families in Mexico City studied in "Latin America," People in Change. Have the students explain how the environment influenced both job opportunities and lifestyle. [Latin America]

Data Chart

Have the class prepare a data chart to compare the occupations of the six families studied in Unit I of People in America with their environment and lifestyle.

FAMILY	WORK	ENVIRONMENT	LIFESTYLE
Wheeler			
Knight			
Torres			
Swenson			
Iule			
Wong			

[United States]

GOAL IV WORK AWARENESS EVALUATIVE TECHNIQUES

PRIMARY

1. Have the children draw pictures of their parents, or other significant adults in their lives, at work.

2. Have the children match sketches of school workers with their job titles.

3. Have the children assist in compiling a class list of community careers.

4. Each third grader will be able to list twenty different careers without assistance in fifteen minutes.

5. Given a group of careers, the child will be able to identify one which is not closely related to the others.

   Example: Nurse...Doctor...Waiter...X-Ray Technician...Pharmacist

   Farmer...Dairyman...Grocer...Truck Driver...Secretary

6. Have each child draw a picture of a worker and tell the class three responsibilities of the worker.

7. Have the children match ten careers with ten definitions of workers they have studied.

8. Have each child write a paragraph describing three responsibilities of a particular worker, such as a telephone lineman.

INTERMEDIATE

1. In five minutes, the student will list 25 different careers.

2. Given a scrambled list of 16 careers from 4 career families, the student will classify the careers.

   Example:

sculptor	carpenter	secretary	cashier
musician	plumber	file clerk	produce manager
artist	electrician	typist	meat cutter
silversmith	mason	office manager	shelf stocker

3. The student will prepare a written report on a career. He will include the responsibilities, working conditions, training and aptitudes required, and list the advantages and disadvantages as he sees them.

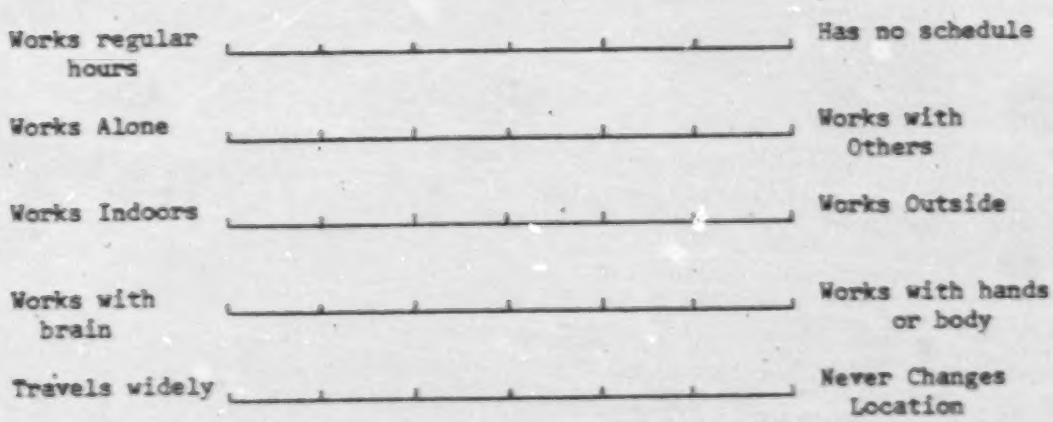
4. Given 4 geographic locations the student will match a variety of career options with the particular geographic locations.

   Example:

urban	rural	woodlands	mountains
manufacturing	farming	forestry	mining
transportation	ranching	game warden	recreation

5. The students will use the continua below to position the following workers, thus demonstrating their understanding of the personal and environmental factors associated with certain careers.

TEACHER FOOTBALL PLAYER COWBOY FACTORY WORKER



GOAL V MANIPULATIVE SKILLS

PRIMARY THE STUDENTS WILL DEVELOP THEIR PSYCHOMOTOR SKILLS.

INTERMEDIATE THE STUDENTS WILL IMPROVE THEIR PSYCHOMOTOR SKILLS.

OBJECTIVES

PRIMARY: The students will develop their psychomotor skills through participation in the following areas: cooking, crafts, gardening, physical education, sewing, and woodworking.

INTERMEDIATE: The students will improve their psychomotor skills through participation in the following areas: cooking, crafts, gardening, photography, physical education, sewing, and woodworking.

GOAL V MANIPULATIVE SKILLS ACTIVITIES

PRIMARY

OBJECTIVE: THE STUDENTS WILL DEVELOP THEIR PSYCHOMOTOR SKILLS THROUGH PARTICIPATION IN COOKING.

ACTIVITIES

Open-faced Sandwiches

Cut fancy shapes of bread with a cookie cutter. Spread with soft cheese, and decorate with raisins, olives, radish, green pepper, or carrot slivers. [Cooking]

Jello Party

Prepare a gelatin dessert or an instant pudding. The children will measure, stir, and pour the liquid. [Cooking]

Applesauce

Cut, pare, and cube two apples. Soak the apples in a salt water solution for 1/2 hour. Place the apples, 1/4 cup of water and 1 tablespoon of lemon juice and 2 tablespoons of sugar in a blender. Blend at high speed. This will serve 4 or 5. Under supervision, the children will use a paring knife. [Food]

Make a Meal

Correlate with Alphatime, Mr. M. Prepare muffins with margarine, macaroni with meat sauce, marshmallows, and M & M's. The children will stir and measure the ingredients, set the table, and share the meal. [Alphatime]

Doll Salad

Have the children make a salad such as the one shown below.

[Nutrition]

OBJECTIVE: THE STUDENTS WILL DEVELOP THEIR PSYCHOMOTOR SKILLS THROUGH PARTICIPATION IN CRAFTS.

ACTIVITIES

Potato Printing

Carve the letter "V" in a potato to make a stamp. Dip the potato stamp in poster paint and make a design. The children will use a knife under supervision. Correlate with Alphatime, Mr. V. [Crafts]

Model Building

Make a model farm using paper mache or clay animals, Lincoln Logs, and an Erector Set. Correlate with "Farm Life" unit in Science for Work and Play. [Farm]

Landforms Collection

Have the children locate, cut, mount and label pictures of landforms and water bodies. [Landforms]

Origami

Fold and cut paper to make a star, pig, dog, or crow. Correlate with "Paper Magic" from More Than Words. [Reading]

Glider Contest

Have the students construct and fly a model glider. Correlate with "The Wright Brothers" in More Than Gold. [Aviation]

MANIPULATIVE SKILLS PRIMARY

OBJECTIVE: THE STUDENTS WILL DEVELOP THEIR PSYCHOMOTOR SKILLS THROUGH PARTICIPATION IN GARDENING.

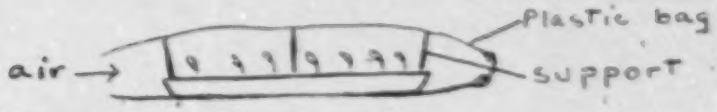
ACTIVITIES

Terrariums

Gather moss and small berry plants and evergreens from the woods in the early fall. Place the plants in a terrarium partially filled with charcoal, gravel, and soil. Cover with plastic or glass. Remove the cover an hour each day for air circulation. [Plants]

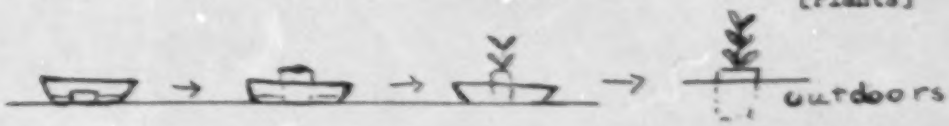
Cuttings

In February or March, take cuttings of geraniums, Christmas cactus, begonias, etc., and dip the growing end into a rooting powder. Put the cuttings in moist vermiculite or clean soil for 2-3 weeks. Cover lightly with a plastic and keep away from bright light. Transplant into individual pots when the roots develop. [Plants]



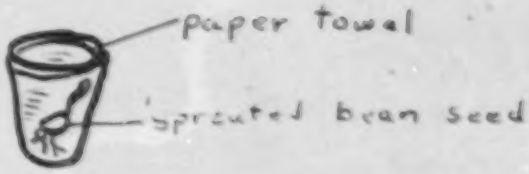
Seedlings

Provide the children with Jiffy Wafers in 1 cup plastic containers. Add water and watch the Jiffy Pot grow. With a pencil, punch a hole in the top and plant a marigold seed. When the seedling is mature (about 2 1/2") the plant and pot may be planted outdoors. [Plants]



Root Growth

Put a few bean seeds in a plastic tumbler lined with damp paper toweling. Keep the container out of the light. Observe the development of the root system. [Plants]



OBJECTIVE: THE STUDENTS WILL DEVELOP THEIR PSYCHOMOTOR SKILLS THROUGH PARTICIPATION IN PHYSICAL EDUCATION.

ACTIVITIES

Duck, Duck, Goose

The children squat in a circle. "It" walks around the outside of the circle tapping the children's heads and saying, "Duck, duck, goose." When the child says "Goose," the one who is tapped chases "It" around the circle and tries to tag "It" before "It" reaches "Goose's" empty place in the circle.

[Physical Education]

Magic Carpet

Place carpet squares in scatter formation on the floor. Each child moves from square to square as the music plays. Remove one square and stop the music. Each child must locate and sit on a square. Variations: Have the children jump, hop, skip, pass a bean bag around their bodies as they move.

[Physical Education]

Rope Activities

Provide each child with a rope 6' - 8' in length. Lay the rope on the floor and walk on it as if it were a tight rope, forward, backward, eyes closed. Jump over the rope; hop from side to side; straddle the rope, jump into the air, spin and land straddling the rope; make several little circles and put a body part in each circle. Double the rope and swing it in a large figure 8.

[Physical Education]

Routine

Create a routine to music and have the children practice and perform it. The routine may involve bouncing, throwing, catching, dribbling balls, or bean bag tricks, calisthenics, or rope jumping.

[Physical Education]

OBJECTIVE: THE STUDENTS WILL DEVELOP THEIR PSYCHOMOTOR SKILLS THROUGH PARTICIPATION IN SEWING.

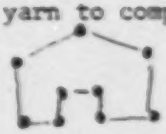
ACTIVITIES

String Macaroni

Color macaroni and spaghetti pieces with food coloring and make necklaces and bracelets. [Crafts]

Sewing Cards

Make a numbered outline on oaktag or light cardboard. Have the children stitch with yarn to complete the picture. [Crafts]



Sew on a Button

Provide the children with threaded needles, cloth, and buttons. Have them practice sewing the buttons on the cloth. [Crafts]

Stitching a Fish

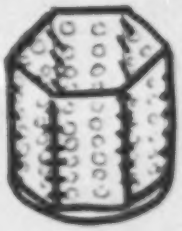
Cut two outlines of a fish about 14" long. Stuff the layers with crumpled paper. Have the children stitch with darning needles and yarn around the edge, and then paint the fish. [Crafts]

Burlap Sampler

Have the children draw a scene on a 9x12" piece of burlap. Use colored yarn to fill in the design. [Crafts]

Egg Carton Waste Basket

Use a whip stitch or a series of knots to join 6 colorful egg cartons in an upright hexagon. Glue the base to a paper plate. [Crafts]



MANIPULATIVE SKILLS PRIMARY

OBJECTIVE: THE STUDENTS WILL DEVELOP THEIR PSYCHOMOTOR SKILLS THROUGH PARTICIPATION IN WOODWORKING.

ACTIVITIES

Tool Kit

Introduce the children to woodworking tools. Demonstrate their proper use. Let each child practice using the hammer, vise, saw, file, plane, and screwdriver. [Woodworking]

Field Trip

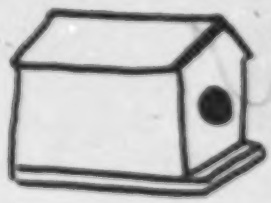
Visit the industrial arts department at the junior high school. Under the direction of the teacher there, have the junior high students help the primary children in making a simple object such as a toast lifter. [Woodworking]

Wood Sculpture

Collect small wood scraps from a local industry, carpenter, or the industrial arts department. Sand, then glue, the scraps of wood together to create a design or a toy boat, train or car. [Woodworking]

Bird House

Follow a pattern, use hand tools, and build a bird house. [Woodworking]



MANIPULATIVE SKILLS INTERMEDIATE

OBJECTIVE: THE STUDENTS WILL IMPROVE THEIR PSYCHOMOTOR SKILLS THROUGH PARTICIPATION IN COOKING.

ACTIVITIES

Prepare Breakfast

Use committees to plan the menu, solicit utensils, price the foods and make a cost estimate, shop, set up the cooking and eating areas, prepare and cook the food, and clean up. Correlate with math, health, safety, or social studies.

[Nutrition]

Recipe Conversion

Have the students use a set of metric measuring utensils and convert the following recipe for Waldorf Salad.

2 cups of cut up apples
1/2 cup pineapple bits
1/4 cup raisins
1/4 cup walnuts
1/8 cup salad dressing [Metrics]

Math Magic

At a learning station have each group use fractional measures to prepare 1/2 a recipe for gelatin dessert. [Fractions]

Maine Recipes

Have groups prepare different recipes using Maine agricultural products. Suggested items are potatoes, eggs, chicken, fish, and clams. [Maine]

Ice Cream Production

Visit an ice cream plant. Then, make ice cream in the classroom. Compare the two techniques used in making ice cream.

[Manufacturing]

MANIPULATIVE SKILLS INTERMEDIATE

OBJECTIVE: THE STUDENTS WILL IMPROVE THEIR PSYCHOMOTOR SKILLS THROUGH PARTICIPATION IN CRAFTS.

ACTIVITIES

Caterpillar Bug

Use an egg carton, pipe cleaner, and scraps of construction paper to make a caterpillar. Correlate with the science unit on Insects. [Insects]

American Crafts

Review Unit I, People in America, and prepare an exhibit of the crafts mentioned as being pleasurable to each family. [United States]

Paper Weaving

Make place mats from paper strips. Correlate with "Latin America" from People in Change. [Latin America]

Paper Mache

Make hand puppets, life sized animals, or giant objects, such as a tooth and toothbrush. [Crafts]

Nature Craft

Gather grasses, clay, wood, rocks, and moss. Fashion decorative objects, such as paper weights or arrangements. [Plants]

Crafts Fair

Invite several craftsmen or artists to demonstrate their crafts. Let members of the class observe and try their hands at a new skill. [Crafts]

MANIPULATIVE SKILLS INTERMEDIATE

OBJECTIVE: THE STUDENTS WILL IMPROVE THEIR PSYCHOMOTOR SKILLS THROUGH PARTICIPATION IN GARDENING.

ACTIVITIES

Experiment

Select 12 healthy, matched bean plants. Add the recommended dosage of fertilizer to 6 test plants and omit the fertilizer from the 6 control plants. Make observations and keep records. [Decision Making]

Landscaping Project

Have the class plan a project to beautify the school or community. Students may plant a tree, spring bulbs, or annuals, such as petunias or marigolds. [Plants]

Green Thumb Corner

If there is no school greenhouse, select a sunny location where gardening materials may be stored. Let students start seedlings, make cuttings, and raise plants for gifts, plant sales or outdoor plantings. [Plants]

Garden Show

Hold a school garden show in cooperation with the local garden club. Have sections for horticulture (plants, seedlings and specimens) and for artistic design (flower arrangements). [Plants]

OBJECTIVE: THE STUDENTS WILL IMPROVE THEIR PSYCHOMOTOR SKILLS THROUGH PARTICIPATION IN PHOTOGRAPHY.

ACTIVITIES

Slide Story

Use an instamatic camera to make a set of slides which will tell the story of workers in the community. [Work Awareness]

Movies

Let the students plan and film a dramatic sequence with a super 8 movie camera. [Reading]

Photograms

A photogram is made by placing any object on a sheet of photographic paper and exposing the paper to light. To make a photogram, follow these steps:

1. In total darkness, place an object on a sheet of photographic printing paper such as Kodabromide or Polycontrast.
2. Expose the paper to the light for a few seconds.
3. Place the exposed paper in a standard developer such as D-72 or Dektol diluted 1:2 with water, for about 1 1/2 minutes.
4. Transfer the paper to a stop bath, a weak acid solution.
5. Place the paper in a fix or hypo solution for about 5 minutes.
6. Wash the photogram in running water for one hour.
7. Dry the photogram in a blotter roll or heated drum dryer. [Photography]

Film Processing

Equip a lightproof closet as a dark room. Use a resource person to work with a small group to process black and white prints. [Photography]

Animation

Have the group decide on a theme they want to develop, such as colonial living, Maine, Australia, or How A Plant Grows. Prepare a background, scaled characters, and props such as waves, billows of smoke, splashes, etc. When all is ready, introduce the camera and the tripod. Explain how to focus, line up the shot, press the cable release on/off for a few frames. Others may move the characters slightly. Then, the camera cable release is again pressed briefly. They may make a title card for the beginning and signs reading "The End." [Photography]

MANIPULATIVE SKILLS INTERMEDIATE

OBJECTIVE: THE STUDENTS WILL IMPROVE THEIR PSYCHOMOTOR SKILLS THROUGH PARTICIPATION IN PHYSICAL EDUCATION.

ACTIVITIES

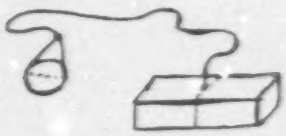
Shipwreck

The students spread out in scatter formation. Four directions are identified as port, starboard, bow, and stern. A captain is chosen who gives the orders. On command, the group must face in the correct direction. Other commands: "Boom coming over" - lie on the floor; "All hands on deck" - place hands in a designated circle on the floor; "Freeze" - remain still; and "Man overboard" - get a partner and hold hands.

[Physical Education]

Jokari

Purchase or make a Jokari paddle-ball game. Attach a 3 inch rubber ball to a brick with a 20 foot elastic.



Two players stand on the same side of the brick and take turns hitting the ball into space. The ball may bounce once on either side of the brick. [Physical Education]

Field Day

Two weeks before the event, divide all 4th, 5th, and 6th graders into equally matched teams of 20 persons. Appoint a captain for each team; post a list of events for the Field Day; let the teams decide who will represent them in each event. No one person may enter more than 8 or less than 5 events. Eight, six, or four points are awarded for 1st, 2nd, or 3rd place in each event.

Individual Events Boys/Girls	Team Events
600 yard run (boys)	Tug of war
400 yard run (girls)	Pyramid building
Softball throw	Water bucket brigade
50 yard dash	Water balloon over/under relay
Broad jump	Grease ball relay
High jump	Transport man on a mat
Hurdle	200 yard relay
Pony ride	Circle toss relay

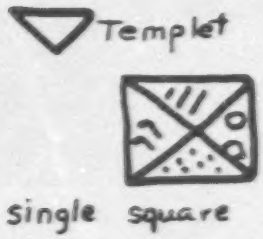
[Physical Education]

MANIPULATIVE SKILLS **INTERMEDIATE**

OBJECTIVE: THE STUDENTS WILL IMPROVE THEIR PSYCHOMOTOR SKILLS THROUGH PARTICIPATION IN SEWING.

ACTIVITIES

Patchwork Quilt



Have each student design blocks of uniform size on paper. Make cardboard templets for each piece of the design. Add 1/4" to the size of each design piece. Trace the templets onto the fabric. Cut and stitch the pieces together, folding under 1/4". The students may embroider or mark their names on their squares. Have a committee join all the squares, and then pin a filler and backing to the front. Have a parent machine stitch around three sides; turn, so the right side is out, and slip-stitch the final seam. Use yarn to tack the front to the back with square knots. See Quilting and Patchwork, a Sunset Book, for further directions. [Pioneers]

Weaving: A Belt on a Drinking Straw Loom

Use 5 half straws - each threaded with a heavy cord on a string about 5" longer than the finished belt should be. At the top of each cord, make a knot and cut a slit in the top side of each straw; catch the knotted cord in the slit. (Tape the knot to the straw for added security!) Hold the 5 straws with the cords hanging down; tie the weaving yarn onto the end of the middle straw and weave down over the top in a figure eight motion - back and forth.

As the straw fills up, push some of the weaving down onto the cords. Continue weaving until the belt is as long as you wish. Knot the cords at the bottom. Pull off the straws and knot the top. [Indians]

MANIPULATIVE SKILLS

INTERMEDIATE

OBJECTIVE: THE STUDENTS WILL IMPROVE THEIR PSYCHOMOTOR SKILLS THROUGH PARTICIPATION IN WOODWORKING.

ACTIVITIES

Plaques

Outline a simple figure on a scrap of 1" board. Hold the board in a vise. With the coping saw, surform tool, file, and sandpaper, fashion the shape. Keep the back side flat and mount the finished figure on a piece of plywood with glue. The plaque may be finished with varnish, oil, wax, shoe polish, or linseed oil.

[Woodworking]

Wood Stamping

Make "punches" out of large nails called spikes. Cut the sharp end off with a hacksaw and file a simple design on the blunt end. Draw a design on a piece of wood. Use the punch to stamp texture in the design. The stamping is done by hitting the spike with short, sharp blows in a regular way to cover the space evenly. Rub finished piece with stain, letting it darken in the stamped areas.

[Woodworking]

Jewelry

Plan a small, delicate design. Cut out the piece with a coping saw. Shape it gently with rasps and files. For hollow spaces, remove the blade from the coping saw, insert it through a drilled hole, and saw out the inside space. Sand, finish, and add pin or earring backings. For pendants, drill a hole and hang on cord or rawhide.

[Woodworking]

3-D Sculpture

Have each student plan a simple shape to fashion from wood. Put the wood in a vise and saw off as much waste as possible. Round with a surform file. Make sure the grain runs with the thin sections. Smooth the sculpture with files and sandpaper. Finish as desired.

[Woodworking]

GOAL V MANIPULATIVE SKILLS EVALUATIVE TECHNIQUES

PRIMARY

1. Have each child demonstrate the correct use of a variety of cooking utensils such as a knife, fork, grater, measuring spoon and cup.

2. During the regular art lessons, evaluate the pupils' fine motor skills as satisfactory or unsatisfactory in the use of scissors, paste, crayons, paint, and other craft materials.

3. Prepare a check list of fine and gross motor achievements. Let the pupil assist in self evaluation.

   ___ Pours liquids and dry ingredients without spilling them

   ___ Follows a line in cutting paper with scissors

   ___ Digs a hole of appropriate size to plant a seedling or a tree

   ___ Threads a needle

   ___ Joins two pieces of material with a running stitch

   ___ Smooths a piece of wood with sandpaper

4. Use a checklist of specific psychomotor skills such as those listed on the Psychomotor Mastery Record Card from the Maine State Department of Education and Cultural Services. Keep records of each pupil's mastery of skills in Balance, Spatial Relationships, Identification of Body Parts, Manipulation, Locomotor Movements, Eye/Hand/Foot Coordination, Agility, Strength, etc.

INTERMEDIATE

1. Evaluate the students' ability to demonstrate fine motor skills as they prepare a recipe. They should measure with accuracy, handle the ingredients comfortably, and use all utensils properly.

2. Following any craft lesson presented, such as painting, modeling, paper mache, or weaving, evaluate each student's coordination skill as follows:

   Unsatisfactory - needs further practice or maturation

   Satisfactory - demonstrates reasonable performance

   Outstanding - shows a high degree of fine motor coordination

3. Prepare individual charts on physical education skills for each student. Let the students keep records of their own progress.

   Name _____

SKILL	April 15	May 1	May 15	May 30
Broad Jump				
Ball Throw				
50 yd. Dash				
1/4 Mile Run				

GOAL VI ECONOMIC AWARENESS

PRIMARY THE STUDENTS WILL UNDERSTAND THAT PEOPLE ARE PAID FOR THEIR WORK AND USE THAT MONEY TO SATISFY THEIR NEEDS AND WANTS.

INTERMEDIATE THE STUDENTS WILL RECOGNIZE THAT EACH INDIVIDUAL IS A CONSUMER, PRODUCER, AND CITIZEN, AND AS SUCH HAS CERTAIN RIGHTS AND RESPONSIBILITIES.

OBJECTIVES

PRIMARY: The students will understand that people are paid for their work and use that money to satisfy their needs and wants.

INTERMEDIATE: The students will recall that occupation and salary are related.

The students will recall that specialization creates an interdependent society.

The students will recall that all citizens have the responsibility for the success of the American economic system.

OBJECTIVE: THE STUDENTS WILL UNDERSTAND THAT PEOPLE ARE PAID FOR THEIR WORK AND USE THAT MONEY TO SATISFY THEIR NEEDS AND WANTS.

ACTIVITIES

Main Street Walking Tour

Have the children visit five or six stores in a small business district. In the classroom list the workers observed. Tell the children these workers are paid wages. Ask, "What might these workers buy from each other's stores?" With play money role play the receiving of salary and the purchase of goods. [Money]

Food Distribution Center

Have the class tour a wholesale food distributor's warehouse. Observe where the goods are received, stored and dispatched. In class, discuss the number of times a product changes ownership from the field to the table. [Food]

Play Store

Set up a store with pictures, models, and clean used packages and cans. Classify items as produce, meat, dairy products, and staples. Price all items. Borrow a cash register and use play money to make purchases and make change. [Food]

Apple Sale

Have the class visit an apple orchard, pick and purchase a bushel of apples. At school, have the children polish and sell the apples and figure their profit. [Food]

OBJECTIVE: THE STUDENTS WILL RECALL THAT OCCUPATION AND SALARY ARE RELATED.

ACTIVITIES

Treasure Hunt

Have the class prepare a list of careers and guess the annual salary or hourly wage of each. Then let them use the Occupational Outlook Handbook to locate the actual salary.

[Work Awareness]

Work I Can Do

Following a class discussion, have each child fill in the chart below.

Work:	How can you earn money? (paper sales, recycling bottles, entertainment, crafts, house and garden chores)
Restrictions:	Are there problems or restrictions? (time, transportation, equipment)
Feelings:	How do you feel while working?
Use:	How will you use the money you earn?

Chart:

Work	Restrictions
Feelings	Use

This lesson may be correlated with People in America T.M., p. 27 and the ITV program "Treasure Hunt" from Bread and Butterflies.

[Self Awareness]

OBJECTIVE: THE STUDENTS WILL RECALL THAT SPECIALIZATION CREATES AN INTER-DEPENDENT SOCIETY.

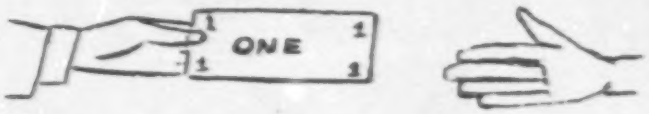
ACTIVITIES

Industrial Revolution Murals

Have the children make two murals: one depicting the colonial family unit which was a self sufficient unit; the other a community with shops and factories. [History]

Follow the Dollar

Pass a dollar bill from one to another around the class asking each student to tell where he got the dollar and how he spent it, i.e., first person gets it as change, spends it at MacDonalds; second person, counter girl, receives it as pay, spends it at K-Mart; third person, manager of K-Mart, pays for some toys ordered; fourth person, toy distributor, pays for parts needed in manufacturing toys, etc.



Waterfront Tours

Have the children take a series of mini trips to the waterfront to learn about the economic life in one part of the city. [Industry]

OBJECTIVE: THE STUDENTS WILL RECALL THAT ALL CITIZENS HAVE THE RESPONSIBILITY FOR THE SUCCESS OF THE AMERICAN ECONOMIC SYSTEM.

ACTIVITIES

School Store

Under adult supervision, let the students buy and sell school supplies or snacks in the school store. [Salesmanship]

School Fair

Let the class participate in the parents' school fair or plan their own. They may make and sell crafts, food, and operate recreation booths. [Salesmanship]

Assembly Line

Let the students select a product and organize a business to mass produce it. Stocks may be sold to raise money to purchase materials and inspectors should control the quality of each item. The price can be determined by making a cost analysis. Items may include greeting cards, paper weights, or wall hangings. [Industry]

Consumer Task

Have a group of students buy the materials needed for a class project. Discuss the money available, the quantity and quality of the item desired. [Decision Making]

Shopping Spree

Provide the class with a number of catalogues or newspaper ads. Working in groups, plan how to use $100.00 to buy clothing for a family of four. Let the groups compare their results. [Money]

ECONOMIC AWARENESS EVALUATIVE TECHNIQUES

PRIMARY

Prepare a simple quiz such as the following to test the child's understanding of the relation of work and money.

1. Y N Do you think a storekeeper is lucky because everything in the store is free?

2. Y N If it cost 2¢ a glass to make Kool Aid, will you earn any money if you sell it for 2¢ a glass?

3. Y N Do you think teachers get paid to teach school?

4. Y N Do you think firemen get paid every week whether or not there are any fires?

5. Y N Do you think people should buy what they want first, and later on get the things they need?

6. Y N Do you think most people today work to earn money and then use that money to buy things they need or want?

INTERMEDIATE

1. Arrange the following careers according to salary from highest to lowest.

Truck Driver	Leaf Raker
School Teacher	Janitor
Shoe Salesman	Nurse
Airplane Mechanic	Insurance Salesman

2. Have each student prepare a poster advertising a service he can offer and stating a reasonable hourly wage.

3. Have the students write a paragraph describing how their lives would change if their families were economically independent. The narratives should show understanding that they would have to make all their own supplies for food, shelter, and clothing.

4. Have the student trace in reverse the travels of a loaf of bread from the table to the field.

5. Have the students describe how they would apply the decision making process to the purchase of a new pair of roller skates.

6. If a merchant makes Italian Sandwiches and doesn't use good meat, what can the consumer do? Students should indicate that they can complain to the merchant, stop patronizing him, or report him to the local Board of Health or consumer agency.

GOAL VII VALUE OF WORK

PRIMARY THE STUDENTS WILL IDENTIFY WAYS THAT WORKERS ARE OF SERVICE TO THE COMMUNITY.

INTERMEDIATE THE STUDENTS WILL RECOGNIZE THAT INDIVIDUALS CAN FIND SATISFACTION THROUGH THEIR WORK.

OBJECTIVES

PRIMARY: The students will recall a number of workers and the ways they serve the community.

INTERMEDIATE: The students will recall the contributions made to society by a variety of workers.

The students will recall a variety of satisfactions they and others have gained through work.

OBJECTIVE: THE STUDENTS WILL RECALL A NUMBER OF WORKERS AND THE WAYS THEY SERVE THE COMMUNITY.

ACTIVITIES

Mural

Have the children plan and make a mural showing safety helpers at work. These include a policeman, crossing guide, parent, teacher, fireman, patrol boy, etc. [Safety]

Data Chart

Have children identify their parents' careers and list ways these careers contribute to society and the rewards the parent receives from the work.

Example:

Mr. Smith - Carpenter	
Helps others	Helps himself
Makes useful things	Earns money
	Enjoys his work

Product Display

At Thanksgiving time, make a classroom display of food products. Express appreciation for the workers who helped produce, package, and distribute our food. [Food]

ACTIVITIES

Table Top Model

Use Instructo's Community Helpers at Work Kit, Scholastic's finger puppets, or make models of community helpers to prepare a display of workers who provide services. Discuss each worker, then let the children use the figures to recall and recite about each worker's contribution to the community.

[Community Helpers]

"Live Wires" Bulletin Board

Display pictures of electrical products and the workers who make and service them. Discuss the difference between workers who deal with products and those who provide services. Discuss the importance of both kinds of workers. [Electricity]

Homemaker Filmstrip

Discuss the responsibilities of the parent who stays at home and cares for the needs of the family. Make a series of drawings of the homemaker from morning to night. Fasten them together and present a "filmstrip" to the class. [Family]

OBJECTIVE: THE STUDENTS WILL RECALL THE CONTRIBUTIONS MADE TO SOCIETY BY A VARIETY OF WORKERS.

ACTIVITIES

Environmental Unit

(1) Invite an environmentalist to speak to the class about pollution control or conservation.
(2) Visit a sewage treatment plant, conservation site or recycling plant.
(3) Make a bulletin board of articles on current environmental improvements.
(4) Play problem solving games such as "Ranger Rick Pollution Game" or the Coca Cola Ecology games.
(5) Present an assembly program with student created ecology flags, poems, and songs to emphasize concern for the environment. Each child will represent a worker who is concerned about the environment and tell how he aids conservation. [Environment]

Workers in the News

Have the students read any daily newspaper to locate articles that tell something someone did for society. Summarize information on a data chart.

Worker	Contribution
Lawyer	Defends people's rights

Then have the students write a paragraph on ways workers are of service to society. [Newspapers]

Field Trip

Visit a symphony concert, art museum, or theater. Discuss the contributions made by workers in the fine arts. [Art]

ACTIVITIES

Social Studies Discussion

When studying a different culture, discuss how the workers such as the tribesmen and women of the Mundurucu, People in Change, Latin America, Sequence 1, benefit the entire society.
[Cultures]

Film

Observe a film on aviation and discuss the contributions of air line workers. See PRIME catalog: MP850 "Gate 73" and MP923 "Airplanes: A First Film." [Aviation]

Interview and Follow Up

When talking with any worker on a field trip or a class visitor, have the children ask, "What are the contributions of your business to the community?" In follow up discussions have the children recall these contributions in lists, prose, or an art form. [Work Awareness]

Great Moments in Medicine

Make posters depicting the contributions of health heroes.
[Health]

VALUE OF WORK INTERMEDIATE

OBJECTIVE: THE STUDENTS WILL RECALL A VARIETY OF SATISFACTIONS THEY AND OTHERS HAVE GAINED THROUGH WORK.

ACTIVITIES

Slide Report

Have the students work in pairs to interview and photograph a worker in all phases of his occupation. Have them ask the worker about his personal satisfactions and rewards in the job. Culminate the in-depth study with a slide presentation. [Work Awareness]

Values Circle

With the students prepare a list of rewards gained through work: money, prestige, approval, security, service to others, etc. On the blackboard or flannel board, make a circle with pie wedges for each reward. Let each student reproduce the circle to show the work values which appeal to him, or use the game "Life Goals" from Career Insights And Self Awareness, Houghton Mifflin.

[Self Awareness]

Guest Speaker

Invite a candy striper or other volunteer worker to explain his work and the satisfactions gained. [Values]

ACTIVITIES

Rank Ordering

Provide the students with a list of 20 workers and let them rank order the careers from high to low in prestige. This activity may follow a discussion of the story "A Pocketful of Pride" in Open Highways. [Work Awareness]

Evaluating a Project

After the completion of a class service project, discuss the personal satisfactions gained: praise, better looking school, happier people, efficient methods, working together, accomplishing a goal, etc. [School]

First Aid

Have scouts, or others who have had training in first aid, teach methods to the class. [First Aid]

Secret Buddy

Each pupil is assigned a secret buddy for a week. Every day the student will do something to help the buddy and keep a secret diary of attempts to be helpful. [Creative Writing]

VALUE OF WORK EVALUATIVE TECHNIQUES

PRIMARY

1. Ask the child to pantomime a community helper and show one thing (s)he does to help us.

2. Have the children draw a picture of a worker in their family, at school, and in the community and explain how each worker helps us.

3. Take a neighborhood walk and note those children who are able to recognize the contributions made to the area by workers, i.e., city workers made sidewalks, telephone workers brought in lines, manufacturers made cars, etc.

4. Present the children with a series of pictures of workers previously discussed and ask them to recall the contributions of each helper.

INTERMEDIATE

1. Prepare a matching test of careers and their social contributions.

   a. Health inspector - provides entertainment for people

   b. Musician - provides service for machinery

   c. Mechanic - ensures safe conditions in restaurants

2. Have the students create a play or story about what would happen if all the people in a particular career stopped working. The teacher will note the pupils' understanding of the contributions of the workers.

3. Have the student recall three satisfactions, other than money, which one may gain through work.

4. Have the students discuss or write about personal satisfactions they have received as a result of working.

GOAL VIII RELEVANCE OF EDUCATION

PRIMARY THE STUDENTS WILL RECOGNIZE THAT SCHOOL IS A PLACE TO LEARN.

INTERMEDIATE THE STUDENTS WILL RECOGNIZE THAT SCHOOLING IS NECESSARY FOR FUTURE CAREERS.

OBJECTIVES

PRIMARY: The students will recognize that school is a place to learn.

INTERMEDIATE. The students will demonstrate a positive attitude toward schooling.

The students will demonstrate that what they have learned in school is of practical use to them.

The students will associate specific school subjects with specific careers.

The students will recall the specific educational requirements of a variety of careers.

GOAL VIII RELEVANCE OF EDUCATION ACTIVITIES

PRIMARY

OBJECTIVE: THE STUDENTS WILL RECOGNIZE THAT SCHOOL IS A PLACE TO LEARN.

ACTIVITIES

School Tour

Make a tour of the school and visit all the workers in the building. Talk with teachers and others about their responsibilities. After the tour, discuss the importance of the workers and how they all help children to learn. Make a bulletin board on "Workers Who Help Us Learn." [School]

Rules Chart

Discuss the need for rules for the classroom, hall, basement, and playground. Involve children in making the rules. Use pictures and symbols to make a permanent room chart. [Decision Making]

Motivation for Learning

Before presenting a new unit, prepare a bulletin board with pictures indicating some areas to be taught. Have the children develop questions on things they would like to learn in the unit. [School]

ACTIVITIES

Review for Reinforcement

Before the children leave for home, take time to talk about the things they learned that day in school. Role play the child's answer to the parent's question, "What did you learn in school today?" [School]

What If?

Let the children imagine the consequences if there were no schools. [School]

Applied Learning

While on a field trip to the supermarket, have a treasure hunt for numbers, colors, shapes, familiar letters, and words. Examples: 9 Lives cat food, 7 Up soda, 3 Diamonds tuna, etc. [Food]

Achievement Badge

When the children are able to count to 200, they are allowed to wear badges stating, "I can count to 200." These they may keep and wear all week. [Math]

OBJECTIVE: THE STUDENTS WILL DEMONSTRATE A POSITIVE ATTITUDE TOWARD SCHOOLING.

ACTIVITIES

Task Groups

Divide into groups of 6 - 8 pupils to discuss "How will we use what we are learning in school?" Let a representative from each group list on the board 5 skills or learnings which the group has decided will be useful. [Oral Expression]

River Time Line

Illustrate the appearance of Maine's rivers from the 1600's to the 1900's on a pictorial time line. Recall that education is part of the solution to pollution. Discuss the importance of educating everyone to save Maine's rivers. [Environment]

High School Visit

Arrange a field trip to the business, science, or other department of the high school. Have the secondary teachers present interesting aspects of their departments. [Values]

Education: For What Purpose?

In class discussion, distinquish between the methods and purposes of education in a free society and a colonial society. Have students write a paragraph on "The Purpose of Education in a Free Society." Correlate the activity with Activity #35, T.H., "Latin America" from People In Change. [Latin America]

OBJECTIVE: THE STUDENTS WILL DEMONSTRATE THAT WHAT THEY HAVE LEARNED IN SCHOOL IS OF PRACTICAL USE TO THEM.

ACTIVITIES

Check-Out Cashier

Have students select items from a classroom model supermarket and total the sales at the check-out using arithmetic. Let another student check his work with a calculator. A cash register, available from Distributive Education, Reynolds School, may be used. [Money]

Measurement

Have students work in pairs to measure items in the classroom such as books, desks, floors, and windows using both English and metric units. [Measurement]

Percentage Practicum

Have the students locate and display on a bulletin board newspaper ads using per cent. [Math]

Discussion

How would our daily lives be affected if there were no math concepts in society? [Math]

ACTIVITIES

Magic Circle

"What task can you perform now for which you had to have some training?" "How do you feel about that achievement?"

[Self Awareness]

Book Production

Pair each sixth grade student with a kindergarten child. Have each sixth grader interview the child and then write a book for and about that child. The book will be illustrated and laminated, then read aloud and presented to the child.

[Creative Writing]

Proofreading

Give the students a paragraph containing numerous errors to proofread, correct, and rewrite. Discuss the work of a proofreader.

[Newspaper]

Science Fair

Have the students select a project which requires the preparation of a science model or demonstration. In addition, have them use research materials to supplement the display. Discuss the value of knowing how to use research skills to gain information.

[Research]

OBJECTIVE: THE STUDENTS WILL ASSOCIATE SPECIFIC SCHOOL SUBJECTS WITH SPECIFIC CAREERS.

ACTIVITIES

Career Tree

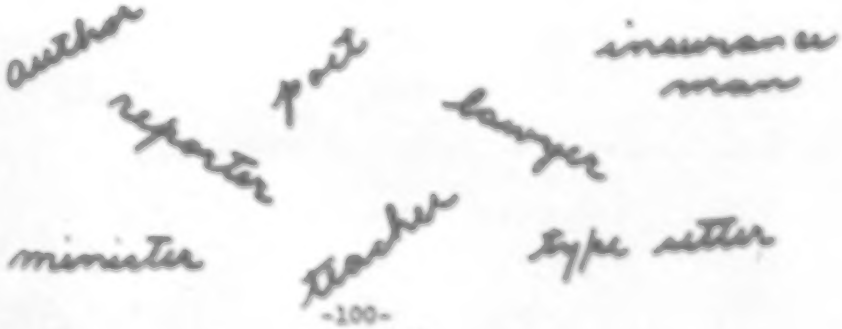
Plant a young sapling in a bucket in the classroom. Designate each branch as a major school subject. Give the pupils paper leaves on which they write their parents' careers. Have the students staple the leaves to the branches which are most essential to the career. [Work Awareness]

Rank Ordering

Select ten careers at random. Discuss how much each worker would depend upon his ability to read. Rank order the careers according to their dependency on reading skills. [Reading]

Today's Writers

Have some students prepare a bulletin board of ten or more workers whose jobs require writing skills. [Creative Writing]



ACTIVITIES

Creative Dramatics

Following a lesson on the distinction between formal and informal language, have groups dramatize a baseball game with formal language and also a job interview using informal language and slang. Then discuss careers which require the use of formal language.

[Oral Expression]

Field Trip

When studying measures, have the class visit a construction site, machine shop, or fabric store to observe workers using measurement.

[Measurement]

Millions of Marvelous Mathematicians

Have the students search through occupational charts, newspapers, and the telephone directory to make a never-ending list of people who use math in their work.

[Math]

HOME MAKERS...

PLUMBERS...

CARPENTERS...

...CASHIERS

...TEACHERS

...ENGINEERS

...STORE KEEPERS

Discussion

Ask the class, "How would the material we learn in science be useful to an engineer (environmental worker, medical worker, physicist, teacher, businessman, housewife)?"

[Work Awareness]

OBJECTIVE: THE STUDENTS WILL RECALL THE SPECIFIC EDUCATIONAL REQUIREMENTS OF A VARIETY OF CAREERS.

ACTIVITIES

Interview

When a guest speaker makes a presentation about the world of work, have the children be prepared to ask questions about the educational requirements of the job, i.e., "What training was required before you could begin your work?" "Have you had further on-the-job training?" [Work Awareness]

Field Trip Follow-Up

Following a field trip, make a data chart listing the careers observed and the educational requirements for each. Arrange the data to show workers without a high school diploma, high school graduates, high school plus two years, high school plus four years or more. [Work Awareness]

Bulletin Board

Prepare a bulletin board picturing workers concerned with the environment. Under each picture indicate the educational requirement. [Environment]

Time Line

Plot significant medical discoveries from 1400 to the present time. Discuss the scholarly discipline needed for medical research. [Health]

RELEVANCE OF EDUCATION EVALUATIVE TECHNIQUES

PRIMARY

1. At the end of the week have the children recall three things they learned during the week.

2. At Thanksgiving time, make a class list of reasons we are thankful for our school. Note those children who recall that school is a place to learn.

3. Have the class build a miniature community. Ask them why (or why not) a school should be included.

4. Use puppets to dramatize Pinocchio or some character who runs away from school. Have a child convince the puppet to return to school.

INTERMEDIATE

1. Administer a pre-test and post-test to measure the development of a positive attitude of students over a period of time.

   Sample items:

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
A. School will help me get a job some day.	SA	A	U	D	SD
B. I learn useful things in school.	SA	A	U	D	SD
C. If I had a choice, I would attend school anyway.	SA	A	U	D	SD
D. I expect to graduate from high school.	SA	A	U	D	SD
E. All people should attend school until they are at least 16 years old.	SA	A	U	D	SD

2. Have the students divide a piece of drawing paper in eight sections and make eight illustrations of things they are able to do today that they could not have done if they had never been to school.

3. Present the students with a series of pictures of workers and let them guess which school subjects the workers enjoyed when they were students. Evaluate the pupils' ability to justify their answers by relating a school subject to a career need.

4. Have the students recall four careers discussed in class and rank order them according to their educational requirements.

OFFICER FRIENDLY

1 2 3 4 5 6 7 8

OVERVIEW: Through a variety of activities, the children become aware of their responsibility for their own safety. They also gain an awareness of the work of a policeman.

INSTRUCTIONAL OBJECTIVES:

Self Awareness: The students will demonstrate an awareness and appreciation of their ability to care for many of their physical needs.

Interpersonal Skills: The students will identify their roles as members of the community and will demonstrate a respect for the rights and feelings of others.

Decision Making: The students will demonstrate their ability to identify simple cause and effect relationships.

Work Awareness: The students will list three or more responsibilities of a policeman.

Value of Work: The students will recall a number of ways a policeman serves the community.

RESOURCES:

Books

Alpha Time, New Dimensions in Education, Inc., 1972
Ginn Language Kit A, Ginn and Company, 1965
Green, Carla What Do They Do? Policemen, Harper Row, 1962
Lenski, Lois Policeman Small, Walch, 1962
Miner, Irene True Book of Policemen, Children's Press, 1954
Officer Friendly Work Book, Portland Police Department
Pope, Billy Let's Visit the Policeman, Taylor Publishing Company, 1967

Films/Filmstrips

"Meeting Strangers: Red Light - Green Light" (PRIME MP-367)
"Patch, the Pony"
"The Policeman"
"Policemen at Work"

Materials

"Model of an Intersection," South Portland Police Department
"People I Don't Know," Study Prints by BFA
"Playmate Puppets," Figures by Instructo

Resource People

School/Police Liaison Officer
A policewoman

SUBJECT HEADING: 352.2 POLICE
363.2 POLICE

ACTIVITIES:

1. Invite the School/Police Liaison Officer to the classroom to discuss safety procedures and the policeman as a friend and helper.

2. Teach "Officer Friendly's Safety Song" and use the Officer Friendly Work Book.

3. Write a thank you note to Officer Friendly and tell him what was learned during his visit. Have the children dictate the letter and sign their names.

4. Use the "Model of an Intersection" and role play a variety of situations for pedestrians and bicycle riders.

5. Let the children practice dialing their home telephone numbers on toy telephones and have them state their full name and address.

6. Use study prints to discuss the role of the police officer and safety procedures.

7. Show filmstrips and movies on the work of a policeman and on safety.

8. Read books about policemen.

9. Have the children list the various kinds of work a policeman does. Then make a class mural depicting the duties of a police officer.

10. Discuss the option of a police career for girls. Invite a policewoman to speak.

11. Role play the work of detectives as described in Alpha Time, Lesson I for Mr. V, T.M. 153-154. Use "Puppet Playmates" by Instructo or policemen's hats when dramatizing the work of a policeman.

12. Visit the local police station to learn more about the work of a policeman.

EVALUATION:

1. Have the children repeat their names, addresses, and telephone numbers.

2. With the assistance of the school crossing guides and safety patrols, observe and evaluate the child's ability to demonstrate obedience to the school safety rules and to use proper pedestrian procedures.

3. Have the children use model cars and toy pedestrians to demonstrate what happens when people obey safety rules.

4. Show the children pictures of a police officer at work. Let them talk about what the policeman is doing.

5. Have the children make pictures which show how the policeman helps us.

OFFICER FRIENDLY'S SAFETY SONG*

Chorus: Stop, Look and Listen
Before you cross the street
Use your eyes and use your ears
And then you use your feet.

Verse I: The Policeman dressed in blue
Is a friend to me and you
Busy streets he helps us cross
And takes us home when we are lost.

Chorus: Stop, Look and Listen
Before you cross the street
Use your eyes and use your ears
And then you use your feet.

Verse II: I look to the left
I look to the right
But I won't cross the street
Until I see the green light.

Chorus: Stop, Look and Listen
Before you cross the street
Use your eyes and use your ears
And then you use your feet.

Tune: "Puff, The Magic Dragon"

*Source: Officer Friendly Program, Portland, Maine

Dora Blake
Redbank School

OUR PARENTS' OCCUPATIONS

1 2 3 4 5 6 7 8

OVERVIEW: The children will learn about the work of members of their families.

INSTRUCTIONAL OBJECTIVES: Self Awareness: The students will demonstrate a sense of pride in their parents' work.

Interpersonal Skills: The students will identify the work roles of all members in their families.

Decision Making: The students will develop skills in identification and classification.

Work Awareness: The students will gain knowledge of workers in the home and community.

Value of Work: The students will recall the ways workers in their families serve the community.

RESOURCES: Books

- About ..., Melmont Press
- At the ..., Children's Press
- Come to Work With Us, Children's Press
- I Know A ..., Putnam
- I Want To Be A ..., Children's Press
- Look! Read! and Learn at the ..., Melmont Press

Resource People

- Parents

SUBJECT HEADING: 301.3 COMMUNITY LIFE
331.7 OCCUPATIONS

ACTIVITIES:

1. Gathering Data: Ask the children if they know where their parents work. (Identify the activity of homemaker and volunteer as work.) Make a class list of the workers. Have the children interview the adult workers in their families and report the information to the class. Let them ask about duties at work, if the job is dangerous, and whether they use special tools or uniforms.

2. Data Chart: Classify the information in a class list in any number of ways: mothers/fathers; outdoors/indoors; uniforms/no uniforms; goods/services; moves from place to place/works in one place; etc.

3. Value of Work Discussion: How does each parent worker help the community? Emphasize that all jobs help others in some way.

4. Self Awareness Discussion: How is the work divided in your home? What is your responsibility?

5. Bulletin Board: Have the children dictate stories about a family worker and make drawings of the worker. Post the drawings and stories on the bulletin board.

6. Display: Prepare a classroom display with hats, models, tools, and symbols of the parents' work. Use the models to role play each career.

7. Independent Reading: With the assistance of the librarian prepare a display of books on the careers represented in the class. Allow the children time to read the books.

8. Classroom Visit: Invite a parent to demonstrate a skill or to wear a uniform and discuss a career.

9. Mini Trips: Arrange for 5 or 6 parents to take carloads of children to their places of business. Each group will report to the class on their mini trip.

10. Filmstrips: Show two or three filmstrips on careers discussed in the unit.

EVALUATION:

1. Have the children tell how their parents' jobs are useful.

2. Having defined work as a constructive activity, let the children draw a family portrait showing each member of the family involved in work.

3. Provide the children with pictures of ten workers to be classified: workers who help people or animals - workers who make things.

4. Let the student recall five careers represented by families of his classmates.

5. Provide a hat (model or picture) for each career discussed in the unit. Let each child wear a hat and tell how the worker represented serves his community.

Suzanne Stacy
Lincoln School

HATS FOR WORKERS

1 2 3 4 5 6 7 8

OVERVIEW: Hats are used to introduce a unit on workers in the community.

INSTRUCTIONAL OBJECTIVES: Decision Making: The students will use their senses to gather data and develop concepts.

Work Awareness: The students will gain knowledge of workers in the community.

Manipulative Skills: The students will develop their psychomotor skills through participation in crafts.

Value of Work: The students will identify ways that workers are of service to the community.

SUBJECT HEADING: 301.3 COMMUNITY LIFE
331.7 OCCUPATIONS

ACTIVITIES:

1. Hats! Have the children collect occupational hats from parents, relatives, and friends.

   a. Oral report - When the pupils bring in a new hat, they explain the career to the class.

   b. Pantomime - While wearing a hat, a pupil dramatizes the work of the career the hat represents.

   c. Chart story - The class helps write a chart story about each career introduced.

   d. Display - For three weeks the hats are collected for a classroom exhibit.

2. Bulletin Board: Have the children find pictures of workers and make a giant collage. See how many workers they can name.

3. Model City: The children bring in toy cars, buildings, trains, and planes to build a miniature community. Each child identifies a job within the community and role plays that worker.

4. Research: Each child selects a different career from a teacher-prepared list. The librarian assists the children in locating books on the workers. The children read the books to learn about career.

5. Story Writing: Each child writes a few sentences about a particular career. He may illustrate his story.

6. Diorama: The children will prepare shoe box scenes of workers on the job. Help the children make effective use of craft materials.

7. Culminating Activity: The children wear the hats or uniforms of their selected occupations. On their desks they display a diorama, a book, a story, and the picture about the careers. Parents or other classes are invited to see the classroom exhibits.

EVALUATION:

1. Following the activities with hats, ask the children what they have learned about workers. Evaluate their ability to make generalizations - there are many workers in the world; many workers wear hats; some workers do not wear hats.

2. Prepare a list of careers discussed in the unit and one sentence descriptions of each job. Divide the class into two groups as for a spelling bee. Read a definition and let the children name the worker.

3. Evaluate the diorama on the basis of the student's ability to use craft materials as well as his understanding of the chosen career.

4. Have the students write or tell about one or more things a worker does to help the community.

Ruth McLellan
Dora L. Small School

CITY TOUR

1 2 3 4 5 6 7 8

OVERVIEW: This bus trip enriches a social studies unit on the city. It introduces the children to three major areas - downtown, industrial, and residential - while acquainting them with certain historic landmarks and demolition and construction sites. Children also observe the interdependency of workers in society.

INSTRUCTIONAL OBJECTIVES: Self Awareness: The students will identify their interests and develop new interests.

Interpersonal Skills: The students will demonstrate cooperation in social situations.

Decision Making: The students will use their senses to gather data and to develop concepts.

Value of Work: The students will identify ways that workers are of service to the community.

RESOURCES: Films/Filmstrips/Slides
"Cities"
"Portland, Beautiful Town by the Sea," PRIME, MP 865
"Portland City Tour"

Map of the Greater Portland Area

SUBJECT HEADING: 917.419 PORTLAND

ACTIVITIES:

1. Imaginary Community Map: Have the class make a large wall map of an imaginary community showing the major areas: a railroad, highways, and a waterfront for shipping. Identify and discuss occupations in the community.

2. Dioramas: Have the children work in committees to prepare scenes of the downtown, business, and residential areas.

3. Film: View the film "Portland, Beautiful Town by the Sea." Discuss how the location of a city influences the way its residents earn a living.

4. Orientation to the City Tour: Hold a class discussion on the following topics:
   a. Points of interest to be seen
   b. Identification of the major areas: downtown, residential, and industrial
   c. Workers likely to be seen in each area
   d. Deportment on the tour

5. Bus Tour: Charter a bus and tour sections of Portland and South Portland. See "The Portland City Tour" for an itinerary.

6. Follow Up: Following the city tour use the following activities.

   a. Make posters showing workers observed in each of the three areas; or add three workers to each of the dioramas made earlier.
   b. View the slide set, "Portland City Tour."
   c. Review the film, "Portland, Beautiful Town By the Sea."
   d. Make a bulletin board summarizing things learned on the tour.
   e. Chart the tour route on a wall map of the Greater Portland Area.

EVALUATION:

1. Have the children write an evaluation of the tour and describe what was of interest to them.

2. Ask the children to recall and list the regulations which were necessary to make the trip successful.

3. Have the children plan and make a mural which includes the highlights of the city tour.

4. Have each student recall three workers observed on the tour and explain the contributions each makes to the community.

Rosemary Rankin
Donna McIntyre
Helena M. Dyer School

THE PORTLAND CITY TOUR

LOCATION	POINTS OF INTEREST
South Portland Industrial Park	John Deere Company, Hannaford Brothers, industrial and residential areas adjacent to each other
Veterans' Bridge	Tank farm, Bancroft Martin, railroad tracks, Fore River, peninsula
Western Promenade	Residential area, new apartments, old houses, doctors' offices, hospital
Congress Street	Fire station, Longfellow Statue, High and Congress Streets, Canal Bank, new and old sites, Longfellow House, Casco Bank, First Parish Church, WGAN, newspaper office, City Hall
	County jail, county court house, old post office
Exchange Street	Brick sidewalks, new craft shops
	Old warehouses, urban renewal
Commercial Street	Prince of Fundy, railroad tracks, docks, Union Wharf, Maine State Pier, Port Authority, Casco Bay Lines, fishing boats
Eastern Promenade	Residential contrasts: public housing, high rise apartments, single multiple dwellings
	Harbow view: Calendar Islands of Casco Bay, Spring Point Light, commercial traffic
	Historical Sites: Fort Gorges, harbor entrance, USS Portland, cannon from battleship Maine
Baxter Boulevard	Baxter School for the Deaf, Burnham and Morrill Canning Factory
Deering Oaks Park	Recreation sites, gardens, site of Indian massacre in the 1690's, Federal Post Office, Interstate Route 295
Outer Congress Street	Tate House
Western Avenue	Airport, Maine Mall, industrial park

HISTORICAL TOUR OF SOUTH PORTLAND

1 2 3 4 5 6 7 8

OVERVIEW: A visit to historical sites in South Portland.

INSTRUCTIONAL OBJECTIVES:

Interpersonal Skills: The student will demonstrate an awareness of the interdependence of individuals and groups within a community.

Decision Making: The student will compare workers of long ago with workers of today.

Decision Making: The student will describe how the environment has influenced the lifestyle of South Portland's residents.

Work Awareness: The student will identify South Portland's places of economic significance in the past and the present.

Value of Work: The student will demonstrate an understanding of the contributions of workers long ago to growth of South Portland.

RESOURCES:

Books

- American Journal, South Portland, 75th Anniversary edition, 1973
- Elwell, Edward H., Portland and Vicinity (1876, 1881)
- Grade IV Unit on Maine History, Maine Department of Education and Cultural Services
- Jones, Herbert G., The King's Highway from Portland to Kittery
- Jordan, William B., A History of Cape Elizabeth, Maine
- League of Women Voters of South Portland, South Portland, Maine, 1959, 1971
- Willis, William, The History of Portland (1865)

Resource Persons

- Consult Community Resource File, South Portland, City of
  - Earl Angell
  - Rosemarie Flaherty
  - Rosella Loveitt

SUBJECT HEADING: 917.419 SOUTH PORTLAND

ACTIVITY: The following tour may be too long for fourth graders. Teachers should select only those sites which will be of significance to the class or make the tour in two separate trips.

TOUR

1. South Portland Library - Boulder with plaque in commemoration of Admiral Peary.

2. Mill Creek - site of old tidewater mill. The mill was built on a dam which held back the flowage of Mill Creek, as well as the tidal waters of Portland Harbor. In 1738, a combination grist and saw mill was operating successfully. After the Civil War, it was operated for a short time as a wooden spool manufacturing plant, then reconverted to a grist mill. In 1892, the mill was completely destroyed by fire. There is a plaque on the bridge crossing Mill Creek to designate the location of the site.

The land in the cove to the left belongs to the Nature Conservancy and will always remain as it is now.

3. Knightville - named for Thomas Knight, a prominent master shipwright, who lived and worked here. Prior to the middle of the 1800's, the land at the end of the bridge lay vacant until Mr. Knight built his house and set up his shipyard here. By 1850, a prosperous little settlement of over twenty buildings, including a school and church, a steam saw-mill, a chain cable factory, and the prosperous Knight shipyard had sprung up.

4. South Portland - Portland Bridge - Transportation over the Fore River was by ferry until 1823 when the first bridge was built linking Portland to South Portland (then called Cape Elizabeth). This first bridge was a flat wooden drawbridge built on pilings, and operated as a toll bridge - typical charges were two cents for people on foot; six cents for horse and rider. In later years, the approach to the bridge on the Portland side became so crisscrossed with railroad tracks, it became known as the "gridiron of death." This bridge was replaced by the present bridge known as the $1,000,000 Bridge in 1916.

5. Crossing the bridge - Central Maine Power Company plant - former site of the Portland Dry Dock Company, where large vessels were floated into one of two basins and then the water was pumped out and the repairs could be made on the ships.

6. Crossing the bridge - point of land to the left is Turner's Island - once the scene of Penobscot Indian summer encampment during the 1800's. Turner's Island was also the center of flour, shoe, and harness manufacturers, and the busy depot of the Portland, Saco, and Portsmouth Railroad which ran over a trestle across the Fore River to Portland.

7. York Street to Commercial - Commercial Street is all filled land. The waters of the harbor once lapped at the foot of Fore Street and York Streets. In 1852, Commercial Street was constructed along the frontal tidewaters and across the wharves. The new street was soon lined with warehouses, stores, and wharves. Here, at the corner of Maple and Commercial Streets, the "great fire of 1866" had its start when a boy carelessly threw a lighted fire cracker into a boatbuilder's yard. The fire spread rapidly and left the city a charred ghost town.

8. West Commercial Street was the flourishing center of the lumber trade, with wharves covered with the products of the mills in the north of Maine, brought down by rail for shipment. The stations for the Boston and Maine Railroad and the Eastern Railroad were located here. Here also were the wharves where lay the steamers of the International Steamship Company, whose vessels made frequent and regular excursions to Nova Scotia and Canada.

9. Veterans' Bridge to South Portland Maine Mall exit - Veterans' Bridge replaces the former Vaughn's Bridge which was the first bridge to span the Fore River in 1800. Built of cobwork cribs filled with rock and sunk to serve as piers, the bridge considerably shortened the trip to Portland from South Portland and points south. The bridge was operated as a toll bridge and did a considerable business transporting all manner of man and beast.

10. Boys Training School - 1853 - This was the first school in the state of Maine established for the education of juvenile delinquents.

11. Long Creek - In 1678, a peace treaty with the Indians, lasting for ten years, was signed under the "Smoking Tree" on the bank of Long Creek. A saw mill was constructed at Long Creek in 1681, and in 1686 a ferry permit was granted for transportation over Fore River, from the southern side of Long Creek to the opposite point on Portland's side, a little below Veterans' Bridge. In 1745, Indian attacks were made at Long Creek, and two men were scalped and killed. 1760's saw the flourishing business of manufacturing salt on General Samuel Waldo's farm at Long Creek. Much of the salt was shipped from Waldo's wharf at Long Creek Point. The area around Long Creek was primarily a farming region and settled enough to warrant the creation of a district headquarters for a moving grammar school in 1771.

12. Long Creek Cemetery - a pre-revolutionary war burying ground located in the rear of the National Guard property, which may be visited any week day by requesting entrance through the office of Sgt. Farrell in Room 1, National Guard Building. The earliest stone is dated 1757, and the last recorded was 1843. The cemetery contains twelve known graves, many of them bearing the name of Skillin. One man buried here was responsible for securing the mill privileges on Long Creek and also served in Samuel Waldo's regiment before the revolution.

13. Clarks Pond - Former site of an ice house which has been destroyed by fire.

14. Westbrook Street - at one time a part of the "Post Road" which was established to insure mail service to the area weekly from Boston. The road was lined with markers, at one mile intervals, called milestones. These markers were large granite blocks, placed by the order of George Washington at the time the Colonial Post Service was established. One of these old milestones, bearing the inscription B. 122, denoting it was 122 miles from Boston, is located at the entrance to Larry Rowe's Golf Course.

15. Nearby at 143 Westbrook, is the site of the famed tavern of stagecoach days, Broad's Tavern, the most up-to-date inn and dining place east of Boston. It was famous as Maine's first and most successful night spot, and catered to General Lafayette and President James Monroe. One of its most original attractions was the Bar Room Tree - a platform with railings and steps leading into it, located within the branches of a large elm tree outside the front of the tavern.

16. Main Street - This area was formerly called Skunk Hill, and in the gay nineties was the site of the Portland Country Club golf course.

17. Rigby - 1893 - Rigby Park, a former famous oval racing track, was considered by many to be the fastest track east of the Mississippi. The track is still plainly visible from the air.

18. Cash Corner - formerly Lousy Lane. Calvary Cemetery contains the unmarked grave of twelve Irish destitute passengers who were drowned at the wreck of the "Bohemian" off Cape Elizabeth in 1864.

19. Ligonia - The area was first known as the site of the Cape Trotting Park, a harness racing track. The area was then purchased by the government and became a training camp in the Civil War days, known as Camp Berry. After the Civil War, the area became the property of the Portland Rolling Mills, manufacturers of iron products, who converted the barracks into company housing for their workers. Adjacent to this property was that of the Portland Kerosene Works, producers of kerosene and similar products.

20. Lower Main Street - site of former Vaughn's Bridge in the section known as Ligonia.

21. Broadway and Evans Street - Barberry Creek - In 1682, a grist mill was established on Barberry Creek, and in 1782, a saw mill was in operation. In the 1850's a small but prosperous brickyard was operated in the vicinity. With the coming of the railroad, the Portland, Saco, and Portsmouth Railroad established a depot at Barberry Creek, and in turn, the first Post Office in South Portland was established at the depot, much to the citizens relief, as they formerly had to travel to Portland for mail service.

22. Broadway near Elm Street - War memorial

23. Mill Creek Park - not so long ago, the city dump, it is now a public park enjoyed by those who work and live in the area.

24. Harriet Street, High Street, Pine Street, Front Street to Centerboard Yacht Club - original site of Ferry Village, whose boundaries included the shoreline from Knightville to Spring Point. Travelers to the region came by way of the Old King's Highway, following the shore from the mouth of the Spurwink River, Cape Elizabeth, to Purpoodock (Spring Point).

In late 1600's, irregular ferry service existed, the first ferry being a hand-driven boat, running at irregular intervals from Fort Preble Point to the point across Fore River known as Clay Cove, now obliterated, but in the vicinity of the Canadian National Railway property. Since it was difficult to call across the Fore River or to signal for service in fog when a traveler wanted to be ferried to the opposite side, the first official ferryman was appointed in 1719 and the town voted to maintain a landing at the foot of Sawyer Street. The toll was set at three cents. Until the middle of the 1800's the ferry operated as a town controlled franchise, using an oar or sail driven boat.

In 1847, the state granted a charter to the Portland and Cape Elizabeth Ferry Company, whose first vessel was a double-ended side wheel, steam operated ferry named Elizabeth. The following years brought dissatisfaction with service, rates, and schedules, giving rise to the establishment of a second ferry company, The People's Ferry Company, 1865, made up of a coalition of forces banded together by disgust at the ferry service. The advent of the trolley line, and the declining population of Ferry Village spelled the end of ferry service and by 1912 both companies were out of business. Ferry service was resumed for a brief period during World War II, to help relieve the traffic situation created by the full swing operations of the shipyards.

25. High and Front Street - area during the 1800's, an unbroken line of shipyards from Ferry Village to Turner's Island. The shipyards constructed a small number of clipper ships, but evolved to the building of a ship known as the "Downeaster," a square rigged, three masted vessel, adapted to a small crew and capable of handling large cargoes anywhere in the world. The area also saw the establishment of a Marine Railway, for the repair and rebuilding of large vessels. The men who worked in these shipyards were generally skilled craftsmen and much of the work was done by hand.

26. Bug Light - 1852 saw the completion of a breakwater extending a quarter of a mile in length from Standford's Point out along Standford's Ledge, for the purpose of protecting the shipping in the harbor from the heavy swells of the open ocean. A white wooden lighthouse with an octagonal tower of 23 feet was constructed at the end of the breakwater in 1855. This original wooden tower was removed to Little Diamond Island in 1875 and was replaced by an iron tower slightly larger in size, with a wooden building for the lighthouse keeper. Bug Light has been incorporated into the official seal of South Portland, and is the hallmark of the city. The breakwater has been filled in and the property now belongs to the General Electric Company.

27. Cushing's Point - home of Ezekiel Cushing - one of the most prominent merchants in the area, engaged in West Indies trade, and involved in coastal whaling.

28. Shipyard area - experienced a mild boom in World War I and a decided boom in World War II. The shipyards have played a promiment role in the maritime development of the nation. In World War I, the yards were developed by the Cumberland Shipyard, and by the New England Shipbuilding Yards in World War II. The area produced 274 cargo vessels during World War II and gave employment to thousands of men and women in the area. It was during this period that the waterfront of South Portland acquired an entirely new face as many buildings were razed or moved to make space for the shipyards.

29. Fort Road - Spring Point Light - Built in 1897 to replace buoy marker. The breakwater was added about 25 years later. It was from Spring Point that Purpoodock citizens watched in horror the approach of Captain Henry Mowatt of the British Royal Navy, who relentlessly bombarded Portland with ammunition from five vessels for nine hours on a summer's day in 1775, leaving the town in ashes.

30. SMVTI - area known as Purpoodock Point, Spring Point, later Preble Point - first settlement in South Portland in 1703, destroyed by Indian attack which resulted in the killing of 25 settlers and the capture of 8. The area again became a wilderness until 1716 when the first house was built at Purpoodock. A log meeting house was constructed in 1722, which was used both as a garrison and a church. A burying ground was established near the meeting house. This is now known as Thrasher Cemetery and is located near the old dining hall of SMVTI. From 1724-1756 the area experienced sporadic troubles with the Indians. Then came a time of peace, and the settlement flourished. In 1774, following the news of the Battle of Lexington, the town of Purpoodock began patroling the coast on the lookout for British ships. Four minutemen were stationed each night on sentry duty on the coast between Spring Point and the ferry landing.

In 1776, earnest preparations for war culminated in the construction of Fort Hancock, on the site of SMVTI, which was manned and armed for service in the Revolutionary War.

In 1808, a new brick and granite fort was constructed upon the site of Fort Hancock. The new fort was named Fort Preble, after Commodore Edward Preble, and constructed for the purpose of seacoast defense. The fort became a formidable military establishment during the Civil War. It was reactivated for service during World War I and II.

Willard Beach - Simonton's Cove - scene of William Simonton's flourishing West Indies trade, maintaining a large wharf and warehouses, dealing in cargoes of rum and molasses, lumber and spices. The cove was thronged with vessels and gave employment to many in the area. The West Indies trade was annihilated during the Revolution. Later it was replaced by the fishing industry. Simonton's Cove had one of the most active fishing fleets at the Cape, and during the late 1800's was known as Gurry Cove - gurry meaning fish refuse. The fish houses on the point were built around 1884 and a flourishing trade in cod fish was maintained here.

In 1896, the trolley company, the Portland Street Railroad Company, built an elaborate casino, housing a bowling alley, dance hall, and steam organ, at Willard Beach and the beach became a resort area. The casino was destroyed by fire two years after it was built, but the trolley line continued to bring bathers to the beach, and people built summer cottages nearby.

Portland Head Light - commissioned by President George Washington and erected in 1790, Portland Head Light was the first lighthouse to be built on the coast of Maine, and the thirteenth on the Atlantic seaboard. Constructed of rubble-stone laid up in lime, the original height was 97 feet, and used 16 whale oil lamps for its beacon. The tower has undergone several renovations and now towers 101 feet above sea level. In the 1860's, the U. S. government erected its first fog bell here at Portland Head Light. This first fog warning was a 1500 pound cast iron bell hung 60 feet above sea level, which was struck with a wooden clapper every 30 seconds in foggy weather.

31. Cottage Road - Congregational Church - In 1733, the second parish of Falmouth was established and a new meeting house, replacing the log meeting house at Purpoodock Point, was constructed in what is now Mt. Pleasant Cemetery, in the vicinity of Cottage Road and Pine Street. The new building closely resembled a large barn with box pews, and served not only as a place of worship but also as a town meeting place for more than 100 years. In 1835, it was torn down and replaced by a new structure, equally plain, but boasting a bell-tower and a spire. In 1891, the building was moved across the street to its present site, and that building is incorporated into the present church.

Soldiers and Sailors Monument - honoring the men who participated in the Civil War, erected in 1876.

Mt. Pleasant Cemetery - oldest known burial in cemetery was that of Colonel Cushing's wife who died in 1742.

32. Sawyer Street to Ocean Street - road was once part of the ancient Spurwink thoroughfare which led from old Ferry Village to the outside world. One-storied farm cottages were built all along this road and formed a little village which boasted its own church, a Quaker meeting house, that stood within the Bayview cemetery grounds. Also known as Town House Corner. First municipal building built in 1837, destroyed by fire; second built in 1874.

33. Ocean Street to Highland Avenue - Highland Avenue once called Barren Hill Road and Brewery Road from Ocean Street to Cottage Road. Site of a brewery established for the manufacture of ale in 1857. An old and popular tavern stood on the site of the Frank I. Brown School, and served as a meeting place for teamsters with farm produce, and herdsmen driving their cattle over the roads to the markets in Boston.

EVALUATION:

1. Imagine you are the only resident in South Portland. Write a paragraph to describe where you would live and how you would spend a single day.

   Share your stories in your group. With the group, make a list of the five businesses or institutions you would miss the most.

2. Make a chart to show how environmental factors have influenced the growth of industries observed on the tour.

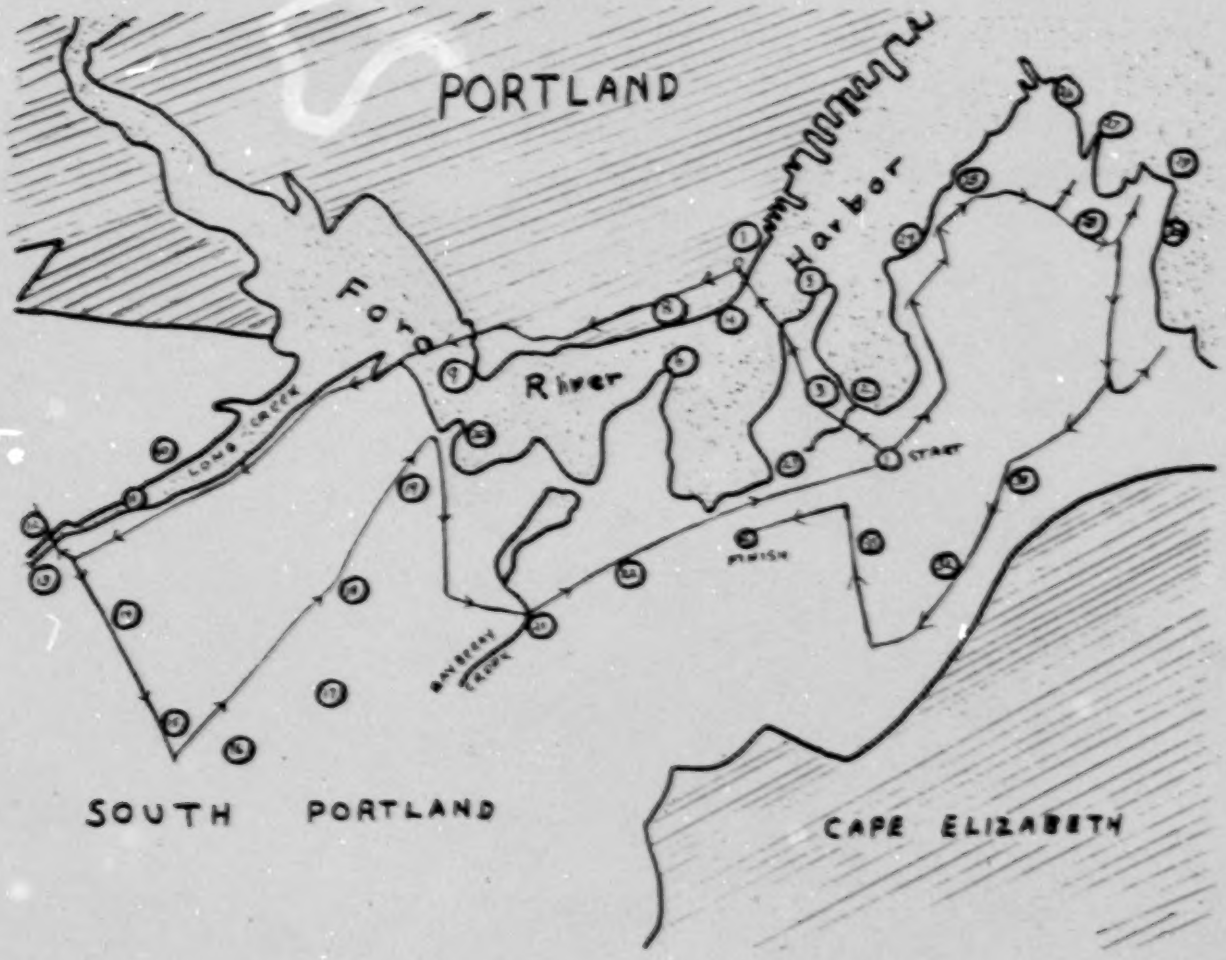
3. List three or more business sites of Old South Portland.

4. List three businesses you saw on the tour which employ over twenty-five people.

5. Make a bulletin board of student drawings of "Workers In South Portland Then and Now."

6. Role play a family living during a particular period of South Portland's history when the residents may have wished to leave the area. Examples may include Indian attacks at Purpoodock, a burned out mill, Captain Henry Mowatt's bombardment of Portland in 1775, hardships due to cold, illness, lack of communication, or transportation across the river.

Rosemarie Flaherty
South Portland Schools



SOUTH PORTLAND HISTORICAL TOUR MAP

HISTORICAL BACKGROUND OF SOUTH PORTLAND

Settlements

The first permanent settlers to the area, once inhabited by Indian tribes of the once powerful Abenaki nation, were Richard Tucker and George Cleaves. Traveling from England, they established themselves on the Neck, now Portland, in 1632. In 1658, the region now occupied by Portland, South Portland, Cape Elizabeth, Westbrook, and Falmouth was incorporated into the State of Massachusetts and named Falmouth.

The earliest settlements in South Portland were at Purpoodock Point (SMVTI property) and Long Creek. These settlers did not enjoy much peace and quiet because of the threatening troubles with the Indians during the French and Indian Wars. With the coming of peace, the settlements grew and prospered. Cape Elizabeth, which included South Portland, was established as a district separate from Portland in 1765.

It was not until 1895 that South Portland was separated as a town from Cape Elizabeth. The partition was due largely to a dispute over the introduction of Sebago Lake water to the city, causing increased taxation. In 1898, South Portland received its official city charter from the state.

Economy

The region attracted the adventurous men who first came for the excellent fishing and fur trading opportunities in the area. With the coming of the first settlers, farming and fishing were the main modes of employment. As the settlements grew, the people became more dependent on one another for needed goods and services, which resulted in varied employment.

The lumber industry formed the wellspring of prosperity, employing many men in the harvesting, processing, and shipping of the forest products. The trade in lumber supported the West Indies trade -- resulting in the importation of sugar, molasses, and rum.

The maritime trade flourished and during the War of 1812 privateering became profitable. During the 1840's shipbuilding came to be a very significant part of the economy of South Portland, and many shipyards were in full operation building and repairing vessels. Many talents were employed in this industry as most of the work was done by hand. Lobstering and fishing continued to be an important means of earning a living, and with the growing sophistication of the people, various artisans found employment in their fields. An interesting sidelight of silversmithing was the employment of workers fashioning not only articles of beauty for the table, but enjoying a lively business in the crafting of knee, shoe, and sleeve buttons for clothing.

Growth and prosperity of the city gave rise to the establishment of stores and service industries, and the excellent harbor waters continued to attract new business and to afford num erous economic opportunities for the people who chose to live here.

Leisure and Recreation

The people in former times had little time for leisure and in the beginning, their recreation was necessarily tied to their way of life and work. The first settlers found amusement and relaxation within the home. Roads were nothing but narrow paths crisscrossing the woods, wolves were abundant, a prize of 40 shillings to anyone who shot a wolf, and homes were scattered and isolated.

Church and town meetings provided occasions for meeting friends. Much merriment was present in spinning and quilting bees, barn raising and harvest times. As free time increased, clubs and social parties were formed usually meeting at a local tavern, sleighing parties organized in winter, fishing and bathing in the summer and visiting the islands were all popular forms of recreation.

Theatrical entertainments were wholly unknown here before the revolution. It wasn't until late in the 1800's that the theater played an important part of the recreational scene when Free Street in Portland became known as the Great White Way. Until that time there was a steady stream of itinerant performers, jugglers, minstrels, and such. Weekly lectures were also well attended.

With the advent of the trolley line, many people spent their Sundays enjoying life at the trolley parks where swimming, bowling, and meeting friends provided diversion.

Education

Education did not receive much attention until the late quarter of the 19th century, when the town voted to establish its own public high school. Prior to 1765, students desiring formal education were sent to Portland to attend school, boarding in with friends or relatives in Portland. In 1765, the first grammar school was established in South Portland, and four school districts were apportioned in 1771, but there was only one teacher appointed, who necessarily had to share his time between the districts and resulted in a moving grammar school. By 1875, there were fourteen school districts within the town, but schools were still inadequate. With the opening of the high school, overcrowded conditions in the district schools were alleviated, and program expansion and improvement at the grammar school level shot ahead, until today one of South Portland's greatest prides is its excellent school system.

SIGNIFICANT DATES IN THE HISTORY OF SOUTH PORTLAND

West Indies Trade

1670— Property deeded at Purpoodock and Long Creek

Settlers at Purpoodock flee from Indians (1676)

1680— Sawmill at Long Creek & Gristmill at Barberry Creek built

Settlements at Purpoodock, Spurwink, Stroudwater & The Neck

1690— Indians capture Fort Loyal (Portland); whole area becomes wasteland

1700—

Indians destroyed first permanent settlement in South Portland at Purpoodock (1703)

1710—

Settlers return to Purpoodock

1720— First official ferryman appointed at foot of Sawyer Street; also Irish immigrants winter here - up Fore River

Gristmill at Mill Creek established

1730—

Second Parish of Falmouth established - new Meeting House

1740—

Indian attack at Long Creek

1750—

Salt manufactured at Long Creek

1760—

Incorporation of district of Cape Elizabeth; first grammar school in South Portland

1770—

Burning of Falmouth; Fort Hancock built at Purpoodock

1780— Post roads established

1790— Establishment of Portland Head Light

Maritime Trade

1800— Vaughn's Bridge built

Rise of Shipbuilding and Lumber Industries

1810— Fort Preble

1820— Maine Statehood

Portland Bridge

1830—

First municipal building in South Portland

1840— Railroad

CAREER AWARENESS
1 2 3 4 5 6 7 8

OVERVIEW: During a four week unit, the students will practice language arts skills, learn about a variety of careers, and strengthen their own self concepts.

INSTRUCTIONAL OBJECTIVES: Self Awareness: The students will demonstrate an appreciation of their own interests and skills.

Work Awareness: The students will identify, classify, and gain information about many careers.

Value of Work: The students will recall the contributions of a variety of workers to society.

Relevance of Education: The students will recognize that schooling is necessary for future careers.

RESOURCES: Encyclopedias, especially Our Wonderful World, Zim, 1971

SUBJECT HEADING: 301.3 COMMUNITY LIFE
331.7 OCCUPATIONS

ACTIVITIES:

1. Introduction: There are over 20,000 careers. How many could you list? What careers would you like to know more about? What would you like to know about a job? Where can we locate information about jobs?

2. Help Wanted: Cut out, underline, and discuss newspaper ads. Classify the jobs according to the amount of education, skill, training, and experience required.

3. Library Visit: Have the class visit the elementary library and locate the reference section. Let the students practice locating articles on careers in the encyclopedias.

4. Note Taking: Have the pupils select a career to research. Decide what information they must locate. Have them make notes in their own words on these topics. Note the use of capitals for each topic.
   - Name of the job
   - Responsibilities and duties
   - Salary
   - Educational Requirements
   - Skills and aptitudes
   - Personal benefits
   - Environmental restrictions

5. Career File Box: Have the pupils prepare one card for each career researched. They record only the basic information. The cards are arranged alphabetically in the classroom file.

6. Career Bulletin Board: Display 8 or 10 pictures of interesting occupations. Label the exhibit "Decision, Decision, Decisions." Discuss career options and individual interests and goals.

7. Poetry: Discuss career options and have the students write a poem entitled "What I Could Be."

8. Interviews: Discuss techniques for interviewing a person. Have the class list suitable questions to ask a worker about his job. Have the students practice interviewing one another in class. One student may pretend to be from another plant and is eager to learn about Earthling's careers. The stranger may also be interviewed. Each student decides on a worker to interview, makes an appointment, and retrieves the information. A tape recorder may be used or the worker may visit the class for a public interview. Information is shared with the class and added to the Career File. Thank you notes are written to the people interviewed.

EVALUATION: 1. Have the students write an evaluation of the four week unit and answer the following questions:

a. What have you learned about using reference materials and taking notes?

b. What have you learned about the World of Work?

c. What have you learned about your own career interests?

2. Reproduce an encyclopedia article about a career and have the students condense the information on a file card under these topics:

Job
Responsibilities
Restrictions
Benefits

Lola Delano
Helena H. Dyer School

ECONOMICS EXPERIMENT
1 2 3 4 5 6 7 8

OVERVIEW: A simulated economic system within the classroom provides opportunities for individual decision making and interpersonal relationships.

INSTRUCTIONAL OBJECTIVES:

Self Awareness: The students will demonstrate an awareness and appreciation of their ability as workers.

Interpersonal Skills: The students will develop skills in social reasoning and interaction.

Decision Making: The students will develop a beginning skill in the use of the decision making process.

Economic Awareness: The students will understand that people are paid for their work and use that money to satisfy their needs and wants.

Economic Awareness: The student will recall that specialization creates an interdependent society.

Economic Awareness: The student will recall that all citizens have the responsibility for the success of the American economic system.

Relevance of Education: The students will demonstrate a positive attitude toward schooling.

RESOURCES: W. Harmon Wilson and Romas W. Warnke, Life on Paradise Island, Scott Foresman & Company, 1970

Pink Pebbles Game

SUBJECT HEADING: 330. ECONOMICS

ACTIVITIES:

1. Background: Before starting the Economics Experiment, read portions of Life On Paradise Island and relate the economic concepts of the story to every day life through questions such as these: Where does your allowance come from? How do your parents get their money? What responsibilities do workers have in spending their earned money?

2. Introduction: Explain the procedures of the Economics Experiment. One 45 minute period a week, for 6-10 weeks, the class will pretend it is a community with its own economic base. The pupils will try to earn as much money as they can. The students will want to start by choosing a name for their town.

3. Job Applications: Prepare a list of 25 or so classroom jobs with a brief job description for each task. Distribute job application forms to each student (Figure A). Stress neatness and accuracy. Students may apply for more than one job. Applications are screened by the teacher and pupils are awarded their assignments. They are told why their application was accepted or rejected.

4. Pay: Volunteers design a one dollar, five dollar, ten dollar, and twenty dollar bill (Figure B). The best designs are chosen by the class, and reproduced for class use. If he has done his job, each worker receives $30 pay once a week.

5. Classroom Setting: The room is divided into square meters which represent city lots. A map of the room representing the city is drawn and each lot is numbered (Figure C). The map is distributed to the students so that they may choose the lot upon which they will build their homes (desks).

6. Cost Description:

	Buy	Rent/1 month	Weekly
Desk - Home	$75	$15	
Furniture - Chair	$15		
Necessities - Books			$5
Utilities		$ 7	
Space - Lot	$50		
Taxes/Services			$5

The above cost description is posted where all may see it. The teacher keeps records of payments. Later, certain "business persons" may keep the records.

7. Services For Sale: Each student makes a poster selling a service he is willing to sell. For a price, he will clean a desk, make a drawing, or teach a skill.

8. Currency Exchange: When a piece of money passes through a person's hands, it is initialled on the back. At the end of the week, the class discovers how many transactions may be involved with a single piece of money.

9. New Business Ventures: When the economy has been established, the teacher may put the pencil sharpener up for sale. The highest bidder gains control of the sharpener and charges a fee for its use. A drinking fountain or right-of-way may be bought and sold by a person or company (group of bidders). Students are encouraged to use their ingenuity to earn dollars.

10. Discussion: In what ways is our economic experiment similar to the economy of the real world?

EVALUATION:

1. Have the students write in their notebooks an evaluation of the work they did each day and decide whether or not they earned their pay.

2. The teacher keeps anecdotal records of the students' ability to cooperate with their peers during the classroom experiment.

3. Have the students write on the topic: If our class were to repeat the Economic Experiment, I would do the following things differently.

4. Have the students create a cartoon strip in which an explanation of our economic system is given to YUGO, a boy from another planet. YUGO was provided at birth with a pack containing all the necessities of life. The cartoon strip should explain how an American family takes care of its needs and wants. Some words that might be used are salary, job, job applications, necessities.

5. Have the students use creative dramatics to present a social situation in which each person assumes a specialized work role. Evaluate the pupil's ability to demonstrate the interdependence of the workers.

6. Review the importance of the cooperation of all individuals to make the Economics Experiment work in the classroom. Discuss the responsibilities of all Americans to make the national economic system work.

7. Give the students a pre-test and post-test to measure their attitude toward school. Have them indicate their feelings on a scale of 1 to 10.

Hates School All the Time	Usually Doesn't Like School		No Opinion		Usually School is OK		Loves School Always		
1	2	3	4	5	6	7	8	9	10

Douglas Caldwell
Frank I. Brown School

TOWN EMPLOYMENT FORM

CALDVILLE, MAINE

Name _____
last first middle

Address _____
Street City State

Age _____ Today's Date _____
years months

1. Name of job you are applying for. _____

2. What do you think the responsibilities of this position are?

3. Below write a few positive statements about yourself.

4. Why should you be selected for this position(s)?

5. Caldville must have all 23 positions filled. Below list four (4) other choices.

Figure A

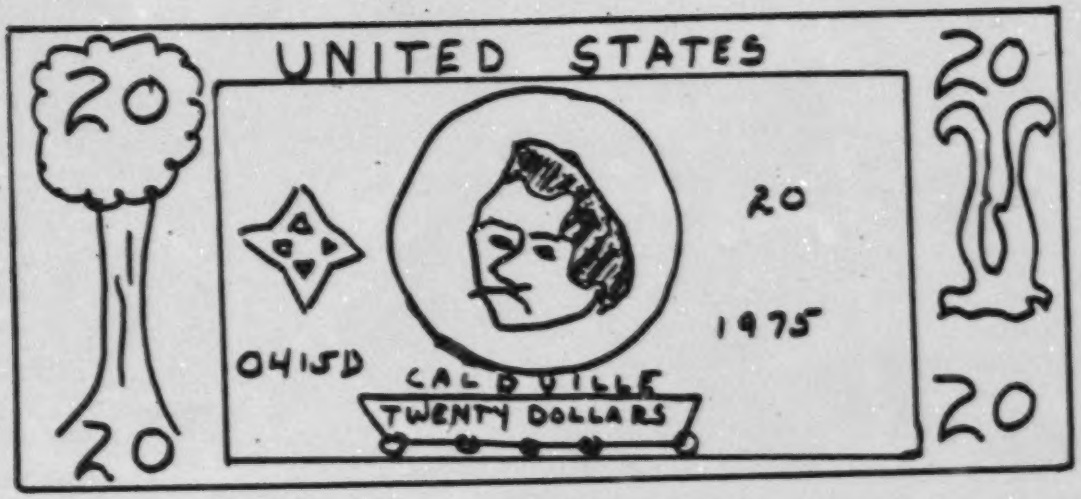


Figure B

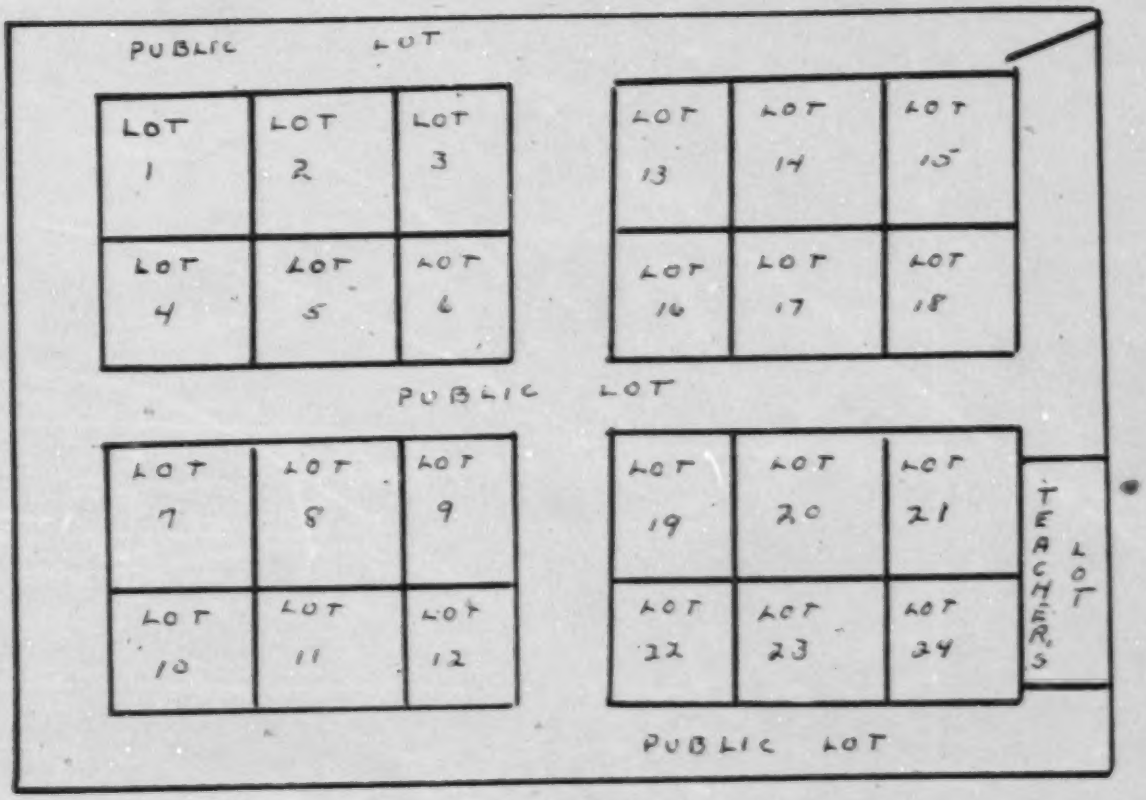


Figure C

PART III - COMMUNITY RESOURCES

Locating Community Resources

Field Trips

Resource Visitors

PART III - COMMUNITY RESOURCES

Involving resource persons in the school has many advantages. Stimulating speakers and trips to exciting places in the community enliven the curriculum, make education relevant, and expand the horizons of children. When parents make classroom presentations, a personal satisfaction comes both to the parent and the child. Members of the community welcome the opportunity to cooperate in the education of children. As they help in the schools, they grow in their respect for, and understanding of, education.

Many persons other than the classroom teacher can bring new learning experiences to boys and girls in the schools. These volunteers may be parents, other teachers, high school and university students, civic groups, or the business community. They may serve as guides for field trips to business sites, visit the school and give a talk, demonstrate a skill, show a film, or occasionally they may serve as consultants for a school project. The involvement of resource people from the community enhances the educational process as it brings the outside world into the lives of the students.

LOCATING COMMUNITY RESOURCES

Three methods of locating community resources are available to teachers.

Personal Contact

First, a teacher may call upon members of the family, personal friends, neighbors, acquaintances, and retired teachers. The oil delivery man, the city health inspector, or the shoe salesman all may have information to share regarding their work, hobby, or travel experiences. Generally, the most satisfactory resource persons are those whom the teacher knows personally.

Parent Survey

Another successful method of locating resources within the community is to conduct a Parent Survey. A letter is sent to every parent explaining the school's interest in identifying resources and a form is included requesting information on the parents' work, interests, and skills (Figures 1 & 2). The completed forms are returned to the classroom teacher to be used as an initial resource list. Later, a master list for the school is compiled in alphabetical order (Figure 3).

Community Resource File

To provide more specific assistance to the classroom teacher, a Community Resource File may be developed. The file consists of cards which contain information about field trips, speakers, or free materials which may be ordered (Figure 4). The cards are arranged alphabetically by subject headings, such as animals, coal, dairying, fish, etc. Each elementary school library in South Portland has a file.

Keeping the Community Resource File up-to-date is the responsibility of the librarians and the classroom teachers. Deletions are made by the librarians on the basis of information received from the teachers. Should a teacher discover that a speaker has moved away from the area, that a field trip is unsuitable, or that some materials have been withdrawn, the librarian is notified and the card is withdrawn.

Additions to the file may be made at any time. Teachers are invited to share names of resources they have discovered and used successfully through personal contact or from the Parent Survey. With the librarians, the teacher records the necessary information on a data sheet (Figure 5). The librarians type the new card and duplicate it for each school library.

SOUTH PORTLAND SCHOOL DEPARTMENT
SOUTH PORTLAND, MAINE

September 20, 1976

To: All Parents

From: Albert R. Morton, Assistant Superintendent

Re: Parent Survey

In an effort to encourage members of the community to share in the education of children, we are asking parents who are interested in volunteering at school to fill out the form on the reverse side. If you have a hobby or skill, have traveled widely, or are willing to share information about your career, please return the completed form to the classroom teacher by October 1. Your help is appreciated.

Figure 1

SOUTH PORTLAND SCHOOL DEPARTMENT
SOUTH PORTLAND, MAINE

PARENT SURVEY: COMMUNITY RESOURCE FORM

School _____ Date _____

Student _____ Teacher _____

Home Address _____ Grade _____

* *

Father's Name _____ (last) (first)

Mother's Name _____ (last) (first)

Occupation _____ Occupation _____

Business Address _____ Business Address _____

Telephone No. _____ Telephone No. _____

1. Would you be willing to visit the school and speak to a class? _____

2. Would a group be welcome to visit your place of work? _____

3. Do you have any special interests, hobbies, or travel experience? _____

   Please specify. _____

   _____

4. Would you be willing to transport children to field trips in the Greater Portland area? _____

Figure 2 1976

SOUTH PORTLAND SCHOOL DEPARTMENT
SOUTH PORTLAND, MAINE

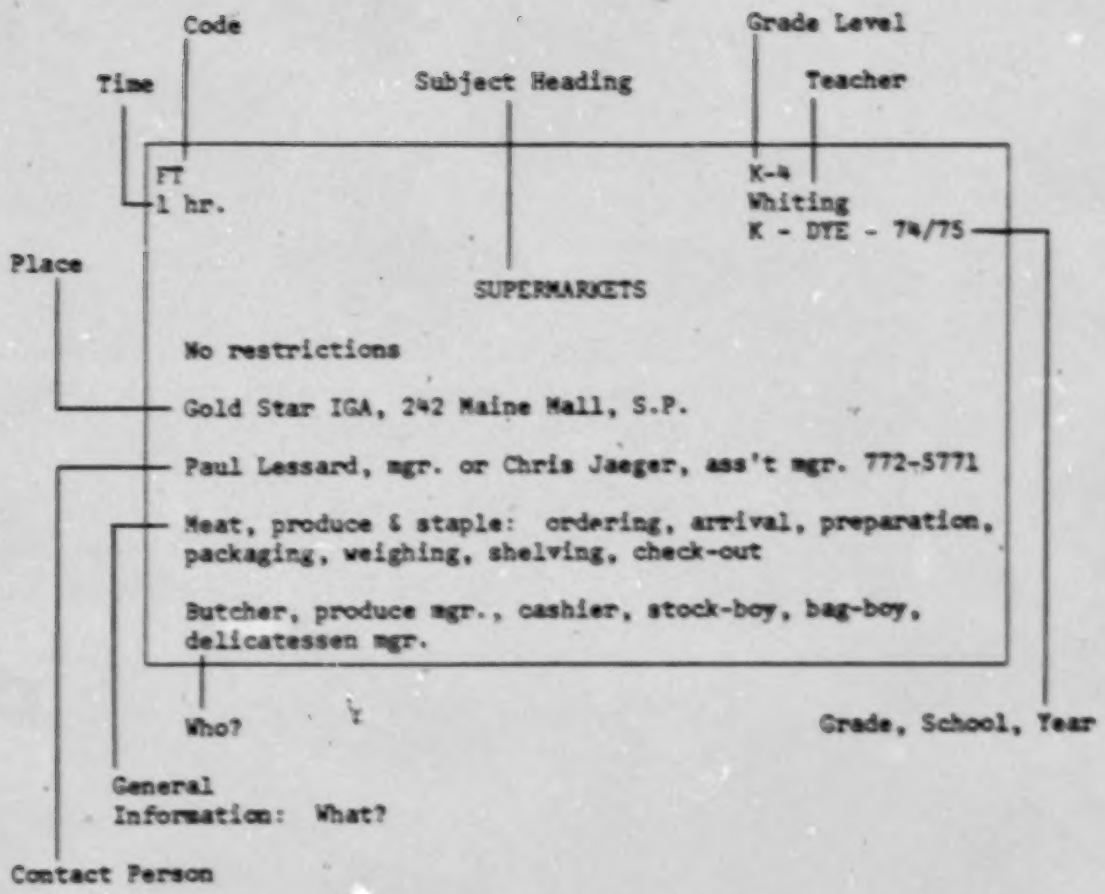
PARENT SURVEY
SUMMARY

REDBANK SCHOOL
1976

Name/Address/Tel.	Occupation	Visit Class	Class Visit Business	Provide Transportation
Aymar, Joseph 25 Wermuth Road 772-2169	Warehouse Hannaford Bros.	No	Yes	No
Corey, Jerry 66 Wermuth Road	Portland Pipeline	Yes	Yes	No
Dunning, Roger 56 Wainwright Cr. 773-0852	Tollkeeper	No	Yes	No
Marx, Kenneth 96 Devereaux Cir. 774-2990	Clerk Post Office	Yes	Yes	No
Merrifield, John 42 Wainwright Cir. 772-0006	Crane Operator	Yes	No	No
Powell, Raymond 162 Devereaux Cir. 773-6228	Warehouse Hannaford Bros.	No	?	Yes
Viney, Franklin 50 Powers Road 773-3594	Policeman	No	Yes	Yes
White, Harry 151 Running Hill Rd. 772-1413	Inspector Steel Industry (Biddeford)	Yes	No	No

Figure 3

SOUTH PORTLAND SCHOOL DEPARTMENT
SOUTH PORTLAND, MAINE



COMMUNITY RESOURCE FILE:

SAMPLE FIELD TRIP CARD

Figure 4 1976

SOUTH PORTLAND SCHOOL DEPARTMENT
SOUTH PORTLAND, MAINE

COMMUNITY RESOURCE FILE: DATA SHEET

___ Field Trip Acceptable Grade Level _____

___ Resource Person Teacher _____

___ Materials Grade ___ School _____ Date _____

Length of Visit _____ Subject Heading _____

Have you received permission for this information to be in our city file?___

Restrictions _____

Place
Resource Person _____
Materials

Address _____ Zip _____

Contact Person _____ Telephone ___ _____

Address _____

General Information: What? Who? When? Where? How? _____

_____

_____

_____

_____

Figure 5 1976

FIELD TRIPS

Years ago most children observed their parents at their careers because work was done in the home. Now that more parents are employed outside the home, it is necessary to take today's children into the community to see their parents and other adults at work.

There are some concepts that are better taught outside the classroom where children use their senses to learn through direct observation. For these reasons, the use of field trips is advocated to develop an awareness of the world of work.

SETTING OBJECTIVES

A field trip should be a learning experience, not merely a class excursion. Generally, it is unwise to combine classes; the size of the group should remain small. As with any other educational activity, it must be well organized and have specific objectives. The trip is expected to correlate with the curriculum and/or the goals and objectives of the Career Development Design. Sample objectives for a field trip are offered below:

1. After this field trip the student will be able to identify 10 careers in agriculture.

2. The student will have some knowledge of the necessary skills and preparation for these careers.

3. The student will demonstrate an understanding of the interdependence of workers in society.

4. The student will describe his own feelings about the careers he observed.

PRE-VISIT

Before the trip, the teacher and/or a committee of pupils should visit the site and talk with the guide. This provides an opportunity to learn about the workers, acquire necessary background information, and anticipate any organizational problems. After seeing and hearing about the points of interest, discuss with the guide the objectives of the visit and how much the children can be expected to comprehend. Without the pre-visit, the tour may become a dialogue between the adults and the guide with the children as uninterested by-standers.

PROCEDURES

Prior to the field trip, the following arrangements should be made:

1. Consult with the building principal and/or the curriculum director regarding the trip.

2. Obtain clearance from the Assistant Superintendent of Schools. Use the Request for Educational Field Trip Form (Figure 6).

3. Have the parents sign Field Trip Permission Slips (Figure 7).

4. Notify any special teachers that the class will be out of the building that day.

5. Enlist one reliable chaperone for each 4 or 5 children making the trip.

6. Arrange for transportation to and from the site.

The problem of transportation may be solved in a number of ways. Children can walk to nearby sites. For longer trips, it may be necessary to charter a bus. Call Greater Portland Transportation (774-0351) and ask for Mr. Forsythe,

or Brunswick Transportation (799-8528) and ask for Mr. Harding. These men arrange the charters. Local tours for a half day cost about $35.00; the cost to Augusta is about $100.00. Since there are no funds for school field trips, the cost must come from the pupils, parent groups, or special fund raising projects.

The school bus is available at no charge for short trips in the Greater Portland area. Pick-up times must be arranged around the drivers' schedules. The building principal may call Mrs. Luther in the Maintenance Office (799-0536) to make arrangements.

If parents are asked to drive, the principal and the classroom teacher should be satisfied that each is a responsible driver and carries adequate insurance. It is preferred that a form be sent home requesting a declaration of coverage, but a verbal confirmation may be acceptable. The South Portland Schools have no extended insurance coverage for teachers and volunteers who drive their own cars on school events except in cases where negligence is proven.

CLASS PREPARATION AND PLANNING

Prior to the field trip, the teacher should first review what the class already knows about the topic and then provide the class with any background information necessary for orientation.

Next, the teacher and the pupils together should set clear purposes for the trip and plan related activities such as the following:

1. Prepare a list of questions to ask the guide; such as information about the workers' jobs, their necessary skills, and the working conditions.

2. List the workers the class expects to see.

3. Research the topic in the school library.

4. Prepare a list of rules on safety and behavior during the trip.

5. Decorate a classroom bulletin board on the topic.

6. At the site, record a list of the workers seen.

7. Take pictures of the workers.

8. Interview the workers with a cassette recorder.

THE FIELD TRIP

If the class is being transported by bus, the children may play a work awareness game en route. Give the children booklets with the letters of the alphabet inside. Have them record, in alphabetical order, the names of all the workers they see on the way. Other pages in the booklet may be used for taking notes, or may contain the questions to be asked of the guide.

When the parents are driving small groups, ask them to assume responsibility for the learning experiences as well as the safety of the students. On location, they should interact with the children to keep them alert to the environment.

At the site, move in small groups whenever possible. If several guides are available, have the groups go in separate directions since there will be fewer distractions.

Use a tape recorder, camera, and personal notes to record the visit.

FOLLOW UP AND EVALUATION

Often it is advantageous to conduct a field trip at the introduction to a unit because so many classroom activities grow out of the visit. Following a trip in early May, a kindergarten teacher exclaimed, "I have enough different ideas to provide activities until the end of school!" Following, are a few suggestions for follow up activities:

1. In class discussion, recall the pupils' observations of the workers, their duties, working conditions, training, and skills.

2. Have the pupils evaluate the trip: "Did we learn what we wanted to learn?" "What else would we like to learn?"

3. Write stories and poems about the workers.

4. Sing songs about the workers.

5. Make drawings of the workers observed.

6. Use dramatizations and role playing to express feelings about these careers.

7. Write thank you notes to the company. Include drawings, booklets, or a collage.

SOME REMINDERS

Members of the business community are most generous with their time and service to the schools. Keeping this in mind, always be on time, respect the restrictions the industry has placed on the visit, and keep the children under control. Always send notes of appreciation from the children and the teacher. They are warmly appreciated and serve as an excellent form of public relations.

MINI TRIPS

Mini trips are field trips for small groups. They have proved to be extremely successful in places where large groups cannot be accommodated, or where there is a problem seeing and hearing the guide. The procedure for a mini trip is similar to that of any field trip except that approval is cleared through the building principal rather than the assistant to the superintendent. The children must have signed permission slips and the parent driver should be a responsible, mature person with adequate insurance coverage.

As with any field trip, mini trips must be carefully planned. The teacher makes certain that the supervising adult and the children have a clear understanding of the purpose of the visit. A few children may leave the classroom, but the entire class is involved in planning the trip. They all help prepare the questions to be asked and send the mini trip participants as the eyes and ears of the whole group. Upon their return, the small group shares its experiences and information with all.

In planning a curriculum unit, teachers may arrange for several related mini trips so that each child may be a visitor/reporter as well as a listener. In this manner, a series of mini trips to transportation centers, health centers, or food processing and distribution centers can enrich a unit through a different form of individualized learning and group sharing.

SCOPE AND SEQUENCE

No attempt has been made to firmly assign specific field trips to specific grade levels in this curriculum plan. Teachers should select trips which meet the objectives of their classes. Occasionally, the same trip may be taken by different grades, but for different reasons. To avoid unnecessary repetition, the teacher should check with the building principal and other teachers in the school before planning the trip.

A complete file of field trip locations with addresses and telephone numbers is in each of the elementary libraries. Whenever possible, several resources are offered for a topic. Teachers are requested to use discretion and judgment so that a few industries will not be overburdened with requests. Field trips listed in three forms - alphabetically, by topics, and by clusters - appear in the appendix of this guide.

On page 152 is a list of field trips arranged by grade level; Field Trip Information Guides appear on pages 153 to 172. The grade level on the list and the Field Trip Information Guides indicate the time when the trip is most frequently taken.

Office of the

Superintendent of Schools

South Portland, Maine

REQUEST FOR EDUCATIONAL FIELD TRIP APPROVAL Date _____

Field trips are worthwhile only when they complement the work or project of a class, are planned well in advance, and are appropriate for the grade involved. Parental approval will be obtained prior to taking the trip after receiving approval from the Superintendent's Office.

Trip planned or _____

Place to be visited _____

Date of trip _____ Grade(s) involved _____

Number of chaperones including teacher(s) _____

Transportation to be used _____

School _____ Teacher _____

REQUEST FOR EDUCATIONAL FIELD TRIP APPROVAL FORM

Figure 6

School _____ Date _____

Dear _____:

An educational field trip is being planned for the pupils of grade(s) _____ on _____.

The pupils will walk, be transported by _____ from the school to _____: will leave the school at _____ and return to the school at approximately _____. Arrangements for noon lunch are (not) being made. There will be _____ chaperones in addition to _____ teacher(s).

Each pupil is requested to contribute _____ as his share of the trip's expense.

Please indicate below your approval for your child to participate in this experience by signing and returning this form to the school.

Parent's signature _____ Teacher _____

FIELD TRIP PERMISSION SLIP

Figure 7

FIELD TRIP SUGGESTIONS

K
- Apple Orchard
- Dairy Farm
- Fire Department
- Maple Sugar Farm
- Neighborhood Walk
- School Tour
- Service Station
- *Supermarket

1
- Animal Farm
- *County Fair
- Department Store
- Greenhouse
- Hardware Store
- Knightville Tour
- Maine Mall
- Police Station
- Post Office

2
- Airport
- Bakery
- Dairy
- Fast Food Service
- Fish Hatchery
- Holiday Inn
- Ice Cream Plant
- Museum
- Prince of Fundy Ferry Boat
- *Rigby Railroad
- Secondary Industrial Arts Department

3
- Beauty Shop
- Brickyard
- Building Materials Supply
- Construction Site
- Egg Farm
- Factory
- Food Distribution Center
- Garage
- Hospital/Clinic
- Moving Company
- *Planetarium
- Portland City Tour

4
- Art Museum
- Augusta
- Candlemaking Industry
- Craft Shop
- Dental College
- Fish Processing Plant
- Historical Tour
- Hydro-electric Dam
- Library
- Photography Studio
- Pond
- *Portland Head, Cape Elizabeth
- Pottery
- Restaurant
- Salt Marsh
- Silversmith
- State Capitol
- U.S. Coast Guard Base, South Portland

5
- Bank
- Environmental Center
- Fuel Company
- Hydro-electric Plant
- Maine Medical Center
- *Newspaper Office
- Nursing Home
- Pet Shop
- Portland Water District
- Potato Farm
- Quarry
- School for the Deaf
- Vocational School

6
- Bowdoin College Museum
- City Government Offices
- Computer Center
- Credit Union Office
- Data Processing Center
- High School Business Education Dept.
- High School Science Department
- Merrymeeting Waterfowl Museum, Brunswick
- Pipe Line
- Radio and TV Station
- Sewage Treatment Plant
- SMVTI: School of Oceanography
- Telephone Company
- *Tree Farm
- U.S. Coast Guard Vessel, Duane
- Waterfront
- Willowbrook Museum, West Newfield

* Field Trip Information Guides follow.

FIELD TRIP INFORMATION GUIDE
THE SUPERMARKET

PLACE:

Gold Star IGA Market, 242 Maine Mall, South Portland
Mr. Paul Lessard, Manager Telephone 772-5711
Mr. Chris Jager, Assistant Manager

Legion Square Market, 101 Ocean Street, South Portland
Mr. Thomas Smaha, Manager Telephone 799-6613

Martin's Shop & Save, 50 Cottage Road, South Portland
Mr. Tom Catterson, Manager Telephone 799-7359

Shaw's Markets (all stores) Telephone 773-0211
Mill Creek Store, 50 Market Street, South Portland
Mr. Lawrence Brady, Manager Telephone 799-8149

Mall Plaza Store, 220 Paine Road, South Portland
Mr. Mark Binette, Manager Telephone 775-6395

SITES: Dry and cold storage; delicatessen, meat cutting, office, produce packaging, stocking the shelves, cashier

GENERAL INFORMATION: Some of the managers give the children hats to wear and display posters for the classroom. They have also given a box with a sample of each kind of fruit and vegetable to be used in the classroom for study.

SUBJECT HEADINGS:
301.3 COMMUNITY HELPERS
331.7 OCCUPATIONS
641.3 FOOD
658.87 SUPERMARKETS, GROCERIES, GROCERY TRADE

WORKERS:

Manager	Office Clerks	Maintenance Men
Assistant Manager	Meat Cutters	Rubbish Removal Men
Meat Manager	Stock Clerks	Bakery Workers
Produce Manager	Bundle Boys	Delicatessen Workers
Parking Lot Manager	Cashiers	
Check-out Manager		

ACTIVITIES:

1. Buy apples and make applesauce.
2. Buy items for resale at school.
3. Buy items and cook a meal.
4. Make a market in the classroom: classify the items, count play money, practice salesmanship and public relations, arrange attractive displays, discuss supply and demand, and role play distribution of food supplies.
5. Collect food ads.
6. Look up "grocers" in the yellow pages.
7. Write an experience chart about the trip.
8. Visit an open air market.
9. Make drawings of the visit.
10. Write a thank you letter on chart paper and have the children sign their names.

Jeannette Whiting
Helena H. Dyer School

FIELD TRIP INFORMATION GUIDE
CUMBERLAND COUNTY FAIR

PLACE: Cumberland Farmers Club Fairgrounds
West Cumberland, Maine

TELEPHONE: Stanley J. Hall, South Windham, Maine 892-4655
Ask for general information and a copy of the Fair Booklet.

RESTRICTIONS: It is preferred that school groups attend the fair early in the week.

SITES:

1. Exhibition Hall: grains, vegetables, fruit, needlework, bread, pastry, dairy products, canned goods, snapshots and paintings, crafts and hobbies, plants and flowers, demonstrations.

2. 4-H Exhibition Hall: camping, child care, clothing, conservation, crafts, electricity, entomology, flower gardening, food preservation, food and nutrition, field crops, forestry, garden, health, home improvement, home grounds beautification, horse care, knitting and crocheting, photography, poultry, recreation, science, woodworking, club exhibits.

3. Livestock: weighing, judging, and showing

4. Contests: horse, ox, and steer pulling

5. Midway: opens at 1:00 P.M.

6. Farm machinery

RESOURCES:

Filmstrips
"To A Farm" 631 SSP26
"Visiting the Farm" 631 SSP27
"The County Fair" (borrowed from Henley)

Instructo-Teaching Guide
"At the Farm" #1150 (5 big charts)

Teaching Pictures
"A Trip to the Farm" (12 pictures and resource papers)

SUBJECT HEADING: 631 FARMING

ACTIVITIES: Before the Trip

1. List behavior rules on a chart. Use puppets to dramatize appropriate behavior on the bus and at the fair.

2. Discuss the work of a farmer and his family. Invite a farmer to the classroom. Discuss the role of the 4-H in the social life of the farm family.

3. Discuss different kinds of fairs or shows and the purpose of each (dog show, flower show, science fair).

4. Discuss the purpose of an agricultural fair. Describe the places and events (listed above) that the children will see.

5. Have each child bring an apple to class. Practice classifying, exhibiting, and judging the apples.

At the Fair

6. Talk with exhibitors to find out how animals are cared for and what makes an animal a winner.

7. In the exhibit halls, select a favorite exhibit.

8. Observe machinery demonstration.

9. Take pictures to bring back to class.

After the Fair

10. List words that describe things seen at the fair.

11. Make an experience chart story of the trip and have children illustrate it.

12. Cut out pictures and make a mural showing "Our Trip To The Fair."

13. Make a class exhibition hall and let the children exhibit things they are proud of.

14. Make a bulletin board on the life of a farmer.

Honor Sanville
Helena H. Dyer School

FIELD TRIP INFORMATION GUIDE
RIGBY RAILROAD YARD

PLACE: Rigby Railroad Yard, South Portland, Maine

TELEPHONE: Mr. Brad Peters, Public Relations
Maine Central Railroad Company
Portland, Maine 04102

Telephone 773-4711, Ext. 342

RESTRICTIONS: Not over 25 in a group.

Do not promise the children a ride in the locomotive.

Write thank you notes c/o Mr. Brad Peters.

SITES: 1. Ride on a locomotive.

2. Tour of the engine house.

GENERAL INFORMATION: A train is a series of cars connected.

A locomotive is a single engine. There are two types: road locomotive and switching locomotive. Locomotives are powered by electricity which is generated by diesel fuel. They have air brakes. Locomotives weigh 100 tons and vary in horsepower from 600 - 6,000 HP. When extra power is needed, they add extra locomotives. The cost of a locomotive is approximately $250,000.

Turntable - turns the train around.

Switches - located in the tracks and change direction of locomotive.

Switch Stands - located beside the track and indicate the direction of the switch; green - straight ahead; yellow - turn.

Yard Area - area where trains are switched to their destinations.

Section Men - (gandy dancers) clean the tracks.

Car shop area - area where men work on boxcars.

Engine House - building where locomotives are serviced.

Washout Section - part of the engine house where locomotives are parked after or before inspection.

RESOURCES: Write to the Association of American Railroads for teaching materials:

Association of American Railroads
Public Relations Department
1920 L Street, N.W.
Washington, D.C. 20036

Resource Person
Mr. Brad Peters, Public Relations Director
Maine Central Railroad Company
222 St. John Street
Portland, Maine 04102

Mr. Peters has a slide set and will visit the classroom. He also has a limited number of teacher's manuals, transparencies, and photographs available, free of charge.

SUBJECT HEADING: 380.5 RAILROADS

WORKERS: Foreman - directs the entire engine house

Road Hustler - moves locomotives around the yard

Engineer - drives trains with road locomotives to their destination (not really an engine house worker)

Electrician - maintains electrical portions of the locomotive

Machinist - does the mechanical work on the locomotive

Air Brakeman - maintains air brakes

Machine Operator - makes parts

Laborer - assists machinist, but does not use tools

Welder - welds parts

Crane Operator - moves heavy equipment

Store Keeper - supplies parts to workers as needed

ACTIVITIES:

1. Make a chart story on "Our Trip to Rigby Railroad."

2. List the workers observed at the yard.

3. Wear occupational hats and role play the careers observed.
4. Set up a model train in the classroom.
5. Write original poems and stories about trains.
6. Make a bulletin board of train pictures.
7. Write thank you notes to Mr. Peters.

Gertrude Chick
Helena H. Dyer School

FIELD TRIP INFORMATION GUIDE
SOUTHWORTH PLANETARIUM

PLACE: Southworth Planetarium
University of Maine at Portland-Gorham
96 Falmouth Street
Portland, Maine 04103

George H. Ayers, Director
William Lowry, Lecturer

TELEPHONE: 773-2981, Ext. 422, call between 8:45 a.m. and noon, Monday through Friday (Ms. Jackie Boyer, Secretary).

RESTRICTIONS: Elementary children of all ages are welcomed. Schedule visits for forenoon. It is preferred that two classes come together so that the hall may be filled. The capacity is 62.

SITES: Planetarium

GENERAL INFORMATION: The Southworth Planetarium is located on the Portland Campus of the University of Maine at Portland-Gorham, one floor below ground level in the two-story wing of the Science Building (96 Falmouth Street). Parking is available in the large lot adjacent to the Science Building.

The Planetarium is a Spitz Model A-4. The projector is engineered to duplicate the appearance of the sky at any time of any year and from any location on the earth. Astronomical events lasting thousands of years can easily be compressed into a few short minutes of viewing time. This "Introduction to the Sky" is designed to be flexible in order to meet the needs of as wide an age, experience, and interest range as possible.

The Southworth Planetarium sends out astronomy programs on request. The program will emphasize the changes in the heavens during the month in which it is presented, and will point out the objects and events of interest in the sky.

Ask the lecturer to discuss related careers.

RESOURCES: Books
<u>The How and Why Wonder Book of Stars</u>
<u>Let's Go To A Planetarium</u>

SUBJECT HEADING: 523. ASTRONOMY

VOCABULARY:

Astronomer	Eclipse	Mural	Revolve
Aurora Borealis	Electron	Northern Lights	Rotate
Axis	Galaxy	Orrery	Satellite
Comet	Gravity	Planet	Shooting Star
Constellation	Meteorite	Projector	Solar System
Crater	Milky Way		Telescope

ACTIVITIES:

1. Discuss the Southworth Planetarium in detail so it will remain vivid in everyone's memory.

2. Act out an imaginary trip into space.

3. Name the planets in their order, starting with the one closest to the sun. This sentence may help: My Very Easy-going Mother Just Set Up Nine Pies.

4. Draw star patterns, creating imaginary persons, animals, or things.

5. Observe the moon; research moon exploration; study the effect of the moon on tides.

6. Using papier mache, make models of the planets, stars, sun, and moon; using cardboard and lenses, construct a telescope.

7. Write a story about "The Day the Sun Stopped Shining."

8. Make a sundial and use it to tell time on sunny days.

9. Make a space booklet; collect poems, pictures, and stories relating to space.

10. Using a flashlight and a globe of the earth, demonstrate the cause of day, night, spring, summer, fall, and winter.

11. Use a shoebox, thread, and aluminum foil balls to make a shadow box of the planets.

12. Make a bulletin board illustrating the sky at night. Label the North Star, the Big Dipper, the Little Dipper, other constellations, the Milky Way, planets, comets, and the moon.

13. Discuss a solar eclipse, a lunar eclipse, partial eclipse, and total eclipse.

14. Make an experience chart.

15. Write a thank you note.

16. Discuss astronomy as a career or leisure time activity.

17. Discuss the relationship of astronomy and astrology.

Sheila Gagnon
Thornton Heights School

FIELD TRIP INFORMATION GUIDE
PORTLAND HEAD LIGHT

PLACE: United States Coast Guard
Portland Head Light Station
Cape Elizabeth, Maine

TELEPHONE: 788-2661, Bosun Mate Allen

RESTRICTIONS: Must go in fair weather.

Children must be above grade two to go upstairs to the light.

SITES: Lighthouse - A climb of 87 steps to the light provides a magnificent view, but is a little frightening.

Engine Room - air compressors for the foghorns
Remote control switches to operate the navigational buoys
Back-up generators

Exhibit - Navigational equipment

GENERAL INFORMATION: An historical brochure is distributed.

The light was commissioned by George Washington.

The guide will assist in the identification of buoys, ships, and wildlife in the vicinity and offer navigation information.

This trip may be combined with a visit to the Coast Guard base in South Portland or a visit to Two Lights State Park.

SUBJECT HEADINGS:

359.97	U. S. COAST GUARD
528	NAVIGATION, NAUTICAL ALMANACS
623.8 to 623.89	NAUTICAL ENGINEERING AND SEAMANSHIP
623.894 3	LIGHTHOUSES
623.894 4	SIGNALS AND SIGNALING
917.419 1	PORTLAND
974.191	PORTLAND - HISTORY

Field Trip Grade 4

ACTIVITIES:

1. Written report on the history of Portland Head.

2. Write an original dramatization of the commissioning of the lighthouse.

3. Make a mural showing Maine's coastal industries and Portland Head Light.

4. Make a career notebook showing "Careers in the Coast Guard" or "Careers in the Armed Forces" or "Careers on the Sea."

5. Write thank you notes to the guide at Portland Head Light.

Marjorie Schofield
Redbank School

FIELD TRIP INFORMATION GUIDE
AMERICAN JOURNAL

PLACE: American Journal
820 Main Street
Westbrook, Maine 04092

TELEPHONE: Mr. Harry Foote, Editor
Tel. 854-2577 (Mrs. Hawkes, Office Manager)

RESTRICTIONS: Not over 20 students.

The facilities are limited and the process only involves composition with cold type, but the staff gives a thorough explanation of their business.

SITES: Offices; Composing room

GENERAL INFORMATION: Reporters investigate assignments given by the editor, take calls from people, and attend meetings at City Hall, etc. They write and type the stories for the editor to check.

Advertising is the chief source of income to the paper. A salesman sells space in the paper.

Headline Machine uses a "cold type" or photographic process to prepare headlines in various sizes.

Composition - Typed stories and cold type headlines are pasted on the make up page. The headliner machine makes a photograph of type (cold type) in a variety of sizes. Spaces where pictures will appear are blacked in.

Pictures are photographed and a "screen" is made which changes the picture to a pattern of dots. The screen is then waxed into place on the layout.

Off-set Type Production - The layout is photographed with a huge camera. A large negative of the page is used to expose an aluminum sheet. With acid and strong light, the layout is transferred onto the aluminum which is then put on a rotary press.

Circulation is the number of papers distributed at each printing. The American Journal has a circulation of 5,000.

Addressograph is the machine used to address the subscriber's copies.

RESOURCES: "Newspapers in the Classroom" - a teaching unit available from Mr. Fred Perkins, State Department of Education, Augusta, Maine 04330.

SUBJECT HEADINGS: 070 NEWSPAPERS
070.3 JOURNALISM

ACTIVITIES:

1. Produce a classroom newspaper. Practice writing news and sports stories, features, editorials, and cartoons. Sell advertising space and subscriptions.

2. Invite a photographer and reporter to visit the classroom.

3. Have each child subscribe for two weeks to the local newspaper at the low school rates.

4. Write a thank you note to the American Journal and enclose a copy of the class newspaper.

Marjorie Dube
Redbank School

FIELD TRIP INFORMATION GUIDE
FORESTRY

PLACE: Portland Water District Property
Standish, Maine

TELEPHONE: Mr. William Jackson or Mr. Dave Clement, Foresters
S. D. Warren Company
89 Cumberland Street
Westbrook, Maine 04092
Telephone 856-6311, Ext. 384

RESTRICTIONS: The foresters are not available to lead field trips to the sites listed below. They will consult with teachers and speak to the group a few minutes on location. The children may not enter the woods during hunting season.

SITES: Forester, Tree Farm, Natural Stand, Plantations (thinned and unthinned), Site of Natural Regeneration, Lumbering Operation

GENERAL INFORMATION: The Portland Water District owns land in the Sebago Lake Basin. Management of the land is under the supervision of S. D. Warren foresters.

The field trip to the Sebago Lake Basin Region may be combined with a visit to the Sebago Lake Pumping Station. For arrangements, call Portland Water District, 225 Douglas Street, Portland, tel. 774-5961, Mr. Mooney, Director.

Foresters encourage good land management for multiple use: recreation, logging, and conservation. They serve as advisors to private land owners such as S. D. Warren. They mark trees, assist in arranging contracts with private loggers.

A Tree Farm is any piece of property which is under land management and has had at least one cutting. Tree farming is a long range investment. It takes 50 years for a tree to mature in this climate.

There are 450 tree farmers in a 70 mile radius of S. D. Warren. One land owner became a tree farmer when the foresters arranged for the sale of $4,500 worth of trees. In addition, the logging operation improved the looks of the property and provided an excess of fireplace wood.

Most harvesting is done from a Natural Stand as opposed to a Plantation. Planting trees in plantations is not generally practiced. Harvesting is done in the winter to protect the undergrowth. The forester, using a paint gun, marks the tree at eye level and at ground level too, that stumps may be

checked later. A mature tree is 20 inches in diameter at 4 feet above the ground. After marking, the forester records the measurement on a card for further reference. Three 16 foot logs equal 400 board feet, or $16.00 from a single 20 foot tree, at the rate of $40 per 1,000 board feet.

Thinning allows the trees to grow larger and helps control disease. Plantations are thinned when trees are 25 years old and about 6 inches in diameter.

Pruning produces good lumber without knots.

Wolf Trees are trees which grow in a plantation by accident and rob light from other trees.

Apple trees in a plantation are always preserved.

Bore Samples are 1/8 inch cores removed from trees which show the age and growth pattern of the tree.

Logging Site - the Yard is the area where tree lengths are sorted according to use:

Best lumber - sleds, toboggans, Ethan Allen Furniture
Low grade lumber - women's heels, palettes, crates
Tops, knots, redrot - pulp

Wheel Skidder is the basic machine for logging.

Slash is brush from tree tops. It is left out of sight in the woods.

Loggers are hard workers. There is a need for good loggers. There are three schools in Maine. Some women are in training. Loggers are paid by the cord or thousand board feet. Five 12 foot trees equal a cord.

RESOURCES: Books/Publications

"Materials to Help Teach Forest Conservation" - resource list available from Forest Service, U. S. Department of Agriculture, Washington, D.C. 20250.

"Pulpwood Pete Kit" - available from Great Northern Paper Company, Millinockett, Maine 04462, tel. 1-723-5131.

"Teachers' Kit and Guide to Conservation" - available from Walter R. Gooley, Jr., Supervisor of Information and Education, Bureau of Forestry, Department of Conservation, Augusta, Maine 04330.

"Trees Are For People" - available from American Forest Institute, Lester D'Costa, RFD #1, Etna, Maine 04430.

Films/Slides

"Forestry Tour with S. D. Warren Foresters and South Portland Teachers" - November 1973

"Paper Forest: Logging and Paper Manufacturing, A Billion Dollar Industry in America" - available from Russell Day, Industrial Relation Education, S. D. Warren Company, 89 Cumberland Street, Westbrook, Maine 04092, tel. 856-6311, Ext. 388.

SUBJECT HEADINGS:

581.526 4	TREES
634.9	FORESTS AND FORESTRY
634.98	FOREST PRODUCTS
674	LUMBER AND LUMBERING
681.767 6	PAPER MAKING AND TRADE

ACTIVITIES:

1. Make a bulletin board of conservation careers. Use "Definition of Careers in Conservation" included in this unit as a resource.
2. Make a diorama of forested land under proper management, a tree plantation, and an area with no management.
3. Prepare an exhibit of forest products.
4. Make a display of wood samples, leaves, and cones.
5. Plant a tree on the school property.
6. Provide each student with a young seedling to plant at home.
7. Make paper from a pulp solution.
8. Invite a speaker from a local paper plant to speak on paper production.
9. Visit the pumping station to learn how water reaches our homes from the lake.
10. Discuss how careers in three fields are interrelated: water supply, forestry, and paper making.
11. Write thank you notes to the guide.

Edward Newell
Redbank School

DEFINITIONS OF CAREERS IN CONSERVATION *

Forest Ecologist: Conducts research in environmental factors affecting forests. Carries out studies to determine what conditions account for prevalence of different varieties of trees. Studies classification, life history, light and soil requirements, and resistance to disease and insects of different species. Investigates adaptability of different species to new environmental conditions, such as changes in soil type, climate, and altitude.

Forest Engineer: Lays out and oversees construction, installation, and use of structures, equipment, and road or rail systems, and performs other engineering duties concerned with removal of logs from timber area.

Forester: Manages and develops forest lands and their resources for economic and recreational purposes. Plans and directs projects in forestation and reforestation. Maps forest areas, estimates standing timber and future growth, and manages timber sales. Plans cutting programs. Conducts research in methods of cutting and removing timber with minimum waste and damage. Directs suppression of forest fires. Plans campsites and recreation centers, assists in planning and carrying out projects for control of floods, soil erosion, tree diseases, and insect pests in forests.

Forester Aid: Works alone or as member of crew to inventory, protect, and reforest timber lands performing many combinations of duties.

Forest Fire Fighter: Suppresses forest fires working alone or as member of crew: fells trees, digs trenches, and extinguishes flames and embers to suppress fire, using ax, chainsaw, shovel, and hand or engine-driven pumps.

Hydrologist (Geophysicist): Studies distribution, disposition, and development of waters of land areas, including form and intensity of precipitation and modes of return to ocean and atmosphere. Maps and charts water flow and dispostion of sediment. Measures changes in water volume due to evaporation and melting of snow. Studies storm occurrences and nature and movement of glaciers.

Fisheries Technician: Aids Fish Culturist in managing a fish hatchery, cultivating fish to restock streams and ponds; feeds and sorts fish; transfers and distributes fish to ponds and streams.

Oceanographic Lab Technician: Assists in a variety of chemical and physical tests and analysis such as tide and current studies, water analysis for dissolved gases and minerals, wave studies, etc. Maintains cleanliness and orderliness in lab ashore and afloat, keeps inventory of lab stock, calibrates and operates measuring and surveying instruments used in oceanography, etc.

* Source: Dictionary of Occupational Titles

Hydrographic Survey Technicians: Assumes responsibilities of operating standard surveying instruments including bottom grabs, sextants, theodolites, various tape measuring instruments, depth recorders, wire drags, and assorted kinds of required navigational equipment. Must read charts and assist the cartographer. Assists with data acquisition, processing, and in many instances, interpret and analyze original data.

Water Pollution Technician: Works with scientists in their determination of the extent of pollution in bays and estuaries, rivers and lakes, and is involved with research concerning control and abatement of industrial and other pollutants.

Park Ranger: Enforces laws, regulations, and policies in State or national park; registers vehicles and visitors, collects fees and issues parking and use permits. Provides information pertaining to park use, safety requirements, and points of interest. Directs or participates in first aid and rescue activities. May supervise workers engaged in construction and maintenance of park facilities and enforce standards of cleanliness and sanitation. Trains and supervises park workers.

Game Warden: Patrols assigned area to prevent game law violations, investigates reports of damage to crops and property by wildlife, and compiles biological data; travels through area by car, boat, airplane, horse, and on foot. Serves warrants, makes arrests, and prepares and presents evidence in court.

County Agricultural Agent for CES: Instructs and advises farmers concerning agricultural problems and informs commercial and community organizations of available services to promote extension program; collects, analyzes and evaluates agricultural data; plans and develops techniques, and advises farmers to assist in solving problems, such as crop rotation and soil erosion. Lectures and prepares articles concerning subjects such as farm management and soil conservation.

Range Conservationists: Conducts research in range problems to provide sustained production of forage, livestock, and wildlife; studies range lands to determine best grazing seasons and number and kind of livestock that can be most profitably grazed. Plans and directs construction and maintenance of range improvements, such as fencing, corrals, reservoirs for stock watering, and structures for soil-erosion control.

Soil Conservationists: Plans and develops coordinated practices for soil-erosion control, moisture conservation, and sound land use; conducts surveys and investigations on erosion and on preventative measures needed. Plans soil management practices, such as crop rotation, strip cropping; contour plowing, and reforestation as related to soil and water conservation.

Irrigation Specialist: Supervises and coordinates activities of workers engaged in irrigating crops; inspects area irrigated to insure adequate soaking and prevent waste of water. Opens head gate to permit entry of water into main ditches. Signals worker to start water flow; directs workers in cleaning and repairing ditches; keeps workers' time records.

Geologist: Studies composition, structure, and history of earth's crust; examines rocks, minerals, and fossil remains to identify and determine sequence of processes affecting development of earth. Applies knowledge of chemistry, physics, biology, and math to explain these phenomena and to help locate min eral and petroleum deposits and underground water resources. Studies ocean bottom. Applies geological knowledge to engineering problems encountered in construction projects, such as dams, tunnels, and large buildings.

Engineer: A term applied to persons who possess educational qualifications, work experience, and legal certification where required as established by engineering schools, employers and licensing authorities, for employment in various fields of engineering. Engineers typically function in one or more activities, such as research, development, design, production, consultation, administration and management, teaching, technical writing, or technical sales and service.

Cartographers: (Map Draftsman) (Photogrammetrist) Draws maps of cities, counties, states, and other areas showing location and identity of roads, communities, commercial, or industrial structures and installations, political boundaries, and other features.

Home Economist: Develops, interprets and applies principles of homemaking to promote health and welfare of individuals and families. Engages in research in government, private industry and colleges and universities to explore family relations or child development, develop new products for home, discover facts on food or nutrition, and test serviceability of new materials.

Rural and Urban Zoning and Planning Specialists: Develops comprehensive plans and programs for utilization of land and physical facilities of cities, counties and metropolitan areas; compiles and analyzes data on economic, social, and physical factors affecting land use, and prepares or requisitions graphic and narrative reports on data. Works with city and government officials to control and guide community development.

RESOURCE VISITORS

There are times when taking a field trip can be like moving the mountain to Mohammed. Instead, why not invite a resource person into the classroom? The school is designed for teaching and many presentations can be made better in the convenience of the school rather than on location. Classroom visits provide a change and they offer the students opportunities to learn about the real world through direct contact with members of the community.

Preparation

Before inviting a resource person into the classroom, the teacher should examine the curriculum and determine how a classroom visitor can best serve its objectives.

After selecting a guest presenter, the teacher should contact him/her to discuss the classroom visit. The teacher will need to learn background information about the speaker and the nature of the presentation. The guest, in turn, should be advised about the class and its understanding of the topic, the objectives of the visit, and the role of the speaker. Questions which have been prepared by the students may be given to the visitor at this time.

Attention should be given to the details of the visit. The date, allotted time, and directions to the school building and classroom should be made clear. The speaker's needs for a projector, table, maps, water source, etc. should be

determined. Following the interview, confirmation of all details discussed should be sent, in writing, to the speaker.

Pupil Planning

Whenever possible, the students should be allowed to share in planning for a classroom visitor. They may assist in the selection of the speaker, help in the preparation of questions, welcome and introduce the speaker when she/he arrives, and express thanks after the presentation. Student involvement in the planning of follow-up activities is most beneficial.

Interviewing

Interest in the people who visit the classroom or are visited in the world of work provides a meaningful opportunity to learn the techniques of interviewing which are a part of the language program.

The teacher can help the children to distinguish between questions about the work and questions about the worker. The first deals with information and facts; the latter, with attitudes and feelings. Below are some sample questions which may be used in an interview:

About the Work

1. What is the name of your job?

2. What kind of work do you do? What tools do you need? What might you do in a typical day? Is the work dangerous? Monotonous?

3. What hours do you work? How many hours a week? What does your working place look like?

4. What kind of education is necessary for this kind of work? Is there on-the-job training? Do you get more raises with formal education?

5. About how much money can someone earn at this kind of work? Is salary paid monthly or are there hourly wages? Are there any commissions or tips? Is there a chance of getting a lot of money all at once, or losing money quickly? Are there any fringe benefits and vacations?

About the Worker

1. As you see it, what are the advantages and disadvantages of your job?

2. Is there anything about your job that gives you a great deal of satisfaction and pride?

3. How do you occupy your self during your free time?

4. If you had your choice of jobs, what would you choose to do?

5. How did you get involved in your present occupation?

6. Would you recommend this kind of work for your children?

7. What was your opinion of this kind of work before you got into it?

Follow-Up

The type of activities which follow a classroom presentation will depend upon the nature of the visit. Some follow-up activities might include these:

1. Visit the site.

2. Prepare a bulletin board or display.

3. Write an experience chart.

4. Research related careers.

5. Dramatize related situations.

6. View films and filmstrips on related topics.

7. Practice any skills demonstrated.

The most important follow-up activity is an expression of appreciation from the teacher and the children.

Names, addresses, and telephone numbers of resource persons are catalogued in the elementary school libraries under appropriate subject headings as indicated in the list below.

ANIMAL LIFE	FISHING	POLICE
BANKING	FOOD	POND LIFE
BEES	FORESTRY	PORTLAND, CITY OF
BLIND	GREECE	POST OFFICE
BRAZIL	GREEN HOUSE	POTTERY
BUSINESS EDUCATION	HEALTH	PUBLIC HEALTH NURSING
CAREER EDUCATION	HOTEL MANAGEMENT	RECREATION
COMMUNICATIONS	INDIANS	SAFETY
COMPUTER	JOURNALISM	SELF AWARENESS
CONSTRUCTION	LAW ENFORCEMENT	SENIOR CITIZENS
DAIRY	LUMBERING	SEWAGE TREATMENT
DAIRY FARMING	MATH	SILVERSMITH
DEAF	MEDICINE	TEETH
ECOLOGY	MONEY	TELEPHONE COMPANY
ELECTRICITY	NAVIGATION	TELEVISION
ENVIRONMENTAL CONTROL	NEWSPAPER	TRANSPORTATION
FARMING	OCEANOGRAPHY	U.S.A. REGIONS
FINE ARTS	OUTDOOR LIVING	U.S. COAST GUARD
FIRE SAFETY	PAPER MANUFACTURING	WATERFRONT

APPENDIX A: SUGGESTED ACTIVITIES

ARTS/CRAFTS

Bulletin Boards

Cartoon Filmstrip

Charts

Clay

Collage

Diorama

Finger painting

Greeting cards

Models

Murals

Painting

- spray
- string

Paper mache

Portrait drawing

- life size
- silhouette
- partner

Posters

Pottery

Printing

- block
- potato
- junk

Wall hanging

Weaving

HANDS ON

Assembly line production

Carpentry

Cookie sales

Cooking

Desk refinishing

Landscaping school grounds

Painting litter barrels

Photography

CRITICAL THINKING/DECISION MAKING

Brainstorming

Classification of objects

Debates

Discussion

Experience charts

Interest inventory

Magic Circle

Making comparisons

Making lists

Opinion polls

Panels

Picture study

Problem solving

Sentence completion

Show and Tell

Summarizing

WORK AWARENESS

Bulletin board on workers

Chart of parents' jobs

Exhibit of tools

Field trip to business site

Games

- Charades
- What's My Line?

Interview a worker

Model community

Picture collection of workers

Report on a career

Research a career

Resource person

Set up model in classroom

- bank
- garage
- grocery store
- post office

MUSIC

Resource person in field of music

Rhythm band

Write a school song

SELF AWARENESS/VALUES

Baby pictures

Birthday calendar

Field trip to historical or cultural site

Full length mirror in classroom

Hobby show

ITV Inside Out

Journal

Magic Circle

Secret buddy

Show and Tell

Student demonstrations

Student of the week

RESPONSIBILITY

Curriculum planning

Peer teaching

Plan a party

Record keeping

Room duties

Safety patrol

Student committees

Student helper

Teaching a lesson

LISTENING

Records & Tapes

Resource persons

Stories & Poems

Television & Radio

DRAMATIC EXPRESSION

Film making

Mock Courtroom

Oral reading

Pantomime

Plays

Pupil demonstrations

Puppet shows

Role playing

Shadow plays

Skits

Slide show

Story telling

VOCABULARY

Acrostic

Crossword puzzle

Flash card on careers

Password

Vocabulary bingo

WRITTEN EXPRESSION

Creative writing

- Write about a picture

Essay writing

Journal entries

Letter writing

- Pen pals
- Thank you notes

Pair Tree (Homonyms)

Poetry

- Haiku
- Limericks

Publish a newspaper

Story completion

RESEARCH/REPORTING

Book reports

Booklets

Card file

Interview

Library visit

Note taking

Tape recording

SCIENCE

Classification

- animals
- leaves
- plants
- rocks
- trees

Ecology projects

- landscaping
- litter control
- recycling

Experimentation using scientific method

Identification through senses

- Feeling objects blindfolded
- Listening with eyes closed
- Observe and recall
- Smell and Tell
- Tasting party

Record Keeping

- Animal growth and behavior
- Food consumption
- Personal height and weight
- Plant growth
- Weather observations

SOCIAL STUDIES

Contrast careers of different regions

Group projects

Interest clubs

Map making

Map reading

Newspaper article collection

Time line

Time machine

PHYSICAL EDUCATION

Games

Folk dancing

Modern dance

Resource person on physical education

MATH

Bingo

Cook; use fractions in measuring

Graph making

Identify geometric shapes in classroom

School store with cash register and play money

APPENDIX B: CLASSIFIED FIELDTRIPS

FIELDTRIPS ARRANGED ALPHABETICALLY

Airport
American Journal
Animal Farm
Apple Orchard
Art Museum
Atomic Energy Plant
Augusta

Bakery
Bank
Beach
Beauty Shop
Bus Depot

Campground
Candle Making Shop
Ceramic Studio
Cider Mill
City Government Offices
City Tour
Coast Guard Station
Computer Center
Conservation Site
Construction Site
Cott Bottling Plant
County Fair
Court House
Craft Shop
Credit Union

Dairy Farm
Data Processing Center
Dental Clinic
Dental College
Department Store
Desert of Maine

Egg Farm
Engine Repair Shop
Environmental Center

Factory
Fairgrounds
Farm
Ferry Terminal
Fire Station
Fish Hatchery
Florist

Food Processing Plant
Fuel Company

Garage
Garden
Greenhouse

Hannaford Brothers
Hardware Store
H.S. Business Education
H.S. Home Economics
H.S. Industrial Arts
H.S. Science
Historical Site
Historical Tour
Hoods Ice Cream Plant
Hospital
Hotel
Hydro Electric Plant

Ice Cream Plant

Junior High Industrial Arts

King Cole Potato Chips

Library
Longfellow Home
Lumber Yard

Maine Mall
Maine Medical Center
Maple Sugar Farm
Market
Monument
Moving Company
Museum

Nature Walk
Neighborhood Walk
Newfield Museum
Newspaper Office
Noyes Warehouse
Nursing Home

Pet Shop
Photography Studio
Planetarium
Police Department
Polling Place
Pond
Portland Head Lighthouse
Portland Water District
Post Office
Potato Farm
Pottery Shop
Prince of Fundy
Printing Company

Quarry

Railroad Museum
Railroad Yard
Restaurant

School for Blind
School for Deaf
School Tour
Service Station
Sewage Treatment Plant
Shoe Shop
Silversmith Shop
SMVTI - Culinary Arts
SMVTI - School of Oceanography
Sturbridge Museum
Supermarket

Telephone Company
Television and Radio Station
Theater
Travel Bureau
Tree Farm
Trucking Terminal

Veterinarian
Vocational School

Warehouse
Water Department
Waterfront
Weather Station
Wescott Medical Center

FIELDTRIPS - ARRANGED BY TOPICS

ANIMALS

Animal Farm
County Fair
Pet Shop
Veterinarian

BUSINESS

Bank
Credit Union
Data Processing Center
Garage
Hotel
Moving Company
Printing Company

COMMUNICATION

Newspaper
Radio
Telephone Company
Television

COMMUNITY HELPERS

Beautician
City Government Offices
Fire Department
Library
Police Station
Post Office
State Capital
U.S. Coast Guard Station
Weather Station

CRAFTS

Candle-making Shop
Craft Shop
Furniture Making
Photography Studio
Pottery
Shoe Shop
Silversmith

CULTURAL SERVICES

Art Museum
Concert
Historical Museum
Historical Site
Monument
Planetarium
Science Museum
Theater

ECOLOGY

Environmental Center
Hydro-electric Plant
Marsh
Nature Walk
Pond
Waterfront

EDUCATION

College Campus
Dental College
H.S. Business Dept.
H.S. Science Dept.
J.H.S. Industrial Arts
School for Blind
School for Deaf
School of Oceanography

FOOD

Apple Orchard
Bakery
Dairy Farm
Egg Farm
Fish Hatchery
Food Processing Plant
Ice Cream Plant
Maple Sugar Farm
Meat Packing Plant
Potato Farm
Restaurant
Supermarket

HEALTH

Blood Bank
Dental Clinic
Doctor
Hospital
Nursing Home
Sewerage Treatment Plant
Water District

INDUSTRY

Construction Site
Factory
Fuel Company
Lumber Yard
Mill

PLANTS

Environmental Center
Florist
Greenhouse
Tree Farm

RECREATION

Maine Mall
Park

RETAILING

Department Store
Hardware Store
Shopping Center

TRANSPORTATION

Airport
Bus Depot
Ferry Terminal
Moving Van
Navigation
Railroad
Travel Bureau
Trucking Terminal

FIELDTRIPS - ARRANGED BY 15 U.S.O.E. CLUSTERS

AGRICULTURE

Apple Orchard
Cider Mill
Dairy Farm
Egg Processing
Maple Syrup Farm
Potato Farm
Poultry Farm
Vegetable Farm

BUSINESS/MATH

Bank
Computer Center
Data Processing Center
High School Business Education Department

COMMUNICATION/MEDIA

Library
Newspaper Office
Photographers
Printing Company
Radio/Television
Telephone Company

CONSTRUCTION

Building Site
Brick Yard
Hardware Store
Lumber Yard
SMVTI: Construction

CONSUMER/HOMEMAKING

Child Care Center
Credit Union
High School Home Economics Dept.
Furniture Refinishing
SMVTI: Culinary Arts

ENVIRONMENT

Animal Farm
Environmental Center
Fuel Company
Greenhouse
H. S. Science Department
Hydro-electric Plant
Museum of Natural History
Nature Walk
Pet Store
Planetarium
Tree Farm
Weather Station

FINE ARTS/HUMANITIES

Art Museum
Candlemakers
Church
Concert
Craft Shop
Furniture Makers
Historic Site
Organ Console
Photography Studio
Pottery Shop
Silversmith
Theater

HEALTH

Dental Clinic
Dental College
Hospital/Clinic
Nursing Home
School for the Blind
School for the Deaf
Sewage Treatment Plant
Water District

HOSPITALITY/RECREATION

Bowling Alley
Campground
Fast Food Service
Hotel
Marina
Restaurant
Travel Agency

MANUFACTURING: FOOD AND GOODS

Bakery - Wholesale
Factory
Food Processing Plant

MARINE SCIENCE

Fish Hatchery
Fresh Water Pond
Salt Water Marsh
SMVTI: Oceanography

MARKETING/DISTRIBUTION:
FOOD AND GOODS

Bakery - Retail
Department Store
Small Business
Shopping Center
Supermarket
Warehouse

PERSONAL SERVICES

Barber Shop
Beauty Shop
Garage
Shoe Repair

PUBLIC SERVICE

College Campus
Dental College
Fire Station
Government, City
Government, State
Library
Military Base
Police Station
Post Office
Public Utilities
School for the Blind
School for the Deaf
Secondary School
- Business Education
- Computer Center
- Home Economic
- Industrial Arts
- Science

TRANSPORTATION

Airport
Bus Depot
Ferry Terminal
Pipeline
Railroad Yard
Transport Company
Trucking Terminal

APPENDIX C: TEACHING RESOURCES

I. HUMANISTIC EDUCATION

Teachers' Manuals:

Dimensions In Personality. Pflaum/Standard, 38 West Fifth Street, Dayton, Ohio 44502.

Focus on Self Development. Science Research Associates, Inc., 259 East Erie Street, Chicago, Illinois 60611.

Human Development Program. Human Development Training Institute, 4455 Twain Avenue, Suite N, San Diego, California 92120.

Filmstrips:

"Becoming Yourself." Scholastic Book Services, 404 Sylvan Avenue, Engelwood Cliffs, New Jersey 07632.

"First Things." Guidance Associates, 757 Third Avenue, New York, New York 10017.

"Focus on Self Development." Science Research Associates.

"Kindle." Scholastic Book Services.

"Lollipop Dragon." Society for Visual Education, 1345 Diversey Parkway, Chicago, Illinois 60614.

"Mirrors." Educational Activities Inc., Freeport, New York 11520.

"Who Am I?" Universal Education and Visual Arts, 221 Park Avenue South, New York, New York 10003.

Cassettes:

"Everybody Cries Sometimes." Educational Activities Inc.

"Identity." Children's Press, 1224 West Van Buren Street, Chicago, Illinois 60607.

"Learning About Cause and Effect." Troll Associates, 320 Route 17, Mahwah, New Jersey.

Materials:

"Career Insights and Self Awareness Games." Houghton Mifflin, Pennington-Hopewell Road, Hopewell, New Jersey 08525.

"Dimensions." [multi media kit] Scholastic Book Service.

"Emotions." [slides] Society for Visual Education.

"Learning About Values Study Prints." D. C. Cook Publishing Company, Elgin, Illinois 60120.

"Moods and Emotions." [study prints] D. C. Cook Publishing Company.

"Values Study Prints." BFA Educational Media, 2211 Michigan Avenue, P. O. Box 1795, Santa Monica, California 90406.

II. WORK AWARENESS

Filmstrips:

"Community Helpers." Education Enrichment Materials, Inc., 83 East Avenue, Norwalk, Connecticut 06851.

"How Money Works." Learning Tree Filmstrips, 934 Pearl Street, Box 1590, Dept. 100, Boulder, Colorado 80302.

"I Want To Be." Children's Press.

"Our Urban Needs." Society for Visual Education.

"People At Work." Learning Resources Company, P. O. Drawer 3709, 202 Lake Miriam Drive, Lakeland, Florida 33803.

"Pioneer Time." Eye Gate, 146-01 Archer Avenue, Jamaica, New York 11435.

"We Build A New House." D.C. Heath and Company, 125 Spring Street, Lexington, Massachusetts 02173.

"Working." BFA Educational Media.

"Working In Our Community." Ginn and Company, 191 Spring Street, Lexington, Massachusetts 02173.

"Working Together In a Neighborhood." Ginn and Company.

Cassettes:

"I Wonder What I'll Be." [songs] Shawnee Press, Delaware Water Gap, Pennsylvania, 18327.

"What Will I Be When I Grow Up?" [songs] Education Activities Inc.

Materials:

"Community Helpers." [study prints] Society for Visual Education.

"Community Helpers Activity Sets 1 & 2." F. A. Owen Publishing Company, Dansville, New York 14437.

"Community Helpers Crossword." Ideal School Supply Company, 11000 South LaVergne Avenue, Oaklawn, Illinois 60453.

"Dimensions." [multi media kit] Scholastic Book Services.

"Early Career Series." [study prints] Lerner Publications Company, Minneapolis, Minnesota.

"Flash Card Rebus." [game] CFI, 2100 Locust Street, Philadelphia, Pennsylvania 19103.

"Learning About Careers." [study prints] D. C. Cook Publishing Company.

"Neighborhood Friends and Helpers." [study prints] Society for Visual Education.

III. PHILOSOPHY & STRATEGY FOR IMPLEMENTATION

Drier, Harry N., Jr., et al. K-12 Guide For Integrating Career Development Into Local Curriculum. Worthington, Ohio: Charles A. Jones Publishing Company, 1972. 255 pgs.

Dunn, James A., et al. Career Education: A Curriculum Design and Objectives Catalog. Palo Alto: American Institute for Research, 1973.

Hoyt, Kenneth B., et al. Career Education: What It Is and How To Do It. Salt Lake City: Olympus Publishing Company, 1972.

Maine State Department of Education and Cultural Services. Career Education and Maine: General Information., 1973. Bureau of Vocational Education, Augusta, Maine 04330. 23 pgs.

Mager, Robert F. Preparing Instructional Objectives. Palo Alto: Fearon Publishers, 1962.

The National Standard Career Education Model: Kindergarten through Adult. Irvine, California: Educational Properties, Inc., 1972.

U. S. Department of Health, Education and Welfare. Career Education. DHEW Publication No. (CE) 73-00501. 10 pgs. For sale: Superintendent of Documents. Catalog No. HE 5.280:8000075. U. S. Government Printing Office, Washington, D.C. 21402. 30 cents.

_____. Career Education: A Handbook For Implementation. 102 pgs. 55 cents.

IV. CURRICULUM DESIGNS AND ACTIVITIES

Borowsky, George et al. Yellow Pages of Learning Resources. Cambridge: MIT Press, 1972. 94 pgs.

Bottoms, James E., et al. Career Education Resource Guide. Washington: General Learning Corporation, 1972.

Ryan, Charles W. Career Education Program: Volume 1 K-6. Boston: Houghton Mifflin, 1973.

State of Maine. Career Education & Maine: Curriculum Guide K-12. State Department of Education and Cultural Services. Augusta, Maine 04330. 268 pgs.

State of Maine. I Can: Ideas For Teachers. State Department of Education and Cultural Services, Augusta, Maine 04330.

V. PERIODICALS AND NEWSLETTERS

Career Education. Science Research Associates, Inc., 1972, 1973. (by Kenneth B. Hoyt).

The Career Education Digest. Educational Properties, Inc., 3303 Harbor Boulevard, Suite H-6, Costa Mesa, California 92626. $10 per year, 1973.

Career Education News. McGraw-Hill Institutional Publications. 230 West Monroe Street, Chicago, Illinois 60606.

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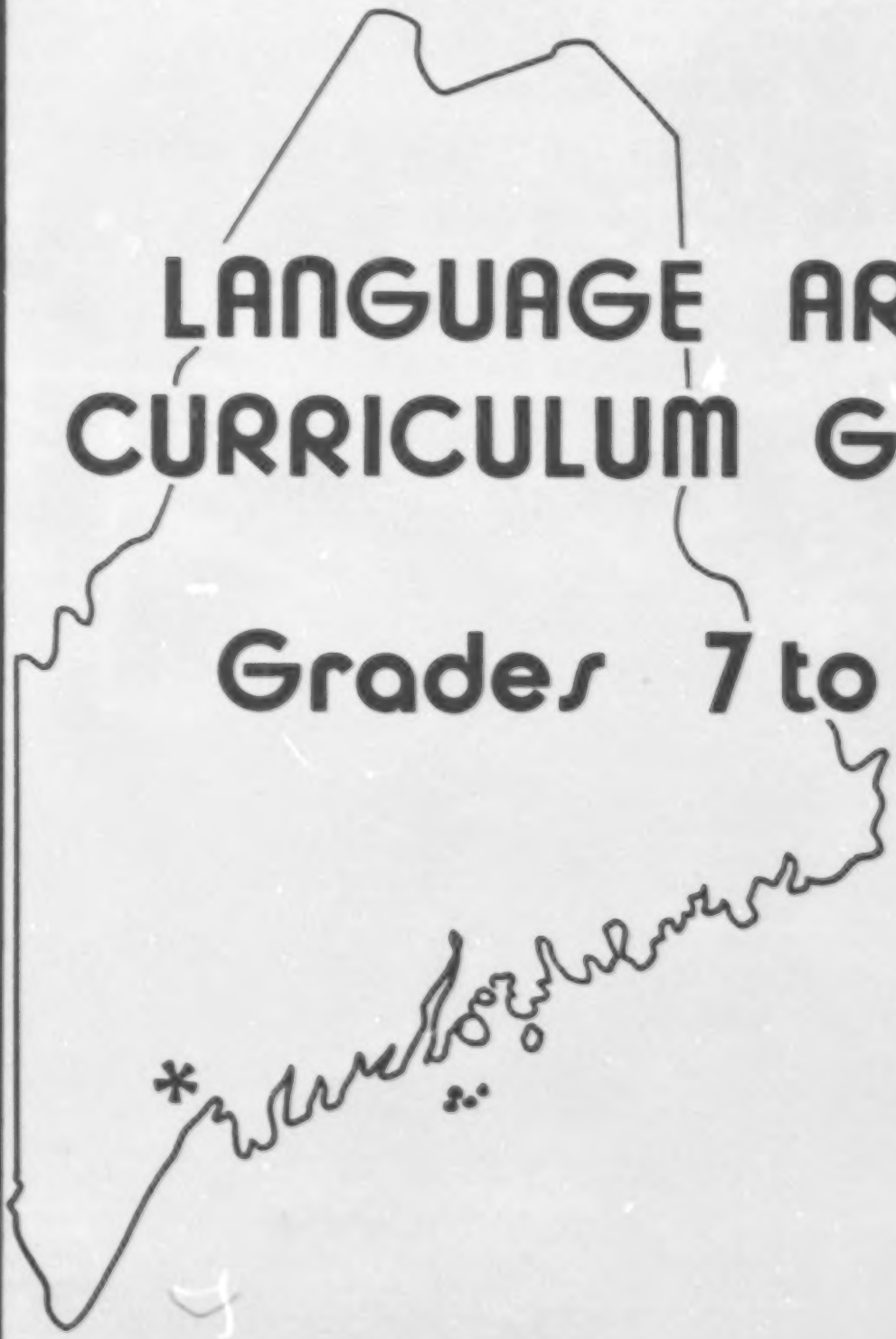
LANGUAGE ARTS CURRICULUM GUIDE

Grades 7 to 12



South Portland, Maine

LANGUAGE ARTS

CURRICULUM GUIDE

Grades Seven - Twelve

South Portland, Maine

June, 1976

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South Portland, Maine
1975-1976

The project reported herein was performed pursuant to a grant with the Office of Education, U. S. Department of Health, Education and Welfare, through the Maine Research Coordinating Unit. Contractors undertaking such projects under Government sponsorship are encouraged to express freely their professional judgment in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent official Maine Research Coordinating Unit and/or the Office of Education position or policy.

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In keeping with federal and state guidelines, the South Portland School Department does not and will not discriminate on the basis of sex, race, color, religion, national origin, ancestry, age, or physical handicap, in the educational programs or activities which it operates, and is required by Title VII of the Civil Rights Act of 1964 as amended by the Equal Employment Opportunity Act of 1972 and Title IX of the Educational Amendments of 1972 and Part 86 of Title 45, Code of Federal Regulations not to discriminate in such a manner.

The requirement not to discriminate in educational programs and activities extends to employment practices in the school system and to the admission and treatment of students.

To insure non-discriminatory practices and procedures, the South Portland Board of Education, with the assistance of an Affirmative Action Committee, is developing an Affirmative Action Plan and other compliance procedures.

It has also appointed an Affirmative Action Officer to coordinate its efforts to comply with and carry out its policies and responsivilities regarding non-discrimination.

Inquiries concerning the application of Title VII, Title IX and Part 86 to the School Department should be addressed to the Affirmative Action Officer, Ralph W. Egers, Jr., Curriculum Office, South Portland School Department, 130 Wescott Road, South Portland, Maine 04106, Telephone 775-6501.

October 14, 1975

FOREWORD

How can one adequately express appreciation to a group of people who have diligently researched, worked closely with coworkers to gather concerns and beliefs, spent much time with parent groups, actively involved community resource people and representatives of institutions of higher learning, and last but of most importance sought input from the student body to provide the impetus for developing new concepts which should prove valuable to both students and community.

Mary Cruise, in writing of Sarah Lee Wright, says in a few beautifully chosen words what makes an endeavor such as this a reality.

JOHN T. SELKINS, JR.
Superintendent of Schools

SARAH LEE WRIGHT

We remember Sarah Lee for her love of family and friends. We recall her great faith, her courage, her dignity. We think of her talent for teaching and her commitment -- her total commitment to her work. We remember the standards she asked of her students -- never more than she asked of herself. We recall her gift and great love for writing. We remember her willingness to take a stand when she believed strongly.

We think of her subtle humor and her ability to laugh -- often at herself. We think often of those things in which she found beauty -- the sea, flowers, animals, travel. We recall her impatience with those who forget "life is to be lived." We think of her marvelous blend of Southern charm and "New England conscience." We remember her "Right to Read" speech -- we cannot forget it. We remember that she wrote for this guide.

We remember.

PREFACE

This curriculum guide is composed of a series of language arts skills, activities and course outlines for grades seven through twelve. It is intended to be an instructional tool both for the experienced teacher and the teacher new to our schools. The design provides a definite sequence to our English program, yet it is flexible enough to allow for teacher creativity.

Teachers produced this guide. All of the activities and the course outlines have been tested in the classroom. We trust that the combination of sound research and practical application has resulted in a realistic guide.

Where appropriate, career education activities have been suggested. We believe that students should have the opportunity to explore their personal values and to consider the alternatives offered in different careers.

The guide was designed to fit the needs of our students. The scope of the guide recognizes the varying abilities of students as well as their diverse interests and goals.

Mary Cruise
Sarah Lee Wright
James Dunn, Chairman
English Department
South Portland High School

ACKNOWLEDGEMENTS

We recognize and appreciate the interest of those who have supported our efforts in the publication of this curriculum guide.

John I. Seekins, Jr.	Superintendent of Schools
George H. MacLeod	Director, Career Education
Frederick E. Freise	Assistant Director, Career Education

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whose patience is limitless,
whose dedication is rare,
whose secretarial talent is
evident on every page of this guide.

CURRICULUM REVISION PROCESS
South Portland English Department

The process of curriculum revision of the South Portland school system - Project REVAMP - began in the 1973-74 school year with focus upon the secondary mathematics department. This three-year program of revision includes also the English and social studies departments, one year being spent for special emphasis upon each. Infusion of career education into the curricula of these major departments will expand into other areas as well. The following account describes the process of curriculum revision in the secondary English department of South Portland.

Selection of staff was the first step. Curriculum coordinators were chosen by the administration from the secondary faculty, one teacher from the junior high and one from the high school. These teachers, released for the year from classroom teaching, worked under the supervision of a director of career education (assistant superintendent of schools) and an assistant director of career education. The teachers selected as curriculum coordinators are experienced classroom teachers with some knowledge of this city's education system, the character of the community itself, and an avowed interest in meeting the needs of students regarding education and career.

The staff's first major task early in September was the setting of objectives for the entire year. In general these included a thorough review of the present curriculum, visits to various schools in and out of the South Portland system, the study of curriculum and career education materials, contacting parents and students, working with teachers, development of the year's career education program (workshops, acquisition of new materials, development of new courses). Each coordinator composed a process chart setting forth monthly objectives for the school year. This calendar served as a guide for the major activities of the staff, and was amended continually. Although we experienced some real frustration trying to plan an entire year's program at the very beginning of the year, before we actually knew where we were going, we found that, once outlined, our work for each month was more easily determined and more efficiently accomplished. The process chart also provides a step-by-step account of our year's work.

During the first weeks, a great many hours were spent in reading, studying, and ordering various materials to increase our own background of knowledge and understanding of the concept of career education, its successes and failures elsewhere in the country. We found an overwhelming amount of literature, some very helpful and some very confusing. Our pursuit of information continued throughout the year. Resources included curriculum guides from other schools and from other states, abstracts, microfiche, and other ERIC materials, professional texts and journals, films and filmstrips, periodicals (Career Education News, Career Education Digest, newsletters) and publications of the National Council of Teachers of English.

Needs assessment was the most time-consuming project of the entire year. We now realize that this process could have been done more easily and finished earlier had we spent less time in search of an instrument already devised and

tested, and created our own - which eventually we had to do. We studied the Right to Read assessment instrument, visited the State Library in Augusta and the University of Maine Portland-Gorham Curriculum Library in search of further assessment materials, explored through ERIC, and spent much time trying to discover what others had done before us. Finally we followed the advice of our own elementary coordinator: never mind what others have done. Write your own.

Our needs assessment involved four areas of research: South Portland teachers, parents, students, and the community. Meetings with teachers were held at the junior and senior high schools, individual interviews with every teacher were conducted by the curriculum coordinators, and a fifty-item questionnaire was prepared and distributed to every secondary teacher. The purpose of all this survey of teachers was to ascertain what is actually being taught and how, what skills are needed, what duplication exists, and what gaps in the curriculum need to be filled. Teachers received the questionnaire October 1 and were asked to complete it by October 15. They were not required to sign their names, but department chairmen were asked to collect every form so that the survey would represent the entire English department. Answers were tabulated and comments compiled, and the results were stenciled and distributed to the teachers October 31. Much helpful information was acquired in this survey and used in many ways throughout the year. For example, teachers expressed opinions regarding the kinds of meetings they preferred, the extent of their interest in communicating with teachers at levels above and below their own, and topics to be explored in workshops.

Evening meetings with parents were scheduled at the junior and senior high schools. These meetings were attended by the Career Education staff and English department chairman, superintendent, and principals. A slide presentation showing some of South Portland's career education activities was offered at the junior high schools, and at all meetings free discussion of the curriculum and its needs was encouraged. Parents had received notices of these meetings, and student volunteers helped with telephoning. Attendance was much smaller than we hoped, but those parents who attended participated with interest and offered some helpful ideas. In addition to these specially planned parent meetings, career education personnel were available in the Career Resource Center of each school at the annual Open House for parents.

Student opinion was sought through questionnaires, classroom discussions, and guidance groups. Senior surveys administered by the guidance department and five-year surveys of graduates gave us some indication of student needs and opinions. The questionnaires were given to representative classes at each level, tabulated by the teachers, and the results stenciled and distributed to secondary teachers.

Our most practical and interesting information came from the South Portland community. A number of local employers, representative of the fifteen job clusters, were interviewed by the two secondary curriculum coordinators. We found the most effective way to conduct these interviews was to have one interviewer engaged in discussion with the employer while the other took notes. We used a prepared outline of topics, a copy of which was given to each employer interviewed. This employer survey form gave direction to the interview and helped us to obtain the particular information we wanted. Without exception, the business people we interviewed were cooperative, courteous, even eager to talk about ways in which education and business can work together for the good

of students and community alike. This same interest and spirit of cooperation was evidenced by our Advisory Board, a group representing education, parents, civic groups, labor, and business.

Local publishing houses provided useful information both through examination of their catalogs and educational materials and through tours showing job and career possibilities for students. Many commercial publications provided information and resources. Materials from exhibits and workshops of state and regional conventions further expanded our resource library.

In addition to the individual interviews scheduled by the curriculum coordinators, visits were made to local business firms participating in the Career Guidance Institute sponsored by the South Portland schools. These weekly visits were made after school, over a period of twenty weeks, by interested teachers, students, and parents.

The curriculum coordinators also visited a number of schools outside the South Portland system. We collected curriculum guides, interviewed teachers, visited classes, examined textbooks, and made comparisons. Detailed reports of all visits were written by the curriculum coordinators and copies distributed to English teachers, principals, and interested administrative staff.

Another interesting community contact was the University. We found that college instructors are as poorly informed as to secondary curricula, practices, and objectives as are secondary teachers regarding the college program. Teachers at both levels expressed interest in exchange visits to classes and any other possible communication that might improve the sequential element of education. We found a universal criticism -- from elementary, to junior high, to senior high, to college: there is mutual ignorance regarding other levels, there is needless duplication and repetition, there is a need for a more effective, truly sequential educational system.

Visits to regional vocational schools provided further information. Again, we found that secondary teachers, in the main, knew very little about the opportunities and programs offered by vocational institutions, whose faculties are very eager to be visited and to improve communication with the comprehensive schools who send their pupils for part-time work/study.

We recommend contacting any other department, organization, or staff that might be simultaneously assessing needs. Often this information can be shared, to the benefit of both. For example, our assessment of curriculum needs was aided by surveys administered to various classes and to special groups by the guidance departments of our schools. Also, South Portland became involved last year with the Right to Read program, and the curriculum coordinators attended meetings and helped in tailoring the Right to Read needs assessment instrument, many of whose concerns were ours also.

In December a summary of the most obvious educational needs of the English program of South Portland's secondary schools was completed. Other recommendations would be added later. The preliminary recommendations were presented to the School Board on January 6 and approved at that time.

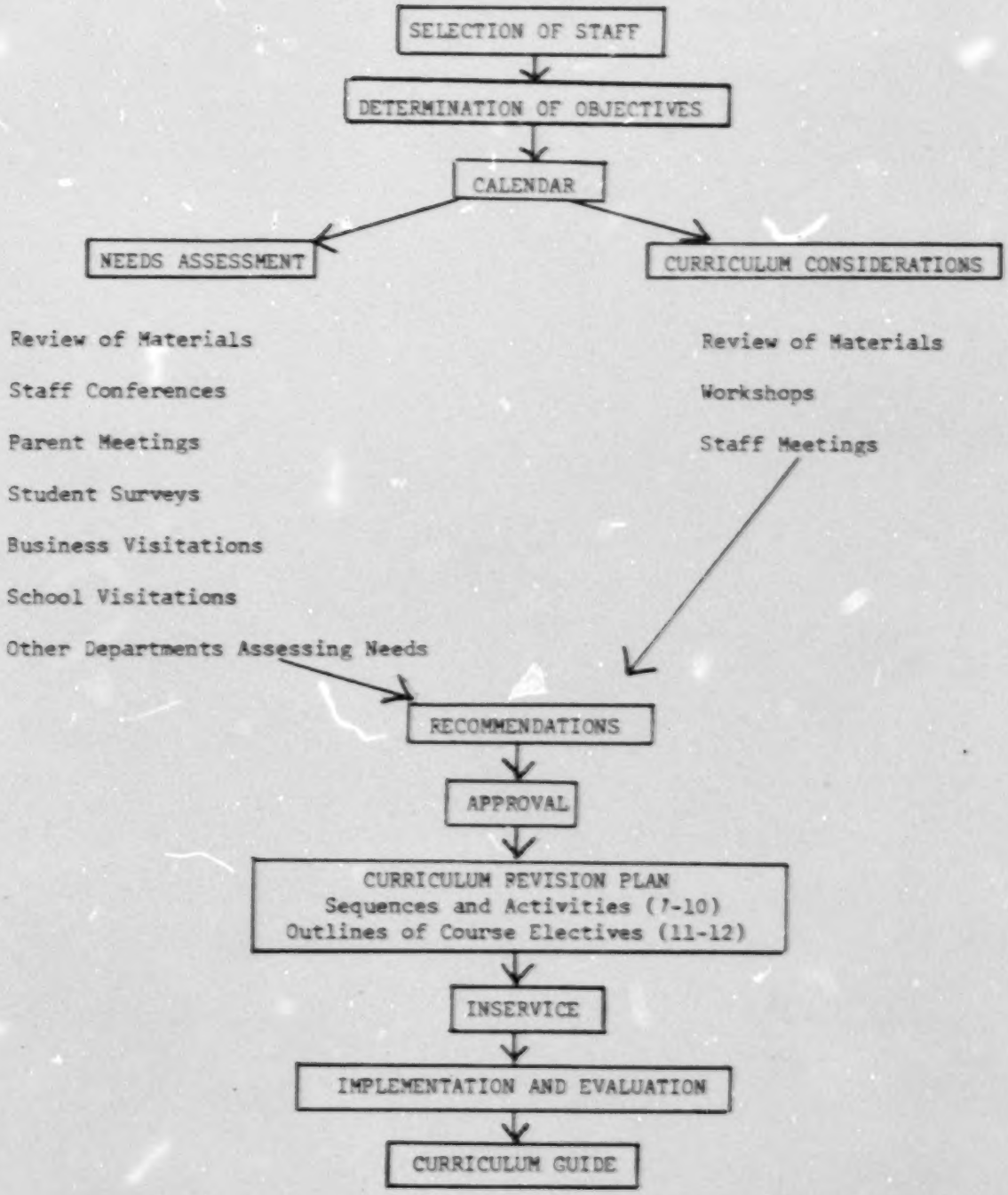
Actual revision of the curriculum was not delayed until the needs assessment was completed. Obvious needs became apparent long before December, and we began working on our sequential program, reviewing and ordering materials from many sources, commercial and professional, field testing whenever possible the classroom activities and units that seemed appropriate, viewing films, studying microfiche and curriculum guides from many states.

Individual and group meetings were held all during the fall, with administration, teachers, principals, career education staff, and guidance counselors participating. Records were kept of all meetings.

Inservice workshops were held in November, December, February, and June. Objectives of the workshops included curriculum revision, infusion of career education into the curriculum, and teacher communication. Notices were sent well in advance of each workshop. Workshop activities included speakers, visits to Prime Resource Center, viewing of films, filmstrips, and microfiche, examination of materials assembled by the curriculum coordinators, discussion groups, slide presentation of career education in South Portland (this proved to be one of the most valuable and informative activities offered) and -- perhaps the best feature -- time for teachers to plan and write, either individually or with partners, a unit or course description for use in the classroom.

Culmination of the year's work was two-fold. (I) Recommendations for improvement of the English department were presented to and approved by the School Board in March. (II) The working draft of our first sequential plan for curriculum revision was published and distributed to secondary English teachers, to be used as guidelines, classroom tested, and implemented with activity packages. Implementation, evaluation, and further amendment will lead to publication of the curriculum guide in the spring of 1976.

CURRICULUM REVISION PROCESS
South Portland English Department



GRADE SEVEN - PHASES 1-2-3

Reading and Literature	Writing	Language: Grammar and Usage	Speaking, Listening	Career Education
Decoding skills: sounds syllables root words suffixes, prefixes Comprehension: Reading to find main idea to select details to answer questions Rate: Key words Phrasing (thought units) SQ3R (Survey, Question, Read, Restate, Review) Appreciation: reading for pleasure understanding plot Library Orientation Group/Individual Directed Reading Study of make-up of books	Practice in form of preparing papers Personal writing: sketches journals Paragraph main idea supportive sentences Writing for English and content area subjects: definitions brief essay answers summaries Writing after viewing films, filmstrips Letter writing	Subject - Verb Direct Object End Punctuation Capitalization Simple Sentence By putting together its component parts, the student may better understand the concept of a sentence. Sentence building with adjectives Vocabulary: sight vocabulary word study from reading selections context clues Spelling: Basic Lists Student writing Dictionary Usage Word Study Dialects	Oral Reading Choral reading Pantomime Practice: asking and answering questions giving and taking directions Reporting: hobbies interests references other areas Listening to write from dictation Listening to enjoy Recognizing the importance of courtesy, responsibility, participation in listening situations Role Playing and Improvisation	Guidance Program: Study habits and attitudes Orientation to Career Resource Center Investigation of job clusters Research of careers English: Tourism in Maine Newspaper Unit Newspaper Careers

DIAGNOSIS AND CORRECTION OF INDIVIDUAL READING DISABILITIES WITH THE HELP OF THE READING SPECIALIST ARE RECOMMENDED FOR ALL GRADES AND ALL PHASES.

GRADE SEVEN - PHASES 4 and 5

Reading and Literature	Writing	Language: Grammar and Usage	Speaking, Listening	Career Education
Basic skills from Phases 1-2-3 as needed. Comprehension: Purposes of reading: to follow directions to see relationship between main ideas and details to see time relationships to recognize spatial relationships Interpretation: recognizing sequence of plot noting character change sensing emotion visualizing character and setting Library Orientation Group/Individual	Topic sentence: Supporting sentences Topic outlining: One major division Sub-topics Creative outline Simple plan for student composition Note taking in topic outline form Personal writing Autobiographical sketches Letters Friendly Thank you Expository Brief reports based on writing Transposing in student's words Writing based on reading Avoid stereotyped report	Subject Noun Personal Pronoun Verb Action Linking Simple Tense Complement Direct Object Predicate Adjective Predicate Nominative Simple Sentence Punctuation Capitalization Adjective-Comparison Adverb Conjunction (Coordinating for use in compounds) Object of Preposition Adjectives and Adverb Phrases Usage Spelling Dictionary Vocabulary Word Study Dialects	Oral reading Choral reading Pantomime Practice: asking and answering questions giving and taking directions Reporting: hobbies interests references other areas Listening to write from dictation Listening to enjoy Recognizing the importance of courtesy, responsibility, participation in listening situations Role Playing and Improvisation	Guidance Program: Study habits and attitudes Orientation to Career Resource Center Investigation of job clusters Research of careers English: Tourism in Maine Newspaper Unit Newspaper Careers

GRADE EIGHT - PHASES 1-2-3

Reading and Literature	Writing	Language: Grammar and Usage	Speaking, Listening	Career Education
Refine basic skills Pre-reading (Preparation for a reading assignment) Skills: Defining purpose for reading Adapting rate to purpose and content Understanding sequence of ideas and events Understanding conflict basic to plot Study of general make-up of books noting the plan of the authors Oral Reading Pronunciation Expression Appreciation: Understanding major and minor characters Interpreting dialect and unfamiliar language Library	Pre-writing Re-writing Note taking for content area subjects Reference work: Brief reports in student's own words Tone: Business letter and Friendly letter to peers to elders Post cards of request Writing based on reading Writing based on viewing television and class films Personal writing Hobbies Articles for school newspaper Summary of a short story applying time sequence	Predicate Adjective Predicate Nominative Adverb Compound parts of simple sentence Prepositional phrases Spelling from Spelling text Grammar text Student writing Vocabulary/Dictionary Words from reading Activities in use of telephone book Usage Word Study Dialects	Oral reports Small group discussions Taping of discussion, listening Discussion of films, television Introductions and responses Taking and giving messages Pantomime Characterization (Scenes from literature) Role Playing and Improvisation	Guidance/English: Career Fair Preparation, orientation, and evaluation in Career Resource Room English Units: Revolutionary Lifestyles Alternatives to Book Reports Self and Career Exploration Community Resource Indian Lifestyles History of Schools Lifestyles-Nearing

GRADE EIGHT - PHASES 4 and 5

Reading and Literature	Writing	Language: Grammar and Usage	Speaking, Listening	Career Education
Skills taught as needed Pre-reading (Preparation for a reading assignment) Word Study: Derivation Vocabulary from literature Comprehension: Organizing ideas in the selection Recognizing cause and effect relationships Receptive reading Interpretation Mood, atmosphere Dialect in literature Literary devices Foreshadowing Flash back Figures of Speech Simile Metaphor Personification Alliteration Theme in literature Library Dialects in Literature	Pre-writing Re-writing Progression in outlining Note taking to develop listening skills Letters of Request and Order Friendly Letters (End teaching of letter form with grade eight) Report based on two references Outlining-two point Summarizing Personal Writing Correlate personal experience with literature Books Comparative terms Dialogue: Punctuation Capitalization	Noun Abstract, concrete Appositive Pronoun Indefinite Possessive Cases Subject-verb agreement Verb Perfect tenses Conjugation Passive Voice Transitive Mood Conjunction-correlative Distinction between Simple Sentence Patterns and Compound Sentence Clause: Adjective/Relative Pronoun Adverb/Subordinating Conjunction Complex Sentence Verbals-begin study Spelling Grammar text Spelling text Student writing Vocabulary/Dictionary Word families Synonyms, antonyms, homonyms Vocabulary text Dialects	Listening: for specific information to organize information to develop different solutions to infer cause behind facts to form opinion Speaking: Small Group Discussion Oral Book Reporting Taping Discussion Dramatizing Scenes from literature Role Playing and Improvisation Oral Reading Pronunciation Expression	Guidance/English: Career Fair Preparation, orientation and evaluation in Career Resource Room English Units: Revolutionary Lifestyles Alternatives to Book Reports Self and Career Exploration Community Resource Indian Lifestyles History of Schools Lifestyles-Nearing

GRADE NINE - PHASES 1-2-3

Reading and Literature	Writing	Language: Grammar and Usage	Speaking, Listening	Career Education
Basic skills as needed Pre-reading (Preparation for a reading assignment) Word Study Structural clues to meaning Vocabulary from literature Rate Approaches to Reading Skimming Rapid Average Slow and Careful Comprehension Drawing conclusions Distinguishing fact and opinion relevant and irrelevant Evaluate, organize, use information Appreciation Identify with characters Recognize that literature can be used to understand one's life and oneself	Pre-writing Re-writing Outlining for speeches and reports Writing directions and explanations Writing about leisure activities Writing from job shadowing Personal Writing Writing open letter to school paper to daily paper Writing from reading Writing reviews of radio, television films	Pronouns Agreement subject and verb Conjunctions Compound Sentence Spelling Vocabulary/Dictionary Vocabulary text Usage Word Study Dialects	Giving directions and explanations Taking directions (as in job shadowing) Listening to recordings of good literature followed by class discussions Listening to take notes for a personal interview Adapting speech to audience and occasion Participating in panel discussions Role Playing and Improvisation Ninth grade speech syllabus includes purposes of speech	Guidance/English: Nine Week Courses: Self and Career Exploration Introduction to Careers Projects and Units: Oral Reading Consumer Education in English class Job Shadowing

GRADE NINE - PHASES 4 and 5

Reading and Literature	Writing	Language: Grammar and Usage	Speaking, Listening	Career Education
Pre-reading (Preparation for a reading assignment) Rate: Approaches to Reading Comprehension Inferring special shade of meaning as determined by the context Increasing competence in critical reading, stressing ability to distinguish fact and opinion Relating reading to past reading through mythology and poetry Comparing characters, settings and conflicts in current reading to those in previously read books Interpretation Character traits Motivation of characters Character and environment Effect of language Figures of speech Imagery Symbolism Satire Style	Pre-writing Re-writing Planning and preparing a multi-paragraph theme suited to specific purpose: entertain, inform persuade, self-release Refining the use of transitional devices Writing five kinds of expository paragraphs Outlining for speeches and reports Creating variety in sentence structure Preparing investigative reports about selected authors Improving personal writing through opinion essays for varied audiences	Noun Clause Compound-complex sentence Verbals-continue study Parallelism Subjunctive Spelling Vocabulary/Dictionary Vocabulary text Origin word histories Vocabulary from literature Word Study Dialects	Enjoying literature through appreciative listening Adapting speech to audience and occasion Participating in general and panel discussions Using techniques of oral interpretation Role Playing and Improvisation	Guidance/English: Nine Week Courses: Self and Career Exploration Introduction to Careers Projects and Units: Oral Reading Consumer Education in English class Job Shadowing

CAREER DEVELOPMENT DESIGN

GOALS

	PRIMARY	INTERMEDIATE
SELF AWARENESS	Demonstrate an awareness of his own interests, skills and feelings.	Demonstrate an appreciation of his own skills, interests, feelings and values.
INTERPERSONAL SKILLS	Demonstrate cooperation in social situations.	Develop an appreciation of the differences between individuals or groups.
DECISION MAKING	Use his senses to gather data and to develop concepts.	Develop skills in making generalizations, hypothesizing and predicting.
WORK AWARENESS	Gain knowledge of workers in the home, school, and community.	Identify the personal and environmental factors which influence a worker.
MANIPULATIVE SKILLS	Develop psychomotor skills.	Improve psychomotor skills.
ECONOMIC AWARENESS	Understand that people are paid for their work and use that money to satisfy their needs and wants.	Recognize that each individual is a consumer, producer and citizen, and as such has certain rights and responsibilities.
VALUE OF WORK	Identify ways that workers are of service to the community.	Recognize that an individual can find satisfaction through his work.
RELEVANCE OF EDUCATION	Recognize that school is a place to learn.	Recognize that schooling is necessary for future careers.

CAREER DEVELOPMENT DESIGN

GOALS

JUNIOR HIGH	SENIOR HIGH
Recognize that his talents, values, interests, and limitations relate to career goals.	Make goal-oriented choices related to his career requirements and future employability skills.
Develop the interpersonal skills required for work roles, recognizing that trust and respect are factors in human relations.	Demonstrate an understanding of the importance of human relationships in volunteer and part and full time work.
Develop an awareness of the results of decisions which will give him a sense of control over his future.	Identify realistic alternatives based on education, work experience and counseling and accept responsibility for career decisions.
Explore and analyze the common and unique characteristics of jobs within the 15 U.S.O.E. job clusters.	Recognize that social, environmental, and technical factors influence career trends and as a result workers must be flexible, adaptable and mobile.
Identify and use manual skills that are essential to many careers and leisure time activities.	Develop competence in use of manipulative skills required in one's future career or educational plans.
Develop an awareness of the financial and legal consumer resources as they relate to personal and family economics.	Understand and appreciate, as a worker and consumer, the complexities of the American economic system.
Understand impact of one's career on his lifestyle.	Gain insight into personal and social value of employment through simulated or real work experience.
Recognize that mental, physical and communicative skills are basic and applicable to all career fields.	Identify the relation between mastery of content knowledge and educational or vocational plans.

LANGUAGE ARTS IN THE JUNIOR HIGH SCHOOL

Our syllabus consists of a program of five components each having its own particular characteristics:

READING AND LITERATURE, which

recognizes that learning to improve reading skills is a continuous process.

gives attention to the need for study skills.

adjusts to all levels of ability.

affords the opportunity for students to learn truths about people.

prizes the old but recognizes that much of the contemporary is good.

provides for the reading of all types of literature: poetry, drama, biography, fiction and non-fiction.

uses audio-visual materials which Bruner terms "devices for vicarious experiences."

WRITING, which

offers frequent practice in "practical" writing but encourages personal writing.

stresses the value of writing as related to other aspects of the English program.

emphasizes the process of writing.

provides for experiences in descriptive and narrative writing.

recognizes that audiences other than the teacher be offered the student.

stresses the mechanics of legible handwriting.

LANGUAGE, which

distinguishes between grammar and usage.

supports the research that the study of formal, analytical grammar begin at grade seven.

encourages the inductive method of teaching grammar.

builds an interest in words.

SPEAKING AND LISTENING, which

acknowledges the fact that the "spoken" language is the language.

provides the opportunity for students to learn and practice both speaking and listening skills.

affords the opportunity for student interaction.

CAREER EDUCATION, which

recognizes that a career is a way of life.

encourages an awareness of self and of interpersonal relations.

provides for wide range of student abilities and interests.

strengthens the work ethic.

emphasizes an awareness of values.

We believe with Einstein that "it is essential that the student acquire an understanding of and a lively feeling for values. He must acquire a vivid sense of the beautiful and the morally good. Otherwise he - with his specialized knowledge - more closely resembles a well trained dog than a harmoniously developed person."

SUGGESTED ACTIVITIES FOR GRADE SEVEN

READING

A student gets a certain number of miles on a map of the United States for each type of book he reads. An index card is passed in listing the characters, plot, favorite incident and people for whom the book is recommended. A test grade of A is received for each trip across the country.

After reading a story in class, students write questions to stump a panel of "experts" who volunteer to field questions in front of the class.

When a student has read a short story, he selects an activity from a card file of suggested topics. This may be a research topic from the career resource room or a book from the library based on the material read.

VOCABULARY

When doing vocabulary in reading, the students submit their own vocabulary lists, without definitions. They should learn their individual words and the list can be handed back as a vocabulary portion of a class test over content.

WRITING

Have the students write letters to one another and have them actually put them in the mail. Evaluations can be made when the letters are received. The person who gets the letter should bring it in for discussion, perhaps by the writer and the reader in pairs. Of course, if someone moves, the opportunity for corresponding should be seized immediately.

Each student has a folded piece of construction paper, kept in class and decorated as he pleases. Several times a week, a suggested topic is written on the board. Students may write on that topic or one of their own choice. The teacher spot reads the journals and makes personal comments pertaining to the subject matter, but not to spelling or grammar. This project helps one to get to know his students.

Write autobiographies in a series of weekly installments (describe your first memory, your parents, your thoughts toward grammar school years). These are proofread but not graded. Ultimately they are edited as one piece of writing by the author.

Keep track of editorials and cartoons in the newspaper. They can be used both for reading and grammar work and are obviously topical enough. Have students follow one comic strip for a week and write about it. They could describe characters or the source of humor. With a good editorial, a clearly stated viewpoint can be examined for its argument or persuasiveness. These can be reproduced to resemble their appearance in the paper.

Publish as much as possible what students write.

Take actual paragraphs the students have written and type three of them - a good one, a fair one and a poor one. Students read them aloud and have the class rate them as good, fair or poor. Then the class takes a vote and notes how the majority rated the writing. The teacher then offers opinions about the grading.

Give students the first line of a potential story and have them consider possibilities in groups. Once enough stories have been told, have them composed on paper.

SAMPLE STORY SHEET

Consider these as the first line of a story:

1. Walking carefully across the ice, Bill heard frightening sounds as he reached the middle of the pond.
2. All alone, I looked for the bus, but it had left.
3. As he opened the door, an alarm bell began to clang.

Now, a good story answers all of a reader's questions. Thus, before you write, THINK.

Ask yourself:

Where could this be happening?
Who could be in this story?
When might this be happening?
What kind of day is it?
What time of day is it?

Are you going to have a surprise ending?

If any of these thoughts leads you to ideas not listed here, feel free to write on them.

GROUP ACTIVITIES

Students form groups of two or three and make lists of spelling words using newspapers, magazines, textbooks. Later in the week, they write the words in sentences and take a pretest and a test, again in groups.

Teams are formed, usually boys against the girls and two people in front of the class shake a cube and draw a card as each player is up. The card has a word on it and the cube tells whether to use the word as a noun, verb or adjective.

Students write everyday situations on index cards. At the end of a class, a group of three might act out a situation for the class. Students are encouraged to think spontaneously.

Students write two characters, two settings and two situations. They then get together with another person and combine the items, eliminating or adding, to create a story or play.

Students discuss the problems of the elderly and plans to alleviate the problems. This also makes a good theme topic if the student selects one problem and suggests one solution for it.

MYTHOLOGY

Create a god or goddess needed in the 20th century as a god of machines. Explain the need.

Create a story telling about what one of the ancient gods or goddesses would be doing today.

Write a myth to explain a natural phenomenon. For example, if we didn't have science, how might we explain snow or thunder?

FOLKLORE

Write your own tall tale.

Research proverbs, riddles and superstitions to tell the class. Interview parents and especially grandparents for superstitions.

Pantomime a folk hero by showing what he was famous for, e.g. Paul Bunyan and his swinging axe. The class must guess which folk hero is being described.

TREASURE ISLAND

Resource: Lighthouses of Casco Bay, Peter D. Bachelder

Activity: Write reports on local shipwrecks. Additional background information may be found through interviews or newspaper accounts.

CALL OF THE WILD

Resources: Filmstrips - Jack London: A Life of Adventure

Activities: Write a realistic story about something you have done or some place you have been just as London wrote about things he had seen or done.

Call of the Wild is, in many parts, seen through Buck's eyes. Pretend you are someone or something else and tell about one of your experiences.

TOM SAWYER

Resources: "Mark Twain's Life" - filmstrip and cassette
"Mark Twain Tonight" - recording
"Age of Mark Twain"
"Two Portraits" from Roughing It

Activities: Library research projects: slavery, superstitions, Hannibal
Writing projects: a modern Tom Sawyer
compare with "My Side of the Mountain"-an adventure
after listening to the stories of Bill Cosby, a modern day Mark Twain, write several paragraphs about what you did as a child.

SOUNDER

Resources: Filmstrips on prejudice
Recordings of poetry of the blacks
Library books on black literature

Activities: Students are responsible for project using library research materials.
Students read poems in class and hear recordings of black poetry.
Students write about their own prejudices.

Sue Fagan
Craig Furbush
Chris Wieting
Memorial Junior High School

Grade Seven

THE TRIAL

A. Objectives:

The student will use the basics of debate and of courtroom procedure.

The student will distinguish between facts and persuasive arguments.

The student will read for specific facts and for an understanding of characters in literature.

The student will recognize that an author's theme may be interpreted in many ways.

B. Activities:

1. Students read a novel, short story or poem which involves a crime.
   Examples: Tom Sawyer
   Call of the Wild
   Treasure Island
   Myths and Legends
   "The Highwayman"
   "A Figure of Speech"

2. Students reread the work taking various parts as witnesses, judges, lawyers.

3. Lawyer and witnesses write speeches and rebuttal for courtroom trial, citing evidence and offering examples to sustain arguments.

4. Students hold trial in class. This may be performed in costume before another class or it may be videotaped.

5. Jury members make a decision based on the testimony. Judge pronounces sentence.

6. Class debates the validity of the decision. Discussion follows as to how the addition or deletion of certain facts altered the case.

7. Students suggest other endings both for discussion and as possible theme topics.

Gary Hill
Memorial Junior High School

Grade Seven

LANGUAGE ARTS ACTIVITIES

A. Long before "Scope" began to use the brief mysteries in its magazine each week, I have used the ones contained in an old Scholastic book called "Minute Mysteries" both for their mystery value and as a way of checking whatever we happen to be studying. There is always a vocabulary exercise based on words in the story or words I have substituted. The stories may be rewritten to be used for paragraphing, direct quotations, capitals, spelling, synonyms, finding the use of the word in that particular story and, of course, solving the mystery. Once you get started, there are many variations.

B. For reluctant readers, I select jokes in which two people are conversing with each other and write each person's dialogue on a card. The first to speak is numbered 1, the second 2. When I have enough for a class, all of the 1's are passed out, then all of the 2's. Someone with a 1 stands and reads his part of the joke; the one with the corresponding 2 must recognize it and read his part until the joke has been told. Most kids (any age) love jokes.

C. Tricky parts of grammar are more fun if the rules are made into rhymes.

"You can make most nouns plural
Without a scowl or a frown -
The rule is simply this, my friends,
Just add s to the noun,
Unless it ends in a buzzing sound
From an sh, x, or z -
If it does, make another syllable
By adding es, you see."

D. Probably not too many teachers are familiar with a hobby known as refunding. This consists of searching stores, newspapers, magazines, and various products for forms offering money, free products, or gifts for the correct qualifiers. Then the requirements must be mailed in, and in due time the mail brings the reward. I have used this with small groups that dislike reading and writing. In order to benefit, they must read directions, follow them correctly, and address a letter correctly. Sometimes the refund is in the form of a check, so they learn to handle that correctly. Once they have been introduced to this, they no longer consider newspapers and magazines their enemies, but are constantly looking for new forms.

Mary Walton
Mahoney Junior High School

Grade Seven

ACTIVITIES TO ACCOMPANY AN ANTHOLOGY WHICH FEATURES STORIES OF COLONIAL TIMES

A. Create a mural or a model of a colonial village. Student ingenuity will determine the use of materials: paper-mache, clay, pipe cleaner figures, popsicle sticks or dolls dressed in authentic costumes. This may be a project which involves an entire class or small groups.

B. Demonstrate candle making, weaving, knitting or any other craft familiar to students. Such projects may lead to a Hobby or Craft Show.

C. Write a theme imagining yourself involved in an occupation known only to this time period. Before writing, the student will need much library research.

D. Devise a bulletin board display. Pictures, cards and souvenirs of family trips to historical areas may be mounted. Visits to Philadelphia, Plymouth, Sturbridge or Williamsburg will provide excellent historical background.

PROJECTS TO BE USED IN THE TEACHING OF THE WITCH OF BLACKBIRD POND

I. Objective: To enable students to have a better understanding of certain aspects of the colonial period.

Activity: Research library resources on the subject of witchcraft.

II. Objective: To improve the writing skills of students and encourage their use of imagination.

Activity: Picture Kit and Nat ten years after the book has ended. Write about their lives and plans at that period.

Write about Barbados as described to you by Kit, a neighbor. The student must research the area to write effectively about it.

Evaluation: For these types of reports, the student receives one grade for factual information and another for the technical aspect of the work.

THE ALPHABET STORY COMPOSITION

Students may work alone or in pairs on this project. They are to write a story beginning each sentence with a successive letter of the alphabet. The class votes on the best story and paperback books, school stationery or pens are awarded the winning pair of writers.

SPELLING

Give students words from their spelling lessons written on cards. Have the students go to the front of the room and arrange themselves alphabetically on the basis of words assigned. Without looking at the word again, they must be able to spell it correctly before sitting down. Later these cards may be used for review.

Have students keep a notebook of misspelled words. Every two weeks, two students will work together retesting each other on the words missed in the previous lessons.

Keep a "Spill and Spell" game available for students to use when they have completed their work and only a few minutes of class time remain.

BULLETIN BOARD PROJECT

This project may be used successfully with any novel. Students design book covers using a character or scene from the story. Original sketches or drawings depict their impressions of central figures and events. Dramatic lines from the story add to the effectiveness of the display.

REVIEW BASEBALL

Students write ten questions and answers over the story or novel. These are to be used in the game.

The class is divided into two teams. The scoring is similar to baseball - three outs to a team.

Team A	Team B
first base	first base
second base	second base
third base	third base
runs	runs

Each team must put a player on each base before runs are accumulated. This process continues until three outs are made. Then the other team is up to bat.

WHAT'S INSIDE YOUR HEAD?

The teacher makes a silhouette of each student's head by using the overhead projector. This casts a shadow of his head on a piece of paper which is secured to the blackboard. Next each student fills his head with his likes and dislikes

in the form of a collage. If the student has not included his hopes for the future (his career plans), he should be asked to include these. If he is unable to find a picture, a word will do.

After the heads are tacked to the bulletin board, the student explains his plans to the class. Following this, a work sheet on career planning is provided as each student does mini-researching in the career research room. Sharing of information is done informally.

FROM PAINTING TO WORDS TO PAINTING

Aims: To help students:

understand the value of preparing clear and organized writing.

decide which details are important enough to be included in writing.

recognize that specific information is essential to his description or explanation.

arrange details in logical sequence.

Procedure: Present to the class a painting unfamiliar to the group. It may be an original created by the art teacher.

Have the class write a description of what they see in the painting.

Give the papers to the art teacher who will have a class paint what they find in the description.

Combine the class writing the description and the class painting from that description.

Discuss the need for accuracy in writing descriptions.

Pamela Beal
Mahoney Junior High School

NEWSPAPER UNIT

* 1 2 3 4 5 6 7 8

OVERVIEW: This project was created as a means of incorporating all phases of language arts. Students too often see grammar, writing and speech in isolation. This activity provided the opportunity for them to apply their basic skills in these areas to the study of the newspaper.

OBJECTIVES:

1. Self Awareness: The student will recognize that his interests relate to career goals.
2. Interpersonal Skills: The student will develop the interpersonal skills required for work roles.
3. Decision Making: The student will use the decision making process to determine the work roles for the project.
4. Manipulative Skills: The student will use the manual skills essential to a newspaper career.
5. Relevance of Education: The student will recognize that communicative skills are basic to a career field.

RESOURCES: Local newspapers

Newspaper guides, published workbooks or teacher-prepared guide sheets

Mimeograph/carbon/printing facilities

Art supplies/paper

Novel, short story or poem of sufficient depth

ACTIVITIES: Read newspapers to identify parts, style and mechanics.

Skim a previously read novel, short story or poem and sketch facts and point of view.

Study the differences between journalism and creative writing.

Divide the class into newspaper staff. Assign work roles to match student skills and capabilities.

Write articles, columns or news features. Many may be based on school activities, sports, projects.

* ALL CIRCLED NUMERALS IN THIS AND SUBSEQUENT UNITS REFER TO THE GOALS OF THE CAREER DEVELOPMENT DESIGN.

Prepare copy to be typed, mimeographed and assembled.

Distribute product to class and other interested groups.

EVALUATION: Rate student performances in assigned work roles.

Evaluate participation in group situations.

List advantages and disadvantages of the roles of newspaper workers as evidenced by the project.

Prepare graph-type copy sheet providing self-correcting method for spelling and mechanics.

Grade students on the quality of articles written, including sports columns, editorials, features, cartoons.

Cite instances of the value of specific school subjects to the success of the project.

Gary Hill
Memorial Junior High School

Grade Seven

NEWSPAPER CAREERS - AN INTERDISCIPLINARY STUDY

1 2 3 4 5 6 7 8

OVERVIEW: The original concept for this study was found in Career Education Resource Guide. The recommendations offered there have been expanded to become this unit. The project provides an opportunity for an English teacher to emphasize the value of reading, writing and speaking skills. It affords the teacher of mathematics the practical applications of math principles.

OBJECTIVES:

1. Interpersonal Skills: The student will demonstrate respect for others in group activities.

2. Work Awareness: The student will identify factors which determine career choices.

3. Economic Awareness: The student will develop an awareness of community resources.

RESOURCES: Newspaper reporter

Career Education Resource Guide. Bottoms, Evans, Hoyt, Willers, eds. General Learning Corporation

Newspapers from several states

"Newspaper" - Prime film

ACTIVITIES: Secure the names and addresses of several newspapers published in various parts of the country.

Write to the editors requesting issues of papers for class project.

Have local newspaper reporter visit class for interview.

Visit a newspaper plant and report to class.

Assign features of newspaper for small group study: editorials, letters to the editor, columns: political, social, sports, advice, financial.

Specify individual assignments:

Distinguish between local, national and international issues.

Read letters to the editor to identify local problems and concerns.

Read school news.

List sports unknown in local area.

Look for local or Maine news in out-of-state papers.

Seek features you would recommend be printed in local paper.

Watch a television program and write an evaluation of it. Compare it to newspaper review of same program.

Find rates of advertising in local paper and determine costs of various ads.

Compare wages, cost of living, housing as evidenced by classified ads.

Use stock report on financial page to follow $10,000 investment over a period of several months.

Use sales ads quoting per cent discounts to determine costs of items advertised.

Study the effectiveness of photography in the papers surveyed.

Seek news articles concerning people and their work.

Survey classified ads to distinguish workers: professional, skilled, semi-skilled, unskilled.

Note workers whose jobs are determined by locality.

Make a chart of major industries in various areas indicated by news features and classified ads.

Seek news items concerning young people.

List geographic factors that influence career choices.

Prepare lists of careers found in other papers that are not in evidence in local area.

Indicate on a map of the United States the geographic areas included in the study.

Compare forms of entertainment, social and community news found in feature articles as well as in advertisements.

Look for different styles of reporting the weather.

EVALUATION:
1. Each group will prepare graphic studies of careers identified through the project.
2. Each group will be responsible for its findings.
3. Each group will design bulletin board displays of local, national, international news.
4. Each group will give a report of stocks - gains or losses.

Mary Cruise
Theodora Sotiriou

TOURISM IN MAINE

1 2 3 4 5 6 7 8

OVERVIEW: Tourism in Maine had its origin in a unit developed during a summer workshop devoted to individualized instruction. A modified version of that unit was the basis of this classroom activity.

The project began with the general theme of leisure living. Later this was narrowed to leisure in Maine. Finally the focus became leisure in South Portland, an area of varied recreational facilities. Obviously, the project could be adapted to many localities.

Ideally this could become an interdisciplinary project - an English teacher working with a geography teacher. Maine history would provide an excellent background for the study. Another possibility is that a mathematics teacher could use the financial computations for a vacation or trip as a class activity.

OBJECTIVES:

1. Decision Making: The student will identify the steps in the decision making process.

2. Economic Awareness: The student will develop an appreciation of consumer resources.

3. Value of Work: The student will gain insight into the relationship between one's work and lifestyle.

4. Relevance of Education: The student will recognize that skills acquired in class situations are basic to career fields.

RESOURCES: Resource people:

Earle Angell - former historian for City of South Portland
Representative of Maine Publicity Bureau
Community members

Resource materials:

"Historical Tour of South Portland" - Rosemarie Flaherty
"Leisureland USA") Eastman-Kodak films
"Acadia National Park") Eastman-Kodak films
"The Bounding Maine") Prime films
"Maine Parks") Prime films
Maps of Maine
Travel folders from Maine Publicity Bureau
Slides of South Portland

ACTIVITIES:

1. View films on leisure and recreation.

2. Write an interpretation of the term Leisure.

3. Describe a vacation, a trip or a place visited which made a lasting impression.

4. Interview a representative from Maine Publicity Bureau.

5. Discuss sources of information with school librarian.

6. Plan a five day vacation within the state.

7. Select an ideal vacation. Example:
   You live in Houlton and you choose to surf in York.
   You live in Kittery and your choice is a hunting trip in Machias.

8. Plan a five day leisure vacation within the state. Outline route on state map.

9. Prepare an itinerary of the trip.

10. Itemize all expenses involved in vacation.

11. Keep a diary of activities.

12. Invite city historian to speak to the class about South Portland.

13. Investigate recreational facilities in local area.

14. Write promotional ads or design posters promoting local community.

15. Discuss advantages of living in South Portland and in Maine.

EVALUATION:

1. Students will be presented a simulated problem dealing with travel and asked to describe the factors involved in making a decision.

2. Students will submit a log with specifics of finances of the vacation.

3. Student will keep a diary in which he records the workers who made trip possible.

4. Students will submit reports offering positive feelings for community and state.

FOLLOW-UP: This unit could be an introduction to the Self Exploration project found in grade eight.

Bill Thombs
Mahoney Junior High School

Grade Eight

Communications

SELF EXPLORATION OF INTERESTS,
HOBBIES, OR OCCUPATIONS
1 2 3 4 5 6 7 8

OVERVIEW: Many students often have unlimited resources in areas relevant to their world outside the classroom. It would seem possible that all students must have some direct contact with a "hands-on" experience that could be shared with others.

It is my assumption that there is much knowledge that may be gleaned from individual students. Therefore, it is favorable for us as educators to recognize this fact and make use of this resource in our classrooms. Thus I asked my students to select an interest, a hobby, or an occupation that was close to them. Each student was given the responsibility of researching and presenting his topic to a peer group.

I have enclosed samples of subject areas and actual projects which were worked on by students. I have attempted to go into detail on one of them. There was a boy in one of my classes who was interested in fishing and fishing boats. He is currently employed as a hand on a fishing boat out of South Portland. He proceeded to do some research with help from the Mahoney and South Portland Public Libraries. He then drew a full scale drawing of a typical fishing vessel to be found in this area. An interview was also used to gain information and lay the groundwork for a class field trip to visit his place of employment. Because this was a small group, the captain consented to take the entire group on a brief excursion in the harbor. Filming, slide taking, and taping were used to add meaning to this experience. A written evaluation and summary of this report was followed by a general class discussion. These materials were available for student perusal in the career resource room.

OBJECTIVES:

1. Self Awareness: The student will recognize the need for self discipline and respect for others.

2. Interpersonal Skills: The student will gain insight into the many careers in his community and his relationship to them.

3. Work Awareness: The student will learn many occupations have their origins within individual hobbies.

4. Manipulative Skills: The student will share with the class his knowledge of a particular hobby or leisure time activity.

5. Relevance of Education: The student will make effective use of research and communication skills.

RESOURCES: Local libraries: South Portland - Mahoney - Memorial

Values Clarification - Simon

On the Rocks - Student publication, South Portland High School

Map of Old Port Exchange area in Portland

An itinerary outlining route

Foxfire film

Sample subject area and project possibilities

Fishing Boats	Speech Therapy	Secretaries - Office Workers
Candlemaking	Shrimp Fishing	Firearms-Ammunition
Leatherwork	Coaching Football	History of South Portland
Cats and Animals	Lobstering	Coast Guard
Backpacking and Hiking	Motorcycles	Police Work
Model Rocketry	Skiing	Model Trains
Hawaii	Horseback Riding	Automobiles
Woodworking	Water Pollution	Travel - trip taken by family
Refinishing Furniture	Italian Cooking	
Post Office	Comedy - Theater	

ACTIVITIES:

A. All students participate in following:
   1. Interview a personnel director from local bank who offered her services to help students prepare for their own interviews.
   2. Preview Foxfire film.
   3. Assist in filming or taking slides and taping.
   4. Prepare presentation for members of class. Video tape program might be made of the presentation to be offered to other classes.

B. Students choose one activity:
   1. Contact outside resource people.
   2. Introduce community resource people to the group.
   3. Lay groundwork for field trip. This includes permission slips, personal contacts, and organization.
   4. Write thank you notes to resource people.

EVALUATION:

1. Use peer evaluation to judge the nature of student participation.
2. Write a paragraph as to how students' particular abilities apply to the jobs researched.
3. List jobs that are an outgrowth of hobbies.
4. List personal, social and financial conditions necessary to carry out leisure time activities.
5. Write summary of report. Exchange with other students and proofread.
6. Write diary of field trip and interviews.
7. Evaluate films and slides presented by student members.
8. Complete evaluation sheets on individual reports.

Bill Thombs
Mahoney Junior High

BOOK FAIR - A COMMUNITY RESOURCE

1 2 3 4 5 6 7 8

OVERVIEW: The project was the joint effort of an English teacher and the school librarian. Students were offered the opportunity to conduct the Book Fair which was held during American Education Week to permit parents to participate in purchase of books. Since the art department was involved in designing posters, this became an interdisciplinary project.

OBJECTIVES: The student will become aware of his strengths and weaknesses in a work-related situation.

The student will display his ability to cooperate with others in a group project.

The student will determine procedures for work roles in retail and wholesale buying.

The student will gain knowledge of workers in his own community.

The student will develop an awareness of consumer resources.

The student will recognize those skills basic to careers.

ACTIVITIES: Vote on proposal to hold Book Fair.

Discuss with teacher moral issues involved in book selection.

Discuss books of interest and general appeal.

Survey friends regarding their choices of books.

Invite representatives of wholesale paperback company to speak to the class.

Investigate discount and margin of profit.

Bring to class slips from parents granting permission for field trip.

Visit book company and select books, judging the number of each needed. Cars provided by teacher, librarian and public library staff.

Publicize Fair with posters in each classroom.

Assign work roles for sale. Arrange individual book stands on U-shaped tables. Prepare display of books in alphabetical order.

Conduct book sale throughout school day from 8:00 to 3:00 p.m. Request that students pay for books at time of purchase. Continue sale in the evening for parents at Open House.

EVALUATION:

1. Observe responses to teacher-led discussions.

2. Present problems of censorship and have students make value judgments.

3. Compose list of questions to be used in interview.

4. Compile list of desirable books.

5. Write an ad or design a poster publicizing the Fair.

6. Award prizes of free books for best entries in the Poster Contest.

7. Evaluate on tally sheet the success of work roles: selling, cashering, tallying, supervising.

8. Rate student organization, procedure and conduct throughout the project.

FOLLOW-UP: A Book Exchange will take place in the spring. Students will bring to class books they no longer want. They will receive a number of other student books comparable to those offered.

Beverly Theriault
Leon Rowe
Mahoney Junior High School

Grade Eight

INDIAN LIFESTYLES

The Only Good Indian Is A Dead Indian - Right?

1 2 3 4 5 6 7 8

OVERVIEW: Until the fifteenth century, the people of North America and the people of Europe lived without knowledge of each other's existence. In North America there were many nations, sharing a rich culture that had grown up over thousands of years. Though it was varied in detail from place to place, it was based on the reverent identification with nature, a sense of the oneness of things - the sun, the earth, man, plants, and animals. Dances, art, religious rituals, and way of life were all centered in this mystical understanding of the world.

In Europe, another rich culture had developed around different values: ownership of property, commerce, town life and its social institutions. The old nature religions had long since been replaced by Christianity, which was held to be the only path to salvation to all mankind.

Then, in 1492, Christopher Columbus discovered a vast land and strange, dark people on "the other side of the world." His fellow Europeans realized that the New World was a reservoir of enormous wealth, and they began to cross the ocean to acquire it. With them, of course, they took their religion, value system, and customs. Our history books tell what happened when the European and Indian cultures met and clashed.

Recently, however, many Indians have complained that our history books tell it only from the white man's point of view - and, what is worse, tell it wrong. This unit concentrates on the Indian point of view and presents facts not to be found in most history text books.

OBJECTIVES:

1. Interpersonal Skills: The student in group work will share responsibility for the success or failure of the group.

2. Decision Making: The student will compare the history of the Indian as presented in history texts and in the materials required as reading in the unit.

3. Work Awareness: The student will develop an awareness of how people in any society have an effect upon others.

4. Value of Work: The student will identify the social and environmental factors that influence working conditions.

5. Relevance of Education: The student will demonstrate skills in information gathering and communication.

RESOURCES: A. Texts and Magazines

<u>When the Legends Die</u> - Hal Borland

Scholastic Scope

"To Catch a Never Dream") September 22, 1969
"Old Loyalties and New Dreams")
"Navajo Reservation Holds Surprises for City Kids"-October 4, 1971
"Chief Joseph - A Man of Courage" - January 31, 1972
"Black Elk Speaks") November 13, 1972
"Being an Indian")
"House of Dark Mist" - December 4, 1972
"In Beauty It Is Begun" - December 13, 1972

Scholastic Voice

"American Indians: We Have Spoken" - December 13, 1972

Discovering Literature

"Mountain Medicine"
"Locomotive 38 - The Ojibway"

B. Media

Recordings
"Authentic Music of the American Indian"
"The Best of Buffy Sainte-Marie"

16mm Films	Filmstrips/Cassettes/Records
Geronimo Jones	Strangers in Their Own Lands
Indian Boy of Southwest	The Alienated American
Indians of Early America	Prejudice
American Indians Before Europeans	The Sioux
American Indians of Today	
Apache Indians	
The North American Indian - Treaties Made-Treaties Broken	
The North American Indian - How the West Was Won-and Honor Lost	
The North American Indian - Lament of the Reservation	

C. Addresses for Information on Indians

Arrow Inc.
822 DuPont Circle Building
Washington, D.C. 20036

Bureau of Catholic Indian Missions
2021 H Street, N.W.
Washington, D.C. 20006

Association on American Indian Affairs
432 Park Avenue South
New York, New York 10016

National Congress of American Indians
1346 Connecticut Avenue
Washington, D.C. 20036

Indian Rights Association
1505 Race Street
Philadelphia, Pa. 19102

Superintendent of Documents
U.S. Government Printing Office
Washington, D.C. 20402

ACTIVITIES: 1. Read materials assigned and view films.

2. Research one or more tribes from one of the five major areas: Woodland, Plains, Southwest, Northwest Coast, California-Intermountain. The report will include: geographical region and its effect on lifestyle, religion and customs, dress, manner of earning a living.

3. Prepare an oral presentation which may be accompanied by visual aids.

4. Write a report on specific Indian leaders, tribes, or historical events.

5. Write letters to obtain information on current Indian problems.

6. Interview resource people in the community who are authorities on Indian lore.

7. Demonstrate to class such crafts as bead work, pottery, weaving, sand painting.

8. Share research findings with class members.

9. Conduct group discussions based on information gained from research.

EVALUATION:

1. Tally student participation in group work using guidelines previously established by teacher and class.

2. Evaluate Indian problems comparing and contrasting the Indian point of view with that of the government.

3. Identify six characteristics of Indian lifestyles that conflict with those of white men.

4. List the social and environmental factors that aid or hinder the Indian in his quest for an adequate living for his family.

5. Complete written report following guide sheet provided focusing on Indian's attempt to reconcile his heritage and the white man's world he lives in.

6. Relate conflicts between the Indians and settlers to contemporary problems.

7. Discuss Indians' ideals, concerns, religious and moral beliefs and their training of children. Compare them with those of the white man.

Wilma Bridges, Teacher
Larry Woodward, Teacher
Barbara Graves, Librarian
Memorial Junior High School

Grade Eight

U.S.S.R. PROJECT

OVERVIEW: South Portland in 1975 became a site for the Right to Read Process. A component of the Process is the U.S.S.R. Program which recommends a class period of uninterrupted sustained silent reading. This seemed a worthwhile project for a diversified eighth grade class which met in the Reading Center.

OBJECTIVES:

1. The student will investigate the resources of the library.
2. The student will select books pertaining to his particular interest and ability.
3. The student will read with sustained interest during class session.
4. The student will choose method of reporting on reading.

ACTIVITIES:

1. Select three books - fiction or non-fiction - from the library.
2. Read independently one day each week for a full class period.
3. Choose from the following alternatives a method of reporting on reading:
   a. Demonstrate oral communications with class report.
   b. Write about responses to reading.
   c. Prepare a tape for the class or teacher.
   d. Report on reading in a teacher conference.
   e. Dramatize a scene from one of the stories.
   f. Construct a diorama with accompanying oral or written presentation.

Independent Project:

As an incentive for students to complete the reading of the three required books, they were offered the opportunity of taking candid photographs. Any person or scene within the school area could be "snapped." Support for the project was provided by a fellow teacher who agreed to develop the film. It was then determined by a vote of the group that another eighth grade division would choose the winning photograph and that an inexpensive prize would belong to the lucky amateur photographer.

Phyllis Small
Memorial Junior High School

HISTORY OF OUR SCHOOLS

1 2 3 4 5 6 7 8

OVERVIEW: Members of the community, particularly those for whom local schools have been named, seem worthy of student research. Such individuals have made sufficient contributions to the area as to be so honored. Students conducting research on the lives and careers of these individuals would recognize the value of their heritage.

OBJECTIVES:

1. Interpersonal Skills: The student will in group work practice communication skills required for work roles.

2. Decision Making: The student will, as a member of the group, determine the individual and school to be researched.

3. Work Awareness: The student will identify the factors which influenced the community members researched.

4. Manipulative Skills: The student will use manual skills essential to many careers.

5. Value of Work: The student will investigate the contributions made by prominent members to the community.

6. Relevance of Education: The student will consult community members on essential background for his project.

RESOURCES:

Resource people
Local television or newspaper reporter
Community members

Research locations
School, South Portland and Portland Public libraries
Maine Historical Society
Gannett Newspaper library
South Portland City Hall

Publications
"The 19th Century Meets the Media: A Slide-Tape Research Project" from English Journal
"On the Rocks" - South Portland High School publication
"Salt" - Kennebunk High School
South Portland High School Yearbooks

Films and Slide Presentations
Foxfire)
Effective Writing: Research Skills) available from Prime Resource Center
Religion - High School sociology class production
The Nearings - Mahoney Junior High production

Equipment
Tape recorder and tapes
Camera for slides

ACTIVITIES:

1. Read publications and view films listed.
2. Determine name for project.
3. Visit research locations for materials providing historical background.
4. Write to "We Hear" for use of photographs and news articles.
5. Prepare practice interviews with video tape.
6. Interview news or television reporter in class.
7. Interview members of community acquainted with person whose life is being researched.
8. Present scenes from lives of individual researched drawing on the authentic dress and music of the time.
9. Prepare written, as well as slide, presentation based on findings.

EVALUATION:

1. Rotate student leadership roles in group situations.
2. List in sequence the skills required for decision making process.
3. Write an essay on financial and social conditions which determined the life style of individual studied.
4. Record amount of student participation in work related experiences.
5. Name four specific contributions made by individual whose life has been researched.
6. Faculty, parent, and peer evaluation of written reports and slide presentation.

Mary Cruise
Theodora Sotiriou

Grade Eight

GROUP CONTRACT

The Group Contract is an approach to reading which provides an opportunity for students to have free selection of books. At the same time, the project fosters student cooperation and responsibility. It offers a variety of related activities many of which promote oral presentations.

Students are given a choice of the book they wish to read. Then they are placed in groups with four or five others who have chosen to read the same book. The group contracts for a grade. All members must agree.

Requirements of Contract

Complete 11 of 12 activities A
Complete 9 of 12 activities B
Complete 7 of 12 activities C

The teacher will accept no contract for a grade lower than C.

SAMPLE OF CONTRACT AND ACTIVITIES

I, _____, agree to fulfill the requirements necessary to achieve a grade of ___ in connection with a study of the book _____. I understand that I am subject to penalty for failure to meet the requirements as stated.

1. Draw and illustrate an explanatory map.
2. Write a two-page (250-300) essay explaining the form of courage depicted.
3. Create an essay test of twenty thought questions.
4. Prepare a bulletin board demonstration.
5. Achieve a minimum score of 90 on an objective examination.
6. Prepare an adequate author-biographical sketch using and citing at least three sources.
7. Compose a dialogue between two characters in the book.
8. Act out one scene in the novel.
9. Assemble a composite of at least 10 poems suitable for reading with the novel and relate each briefly to the novel.
10. Present an audio-visual lesson with explanation.
11. Write a resume, brief but complete, of the book retaining divisions of the book.
12. Comprise a list of at least 50 vocabulary words with their meanings.

Beverly Theriault
Mahoney Junior High School

REVOLUTIONARY LIFESTYLES

1 2 3 4 5 6 7 8

OVERVIEW: The history of the American Revolution is more than a series of events. In this unit, students will explore the daily life of the Revolutionary Americans--their work, their customs, their arts and crafts. Against this examination of lifestyles, the pre-revolutionary events of Boston will be presented.

The unit will be presented as an inter-disciplinary effort of English and Social Studies classes in the eighth grade. The main focus of the English class will be upon daily life in Boston as presented in Johnny Tremain by Esther Forbes. The Social Studies class will deal with the historical events of the era.

OBJECTIVES:

1. Self Awareness: The student will compare his lifestyle and values with those of young people living in Boston during the Revolution.

2. Work Awareness: The student will study the early apprentice system. He will identify the roles of adult workers to recognize their contributions to the growth of America.

3. Value of Work: The student will learn through research of the lives and careers of prominent historical figures of the Revolutionary period.

RESOURCES:

Johnny Tremain - Forbes
The Free and the Brave - Graff
An Album of Colonial America - Ingraham
Everyday Life in Colonial America - Wright
Life in Colonial America - Speare
Patriot's Choice: Story of John Hancock - Wagner
John Adams and American Revolution - Bowen
Give Me Liberty - Folsom
Heroes of the American Revolution - Davis
Sam Adams, Son of Liberty - Alderman
Poems of American History - Stevenson
Paul Revere and World He Lived In - Forbes
Turncoats, Traitors and Heroes - Bakeless

Audio-Visual Materials:

The American Revolution: Part I
Causes of the Revolutionary War
Colonial Living with Paul Revere (12 prints)
Colonial Living (6 filmstrips with cassettes)
The Making of a Nation (recording)

ACTIVITIES:

1. Students will read the novel, Johnny Tremain.

2. Students will note the attitude of the characters toward work and the effect it had on the story.

3. Students will study some of the ways artisans earned a living in Boston. They will consider whether any of these same occupations are in existence today. They will discuss the changes that have taken place in the conditions of work, in the job itself, and in the amount accomplished since colonial days. Choices: coopers, weavers, soap-boilers, leather-dressers, sailmakers, shipwrights, printers, clockmakers.

4. Students will research an occupation practiced during the Revolution. Possible choices:

silversmith	plumbers	glass blower
apothecary	chandler	hornsmith
cooper	housewright	baker
printer	sawyers	hatter
fish mongers	joiner	wainwright
whaler	miller	bookbinder
merchant	tanner	pewterer
gunsmith	currier	coppersmith
tinkering	fuller	cabinetmaker
medicine	itinerant	blacksmith
weaver	cat whipper	cutler
tailor	barber	tobacconist
potters	wigmaker	braziers
papermakers	shipwright	ironmaker

5. Students will prepare an oral presentation and demonstration of these Revolutionary crafts and occupations.

6. Students will read from assigned list of library texts of the lives of famous men of the Revolution:

John Hancock	John Adams	Major Pitcairn
Paul Revere	Billy (Wm. Dawes)	General Gage
Joseph Warren	James Otis	Josiah Quincy
Sam Adams	Dr. Ben Church	Colonel Smith

7. Students will use the resources of the library to learn of customs, religions, schools, and the apprentice system of the 18th century.

8. Students will select one activity from the following:

   a. Prepare a bulletin board contrasting colonial signboards and modern forms of advertising.

   b. Produce articles for class newspaper, similar in form to "Boston Observer." Features will include those of an historical and social nature.

   c. Present a class program featuring Revolutionary - <u>Speeches</u>: Patrick Henry's "Speech Before the Virginia House of Burgesses, March 23, 1775."
      Thomas Paine's "The Crisis, December 19, 1776"

"A Minuteman's Pledge"
"Washington Accepts the Command" June 16, 1775
"The Declaration of Independence" (first part)

Poems: "Paul Revere's Ride" - Henry Wadsworth Longfellow
"Concord Hymn" - Ralph Waldo Emerson
"A Ballad of the Boston Tea Party" - Oliver Wendell Holmes
"The Eve of Bunker Hill" - Clinton Scollard
"Nathan Hale: A Ballad of the American Revolution" - author unknown

Song: "Yankee Doodle" (see An American Revolutionary War Reader)

EVALUATION:

1. Discuss the novel and take an objective test.

2. Complete one sheet listing aspects of student's lifestyle and another for that of young person in early Boston.

3. Cite five items they had not previously known about the occupations researched.

4. Apply or relate knowledge of historical figures gained from reading the novel to the information found in history and reference texts.

Evaluate individual projects: bulletin board, class newspaper, lass program, or class demonstration.

Wilma Bridges, English
Gary Hill, English
Larry Woodward, History
Memorial Junior High School

Grade Eight

GROUP STRATEGY FOR CLASS PROJECTS

Your Group_____ Your Name_____ Date_____

Directions: Who, in your group, is most likely to take the role described? Write the person's name in the space.

A person might fill several different roles. More than one person can be named for a specific role. You may put your own name in for a specific role if you think you best fit that specific role.

It is acceptable to leave a space blank if you do not think anyone comes close to the description.

As you see it, who in the group is most likely to:

1. Take initiative, get things started, suggest ideas? _____
2. Passively wait for others to take the lead? _____
3. Keep his feelings to himself, unexpressed? _____
4. Express feelings most openly and freely? _____
5. Interrupt others when they are speaking? _____
6. Wait patiently for others to finish before he speaks? _____
7. Seem wrapped in own world and not very responsive to others? _____
8. Help you when in trouble, even at some sacrifice to self? _____
9. Seem to have the most invested in the group, seem most committed? _____
10. To be listened to when he speaks? _____
11. Contribute the best ideas? _____
12. Tend to argue, disagree or try to convince others? _____
13. Tend to smokescreen? _____
14. Seem to be aware of group processes, point out what is happening and suggest better procedures? _____
15. To be the one you would miss the least? _____
16. To be the one you would want as a close friend? _____
17. Tend to dominate? _____

18. To be least noticeable? _____

19. Tend to throw roadblocks into the process? _____

20. Seem to accept you as you are? _____

21. Seem to want to change you? _____

22. To be the one you most accept as he is now? _____

23. To be the one you would like to see change? _____

24. Seem to have changed most during the time with the group toward being more honest, open, concerned for others and more helpful to the group and members? _____

25. Seem to have changed least during the time with the group in a positive direction, or might have even become less open, honest, etc.? _____

Bill Thombs
Mahoney Junior High School

Grade Eight

A CHECK BOOK APPROACH TO READING

An individualized approach to reaching a small group of eighth grade students is the use of a check book of reading activities. Each student is responsible for completing eight pages of varied reading activities. Working at his own pace the student proceeds from one assigned reading task to another. When he has completed his reading, the teacher corrects, grades and initials his check and he advances to the next step in the process. In addition, each student has his own folder and all assignments are kept for reference. Because the class number is small, students are able to work individually. In adapting to a larger class, a teacher might encourage students to complete the reading tasks in group work.

Resources for Reading Tasks:

1. RAS/READING ATTAINMENT SYSTEM is a series of high interest/low level graded selections from which students chose their own reading.

2. SHORT STORIES are taken from "You and Your World" and "Know Your World." Students read and answer questions from four stories.

3. BE A BETTER READER has numerous stories, activities and skill building exercises arranged by disciplines: social studies, math, English.

4. POWER BUILDER is a component of the SRA Reading Lab. Reading selections develop comprehension and word structure.

5. RADIO READING LAB features recorded true life stories with a dramatic climax. Students are required to listen to two of these stories on cassettes and do vocabulary and comprehension exercises.

6. BASIC READING SKILLS, for high school use, is a workbook which stresses different reading skills and is helpful to students wishing to improve their reading.

7. READING FOR UNDERSTANDING are exercise cards found in SRA kits. After reading a selection, the student chooses his answer from conclusions suggested.

8. READERS DIGEST SKILL BUILDERS stories measure critical reading, understanding and word study.

Descriptions of Resources have been included to indicate the types of reading activities required of students. Obviously the possibilities for varying the tasks are limitless - bound only by time to research and create new check book projects.

Phyllis Small
Memorial Junior High School

AN ALTERNATIVE TO BOOK REPORTS

1 2 3 4 5 6 7 8

OVERVIEW: This is a suggested approach to an individualized reading program with the long-range objective being the facilitation of the presentation of the formal book report. The program is designed for the eighth grade student, phases II and III. Time allotted would be one, perhaps two, specified class period(s) a week with outside continuation encouraged.

OBJECTIVES:

1. Self Awareness: The student will demonstrate his ability to succeed.

2. Decision Making: The student will select from among several choices those books of interest to him.

3. Manipulative Skills: The student will use basic mechanical and study skills in a non-structured format.

4. Relevance of Education: The student will demonstrate awareness of the values component of career education concepts.

RESOURCES: A listing of books with a copy for each student involved in the program and one to the library.

A double file box open to the students and containing a consideration card* and an activity card** for each book.

A notebook containing brief objective check-tests and a key for the teacher's use.

* Each consideration card will contain a brief description of the book; type of literature; designation: boy, girl; level of readability computed from the Fry Readability Formula; and a designation of the dominant themes in the book - so that the same file may be used by teachers developing particular units in literature. The reverse side of this card will point out for the student's use some of the important concepts of the book and indirectly provide suggestions for essay subjects.

** Each activity card will encourage students to use and reinforce a specific oral or writing skill and to relate a specific book to his total environment. (Samples of both cards are included.)

ACTIVITIES: Select and read a book from classroom library.

Read the consideration pertaining to the book.

Discuss with teacher any problems in reading process or writing content.

Take an objective test on the book.

Select and perform one activity from activity card.

EVALUATION: 1. Receive a passing grade of 80% on an objective test over book choice.

2. Prepare a display, research a career from within the context of the story and present findings orally to the class.

3. Write a subjective essay dealing with values from consideration card.

Sample of Consideration Card

Julie of the Wolves
Jean Craighead George

Fiction B/G 6

This is the story of a young Eskimo girl who becomes lost in the wilds of Alaska and survives with the wolves who help to teach her the value of her life.

Survival Values Regional

(On reverse side)

Consider:
1. We must learn to rely on ourselves in order to survive.
2. Places we haven't been often seem more appealing than where we are until we learn more about them.
3. At some point in life, everyone must choose what type of life he/she must lead.
4. Animals show their intelligence and devotion in ways much more amazing than man.

Sample of Activity Card

Julie of the Wolves
Jean Craighead George

1. Prepare a bulletin board display using pictures or sketches of the wolves with appropriate sentences from the story.
2. Write to the State Department of Natural Resources requesting information on regulations governing hunting and trapping in this state. Report orally on your findings.
3. You and three friends are going on a four-day hiking trip on Mount Katahdin. List and demonstrate for the class the kinds of equipment and supplies you must take.
4. Prepare a display of the traditional clothing of the Eskimo.

Beverly Theriault
Mahoney Junior High School

LIFESTYLES

Helen and Scott Nearing
Living the Good Life
1 2 3 4 5 6 7 8

OVERVIEW: On their 140 acre farm overlooking the sea in Harborside, Maine, Helen and Scott Nearing, ages 71 and 91 respectively, have cleared the land, built stone walls and buildings, raised 80% of their food, dug a pond by hand, and found a cash crop - blueberries. During the Depression, they left what he called "cityism" to seek a homesteading existence in Stratton, Vermont. The Maple Sugar Book and Living the Good Life attest to the success of their venture. The land boom in Vermont in 1951 threatened their way of life and caused them to search for a new wilderness area. This they found on Cape Rosier in Maine. Young people have visited the Nearings by the hundreds. Helen Nearing writes that many were intrigued by their way of living but only a few were prepared to go and do likewise. Most of them said, "It's a nice place you've got here - but you work too hard." She adds that they failed to recognize the fact that it was the hard work that made and kept the place "nice."

OBJECTIVES:

1. Self Awareness: The student will witness the self discipline required in being one's own master.

2. Interpersonal Skills: The student will learn that lifestyles new to him may be worthy of respect even though he may not choose to emulate them.

3. Manipulative Skills: The student will use manual skills essential to many careers.

4. Value of Work: The student will study the impact of one's career on his lifestyle.

5. Relevance of Education: The student will learn interviewing or reporting techniques and the value of research.

RESOURCES: A reprint of the article "Maine's Complete Conservationist" from Downeast Magazine

The Maple Sugar Book and Living the Good Life written by the Nearings

Stone Book - Flagg

Maine Pilgrimage - Richard Saltonstall, Jr.

Maine maps to study route to Harborside

Field trip itinerary

Salt - student magazine, Kennebunk High School

Foxfire - film from PRIME Resource Center

Tape recorder and tapes

Movie Camera

ACTIVITIES:

1. Read, view, and discuss in class the materials listed above.
2. Engage in classroom presentation with local television personality experienced in interviewing.
3. Prepare questions for Nearing interviews.
4. Tape and photograph the field trip to Harborside.
5. Share knowledge and observation of the Nearings' lifestyle in class discussions.
6. Prepare written accounts of the varied aspects of the Nearings.
7. Design stationery and issue invitations to parents and school officials.
8. Prepare poster, slide and movie presentation for parents and school officials.
9. Write letters of appreciation.

EVALUATION:

1. Give an example of another self employed worker and identify five specific ways he must be self disciplined.
2. Discuss the lifestyle of a New York policeman, country doctor, and shoe factory worker. Prepare a defense for the advantages of each.
3. Successfully use one or more of the following pieces of equipment: tape recorder, camera, movie camera, slide or movie projector, or prepare a poster, stationery or artistic portrayal of the Nearing visit.
4. Identify eight characteristics of the Nearings' lifestyle and match these characteristics to the values which prompted them.
5. List three specific educational skills which added meaning to the Nearing Unit.

Mary Cruise, Teacher
Leon Rowe, Librarian
Terry Sotiriou, Curriculum Coordinator

A PROPOSAL FOR A COMPREHENSIVE SYLLABUS
FOR THREE HISTORICAL NOVELS

DESIGN OF THE STUDY

The procedure that will be used will simply be a brief discussion of each novel, concerning its value and general use in the classroom. After each discussion there will be a bibliography of books and audio visual aids that hopefully will make the teaching of each book more effective.

The sources of data for the finding of enrichment materials for each novel will be included in the bibliography at the end of the paper. Also all references for the section concerned with related literature will be included in the final bibliography.

Patricia Emery
Mahoney Junior High School

PRESENTATION

Kidnapped

The significance of this book in literary terms as well as historical was stated quite well in a textbook that was consulted. It was stated that perhaps the greatest of the adventure stories in the late 1800's were Treasure Island and Kidnapped by Stevenson. Kidnapped has a Jacobite background and retells the thrilling adventures of David Balfour after he attempts to claim his inheritance.[1]

However, it is more significant than just a tale of adventure. The adventure is the background for the conflict of two distinct characters, David Balfour and Alan Breck. Both are politically as well as morally different, and this conflict cannot be fully realized by students until they know why Alan is as he is and why David is the person he is. And this difference can best be explained by the historical events that have made these characters what they are. And so the period of English history from time of James I (late 1600's to mid 1700's) should be discussed.

The following terms, people, or events must be taught, mainly as events, people, or ideas that affected other people's attitudes and beliefs.

1. James I
2. Charles I
3. Cromwell
4. Commonwealth Period
5. Charles II
6. James II
7. Queen Anne
8. Jacobite
9. Entail
10. Primogenture
11. Battle of Culloden
12. Bonnie Prince Charlie
13. Clan
14. Campbells
15. Scottish dialect
16. Whig

Perhaps the list could be more extensive, but if students can grasp the ideas suggested by this list, they can really begin to understand that the climax of Kidnapped is not entirely what happens externally to Alan and David, but what happens internally which is due mainly to their respective backgrounds.

An example from the book to illustrate the need for historical knowledge is very well brought out in chapter nine.[2] It is in this chapter that Alan Breck and David Balfour meet and the contrast in age, character, background, and moral attitude is keenly observed. Because of lack of some knowledge of just what the difference, students begin to lose interest in this book at this point. I speak from experience.

How does one present such historical knowledge to students in order to make chapter nine more meaningful? A lecture on the list previously mentioned is possible. It doesn't sound as deadly dull as implied. Here the teacher is the key factor

[1]Allec Ellis, A History of Children's Literature to 1900. (Oxford: Pergamon Press, 1973) p. 123.

[2]Robert Louis Stevenson, Kidnapped (New York: The New American Library, 1959) pp. 62-82.

to success. The manner of presentation must be dynamic. Another approach is a library assignment (individually) to students whereby they are responsible for finding out such information needed from the list. Reserved books will facilitate their work. Class reports to share the acquired information would serve to aid the whole. At 8th grade level this library work must be structured and a suggested bibliography for Kidnapped is enclosed to enable teachers to do something of this kind. Audio visual materials are not so readily available for junior high for the historical aspects of this book, but those that are relevant and, in some cases, available are listed.

Bibliography for Kidnapped

A. Material Suggested for Source Readings

1. Bowle, John. The English Experience. New York: G. P. Putnam's Sons, 1971. (esp. pp. 294-364)

2. Buchanan, Freda M. The Land and People of Scotland. New York: J. B. Lippincott Co., 1958. (esp. pp. 47-52)

3. Porter, Jane and Nora A. Smith, eds. The Scottish Chiefs. New York: Charles Scribner's Sons, 1956.

4. Shultlesworth, Dorothy E. The Tower of London. New York: Hastings House, Publishers, 1970. (esp. pp. 67-80)

5. Street, Alicia. The Land and People of England. New York: J. B. Lippincott Co., 1969. (esp. pp. 105-114)

6. Trease, Geoffrey. Seven Kings of England. _____: Vanguard, 1955.

7. Trease, Geoffrey. Seven Queens of England. _____: Vanguard, 1953.

8. Unstead, R. J. The Story of Britain. New York: Thomas Nelson Inc., 1970. (esp. pp. 204-244)

9. Wedgewood, Cicely Veronica. A Coffin for King Charles: The Trial and Execution of Charles I. New York: Macmillan 1964. (certain parts could be assigned)

B. Suggested Historical Fiction

1. Beatty, John and Patricia. Campion Towers. New York: Macmillan, 1965. (a fictional book during the time of Cromwell)

2. Clarke, Mary Stetson. Piper to the Clan. _____: Viking, 1970.

3. Picard, Barbara Leonie. The Young Pretenders. _____: Criterion, 1966. (a fictional book with the background of the Jacobite Rebellion)

4. _____. The Royal Dirk. _____: Morrow, 1966. (centers around the escape of Bonnie Prince Charlie)

This is only a suggested bibliography. The historical fiction section of it is short due to the difficulty of finding junior high novels with a Kidnapped background. This is a beginning and with more time this historical fiction list could be expanded. Also it should be mentioned that the place of publication for some of these books was not listed in the references consulted.

Audio Visual Materials for Kidnapped

A. Films

1. BF-38 United Kingdom of Great Britain (16mm) 22 min. (color) (available through Prime)

2. Public Television
   a. a production on the Battle of Culloden
   b. a production of Sir Walter Scott's "The Fortunes of Nigel" (background of King James I)

B. Tape

1. Available at Mahoney Junior High with good readings from Kidnapped

Johnny Tremain

Using the same source as for Kidnapped, I found a brief description of what the book Johnny Tremain tries and certainly succeeds in conveying to the reader. It was stated that in this historical novel arrogance is confounded and infirmity is overcome and besides portraying this Esther Forbes, as well shows "a different view of the American War of Independence from that learned in the average American textbook."[3]

This book, of course, has more written into it by means of an introduction, a map, and even guide questions at the end for each chapter to aid the teacher in his or her work. But still the historical events of which Johnny Tremain is a part are sometimes difficult to make interesting to the students. Perhaps because this book has history relatively familiar to the students turns them off. So here perhaps an introductory lecture on the times and people involved is not a good starting point. Sometimes a film tends to motivate the students first, and then a discussion, lecture, source readings may be in order.

Most students enjoy reading about the fictional characters in this book, but by the time they reach chapter six, "Salt-Water Tea," they become somewhat turned off. Here historical events really begin to affect Johnny as well as the other fictional characters.[4] The development of Johnny's character begins to be affected by the Boston Tea Party, the closing of the Boston Port, and the establishment of military rule in Boston. Students must learn the significance of these events as

[3]Ellis, op. cit., p. 230.

[4]Esther Forbes, Johnny Tremain (Boston: Houghton Mifflin Co., 1960) pp. 104-128.

well as learn something about the non-fictional characters involved. Then the events, the novel, the characters should certainly and hopefully hold the students' interest. A suggested bibliography of books and films follow.

Bibliography for Johnny Tremain

A. Material suggested for Source Readings

1. Beach, Stewart. Samuel Adams: The Fateful Years. _____: Dodd, 1965.

2. Earle, Alice Morse. Child Life in Colonial Days. New York: The MacMillan Company, 1927. (esp. pp. 1-403)

3. Hall-Quest, Olga. Guardians of Liberty: Sam Adams and John Hancock. _____: Dutton, 1963.

4. Langdon, William Chauncy. Every Day Things in American Life. New York: Charles Scribner's Sons, 1937. (esp. pp. 1-334)

5. _____. America's Historylands. _____: National Geographic Society, 1962. (esp. pp. 177-205)

B. Suggested Historical Fiction

1. Fast, Howard. April Morning. New York: Crown Publishers, Inc., 1961.

*2. Thane, Elywth. Dawn's Early Light. New York: Duell, Sloan, and Pearce, 1943.

*3. Williams, Ben Ames. Come Spring. Boston: Houghton Mifflin Co., 1940.

*Both are available in paperbacks.

In order to make the historical fiction list longer, more time and research is obviously needed. Also the list of books for source readings is small, partly due to time, but also due to the fact that such enrichment readings should come from sources other than the basic textbooks used.

Audio-Visual Materials for Johnny Tremain

A. Films (all available at Prime in Portland)

1. MP-364 Revolutionary Period to 1783

2. MP-642 Boston Tea Party

3. MP-806 Colonial America in the 1760's

4. MP-807 Prelude to Revolution

5. MP-808 Lexington, Concord, and Independence

6. MP-811 The American Revolution: Part I-The Cause of Liberty

7. MP-812 The American Revolution Part II-The Impossible War

Across Five Aprils

In this book written by Irene Hunt, the students read a book rich in Civil War background. This novel is well written and has been noted for its merit. In 1965 Across Five Aprils received the Rollet Award and was runner-up for the Newberry Medal.[5] The story is based on the Creighton family who live in Illinois. The story opens just as the Civil War is about to begin. The key figure is Jethro Creighton who is too young to go to fight, but who begins to grow into manhood as the events of the time force him to. It is really in Chapter Two that the questions of the Civil War, the North vs. the South, the problems and attitudes of its characters are made known.[6] It is in this chapter that students, in this particular book, begin to lose interest as a result. In Chapter Two, a cousin from Kentucky comes to visit the Creighton family, and discussion and opinions of the Civil War, the rights of the North and South, and the reasons for certain attitudes are brought forth. Here history must come in, for it helps to shape the characters of the novel, and its knowledge will help students understand the characters more fully.

In comparison with Johnny Tremain, perhaps a list of terms, people, events, or places may be needed in an introductory lecture. Again, the teacher is the key factor to success of the lecture method. It seems that most students know more about the Revolutionary period in American History than they do about the Civil War period by the time they reach the eighth grade. This conclusion is only a result of my experience and observation. There follows a suggested list that hopefully will help with the comprehension of the background of Across Five Aprils.

1. Rebel
2. Confederates
3. Battle of Bull Run
4. South
5. North
6. Abolitionist
7. Yankee
8. Union
9. Army of the Potomac
10. Robert E. Lee
11. George B. McClellan
12. Ulysses S. Grant
13. William T. Sherman
14. Ambrose E. Burnside
15. Secession
16. Gettysburg
17. Sherman's March
18. Reconstruction
19. Andersonville and Camp Douglas
20. Thirteenth Amendment

Again this list only implies the knowledge needed to aid understanding of the Civil War period. Sometimes a lecture is a good way to begin. Then as with the other novels, library work, source readings, class reports, and audio-visual materials tend to bring the historical background alive. A recommended list of books and audio-visual material is now included.

[5]Martha E. Ward and Dorothy A. Marquardt, Authors of Books for Young People (New Jersey: The Scare Crow Press, Inc., 1967) p. 152.

[6]Irene Hunt, Across Five Aprils (New York: Grosset and Dunlap, 1965) pp. 27-36.

Bibliography for Across Five Aprils

A. Material suggested for Source Readings

1. Commanger, Henry Steele. America's Robert E. Lee. Boston: Houghton Mifflin Company, 1951.

2. Horgan, Paul. Citizen of New Salem. New York: Farra, Straus and Gudahy, 1961. (about Abraham Lincoln)

3. Langdon, W.C. Every Day Things in American Life (1776-1876). New York: Charles Scribner, 1941. (esp. pp. 1-382)

4. Phelan, Mary Kay. Mr. Lincoln Speaks at Gettysburg. New York: W. W. Norton and Company, 1966. (esp. pp. 15-133)

5. William, Harry T. Lincoln and His Generals. New York: Grosset and Dunlap, 1952.

6. _____. America's Historylands. _____: National Geographic Society, 1962. (esp. pp. 392-467)

B. Suggested Historical Fiction

1. Kane, Harnett. The Lady of Arlington. New York: Doubleday and Company, Inc., 1954.

2. Nolan, Jeannette C. Yankee Spy - E. VanLew. New York: Julian Messner, 1970.

3. Stone, Irving. Love Is Eternal. New York: Doubleday and Company, Inc., 1955.

4. Thane, Elywth. Yankee Stranger. Chicago: Consolidated Book Company, 1944.

This list could be expanded as I have suggested with the lists for Kidnapped and Johnny Tremain.

Audio-Visual Materials for Across Five Aprils

A. Films (all available at Prime in Portland)

1. MP-196 Civil War 1863-1865 Gettysburg to Appomattox

2. MP-381 Civil War - Its Background and Causes

3. MP-745 The Jackson Years: Toward Civil War

4. MP-771 Grant vs. Lee (Original Version)

5. MP-818 Chickamauga

SUMMARY and CONCLUSIONS

The summary can only include what has been stressed all through this paper. Books with historical background can be taught effectively, only if the teacher is positive about the book, prepared in the historical background of the book, and aware of necessary materials to make history interesting and meaningful to the students. Again this hypothesis only appears to be true. It hasn't been proved.

In order to reach any really valid conclusions, a research design of some type discussed in this course will have to be set-up. Here method A versus method B could be carried forth into some type of experimental design whereby all the variables that would affect result might be controlled, in a complete or incomplete way. I feel quite sure that method A would produce some difference from that of method B, but this conclusion could only result from a very carefully planned research design.

I hope this paper will only help teachers become aware of the materials that can be found and used in teaching Kidnapped, Johnny Tremain, and Across Five Aprils. It is also hoped that the materials listed after the discussion of each book can be evaluated, through use, rejected if necessary, and expanded through continued research.

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JUNIOR HIGH SCHOOL CAREER FAIR

The evaluation sheet made out by 8th grade students at Memorial Junior High and Mahoney Junior High School following the WORLD OF WORK CAREER FAIR indicated that the morning of April 10, 1974, in Memorial's large gymnasium was a success.

How the Project Began: The Career Education Assistant Director, Mr. Fred Freise, laid the groundwork for the Fair. He personally invited local professionals within the 15 job clusters to participate in the Fair. The type of people who agreed to become involved for the 5 1/2 hour Fair were as follows: doctor, four interns, lawyer, college admissions director, engineer, veterinarian, fashion model, dentist, dental hygienist, executive secretary, banker, airline stewardess, disc jockey, hair stylist, Junior Achievement executive, factory public relations people, armed services recruiters (4), hotel manager, insurance man, and from the local Southern Maine Vocational Technical Institute - department heads in water waste control, electricity, oceanography, building trades, drafting, fire technology, law enforcement, small engines, automotive mechanic, plant and soil technology, surveying, sheet metal, welding, practical nursing, and machine tool.

The selection of people for the Fair was made very carefully. There was something at the Fair for every 8th grader in South Portland -- those who planned to go to a 4 year college, those who would attend a junior college, vocational technical institute and those who planned to join the world of work fresh out of secondary school. Hobbies and manufacturing were also thought of and a good group of hobbyists were also invited to display their works along with a representative from Junior Achievement.

A total commitment by all people within the South Portland system was necessary for the success of such a venture. This was displayed in many ways.

Guidance counselors oversaw the whole Fair. They encouraged participation and involvement by teachers in their classes and pupils in guidance classes. They planned a thorough detailed program booklet, name tags, had pupils make posters, and decorate the building and gym. They made sure exhibitors were all prepared, provided coffee for exhibitors and were general hosts at the Fair.

Principals ironed out problems with gym classes and bus scheduling. They coordinated the whole project with the counselors, made suggestions, encouraged all teachers to sell the Fair to their pupils.

Teachers recommended friends as exhibitors, edited the evaluation sheets, and had pupils discuss the Fair in classes.

Careful planning as to where each exhibition would be placed in the gym was essential -- the professionals were clustered together, four crafts tables were placed in a block in which pottery, woodcarving, leather and ceramics were on exhibit.

In another area of the gym, a prominent public relations executive agreed to video tape a mock job interview stressing such phases as work experience, outstanding activities, job goals, school activities, grades in school, personal

data, references, highlights -- achievements in your life. The tape would be given to the counselors to play back in guidance classes for all pupils to observe.

Many exhibitors brought along tape recorders, filmstrips and movies. Pamphlets and brochures were free and available from many. But, of course, the most impressive careers on exhibit were those in which simulation was involved:

Dental Technicians showed the cleaning compound used in cleaning teeth. Some pupils volunteered to have their teeth cleaned.

The hair stylist (Mansfield Beauty Academy of Maine) had students volunteering to have their hair thinned, shaped, cut, trimmed (boys as well as girls) and some girls were given instruction on facial makeup, eye shadowing, mascara, etc.

The Culinary Arts instructor and two of his top seniors showed pupils the art of cake decorating. The 8th graders seemed fascinated with what a tube of icing could create -- rose petals, buds, leaves, etc.

Preparing students for the big day was essential. Guidance counselors, career specialists, South Portland Career Education director and assistants, principals and teachers were all helpful -- giving suggestions and helping in the planning. Guidance classes were used (2 or 3 periods) prior to the Fair to motivate the pupils. Each of the city's two junior high schools would be allowed two hours in the gymnasium. A series of seven evaluation questions were given to each pupil in English class.

1. List the 3 exhibitors you like the most.
2. Which one did you like the best and why?
3. What did you learn from this Career Fair?
4. Would you recommend the Fair another year?
5. How do you think you will benefit from this experience in the future?
6. If you were in charge of this Career Fair, what changes would you suggest to improve the program?

The week before the Fair parents of all 8th graders were invited to attend an evening session. This gave parents (and pupils again) a chance to meet and talk with all the exhibitors.

English teachers agreed to discuss the morning's activities and complete the evaluation sheets for the counselors. Comments on the evaluation sheet done by pupils, teachers, exhibitors and parents indicated 99.5% felt it should be repeated next year.

At the close of the Fair the exhibitors were invited to stay for lunch which was served by the 8th grade volunteers, after which Mr. Freise conducted an open discussion and wrap up.

Some of the recommendations by exhibitors, pupils, teachers and parents regarding the Fair were as follows:

More time needed by pupils.
"Quiet rooms" to be made available for private consultations.

Perhaps the best way to sum up the Fair is to list several comments made by pupils on their evaluation sheets:

"I saw some things that I never knew before."

"I saw something that I might be interested in."

"I now have a better knowledge of the work I would like to do."

"It opened up other job possibilities for me."

"I learned more about the work different people do."

"I will be able to think about the careers and what I will have to have to become one of these people."

"I learned a lot about what I didn't know."

To sum it up in the words of an 8th grade teacher who attended the Fair: "I felt the Career Fair was both informative and interesting. From the appearance of the pupils, they also felt that way. It was a highly successful undertaking."

Anthony P. Mezoian
Gertrude G. Parker
Aline T. Leary
Memorial Junior High School

ORAL READING WITH A PRODUCT

1 2 3 4 5 6 7 8

OVERVIEW: The South Portland career education project has acquired many audio-visual materials for all disciplines. Several of the filmstrips and slide sets have only a written script. Therefore, the teacher must follow the printed script, listen to the tape/record and advance the pictures simultaneously. Student prepared tapes would be a decided advantage and convenience over these scripts. This unit is designed to provide the speech students with useful oral reading practice while producing the much needed audio tapes to permanently accompany these materials.

OBJECTIVES:

1. Interpersonal Skills: The student will work effectively within a group.

2. Decision Making: The student will demonstrate skills in perception, information gathering and decision making.

3. Work Awareness: The student will demonstrate a responsible attitude toward work.

4. Manipulative Skills: The student will operate the audio-visual equipment necessary to complete the assigned task.

5. Relevance of Education: The student will use communication skills effectively.

RESOURCES:

Dictionaries
Tape recorders and blank tapes
Slide and filmstrip projectors
Commercially taped interviews and scripts
Filmstrip/cassettes - school librarian has samples
Filmstrip and slide sets with scripts to be taped

ACTIVITIES:

1. Students will as a class listen to commercially prepared three minute audio-tape interviews to discern intonation, enunciation, musical background, and other components. They will also in groups view filmstrips with accompanying cassettes for ideas in their taping.

2. Students will in groups be given a filmstrip or slides with script and will practice reading the scripts to themselves, then to one another. Dictionaries must be used to determine correct pronunciation of all questionable words.

3. Students will select appropriate musical background for their script and devise a signal to indicate that the filmstrip/slide must be advanced. They must divide the script so that each member of the group reads equal amounts on the tape.

EVALUATION: 1. Each group will submit a log of activities and list the responsibilities, duties and attitudes of each member within that group. This log will include techniques, ideas, and notes gathered from previewing commercially prepared tapes and filmstrip/cassettes.

2. Each group will be given this evaluation design prior to their taping. The teacher will use this form to evaluate the tape of each group. The group grade will be the grade of each individual within that group and in the term average will have the same weight as a test.

Evaluation Design

Your tape will be rated in the following areas on a scale of 1 to 5, five being the best. This will be averaged as a quiz grade.

	1	2	3	4	5
1. Mechanical clarity of tape	—	—	—	—	—
2. Enunciation	—	—	—	—	—
3. Pronunciation	—	—	—	—	—
4. Effectiveness of music	—	—	—	—	—
5. Timing	—	—	—	—	—
6. Effectiveness of advance signal	—	—	—	—	—
7. Group cooperation and conduct	—	—	—	—	—
8. Equal distribution of work load per student	—	—	—	—	—

The following point-grade scale will be used:

Points	Grade
40	100
39	98
38	95
37	93
36	90
35	88
34	85
33	83 etc.

Theodora S. Sotiriou
Career Education Coordinator

Grade Nine

James Dunn

A SHORT STORY UNIT

This short story unit has the following goals:

1. To acquaint students with basic terminology (theme, setting, character, point of view) through class discussion of stories read in common.

2. To give students the opportunity to read many short stories following their individual interests.

3. To have students react to stories in some creative fashion other than analyzing or writing about them.

4. To have students get experience in arranging and working in small groups using the analysis of a short story as the focal point.

"The Frill" by Pearl Buck and "Quality" by John Galsworthy are two short stories admirably suited for ninth grade students. Both stories are simple enough to be understood by a majority of students, yet both contain rich ideas and interesting characters for discussion. Both stories are studies of men of ideals, men who are caught up in social systems which "defeat" them. Both stories raise important questions about dignity and how it is achieved and success and how it is defined.

The main character in "The Frill" is a hard working, thoroughly decent, and compassionate Chinese tailor. The story is about his attempts to please a female bigot for whom he is making a dress. Red-faced, portly Mrs. Lowe, the prototype ugly American, likes to "manage" people. Her friend, Mrs. Newman, is a whining sycophant who agrees with Mrs. Lowe that all Chinese are disreputable schemers, have low morals, and smoke opium. In order to save a few dollars and also to demonstrate her superior handling ability, Mrs. Lowe says, "Watch me," and proceeds to debase and unman the poor tailor.

The character of the tailor is in direct contrast with Mrs. Lowe. He is poor, but he takes on the support of his dead nephew's wife and three children. The tailor and his wife live amidst reeking squalor, but the tailor achieves his dignity through hard work and respect and compassion for others. He eases the death of the nephew by telling him, "You're not to worry. Rest your heart. I have work .... We shall do very well." The tailor works through the night to make a frill for Mrs. Lowe's dress. He does a professional job. Instead of thanking him Mrs. Lowe grudgingly pays him five dollars. The tailor hopes to get more work so that he might buy a casket for the nephew, but Mrs. Lowe curtly dismisses him. The next day Mrs. Lowe shows off her new dress to pathetic Mrs. Newman at a garden party. Mrs. Newman observes that the frill has been nicely constructed. "Yes it is nice, isn't it? ... And so cheap! ... It's as I said -- you simply have to be firm with these native tailors."

What makes Mrs. Lowe's treatment of the tailor so chilling is that she seems to be totally unaware of the harm she has done. The story carries little hope of repentance or remorse. Mrs. Lowe, in fact, is rather proud of her ability to manipulate the tailor. The tailor's lot is not a happy one nor does there seem to be much of a chance for improvement. "The Frill," then, provides readers with some disturbing insights on man's relations with his fellow man.

"Quality" is a story about Mr. Gessler, a shoemaker. Gessler is a craftsman. He believes in making quality boots and thinks advertising is immoral. Even though he makes boots for the Royal Family, Gessler does not advertise this fact. Gessler's devotion to his work is such that he eventually starves to death, a victim of firms that mass produce boots and drive him out of business.

Gessler is a victim who does not deserve his fate. He has committed no offense other than being unwilling to adapt himself to a system he does not believe in. To Gessler bootmaking is an art. When his customer, the narrator of the story, showed up at his shop wearing a pair of boots made by a big firm, he said, "Dose are nod by boods." Normally a mild mannered, soft spoken man Gessler said, "Dose big virms 'ave no self respect. Drash!" Gessler realizes the implications of mass production and he is bitter.

The story rolls relentlessly toward Gessler's death. Each time the man comes to the shop he finds conditions worse than in his previous visit. Gessler's physical appearance is steadily deteriorating. Ironically, Gessler's craftsmanship is a direct cause of his own death. His well-constructed boots refuse to wear out. Gessler knew not of planned obsolescence. Finally, he dies. At his final visit to the shop the narrator finds a new shoemaker, a bright, cheery young man who announces, "We make for some very good people." Gessler's epitaph is "He made good boots."

The story raises serious questions about the side effects of progress. Is it progress when individuals such as Gessler are crushed in the progress? Does the craftsman have a place in an industrial society? Do ideals make sense when one's commitment to them requires the sacrifice of life itself? The story doesn't answer these questions; it poses them for the reader to wrestle with.

The following are typical questions used with students to initiate discussion of "The Frill."

1. Find a quote by Mrs. Lowe which indicates some facet of her character. Discuss what the quote reveals about her. (Students might choose pg. 322 "My dear, the only way to manage these native tailors is to be firm!" Pg. 323 "Watch me, now." Pg. 325 "Boy, look see tailor -- see he no take something." Pg. 332 "My dear, with all this frill the dress cost only five dollars to be made -- that's less than two dollars at home!")

2. In what ways are Mrs. Lowe's physical characteristics reflective of her personality? (Her fat, red-faced carcass is indicative of her self indulgent, spoiled, and greedy personality.)

3. The story takes place in two settings. What are they? Is each appropriate for the action that takes place in it? Why? (Mrs. Lowe's life of teas, garden parties, and conversations with zeros like Mrs. Newman are what one expects of a shallow person. Conversely, the grinding poverty of the tailor's home serves to highlight his ability to spiritually rise above his situation. He achieves dignity despite adversity.)

4. Was the tailor a failure or a success in life? (Hopefully a discussion of what success and failure really are will ensue. Students might discuss the dignity and value of all work. Important questions in any age, but especially in ours, I think.)

5. Is Mrs. Lowe a believable person? Why or why not? Have you ever met anyone like her? What motivates people to act as Mrs. Lowe acts? (Questions such as these, although speculative, often lead to interesting discussions of what prejudice is and examples that students have encountered.)

The following are typical questions used with students to initiate discussions of "Quality."

1. Characterize Mr. Gessler. Cite words or actions which prove your contentions. (Most students see Gessler as a man of ideals, and one who refuses to compromise them. His starvation proves this. He is a craftsman, a person devoted to doing a job well. Occasionally some students will characterize Gessler as a foolish person. They see his refusal to advertise nonsense. Students will then take sides arguing the point. Great stuff.)

2. Explain Mr. Gessler's bitterness on pg. 526. What does "Dey get id all" mean? (Gessler, usually unobstructive, reacts to a system which has no place for him. The injustice of the situation rankles him when little else does.)

3. What is the difference between "the young man with an English face" and Mr. Gessler? (The new shoemaker has no concept of Gessler's ideal. Making shoes is his job, a way to make money, but any idea of craftsmanship is foreign to him. The fact that he succeeds Gessler makes Gessler's death all the more ironic.)

4. State the theme of the story. (For example, men of ideals often pay a very high price for refusing to compromise them. Or, the injustice of a social system which has no place for a man of ideals. Or, people want quantity not quality in the goods they purchase. Such answers lead to a discussion of the advantages and disadvantages of life in an industrial society. It is important that students realize that somebody pays for progress and that progress does not necessarily mean a better life for all.)

5. What is planned obsolescence? Give examples. What would Mr. Gessler say about such action? Do you see any good in such a policy? (Discussions of this idea are usually a hit or a resounding flop. Some classes do not react to such an idea; others dig right in.)

Usually one class period for discussion of each story is sufficient. The third class period is an ideal opportunity to tie the stories together, to get the students to think, and to do some composition work. An in-class theme is appropriate. The students are allowed to use their books; they must, however, be finished at the end of the period.

Directions: Write a unified essay on one of these three questions. Support your opinions with evidence from the text.

1. Both the Chinese tailor and Mr. Gessler are dignified men. What evidence in the stories is there to support this statement?

2. Both the tailor and Mr. Gessler are victims of social forces, victims of fate. How did each cope with the circumstances of his life? Is either or both a failure?

3. Mrs. Newman in "The Frill" and the "young man with an English face" in "Quality" are minor characters. What function does each serve in the stories?

After discussing and writing about short stories as a class I like to set the class loose for group and individual work. The following project, which defines specific requirements and sets time limits for their accomplishment, achieves this goal very nicely. The project allows students to gain experience in arranging their own work schedules, and it provides an opportunity for some creative work. While held responsible for minimum requirements, students are urged to do more.

SHORT STORY PROJECT

During the next three weeks you will be working individually on a short story project. There is a minimum amount of work required of everyone, but you are encouraged to do more.

Choose your three activities (explained below) very carefully. Select ones which you can do well. There is no sense, for example, in choosing to do a drawing or a painting if you have no artistic talent.

MINIMUM REQUIREMENTS:

1. From Short Stories by Schweikert read a story which we haven't discussed in class. Make up two essay questions and then answer them.

2. Read four short stories in Great Tales of Action and Adventure and for each explain why it is or is not a "great tale."

3. Make a collage representing one character in a short story.

4. Read as many short stories as possible and write a brief (no more than three or four sentences) reaction to each. In your reaction try to deal with a theme or an important idea contained in the story.

SOURCES: Short Stories by Schweiker, Great Tales of Action and Adventure, and any of the short story books shelved in the library.

ACTIVITIES:

1. Imagine you are one of the characters in a story and write a diary about your thoughts and feelings and events in your life.

2. Write a letter to a character in a story, giving him advice. For example, you might suggest to Mrs. Lowe that in the future she should treat Chinese with less prejudice and explain why.

3. Form a panel and conduct a discussion about a story.

4. After determining the theme of a particular story, attempt to prove that it is a valid or invalid way of viewing the world.

For example, if the theme of "Quality" is that people with ideals must sometimes pay a cruel price for maintaining them, cite evidence from your knowledge of the world that proves this theme true or false.

5. Explain which character you are most similar to.

6. Illustrate a story with photographs -- taken by you or clipped from magazines -- or with a drawing or painting by you.

7. Spend a day being a character that you particularly enjoyed or disliked. Notice how people react to your new personality and how you yourself react. Describe this experience.

8. Devise your own activity, subject to the teacher's approval.

NOTES:

1. We will see three movies.
   "My Old Man" by Ernest Hemingway
   "Bartelby" by Herman Melville
   "Occurrence at Owl Creek Bridge" by Ambrose Bierce

2. For each activity identify the title and author of the story you are working with.

3. Each student has a folder for his work.

4. Organize your time; plan ahead. Pass in requirements according to the the time schedule or earlier if you wish.

Grade Nine

TEAM TEACHING - READING AND RESEARCH

Reading teacher Librarian English teacher

Recognizing the reading difficulties of his ninth grade class, an English teacher sought the assistance of the director of the reading center. Survey tests indicated the varying degrees of reading problems within the group. The reading teacher then outlined a course of study to be adapted to student needs.

Throughout the project the students met with both teachers twice weekly in the reading center. This enabled them to have the advantage of using facilities and materials available there. The Language Master, Tachistoscope, and overhead projector with transparencies provided a variety of learning experiences. The reading teacher began a program of study with special emphasis on the mechanics of reading: recognizing words and meanings, grasping sentence meaning, spelling.

When the students demonstrated progress in these areas, they advanced to a study of comprehension skills as background and preparation for high school. Focus of this study centered on finding the main idea, summarizing, outlining, and skimming. For practical purposes, students were assigned topics for research. After having chosen a topic of interest, they wrote a series of questions they hoped to have answered. From these questions they drew their outline.

Interest in the research grew to the degree that the librarian joined the group. He showed students the procedure for writing notes from an encyclopedia in their own style rather than copying from the text. Moreover, he instructed students in the skills necessary for using the card catalog and the Readers' Guide. He also proved to be an invaluable resource person for locating texts and materials for individual reports.

The final student product was the research report complete with title, outline, body, and bibliography. This was no small accomplishment for a group who had had initial reading problems. They responded to the interest of the teachers and librarian and did well because high standards were expected of them. Visitors to the class and others reading the student reports attested to the quality of the research and writing done by the students.

A team teaching situation such as this involving three instructors will be as successful as the cooperation of the participants warrants. The fact that the English teacher continued the activities after the sessions in the reading center indicated his commitment. The research information offered by the librarian added a new dimension. The project provided a learning experience for both students and teachers.

Marian Ridgeway
Mahoney Junior High School

Ninth Grade

SHAKESPEARE FESTIVAL

Activities to be used with any of Shakespeare's plays:

Research the settings of Shakespeare's dramas with the aid of special maps of the locales.

Print in the English of Shakespeare's time a handbill or poster advertising one of the plays.

Sketch famous characters for bulletin board displays.

Create sketches and models of the Globe Theater.

Research the history of furniture of the period.

Study the importance of music to the Elizabethan actor who often was required to sing and dance.

Dress dolls representing Shakespeare's characters in Elizabethan costumes.

Make use of slides, filmstrips and recordings dealing with Shakespeare's life and times.

Show filmstrips on Globe Theater.

Present a modern skit rewritten in Shakespearean language.

Keep a list of archaic words or expressions.

Show changes in usage and word meaning which have occurred through the years.

Keep a list of mythical references found in the plays.

Find examples of Shakespeare's use of dramatic irony.

Provide for an exercise in writing blank verse.

List rhyme tags used to end scenes.

Note the playwright's use of similes.

Collect and display Old English recipes.

Pamela Beal
Mahoney Junior High School

Grade Nine

James Dunn

POETRY UNIT

The purpose of this project is to help students appreciate poetry by writing poetry.

Students are presented individual forms of poetry spread out over a period of weeks. A suggested procedure would be to show examples of the form, to read and discuss them, and finally to explain the "rules" for writing the form, e.g. the rhyme scheme of a limerick. Let the students write and share the results.

To give focus to the project have each student keep all of his work in a folder. His final task will be to select his best work and arrange it in a small anthology of his own poetry. Encourage students to use their artistic talents in illustrating their booklets. An alternative to this procedure would be a class anthology. Set up an editorial board and an arts department within the class. Discuss the ground rules for selecting poems. Students might decide to put only the "best" poems in the anthology or they might decide to include at least one poem from each person in the class.

Participation in this project will help students understand:

1. That one of poetry's features is its great compression, its ability to say much with few words.

2. That rhyme is used to emphasize and support meaning. It is not merely an artistic appendage.

3. That many ideas cannot be approached directly and that poetry can help us deal with the mysterious beauties and tragedies of our lives.

4. That poetry is not confined to any particular subject.

5. That the best poets are sensitive, feeling people who constantly seek ways to know themselves and the world they live in.

Suggested Activities:

A. "Warming up" exercises - from <u>English Through Poetry Writing</u>, Brian Powell

Compose specific vivid phrases for
1. a terrifying sight with an alarming sound
2. an expensive automobile

Make a list of sound words, arranged in order of intensity dealing with:
1. animal noises (begin with "squeak")
2. explosives (begin with "pop")

Give examples of:
quiet words, slow words, quick words

Write a line to suggest
a horseman riding, a child asleep

Describe as precisely as you can:
the smell of an old attic
the feel of a dog's nose

Using images wherever possible, discuss:
the taste of chocolate ice cream
the color blue

Complete the following:
as bitter as
with sharp blue eyes like

B. The Limerick

Show examples:

There was a young man of Derizes
Whose ears were of different sizes
The one that was small
Was of no use at all
But the other won several prizes

Present a sample limerick without the last line and have students supply one. Example:

They've buried a salesman named Phipps
He married on one of his trips
A widow named Block
Then died of the shock
- - - - - - - -
Original ending (When he found there were five little chips)

Give rules for writing limericks:
Lines 1, 2, 5 rhyme as do 3 and 4
Line 1 tells who and where from
Line 2 describes or tells a peculiarity
Lines 3 and 4 build up this peculiarity
Line 5 rounds off the limerick with an unexpected twist

Write a limerick.

C. Haiku

This is a Japanese form of poetry which sketches in three lines a mood, a moment of truth, a reality.

Characteristics:
1. uses common language
2. contains some reference to nature
3. refers to a particular event
4. presents the event as happening now
5. conveys an emotion by describing the circumstances that aroused it
6. requires that writer be objective, impersonal
7. creates a camera-like action

Form: 17 syllables in three lines
line one - 5
line two - 7
line three - 5

Sample:

Sandpipers chased by sea
Turned and chased
The sea back again.

D. "The Me Nobody Knows"

The Broadway musical of this title was based on a collection of the writings of school children. The original cast album of the show should be used as resource material for class discussion. The introductory poem was written by a boy aged 15.

"I have felt lonely, forgotten or even left out, set apart from the rest of the world. I never wanted out. If anything I wanted in."

After hearing the recording, students discuss the poetry and then are encouraged to write their own.

STUDENT WRITING
Memorial Junior High School

In the black of the night
The roaring of the sea
Breaks the silent night.

There once was a girl named Milly
Who thought baseball was silly
She was ugly and fat
But a terror at bat
Now she's a Philadelphia Phillie.

Why do birds fly
and not I?
Why are flowers free
and not me?
I want to be.

Window panes and rain
Lone and silent friends content
With viewing gray clouds.

Hawk
Graceful, swift
Swooping, hunting, looming.
Jets circling for a landing
Predator

An old can
Being kicked around
And stepped on
Rebels
And cuts someone's foot.

STUDENT WRITING
Memorial Junior High School

Eight o'clock already!
The alarm clock chimes repeatedly
Tom rolls over
And dreamily clicks the button
Steadily running water
In the bathroom
Makes the bedroom walls quiver
The room is chilly
Forcing us to dress quickly.
Breakfast is crammed down
As a honk is heard from outside.
"Take your umbrellas!"
Mom yelled from upstairs.
But we see not a cloud
And the sun is brightly shining
Beckoning us out.
Giddily we run out to the bus
Drunk with sunshine and freedom.
And forgetting the umbrellas.

A ringing bell interrupts my daydream...
Running out of the school
I separate from the others and wait for Tom.
When he arrives we start for the bus.
The rain sneaks up on us without warning.
Joining hands we begin to run
And reach the stop only to see the bus disappear
Around the corner.
The walk home is long
And the rain falls against us unceasingly
But the door is just ahead-
Locked.
We bang and the door is opened by mother.
She throws up her hands in shock
But soon recovers
And points her long, slender finger toward the stairs.
And Tom and I begin our long climb.

STUDENT WRITING
Memorial Junior High School

You are gone.
I stand here, surrounded by others in mourning,
yet very much alone.
In trying to find reasons for your death, I have become lost
in a maze.
I am ready to climb the walls that enclose me--
keeping me from understanding the world about me.
My being is filled with emptiness.
I am watching all the shattered people about me,
Wanting to offer a word of condolence--
But there is nothing to be said.
I cannot accept this myself.
I feel that I shall never understand why you are gone;
I pray that I shall be cleansed of my pain and anger
at your loss.
I find comfort in believing that wherever you are,
you are well.
Still, this is not enough.
I must understand if I hope to live with your loss
and find courage to face tomorrow.

Solitary mourner
Stands at the flower strewn grave
With a tear-stained face.

Only as a passing stranger have I known you,
But as a friend I mourn your death.
Like those who know you well, I'm going to miss you,
And weep as I wonder where you are and if I'll ever see you.
I pray for you now, and ever will I remember you,
we all shall.
We shall treasure our precious and few memories of you,
And think of the good wrought by you on this earth that
no longer is your home.
We shall not lose our love for you, or our longing to
have you in our midst once again.
I pray I will see you again one day,
in death.

CONSUMER EDUCATION IN THE ENGLISH CLASS

1 2 3 4 5 6 7 8

OVERVIEW: Advertising is one of the most effective modern methods of communication. Much advertising involves a sophisticated use of language, music, and psychology. A study of such reveals the "Madison Avenue Approach."

Consumer deception takes many forms as advertising creates a particular kind of world. The language of advertising plays a role in "what makes for the good life." Motivational analysts are hired by advertising agencies to study human behavior that they may more "effectively manipulate our choices." Analysis of advertising practices may aid the student to become more discerning in questioning the honesty of such claims and have a better understanding of what Vance Packard calls "marketing eight hidden needs."

OBJECTIVES:

1. Decision Making: The student will develop skill in discerning truth in advertising.

2. Work Awareness: The student will examine role of workers in the community.

3. Manipulative Skills: The student will use manual skills essential to many careers.

4. Economic Awareness: The student will investigate consumer resources.

5. Relevance of Education: The student will recognize the communicative skills basic to career fields.

RESOURCES:

Consumer Advertising, Proctor and Gamble Educational Services

I Can, State Department of Educational and Cultural Services, Augusta

Packard, Vance. The Hidden Persuaders

Randall, Robert. Consumer Purchasing

Schrank, Jeffrey. Persuasion Box

Scholastic Scope

"Why Are American Consumers Angry?" April 5, 1971, pp. 4-11
"Scope Visits an Ad Agency" February 7, 1974, pp. 4-12
Tab Creative Unit - Values/Advertising

Those Were the Good Old Days: Advertising 1880-1930

ACTIVITIES:

1. Read assigned materials.

2. Listen to ads taped from popular television programs and attempt to identify commercials whose brand names have been erased. Recall suggests the impact of such advertising.

3. Read of the effectiveness of the Maine Consumer Fraud Division in combating fraudulent practices involving: a drug store chain, a mobile home manufacturer, door-to-door salesman, correspondence school editors.

4. List products or brand names found in homes but not advertised on television.

5. Engage in group activities involving Nader Raiders, researchers, copywriters. Project is to be found in Values/Advertising Unit.

6. Visit a company such as Donnelly Advertising to see in action: artists, photographers, and creative writers.

7. Invent a name for a product and write a slogan for it creating a magazine ad using words, pictures, color.

8. Discuss the part advertising played in causing you to buy something you did not need.

EVALUATION: 1. List facts found in ads recognizing that truth may be distorted by omission.

2. Compare early aspects of advertising to newer styles.

3. Identify three of following types of appeal to be found in advertising and collect for bulletin board display ads demonstrating these appeals: Unfinished Claim, Humble Approach, Weasel Words, Vague Claims, Statistics, Happy Family, Snob, Ecology/Public Service, Symbols.

4. Prepare a comparative advertising survey based on ads from two or three different types of magazines.

5. List work of advertising employees witnessed on field trip.

6. Compare tapes of television commercials presented in other areas of the country to those viewed in their own locality.

7. Write radio commercials. Since there is no visual dimension, there will be greater awareness of the power of words. Music and sound effects may be added.

8. Prepare a script for a commercial or create an advertising transparency which the class will evaluate.

Terry Sotiriou, Curriculum Coordinator
Mary Cruise, Teacher
Leon Rowe, Librarian

Grade Nine

INTRODUCTION TO CAREERS
Memorial Junior High School

Course Objectives	Course Activities	Resources
Unit I Where Am I Going?		
The student will become familiar with the goals and content of this course.	1. Take a pretest over values and attitudes. 2. Discuss objectives and goals. 3. Discuss course product and evaluation.	Introductory films and filmstrips Vocational Development Inventory Sheet Career Education Program, J.H. III
The student will gain information about his interests and aptitudes as related to a career choice.	1. Take a series of tests. 2. Make a profile. 3. Discuss options and deciding intelligently.	Self Directed Search Scope, "Jobs In Your Future, pp. 12-15 Deciding, pp. 21-43 Temperament Check List Sheet Argus Posters: "Winners or Losers" "Big and Little Talkers" "Feelings and Thoughts"
The student will become aware of the purpose of the Job Shadowing activity.	1. Review past shadowing experience. 2. Discuss apprentice and volunteer work as pre-career experience.	Slides or movies on previous Job Shadowing experiences Review comments of past participants Guidance personnel
The student will select a career or careers to be explored.	1. Review lists of businesses which have participated in the past. 2. Add and update the list with new alternatives. 3. Select career matched to profile of each student.	Lists of businesses Telephone directory Guidance personnel Career Resource Center Deciding, pp. 33-45
The student will identify the kinds of information needed to research a career.	Discuss: salary, skills and training, working conditions, demand, job security, related careers, prestige, pressure, authority, responsibility.	Learning Discussion Skills Through Games "Finding the Right One"-Prime "After High School-What?" - Prime "Choosing Your Career" S.V.E.

Course Objectives	Course Activities	Resources
The student will identify the sources of information on careers.	List resource people and create file cards for Career Resource Center. Research: SRA, DOT Occupational Outlook, films, filmstrips, library.	Career Resource Center "Choosing Your Career" S.V.E. Newspapers State Employment Bureau C.G.I. Report
The student will demonstrate his understanding of the kind of product he will prepare.	Discuss methods of presenting the above data: notebook, slides and tapes, films, charts, bulletin boards, dramatization, card file, role playing, debates.	Career Resource Center (displays and bulletin boards) Guest speakers from advertising firms Company films and filmstrips Prepared tapes
Unit II How Do I Get There?		
The student will complete a research project which will demonstrate his understanding of his career choice and/or shadowing experience.	Independent activities: 1. Keep fact-notebook a. career-general b. specific company 2. Do pre-shadow interview, product analysis, market research. 3. Study interrelatedness of company with others.	Career Resource Center Guidance personnel Specific companies DOT SRA Work Kit C.G.I. Report
How Do I Find a Job? The student will list resources for job location.	Consult relatives and friends. Interview speakers from various agencies. Visit employment agencies. Follow-up want ads by visits to companies.	Newspapers Speakers Scope, "Jobs" pp. 52-53 "Tips for the Young Adult" "Finding a Job Opening" SVE
How Do I Get a Job? The student will demonstrate his skill in applying for a job.	Fill out job applications and Social Security card forms. Write resume. Role play interviews. Tape interviews. Interview guest speakers.	Scope, "Jobs" pp. 54-56 "The Job Interview" S.V.E. "Your Job-Applying for It" - Prime C.G.I. Report
How Do I Keep a Job? The student will identify the appropriate inter-personal skills which build success in a job.	Discuss: More people lose jobs because they can't get along with others than for any other reason. Show filmstrip on group interaction.	"Your Job-Fitting In"-Prime "Your Job-Good Work Habits"-Prime "Your Job-You and Your Boss" Scope, "Jobs" pp. 66-69 "Your First Months on the Job"-S.V.E.

Course Objectives	Course Activities	Resources
	Interview a business person on office practices and procedure. Role play telephone manners or "how to lose customers." Show posters and films on grooming.	"Prepackaged Personalities" "Telezonia" - Prime "How to Lose Your Best Customer Without Really Trying"
What Conditions of Employment Should I Know About?		
The student will become aware of state labor laws. The student will become aware of laws and benefits of Social Security. The student will become aware of professional and labor organizations. The student will become aware of the job experiences of his peers and the jobs available in the community.	Study various documents. Role play test cases concerning labor or Social Security laws. Interview guest speakers from bureaus. Discuss relationship of part time jobs and volunteer work to careers.	Scope, "Jobs" pp. 76-79 "Your Job-Getting Ahead"-Prime Guest speakers
When and How Do I Change Jobs?		
The student will study career development as an on-going process that involves continued examination of goals.	Interview speakers who have changed jobs. Conduct interviews with unemployed workers. Examine related work fields. Survey job changes of faculty and parents to determine frequency and pattern. Study future job development possibilities.	People in the community Historical patterns (American history) Future speculations (Science fiction) "Pulling up Roots" - Argus poster
The student will examine present and future educational goals as they relate to future careers.	List school subjects in order of importance to careers. Set realistic goals for entry level and post-entry level education. Examine relation of education to lifestyles.	

Course Objectives	Course Activities	Resources
Unit III **What Will My Life Be Like?**		
The student will identify some of the financial, sociological, personal and environmental factors which are dictated by one's career. Every student will obtain a Social Security card by the end of the course.	Plan a budget Figure income tax, social security and hazards. Discuss: differences between wants and needs, job risks, social and personal demands of the job, advantages and disadvantages of large and small companies, staying in Maine or moving and how frequently, recession, sex stereotyping.	"Sears Monthly Finance Plan" "Credit Counseling Centers" Scope Visuals TV 2463 "Getting Applications Right" "If I Had a Million"-Argus "Manage Your Money"-Prime Hazard cards "The Struggle for Women's Rights" - Prime "Women in the World of Work"-Prime
The student will identify those leisure time activities which are or could be satisfying to him.	Survey current trends of leisure activities and collect data on cost, time and availability. Demonstrate current hobbies and activities. Survey leisure time activities in terms of relaxation value.	Magazines Senior Citizen Groups Speakers Films Catalogues
Unit IV **Where Do I Stand?**		
The student will identify the ideas learned during the course and present them to the class. The student will establish positive directions for the future and demonstrate a critical attitude toward his goals.	Seek out part-time or volunteer work related to a future career. Use test data to set up High School course of study.	Post tests: V.D.I. Career Education Program "Where Am I Going? - Another Look" J.M. 351

Ruth Roberts, Curriculum Coordinator
Wilma Bridges
Gary Hill
Larry Woodward

Grade Nine

SELF AND CAREER EXPLORATION
Mahoney Junior High School

Objectives	Activities	Resources
Introductory Unit Who Am I?		
The student will become familiar with the goals and content of the course.	Take pretest. Discuss goals and objectives of the course.	Pretest Course outline
The student will develop an interest and career profile.	Take personality and career test. Discuss options and choose from alternatives. Evaluate self on basis of responses on worksheet. Check partner's rating on same testing. [Note] Throughout the course, the student will seek a speaker or film to expand his interest in the study of career choice.	Self-Directed Search "Choosing Your Career" SVE Worksheets: "My Occupation" "Education and Training" Optional Materials: "Vocational Development Inventory" "Temperament Check List" "Personality Rating Sheet"
The student will identify those leisure time activities which are or could be satisfying to him.	Complete inventory sheet revealing use of leisure time. Demonstrate current hobbies. Discuss current trends of leisure time activities and prepare data on cost and time. [Note] Participate in Mahoney Hobby and Crafts Show.	"How I Use My Leisure Time" Senior citizens' groups Community resource members
Unit I Where Am I Going?		
The student will examine present and future educational goals as they bear on future careers.	List school subjects. Examine relationship of education to life style. Set realistic goals for entry level and post-entry level education. Discuss relationships of part-time jobs and volunteer work to careers.	"My Life Style" Let's Explore Your Career pp. 25-28 Scope, "Jobs in Your Future" pp. 76-79

Objectives	Activities	Resources
The student will identify the kinds of information needed to research a career.	Discuss: salary, skills, training, working conditions, demand, job security, related careers, prestige, pressure, authority, responsibility. [Note] Each student will participate in Job Shadowing at some time during the course. Job Shadowing is described in detail on pages 91-92 of the guide.	Choice of films: "Finding the Right One"-Prime "After High School, What?" Prime
The student will identify the sources of information on careers.	Investigate: SRA, DOT, Occupational Outlook Invite speaker from State Employment Bureau Optional Activities: Add career consultant cards to file in Resource Center. Attend Career Guidance Institute.	"Scavenger Hunt Project" in Career Resource Center Career Guidance Institute Report
The student will demonstrate his understanding of the kinds of product he will prepare.	Study alternative methods of presenting reports: notebooks, slides and tapes, films, charts, bulletin boards, card file, debates, role playing, dramatizations. [Note] Throughout the course students will be asked to update bulletin board displays.	Career Resource Center or Class Displays and Bulletin Boards
Unit II. <u>How Do I Get There?</u>		
The student will complete a research project which will demonstrate his understanding of his career choice.	Prepare responses based on physical and geographical aspects of job. Make job description cards for career researched.	"Career Worksheet"
The student will list resources for local employment opportunities.	Identify sources of job opportunities: family, friends, public and private employment agencies, guidance counselors, placement offices	Speakers from agencies <u>Scope</u>,"Jobs in Your Future" pp. 52-60 "Tips for Young Adults" S.V.E. "Finding a Job Opening" S.V.E.

Objectives	Activities	Resources
The student will become aware of job experiences of his peers and of jobs available in the community.		"Your Job - Applying For It" Prime
The student will demonstrate his skill in applying for a job.	Fill out application forms and social security card forms. Interview speaker from social security agency. Discuss with speaker: What is social security? Write a resume. Role play interviews.	Company applications Social Security films: "4 e.g." "After the Applause" "The Job Interview" - Prime
The student will identify the appropriate interpersonal skills which build success in a job.	Discuss: "More people lose jobs because they can't get along with others than for any other reason." View film on group interaction. Role play telephone manners.	Argus Posters and Sheets: "Big and Little Talkers" "Winners or Losers" "Your Job-Fitting In"-Prime "Your Job-Good Work Habits" Prime "Your Job-You and Your Boss" Prime Scope, "Jobs in Your Future" pp. 66-69 "Your First Months on the Job" S.V.E. "How to Lose Your Best Customer Without Really Trying"
The student will study career development as an on-going process that involves continual examination of goals.	Survey parents and faculty to determine frequency and pattern of job changes. Interview people who have changed jobs as well as unemployed workers.	Resource people: Community members Family and faculty Argus Poster: "Pulling Up Roots"
Unit III. What Will My Life Be Like?		
The student will identify some of the financial, sociological, personal and environmental factors which are dictated by one's career.	Plan a budget. Figure income tax and social security. Discuss differences between wants and needs. Question job risks and the social and personal demands of a job. Discuss sex stereotypes.	"Manage Your Money" - Prime "Sears Monthly Finance Plan" "Struggle for Women's Rights" Prime "Women in the World of Work" Prime

Objectives	Activities	Resources
	Consider advantages and disadvantages of large and small companies. Consider question of staying in Maine or moving to another locality.	
Unit IV. Where Do I Stand?		
The student will identify the ideas learned during the course and present them to the class.	Seek part time or volunteer work related to a future career.	Post Test "Vocational Development Inventory" "Where Am I Going? Another Look"
The student will establish positive directions for the future and demonstrate a critical attitude toward his goals.	Use test data to set up high school course of study.	
Unit V. Values	THE VALUES COMPONENT OF THE COURSE IS TAUGHT BY GUIDANCE COUNSELORS FOR A THREE WEEK PERIOD.	
Part One The student will know the names of his classmates and some facts about many of them.	Lesson: Getting Acquainted Permit students to arrange themselves in alphabetical order without any assistance from the teacher. This reveals leaders, followers, organizers. Interview other students and prepare fact sheets. Sit in semi-circle. One at a time, students go to the board, write their names, an interest, like or dislike, an extra-curricular activity. Conduct question session. Each student answers a question about himself.	Development of Classroom Workshop in Oral Communication Learning Discussion Skills Through Games, Skill 1, p. 19 Learning, Problem 5, p. 64
Part Two The student will develop skills in listening, participating, and in demonstrating respect for the opinion of others.	Lesson: Interacting Interview five people - parent, counselor, teacher, pastor, another teen, to determine similarities and differences in their solution to the same problem. Who ultimately must decide?	Learning Discussion Skills Through Games, Skill 3, p. 23 Learning Discussion, Skill 6, p. 36

Objectives	Activities	Resources
	Student is given an essential piece of information which is a clue to a murder mystery. The game which follows forces the group to organize for problem solving. Assign a question or an issue for discussion. Two students are appointed to discuss both sides of the question. Later, three students summarize the differences. Students presenting the argument judge the most accurate summary.	
Part Three The student will identify group roles and identify his role in a number of groups.	Lesson: Group Roles Discuss role as member of the family group. Consider role as member of the school community. Recognize need to learn new roles in a discussion group. Study dangers of seeing people as stereotypes. Invite community workers who don't fit sex career stereotypes - female mechanics, male nurses.	Planning Your School Life "Family Relationships" Unit 2 Getting Along with Your Parents Making Value Judgments, Chapter 3 - "Is there a generation gap in my family?" Making Value Judgments, Chapter 4 - "What is my role at school?" Planning Your School Life "You and Your School" Unit 3 Making Sense of Our Lives "In Crowd" Poster and Sheet Learning Discussion Skills Through Games, Skill 9, p. 41 Making Value Judgments, p. 113
Part Four The student will identify and share his interests with his classmates.	Lesson: My Interests List occupations one rejects as a means of revealing interests. Review chart of interest areas. Assume responsibility for contributing to group discussions on interests. Discuss opportunities to develop new interests. Compare current interests with those of two years ago and identify reasons accounting for change.	Let's Explore Your Career pp. 5,6,7,8 Learning Discussion Skills Through Games, Skill 4, p. 31 You, Today and Tomorrow Chapter 5

Objectives	Activities	Resources
Part Five The student will use interviewing techniques, charts and other methods to discover his skills.	Lesson: My Skills Interview previous elementary teachers or favorite junior high teachers to learn their judgment of student's strengths. Complete ability charts to match activities and abilities.	You, Today and Tomorrow Chapter 3 Let's Explore Your Career "My Self Ability Summary" pp. 22, 23, 24
Part Six The student will be able to find and discuss his feelings.	Lesson: My Feelings Discuss the question: "Does self-respect require continued feedback from others?" Complete activity which distinguishes between feelings and thoughts.	Making Sense of Our Lives Sheet "Feelings and Thoughts"
Part Seven The student will discover and be able to state his values.	Lesson: My Values Recognize that making decisions involves those things one values. Then consider personal values. Study the ways that abilities, values, and interests may work together. Consider, "What if they conflict?" Consider three sources of values: religion, family, society. Study and identify present American values. Change values to clearly stated objectives.	Deciding "Values Unit" p. 10 Deciding, p. 11 You, Today and Tomorrow p. 57 Making Value Judgments Chapter 1 Deciding, p. 15 Deciding, pp. 17 & 18
Part Eight The student will identify and share his interests, skills, feelings, and values with his classmates.	Lesson: Combined Self Awareness Discuss: "Who has influenced who you are today - family, travel, sports?" "Whom do you go to for advice?" "With whom do you share successes?" Write: journal entries autobiographies personal rating inventory	Sheets: Journals Autobiographies Personal Inventory Making Sense of Our Lives "What Kind of Talker Are You?"

Objectives	Activities	Resources
Part Nine	Lesson: Expanding the Imagination	
The student will improve his skill in using his imagination creatively.	Make a collage of pictures that represent student's personality. Make a collage of pictures showing likes and dislikes. Use technique to rid self of unwanted traits, habits, qualities. Learn to become a "self scientist" by questioning issues important in one's life.	"Magic Can" "I Urge Telegram"
Part Ten	Lesson: Decision Making Skills	
The student will be able to list the kinds of information required in good decision making. The student will be able to list alternatives. The student will be able to describe common decision making strategies.	Identify alternatives in decision making. Play "Options" - a computer game. Consider acceptable and unacceptable alternatives. Evaluate possible sources of information in making a decision. Consider the role of values in risk taking and choose from probabilities. Complete exercises in the four strategies: wish, escape, safe, combination.	All activities from Deciding pp. 21 and 22 pp. 23, 24, 25 p. 26 p. 29 pp. 35-40 pp. 41 - 45

Pamela Beal
Mary Cruise
Ruth Roberts
Terry Sotiriou

PROJECT: JOB SHADOWING

The Problem

Mahoney Junior High School has been involved in a three-year, federally funded project in Career Education called Project REVAMP. What seemed to be the most difficult part of the project was "Hands-On," an experiment involving ninth graders. The objective of this experiment was to familiarize all ninth grade students with the realities of various career fields.

After much thought and many discarded ideas, we devised a very simple plan which we called Project: Job Shadowing. Under this plan, each student spent one complete day with a parent, friend, or relative, shadowing him as he spent a day on the job. If the hours were 4 P.M. to midnight, that was the shift the student observed. Because of the age of the students and insurance regulations, we stressed that they must observe the work and not participate in the work.

Our ninth grade English teachers team-taught the six week unit in our Career Resource Center. We also had the services of a full-time guidance secretary available to us.

The Plan

Week 1: We introduced the six week Career Education unit and discussed jobs the students had already had and were familiar with. A letter to parents and a permission form were distributed and explained. Various shadowing possibilities and alternatives were discussed.

Week 2: Parents' reactions to the job shadowing idea were discussed, and any problems regarding the implementation of the shadowing experiences were resolved. With the assistance of the English teachers, the fifteen occupational clusters were reviewed, and attitude and conduct "on the job" were discussed. A diary for the job shadowing experience was distributed. The purpose of this diary was to introduce work-related concepts such as fringe benefits, union affiliation, and working conditions, and to provide for feedback from the job shadowing experience.

Week 3: Students spent one complete day (or more if the situation required it) on the job.

Week 4: Students shared their experiences with their English classes, using their diary notes, and they completed evaluations of the project.

Weeks 5 and 6: Counselors, using the experience of shadowing as a springboard, encouraged students to relate their day on the job to their own plans for a high school program of studies and future educational goals. Faculty, parents, and other participants were asked to evaluate the project.

Results

The job shadowing project has been implemented twice with over 80% of the ninth grade students participating on both occasions. Our students observed all shifts and under all conditions. One flew to New York City with Air New England.

Others went all over the states of Maine, New Hampshire, and Massachusetts. Many firms and individuals offered to have several students shadow. Three boys stayed right in our own building, shadowing the school painters. The list of businesses and industries represented ranged from a sole proprietor retail store to large corporations such as New England Telephone and Fairchild Semiconductor. One student shadowed a crossing guard; another followed a union leader, traveling around the state, holding meetings, and inspecting sites. One of the most popular job shadowing experiences was with the South Portland Police.

As an additional bonus, this project cut across traditional sexist occupational lines. Many girls went to work with their fathers and many boys with their mothers. One girl spent one day with both of her parents because they both wanted "equal time."

The excitement and enthusiasm generated in the school was contagious, and during the follow-up class periods, many lively accounts of job shadowing were shared.

This unit also served to introduce the ninth graders to methods of researching jobs in the Career Resource Center and to the guidance assistant. Her responsibility was to coordinate and record parental responses, prepare lists of students excused from school each day, and send out thank you letters to all teachers, parents, and others who cooperated in the project.

Evaluation

We felt that we had 200 ambassadors of good will going into our community. The 80% responses far exceeded our expectations. In addition, this project was easy to organize and reproduce. In manpower hours, having students make their own contacts was efficient and imaginative. They often came up with original ideas and contacts.

Negative evaluations were primarily directed toward the fact that we generally suggested that students shadow their own parents. Often the students were already familiar with their parents' work or were not interested in their parents' jobs.

The positive evaluations were many, from the closer bond felt between parent and child to a far stronger understanding of the work world. Most students wanted to repeat the project - shadowing a job related to their own interests or to compare two jobs.

Ronald Adams
Rachel Paquette
Cynthia Sanborn
Mahoney Junior High School

PHILOSOPHY

The English Department at South Portland High School has two major goals:

1. to equip students with the basic skills of reading, writing, and speaking so that they will become effective members in our society.

2. to help students develop a greater sense of who they are and what their potential is.

We want our students to be critical thinkers, sensitive human beings, and articulate speakers. We want our students to develop a respect for and a facility with the English language, the unifying force in our curriculum.

To accomplish these goals the English Department offers six skill courses for sophomores and a phase elective program for the juniors and seniors. In their sophomore year students culminate a four-year (grades 7-10) sequence of skills and activities in reading, writing, language, speaking and listening, and career exploration and values. Sophomores do not elect their courses. Junior high guidance counselors place sophomores in appropriate skill courses.

Juniors and seniors select their courses based on their future needs and interests. Guidance counselors and English teachers counsel students before they select courses. All students must take one of the five American Literature courses, and all students are strongly advised to take a writing course.

The rationale for our curriculum is:

1. The English Department believes that students must take responsibility for their education. Students should have proper counseling, but they should also have the opportunity to make choices. Electives require an educational commitment from the student.

2. The English Department's role is to offer a balanced program, one which meets the needs of all students. We know that all students need certain communication skills. We also know that students who are interested in their work tend to perform better than those who are not. We have provided both of these factors, skills and interest, in our program.

3. Courses are phased, not the students. The inherent flexibility of an elective system allows a student to avoid the constrictions of a tracking system. Where appropriate we have encouraged heterogeneous grouping.

All courses carry a phase designation(s) indicating the level of difficulty.

Phase 1 - a course created for those students who have difficulty with basic English skills.

Phase 2 - a course created for students who need to improve and refine basic English skills but at a slower pace than in higher phased courses.

Phase 3 - a course created for students who have a command of basic English skills and who would like to advance beyond these skills at a moderate pace.

Phase 4 - a course created for students who have a good command of basic English skills and who learn rapidly.

Phase 5 - a course created for students who have an excellent command of basic English skills and who are looking for a stimulating academic experience conducted at an advanced pace.

THESE MEMBERS OF THE HIGH SCHOOL ENGLISH DEPARTMENT WROTE THE FOLLOWING COURSE OUTLINES.

Margaret Anderson
Jo D. Archer
Dorothy Bohnson
Clifton Burrowes
Grace Corey
James Dunn
Margaret Foster
Elisabeth Gibbon
Martha Hall
Virginia Hews
Alan Hirsch
Charlotte Libby
Carol Macdonald
Lois Mansfield
Everett Nisbet
Priscilla Perry
John Sullivan
Michael Tate
Sarah Lee Wright

GUIDELINES FOR COURSE SELECTIONS

All English courses will be a semester in length. Each course has a phase designation(s) to indicate its difficulty. Students will choose their English courses with the help of their guidance counselors. Students should realize that weekly composition work will be a part of all literature courses.

The following guidelines will govern student choices:

1. Students must pass eight semesters of English to graduate. Successful completion of ninth grade English gives a student credit for two of these semesters. Also, a student must carry an English course each semester in grades 10-12.

2. Sophomores have a set program and are not eligible to elect courses. They will be placed in appropriate sophomore skill and literature courses by their guidance counselors.

3. A sophomore who fails Basic English Skills, Communication Skills, or Essential English Skills must retake the course.

4. All students must elect one of the five American Literature courses.

5. All students are strongly advised to take a writing course.

6. It is recommended that students preparing for college elect their courses from the following list. If they are interested in other courses, they should consider taking them as second courses.

American Literature (4,5)	World Literature (3-5)
Man in Society (3-5)	Poetry and the Short Story (4,5)
Composition (3-5)	Bible as Literature and Mythology (4,5)
Creative Writing (4,5)	The Hero and the Anti-Hero in English and American Literature (5)
Selected British Authors (3-5)	
Play Reading and the Theater (3-5)	

7. Students who have failed ninth grade English will not have to retake this specific course in high school. Successful completion of a sophomore skills course will compensate for this failure and students in this category will be able to meet the requirements for eight semesters of English by electing other English courses.

8. If a student wants to take two English courses, he should be allowed to do so only after all students have been signed up for one course. Openings in scheduled courses may then be filled by students who want a second course.

HIGH SCHOOL COURSE LISTING

Number	Title
600	BASIC ENGLISH SKILLS
601	COMMUNICATION SKILLS
602	ESSENTIAL ENGLISH SKILLS
605	EXPERIENCES IN LITERATURE
606	INTRODUCTION TO LITERATURE
607	EXPLORING LITERATURE
610	AMERICAN LITERATURE
611	MAN IN SOCIETY
612	FRONTIERS IN AMERICAN LITERATURE
613	YOUTH IN CONFLICT IN AMERICAN LITERATURE
614	LITERATURE OF AMERICAN MINORITIES
620	WRITING WORKSHOP
621	COMPOSITION
622	CREATIVE WRITING
623	FILM STUDY AND PRODUCTION
625	FUNDAMENTALS OF BUSINESS ENGLISH
626	EFFECTIVE BUSINESS COMMUNICATION
627	READING WORKSHOP
630	PLAY PRODUCTION
631	DOUBLESPEAK
632	SPEECH
633	PLAY READING AND THE THEATER
634	CAREER PREPARATION
640	THE HERO AND ANTI-HERO IN ENGLISH AND AMERICAN LITERATURE
641	BIBLE AS LITERATURE AND MYTHOLOGY
645	INDIVIDUALIZED READINGS OF FICTION
646	CONTEMPORARY LITERATURE
647	POETRY AND THE SHORT STORY
648	LITERATURE OF THE AMERICAN WORLD OF SPORTS
649	SELECTED BRITISH AUTHORS
650	AMERICAN FOLKLORE
652	A STRANGER IN THE CITY
653	SCIENCE FICTION AND HORROR STORIES
654	WORLD LITERATURE
660	INDEPENDENT STUDY IN ENGLISH

600 BASIC ENGLISH SKILLS (1, 2)

COURSE DESCRIPTION

This course is designed to acquaint the student with the basic English skills needed by those who will be pursuing a vocational career. Part one of the course will emphasize the grammatical skills required for effective written and oral communication. Part two will concentrate on specific applications of these skills. Typical activities will be writing letters, filling out forms, making résumés, and presenting short speeches.

OBJECTIVES

The student will:

1. familiarize himself with the types and styles of language, including occupational and social.

2. develop a facility for using appropriate language when he speaks or writes.

3. improve the mechanics of writing - emphasis on the complete sentence.

4. improve vocabulary - especially that of occupations, applications, etc.

5. experience writing and making revisions.

6. explore necessary qualities for success in the business world (punctuality, dependability, etc.).

7. improve reading and study skills.

MATERIALS

English on the Job (main text), Drop Out, The Hobbit, Impressions in Asphalt, and Open Ended Stories

Films: "Joh Hunting, Where to Begin" - 98GU
"Preparing for an Interview" - 87GU
"Your Personality" - 28HE

OUTLINE

During the semester the following areas will be covered:

A. Grammar and Usage (Units refer to English on the Job)
   1. the right verb (Unit 2: teach/learn, borrow/lend, etc.)
   2. the incomplete sentence (Unit 4)
   3. the run-on sentence (Unit 5)
   4. double negatives (Unit 7)
   5. punctuation (Unit 10)

B. Writing
1. Discuss topic sentence, concluding sentence, use of examples, and illustrations. Write short paragraphs.
2. Practice answering a job ad from one chosen in the newspaper.
3. Write "how-to" composition and give a demonstration.
4. Write letter of application.
5. Write other types of letters: friendly, request, order, claim.
6. Write paragraphs in relation to literature assignments.

C. Vocabulary development
[Note: Page notations refer to Improving Reading in Every Class]
1. Incorporation of technical vocabulary (other subject areas, career, etc.), pp. 297-304.
2. Teaching of basic prefixes and suffixes, pp. 38-40.
3. Review of structural analysis (inflectional endings - -ed, -ing, -ly, -est; compound words, roots), pp. 20-23, 78-84.
4. Students keep own vocabulary notebook, pp. 64-69.
5. Spelling to be incorporated; review basic rules.
6. Awareness of multiple meanings of words.
7. Antonyms, homonyms, synonyms.
8. Use of context clues, pp. 23-36.

D. Study skills
1. Following directions - oral and written, pp. 353-359, 363-373.
2. Specific goals set for reading assignments, pp. 91-107.
3. A method of retaining information to be taught (SQ3R, PQRST, or other), pp. 115-128.
4. Teach use of graphs, charts, maps, illustrations.
5. Teach use of parts of book - index, table of contents, glossary, etc. Inventory of own textbooks used in other subjects.
6. Review use of the dictionary, pp. 61-63.
   a. alphabetization skills
   b. guide words
   c. symbols; pronunciation key
   d. selection of appropriate meaning
   e. syllabication
   f. abbreviation

E. Career Skills
1. Inventory student interests.
2. Discuss skills students have to offer.
3. Discuss types of careers available.
4. Hear speakers from the armed services.
5. Familiarize selves with Career Resource Room facilities.
6. Introduce personal data sheets and complete.
7. Start selection of a career by using the Career Resource Center. Introduce students to the career profile. Choose two careers which will be used throughout the semester in reference to applications, interviews, etc.
8. Discuss dropping out (speaker from Guidance).
9. Discuss interviews - language, appearance, attitude.
10. Discuss obligation of employer, employee.

601 COMMUNICATION SKILLS (3)

COURSE DESCRIPTION

This course will focus on the skills needed for effective communication. Materials that will be covered include a review of basic English grammar and composition skills. Students will engage in a variety of speaking, writing, and reading activities. There will also be units on how to use a library and how to take part in meaningful discussions.

OBJECTIVES

The student will:

1. gain a working and practical knowledge of his language.

2. become aware of the sequence of grammar, spelling and mechanics.

3. become familiar with the library and learn how to utilize both the library and the Career Resource Center.

4. write short, meaningful paragraphs that use details in support of or in place of generalizations.

MATERIALS

Texts to be used:

English in Action 3
Guide to Modern English
American English Today

Outside reading:

Bridges at Toko-Ri	Lively Lady
On the Beach	The Boy Who Invented the Bubble Gun
To Kill a Mockingbird	This Stranger, My Son

Each class should read three novels.

OUTLINE

I. Grammar

During the semester the class will cover the following grammatical areas:

a. Review the parts of speech.
b. Review the parts of a sentence.
c. Review the irregular verbs.
d. Teach verbals.
e. Review subject and verb agreement.

f. Review pronoun cases.
g. Review fragment and run-on sentences using compositions as examples.
h. Review capitalization and possession.
i. Review punctuation.
j. Review improving sentence techniques.
k. Review clauses and complex sentence.
l. Teach parallelism.

II. Writing

During the semester the class will cover the following writing exercises:

a. Study steps in paragraph development leading to a three paragraph theme.
b. Practice observational writing (from picture, object, etc.).
c. Start writing log (recording misspelled words and grammatical errors).
d. Write directions on how to do something. This may be followed with oral demonstrations.
e. Write a paragraph on two moods illustrated from a literature assignment.
f. Write a paragraph on exaggeration, humor or conflict.
g. Study expository writing.
h. Recognize literary analysis.
i. Learn the basic principles of outlining.

III. Vocabulary

Page references to text: Improving Reading in Every Class

a. Review suffixes and prefixes, pp. 38-40.
b. Study different types of context clues, pp. 23-36.
c. Note multiple meanings of words, pp. 64-69.
d. Select the best meaning for a word in a given context, pp. 80-83.
e. Review structural analysis (inflectional endings - -ed, -ing, -ly, -est; compound words, roots) pp. 78-84.

IV. Research and Career Project

a. Arrange for orientation to library facilities.
b. Review major reference tools: encyclopedias, Readers' Guide, Who's Who, consumer reports.
c. Investigate career or college of choice using materials available in Career Resource Center.
d. Prepare data sheets.
e. Write letters of application: job, school, credit.
f. Prepare samples of five types of letters.
g. Explore career opportunities.
h. View career films which will be available periodically from the Guidance Department.
i. Discuss those films which stress success on the job and value judgments.

602 ESSENTIAL ENGLISH SKILLS (4, 5)

COURSE DESCRIPTION

The purpose of this course is to help students achieve clarity in oral and written communication and to develop skills for meaningful, effective, personal expression. Students will study formal English grammar in depth, as well as the essentials of good usage. Vocabulary study will be extensive through workbook assignments. There will be opportunity for oral and written expression based on assigned reading and personal experience.

OBJECTIVES

The student will:

1. study and apply principles of English grammar and good usage.
2. build vocabulary skills with emphasis on prefixes and roots.
3. gain experience in use of the library and career resource center.
4. gain experience in writing.
5. develop oral expression.

TEXTS

Guide to Modern English - Grade Ten
Harbrace Vocabulary Workshop

Suggested Supplementary Material:

Julius Caesar	The Lively Lady
Silas Marner	Literature of Mystery
A Bell for Adano	On the Beach

Students will be assigned reading from this list. These books will serve as a basis for class discussion and for written work.

OUTLINE

I. Grammar and Usage

a. Review parts of speech and parts of the sentence.
b. Study objective complement.
c. Review verbs and subject-verb agreement.
d. Review verbals.
e. Study verbal noun.
f. Review pronouns.
g. Review prepositional phrases, clauses and kinds of sentences.
h. Review plurals, possessives and capitals.
i. Review punctuation.
j. Correct faulty sentences.

II. Vocabulary

a. Study Chapter One in Vocabulary Workshop.
b. Memorize prefixes and do related exercises.
   Vocabulary Workshop - Chapter Three
   Improving Reading in Every Class - pp. 38-40
c. Memorize Greek and Latin roots and do related exercises.
   Vocabulary Workshop - Chapter Four
   Improving Reading in Every Class - pp. 44-56

Note: All further page designations refer to Improving Reading in Every Class.

d. Review use of context clues, pp. 23-36.
e. Increase emphasis on structural analysis, pp. 39-41.
f. Choose best meaning for a word in a given context, pp. 80-83.

III. Writing

a. Write paragraphs developing the topic sentence.
b. Write action paragraphs.
c. Practice descriptive writing based on pictures presented to the class.
d. Write original compositions based on assigned readings.
e. Write a paragraph using three kinds of clauses and four kinds of sentences.
f. Work on various methods of paragraph development as discussed in the text.
g. Learn the basic forms of a business letter.
h. Keep individual logs containing grammatical and spelling errors from students' own work.
i. Rewrite corrected themes.

IV. Oral Work

a. Present oral book report.
b. Discuss assigned reading.
c. Give an oral demonstration of a process.
d. Present a speech to inform or to persuade.

V. Study and Research Skills

Text: Improving Reading in Every Class

a. Emphasize need for locational skills, p. 242.
b. Use major reference tools: Readers' Guide, encyclopedias, vertical file, consumer reports, atlas, concordance, Who's Who, specialty reference materials, pp. 243-260.
c. Study library classification systems, card catalog, pp. 244. Encourage familiarity with school library and South Portland Public Library.
d. Learn skimming techniques, pp. 197-199.
e. Identify the location and contents of different parts of reference materials: table of contents, index, glossary, special aids, p. 256.
f. Practice note taking - from written and oral material, p. 266.

g. Prepare evaluation of data - critical reading, p. 264.
   1. recognition of suitable sources
   2. distinction between relevant and irrelevant statements
   3. introduction to logical thinking; inductive and deductive reasoning
   4. recognition of propaganda techniques
h. Organize and summarize, p. 272.
   1. outline
   2. compare
   3. cause and effect
i. Follow directions, pp. 363-373.
j. Utilize special aids (maps, graphs, charts, illustrations, political cartoons).
k. Proofread, pp. 274-381.

Career Education Project

A. Investigate one career using the materials in the Career Resource Center.

B. Write a research paper on this career.

C. View films on careers shown in Room 209.

605 EXPERIENCES IN LITERATURE (1, 2)

COURSE DESCRIPTION

This course is designed to introduce students to various types of literature, to help students improve their reading skills, and to show students that reading can be a pleasurable experience. Students will read a variety of short stories, novels and plays. Whenever possible, students will be given the opportunity to read materials of their own choice. This course will also emphasize vocabulary work, group discussions, and oral reports.

OBJECTIVES

The student will:

1. familiarize himself with various types of literature.
2. develop vocabulary by reading and taking words from context.
3. trace themes in literature and relate situations to students' lives.
4. experience writing on literary subjects.
5. correct mechanical errors and drill on those errors taken from context of students' compositions and logs.
6. explore values and decision making.

MATERIALS

Plays to Enjoy
Literature of Mystery
Light in the Forest
Count Me Gone
This Stranger, My Son
Death Be Not Proud
Silas Marner
Drop Out
People to Remember
Open Ended Stories
The Fallen Angel
Take 12 Action Plays
Stories in Verse
Haystacks Don't Have Any Needles
Introduction to Poetry

Films: A Rock in the Road (Prime 589)
An Occurrence at Owl Creek Bridge (Prime 462)
Dr. Heidegger's Experiment (Prime 360AB)
Aggression - Assertion (Prime 831)
The Crowd (Prime 485)

OUTLINE

I. Topic: The Novel

Text: Silas Marner

A. Stress man's inhumanity through:

1. Silas's being ostrasized from Lantern Yard
2. Silas's not being accepted in Raveloe

B. Causes for man's acceptance through:

1. Silas's love for Eppie
2. Changes occurring in his life style

C. Life style and result (Golden Rule) through:

1. Dunstan's life style/result
2. Godfrey's attempt to cover up his first marriage
3. Childless marriage
4. Silas's golden years

D. Greed of man - Dunstan, Godfrey, and Silas - moments in their lives.

E. Film: A Rock in the Road - greed and retaliation

1. Composition - describe one personal example
2. Composition - comparison to Silas Marner

F. Essay test - stress subject and verb agreement

Text: Light in the Forest

A. Emphasize culture and customs

1. Traditions of the Indians
2. Traditions of the whites

B. Prejudice

1. Why True Son was not accepted by his Indian family
2. Why John Butler was not accepted by his white neighbors

C. "Man Without a Country" idea

1. What was the cause?
2. Was he to blame?
3. What would become of him?
4. Opinion essay question - stress capitalization

Supplemental: Plays to Enjoy

A. In the Fog

1. Give historical background of Civil War.
2. Composition - could this have happened? Why?

II. Topic: Mystery, Detective, and Suspense

Text: Literature of Mystery

A. Arsenic and Old Lace

1. What makes people laugh?
   a. Were the aunts comediennes?
   b. Why was Mortimer laughable in his distressed times?
   c. Retaliation of the aunts

2. Mental illness vs. sanity
   a. Why Teddy was considered mentally ill and not the aunts
   b. Jonathan's brutality
   c. Mortimer's assumption of his mental instability

3. What causes this to be considered a mystery?

4. Composition - describe the aunts' lives in Happydale

B. Short stories

1. The Dream
2. The Grave Grass Quivers
3. Two Bottles of Relish
4. Taste
5. How Mr. Hogan Robbed a Bank
6. Dr. Heidegger's Experiment (Plays to Enjoy) (film Prime 360AL)

Discuss what elements are necessary for a mystery. For each story list, in complete sentences, what elements made the mysterious content.

C. Film: An Occurrence at Owl Creek Bridge

Write a mystery which could have taken place before the time of this film and which will end with the hanging of this man.

Supplemental: Same as for Novel, plus Rebecca

III. Topic: Poetry

A. Have students collect three poems which they enjoy - possibly from Stories in Verse, Haystacks Don't Have Any Needles, or assorted poems from library.

B. Share with others and discuss why that particular poetry is enjoyable.

C. Do the opposite with one poem - why do they detest it?

D. Stress song lyrics as poetry.

E. Write a poem on favorite pastime.

IV. Topic: Biographical Novels and Short Stories

Texts: This Stranger My Son, Death Be Not Proud, People to Remember, Modern Biographies, Current Biographies, assorted library books on entertainers and athletes rm. 217, 215.

A. Have students choose one biographical novel or famous person

1. Research the life of this person.
2. Learn his formula for success.
3. Read about training he had to get before he could perform his service for society.
4. Write a brief biography on this person (paraphrasing).

Corrections will stress the complete sentence.

V. Topic: Theatre Arts

A. Take 12 Action Plays

1. Read plays and answer questions.
2. Discuss problems with which teenagers are faced.
3. Suggest solutions; share all possible methods of solving problems and making decisions.
4. Use Open Ended Stories for subject of essay.

B. Plays to Enjoy

1. Choose 3 plays.
2. Answer questions.
3. Compare problems faced by main characters in the plays.
4. Discuss the alternatives each could have considered.

C. Discuss the form of a play and how it differs from a short story.

D. Take one page of any play; transform dialogue into traditional prose.

VI. Topic: Short Stories

Texts: The Fallen Angel; same as above with Take 12 Action Plays

PROCEDURES

1. Vocabulary will be taught from context of literature.

2. View Career Films as they are offered. Discuss value judgments and decision making.

3. Simple connotation and good usage as they arise in class.

4. Spelling and grammatical errors will be recorded on student logs and teacher will give drills periodically in class.

Note: Page notations refer to Improving Reading in Every Class by Ellen Lamar Thomas and H. Alan Robinson.

5. Literature will be read and discussed for setting clues, character, and plot/conflict. Assignments should be prefaced with goal setting (student to know what he is reading to find), pp. 91-107.

6. Explore career opportunities in Career Resource Center and stress work habits, attitudes, punctuality, and dependability.

7. There will be emphasis on wide independent reading, pp. 19-20.

8. There will be oral reading of plays and other literature assignments.

9. Comprehension will be checked on three levels: literal, interpretive, and applied. Have students develop their own questions after reading. Have them learn to include interpretive and applied questions as well as literal, pp. 89-184.

606 INTRODUCTION TO LITERATURE (3)

COURSE DESCRIPTION

The purpose of this course is to equip students with the basic critical skills needed to read literature intelligently. Students will read novels, poems, short stories, plays, and biographies. Although works will be read in common, students will also have the opportunity to select literature of their own choice.

OBJECTIVES

The student will:

1. learn different literary genres.
2. study literature with more depth of comprehension.
3. develop a more critical attitude toward all reading.
4. learn to analyze literature in terms of character development, style, and plot.
5. stress "why" characters act as they do instead of what they do in literature.
6. develop vocabulary by reading and by emphasizing connotations.
7. trace themes in literature and see how they help in developing standards of ethics and morality.
8. learn to write different types of letters and notes.
9. review selected grammatical rules in order to correct writing errors (as recorded in writing logs).

MATERIALS

Books to be read:

April Morning	Bell for Adano
Tale of Two Cities	Silas Marner
Lively Lady	Short Stories for Our Times
Literature of Mystery	Twice Fifteen
Impressions in Asphalt	This Stranger, My Son
Three Plays of Individualism	Stories in Verse
Death Be Not Proud	

Supplementary Reading List:

Light in the Forest	Reflections on a Gift of Watermelon Pickle
Three Narrative Poems	Haystacks Don't Have Needles

OUTLINE

I. Time: 1 - 5 weeks

Topic: Read and discuss historical novel:

Tale of Two Cities or
Silas Marner or
Lively Lady or

April Morning or
Bell for Adano

A. Stress man's inhumanity to man.
B. Stress customs of the times.
C. Show film strips of era, author, and/or novel.
D. Have students write a newspaper dealing with the times.
E. Have students write or describe a scene from a particular point of view.
F. Have students write or describe changes in a particular character.
G. Stress parent-child relationships, feelings of loneliness in growing up and growing older, and maturity.
H. Discuss how teenagers feel today about their parents, war, and being the head of a household. What are some of the problems they face, and how do they differ from Adam's problems?
I. Interview two friends and record their reactions to these problems.

Supplemental - Light in the Forest

II. Time: Weeks 6 - 11

Topic: Mystery, Detective, and Suspense

Literature of Mystery or
Hound of the Baskervilles

A. Read Rebecca - outside assignment with periodic discussions.
   1. Have students write mini-mysteries.
   2. Have students solve each others' mini-mysteries.
B. "Arsenic and Old Lace" - read aloud in class.
   1. Stress humor and what makes people laugh.
C. Short stories - trace the elements of mystery in each story.

III. Time: Weeks 12 & 13

Topic: Short Story Unit

A. Read: Impressions in Asphalt or
Short Stories for Our Times or
Twice Fifteen
B. Stress city life and prejudice.
C. Examine different types of prejudice.
D. Have students do an outside report or project on prejudice.
E. Make a notebook of events that happen in a large city in two week period and compare them with the events in Portland during the same time period.
F. Interview people in the community to get their feelings about prejudice or life in a large city.

IV. Time: Week 14

Topic: Poetry

Texts: Stories in Verse
Introductions to Poetry

Supplementary Texts: Reflections on a Gift of Watermelon Pickle
Haystacks Don't Have Needles

A. Read poetry from assigned texts.
B. Stress different forms of poetry found in everyday life.
C. Make a pictorial poem.
D. Listen to popular songs for lyrical poetry.
E. Have students write poems.
F. Find examples of imagery and figures of speech.

Supplemental - Three Narrative Poems

V. Time: Weeks 15 & 16

Topic: Drama

A. Read: Three Plays of American Individualism or
Plays to Enjoy or
"Arsenic and Old Lace"
B. Have students review television plays or movies at home and write reviews of them.

VI. Time: Weeks 17 & 18

Topic: Biography

A. Read: Death Be Not Proud or
Four Complete Biographies or
book of own choice from the library
B. Discuss the boy's will to live.
C. Discuss hope and survival.
D. Make a collage of human emotion.
E. Write an autobiography or a biography of a friend.

PROCEDURES

1. Vocabulary may be taken from context of literature assignments or from Vocabulary Workshop 10.

2. Spelling - mechanical errors and words misspelled in compositions will be recorded in a writing log by students and will be periodically covered in class.

Reading Skills from Improving Reading in Every Class

3. Comprehension - emphasis on applied and interpretive levels, pp. 89-189.

4. Reading rate - adjust to material to be used, pp. 187-230.

5. Increase of overall speed of reading.

6. Techniques for approaching reading, comprehending various literary genres to be covered.

7. Technique for surveying a book, pp. 129-150.

607 EXPLORING LITERATURE (4, 5)

COURSE DESCRIPTION

The purpose of this course is to create an interest in literature and to give students experience in reading and understanding the various areas of poetry, short stories, classical and contemporary novel, biography, and modern and Shakespearean plays. There will be class discussions, written compositions, and vocabulary building based on these readings.

OBJECTIVES

The student will:

1. analyze poetry.
2. recognize techniques of short story.
3. examine a classical and a modern novel.
4. read a biography.
5. read a modern play.
6. study one Shakespearean play.
7. recognize the value of context clues in vocabulary building.
8. gain more experience in writing.
9. gain experience in oral expression, class discussion and individual reports.

MATERIALS

Text: Harbrace Vocabulary Workshop

Suggested Readings:

Three Narrative Poems
Idylls of the King
Short Stories for Our Times
A Tale of Two Cities
The Pearl
The Moon Is Down
Macbeth
Julius Caesar
Silas Marner
A Bell for Adano
On the Beach
The King's Henchman
The Lively Lady
Literature of Mystery (Arsenic and Old Lace, Rebecca)

Audio-Visual Aids:

Recording of Ancient Mariner or Sohrab and Rustum
Filmstrips on King Arthur

Filmstrips on Tale of Two Cities
Movie - Macbeth
Filmstrips on the Elizabethan Theater

OUTLINE

The books mentioned in this outline are suggested. Others from the suggested list may be substituted as long as they are appropriate for the category outlined.

I. Poetry

a. Read The Ancient Mariner or Sohrab and Rustum.
b. Listen to recording of the poem being studied.
c. Show filmstrip on King Arthur.
d. Read portions of The Idylls of the King.
e. Discuss the theme of The Idylls of the King.
f. Write a composition characterizing one of the Knights of the Round Table as a real person.
g. Learn to recognize figures of speech and poetric imagery.
h. Prepare exercises devoted to figurative language in Vocabulary Workshop.

II. Biography and Short Story

a. Choose a biography from the library and report on it orally.
b. Read selected short stories.
c. Each student read and present orally one short story not assigned to the class.
d. Students write a short story.

III. Classical - Historical Novel

a. Read A Tale of Two Cities.
b. Work on teacher-prepared vocabulary sheets.
c. Discuss Dickens as an humanitarian and a sentimentalist.
d. Write one composition characterizing Carton in England and another in France.
e. Show film on French Revolution.

IV. Modern Novel

a. Read The Moon is Down or The Pearl.
b. Discuss the characterization, plot, and symbolism.
c. Write a short epilogue to either book.

V. Shakespearean Play

a. Read Macbeth critically.
b. Discuss plot and character development.
c. Show Macbeth movie.
d. Write on character strengths and weaknesses in Macbeth.
e. Show filmstrip on Elizabethan Theater.

VI. Modern Play

a. Read aloud Emperor Jones.

PROCEDURES

Text: Improving Reading In Every Class

1. Continue vocabulary development.

2. Improve comprehension - emphasize applied and interpretive levels, pp. 89-189.

3. Vary reading rates, adjusting to material to be used, pp. 187-203.

4. Increase overall speed of reading, pp. 187-189.

5. Survey techniques for approaching reading, comprehending various literary genres to be covered, p. 203.

6. Study techniques for surveying a book, pp. 129-150.

7. Discuss theme, mood, tone, use of setting, plot conflicts and characterization as presented in each work.

8. Paraphrase certain philosophical passages as they appear in assigned work.

9. View films dealing with moral issues as they become available. Discuss and make certain moral judgments.

10. Continue memorization of Greek and Latin roots. A recommended procedure is to have students responsible for two or three a day.

610 AMERICAN LITERATURE (4, 5)

COURSE DESCRIPTION

This course will familiarize the student with the major works of American literature from the Colonial Period to the Twentieth Century. The student will study the significant contributions of writers viewed not only against the historical background of their time but also in terms of other works which deal with the same ideas: freedom, self-reliance, individualism, romanticism, disillusionment and hope. The class will read and analyze the prose and poetry of such powerful spokesmen as Hawthorne, Emerson, Thoreau, Whitman, Twain, Steinbeck, and Baldwin.

OBJECTIVES

The student will:

1. become aware of his literary heritage and develop a further appreciation for the culture of which he is a part.

2. study American literature as it reflects its historical period and the major philosophical movements of the era.

3. evaluate the important aspects of American character as revealed in literature.

4. develop a concern for what the author has to say and how he says it.

5. improve his ability to analyze literature and communicate his impressions effectively and correctly.

6. discuss freely and arrive independently at his own conclusions.

OUTLINE

Week I - The American Dream

1620	Mayflower Compact	Bradford
1776	Declaration of Independence	Jefferson
1961	Inaugural Address	Kennedy
1962	Nobel Prize Speech	Faulkner
1963	Message to the Grass Roots	Malcolm X
1967	I Have A Dream	King

There are many facets to the American Dream. How does each "dream" change its emphasis and still restate recurring ideas? Can the American Dream come true?

Week II - A New Country

"The land was ours before we were the land's." -- Robert Frost

The early settlers recorded their experiences, their reactions, and their hopes.

Areas of Settlement and Their Literature

Virginia - Byrd
Jamestown - Smith
Plymouth - Bradford

How did our ancestors accept the challenge of the new frontier?

Weeks III - V - The Puritan Attitude

Pious and rigid idealists were determined to establish God's kingdom in the wilderness.

Roger Williams
Edward Taylor
Jonathan Edwards
Ann Bradstreet
Cotton Mather

The Crucible - Miller
The Scarlet Letter - Hawthorne
Young Goodman Brown - Hawthorne
Poems by Robinson and Lowell

What were the Puritan's religious beliefs? Why are the Puritans so criticized and yet so vital a force in American literature? What characteristics of the Pilgrims have come to be considered typical of modern Americans?

Cotton Mather reflects the Puritan concern with witchcraft and Satan; Ann Bradstreet humanizes the Puritan; Jonathan Edwards exemplifies the stern mien, pessimistic outlook, and the disciplined life demanded by the harsh doctrine of the Puritan society.

Week VI - The Independent Spirit

Political Writers of the Revolution

Franklin
Henry
Jefferson
Paine

Even at the beginning there was a conflict between ideals and realities. What were the major problems of the new nation? Is the pen "mightier than the sword"?

Week VII - 19th Century Romanticism

Early Men of Letters

Irving
Cooper
Bryant
Poe
Hawthorne
Melville

This period marks the beginning of a national literature. What are the ways in which these writers exemplify the Romantic Movement?

Weeks VIII - X - American Rennaissance

Idealism Transcendentalism Individualism

A. A Different Drummer

Emerson Whitman
Crane Dickinson
Thoreau Vonnegut

What obligations and dangers accompany individualism? Does individualism ever become selfishness?

The Protestant religion of the early settlers stressed the principle that each human being is directly responsible to God for his own behavior and his own salvation. Thus, individualism is a dominant characteristic of the early American. The individual's responsibility to himself extended to his responsibility for society and government.

B. New England Brahmins

Longfellow)
Holmes) The Cambridge Poets
Lowell)

Weeks XI - XIII - Realism

The dreams of Americans did not always match the reality of their lives. The realistic writer records the details of ordinary life as it is actually lived.

<u>The Advancing Frontier</u>
Dana James
Parkman Twain, <u>Huckleberry Finn</u>
Rolvaag

Week XIV - War Between the States

Webster Lee
Lincoln Crane, <u>Red Badge of Courage</u>

Week XV - Local Color

Harte Crane
Twain Cather, Willa
Jewett Wharton, Edith - <u>Ethan Frome</u>
Garland

After the war there was a decided interest in literature of particular areas or "local color."

Weeks XVI - XVIII

Poetry	Modern Drama	Modern Novel
Robert Frost Edgar Lee Masters Elinor Wylie Carl Sandburg Edna St. Vincent Millay	Our Town	(If time permits)

What are the characteristics implied in the term modern? How differently do modern writers treat subject matter? How are techniques and language different?

611 MAN IN SOCIETY (4, 5)

COURSE DESCRIPTION

This course will focus on the social and moral problems facing the individual and mankind today. From selected readings in American literature, the student will develop a greater awareness and understanding of problems of personal identity, social concern, and conflicting values rising from man's relentless search for the "American Dream" in yesterday's, today's, and tomorrow's world. Special emphasis will be placed on recurring or parallel themes. The course will include such authors as Carson McCullers, Thornton Wilder, Arthur Miller, Scott Fitzgerald, John Steinbeck, Gordon Parks, and Ernest Hemingway.

OBJECTIVES

The student will:

1. increase his enjoyment, understanding, and appreciation of literature.

2. evaluate the forces affecting man's behavior.

3. recognize the worth and dignity of the individual in society.

4. recognize the universality of human experience.

5. present and defend his point of view and consider possible solutions to problems in today's society.

6. improve his ability to analyze literature and to communicate his ideas effectively and correctly.

OUTLINE OF SUGGESTED READING

I. THEME: Man's need to belong - alienation

A. Materials: A Separate Peace, Of Mice and Men, Ethan Frome, Heart is a Lonely Hunter, Bridge of San Luis Rey

B. Related Reading: Beyond the Horizon, My Shadow Ran Fast, Poems of Edward A. Robinson, Spoon River Anthology

C. Filmstrips: "Search for Self Love", "Themes in Literature", "Developing Values", "Reflection of Myself - Adolescent Experience"

D. Related Activity: Role Playing

II. THEME: Social Protest - Man's inhumanity to man - standing up for one's beliefs

A. Materials: The Ox-Bow Incident
Grapes of Wrath

B. Related Reading:
The Learning Tree
Invisible Man
Manchild in Promised Land
Go Tell It On the Mountain
The Jungle
Death at an Early Age
Intruder in the Dust

C. Filmstrips:
"Odyssey of Richard Wright"
"Steinbeck's World"
"Grapes of Wrath and the 1930's"
"Understanding Prejudice"
"Themes in Literature: Courage"

D. Related Activity: Outside speakers

III. THEME: Search for the "American Dream"

A. Materials: The Great Gatsby
The Glass Menagerie
All My Sons
American Dream in Literature

B. Related Reading: The Assistant
Five Smooth Stones
Death of a Salesman

C. Related Activity: Individual reports

IV. THEME: Man's survival in our changing world - Man's need to adjust to rapid change

A. Materials: Alas, Babylon
Future Shock

B. Related Reading: Seven Days in May
Walden II
Failsafe
Farenheit 451

C. Filmstrips: "Hiroshima and Nagasaki"
"Redesigning Man"(Use with Future Shock)

D. Related Activity: Panel discussion

Note: Modern American Poetry is available for use throughout the course.

612 FRONTIERS IN AMERICAN LITERATURE (2, 3)

COURSE DESCRIPTION

This full semester course is designed to acquaint the student with the literature of America, beginning with the settlement of the West and continuing through the period of the Depression. These writings, by numerous authors, will be presented in such a way that the student will be able to associate the literature with the events and people studied in American history. Emphasis on the short story will be combined with the study of other types of literature including: lyric poetry, the essay, drama and non-fiction writings of the early West.

OBJECTIVES

The student will:

1. relate his knowledge of American history events found in the literature of the periods studied.

2. acquire an understanding of and an appreciation for the figurative and literal meanings of the narrative.

3. develop the ability to discuss literature in terms of: plot, climax, theme, realism, characterization and author's style.

4. improve his ability to evaluate the character and personality of individuals studied.

5. acquire an awareness of his own heritage and an appreciation for the early American frontier.

6. develop a confidence in his ability for discussion within a peer group.

7. improve his vocabulary and his writing ability.

OUTLINE

I. Time: Six Weeks

Text: Heroes of the American West. Martha R. Pappas - Charles Scribner's Sons

Topics:

A. An introduction to the history of nineteenth-century West.

B. A study of the realistic accounts of frontiersman to recognize the challenges met by pioneers.
   1. Trappers and Traders

2. Emigrants and Settlers
3. Miners
4. Outlaws and Lawmen
5. Cattlemen, Boomers, Sooners

II. Time: Six Weeks

Text: America, The Melting Pot. Patricia Mintz - Charles Scribner's Sons

Topics:

A. An introduction to the varied ethnic groups which contributed to the growth of this country.

B. A study of the way in which literature reflects a period of life in America - basically, the short story, essays and speeches.
1. That Promised Land
2. My Brother's Keeper
3. The Path of the Soul

III. Time: Six Weeks

Text: The Bitter Years. Max Bogart - Charles Scribner's Sons

A. An introduction to the American scene of the Depression years.

B. A study of poetry, drama, short story and essays as literary forms.

ACTIVITIES

Students will:

1. keep notebooks on all material read and discussed.
2. participate in class discussions.
3. have weekly tests on reading selections.
4. have periodic tests on material prepared outside the classroom but not discussed or explained in class.
5. view related films selected by the teacher. Suggested: "The Great Immigration," "The Early West," "The Great Crash" - all available from Prime.
6. keep a vocabulary list taken from the readings - periodic testing on this list.

OUTSIDE ASSIGNMENTS

I. Heroes of the American West

A. Student's choice from "Composition Suggestions" or "Related Research" found at the end of each one of the five sections. One assignment will be due from each of the five.

B. Alternate: Read a novel or biography from this same period and submit a written report.

II. America, the Melting Pot

A. Report on one's own heritage - the actual tracing of one's family tree. Guideline booklet will be supplied by teacher.

B. Alternate: Read and report on the biography of an immigrant who became a success in America.

III. The Bitter Years

A. Use one of the themes of the class text as a basis for composition.

B. Alternate: Submit a report on a novel such as The Grapes of Wrath.

613 YOUTH IN CONFLICT IN AMERICAN LITERATURE (1 - 3)

COURSE DESCRIPTION

This course is designed to explore through American Literature some of the conflicts faced by youth. Although there will be some readings concerned with yesterday's youth and tomorrow's youth, the emphasis will be placed on conflicts faced by today's youth. For example, many books have been written that deal with the struggle between young people and adults. Several readings will be selected in this area. Students will be expected to read books assigned by the instructor, but there will be several opportunities for students to make their own choices.

OBJECTIVES

The student will:

1. learn of the variety of books in the bookstores and libraries which present young people as the main characters.

2. read high interest literature that stimulates enjoyment in reading.

3. explore the universal conflicts of Man vs. Man and Man vs. Himself that are found in American Literature.

4. see that literature offers many conflicts that can be related to our own experiences.

5. examine problems of young people from several different time periods of our American history.

6. compare the experiences of these young people to the experiences of young people today and the student himself.

7. present through discussion his own point of view concerning the conflicts being studied.

8. express his views through assigned compositions or student initiated projects.

9. study some of the writing techniques used by the author.

10. study local color (speech, dress, customs and habits of the character in the books).

OUTLINE

I. A Day No Pigs Would Die

Projects:

Vermont - Maps, History, Industry, People (Ethan Allen, Abner Doubleday, Calvin Coolidge, etc.)

Shakers - Paper concerning a specific part of the Shaker culture: furniture, law, history, etc.

Posters - A poster that would be your jacket for the book. A poster depicting what you feel represents the book. (Check book jackets in bookstore to get ideas of how this is done. Pick out interesting jackets from your own books and show them to students.)

Activities:

1. Film "Robert Frost"
2. Film concerning Shakers - Literature from Shaker Village - slides of Shaker Village.
3. Slides of Vermont
4. Films "Occurrence At Owl Creek Bridge"
   "Dr. Heideggar's Experiment"
5. Several poems dealing with death -
   "Death Be Not Proud" - John Donne;
   "The Man He Killed" - Thomas Hardy;
   "Resume" - Dorothy Parker
6. Composition - First person accounts of the condemned man in film, "Occurrence At Owl Creek Bridge."

Question Sheet:

1. Which part did you enjoy most and why?
2. Discuss examples of local color, descriptive writing.
3. Write a humorous composition or a descriptive composition.
4. What are some of the themes of this book?

II. <u>Bless the Beasts and the Children</u>

Activities:

1. Pass out question sheets that students can work on as they are reading the book.
2. Study the themes and conflicts of the book.
   a. man vs. nature
   b. man vs. man (youth vs. adult; youth vs. youth)
   c. title
   d. similarities between camp and school
3. Filmstrips concerning man and his destruction of species of animals.
4. Local color; descriptive writing

Projects:

1. Composition - My experience at camp
   Cruelty to animals
   Cruelty of Youth; Cruelty of Adults
   Times I have shown violence
   Any other topic relevant to the book

2. Collage depicting the book and its themes
3. Book Jacket Poster
4. Figurative Language; poem and picture

Activities:

1. Films - "The Lottery"
   "Eye of the Storm"
2. Composition - creating a mood of the outcast.
   Use slides and photographs

III. Blowfish Live In The Sea

Activities:

1. Study details to create mood. Use chapters 3 and 4 as basics for discussion.
2. Film - "My Old Man"
3. Filmstrips - "Can A Parent Be Human?"
   "Ivan and His Father"
   "I Owe You Nothing"
   The above can be used to promote discussion and composition concerning the Parent/Child Conflict. They also lend themselves very well to role playing.
4. Composition - Writing Description and Dialogue - Use the slides from Eye Openers, and passages from Blowfish Live in the Sea.

Projects:

These may be done for extra credit. Each student at this point has an idea of different projects that may be completed.

IV. No Promises In The Wind

Activities:

1. Filmstrips - "The Other America"
   "Rural Maine"
   "The Great Deprersion"
   Use the above to bring the idea of hard times closer to home.
2. Film - "Edgar Allan Poe"
3. Poem -"Annabelle Lee"
4. Literary Cavalcade - "First Love"

The above were used to develop the theme of love that was contained in No Promises In The Wind.

Projects:

1. Report on the Depression.
2. Art project concerning the Depression.
3. First person journal entry by one person other than Josh, one page.

4. Poem concerning a part of the book. For example, a descriptive poem of one scene from the book.
5. Oral report concerning time period or content of the book.

V. <u>Ten Short Stories</u>

A. "Flowers for Algernon"

Activities:

1. Plot
2. Point of View
3. Apply the above to the short story.

B. "So Much Unfairness of Things"

Activities:

1. Plot
2. Point of View
3. Character
4. Apply the above to the short story.

C. "Backward Boy," "Denton's Daughter," "Hoods I Have Known"

Activities:

1. Plot
2. Point of View
3. Character
4. Apply the above to the short stories.

D. "Planet of Condemned" and "Test"

Activities:

1. Plot
2. Point of View
3. Character
4. Apply the above to the short stories.

NOTE: Students also read at least one novel of their own choice on the theme of Youth in Conflict.

614 LITERATURE OF AMERICAN MINORITIES (2 - 4)

COURSE DESCRIPTION

The most obvious reason for teaching minority literature is to provide the student with a more complete and balanced view of American literature and history. This course is designed to explore writings by and about members of American minorities including Blacks, Indians, Chicanos, and Jews. The class will consider stereotyping and other problems that individual minority members must face.

OBJECTIVES

The student will:

1. increase his sensitivity to members of minority groups by gaining an awareness of obstacles those living in a sub-culture must overcome.

2. recognize his own stereotyping and see how this belittling practice springs from ignorance.

3. become aware of the formative role that cultural heritage plays in acquiring values.

4. recognize and appreciate the ways in which heritage affects literary forms.

5. recognize that Black literature should not be taught as propaganda but for its historical and literary excellence.

OUTLINE

A. Text: Afro-American Authors

Time: 6 - 8 weeks

Written Activities:

1. Written composition on Claude McKay's "If We Must Die."
2. Written composition on Richard Wright's "The Man Who Went to Chicago."
3. A written character sketch on Sterling Brow's "Southern Cop."

Oral Activities:

1. An oral report on one of the more contemporary authors, such as Cleaver, King or Baldwin.

Outside Reading Activities:

1. Student may choose among the following texts:
   Ossie by Guffy
   Nigger by Gregory
   Daddy Was a Number One Runner by Meriweather
   Two in a Back Room by Chisolm

B. Text: Asian - American Authors

Time: 4 - 6 weeks

Written Activities:

1. Follow primarily the same format as outlined for Afro-American authors.
2. Daily discussion questions at the end of each selection written out and brought to class for discussion.

Oral Activities:

1. An oral report based on one of the readings in the anthology.
2. Daily class participation.
3. Periodically breaking classes down into discussion groups, five to six students to a group.

C. Text: Indian - American Authors

Time: 4 - 6 weeks

Written Activities:

1. Composition exercises taken from the Multi-Ethnic Literature text that acts as an instructor's guide for the three anthologies.
2. A weekly essay test based on weekly readings and class discussion.
3. Daily discussion questions written out at the end of each selection.

Oral Activities:

1. Daily class participation.
2. Group discussions.
3. One oral report based on a particular reading in the anthology.

PROCEDURES

1. Class discussion groups formed to exchange ideas as well as to analyze different authors' writing styles and concepts.

2. Weekly vocabulary list issued to students based on the literary terms used in the various texts.

3. Filmstrips and movies from Prime Resource Center and from our audio visual room.

4. One oral report for each anthology.

5. Bi-weekly compositions done as outside assignments for research, analysis, and learning to take a stand on argumentative issues.

6. Additional readings of the following books:
   - Nigger
   - Ossie
   - Daddy Was a Number One Runner
   - Two In a Back Room
   - The Chosen

   The student has a choice of any one of the five mentioned.

7. Whenever possible use outside speakers.

620 WRITING WORKSHOP (1, 2)

COURSE DESCRIPTION

Basic writing skills (the clear sentence, the coherent paragraph) will be stressed in this course. Emphasis will be on vocational and technical writing: forms, résumés, career oriented reports, vocabulary of various occupations, business letters, summaries, and outlines. This course is recommended for vocational students. Daily short writings will be required, some of which will provide opportunities for expression of the student's personal interests and opinions.

OBJECTIVES

The student will:

1. develop a writing voice.
2. understand that spelling, punctuation, and correct usage are aids to clear communication.
3. learn to critically analyze and rewrite his work.
4. learn to support generalizations and/or opinions with specific details.
5. understand that all writing has a point to it.
6. learn that all good writing has a beginning, a middle, and an end.

MATERIALS

Composition Through Literature
What Does It All Mean?
English Workshop - Grade 11
Scope/Reading 4

OUTLINE

I. Topic: Journal

A. Students will write in a journal in class every day. Journals will be checked but not graded. Suggestions for entries are listed under PROCEDURES.

II. Topic: Writing Assignments

A. Career writing skills

1. Job applications
2. Résumé/personal data sheets
3. Business letters
4. Career oriented reports

B. What Does It All Mean?

1. Do one unit each week. Each unit has a specific focus (writing for a specific audience, selection of details, satire).

III. Topic: Career Search

A. All students will do a career research paper. They will search for materials on a particular career in the Resource Center. They will make an oral and written presentation of their findings.

B. Students will fill out an application form appropriate to their career selection. They will also write a business letter answering an ad for a job in their career field. They will submit a résumé with this letter.

PROCEDURES

1. Suggested class schedule:

Monday - Prewrite activities. Use films, selections from Scope, or discuss ideas from a unit in What Does It All Mean? Focus is on generating ideas.

Tuesday - Writing assignment in class.

Wednesday - Evaluation. Use small groups to discuss individual papers; show selected papers on overhead projector; individual conferences with the instructor. Stress publication and sharing of student writing.

Thursday - Skill Work. Use handbook in Composition Through Literature and exercises in English Workshop; work on vocabulary, spelling and punctuation.

Friday - Revision and Rewriting. Students should consider the following questions:

a. What is unnecessary?
b. Is it true, sincere?
c. Does it say exactly what I want to say?
d. Is there a main point?
e. What about mechanics?

2. Rationale for course.

"The trouble with bad student writing is the trouble with all bad writing. It is not serious, and it does not tell the truth."

This course treats individual writing problems. The instructor will adapt class activities to meet the needs of the students. The rationale for this course is that ideas must precede writing. Students should not write "writing." The instructor will devote much time to prewriting activities.

3. Each student has a writing folder.

4. Grades are based on final products, not on drafts.

5. Suggestions for journal entries:

   Why do we laugh?

   What is sick humor? Examples?

   What is improper humor?

   Write a response to a song, movie, book.

   React to a word: war, peace, love, truth, fear, loneliness.

   Can man survive? Can he prevail?

   Life on other planets?

   Problems our society has not solved.

   What kind of future do you want?

   What does it mean to be mature, wise, happy, gifted, cruel?

   Who are your favorite people?

   Your strengths, weaknesses?

   What terrifies you?

   Why do we have myths?

   What are your favorite myths?

   A subject about which you hold a strong opinion.

   Closely observe an object. Describe its essential qualities.

   What is beautiful? Ugly?

   What surprises, fascinates you?

6. Problems with mechanics and usage should be dealt with on an individual basis except when the entire class is having difficulty with a particular skill.

621 COMPOSITION (3 - 5)

COURSE DESCRIPTION

This course is for students who want to improve their writing skills. The course will focus on expository writing and will include instruction in how to write the analytical essay and the research paper. Major goals are for each student to find a writing voice and develop a clear, concise prose style. Students will work in small groups and time will be provided for frequent individual conferences with the instructor. In addition to frequent writing activities, students will read, discuss, and analyze short stories and poems. These stories and poems will serve as sources of ideas for student writing and as models of good writing. Students who plan to attend college should elect this course. If possible, they should do so in their junior year.

OBJECTIVES

The student will:

1. develop a clear, direct prose style.
2. learn that good writing has a point to it.
3. develop the art of revision and rewriting.
4. use details to support generalizations.
5. use transitional devices.
6. learn the mechanics of writing the research paper.

MATERIALS

Advanced Composition: A Book of Models for Writing - Warriner, et al.
American Composition and Rhetoric - Davidson
Contemporary Composition - Peterson
Developing Writing Skills - West
Fundamentals of the Research Paper - Leahy
Guide to Modern English - Corbin and Smith
The Lively Art of Writing - Payne
Writing: Unit-Lessons in Composition - Brown, et al.

OUTLINE

I. The writing process: prewrite, write, and rewrite

A. Introduce students to the idea that writing is a process. Emphasize the value of thinking/brainstorming before writing.

B. Teach students to narrow down their topics. (Write more and more about less and less.)

C. Stress the value of close observation. The good writer is the perceptive and sensitive observer.

D. Show examples of professional writers' revisions. Explain that professional writers often write many versions of their work.

E. Make sure that all students know basic outlining skills.

II. The paragraph

A. Review the basic elements of the paragraph. Stress the topic sentence.

B. Insist on the use of concrete and specific details.

C. Underline the necessity for unity and coherence.

D. Do exercises on diction. Show how diction affects tone.

E. Show various ways to end a paragraph.

III. The essay

A. Introduce students to the various types of essays: expository, personal, and critical.

B. Explain the use of a thesis statement or controlling idea.

C. Show various transitional devices.

D. Teach the techniques of answering essay questions.

IV. The research paper

A. Lead students step by step through the writing of a research paper.

B. Thoroughly discuss the use of sources. Explain that a source must receive credit for his ideas as well as his words.

C. Stress the technical aspects, especially footnoting and bibliography.

V. The journal

A. Each student will keep a journal and make weekly entries.

B. This journal will be read by the instructor but not corrected.

PROCEDURES

1. Each student has a writing folder in which he keeps all his work.

2. Students' work is published whenever possible; via reading aloud, ditto masters, overhead slides.

3. Students must learn to criticize their own writing. Students will work in small groups and will also have frequent individual conferences with the instructor. The class is essentially a workshop.

4. Each assignment has a definite focus, e.g. use of concrete details or transitional devices.

5. Final products, not drafts, will be graded.

6. The instructor should devote much time to prewrite activities. Students write well only when they care about or are interested in their subjects. Whenever possible students should be encouraged to produce their own subjects.

7. Teachers should set up an individualized program to deal with mechanical and usage errors. We have available both Individualized English and the Plain English Handbook.

8. Teachers who have taught this course have found the assignments and projects in End-of-Year Examinations in English for College Bound Students Grades 9-12 and 12,000 English Students and Their Teachers to be particularly helpful.

9. A portion of class time should be devoted to vocabulary development.

622 CREATIVE WRITING (4, 5)

COURSE DESCRIPTION

This course is designed for the serious student writer. Students who want to write prose and poetry and who are willing to subject their work to the teacher and the class for evaluation should elect this course. Deadlines are critical and standards will be enforced. Regular attendance is mandatory since many assignments do not lend themselves to "make-up." There will be daily writing experiences. Students will share their work with their classmates and will have frequent conferences with the instructor.

OBJECTIVES

The student will:

1. observe critically and perceptively.
2. learn the process of prewrite, write, and rewrite.
3. experience the high moments and low moments of writing. "You can't write only when the mood moves you. You must force yourself to write every day."
4. write each day without too much threat of criticism.
5. gain more confidence in his writing by observing the writing of his peers.
6. become aware of his own style at this period of time.
7. appreciate the permanence of his writing - value of something permanent in a disposable world.
8. appreciate the personal value of a journal.
9. through research, become acquainted with a professional writer.

COURSE CONTENT

Materials

1. Eye Openers: A Program in Writing/Awareness
2. Films
3. Filmstrips
4. Slides
5. Photographs
6. Paintings
7. Records
8. Overhead transparencies
9. Tape recordings

Projects - will count as thirty-five percent of course grade

1. Anthology of poetry, essays, short stories, plays or combinations
2. Journal
3. Individual choice approved by teacher
4. Research paper covering any writer of the student's choice

OUTLINE

Weeks 1 - 10

1. Study of the narrative and descriptive paragraph in addition to the writing of dialogue.

2. Study of short stories written for magazines in preparation for the writing of two short short stories by the student. (1000-2000 words)

3. The composition of a short short story followed by classroom reading and evaluation.

4. Preparation and mailing of manuscript to a selected magazine editor.

Weeks 11 - 16

1. Films - "The Essence of Being Human," "Robert Frost," "Edgar Allen Poe," "Autumn Frost Country," "The Crowd"

2. Filmstrips - "Stopping By the Woods of Mr. Frost," "How a Poem is Made," "The Poetry of a Nation," "The Private World of Emily Dickinson," "That Strange Mr. Poe," "The Red Balloon," "Glass," "The Romantic Period," "Reflections of Myself," "Leaf," "Pompeii - Once There Was A City," "00193," "Of Holes and Corks"

3. Structured poetry - review meter and rhyme

4. Free verse - show students different types of free verse by various authors. Emphasize imagery, figures of speech, and symbolism.

5. Poetry booklet to be composed for a particular person.

6. For publication in class - frequent selections of poems written by the students.

Weeks 17 - 19

A booklet of students' writings will be prepared by the class. They will select what is to be included in the booklet and construct the booklet themselves.

PROCEDURES

1. Each student will have a writing folder containing his work.

2. Individual conferences will be scheduled whenever possible.

3. The classroom will be a laboratory. Students should be writing in class.

4. Out-of-class writing will be devoted to the completion of the research paper and the project.

5. Students will be required to adhere to deadlines.

6. Students' works will be entered in contests whenever possible.

7. Some class time will be spent reading and analyzing both professional and student writing. A flexible model of analysis will be constructed for the class. An example might be:

   A. Vocabulary
      1. What are the words?
      2. Did the author choose his words wisely?

   B. Sentence Structure
      Note:
      1. variety and length of sentences
      2. patterns
      3. use of transitional devices
      4. sentence conciseness
      5. placement of modifiers

   C. Tone
      1. What is the tone? How did the author achieve it?
      2. What is the relationship between tone and diction?

623 FILM STUDY AND PRODUCTION (1 - 3)

COURSE DESCRIPTION

In this course students will learn the techniques of film-making. They will view and discuss films, read and write reviews. The course is intended to develop discriminating viewers. As a major project students will write a script, shoot and edit their own film.

OBJECTIVES

The student will:

1. recognize the importance of film and understand it as a medium of communication.
2. evaluate a film logically and objectively.
3. understand the process of film production.
4. identify both the technical and dramatic elements of given films.
5. present both written and oral evaluations of films.
6. learn to edit films.
7. make a super-8 film.
8. learn to identify the step by step processes of super-8 production.

OUTLINE

I. Time: Week 1

Topic: Introduction to Film

A. Films to be viewed:
   1. "Photography - How It Works" - Kodak
   2. "Basic Film Terms" - UNH

B. Learn basic film terms.

II. Time: Week 2

Topic: Film Techniques and Appreciation

A. Films to be viewed:
   1. "Basic Movie Making" - Kodak
   2. "Movies Move People" - Kodak
   3. "The Story Behind Film" - Kodak
   4. "A" - UNH
   5. "Omega" - UNH
   5. "Time Out of War" - UNH

B. Discuss techniques used.

III. Time: Week 3

Topic: Creating Moods

A. Films to be used:
1. "Moods of Surfing" - PRIME
2. "Turned On" - PRIME
3. "Leaf" - PRIME
4. Miscellaneous films from PRIME
5. "Worth How Many Words" - Kodak
6. "How Winning Teenage Movies Are Made" - Kodak

B. Discuss techniques used.

C. How does one create moods?

IV. Time: Week 4

Topic: Great Themes in Literature

A. Films to be used:
1. "The Lottery" - PRIME
2. "The Secret Sharer" - PRIME
3. "Conscience in Conflict" - UMO
4. "Authority and Rebellion" - UMO

B. Evaluate films.

C. Discuss common themes found in films.

D. Relate films to books students have read.

V. Time: Week 5

Topic: Documentaries

A. Films to be used:
1. "Gate 73" - PRIME
2. "End of One" - PRIME
3. "Sheep, Sheep, Sheep" - PRIME
4. "Glass" - PRIME
5. "Nanook of the North" - PRIME

B. Evaluate films.

C. How does a documentary differ from other types of film?

VI. Time: Week 6

Topic: Film As Art

A. Films to be used:
   1. "The Art of the Impossible" - UMO
   2. "Pas de Deux" - PRIME
   3. "Dream of Wild Horses"- PRIME
   4. "The Interview" - UMO
   5. "Autumn (Frost Country)" - PRIME
   6. "Bolero" - PRIME

B. Discuss films.

VII. Time: Week 7

Topic: Man's Inhumanity to Man

A. Films to be used:
   1. "An Occurrence at Owl Creek Bridge" - PRIME
   2. "Chickamanga" - PRIME
   3. "The Lady or the Tiger" - PRIME
   4. "Mockingbird" - UNH
   5. "The Hand" - UNH

B. Evaluate films according to techniques used.

C. Discuss lessons to be learned.

VIII. Time: Weeks 8 and 9

Topic: Values

A. Films to be used:
   1. "When Parents Grow Old" - UMO
   2. "Trouble With the Law" - UMO
   3. "Clown" - PRIME
   4. "My Country Right or Wrong" - UMO
   5. "The Wall" - PRIME
   6. "Red Balloon" - PRIME
   7. "Number 00173" - PRIME
   8. "Toys" - UNH
   9. "Eye of the Storm" - PRIME
   10. "Foxfire" - PRIME

B. Evaluate films.

IX. Time: Week 10

Topic: Vocational Information

A. Films to be used:
   1. "Decisions, Decisions" (Career Resource)
   2. "Women in the World of Work" - PRIME
   3. "It's Up to You" - PRIME
   4. "Brand Names and Labeling Games" - PRIME
   5. "Chemical Feast" - PRIME

6. "What Shall I Be" - PRIME
7. "Your Job Applying For It" - PRIME
8. Miscellaneous films from PRIME

B. Discuss films.

X. Time: Week 11

Topic: Social Comment/Human Relations

A. Films to be used:
1. "The Doodle Film" - UMO
2. "Man From Aran" - PRIME
3. "Geronimo Jones" - UMO

B. Discuss films.

XI. Time: Weeks 12 and 13

Topic: Animation

A. Films to be used:
1. "Hew Hop" - PRIME
2. "Collage" - PRIME
3. "Clay" - PRIME
4. "Masque of Red Death" - PRIME
5. "The Great Toy Robbery" - UNH
6. "Hangman" - PRIME
7. "Blaze Glory" - Pyramid Films - $15.00
8. "String Bean" - PRIME

B. Discuss films.

C. What purpose does animation serve?

D. Discuss types of animation.

E. Review use of camera, lighting, and filming.

F. Discuss how to make an animated film.

XII. Time: Weeks 14, 15, and 16

Topic: Make An Animated Film

XIII. Time: Week 17

Topic: Work with Film

A. Films to be used:
1. "How to Make a Movie Without a Camera" - UNH
2. "Sparrow" - PRIME
3. Terry Sotiriou's films

B. Discuss techniques used.

C. Paint, draw, and scratch on film.

D. Edit films.

E. Pick sound tracks for films.

F. Edit animated films.

G. Assign Exploring the Film - Chapter 14 (pp. 165-177)

XIV. Time: Week 18

Topic: Film Festival and Evaluation

A. Films to be used:
   1. Students' animated films.
   2. Students' painted films.
   3. Homemade movies.
   4. Films from PRIME

B. Discuss and evaluate films.

C. Discuss current trends in film making.

D. Discuss current films.

E. Review techniques learned during the course.

F. Get student reactions.

G. Discuss television films.

TEXT: Exploring the Film, Kuhns and Stanley

625 FUNDAMENTALS OF BUSINESS ENGLISH (1 - 3)

COURSE DESCRIPTION

This course covers the basic technical skills needed for competent business communications -- spelling, punctuation, functional grammar, capitalization, sentence sense, clarity and style -- along with extensive work on business-related vocabularies. Class procedure will include proofreading and writing, small group presentations, lectures, field trips, and guest lectures. This course, or an exemption test, is required before entrance to EFFECTIVE BUSINESS COMMUNICATIONS.

OBJECTIVES

The student will:

1. learn to write clear, concise, complete, courteous, and correct business communications.

2. become familiar with office etiquette, ethics, and common practices.

3. learn business-related vocabularies.

OUTLINE

I. Preparing to build skill in business communications. (5 days)

A. The power of speaking and writing. Pp. 2-7 in text: Business English In Communication.

B. The qualities of business communications, pp. 8-15 in text.

C. Proofreading and proofreader's marks.

D. Test over sections 1 & 2.

II. Using the language of business communications. (6 weeks)

A. Nouns -- words that name persons, places and things, pp. 16-27 (6 days)

1. Kinds of nouns
2. Capitalizing
3. Plurals
4. Possessives
5. Proofreading for noun errors
6. Test Section 3 - nouns

B. Pronouns -- words that take the place of nouns, pp. 28-36 (3 days)

1. Kinds of pronouns
2. Person, gender and case of pronouns - agreement
3. Proofreading

C. Verbs -- words that show action, pp. 37-54 (8 days)

1. Diagnostic Test in Verbs (supplemental exercise)
2. Kinds of verbs
3. Principal parts, voice, and mood
4. Tense of verbs
5. Irregular verbs
6. Spelling of some irregular verbs - the doubling rule
7. Verbals
8. All verbs synthesis and proofreading
9. Test

D. Agreement of nouns, pronouns, and verbs, pp. 55-63 in test (4-5 days)

1. Agreement of subject and predicate
2. Agreement of pronouns and their antecedents
3. Synthesis of agreement and proofreading
4. Test

E. Adjectives and adverbs, words that describe, pp. 64-73 in text (1 week)

1. Comparison of adjectives, absolute adjectives
2. Adverbs - comparison and formation
3. Using adjectives and adverbs correctly

F. Prepositions and conjunctions (1 week)

1. Prepositions required by certain words
2. Conjunctions and conjunctive adverbs
3. Parallel Construction
4. Synthesis, correction and proofreading
5. Quiz

G. Spelling and speech checkup, sections 1-8. (2-3 days)

H. General Review of sections 3-8 (Unit Two in the book) using supplemental exercises followed by a test.

III. Controlling ideas by using punctuation. (3 weeks)

A. The period

B. The question mark and exclamation point

C. Expressing numbers pp. 91-93.

D. Using the comma, pp. 95-104 in text.

E. Using the dash, semicolon, colon, pp. 105-112 in text.

F. Other punctuation marks

1. Quotation marks
2. Parenthesis
3. Ellipses
4. Virgules
5. Brackets

G. Order and spacing of punctuation marks

H. Review of all punctuation marks

I. Test

IV. Homonyms and Similar Words (1 1/2 - 2 weeks)

A. Homonyms

B. Similar words

C. Compound words

D. Test on homonyms and similar words or daily quizzes

V. Expressing Ideas correctly, pp. 151-161 in text (2 weeks)

A. Clauses and phrases

1. Clauses
2. Phrases
3. Dangling Elements

B. Writing effective sentences and paragraphs, pp. 161-178 in text.

1. Unity
2. Coherence
3. Emphasis
4. Paragraphs
5. Euphony and positive language
6. Worn-out expression and redundancies
7. Synthesis and application
8. Test

VI. Word Division

VII. Comprehensive test of writing and proofing skill covering all material to page 180 in the book. Emphasis is on application of skills learned. (2-3 days review with supplemental sheets)

VIII. Speaking and listening (2 weeks)

A. Your voice and speech, pp. 384-392 in text

1. Phonation

a. Pitch
b. Intensity
c. Duration
d. Quality

2. Articulation
   a. Vowels
   b. Consonants
   c. The letter "r"
   d. Tongue twisters
3. Record voices and evaluate with speech rating sheet.

B. Learning how to listen, pp. 393-402 in text

1. The importance of listening
2. Listening to obtain information
3. Listening to solve problems
   a. Defining the problem
   b. Explore and analyze
   c. Concluding and evaluation
4. Listening to persuade or to dissuade
   a. How to win an argument
   b. Skill Builders 39-C
   c. How to use logic (supplemental)
5. Using the "Tele-trainer"

IX. Business Vocabulary (2 weeks). All lists are supplemental.

A. General business and office terminology

B. Insurance terms

C. Credit and banking terms

D. Basic medical terms (roots)

E. Civil Service and business forms

KEY Progress Quiz - exercises in the text, numbered the same as sections.

Activity - Exercises from the workbook which have been thermofaxed and are clearly marked in the files.

Supplemental Exercises - Drills, practices, etc., which have been typed and duplicated and are stored in the file chronologically along with the Activities.

Tests - Tests are stored in the files chronologically by unit.

626 EFFECTIVE BUSINESS COMMUNICATIONS (2 - 4)

COURSE DESCRIPTION

Emphasis in the course is on the "how-to's" of business writing and speech. Important units are: (1) Business Letters (Resumes and Letters of Application, Sales and Promotion Series, Credit and Collection, and Adjustment and Complaint); (2) Speaking, Listening, Telephoning, Interviewing, and Conversation; (3) Ethical responsibilities of the business writer -- both employer and employee.

The course method includes lectures, discussions, field trips, guest speakers, oral reports, group presentations, and a great deal of writing and analysis of writing. Successful completion of FUNDAMENTALS OF BUSINESS ENGLISH (or an adequate grade on the exemption test) is required before taking this course. Also required is typing ability.

OBJECTIVES

The student will:

1. learn to write clear, concise, complete, courteous, and correct business communications.
2. become familiar with office etiquette, ethics, and common practices.
3. learn business-related vocabularies.

OUTLINE

I. Preparing to write business leters, pp. 182-208 in text (1 week)

A. Parts and styles of letters

B. The tone of the business letter, pp. 209-218 in text

II. Everyday business letters, pp. 220-228

A. Personal business letters (4 days)

1. Invitations
2. Reservations
3. Obtaining speakers and congratulations
4. Quiz

B. Letters that seek or supply information, pp. 229-237 in text (4 days)

1. Inquiries and requests
2. Answering inquiries and requests
3. Supplemental writing assignment

C. Letters involved with ordering goods, pp. 238-246 (4 days)

1. Order letters
2. Test over sections B and C (pp. 229-246)

D. During on-the-job training, those students in school will go with business classes to the O.P. Room for team teaching of letters and techniques.

III. Sales Letters, pp. 248-272 in text (3 weeks)

A. Planning and writing the sales letter

1. Planning

a. The sales steps
b. The right appeal
c. Propaganda and sales techniques
d. Supplemental exercises
e. Skill Builders 24-A. p. 259

2. Writing the sales letter

a. Skill Builders 24-B, 24-C, 24-D, 24-E
b. Activity 22
c. The newspaper

B. Sales letter systems and methods

1. Sales series
2. Business-Promotion letters
3. Form letters

C. Test over sales letters

IV. Employment letters, pp. 273-294 (5 weeks). This leads up to and culminates in Senior Career Day.

A. The letter of application

1. Types of application letters
2. Parts of application letters
3. Planning the letter of application
4. Skill Builders 26-A, p. 286

B. The Data Sheet

C. Other Employment Letters

1. Thank you and follow-up letters
2. Accepting or declining a position
3. Letters of resignation
4. Reference letters

D. The interview and applications

1. Video-tape interviews
2. Supplemental applications

V. Credit and collection letters, pp. 295-319 in text (2 1/2 weeks)

A. Writing letters about credit

1. The bases and types of credit
2. Extending and refusing credit

B. Collection letters

1. The collection series
2. Other collection methods

VI. Adjustment letters, pp. 320-336 (1 1/2 weeks)

A. Direct vs. persuasive adjustment requests

B. Handling adjustment letters

VII. Other written communications, pp. 337-361, 370-381 in text (2 weeks)

A. Memoranda and telegrams

B. Business reports

C. Your responsibilities as a business writer

PROCEDURE

A letter will be typed once a week in business class on days when time tests are given. Teachers in the Business Department will grade carbons of these letters for technique.

627 READING WORKSHOP (1, 2)

COURSE DESCRIPTION

Basic reading skills will be emphasized in this course. The course will focus on study skills needed in other subject areas, increasing your reading vocabulary, and reading for pleasure. There will be daily short reading assignments with comprehension checks, as well as outside reading of the students' choice.

OBJECTIVES

The student will:

1. further develop his reading vocabulary.
2. improve his comprehension.
3. become familiar with basic study techniques.
4. learn to critically analyze material.
5. enjoy independent, functional, and recreational reading.

MATERIALS

SRA Reading Lab IIIa
SRA Reading for Understanding
Reading for Meaning
How to Read Your Newspaper
Reading Comprehension Workshop
Learning Words in Context
Reading Skills for Young Adults
Skills in Reading 1 and 2
Tactics in Reading III
The Reading Line
Tactics B in Reading
Portland Press Herald

Suggested teacher source materials:

Teaching Reading to the Untaught by Michael P. O'Donnell
Improving Reading in Every Class by Ellen L. Thomas and H. Alan Robinson
Diagnostic and Remedial Reading for Classroom and Clinic by Robert M. Wilson

PROCEDURES

1. Suggested class schedule: Weeks I and II

   A. Testing to determine each student's individual reading levels (independent, instructional, and frustration), including rate of reading, comprehension abilities, and recognition of isolated words.

B. Inventory of Study Skills to be given to each student.

C. Introduction of independent reading and attendant record-keeping materials.

D. Determination of program for each student; materials to be used, goals, skills to be stressed. This is to be done with student through individual conferences. Each student's assessment of own needs to be considered as well as teacher evaluation.

2. General class schedule:

Monday - Individual or small group work on study skills and vocabulary development.

Tuesday - Class use of newspaper.

Wednesday - Individual or small group work on study skills and vocabulary development.

Thursday - Individual work on speed and/or comprehension.

Friday - Independent reading; teacher/student conferences.

As far as possible, each student will work individually, on his own program for improvement at his own rate, under teacher guidance. Frequent evaluations of individual progress and program are to be made throughout the course with the assistance of the student.

3. Suggested Activities

A. Folder - Each student is to keep a folder in which he records his and his teacher's assessment, his program, his progress, a record of books read and activities followed. This folder is also to include a list of his own spelling and vocabulary words.

B. Newspaper - editorials and news items: fact vs. opinion
study skills - sequence
headlines: vocabulary development
scanning for facts
consumer problems

C. Textbooks in other content areas - how to read material (PQRST)
use of table of contents, index, glossary
special aids
technical vocabulary
how to read and use charts, graphs, maps, and illustrations

D. Assorted texts (drivers' manual, medical guide, consumer reports, cookbooks, train and bus schedules, appliance manuals, phone book)
use of charts, diagrams, graphs
rate of reading
following directions
evaluating data

E. Library - tools in library to be used in content areas
use of card catalog
alphabetizing
wise choice of books for pleasure reading

4. Other Suggestions

A. Vocabulary development:

Incorporate spelling instruction with writing activities
Learn words in contextual settings
Learn by experience
Instruction and practice in use of context clues

B. Comprehension

Emphasize specific skills: organization, determining main idea, important details, generalizations, drawing conclusions
Vary types of questions asked - literal, interpretive, applied

C. Reading Rate

Help students to evaluate materials to determine appropriate reading rate
Provide wide variety of materials
Work against time if comprehension rate permits

630 PLAY PRODUCTION (1 - 5)

COURSE DESCRIPTION

This course is designed for those who want to learn all aspects of staging a play and like to learn by doing. Each class will select and produce a one-act play of its own. In the process everyone will learn the fundamentals of acting, directing, set-design and construction, costuming, make-up, and sound effects. Each student will select one area to specialize in and actually do for the play. Several field trips are planned. Course method is primarily discussion and actual group work.

OBJECTIVES

The student will:

1. gain a working knowledge of all aspects of live theatre--both artistic and technical--by having the class select and produce a play.

2. develop expertise in one or two specific areas of the theatre by research, plan and performance of that aspect in the production.

3. in the course of the semester, develop a spirit of teamwork and an appreciation and respect for others' talents; if not, the production will fail, which is an educational experience also.

4. become familiar with play production on the amateur level as an introduction to the world of the performing arts and career possibilities within this multi-faceted field.

5. practice oral communication of ideas and opinions in clear, tactful, and logical terms.

6. learn about his personal assets and liabilities through the interdependence of play production.

OUTLINE

Students will be expected to read one play a week outside of class and report on file cards and/or orally. Each file card should contain: title, author, number of acts, number of characters of each gender, setting (time, place, etc.) and number of set changes, a three-sentence plot synopsis, and a recommendation as to the play's appropriateness for production in the high school.

I. Why put on a play? (2 days)

A. Read and discuss pages 1-9 in text, Play Production in the High School.

B. Record: "The Cocktail Party"

II. Acting (4 weeks) - All presentations should be taped. The student himself and others in the class should write brief evaluations.

A. The voice, pp. 63-72 in text.

1. Being heard
   a. Breathing exercises
   b. Breath control and projection
2. Being understood
   a. Tongue twisters
   b. Ogden Nash poems
   c. Enunciation and dialect

B. The body

1. Analyze individual habits and gestures from presentations which have been videotaped.
2. Read and discuss 72-74 in text.

C. Stage Orientation, pp. 75-84 in text.

1. Learn terminology and chart, p. 33.
   a. #7, p. 91
   b. Visit a theatre or stage at Mahoney
2. Crosses, exits, entrances
   a. #8, p. 91
   b. #9, p. 91
3. Balance
4. Field trip to Mahoney or Thaxter Theatre.

D. Building a Character, pp. 84-90 in text.

1. #4, p. 91
2. #11, p. 91
3. Class trip to a play or movie; analyze the acting.

E. Student-memorized acting presentations.

III. Stagecraft, pp. 93-167 in text (4 weeks)

A. The Stage

1. Traditional Proscenium
2. Arena Staging
   a. #1, p. 170
3. The Thrust stage
4. Read pp. 25-30

B. Scenery

1. Read 99-171
   a. #3, p. 170
   b. #6, p. 170
   c. Make a model set for one of the plays read outside of class.
   d. #18, 19, p. 171

IV. Production

At this point no syllabus can accurately predict or outline what is to be done. That will depend on the group of students involved and the available resources. With the exception of the last three weeks, the rest of the semester will be spent in production of a play. It seems that it best serves the purpose of this course outline if methods of control and organization are listed, rather than an outline - since play production requires simultaneous work with many facets of theatre.

1. The director (teacher) should select the play - not the students. He can best evaluate the talents and skills of the class.

2. Non-acting people should be immediately organized into small groups to cover technical areas. Each group should elect a "leader."

3. Daily individual or group files should be kept so the progress in every area is easily checked.

4. Weekly meetings of "leaders" should be held to coordinate efforts.

5. Production deadlines should be clear to everyone by the beginning of the second week of rehearsal.

6. No prompter should be used.

7. Regular student self-evaluations are useful in keeping all students working.

8. Acting people not immediately needed on stage should be told to report to a technical group to help them.

9. An assistant to the director is useful for taking notes, checking blocking, etc.

10. If there is a large group, parts can be doubled with each student performing half the performances.

11. Elaborate lighting or set shows should be avoided in cramped areas.

V. Post-rehearsal analysis (1 week)

If things work out as hoped, the class will be able to present a play for other classes, or even the school. If the group wants, the play could be entered in the One-Act Play Festival in the spring. In order for this course to work as it should, the cooperation of some of the other departments will be necessary.

VI. Storytelling

The last three weeks can be utilized for this fascinating field. It requires different skills than acting and shows different versatilities.

A. What is storytelling?

1. History
2. Contemporary sources
3. The professional storyteller

B. Student stories

1. Each student should research, learn and present a story.
2. Filmstrip, illustrations or props can be used to good advantage.
3. The best storytellers and films can go to the elementary schools for presentations.

READING LIST

Aeschylus	Agamemnon
	Seven Against Thebes
Sophocles	Oedipus Rex
	Oedipus at Colonus
	Antigone
	Electra
Euripedes	Medea (Jeffers Translation)
	The Trojan Women
	Orestes
	Electra
Aristophanes	The Birds
	The Clouds
	The Frogs
Machiavelli	Mandragola
Moliere	Any play, but particularly:
	The Miser
	Tartuffe
	The Imaginary Invalid
Anonymous	Everyman
	The Second Shepards' Play
	The Castle of Perseverance
	Abraham and Isaac
	Johan Johan
Shakespeare	Any play
Jonson	Everyman in His Humour
	The Knight of the Burning Pestle
	The Alchemist
	Volpone
	Bartholomew Fair
Corneille	Le Cid
	The Death of Pompey
Racine	Phedre
	Britannicus
	Esther
Sheridan	Any play, but particularly:
	A School for Scandal
	The Critic
	The Rivals

Schiller	Maria Stuart
Voltaire	Irene
Beaumarchais	The Barber of Seville
	The Marriage of Figaro
Picard	The Merry Widow
Boucicault	The Corsican Brothers
	The Octoroon
Pinero	Any play
Wilde	Any play
Ibsen	Any play
Gorki	The Lower Depths
Synge	Any play
Odetts	Any play
Tolstoi	Any play
Gogol	Any play
O'Neill	Any play
Miller	Any play
Brecht	Any play
Fry	Any play
Bolt	A Man for All Seasons
Beckett	Any play
Artaud	The Marat/Sade
Wilder	Any play
Saroyon	Any play
Marlowe	Any play, but particularly:
	Doctor Faustus
Webster	White Devil
	The Duchess of Malfi
Calderon	Life is Sweet
Cervantes	Numancia
Lope de Vega	The Sheepfold (fuenteovejuna)
Beaumont & Fletcher	Any play
Addison & Steele	Any play
Congreve	Any play
Gay	The Beggar's Opera
Goldsmith	She Stoops to Conquer

Goethe	Wilhelm Meister
	Wallenstein
	Wilhelm Tell
Maeterlinck	Pelleas et Melisande
Goldoni	Servant of Two Masters
	La Locandiera
Hugo	Hernani
	Ruy Blas
Taylor	Our American Cousin
Devereux	Henry of Navarre
Lewis	The Bells
Shaw	Any play
Strindberg	The Father
	Miss Julie
	The Dance of Death
Lermontov	Maskerad
Turgeniev	A Month in the Country
Pirandello	Any play
O'Casey	Any play
Williams	Any play
Giraudoux	Any play
Anouilh	Ring Around the Moon (trans. C. Fry)
Ionesco	Any play
Albee	Any play
Garcia	Any play
MacLeish	Any play, but particularly:
	J. B.
Hellman	Any play

631 DOUBLESPEAK (3 - 5)

COURSE DESCRIPTION

This course offers practice in critical reading, straight thinking, and clear writing. The student, through study of the Public Doublespeak in our society, will learn to examine deceptive advertising, slanted reporting, propaganda and other forms of Doublespeak, using the newspaper, magazines, and films for research and group study. There will be much reading and discussion. Any student who reads well, whether or not he intends to go on to college or technical school, may elect this course. Writing assignments will stress simplicity and clarity of expression of student's thought.

OBJECTIVES

The student will:

1. discern basic persuasive elements that influence people to follow certain leaders and to adopt certain courses of action.

2. discriminate between types of persuasion which affect one's (or society's) best interest and those that serve special interests.

3. find and analyze examples of various types of propaganda in media, books, and daily experiences.

4. given goal and techniques, design an honest advertising or propaganda message.

OUTLINE

Three Weeks Introduction (Text)	Define truth; factors leading to confusion; terminology; differing viewpoints in the media.
Other sources: magazines, newspapers, TV, radio, books	Explore all areas of doublespeak in our language. 1. Use examples from diplomacy, politics, education, journalism, television, religion, advertising, everyday conversation, courting, and family life. 2. Discuss significance of doublespeak in each area. 3. Examine positive as well as negative aspects of propaganda. 4. Explore the purposes of doublespeakers. 5. Analyze words; suggest alternates and their change in meaning (connotation, denotation, euphemism, hyperbole, etc.).

6. Discuss effect of doublespeak on us as children, adolescents, adults. (Do children misunderstand adult words? For example: James Agee's A Death In The Family.)

Two Weeks Chapter I (Text)	Define arguments; signpost words; assertions (devoting classroom time to activities presented in this guide and in the text).
	Students will examine list of suggested term projects with intent to choose one to develop as oral report - through research, evidence gathering, analyzing, evaluating, and concluding. After oral presentation to the class at the end of the semester, the final paper will be turned in for a composition grade.
	Early choice of topic will allow time for research and preparation.
Two Weeks Chapter II (Text)	Present evidence; objective evidence; subjective evidence; tests of evidence (devoting classroom time to activities presented in this guide and in the text).
Two Weeks (Chapter III	Discuss reasoning; degrees of logical proof; inductive reasoning by analogy and its tests; causal reasoning and its tests (devoting classroom time to activities presented in this guide and in the text).
Two Weeks Chapter IV	Discuss deductive reasoning; syllogisms; dilemmas (devoting classroom time to activities presented in this guide and in the text).
Two Weeks Chapter V	Study the fallacies - definitions, examples, and refutations (devoting classroom time to activities presented in this guide and in the text).
Five Weeks Research, library, periodicals, interviews, etc.	Students do independent study in preparation for their term projects; teacher functions as research guide, directs their efforts, and helps them find material. (Projects may be chosen from suggested list or at student's will, subject to teacher's approval.)
	Vocabulary: generalization, deductive, inductive, argument, assertion, evidence, propaganda, opinion, fact, inference, controversy, analogy, literal, figurative, connotation, denotation, hyperbole, euphemism, conclusion, causal, alleged, relevant, cause and effect, syllogism, hypothesis, dilemma, refutation, Non Sequitur, fallacy, oversimplification, logic, apriorism.
	Review all chapters. Test if desired.
	Students present oral reports on their term projects. Display finished compositions.

TEXT: True, False, or In Between - Donald Hiatt

RESOURCES

Double-Speak in America, Mario Andrew Pei

New York Times School Service

The Hidden Persuaders, Vance Packard

Madison Avenue, Martin Mayer

Mass Media Notebook for Teachers, Lew Breshears

What Did You Say? Felber/Koch

Language and Public Policy, Hugh Rank, NCTE Committee on Public Doublespeak

The Politics of Lying, David Wise

The Use and Misuse of Language, S. I. Hayakawa

Coping with Television, Edited by J. F. Littell

Language in America, Neil Postman

The Power of Words, Stuart Chase

Communications, The Transfer of Meaning, Don Fabun

Language in Thought and Action, S. I. Hayakawa

The Ugly American, William J. Lederer and Eugene Burdick

A Nation of Sheep, William J. Lederer

FILMS:

Pressure Groups in Action 20 minutes

Public Affairs Education Department
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Cleveland, Ohio 44101

Borrower pays return postage and should book three weeks in advance.

632 SPEECH (1 - 5)

COURSE DESCRIPTION

The development of effective speaking and listening habits is the main goal of this course. The student will find opportunities to develop confidence and improve oral skills in everyday speaking situations: educational, social, civic, and vocational.

OBJECTIVES

The student will:

1. develop confidence in organizing material from an outline and from notes.
2. gain skill in presenting that material in a variety of situations for several audiences.
3. improve his techniques in participating in group discussions, informal and formal speeches.
4. acquire confidence in speaking in public.
5. learn the need for listening more carefully and intelligently.

OUTLINE

I. Topic: Speech in school situations

A. Informal speeches
B. Oral reading
C. Discussions
   1. panel
   2. group
D. Formal reports

Activities:

1. Ask students to talk about themselves. This may take the form of a speech about past experiences or future plans.
2. Have students prepare oral readings after listening to selections of recordings of famous speakers.
3. Divide the class into groups for discussions. After each student has offered a specific segment of the discussion, the group should correlate the information.
4. Require students to outline formal speeches using reference materials.
5. Have students present three to five minute reports to the class.
6. Ask students to use audio and visual aids for an informative report.

7. Require students to offer book reviews containing critical analysis.
8. Have students present dramatic skits or scenes from plays.
9. Tape student reports and presentations.
10. Evaluate tapes using student and teacher devised rating scale.

II. Topic: Speech in civic situations

A. Formal introductions and presentations of awards
B. Announcements
C. Political speeches
D. Parliamentary procedure

Activities:

1. Have students prepare formal introductions of speakers and class visitors.
2. Provide opportunities for students to present awards at school functions and assemblies.
3. Assign preparation of nomination speeches for class offices.
4. Listen to famous political speeches. Evaluate effectiveness of speaking techniques.
5. Have student give oral analysis of a particular aspect of a political campaign.
6. Conduct meetings practicing basic rules of parliamentary procedure.
7. Attend community and civic meetings to evaluate process of parliamentary procedure and to learn the value of public discussions.

III. Speech in vocational situations

A. Telephoning
B. Interviewing
C. Reporting

Activities:

1. Have students give and follow oral directions that would apply to job situations.
2. Require students to practice effective techniques of telephone communication: requesting materials, making appointments, arranging for class speakers.
3. List habits that hinder listening. Suggest corrective measures.
4. Role play situations involving oral communication with the public.
5. Present an original speech selling a product.
6. Prepare mock interviews applying for jobs.
7. Present persuasive speech using statistics.
8. Write pertinent questions to be used when interviewing people on the job.
9. Apply for work through personal interviews.
10. Video tape class interviews.
11. Evaluate effectiveness of video presentations.

633 PLAY READING AND THE THEATER (3 - 5)

COURSE DESCRIPTION

Aristotle called drama "imitated human action." In print, drama is the literary form most closely allied with human experience itself. If you wept at a performance of Love Story or shuddered at the demonical influences in the Exorcist, you were enjoying play acting. Play reading and the study of the theater are equally enjoyable. Plays, as we know them, cover a period of about 2500 years and present an endless procession of characters and scenes that bring excitement into our lives. Flexibility in the drama course will permit students to concentrate upon their own specific interests and to plan and participate in group projects connected with the theater.

OBJECTIVES

The student will:

1. gain understanding of the drama as a literary form.
2. develop skill to read the drama with understanding, imagination, and enthusiasm.
3. become familiar with the terminology of drama and the stage so that he can use it properly and fluently.
4. become acquainted with the various types of drama.
5. acquire some knowledge of the history, background, and development of drama.
6. develop by means of reading drama his ability to make critical analysis of human motives and actions, and gain insight into human experience, both of his contemporaries and of the adult world.
7. share through open discussion in class his ideas and opinions.
8. formulate ideas and opinions and express them both orally and in writing with clarity, coherence, and correctness.
9. enlarge his vocabulary and his ability to use words in the proper context.
10. learn the importance of syntax, diction, and style; and become aware that good writing is a discipline.

OUTLINE

With the list of plays available for the course, the teacher will be able to formulate his own program and design his own units. It would seem that a semester course could reasonably include five to eight plays. The study of a Greek tragedy or a Shakespearean drama will consume more time than the reading of a modern play. In any event, the teacher should use discretion in determining

the amount of sustained reading his class can absorb. If pupil interest lags, the unit should be interrupted, and continued when the teacher deems the time propitious. Whenever audio-visual materials are available and relevant, they may be used to change the pace and stimulate interest.

There follow three suggested approaches to the course:

CHRONOLOGICAL:

Oedipus Rex or Antigone
Everyman
Dr. Faustus
One of Shakespeare's dramas
Discussion of Restoration Drama (research by the pupils in groups and selected readings from She Stoops to Conquer by Goldsmith or The Rivals by Philip B. Sheridan)
Cyrano de Bergerac
An Enemy of the People
A twentieth-century modern play

GENERIC:

Greek Tragedy: Oedipus or Antigone
Morality Play: Everyman
Elizabethan Drama: Julius Caesar, Macbeth, Hamlet (choose one)
Tragi-comedy: The Merchant of Venice
Modern Tragedy: The Emperor Jones or Street Scene
Comedy: Life With Father or Arsenic and Old Lace
Drama of Social Criticism: Enemy of the People, R.U.R., High Tor (the latter contains elements, too, of melodrama and farce)

THEMATIC:

MORAL PRINCIPLE
Antigone
Julius Caesar
The Cherry Orchard
Enemy of the People
Yellow Jack
One Third of a Nation
The Emperor Jones
The Winslow Boy

POWER - GREED - DESIRE
Dr. Faustus
Macbeth
Elizabeth the Queen
The Emperor Jones
Enemy of the People

MATERIALISM
Macbeth
An Enemy of the People

R.U.R.
Golden Boy
High Tor (a notation previously listed)

CLASS CONSCIOUSNESS - RACE PREJUDICE - FREEDOM OF CONSCIENCE
Loyalties
The Admirable Crichton
Antigone
The Crucible
A Man for All Seasons
Murder in the Cathedral

HISTORY - BIOGRAPHY
A Man for All Seasons
Elizabeth the Queen
The Barretts of Wimpole Street
Abe Lincoln in Illinois
The Magnificent Yankee

Texts and Plays

SIX COMPLETE WORLD PLAYS and A HISTORY OF WORLD DRAMA
Marcus Konick, Globe Book Company

Antigone, Sophocles
Everyman (medieval Morality Play) Anonymous
Cyrano de Bergerac, Edmond Rostand
An Enemy of the People, Henrik Ibsen
The Cherry Orchard, Anton Chekhov
Caesar and Cleopatra, George Bernard Shaw

DRAMA IN OUR TIME
M. M. Nagelberg, Harcourt, Brace and Company

Watch on the Rhine, Lillian Hellman
Our Town, Thornton Wilder
R. U. R., Karel Capek
Abe Lincoln in Illinois, Robert E. Sherwood
Yellow Jack, Sidney Howard and Paul de Kruif
One Third of a Nation, Arthur Arent

DRAMA IN OUR TIME

Dramatic Passages from
Winterset by Maxwell Anderson
Jacobowsky and the Colonel by Franz Werfel
Oklahoma! by Oscar Hammerstein II (Lyricist)
The Front Page by Ben Hecht and Charles MacArthur

FAVORITE MODERN PLAYS
Felix Sper, Globe Book Company

The Winslow Boy, Terence Rattigan
The Admirable Crichton, James M. Barrie

Life with Father, Howard Lindsay and Russel Crouse
The Barretts of Wimpole Street, Rudolf Besier
Loyalties, John Galsworthy

THREE DRAMAS OF AMERICAN INDIVIDUALISM
Joseph E. Mersand, Washington Square Press, Inc.

Golden Boy, Clifford Odets
High Tor, Maxwell Anderson
The Magnificent Yankee, Emmet Lavery

THREE DRAMAS OF AMERICAN REALISM

Idiot's Delight, Robert E. Sherwood
Street Scene, Elmer L. Rice
The Time of Your Life, William Saroyan

NOBLE'S COMPARATIVE CLASSICS
H. E. Harding (ed.), Noble & Noble, Publishers, Inc.

Julius Caesar, William Shakespeare
Elizabeth the Queen, Maxwell Anderson

Macbeth, William Shakespeare
The Emperor Jones, Eugene O'Neill

Oedipus Rex, Sophocles

The Tragical History of Doctor Faustus, Christopher Marlowe

The Merchant of Venice, William Shakespeare

Hamlet, William Shakespeare

Richard II, William Shakespeare

Murder in the Cathedral, T. S. Eliot

A Man for All Seasons, Robert Bolt

The Crucible, Arthur Miller

Arsenic and Old Lace, Joseph Kesselring

634 CAREER PREPARATION (1 - 5)
English/Guidance

COURSE DESCRIPTION

This course is jointly sponsored by the English and Guidance departments. A wide variety of experiences will be explored by students with speakers from the community, teachers of other departments, and much guided discussion in the vital areas of life, career, and society.

Students will learn "survival" skills for job or college entry, including interviewing, telephoning techniques, listening skills, and the writing of applications, résumés, and letters. This course will emphasize social relationships, decision making, career preparation and values.

OBJECTIVES

The student will:

1. identify his own interests as they relate to a career choice.
2. be aware of job opportunities in the Greater Portland area.
3. demonstrate his ability to gather and assess information about a career of his choice.
4. be aware of his responsibility for making career decisions.
5. be aware of volunteer service projects in the area.
6. develop an awareness of financial and consumer resources.

OUTLINE

I. Orientation

A. Become acquainted with the objectives of the course: content, methods, assignments, and evaluation.

B. Make a needs assessment checklist to determine student objectives.

C. Take a series of career preference tests and discuss results in small groups:

Kuder Preference Test	Job O
Self-Directed Search	Occuscan

D. View films or filmstrips which give an overview of the job clusters.

II. Exploration of the World of Work

A. Visit Career Resource Room for orientation by Mrs. Blanche Mack.

640 THE HERO AND ANTI-HERO IN ENGLISH AND AMERICAN LITERATURE (5)

COURSE DESCRIPTION

This course will replace the Advanced Placement program. It will stress the analysis of the ethical, spiritual, and physical challenges confronting the protaganists in a wide range of dramas, short stories, novels, and poems.

The course is designed for the exceptional student of English. He must be intellectually mature, capable of accepting constructive criticism, and sincerely interested in the mechanics and literature of the English language. Each student is required to participate effectively in discussions, to write thoughtfully and maturely about literary matters, and to involve himself in independent research projects.

The fundamental purpose of the course is to teach the student how to analyze works of literature and how to express himself about them.

OBJECTIVES

The student will:

1. learn to read, analyze, and intelligently criticize significant works of literature.

2. learn to deal with the type of writing assignments, research projects, and discussion seminars which characterize the college experience.

3. develop an academic vocabulary and a mastery of grammatical, syntactical, and usage skills.

OUTLINE

I. Time: Four weeks

Text: Hero and Anti-Hero, Roger B. Rollin, McGraw-Hill Company

Topics:

A. Identification and analysis of heroes and anti-heroes in plays, poems, and short stories
   1. The Super Man
   2. The Supreme Man
   3. The Leader
   4. The Common Man Hero
   5. The Lowly Man Hero
B. The metaphor of the quest or vital mission
   1. The Quest for Honor and Glory
   2. The Quest for Victory
   3. The Quest for Social Order
   4. The Quest for Love

Audiovisual Materials:

1. Carousel filmstrips and records
   Two lessons, Hero and Anti-Hero
2. Resource Center 16mm movie, "Bartleby the Scrivener"

Suggested Activities:

1. In-class essays
2. Lectures
3. Class discussions
4. Oral interpretations

II. Time: Five weeks

Texts:
1. The Lord of the Flies - Golding
2. The Old Man and the Sea - Hemingway
3. Of Mice and Men - Steinbeck
4. Animal Farm - Orwell
5. 1984 - Orwell

Topics:

1. The Lord of the Flies
   Emphasize that symbolic structure of the novel underscores the author's theory that all defects in society can be traced back to the fundamental defects in human nature.
2. The Old Man and the Sea
   Emphasize the constant theme of man vs. nature. Analyze the character of Santiago as symbolizing everything admirable in human nature.
3. Of Mice and Men
   Explore the novel in terms of the concept of the "Lowly Man Hero."
4. Animal Farm
   Emphasize satire and symbolism of totalitarian philosophies and autocratic rulers.
5. 1984
   Explore the concept of Anti-Utopia and the Anti-Utopian novel.

Audiovisual Materials:

1. Filmstrips (South Portland High School Library)
   a. "George Orwell, Animal Farm and 1984"
   b. "Steinbeck's America"
   c. "Ernest Hemingway"
   d. Resource Center, 16mm movie
      "The Novel: What it is and what it does"

Suggested Activities:

1. Essay tests
2. Lectures
3. Class discussions
4. Outside reading
5. Oral reports

III. Time: One week

Text: Seven Novellas, Dillenbeck and Schweitzer, Charles Scribner's Sons

Topics:

1. The Short Happy Life of Francis Macomber
2. May Day
3. The Old Maid
4. Youth
5. The Party at Jack's

Brief written paragraph each day in which student classifies the protagonist of each novella in terms of his heroic or anti-heroic qualities in relation to the story's thematic nature.

Suggested Activities:

1. Utilization of discussion questions
2. Essay: comparison and contrast

IV. Time: Eight weeks

Texts: Oedipus Rex - Sophocles
Hamlet - Shakespeare
Six Complete World Plays - Konick, Globe Book Company

Topics:

1. Greek tragedy and its effect on modern drama
2. Tragic heroes: compare Oedipus and Hamlet in terms of heroic qualities and concepts revealed in course reading selections

Audiovisual Materials:

1. Resource Center: Four 16mm films
   a. "The Age of Elizabeth"
   b. "What Happens in Hamlet"
   c. "The Poisoned Kingdom"
   d. "The Readiness is All"
2. Resource Center: Four 16mm films
   a. "The Age of Sophocles"
   b. "The Character of Oedipus"
   c. "Man and God"
   d. "The Recovery of Oedipus"

Suggested Activities:

1. Oral readings
2. Discussions
3. Dramatizations

V. Time: Two weeks

Text: Stories From Six Authors, Buckler, McGraw Hill

Topics:

A. Identification and analysis of heroes and anti-heroes in each short story

1. The conflict between generations is a theme explored by different means in each selection in the anthology.

Audiovisual Materials:

1. Resource Center: 16mm movies
   a. "My Old Man" - Hemingway
   b. "The Lady or the Tiger" - Stockton
   c. "The Lottery" - Shirley Jackson
   d. "Occurrence at Owl Creek Bridge" - Ambrose Bierce

Suggested Activities:

1. Written interpretations
2. Discussions
3. Essays
4. Composition of short-short story by pupils

641 THE BIBLE AS LITERATURE AND MYTHOLOGY (4, 5)

COURSE DESCRIPTION

The first half of this course gives the student an opportunity to study the Bible, a major influence on man's thoughts for centuries, and to gain some understanding of conditions in Biblical times and the purposes that lie behind these writings. Special attention will be given to the variety of literary forms, the development of characters, and the influence of the Bible on present day literature.

During the second half of this course students will study classical mythology, one culture's attempt to explain the mysteries of life. Myths are pleasurable to read and a knowledge of them is a key to understanding the literature of the Western world.

I. THE BIBLE AS LITERATURE

OBJECTIVES

The student will:

1. recognize the Bible as good literature in all forms.
2. review the conditions giving rise to the writings.
3. compare and contrast the writings with more familiar literature.
4. become aware of familiar references and quotations.
5. recognize the biblical theme in music and art.
6. increase his appreciation of why the Bible is a best seller; it is contemporary as well as ancient.
7. read independently sections of the Bible not required in this course.

OUTLINE

Students will read the original Bible versions of stories and comments by other authors. They will write commentaries and essays related to their reading. Some assignments will deal with archaeological discoveries and historical material that must be researched. Oral reports will be assigned.

MATERIALS

Basic text: King James Version of Bible
On Teaching the Bible as Literature - Ackerman
The Bible as Literature - Cappe
Selected records and readings

Week I - Background on the Old Testament

Using Ackerman's text for background material, by outline, lecture and assigned reading, the history of the Israelite nation is traced from early Mesopotamian culture to David and the emergence of Kingship. The geographical location is surveyed by maps or pictures.

Week II - A Survey of Israel's Literature from Oral Traditions to Printed Bibles

Comparison is made of Yahweh and Elohist writers in early accounts.

The epic accounts of Abraham, Cain and Abel, Noah, the Tower of Babel by the above writers are read.

Development of translations from the Hebrew-Aramaic-Latin-English-newest and revised editions are examined.

Readings from students' own Bibles and oral readings for comparisons will be assigned.

Week III - Origins of Man

Stories of creation from the Bible are compared with those from other cultures. Discussion will follow oral readings. Writing assignments might include "Loss of Innocence" based on Garden of Eden or other literature, or an original legend.

Week IV - Patriarchal Legends

Included are stories of Abraham, Sodom and Gomorrah, Isaac, Jacob-Esau conflict.

Using Ackerman for background and Capp's text for condensed stories, students will read from their own Bibles.

The themes here are basic to other literature - family saga, pioneer spirit, conflict between brothers, the fall of dissolute society. Discussions and writing will be based on these.

Week V - The Story of Joseph

Character development is traced from childhood to maturity, the rivalry in the family; Joseph's rise to power, the emphasis on dreams, his importance to Pharoahs, his unique position for power. Readings will be assigned from the Bible and Capps' condensed text.

Possible writing topics: Most Dramatic Incident
Dramatization of any section

Week VI - Moses-A National Leader

Review of Moses' entire life includes his destiny, the Exodus, the Commandments. Much material here lends itself to comparison with other literature,

pictures, music ("Let My People Go"). Themes of freedom, national leadership could be discussion topics or subjects for writing.

Week VII - The Prophets

A survey of prophetic literature, a special type, will include:

Prophetic discourse of Moses
Symbolic prophecy of Jeremiah
Vision prophecy of Daniel

The background giving rise to these men and the results. Readings will be assigned from the Bible, Ackerman, and Capps.

Week VIII - Lyric Poetry

The song; the ode - the elegy - dramatic lyric and others are studied. Oral readings and comparison to other literature will be included.

Week IX - The Story of Ruth

A complete story will be studied (time permitting).

Week X - The Book of Job

Emphasis on beauty of language, development of characters and main theme - man's undeserved suffering.

II. MYTHOLOGY

OBJECTIVES

The student will:

1. have the opportunity to read myths for enjoyment.

2. define "myth" and its relevance to man's development.

3. become acquainted with myths of the Greeks, Romans, and Norsemen and the allusions to these in our literature.

4. recognize the influence myths have had on art and music.

5. explore the imaginative ideas and emotions behind all myths from Homer's day to the present.

OUTLINE

The student will read regularly assigned myths, both familiar and unfamiliar, dealing with the mysteries of the universe. The "hero" theme will be reviewed as well as gifts of prophecy, poetic justice, devotion to good, remorse, bravery both mental and physical. Mythological references in literature, magazines, newspapers, advertisements will be sought by students. Oral and written reports will be assigned. Creative activities - original poems, original myths, short plays will be recommended.

MATERIALS

Mythology - Hamilton
Classical Myths That Live Today - Sabin
Golden Bough - Frazier
Metamorphoses - Ovid
Myths to Live By - Joseph Campbell
Selected records - audio visual materials

Week XI - Introduction to Mythology

The meaning of myths, their importance to the ancients and to us is discussed. The stories of creation in several cultures are compared with creation stories in the Bible. The Greek and Roman myths show emphasis on man's image, the human qualities in their gods.

Major and minor gods, their battle for control, are included.

Week XII - The Gods and Their Importance to People

All gods were worshiped in a special way. Emphasis is on two - answering people's needs:

Ceres - her special province - festivals - symbols - story of Demaphoon - the life cycle of agriculture.
Bacchus - of the vineyards - his unusual birth - life - death. His followers - festivals - Resurrection of life.

Week XIII - Creation of the World

Chaos - Erebus give way to Earth.
The first creatures, monsters, Titans appear.

Cronus' attempt to control.
Zeus survives - his importance is recognized.

The Prometheus-Epimetheus-Pandora myths offer a source of explanations for man's courage, daring, gifts to mankind, evils and problems.

The Flood stories, Pyrrha and Deucalion, reasons for man's survival, the stone people, are discussed.

Week XIV - Myths of Flowers - Lovers - Adventure

Included are:

Prometheus and Io
Europa (Oedipus)
Adonis
Narcissus
Cupid Psyche
Pyramus Thisbe
Others similar

Week XV - Myths of Heroes

Included are:

Jason - Bellerophon - Daedalus
Perseus - Theseus - Hercules - Lesser gods

Their stories - symbols - significance of bravery or cowardice. Metamorphoses for further study.

Week XVI - The Trojan War

Reasons and preparation for the war are examined. From the Iliad, Aeneas' account of the fall of Troy is read. The Disasters, Heroes and the Fall of Troy are studied. Scientific research on original Troy is an interesting project.

Weeks XVII - XVIII

The Odyssey and Ulysses' Adventures

The hero theme, his failings and good qualities are explored. The voyage is traced, and Ulysses' arrival at home.

The Aeneid - Aeneas' Destiny

Comparison is made of adventures of Aeneas and Ulysses. The emphasis is on Augustan era and glorification of Augustan line.

The Greek Tragedies

A review of famous plays (surface only) indicates the pessimism of characters for life in general. The importance of the Greeks in molding thought is stressed.

A review - summary - emphasizes the ideas expressed in reading myths.

645 INDIVIDUALIZED READINGS OF FICTION (1 - 3)

COURSE DESCRIPTION

The major goal of this course will be to show how reading can be a pleasurable experience for people of all reading abilities. Students will select their own reading material. Each book that is read will be evaluated by the student. Evaluations will include one of the following: teacher-student discussion, written reports, or creative projects suggested by the student or the teacher. Also, each student will keep a journal which will include his impressions of the books he has read.

OBJECTIVES

The student will:

1. increase his appetite for leisure time reading.
2. see some of the differences between the enjoyment of reading and the enjoyment of television and movies.
3. have an opportunity to discuss his book with the teacher or with the teacher and the class.
4. present his reactions to what he reads through various writing assignments.
5. explore the various elements of fiction that provide the reader with another level of enjoyment in reading.

MATERIALS

To Kill A Mockingbird - Harper Lee

There will be a classroom library of materials. Students are free to make their selections from this collection or any other source, such as school library, city library, or bookstores. The class will also have the opportunity to select books from a book club that will offer monthly selections.

OUTLINE

1. The following are the basic assignments for each book selected by the student. These assignments will be flexible according to the book and the particular time period during the semester.

   A. Student-teacher conference

   B. Project
      1. poster
      2. collage, montage
      3. book jacket
      4. composition
      5. tape recording - oral report
      6. oral-visual report
      7. student's choice

C. Journal - to be kept throughout semester. Entries will record what is read.

2. During the eighteen-week period, several lecture periods will be set aside to introduce to the student terms that may be used to analyze a piece of fiction. Five terms will be used by the student to describe the book that he has read: plot, character, setting, point of view, and theme.

3. To Kill A Mockingbird will be used by all class members to study the above terms.

4. With the exception of point of view, at any time during the semester extra credit may be received by reading a book and completing any one of the assignments worked on during the semester.

5. Weeks 1 & 2 - Choose a book and complete the three basic assignments.

Weeks 3 & 4 - Choose a book and complete a journal. In addition, there will be either a student-teacher conference or project.

Weeks 4 & 5 - View films "Hangman" and "Chemical Feast" to initiate discussion of theme. Choose a book and complete a journal. In addition, write a brief paragraph concerning the theme of the book.

Weeks 6, 7, 8 - Study To Kill A Mockingbird and its themes.

Weeks 9, 10, 11 - Teacher lecture [Plot]. Choose a book and complete one of the basic assignments. Write a paragraph concerning the theme of the book and a paragraph concerning the plot of the book.

Weeks 12, 13, 14 - Teacher lecture [Character]. Choose a book and complete a journal. Write paragraphs concerning theme, plot and character.

Weeks 15, 16, 17 - Teacher lecture [Point of View]. Choose a book and complete one of the three basic assignments in addition to writing paragraphs concerning theme, plot, character, and point of view.

Weeks 18 & 19 - Choose something other than a piece of fiction. Assignment will depend upon the genre.

646 CONTEMPORARY LITERATURE (2, 3)

COURSE DESCRIPTION

This course is designed to give students a vivid sense of modern times through poems, plays, short stories, and novels. A key question that students will try to answer is how does man survive and keep his identity in the face of automation, war, government, and the environment. CONTEMPORARY LITERATURE will make the student more aware of man's conflict with himself and others in the 20th century. Students will be expected to trace the development of these themes and to express their reactions in writing, discussions, and creative forms.

OBJECTIVES

The student will:

1. realize the boundless variety of literature available to him.

2. read, read, read.
   Discover pleasure as well as knowledge in reading. Form the habit of reading for fun.

3. broaden understanding of his own life through broader reading.

4. establish some evaluative standards for judging his own choices.

5. examine survival themes in literature (in face of war, change, automation, government, and environment).

6. examine identity of self and others in conflict with man and nature.

7. write one essay whose topic will come from objective 3, 5, or 6 above.

OUTLINE

A. Student Choice

Immediate emphasis early in this course is to be the easy, vast accessibility of books on countless subjects of interest to students, their freedom to choose, and development of their ability to choose well.

I. On the first day, the teacher will circulate among students various popular reading lists (N.C.T.E., Scholastic Magazine, Clifton Fadiman's list, Dartmouth, Fader's Hooked on Books, various publishers' catalogs). Have students check books that appear on more than one list, star those they have read, start a personal book list of those read and those they are tempted to read. Soon students realize how narrow their reading has been. This is a good eye opener for worldly seniors who think they know everything! (Teacher's attitude, however, should always be positive, encouraging.)

II. Have 15 - 20 new, colorful books from school library, any paperbacks, on teacher's desk, and another pile of older, worn ones, some classics. Let students browse. Then teacher give mini-view of each book, just enough to whet the appetite. Read a short passage. Let students jot down notes. At end of day, send books back to library. Students must check out books from library.

III. Miniviewing should be done two or three times during a semester. It is a good way for a teacher to keep his own reading up to date, and this is necessary for communication with teen-agers.

IV. Have students help with judging best sellers or any questionable book. Try to avoid teacher censorship. Be honest. Encourage open discussion. But be willing to take a stand and defend it, and encourage student to do likewise. (Defense must include more than "It's good because I like it!")

B. Variety of Reading Required

Reading, rather than activities about reading, is the core of this course.

I. During the semester, every student should read ten selections chosen from among these different categories: fiction or non-fiction, novel, play, or poetry:

* 1 - 3 classics
1 Shakespearean play
1 history, sociology, or anthropology
1 religion or theology
1 biography or autobiography
1 medicine, psychology, science, or science fiction
1 book about Americana (any plot which could occur only in America)
1 adventure or foreign-setting book
1 about Maine or New England, or by a Maine writer
1 free choice

C. Reporting Methods

Book reports will be done in a variety of ways. Always emphasize the importance of the reading, not the reporting.

I. Each student will keep cumulative book cards on which he will record every book read either in class or outside.

II. Reporting may be done by personal conference, before or after school, or during study periods.

III. Oral reports may be given individually, by committee, dramatization, or panel discussion.

* Classics are included primarily as criteria for judgment.

IV. Form of written reports may be essay, brief card reports, or multi-level sentence reports (brief outline).

V. One formal paper will be required.

D. Student Contracts

There is no required reading list. Student choice and student evaluation with teacher guidance will be central elements of the course.

I. Current literature will be stressed, but the reading of one or more classics is encouraged to give background for some measure of judgment. For example, comparison of a modern and a classic novel on the same basic human theme (i.e. man against man) is an interesting method of pointing out the unchanging elements in human nature.

II. Student and teacher will set due dates, but the grade is not docked if reading is not finished on time. The student signs a statement of reading: "I have read all of Lord Jim." or "I have read all but 30 pages . . ." etc. He is aware of commitment through his reading contract, but may adjust his time during the semester.

E. Reading Activities

I. Two or three class periods each week will be spent in reading.

II. Students will schedule their own reporting dates, ten per semester, using a variety of methods.

III. Several short selections will be assigned for study by the entire class, as models for acquaintance with different genres. These will include essay, novelette, short story, and short drama. All other reading will be individually chosen by students.

IV. By mid-semester, class will discuss and agree upon certain criteria by which to evaluate their reading preferences. Students will record criteria in a card file or notebook, and record their evaluations of all books read this semester.

V. One major assignment will be the student's choice of a real-life problem--personal or vicarious--to grapple with in his reading. Having learned to "browse" intelligently through publishers' catalogs and library facilities, he should be able to identify a survival question, a conflict of values, or a contemporary problem pertinent to his own life which an author has set forth realistically in literature. The student will read one or more selections on his chosen theme and share what he has learned--about life, self, or others--in any of a variety of ways: creative writing, video talk, debate with a fellow student, panel discussion, informal talk, or class discussion which he will moderate.

647 POETRY AND THE SHORT STORY (4, 5)

COURSE DESCRIPTION

This course is designed to improve students' skills in reading and appreciating poetry and short stories. Students will learn critical terminology to use as an effective tool in analyzing these two genres. Readings will cover a variety of authors. As major projects students will unite a short, short story and poetry.

OBJECTIVES

The student will:

1. become acquainted with various types of the short story.
2. learn the terminology of the short story.
3. consider characteristics of the short story.
4. illustrate an understanding of the genre by writing a short short story.
5. express orally and in a written essay his reaction to a given short story.
6. identify and describe various elements of poetry.
7. prepare short prose illustrating imagery and sound effects.
8. become familiar with the style and content of a number of published poets through selected readings.
9. identify the close relationship between poetry and music by listening to selected recordings and reading published ballads.
10. create poems and responses to poems.

OUTLINE

THE SHORT STORY

Time: Weeks 1-9

Texts: A Study of the Short Story
Stories from Six Authors

Topics: Introduction to the short story as a popular literary form.
Critical reading of short stories.
Reading for enjoyment.

ACTIVITIES

1. Involve class in group discussion of short stories and why they are entertaining to many people.

2. Use questions for discussion and suggested interpretations in text.

3. Have pupils bring a short story to class. Recognize flexibility of lengths of short stories.

4. Classify sample stories as: mystery, detective, terror, humor, character analysis, incident, surprise.

5. To grasp the concept of a narrative, have individual students relate orally true incidents they have experienced. Identify introductions, situations, incidents, problems, endings, and any other elements of the short story.

6. Discuss how the length of a short story might affect a writer's approach to the narrative.

7. Given various aspects of narrative - plot, characterization, and conflict - discuss possible ways that authors might handle them within the framework of the short story. Recognize restraints placed upon the short story writer.

8. In group discussions with the teacher as a guide, suggest situations in which the following terms are used or illustrated. Explain the meaning of each term used.

   Terms: Plot, character, setting, protagonist, antagonist, hero, anti-hero, point of view, action, crisis, climax, accident, struggle, complication, outcome, theme, ending, moral, suspense, irony, foreshadowing, flashback, and fate.

9. Through student art work, drawings, magazine collages, or posters, graphically portray the terms of the short story. (Teacher guidance should provide accuracy to the illustrations.) Graphics can be reproduced on transparencies for showing on the overhead projector or reproduced as a series of posters, given identifying labels, and mounted in the classroom.

10. In class discussion, consider the central problem developed in the plot of a short story.

11. In oral report or written essay, express your reaction to the ideas and events developed in a given short story.

12. Compare styles of two short stories by different writers, who treat the same theme.

13. Write a short short story, showing your understanding of the ingredients of the genre.

OUTLINE

POETRY

Texts: Sound and Sense
A Study of Poetry
Contemporary American Poetry

Topics: Introduction to poetry as a type of literature.
Communication of experience.
Expression of feelings, ideals, values.

Week 10

Sound and Sense, Chapters 1-3
Poetry and Experience; Reading the Poem; Denotation and Connotation

ACTIVITIES

1. Promote informal discussion of poetry within pupils' experience (children's verse, popular songs, advertising slogans, etc.). Encourage free expression of likes and dislikes. Guide discussion to acknowledge that enjoyment of anything - sports, music, studies - increases with experience and knowledge. Spark class interest in learning more about poetry.

2. Read aloud a favorite poem. Choose one that is easy to understand and has popular appeal. Ask pupils' favorites.

3. Share nursery rhymes. Play recordings of popular songs. Have pupils quote any poems or lines they remember from past experience. Why do they remember them? What is obvious about their rhythm, rhyme, subject matter, form? Try to create a general attitude of interest.

4. Ask pupils to keep notebooks for this course, in which to record ideas, definitions, poems, etc.

Week 11

Sound and Sense, Chapter 4 - Imagery
Definition of imagery; importance to poetry; the five senses; sensual appeal in poetry

A Study of Poetry
"Something Told the Wild Geese" - page 16
"Elegy Written in a Country Churchyard" - page 60
"Bread and Music" - page 104
"I Am He that Walks with the Tender and Growing Night" - page 8
"There Was a Child Went Forth" - page 32

Haiku as an imagist form
Read samples of haiku. Discuss precise form. Assign original haiku describing a simple image or pair of images. Stress precision of form and necessity of being explicit and simple.

Weeks 12 - 13

Sound and Sense, Chapters 5 - 8
Figurative Language (metaphor, simile, personification, apostrophe, metonymy, symbol, allegory, paradox, over-statement, understatement, irony); Allusion; Sample poems from Chapters 5-8.

A Study of Poetry
Metaphor: "Prair'e" - page 114
"Small Song" - page 19
Simile: "An Old Woman" - page 45
"Buick" - page 186
Personification: "The Cloud" - page 21
"Tired With All These" - page 101
"Now Came Still Evening On" - page 20
"Fog" - page 191
Apostrophe: "Blow, Blow, Thou Winter Wind" - page 155
"I Am He That Walks With the Tender and Growing Night"-page 8
Metonymy (Synecdoche): "We read Whitman" instead of
"We read the poems of Whitman"
Symbol: Definition; Sample poems from Sound and Sense, Chapter 6; colors as symbols; animals as symbols
Paradox and Irony: Definitions; kinds; sample poems from Sound and Sense, Chapter 7
Allusion: Definition; sample poems from Sound and Sense, Chapter 8
A Study of Poetry: "Silence" - page 117
"Now Came Still Evening On" - page 20
"Bring Me My Spear" - page 73

ACTIVITIES

1. Keep a list of figurative expressions found in songs, slogans, slang, advertising, and other everyday sources.

2. Plan poetry readings with musical background, live or recorded.

3. Write original poems. Plan days for reading any original student verse.

4. Write a paper (500 words, or length assigned by teacher) discussing a particular poet's use of one aspect of poetry we have examined so far: Imagery, Symbol, Irony, Paradox, Figures of Speech, etc. Define terms carefully and examine five or more poems of the poet you have chosen. Check with teacher for approval of poet and subject. (This paper may be assigned as culminating activity at end of semester.)

Week 14

Sound and Sense, Chapters 9-11
Meaning and Idea; Total meaning; Prose meaning
Tone: Attitude, emotional coloring
Musical Devices: Repetition and variety; alliteration; assonance; consonance; kinds of rhyme

Week 15

Sound and Sense, Chapters 12-14
Rhythm and Meter: Difference between prose and verse; kinds of feet; scansion; blank verse; free verse
Sound and Meaning: Onomatopoeia; euphony; cacophony
[Note: Avoid over-emphasis on technicalities in these chapters. Rather than rote memorization, stress understanding and recognition of terms, awareness of rhythm and sound in poetry.]

ACTIVITIES

1. Read aloud selected poems from Sound and Sense.

2. Try a choral reading of one or more poems (i.e. "The Barrel Organ").

3. Read orally various kinds of verse, noting differences: blank, free, rhymed. Choose poems from the three texts or from other sources.

4. Have pupils select from South Portland High School Library recordings of poetry readings and play them privately before choos ing records to share with the class. Include recordings of old and modern ballads.

5. Invite Miss Madeline Perazzi of the Music Department to talk to the class and perhaps to present a choral group. (Preplan with her the kind of songs/poetry to be presented. Stress the close relationship of music and poetry, elements in common.)

6. Ask pupils to write an original poem. Pay particular attention to images, rhythm, and sound effects. Read poems aloud, pointing out any effective lines or language.
   Pattern: Continuous form; stanza form; fixed form; limerick; sonnet; Sample poems from Sound and Sense, Chapter 14.

Weeks 16 - 18

Contemporary American Poetry (pp. 1, 73, 139)
Sound and Sense, Chapter 15-16, Traditionalists and Experimenters
Differences between the traditional and the New Poetry; Representative poets.
Traditionalists: Robinson, Millay, Frost, Wylie
Experimenters with Form: Lindsay, Masters, Sandburg, Jeffers, Lowell, H. D., Williams
Experimenters with Language: Pound, MacLeish, Moore, Cummings, Stevens, Auden, Wilbur, Nash

ACTIVITIES

1. Read and discuss in class one assigned poem by each of the traditionalists. Discuss similarities and differences in these poems.

2. Discuss individual characteristics of traditionalist poets.

3. Play Millay's own recording of "Renascence," with the class following the lines (page 30). Discuss the poem, using the text questions as focus.

4. What is the "New Poetry"?

5. Have pupils read aloud one of Vachel Lindsay's poems (i.e. "Daniel," page 75; "Two Old Crows," page 78; "The Santa-Fe Trail," page 80).

6. Assign sample poems from the form experimentalists, to be studied at home, read aloud, and discussed in class.

7. Read "Patterns," page 114, and discuss the form, its effect; and the differences from traditional form.

8. Read samples of the language experimentalist poems. (i.e. "The Unknown Citizen," page 185; verses by Ogden Nash, pp. 202-203.)

9. Write an essay expressing response to one of the poems (assigned or freely chosen) from any read by the class this semester.

Sound and Sense, Chapter 15, Judging a Poem

A. Read "God's Will for You and Me" - page 205 and "Pied Beauty" page 205.

1. Note similarities of the two poems.

2. Note the differences.

3. If you were judging A - B, how would the poems rank? Why?

PROCEDURES FOR SEMESTER COURSE

1. Promote daily class discussions.

2. Have students keep notebooks.

3. Use records of poetry readings.

4. Test occasionally on a short story or poem that has not been discussed in class.

5. Attend poetry reading whenever possible at local colleges and universities.

6. Ask any "poets-in-residence" or "experts" to speak to the class.

7. Play records of popular songwriters, paying particular attention to the lyrics.

8. During first nine weeks each student will write a short story. He will also give an oral evaluation of a short story of his choice.

9. During the second nine weeks each student will write original poetry.

EVALUATION

The student should be able to explain a poem in some depth, with attention to meaning, form, and sound.

648 LITERATURE OF THE AMERICAN WORLD OF SPORTS (1 - 3)

COURSE DESCRIPTION

By reading sports selections from various facets of the American sporting world, the student will gain an insight into the impact of professional and amateur sports on American society and the factors in athletic competition which reflect the values of our society. Students will be expected to do outside reading to enrich their knowledge of the significance of sports. Films and speakers will be utilized as supplementary factors at various intervals for the duration of the course.

OBJECTIVES

The student will:

1. develop an understanding of the history of sports in American society.

2. gain insights into the psychology of competition and how it influences all segments of society.

3. examine the factors in athletic competition and how they reflect the attitudes and values in American society.

4. gain an appreciation for the work, sacrifice, and dedication that are prime factors in athletic success.

5. develop insights into athletics as a career.

6. appreciate the role of sports in aiding ethnic minorities to gain personal recognition.

7. study the mechanics of various sports and gain insight into their appeal to spectators and participants.

8. examine and analyze dominant sports personalities in terms of values, ethics, and charisma.

9. understand the unique anxieties, pressures, and emotions which confront the athlete.

10. develop a desire to participate in sports during leisure time.

OUTLINE

I. Time: one week - Introduction to Basketball

Topics: (Whenever feasible mimeographed sheets in each topic area will be distributed.)

1. History of the game
2. Rules and format
3. Fundamental skills
4. The appeal of the game
5. Careers in professional basketball

Audiovisual Materials

Bill Russell's Red Check training films: basketball techniques demonstrated by professional stars

II. Time: one week

Text: They Call Me Coach: John Wooden

Topics:

1. Translating a personal philosophy of life into a successful coaching philosophy
2. Sacrifice and work as the foundation of success
3. Pressures: what they are and how to deal with them
4. Wooden's "Pyramid of Success"

Audiovisual Materials

1. 16mm film: "Basketball Highlights of 1949"
2. 16mm film: "Basketball Highlights of 1971"

Suggested activities:

1. Class discussion
2. Objective test

III. Time: two weeks

Text: Go Up for Glory: Bill Russell

Topics:

1. Racial prejudice in athletics
2. Opportunities in sports for minority groups
3. Financial aspects of the professional athlete
4. Anxiety and fear in professional athletics
5. Specialized problems of coaches and players

Activities:

1. Oral reports
   a. Why I admire a particular athlete
   b. Why I don't admire a particular athlete
2. Short essay quizzes

IV. Time: one week - Introduction to Boxing

Topics: (Printed materials for each topic area will be distributed.)

1. History of the sport
2. Format and rules
3. Fundamental skills
4. Discussion of sport's appeal
5. Career potential

V. Time: two weeks

Text: In This Corner: Peter Heller
Autobiographical essays based on recordings of interviews with famous former boxing champions.

Topics:

1. Socio-economic background of boxers
2. Physical and attitudinal qualities of boxers
3. Boxing: actually a sport?
4. Dangers in boxing
5. Boxing and crime
6. State and federal regulation of boxing
7. Should there be a program of interscholastic boxing?

Audiovisual Materials:

8mm movie: Film highlights of famous fights

Activity:

1. Possible fieldtrip to Portland Exposition Building to see Portland-based World Boxing League team in action.
2. Speaker: Manager, referee, judge, or professional boxer

VI. Time: one week - Introduction to Football

Topics:

1. History of the game
2. Format and rules
3. Fundamental skills
4. Discussion of game's appeal
5. Career potential

VII. Time: two weeks

Text: Paper Lion: George Plimpton

Topics:

Insight into the world of the professional athlete through actual participation in games and practices.

Audiovisual Materials:

16mm films: South Portland football games
College highlights

Activities:

1. Class discussions
2. Speakers (coaches, players, officials)
3. Objective quizzes

VIII. Time: three weeks - Thematic Unit

Text: Winners Never Quit: Phil Pepe

Topics:

All stories are about famous athletes who overcame personal hardships to achieve success.

Audiovisual Materials:

16mm films: PGA and U. S. Open Golf tournament highlights

IX. Time: five weeks

Text: Anthology of Sports Literature: Brady and Hall

Topics:

1. Sports as a microcosm of life
2. Sports as escape from reality
3. Social issues in sports
4. Heroes and villains
5. Famous writers who began careers as sports writers

Audiovisual Materials:

Miscellaneous filmstrips, records, and 16mm movies

Activities:

1. Outside reading
2. Book reports
3. Speakers
4. Essay tests and quizzes

X. Supplementary sources will be Sports Illustrated magazine and the sports page of the Portland Press Herald.

Supplementary texts: Incredible Athletic Feats: Jim Benagh
Sports Shorts: Mac Davis

649 SELECTED BRITISH AUTHORS (3 - 5)

COURSE DESCRIPTION

In this course students will examine the writings of influential British poets, playwrights, and novelists including Chaucer, Shakespeare, Milton, Pope, Hardy, and Orwell. Students will consider the effects these writers have had on the course of literature while discussing the values portrayed in their works. The course will be taught chronologically with emphasis on the historical background of each literary period.

OBJECTIVES

The student will:

1. sample a variety of British authors and examine values expressed in their literary works, thus using literature to aid in the formation of student values.

2. further develop critical reading skills such as recognizing tone and understanding figures of speech.

3. discover ways in which a knowledge of literature contributes to an understanding of the major human concerns of an historical period.

4. acquire practice in research and writing.

5. improve oral communication skills.

OUTLINE

The materials for this course have been selected after considering not only the above objectives but also the availability of texts already owned by South Portland. As a result, this course will be essentially a rapid survey rather than an in-depth examination of selected authors.

The basic text will be Adventures in English Literature (see list of materials) supplemented with one play of Shakespeare, Hardy's Return of the Native and Orwell's Animal Farm. The text offers much latitude in selection of material as there is much more literature than can be read in one semester. The text includes excellent reading and composition guides which accompany the literature. The following outline requires concentrated effort and would need to be edited for a class that lacks the ability to learn rapidly.

Period of Literature	Material To Be Included*	Additional Activities Suggested*	Time Allotted
I. Anglo-Saxon	Lecture on historical aspects of the period	Film strip: High School Library	1 week

* Pages refer to Adventures in English Literature unless otherwise noted.

Period of Literature	Material To Be Included	Additional Activities Suggested	Time Allotted
	pp. 28-38 Beowulf pp. 39-46	"Anglo-Saxon, Celt, Norman"	
II. Medieval	Lecture on historical aspects of the period pp. 50-59 English and Scottish Ballads, pp. 49-65 Chaucer, pp. 68-83 "The Nun's Priest's Tale", pp. 86-93	Read any other Canterbury Tale of student's choice Write synopsis of tale in class	1 1/2 week
III. Elizabethan	Hamlet in text or separate edition Lecture on historical aspects of period pp. 101-127 Hamlet-separate text	16mm Films Prime Resource Center "The Age of Elizabeth" "What Happens in Hamlet" "The Poisoned Kingdom" "The Readiness is All"	4 1/2 weeks
IV. 17th Century	Lecture on history pp. 210-217	Milton, pp. 224-225 Read aloud and discuss selection from Paradise Lost	1/2 week
V. 18th Century	Lecture on history pp. 260-279	Read and discuss Pope's Rape of the Lock pp. 270-279	1 1/2 weeks
VI. Romantic (19th Century)	Lecture on history pp. 348-445	Read aloud and discuss selections by Byron, Shelley, Keats Filmstrips: High School Library "The Romantic Age"	2 weeks
VII. Victorian	Lecture on historical aspects of period pp. 450-461	Read: Return of the Native 16mm Films Prime Resource Center "Charles Dickens" "Great Expectations"	4 weeks
VIII. The Modern Era (20th Century)	Lecture on history pp. 552-558 Short story-select from text Pygmalion, pp. 714-769 Animal Farm-Orwell separate edition		3 weeks

Objective type tests on historical background and literary selections are available in special test booklet accompanying Adventures in English Literature.

650 FOLKLORE (1 - 5)

COURSE DESCRIPTION

This course is for the student who wishes to learn the origin of traditional beliefs, legends, sayings, and customs of our region here in the Northeast. The course will increase the student's awareness of the conventional myths of our culture through pursuing projects in whatever related topics interest him and by sharing these findings with the rest of the class. By delving into a disappearing part of our American culture, this course also is designed to tap some of the latent talent and energies of our high school students. A major project, to be done cooperatively with the art and printing departments, will be a publication for which students will conduct and tape interviews, write stories and articles, take photographs, and lay out the magazine.

OBJECTIVES

The student will:

1. learn to take pride in one's heritage.
2. recognize the value of folklore as literature.
3. search for materials and information about local traditions.
4. organize, produce and publish a magazine dealing with local customs and folklore.
5. learn English skills necessary in writing magazine articles.
6. learn to interview people and learn to recognize vital information.
7. learn photographic techniques and film development.

TEXTS

American Folklore - Dorson

American Folklore - Poulakis

You and Aunt Arey - Wood

The Crucible - Miller

INDEX

Week 1:	The Beginnings of Folklore Interviewing Techniques
Week 2:	Use of the Camera Review interview techniques
Week 3:	Telephone Contact and Interviews
Weeks 4 and 5:	Transcribing Writing Rough Drafts
Week 6:	Final Copies and Paste-ups
Week 7:	Indian Folklore Typing
Weeks 8 and 9:	Paste-up of Magazine Layout of Magazine
Week 10:	Superstition and Tales of the Supernatural
Week 11:	Black Folklore
Weeks 12 and 13:	New England and Maine Folklore
Week 14:	Children's Folklore Collate Magazine
Week 15:	Folk Medicine Sell Magazine
Week 16:	Heroes
Week 17:	Present and/or Future Folklore
Week 18:	Evaluation and Over-all View

OUTLINE

I. Time: Week 1

Topic: The Beginnings of Folklore and Interviewing Techniques

A. Questions to be resolved.
   1. What is folklore?
   2. How did folklore begin?
   3. What purpose did it serve?
   4. Why have the stories been preserved?
   5. What have you gained from studying this unit?

B. Read You and Aunt Arey.

C. Discuss interviewing techniques.

D. Show movie Foxfire.

II. Time: Week 2

Topic: Use of the Camera
   1. Developing techniques
   2. How to take a picture

Review interviewing techniques
   1. Bring in guest speaker (check with newspaper).
   2. Develop interviewing techniques.
   3. Develop interview instrument.
   4. Show them how to use tape recorders.
   5. Have each student interview another person, record the interview, and transcribe it.
   6. Teach transcribing.

III. Time: Week 3

Topic: Telephone contact and interviews

IV. Time: Weeks 4 and 5

Topic: Transcribing and rough drafts

V. Time: Week 6

Topic: Final Copies and Layout Techniques

VI. Time: Week 7

Topic: Indian Folklore
   Do individual reports.
   Show movie "The Indians."
   Read and discuss American Folklore, pp. 47-60.

VII. Time: Weeks 8 and 9

Topic: Paste-up Magazine

VIII. Time: Week 10

Topic: Superstition and Tales of the Supernatural
Discuss Salem Witchcraft trials.
Read The Crucible.
Bring in examples of superstition.

IX. Time: Week 11

Topic: Black Folklore

A. Questions to be resolved:
1. How has segregation influenced the South?
2. How does Southern folklore differ from that of New England or other parts of the country?
3. What characteristics make Black folklore unique?
4. How has Black folklore changed over the years?
5. What dominant motive do you find in Black folklore today?

X. Time: Weeks 12 and 13

Topic: New England and Maine Folklore
1. Play "Bert and I" record.
2. Discuss Maine humor.
3. Discuss sea traditions.
4. Discuss lumbering.
5. Show Paul Bunyan movie.
6. Compose a list of Maine sayings and slang.
7. Write a travel brochure of Maine.
8. Show films of Maine.

XI. Time: Week 14

Topic: Children's Folklore
1. Discuss jumprope jingles.
2. Discuss nursery rhymes.
3. Make a booklet of rhymes and jingles.

Collate magazine.

XII. Time: Week 15

Topic: Folk Medicine
1. List methods of medicine.
2. Discuss validity.

Sell Magazines
1. Publicize magazine.
2. Distribute magazines.

XIII. Time: Week 16

Topic: Heroes

1. Make a list of past and present heroes.
2. Contrast legend and fact.
3. Write paragraph about a real hero and the myths surrounding him.

XIV. Time: Week 17

Topic: Present and/or Future Folklore

1. Discuss values.
2. Discuss heritage.
3. Trace your family tree.
4. Discuss advertising.
5. Make a list of present day folklore.

XV. Time: Week 18

Topic: Evaluation and Overall View of the Course

A. Questions to be resolved:
1. What have you learned of your heritage?
2. What have you gained from this course?
3. How has the magazine helped you?
4. What have you learned from publishing the magazine?

B. Activities
1. Review the course.
2. Collect semester projects.
3. Discuss what folklore means to each of us.
4. Develop a dominating motive in American folklore.
5. Discuss conclusions to be drawn about America as reflected in its folklore.
6. Discuss any problems with the magazine and general reaction to the publication.
7. List any problems and how they might be overcome.

PROJECTS:

Collect jump rope jingles and jingles from other children's games and taunts. Use as many different sources as possible.

Collect tales or superstitions from Canada. Discuss how they reflect the different culture in which immigrants were born - also Indian and Shaker Village.

Collect examples of modern superstitions. Investigate the origins of these superstitions and the purpose they serve.

Collect religious tales and jokes not included in the Bible. Classify them in your essay and discuss possible reasons why these tales evolved and what purpose they serve.

Collect children's songs and tell what purpose they serve.

Collect square dance calls. Trace the origins of square dancing from the slaves to today's square dance clubs popular throughout the nation.

Collect folklore of Maine. Investigate why these stories began and what purpose they served. How do they reflect attitudes of Maine?

PROCEDURES

1. Every student is expected to get involved in all aspects of the magazine organization and production.

2. Every student is expected to do a major project on some aspect of folklore to be passed in at the end of the course.

3. Part of the grade will be determined by the acceptance of assignments, by the following through of assignments, and by the completion of assignments.

652 A STRANGER IN THE CITY (1, 2)

COURSE DESCRIPTION

This course is designed to expose students to the problems teenagers face in a large city. The conflicts include crime, race and nationality, poverty and family, and general survival and adjustment. Students will be expected to select and read stories from these categories, be familiar with the problems involved, and suggest solutions for each situation -- either in discussion or in written form. Work will be done in small groups and on an individual basis.

OBJECTIVES

The student will:

1. encounter some aspects of teenage city life, which may be unknown to him.

2. learn new vocabulary (taken from context).

3. participate in discussions in order to consider each others' solutions to a conflict.

4. examine values in problem-solving/decision making.

5. improve writing skills via original short stories of conflict.

6. emphasize the complete sentence in all written materials.

7. improve reading comprehension.

OUTLINE

The course should be taught on a modified individualized basis. The students will select stories and/or novels from a predetermined list for each of the four categories listed. They will read a story, write answers to questions on each story, discuss solutions and problems with partners, groups, and/or teacher, correct grammatical errors, and continue to the next story. After reading a specified number of stories (which should depend on the reading ability of the students), the students do a project -- a poster, play, short story, collage, etc., dealing with that particular category. The project should express the student's or students' interpretation and solution of the conflict.

On completing a unit, the student is responsible for all spelling words, vocabulary, and grammatical errors that he made and corrected. If the errors are repeated in future units, extra exercises and drill should be given by the teacher (either individually or in groups). This activity is class work.

Outside assignments will include reading at least one novel (selected from the school library) which should supplement the required novels and the "city" short short stories.

REQUIRED READING: Up the Down Staircase
The Boy Who Could Make Himself Disappear
Street Scene

Selected short stories from the following books:

Against All Odds
Breaking Loose
Cities
Challenges
Conflict
Crosscurrents
Dreamers of Dreams
Encounters
Forces
Impressions In Asphalt
In Others' Eyes
I've Got A Name
Me, Myself and I
Playing It Cool
Tomorrow Won't Wait
Twice Fifteen
What's Happening
With It

CRIME:

Me, Myself, and I	"First Offense"
	"American Dilemma"
Against All Odds	"Jim the Scratch"
	"A Good Little Feature"
	"Word of Honor"
	"Tell-Tale Heart"
Conflict	"The Sniper"
	"The Ransom of Red Chief"
Cities	"The Town Where No One Got Off"
	"North Town"
Encounters	"The Parsley Garden"
	"Thank-You M'am"
	"I Heard A Knock on the Door"
Tomorrow Won't Wait	"The Murderer Lives Upstairs"
	"Half a Gift"
Impressions in Asphalt	"Dino"
With It	"My Mother's Goofy Song"
	"Some Get Wasted"
	"The Restless Ones"
	"Silent Hostages"
What's Happening	"Harlem Summer"

RACE:

Me, Myself, and I	"American Dilemma"
	"The Land of Room Enough"
	"A Rent Striker"
	"Selma Leaders"
Against All Odds	"The Road to Knoxville"
Cities	"Manuel's Secret
	"Saudin Speaks"
	"The Girl From Puerto Rico"
I've Got A Name	"We Ain't Poor, Just Broke"
Challenges	"The Health Card"
Encounters	"Thank-You M'am"

Crosscurrents	"After You My Dear Alphonse"
	"Black Like Me"
	"Ha'Penny"
In Others' Eyes	"Mama, Look I'm Trying to Explain"
	"The Eyes of Mr. Lovides"
	"My First Boss"
Playing It Cool	"The Day I Learned Shame"
	"I Have A Dream"
	"The Boy in the Mirror"
	"After You My Dear Alphonse"
	"The Test"
	"That's Me"
	"A Choice of Love"
Impressions in Asphalt	"A Person as Well as a Female"
	"Puerto Rican Paradise"
	"Rat Joiner Routs the Klan"
	"Monday Will Be Better"
	"Wings on His Shoulders"

POVERTY/FAMILY ADJUSTMENT:

Cities	"First Day At School"
	"Catastrophe In Washington Square"
I've Got A Name	"Why the Iceman Stopped Coming To Our Flat"
	"The Reason Why Mother Should Win An Oscar"
	"We Ain't Poor, Just Broke"
	"The Sneaker Crisis"
	"Mama and the Hospital"
	"Two Lickings"
Breaking Loose	"Half a Gift"
Encounters	"The Parsley Garden"
In Others' Eyes	"A Matter of Pride"
Playing It Cool	"Everything But Money"
Impressions in Asphalt	"A Person As Well as a Female"
	"Puerto Rican Paradise"
	"The Kitchen"
	"Buying a Suit on Eastside"
	"The Land of Room Enough"
With It	"Cutting Out"
Twice Fifteen	"Welcome Home"
What's Happening	"Rockpile"

SURVIVAL:

Me, Myself and I	"The Failure of Friends"
Against All Odds	"Is My Coat Ready"
	"After Twenty Years"
Conflict	"Sucker"
	"The Use of Force"

Cities	"The Wise and the Weak"
	"The Romance of Art and Natural History"
	"Night Game"
I've Got A Name	"I've Got A Name"
Forces	"The Tuxedos"
	"Antaeus"
	"Ah, the University"
Breaking Loose	"The Glass Slipper"
	"Too Early Spring"
	"Sherrel"
	"On the Sidewalk Bleeding"
Challenges	"The Death and the Dawn"
	"Brass Knuckles"
	"Sorry, Wrong Number"
Encounters	"The Pocketbook Game"
	"A Summer's Reading"
In Others' Eyes	"Antaeus"
	"The New Kid"
Tomorrow Won't Wait	"Going Home"
	"The Murderer Lives Upstairs"
	"The Test"
	"The Last Spin"
Playing It Cool	"Mrs. Sandoval and Mrs. Macauley"
	"The First Skirmish"
	"Every Man's Got To Pick His Time"
Impressions in Asphalt	"Sucker"
	"Hyman Kaplan Samaritan"
	"Getting Quick Rich"
	"Antaeus"
	"Dino"
With It	"Trapped"
	"Charlie Among the Birds"
Twice Fifteen	"What Ever Became of Agnes Mason"

Musical Selections:

Records:

Simon and Garfunkel - "The Boxer"
"Sounds of Silence"
"Bridge Over Troubled Waters"
Peter, Paul & Mary - "Blowing in the Wind"

"The Cities: People and Their Problems" filmstrip/record - #26H

653 SCIENCE FICTION AND HORROR STORIES (1 - 3)

COURSE DESCRIPTION

This course is designed for students to read and enjoy popular works by men like H. G. Wells, Isaac Asimov, and Edgar Allan Poe. Two anthologies, one for science fiction and one for horror, will be offered as well as some novels. The study of both genres will relate their various themes--such as the occult, the effects of advanced technology, and escapism--back to the individual and his place in society.

OBJECTIVES

The student will:

1. consider and evaluate popular contemporary themes, such as the occult and technology.

2. evaluate how the different times (past, present, future) shape our lives today.

3. discuss what our place in today's and the future's technocracy is.

OUTLINE

1. 4 - 6 Weeks - Fantasy: Shapes of Things Unknown (Scott Foresman) is an anthology of stories grouped into five units, each of which examines a different theme from the world of fantasy - discrepancies between appearance and reality, the power of evil, encounters with the inhuman, preternatural powers and weaknesses, and the occult.

   Possible discussion: Is reality the opposite of fantasy, or is reality the result of worked-out fantasies? Have you any hope of your fantasies coming true? Explain.

2. 2 Weeks - Devils and Demons (Rod Serling) is a collection of fourteen "fantastic" stories of the supernatural and science fiction written by master storytellers of the past and present.

   Possible project: Many poems are based on "fantasy" or "science fiction." Look through a number of contemporary poetry anthologies and prepare a study of science fiction and fantasy elements in modern poetry. Particularly helpful might be the world of W. H. Auden, Dick Allen, James Dickey, and D. M. Thomas.

3. 1 - 2 Weeks - 50 Great Horror Stories (ed. J[illegible] Canning) is a powerful collection of tales of witches, vampires, werewolves, vengeful spirits, and sudden victims. All of the stories "have in common the fact that they are either true, have been recorded in contemporary documents as fact, or have become such a prevailing folk myth as to suggest some evidence of actual occurrence."

Possible project: Write your own horror stories. Utilize elements of the horror story, such as juxtaposing the ordinary with weird and using traditionally "horrible" settings.

4. 1 Week - Twilight-Zone (Rod Serling) is a short collection of science fiction and horror stories, and is therefore a good one to use to move onto the more orthodox science fiction genre.

   Possible project: Elements of science fiction and fantasy are increasingly present in the work of many writers not normally considered as working in the genre. Do a study of such elements in the stories and novels of noted mainstream writers such as Richard Brautigan, Doris Lessing, Donald Barthelme, Norman Mailer, John Updike, Thomas Pyncheon, Bernard Malamud, Joyce Carol Oates. Will mainstream and science-fiction approaches to literature ultimately merge? Have they merged already?

5. 6 Weeks - Science Fact/Fiction (Scott Foresman) is an anthology of science fiction stories that focus on what might be counter-balanced with factual articles on what is. This combination explores all three objectives of this course.

   Possible discussion and project:
   1. Many, if not most, of Jules Verne's imaginative creations are now reality: the submarine, underwater diving suits, the ability to synthesize food from raw ocean material. Can Verne's stories still be called "science fiction," or are they fantasy? What current visions do you think will become reality?
   2. If you could control the future of the world, what new inventions would you allow? What new or old inventions would you ban?

6. 3 - 4 Weeks - Brave New World (Aldous Huxley) is a futuristic novel which satirizes Western civilization by describing the condition in which it might find itself some 600 years from our time. The novel takes contemporary cultural trends to shocking and fantastic extremes. The student evaluates these extremes in terms of the three objectives stated in this course.

   Possible discussion:
   1. Name writers other than Lucian and Jonathan Swift who have used science fiction as a vehicle for satire. In each case, does the author have a realistic and objective view of human nature? Explain. Should science fiction teach moral lessons?
   2. Is change progress? Are progress and/or change necessarily good? Give specific instances in which it might be better if progress actually meant moving backward.

7. 3 - 4 Weeks - 1984 (George Orwell) is both a satire of totalitarian barbarism and a warning about man's dehumanization. Objective three in this course is especially relevant to this novel.

   Possible projects:
   1. The year is 1984. Time has passed normally and you are

now an adult. Describe a typical week of your life, including recreation as well as work. Include thoughts of transportation, education, dress, music, ecology, crime and food. What will be your attitude concerning the people around you? What kind of occupation might you have that does not exist today? Or, if the occupation exists, how will it have changed? Are you looking forward to the year 1984?

2. Read a history of Communist China and compare its society, under Chairman Mao, to the society described in Orwell's 1984. Or do the same with Stalinist Russia.

8. 3 Weeks - Sirens of Titan (Kurt Vonnegut) is a contemporary work that is more than "just" a science fiction novel; it is also a prophetic vision that audaciously attempts to provide answers dealing with Life, and is therefore oftentimes philosophical in nature.

Possible projects and discussion:

1. Look closely at some of the pictures of Earth taken from the moon, or telescopic pictures of the galaxies. How do these photographs affect your perspective? Prepare a paper on how the feelings of immensity or smallness might be affecting and continuing to affect the collective mind of the human race.
2. Do you think escape is necessary? What kinds of situations or thoughts cause an escapist reaction in you? What means of escape do you usually use (television, reading, music)? When does escape become harmful?

AUDIO VISUAL MATERIALS

A. "Jules Verne to Ray Bradbury": a three-part science fiction sound/slide set

B. "George Orwell" filmstrip set

C. "Wells: Time Machine/War of the Worlds": record R 861

D. "Around the World in 80 Days": record 837 b

E. "Poe Stories: The Black Cat and The Masque of the Red Death" (record)

F. "That Strange Mr. Poe" filmstrip

G. "Dr. Jekyll and Mr. Hyde" filmstrip

FINAL NOTE

It is difficult to classify contemporary science fiction, just as it is to do it for any contemporary problem. It is impossible to plan the future, but science fiction can help us ask the right questions about it, since it helps us look "inward" as well as "outward."

654 WORLD LITERATURE (3 - 5)

COURSE DESCRIPTION

Main objectives of this course are for students to understand a foreign place, its culture, and its values from a particular individual's (the author's) point of view and to appreciate literature from other countries as well as their own. Students will explore the themes of man's destiny and his ability to control it, the relationship between generations, the effect that wealth or the lack of it has on people, and man's place in society and the world. A desired objective is to have the students apply these concepts to themselves. Literature from England, France, Germany, Russia, Greece, and South Africa will be read. As a major project each student will write an expository paper dealing with his choice of book and topic.

OBJECTIVES

The student will:

1. explore with an author the culture and values of some foreign place.

2. sample literature of countries not his own and recognize some of their specific contributions.

3. experience various great themes of world literature.

4. complete written and oral projects pertinent to the literature read.

OUTLINE

I. Western Literature: Themes and Writers, an excellent anthology beginning with Greek times and going up to modern times, is the basic text used in the course. The book is concept oriented. "This book contains five vital themes: Conflict of Wills, Choice and Consequence, Know Thyself, The Foibles of Man, and Critics of Society. Each theme begins with one of the five major works contained in this book: Antigone, Macbeth, The Secret Sharer, The Metamorphosis, and An Enemy of the People. The major work in each unit frames the basic question which will be the concern of all of the selections within the unit. Each of these works crystallizes a major human dilemma which has been the focus for many of history's most influential writers. Each is long enough and rich enough to permit the reader to discover and assess the dominant concern of each unit."

Furthermore, each major theme is amplified with supplementary themes and selections of prose, poetry, and art. In this way, "the interaction of the graphic and literary arts broadens the teaching of literature into the teaching of the humanities. The exploration of each theme is effectively aided by the vision of major artists and sculptors of the Western world."

Methods:

1. Galleries (interaction of graphic and literary)

2. Study notes, which are divided into four major sections, are designed to produce a greater understanding of the reading selections and the themes which they illustrate.

3. Unit teaching attempts to move the student progressively toward a full understanding of the theme while at the same time treating the unit as a single whole work in itself.

4. Reading supplementary literature

5. Evaluation and testing

6. Guest speakers and audio visual material when appropriate.

II. Conflict of Wills: Father and Sons (Ivan Turgenev) is a nineteenth-century Russian novel which deals with the freedom of the serfs just before their emancipation, and the universal conflict and differences that exist between generations.

Weeks 1 - 4:

Suggested projects:

1. Think of a real-life clash between two strong-willed persons and discuss the reasons for the conflict and the reasons why the individuals took the positions they did.

2. Propose a situation in which two strong-willed persons clash; then ask each student to write his own resolution to the conflict. Discuss as class afterward.

3. Discuss the conflict of wills on a personal, community, or international level.

4. Other concepts: Nihilism and its application today.

III. Conflict of Wills, Choice and Consequence, and the Effect of Wealth or the Lack of it on people: Cry, The Beloved Country (Alan Paton) is a twentieth-century novel which deals with South Africa's racial problems as dramatized by the interactions of a white and black family. More than this, it transcends to the level of man's universal humanity/inhumanity to man.

Weeks 5 - 9:

Suggested projects:

1. Undertake the projects listed under Fathers and Sons.

2. Ask the students to discuss - orally or in writing - an important choice they had to make and the consequences of their decision. Consider: what happened that they could not foresee, how the consequences have changed them, the role that fate or chance played, and their motives for making the choice they did.

3. List a number of pairs of alternative choices on the board and have students speculate on how the choice of one or the other alternative could lead to radically different consequences.

4. Relate the novel's characters' financial problems to those of today.

5. Consider decision-making skills, values strategies. Work with guidance counselor on suitable classroom activities.

6. Deal with the novel from a sociological point of view:
   a. South Africa today
   b. the apartheid system

IV. Choice and Consequence, The Foibles of Man: The Stranger (Albert Camus) is a short existential novel about a man who commits a seemingly senseless murder, which becomes a turning point in his life. The reader considers concepts like loss of identity and desensitization by society.

Weeks 10 - 12:

Suggested projects:

1. Employ numbers 2 and 3 under Cry, The Beloved Country.

2. Discuss the meaning of the word foibles. Write the phrase The Foibles of Man on the board and ask students to write on their own papers whatever comes to their minds when they think of the phrase. After ten or fifteen minutes, collect the papers and read and discuss some of the more interesting ones.

3. Ask students to make up two lists (or to write two themes). In the first list, ask them to list (or describe) some of the foibles they have seen in the world. In the second, they should list (or describe) some of their own foibles. Which list was easier to do and why?

V. Know Thyself, The Effect of Wealth or the Lack of it on People: The Good Earth (Pearl Buck) takes place in Northern China in the early twentieth century. It is a novel written in an almost pastoral style which describes the cycle of birth, marriage, and death in a Chinese peasant family.

Weeks 13 - 15

Suggested projects:

1. Employ 4 under Cry, the Beloved Country.

2. Discuss the effect of materialism, at the expense of spiritual or inner development, on human beings.

3. Ask students to write autobiographies discussing who they are, how they know who they are, and perhaps also the advantages and disadvantages of self-knowledge. These need not be polished themes if done to motivate the novel, and it might be interesting to hold these essays until later to revise in the light of what they have learned about "knowing yourself."

4. If it seems advisable that students not be as personal as 2 above, they might simply write on the advantages and disadvantages of possessing self-knowledge. Or the topic can be narrowed somewhat by asking for an essay on merely one side or the other. For example, discuss this topic: If one is a very limited person, it is better not to seek self-knowledge.

5. Ask students to project themselves into an unfamiliar situation, a situation in which a great deal of responsibility is thrust upon them. Perhaps discuss how one's degree of self-knowledge affects one's ability to perform in unfamiliar situations.

AUDIO VISUAL MATERIALS

1. Kafka: Tom Klise filmstrips (with record)

2. Camus: Tom Klise filmstrips (with record)

3. Tales of Kafka: record from Listening Library, 1975.

4. Fathers and Sons: a filmstrip from Listening Library, 1975.

5. Appropriate selections from filmstrip set, Kenneth Clarke's Civilization.

6. Many filmstrips on South Africa in the library.

660 INDEPENDENT STUDY IN ENGLISH (1 - 5)

COURSE DESCRIPTION

An opportunity for independent study will be offered to a linited number of students, subject to approval by the English Department Chairman and Principal. The student who elects this course will work under the supervision of an assigned advisor. Phased credit will be determined by the Department Chairman and Principal.

OBJECTIVES

The students will:

1. develop self direction and responsibility for their own learning.

2. have an opportunity to study subject matter not covered in other English courses.

3. learn research and organizational skills.

OUTLINE

Students' proposals to do independent study should state exactly what they want to do. Ordinarily, students should propose a project which will not duplicate the work in a regular course. Both the students and advisors will carefully review proposals and set up the requirements for completion.

Because of the nature of independent study, there is no suggested outline. Students are, however, expected to do at least as much work as they would do in one of the other elective courses carrying a like phase number. While the burden is on students to carry out the details of their proposals, teachers should check students' progress frequently.

SENIOR CAREER DAY

All of us have had the experience of submitting to an interview. The session may have been relaxed and casual or it may have been tense and a harrowing experience. The Guidance Department at South Portland High School, in its continued commitment to the value and need of Career Education, initiated a program which would involve all Seniors in a real life situation, so as to enable all 321 members of the class to experience an interviewing session with a local professional personnel person.

The overall objective was to have the students involved in the interviewing process. As sub-goals, we wanted these young people:

a. To formulate their thinking prior to the interview experience.
b. To have them look at themselves and consider what their values are in terms of past and present choices they have made in all phases of their lives.
c. To think through their goals - whether the sought-after job would be for security, happiness, or advancement.
d. To have the opportunity to have their interview evaluated by a professional interviewer.
e. To discuss with them the social aspects of an interview - e.g. a feeling of ease rather than tension.
f. To receive constructive criticism from the interviewers so as to assist them in future interviews.

The entire process, which culminated in Senior Career Day, took up eight class periods. The senior English teachers were most cooperative and were involved in the planning of this activity. A detailed plan was worked out between the Guidance and English Departments as well as detailed information sheets, which were exchanged as the process evolved.

The four guidance counselors and guidance assistant found themselves before separate English classes on the Monday morning following April vacation armed with a "Values Clarification Packet." In this packet were included materials which the student would use in the two days of exercises with the counselors. On the first day, two of Sidney Simon's strategies were used - "Twenty Loves" and "Coat of Arms." On the second day, life priorities were listed and rated, a forced-decision exercise was used, a career awareness form was filled out by each student, and a "use of leisure time" form was developed.

In the last session with the counselors, each student selected three representatives by whom he/she would like to be interviewed. The interviewers were representative of business, education, Armed Services, Employment Security Commission and Apprenticeship Programs. Each student was assured that he/she would receive one of the three choices. It was also pointed out that all seniors would experience at least two interviewing sessions of 12 minutes each. (In reality, many had three interviews.) It was made clear to the students that no employers were coming here with job offers, that this was to be purely an experience in

interviewing. It was also stated that if by chance a student impressed an employer favorably that any forthcoming future job offer would be up to the employer.

The English teachers returned to their role on the third day and spent the time briefing and discussing with their students the interviewing process, the selling of oneself, the "how to" of seeking employment. Also, they began formal instruction in the writing of a resume. These were written by the student in his/her own handwriting.

On the following Monday, all senior English classes met in the group guidance room where a counselor showed them a professionally prepared video-tape on the "do's and don'ts" of interviewing. A discussion and role playing exercises made this a meaningful session.

While the teachers were conducting the above in-class program, the Guidance personnel was involved in the monumental task of juggling 321 students with 46 interviewers. We strove to give each student at least one interview of his/her choice. Two or three classes were scheduled during five regular school periods, with an average of 65-70 students per period. By a series of cross-checking methods, we finalized our schedules of interviews, preparing a master sheet for each interviewer and an individual schedule card for each interviewee.

The interview assignments were given to the students on the day prior to the interviews. The method of scheduling was explained and final questions were answered. Where possible, a few changes were made at that time so that the majority of the students were quite content with their interview assignments.

Physical arrangements involved volunteers from many areas. The students from Office Practice did much of the preliminary typing and collating of materials and filled the senior placement folders. The card tables were borrowed from a neighboring school; the chairs were brought in by our maintenance crew; and the Key Club members had the job of setting up the tables and chairs according to a floor plan.

May 7 dawned as another vital spring day and the activity within the school's gymnasium was just as vibrant as the day. By 8:30 A.M. the interviewers had made their appearance and were enjoying coffee and donuts which had been prepared by the Home Economics students. At this time, Mr. Freise, the Assistant Director of Career Education for South Portland, briefed the business people. The gym was set up to provide 46 interviewing stations with numbers corresponding to the appointment cards which each student had.

The interview sessions were divided into five 45 minute sessions. As each student entered the area, he/she was given a placement folder which was filled with information ranging from "Interviewing Techniques" to "How to Spend Your First Pay Check." A waiting area was provided for those students who were not being interviewed at the time. All counselors were on duty to ensure that every student met his appointment, that time was called after 12 minutes, and, in case of an absent student, that a student was available to take the place of any absentee. Extra resumes were kept on a table in alphabetical order so that students could quickly have one in hand for unscheduled interviews.

The activity began promptly and ended four hours later. A break of twenty minutes allowed the interviewers to enjoy an attractive buffet, again provided by the Home Economics students. The Key Clubbers were on the scene to remove and return the borrowed chairs and tables as soon as the activity ended. Within a half hour, the gym had been restored to its original condition.

Coverage was provided by a local TV station as well as two local newspapers. This coverage was most positive, with the introductory statement that "South Portland does it again" opening the local 6:00 P.M. news report.

Immediately following the student involvement, on-the-spot rap sessions were conducted with the personnel people. Mr. Freise led the discussion and gathered input from the participants. The following day, a follow-up form was distributed to all senior students. The results of the follow-up indicated overwhelming support in all the phases of the lead-up and interviewing exercises, with recommendations to continue the program for future classes.

This was the most positive activity for the Career Education program to date. The huge success of this activity is attributed to superior cooperation. Our local business and educational community, which was contacted by Mr. Freise, was most generous with time and efforts. Back up people for possible cancellations were available and filled in as needed. The school administration was helpful in helping us coordinate classes to permit students the time to participate. The gym instructors relinquished the gym for the day and made alternate plans for their classes. The faculty and students made this one of the most exciting programs of the year. Key words are "cooperation," "coordination" and "involvement."

In conclusion, many fine things emerged from this process. The goal of promoting a meaningful, real life situation and providing the necessary preparation for the activity was achieved with much success. Many students and interviewers made promising contacts, and, as a result, some students received offers for both permanent and summer employment. As a result of Senior Career Day, most seniors are less apprehensive about approaching interviews for real job openings. They understand themselves and their goals a little better, because they were provided the opportunity to think about them. They will approach an interview knowing that "butterflies" are a natural part of facing a strange situation, but secure in knowing that personnel people are especially trained to put a person at ease and that, if one comes to an interview prepared, there is nothing to fear.

Andre Hemond
Director of Guidance
South Portland High School

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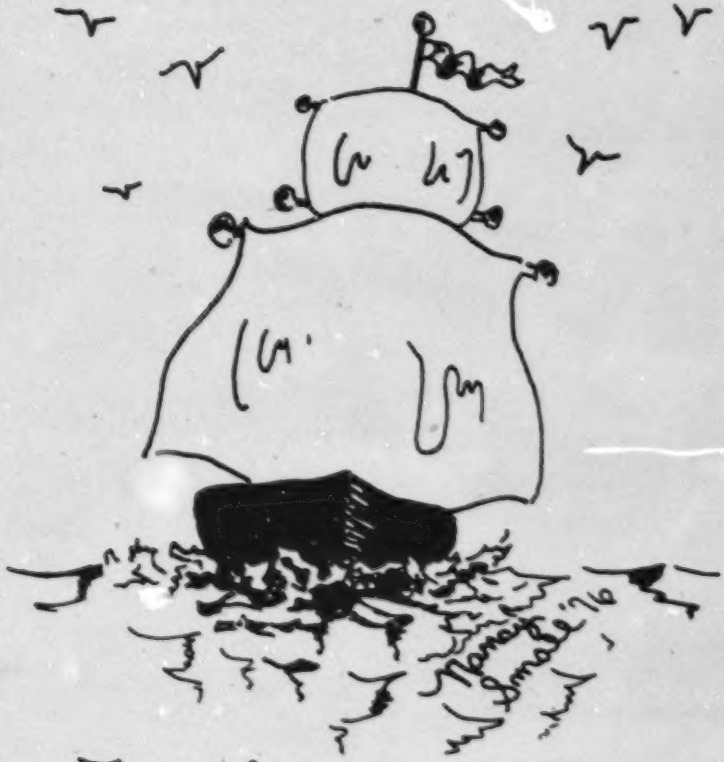
APP. F

Parent Student Handbook
Career Guidance



We help you to chart your own course.

Grades Seven through Twelve
South Portland, Maine

CAREER GUIDANCE HANDBOOK

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Ass't Superintendent and Dir., Career Education

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Assistant Director, Career Education

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South Portland, Maine
1975-1976

The project reported herein was performed pursuant to a grant with the Office of Education, U. S. Department of Health, Education and Welfare. Contractors undertaking such projects under Government sponsorship are encouraged to express freely their professional judgment in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent official Office of Education position or policy.

FOREWORD

I'm confident I join with parents and students in expressing appreciation to the Guidance Department for this excellent Handbook. Much useful information is provided for the benefit of both the students and parents - and, significantly, I think, the Handbook brings to the forefront the need for students and parents to communicate with each other as well as with the school.

In the South Portland Schools we encourage and expect students to maintain a balanced program of work and play. With the support of the home and community we think we can develop worthiness and dignity in work and wholesomeness and fairness in play. We can, we think, build new bridges between the school and the world of work - and of life.

The school counselors and teaching staff are here to serve you - and they hope to work with both the parents and the students.

John Seekins

JOHN SEEKINS
Superintendent of Schools

AFFIRMATIVE ACTION STATEMENT

In keeping with federal and state guidelines, the South Portland School Department does not and will not discriminate on the basis of sex, race, color, religion, national origin, ancestry, age, or physical handicap, in the educational programs or activities which it operates, and is required by Title VII of the Civil Rights Act of 1964 as amended by the Equal Employment Opportunity Act of 1972 and Title IX of the Educational Amendments of 1972 and Part 86 of Title 45, Code of Federal Regulations not to discriminate in such manner.

The requirement not to discriminate in educational programs and activities extends to employment practices in the school system and to the admission and treatment of students.

To insure non-discriminatory practices and procedures, the South Portland Board of Education, with the assistance of an Affirmative Action Committee is developing an Affirmative Action Plan and other compliance procedures.

It has also appointed an Affirmative Action Office to coordinate its efforts to comply with and carry out its policies and responsibilities regarding non-discrimination.

Inquiries concerning the application of Title VII, Title IX and Part 86 to the School Department should be addressed to the Affirmative Action Officer Ralph W. Egers, Jr., Curriculum Office, South Portland School Department, 130 Wescott Road, South Portland, Maine 04106. Telephone 7[illegible]6501.

DEAR PARENTS AND STUDENTS -

The contents of this publication are recommended for your careful review since there is something for everyone in this handbook. It takes much effort and careful planning to organize programs which take into account the wide range of individual differences in the school population of South Portland. The guidance department is making every effort to recognize the diverse needs of all students.

It seems to me that the purpose of guidance is to provide a set of problem-solving skills and attitudes which will permit you to face new situations as they arise. Education is sometimes interpreted as developing the basic skills of reading, writing, and arithmetic. Guidance adds another important dimension to this experience - that of responsible behavior, dependability, and goal setting. Equally important is developing an awareness of possible work goals as well as taking the time to explore them.

The program of guidance services begins in grade seven. Those services dealing with emotional and behavioral disorders in the elementary grades are provided by the school nurses.

This career guidance handbook is directed to students as well as to parents. It is intended to be a useful tool, which will be read, re-read and referred to many times as your education progresses.

Andre R Hemond

ANDRE HEMOND
Director of Guidance

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Mrs. Aline Leary, Guidance Assistant
Mrs. Geraldine Leeman, Guidance Secretary

Members of the guidance staff are available to students each day from 7:30 to 3:30 throughout the school year. The guidance office is also open two weeks before the opening of school and two weeks after the closing.

STAFF

SOUTH PORTLAND HIGH SCHOOL
637 Highland Avenue

Phone: 799-3471

Mr. Ralph C. Baxter, Sr., Principal
Mr. John Flynn, Counselor
Mrs. Ann Gilmore, Counselor
Mr. Andre Hemond, Director
Mr. Richard Kinney, Counselor
Mrs. Blanche Mack, Guidance Assistant
Mrs. Katherine Welch, Guidance Secretary

Members of the guidance staff are available to students each day from 7:30 to 4:00 throughout the school year. During summer vacation, a member of the staff is available from 8:00 to 12:00 and 1:00 to 3:00.

GUIDANCE SERVICES IN THE JUNIOR HIGH

Among other new experiences in junior high, you will be assigned guidance counselors for the first time. You should know the distinction between the terms guidance and counseling. Guidance refers to the giving of information. Counseling is a close working relationship between individuals and groups where self acceptance and development are explored and analyzed.

In order that you may benefit from the school guidance and counseling service, your parents are encouraged to call the guidance office at any time regarding concerns they may have. Counselors will arrange individual conferences between your parents and any members of the school personnel they wish to meet. Counselors will be present at these conferences, make recommendations, and do a follow-up. If family problems exist, counselors may suggest the services of community agencies and clinics. For those of you who have school adjustment difficulties, medical or psychological problems, recommendations will be made by your guidance counselor to those people concerned. Your parents will, of course, be notified when a referral to an agency is being considered. A unified approach involving your parents, you, and the agency should result in answers to your problem. At all times throughout your school years, close cooperation between you, your counselor, and your parents is encouraged.

Case conferences are encouraged by administrators and teachers.

At Memorial, parents of seventh graders and of students new to the school are invited to meet with the principal and counselors at informal coffee sessions in the morning. These meet-

ings, which begin in the fall, make it possible for your parents to discuss current programs at the school, tour the facilities, and see classes in session.

Another activity at Memorial involving counselors is the weekly team meeting with teachers to discuss student progress and problems. Purpose of the session is to find methods of improving instruction and to seek remedies for problems. Following these meetings, counselors may talk with you or your parents.

You should know that information for your permanent record card begins to be compiled in grade seven. Only factual data - date of birth, parents' names, grades, attendance, and school activities - are placed in this file. Your permanent record card is retained at the high school.

Counselors and guidance assistants will encourage you to participate in volunteer programs. You might assist in a project within the school similar to the "Jaws Corps" at Memorial. If you are willing to learn and eager to communicate, you may be involved in many areas: contacting guest speakers, operating video tape and audio-visual equipment, helping others research career information. A very different project has been designed to give you volunteer work experience in the community. With parental permission, you would make a commitment to work in an area of your interest. This practical experience provides an opportunity for personal growth, self confidence, and the development of individual responsibility.

ORIENTATION TO JUNIOR HIGH SCHOOL

Sixth grade orientation begins in May with visits by the counselors to each sixth grade class. Students receive a letter welcoming them to junior high. Later a letter is sent to parents inviting them to Parents' Night. This orientation, at Mahoney, provides the opportunity for parents to meet counselors and ask questions regarding the school, the curriculum and the guidance department. Counselors from Memorial offer a slide presentation of the school facilities and classroom activities in evening sessions at each elementary school.

At Mahoney in May each sixth grade student goes through an entire daily schedule from homeroom period in the morning to the close of school in the afternoon. Seventh grade students are assigned as "buddies" to accompany them during the day. This program permits the students to meet their future teachers, become familiar with school facilities, experience changing classes, and to be introduced to the cafeteria program.

GRADE SEVEN

Before the opening of school, you and your parents are encouraged to call your guidance counselor if there are questions. Transfer students will be tested the week before school opens.

You will have an orientation program before school begins at which time you will meet the principal, assistant principal, teachers, and guidance counselors. You will follow a mini-schedule of a regular school day and receive homeroom and division assignments.

During the first weeks of school, you will review, with your counselor, the school handbook and also the career guidance handbook. This will help you learn about school procedures and regulations. Counselors will discuss the value of good study habits and adjustments to junior high. They will always make themselves available to you in the event you might have any questions. The school calendar will show that the school year is divided into four terms of nine or ten week periods.

Later you will be introduced to the Career Education program. Counselors and assistants in the Career Guidance Center will show you slides of the many phases of the program. You will study the fifteen job clusters of the United States Office of Education. All job or career opportunities are included in these clusters. You will indicate on a survey five careers which interest you. People engaged in these occupations will be invited to talk with you.

Your parents will receive a deficiency report at each ranking term if you are not doing well. They should receive it in time to encour-

age you to improve your grades before the end of the term. If you should later get failing grades, there will be a conference with your counselor and your parents may be urged to be present.

In early spring, you will take the STANFORD ACHIEVEMENT TEST (see Appendix A for list of tests) which determines the level of achievement in word study and in math. Later in the spring, the results of these tests will be explained and interpreted for you. If you have mathematical ability, you may be considered for the accelerated math program. Your placement in this program is based on teacher recommendation and you may be invited to take Algebra I in eighth grade. Parental approval is necessary.

You will spend time with counselors in late spring discussing specific subjects required in grade eight. You will be taking courses new to you, such as Home Economics and Industrial Arts.

In individual meetings with counselors and also in group sessions, you will have the opportunity to see in which direction you want to go. Whether you follow an academic or vocational course, you will find help in determining your strengths and weaknesses.

GRADE EIGHT

After having had a good spring orientation, it is hoped you will be prepared for eighth grade. This year you will be expected to assume more responsibilities - social as well as academic.

In grade eight, you will take the DIFFERENTIAL APTITUDE TEST. This is a standardized test given to determine your aptitude in areas of language usage, verbal reasoning, space relations, numerical ability, mechanical reasoning, clerical speed and accuracy, and abstract reasoning. Counselors will study your scores, discuss the results with you and make recommendations to you and your parents. These scores are presented in two major categories: verbal reasoning and numerical ability. Results are given in percentiles; the percentile is based on 100 - 50 being considered an average score. If, for example, your score fell in the 60th percentile, this would mean that of 100 students, you would be expected to do better than 60 of them or that 40 did better than you. It is important for you to remember that any test is only an indication of what you can do as a student.

In the Career Guidance Center, you will find information on careers, schools, colleges, scholarships, the armed services and student job ideas. During study halls and before and after school, you will be able to do research for class projects, to see career films, and to hear guest speakers. Guidance assistants will help you find any materials you may be looking for.

You will fill out cards on which you indicate courses you wish to take the following

year.(See Appendix B) By signing the card, your parents or guardian indicates approval of your course of study. Parents will be urged to talk with counselors if there are questions about your program. This course of study card must be returned to your counselor.

In order that you may have firsthand career exploration, both Mahoney and Memorial will cooperate in holding a Career Fair in the Memorial gymnasium. You will be given the opportunity to talk with representatives from businesses, schools and organizations in the area. Simulations, demonstrations, and films are also used to depict careers in as realistic a way as possible. Exhibitors will hold an evening session for your parents.

As in grade seven, deficiency reports will be sent home. These will indicate subject areas in which you may be having difficulty. This affords the opportunity for your parents to call your counselor.

In the spring you will be part of individual or group sessions. At this time your counselors will explain the quarter courses which provide the opportunity for exploring areas of interest not offered in the regular curriculum.

GRADE NINE

You should be aware that in ninth grade you are accumulating points toward high school. In choosing the proper course, you should know that 17 Carnegie units (85 points in the South Portland system) are required for graduation. Discussions with your parents and counselor can lead to intelligent decision making about your subjects.

Among other quarter courses available to you is one designed for self exploration and introduction to career opportunities. In the values component of the course, you will determine your objectives, seek information about them, and learn to evaluate that which is important to you at this particular time of your life. Job shadowing is a major phase of the course. This will permit you to choose a person whose job interests you and to follow him or her throughout a day at work. In this way you will be able to experience the responsibilities, interests, problems and successes dealing with that field of work.

Various tests are available to you through the guidance office. These will identify reading, math, and verbal abilities. A career interest inventory will reveal an awareness of career preferences. If you are taking biology, you will be encouraged to take the COLLEGE ENTRANCE EXAMINATION BOARD BIOLOGY ACHIEVEMENT TEST.

With course of study cards, you will follow the same procedure used in grade eight. Again your parent or guardian will be asked to sign the card and discuss questions, and resolve problems with your counselor. Your parents will be invited to visit school in the evening to talk

with counselors about the high school course of study.

Later in the year a similar invitation to the high school will be issued. You and your parents may meet the guidance counselors and the faculty advisors of various school extra-curricular activities such as Key Club, Leo Club, sports, Junior Achievement, yearbook. High school students serve as tour guides in the building for the orientation.

GUIDANCE AND COUNSELING SERVICES IN THE HIGH SCHOOL

At South Portland a needs assessment survey was taken in 1975-76. This was based on your needs expressed in a series of student surveys. Instruments used were the Sophomore Survey, Assessment of Career Development Test, Guidance Center Orientation Questionnaire, Senior Career Day Evaluation, Alumni Follow-up Questionnaire, and other workshop evaluations.

Results of the survey indicated a need for activities dealing with self awareness and for interpersonal relationships. It is essential that you have a concern and a responsibility for others. "More people lose jobs because they can't get along with others than for any other reason."

Counselors lead group discussions in activities dealing with values and attitudes. To most young people a value refers to something which you consider "important". You will be encouraged to identify and develop your values. While doing this, you will clarify some of the things essential in your career choice and life style.

Resource people in the community are invited to the school to discuss social problems. Students in great numbers have taken advantage of the opportunity to view films and talk with counselors as well as professionals from the social service agencies in the local area.

Further, the survey indicated student need for career and educational planning. The location for such information is the Career Guidance Center where materials are collected and catalo-

gued for teacher and student use. You may use the Center on an individual basis when you have free time and desire career information. Also available is an expanding audio-visual section of filmstrips, films, and cassettes, all dealing with various careers.

In order that you may be aware of career opportunities in the Greater Portland area, you will be invited to attend sessions of the Career Guidance Institute. These workshops enable you to visit places of business and industry in the local community. Tours of the facilities of these companies, schools, and factories offer an insight into their internal operations. Moreover, you are offered the opportunity to talk freely with directors, owners and managers regarding career and educational possibilities.

Regularly scheduled Career Days are held throughout the school year. One career cluster, such as health or communications, is featured. Your teachers will be invited to bring classes to the group counseling room so that you may learn of job choices and training programs. You are also encouraged to use your study halls to attend these programs. A variety of methods is employed to present the highlighted careers: films borrowed from various sources, filmstrips/cassettes with follow-up discussions, video tapes of interviews between students and members of the community, and live speakers who give background information on local job options.

Placement is another aspect of student need revealed in the survey. A Job Bank is maintained in the Career Guidance Center for the purpose of helping you find part-time employment during the school year and full time employment for summer.

A listing of full time jobs is available after graduation or upon termination of formal education.

You may obtain Social Security applications from the Guidance Center.

Whether your goal is vocational school, the four year college, the military or immediate job entry, alternatives are presented, discussed, and investigated. College and military representatives visit the school to talk with interested students. In addition, you may visit regional vocational schools to learn of programs open to you. Undergraduate students at the Univsity of Maine conduct campus tours for those seeking an orientation to college life.

Each counselor works with the attendance officer and a personal contact is made with each dropout or potential dropout. The counselor tries to arrange an individual conference before the student leaves school to learn the reasons for leaving and to give the student helpful information. Every effort is made to help the student remain in school. The counselor tries to contact parents either by a home visit or by telephone. The dropout is encouraged to complete his/her education by attending adult education programs or by taking the State Equivalency Test (the GED). We wish to establish an open door policy so that the dropout will feel that the school is always willing to serve him. He/she is urged to use the Career Guidance Center Wednesday nights during the school year for counseling and for career, vocational and job information.

Utilization of community resources is designed to increase awareness of both educators

and employers to improve career possibilities for all students and to make education more realistic for developing individual talents and pursuing career choices. A human resource list of faculty and business people from various service organizations has been established to assist you in career planning and development.

During your high school career you may be asked to help counselors by filling out various surveys and questionnaires. You must realize that these documents are very helpful to counselors and to the school system because the findings are used to up-date guidance services and make them more meaningful for you. Counselors often send you follow-up questionnaires so that you will have the opportunity to let them know how your high school education is helping you and how it could have been more valuable.

Please bear in mind that guidance services are available to members of the community who are no longer in school. These services include counseling, job placement, and assistance in searching college and vocational school materials.

You should recognize your counselor as a helping person. If you feel your rights have been violated, you should feel free to go to your counselor and discuss the situation. Your relationship with your counselor is to be built on a base of mutual trust, confidentiality, and understanding. You are urged to take advantage of what can become a very meaningful experience.

GRADE TEN

On the day preceding the opening of school, there will be an informal orientation during which time you may pick up class schedules and find your assigned homeroom. Guides will be available to assist you.

Group sessions are planned early in the school year. These will enable you to talk with others in your class and with counselors regarding school adjustment. You will be excused from study halls to take part in these sessions. The career guidance handbook will be available so that you may investigate what to expect in guidance services during your high school years.

With other members of your English class, you will have an orientation to the Career Guidance Center. The guidance assistant will prepare a sheet offering information about the Center, its facilities and materials. During the session, you will do a self evaluation and take a career search test. You will also be asked to complete a survey evaluating the guidance services offered in the junior high. In addition, you will begin a career interest inventory which will be maintained throughout your high school years.

The ARMED SERVICES VOCATIONAL APTITUDE BATTERY TESTS (ASVAB) is given during your tenth grade year. A letter is sent to your parents explaining its purpose and seeking their permission for you to take it. Since it reveals your strengths and weaknesses in different vocational areas, it can be of benefit to you.

For those of you having academic difficulty, deficiency reports will be sent home. This is an

attempt on the part of the guidance department to inform your parents should you be failing.

A general invitation will be issued to all sophomores interested in participating in the Hugh O'Brien Scholarship. This identifies an outstanding member of the sophomore class.

Vocational options will be presented to you. You will have the chance to explore vocational programs and visit the Portland Regional Vocational Center. Among the South Portland programs which you may investigate are distributive education, work experience, and the business work study. Making you aware of the availability of training is a valuable guidance service.

In preparing your program of study for the junior year, you will receive group counseling to help you make intelligent decisions. For the first time you will be concerned with phasing of courses.

Phase 1 is for those who have difficulty with basic skills in the subject area.

Phase 2 is for those who need to refine the basic skills at a slower pace.

Phase 3 is for those who would like to advance beyond the basic skills at a moderate pace.

Phase 4 is for those who learn rapidly and have a good command of basic skills.

Phase 5 is for those who have an excellent command of basic skills and are looking for a stimulating academic experience at an advanced pace.

In making selections for English courses, you will have the assistance of teachers and counselors. In social studies, you will be responsible for making your own phase designations.

Group sessions in the decision-making process will be led by counselors. You will be excused from study halls to meet with a small group of students who follow an organized approach to the process. The components of decision-making are values and information about alternatives and strategy. You will practice using decision-making concepts and skills. Objectives of this program are to help you realize that you do make decisions affecting your life and to recognize that decision-making is a personal matter; the "correct" decision is correct only for you.

As always, you will have the opportunity to make appointments to see your counselor individually for whatever reason you may have - be it personal, social, or academic.

GRADE ELEVEN

Goal setting is a program designed by counselors which will help you establish short and long term goals. Working in groups, while reviewing career opportunities, you will learn the relationship between your values and the career and life style you choose.

Having been introduced to vocational options in grade ten, you may wish to consider the following programs in planning your course of study.

1. Cooperative Distributive Education is a laboratory course dealing with sales and the distribution of products and services. A special phase of the program provides for work experience under the supervision of trained personnel. Classroom instruction is related to job requirements and to your individual needs.

2. Cooperative Trade and Industrial is designed to help you learn and develop an employable skill. You will receive instruction in academic subjects and in specific occupational areas. Emphasis is placed on individual assignments. The course is a cooperative arrangement involving you, your parents, employers and school.

3. Cooperative Office Occupations is a work study course permitting on the job training for secretaries. At the same time you would be enrolled in the Office Machines course which complements this training with practice in use of business machines. You will have experience working in the local business community under supervisory personnel.

4. In addition to these two-year courses, you should consider other programs available at Portland Regional Vocational Center. Among the variety of options you may want to examine are automotive, carpentry, graphic arts, electronics, health occupations, and horticulture.

This year you will be participating in more standardized testing which again will indicate your strengths and weaknesses. Counselors using a team approach will provide an orientation to the PRELIMINARY SCHOLASTIC APTITUDE/NATIONAL MERIT QUALIFYING TEST. Given in the early fall to any junior electing to take it, the test is offered for a fee of $2.75, at this writing. All participating in this test will be competing for National Merit Recognition. This test which measures your verbal and mathematical skills is an excellent one for any student thinking about college. Study guides to assist you in preparing for the test are available in the Career Guidance Center.

Group orientation to the College Entrance Examination Boards will be available to you during the year. The SCHOLASTIC APTITUDE TEST is available November through June. The cost at this writing is $7.25. You will be encouraged to take this program during the spring. Aptitude measures verbal and mathematical skills. The ACHIEVEMENT TEST PROGRAM measures knowledge gained in specific areas: English, mathematics, social studies, and foreign languages. Your choice of college will determine the specific achievement test required of you. The cost of the Achievement Test(s) is $11.00 - whether you decide to take one test or the maximum of three at one sitting.

Registration forms for the CEEB Tests are available in the guidance office.

Individual counseling will continue to be available to you as an ongoing service of the department.

In the spring of your junior year, you will be invited to make up your course of study for your last year in high school. (See Appendix C) The importance of your course selections cannot be over emphasized. You have made a commitment which must be evaluated every year as you get closer and closer to graduation. Am I taking the right courses? Will I be able to meet the requirements of my tentative career choice? Will I be satisfied with myself? Am I doing the very best I can? These and other questions can only be answered by you. If you have carefully evaluated your abilities, seriously thought out your future options, and done your very best, you should be ready to plan your final year with confidence and anticipation.

GRADE TWELVE

One of the first requests made of you during your senior year will be the completion of post-secondary plan cards. These will require a commitment concerning your goals. Responses indicate your interest in pursuing further education, employment, or military service. Beginning in September, there will be visits from representatives of post-secondary institutions. This will be an ongoing procedure throughout the year. You will be invited to attend any sessions pertaining to the interests you checked on the plan cards.

Letters to your parents inviting them to Open House will be sent in the fall. Later they will be urged to attend Senior Parents' Night. At this evening session, they will become familiar with programs and services available to you in your final year at South Portland High. Many parents may wish to discuss financial aid and scholarship awards. (See Appendix D - E - F for specific information.)

After each ranking period, personal letters will be mailed to your parents if there are serious questions about your graduation status. Often recommendations for correcting or improving the conditions are suggested by your counselor. You are reminded that to earn a high school diploma, you must pass 8 semesters of English, 1 year of American History, and 3 years of physical education. All other courses are elected, based on your career interest - be it vocational, college or immediate job entry.

In group sessions you will review the testing program available to seniors. For those who have not taken the Scholastic Aptitude and Ach-

ievement Tests of the College Entrance Examination Board (CEEB), the opportunity to do so will be provided during the year. It is suggested that these tests be taken early in grade twelve.

A transcript, which is your record of subjects taken and grades earned from grades nine through twelve, will be sent to institutions of higher learning to which you have applied. Your counselors spend many hours filling out the necessary forms and writing letters of recommendation. Much time and thought are required for these to be done in a professional manner. You should know that these transcripts are not released without permission. You or your parents will be requested to sign a release form.

Counselors will explain the ADVANCED PLACEMENT TESTING PROGRAM to make you more aware of the opportunity it affords you. You are not required to take part in the program even though you may be taking the Advance Placement courses. AP TESTS are given in the spring by the Educational Testing Service. If you score high enough - a 3 or higher on a scale of 1 to 5 - you may get college credit from those colleges or universities participating in the program. The advantages of getting credits before college entrance are a financial saving and a chance to pursue advanced courses in a selected field. Cost is $32 for each examination and the fee may be reduced as determined by government guidelines.

On follow-up surveys, students have indicated that Senior Career Day was one of the most beneficial events of their school life.

You will be interviewed by personnel managers and business representatives from the community. This is not to be considered a job placement day. The major objective of this exercise is to make you aware of the interviewing process. You will learn of the types of jobs in the area and the qualifications necessary to obtain them. English teachers and counselors involve students in interviewing techniques, resumé writing, and values clarification activities. Grooming and proper dress are also discussed in the career orientation workshop.

The guidance department has initiated a service which responds to a great student need - that of college survival. In the past, students have been academically well prepared to pursue further education. The problem has been one of social adjustment and the need to meet diverse situations in the community of post-secondary training. To assist you in selecting the right school and in learning to work and live with others, counselors will arrange special workshops. They will assist you in filling out applications and exploring the ways of seeking financial aid. Students presently in college join the guidance staff and involve you in discussions dealing with social adjustment, campus living, and use of leisure time.

At the end of the year, you will have a final session with counselors to evaluate your high school experience, including curriculum, guidance, clubs, organizations, and career education.

Your association with guidance counselors does not necessarily end when you leave the high school setting. The staff will be ready to assist you in any way possible. After leaving

school, you could be of continued service to South Portland by sharing with us information about your career and life style.

APPENDIX A

TESTING PROGRAM

GRADE SEVEN

STANFORD ACHIEVEMENT TEST
ALGEBRAIC APTITUDE TEST

GRADE EIGHT

DIFFERENTIAL APTITUDE TEST

GRADE NINE

BIOLOGY ACHIEVEMENT (CEEB)

GRADE TEN

ARMED SERVICES VOCATIONAL APTITUDE BATTERY TEST V
CEEB ACHIEVEMENT TEST available

GRADE ELEVEN

PRELIMINARY SCHOLASTIC APTITUDE/ NATIONAL MERIT QUALIFYING TEST
SCHOLASTIC APTITUDE TEST
CEEB ACHIEVEMENT TEST PROGRAM

GRADE TWELVE

SCHOLASTIC APTITUDE TEST (CEEB)
ADVANCED PLACEMENT TEST (CEEB)
BETTY CROCKER SCHOLARSHIP TEST
ACHIEVEMENT TESTS

INDIVIDUAL TESTING AVAILABLE

KUDER PREFERENCE RECORDS
SELF-DIRECTED SEARCH
OCCUPATIONAL EXPLORATION KITS
JOB-O
WECSHLER-BELLVIEW INTELLIGENCE SCALE

APPENDIX B

JUNIOR HIGH COURSE OF STUDY CARD

JUNIOR HIGH SCHOOL
South Portland, Maine

PROGRAM OF STUDY REGISTRATION

Name _____ Course _____ Class _____
LAST FIRST M. I.

Address _____ Telephone _____ Total Points _____

SUBJECTS (WRITE SUBJECTS IN PENCIL)	Points	SCHEDULE
ENGLISH	5	
HISTORY	5	
MATHEMATICS	5	
HEALTH	1	
PHYSICAL EDUCATION	1	
SPEECH	1	

_____ PARENT OR GUARDIAN SIGNATURE OF APPROVAL _____ DATE

_____ PARENT OR GUARDIAN SIGNATURE OF APPROVAL _____ DATE

IF YOU HAVE ANY QUESTIONS CONCERNING YOUR CHILD'S PROGRAM OF STUDY, PLEASE CONTACT GUIDANCE COUNSELOR AT 773-5629.

APPENDIX C

HIGH SCHOOL COURSE OF STUDY CARD

SOUTH PORTLAND HIGH SCHOOL

Name _____ LAST _____ FIRST _____ MIDDLE _____ Class _____

Address _____ Points _____

Tel. _____ Course _____

Date of Birth _____ Place of Birth _____

SUBJECT Write in Pencil	POINTS	DO NOT WRITE IN THIS SPACE
English	5	

589

APPENDIX D

LOCAL SCHOLARSHIPS AND AWARDS

A general scholarship application may be obtained in the guidance office for any of the following local scholarships. Since new awards may be added each year and others may be eliminated, we suggest that you pay particular attention to scholarship notices sent periodically to seniors by the guidance office.

The ALTRUA CLUB offers a $200 scholarship to a girl who plans short term or vocational training. The recipient must exhibit citizenship and have an earnest desire for further education.

LEILA BROUGHTON AWARD of $100 is presented to a graduate who has shown integrity, industry, courtesy. The recipient need not be a high ranking student nor is it a requirement that he/she plan to attend a post-secondary school.

PHYLLIS DAVIDSON FRENCH AWARD is given to the highest ranking student in French IV who plans to attend a 4 year degree college.

EAGLES ASSOCIATED AWARD of $100 is presented to a student who has shown citizenship and scholarship and has made a contribution to the school.

STEWART P. MORRILL POST AMERICAN LEGION AUXILIARY awards a $50 scholarship to a qualified senior girl who is a good school citizen in need of scholarship aid. Preference is given to the daughter of a veteran.

STEWART P. MORRILL POST AMERICAN LEGION offers a scholarship of $150 to a qualified senior.

Preference is given to the son or daughter of a veteran.

RANDALL AND MC ALLISTER OIL COMPANY presents a scholarship of $500 to a senior student who has been involved in school and community activities. The recipient must be enrolled in an accredited college.

EDWARD C. REYNOLDS FUND is a financial award made to the highest ranking senior going on to college.

The PARENTS AND TEACHERS OF DORA L. SMALL SCHOOL award two $100 scholarships, one to a girl and one to a boy. The students must have attended Small School and have been accepted in a post-secondary school.

SOUTH PORTLAND HIGH SCHOOL KEY CLUB offers a $200 scholarship to a senior boy who has been in the honor assembly for two years and has been accepted in an accredited school of higher education. The student's scholastic record, financial need, and school and community involvement will be considered.

SOUTH PORTLAND HIGH SCHOOL KEYETTE CLUB provides a scholarship of $100 to a senior girl who has made outstanding contributions to the school.

SOUTH PORTLAND KIWANIS CLUB presents a $200 and a $100 scholarship to two students who need financial assistance and who plan to attend a post-secondary school or college.

The SOUTH PORTLAND-CAPE ELIZABETH ROTARY CLUB awards two scholarships. One award of $300 is

given to a student pursuing a full-time course at SMVTI. The second scholarship of $250 is presented to a student planning a full-time course of study in the field of medical-dental services. These would include dental hygienist, X-ray technician, registered nurse or licensed practical nurse.

The SOUTH PORTLAND TEACHERS' ASSOCIATION presents a scholarship to a senior who has been accepted in any post-secondary educational program.

SOUTH PORTLAND POST 832 V.F.W. awards a scholarship of $500 to a deserving senior. First consideration is given to the son or daughter of a V.F.W. member. Then the child of any veteran is considered. The recipient must have been accepted in an accredited post-secondary school. The student's scholastic record will be reviewed, and school and community involvement will be taken into consideration.

A FACULTY-ALUMNI SCHOLARSHIP is being established. As soon as the fund is large enough to yield a significant amount of interest, a scholarship will be awarded.

APPENDIX E

REGIONAL AND STATE SCHOLARSHIPS

Listed are several scholarships which you may wish to consider. Information and applications are in the guidance office. You should see your counselor for further information.

AMERICAN LEGION AND AUXILIARY offer several scholarships to high school seniors who are in the upper half of the class scholastically, who show financial need and have been admitted to an accredited college or vocational school. The JOHN G. STOVER AWARD consists of two $300 scholarships, one to a girl and another to a boy in the State of Maine. The JAMES V. DAY AWARD is a scholarship of $300. The CHILDREN AND YOUTH SCHOLARSHIPS offer seven $300 awards, one in each of Maine's Seven Regional Districts. Only one scholarship may be awarded to any one individual.

ASSOCIATED GENERAL CONTRACTORS OF MAINE award two $500 scholarships to students planning to enroll in a two-year construction-oriented course at the University of Maine or at one of the Vocational Technical Institutes of Maine. Applicants are selected on the basis of financial need and academic standing.

CHARLES A. BISHOP JR. MEMORIAL SCHOLARSHIP offers grants to competitive high school swimmers.

The PORTLAND BOYS' CLUB ALUMNI ASSOCIATION presents two scholarships to any senior boys who are going on to college or vocational school. One is for $300 and the other is a $100 award. The only stipulation is that the

boy have been a member of the Boys' Club for at least two years.

BUSINESS AND PROFESSIONAL WOMEN'S CLUB OF PORTLAND awards a $200 scholarship to a senior girl deserving assistance in continuing her education in a business or professional career.

CUMBERLAND COUNTY VOITURE 1003,40 and 8, American Legion presents a scholarship to a senior applying to a Nursing School or Nursing Aide School.

DATA PROCESSING MANAGEMENT ASSOCIATION awards a $400 scholarship and a runner-up award of $100 to a senior planning to attend a two year college, business and/or data processing school. Applicants must compose an essay of not less than 1000 words on the topic "Why I Feel Data Processing Would Be a Rewarding Career".

ELKS NATIONAL FOUNDATION SCHOLARSHIP LEADERSHIP PROGRAM presents four "Most Valuable Student" awards ranging from $700 to $3000 each.

KENNETH JORDAN HIGGINS MEMORIAL TRUST SCHOLARSHIPS are available to any senior who has been accepted in an accredited post-secondary vocational school, college or university. The student must demonstrate financial need. Six one-year scholarships in amounts up to $750 will be awarded to residents of the Greater Portland area.

MAINE STATE EMPLOYMENT ASSOCIATION offers two scholarships in this district of the State. Applications will be considered <u>only</u> from sons and daughters of MSEA who are entering post-high school educational or vocational programs.

One scholarship for $500 and another for $250 will be awarded.

MAINE STATE RETIRED TEACHERS ASSOCIATION SCHOLARSHIPS are given to four high school seniors who plan to study for the teaching profession and intend to teach in Maine for at least two years after graduating from college. Each scholarship is for $300 and will be paid to the college at the end of the first semester. The recipient must be in the upper quarter of the class.

NEW ENGLAND DISTRICT OF KIWANIS INTERNATIONAL offers 27 one year scholarships of $500 each to students throughout New England. The award is based on financial need and a student's overall school record.

PORTLAND BRANCH N.A.A.C.P. SCHOLARSHIP FUND has financial aid available for black students who are interested in further education after graduation from high school.

PORTLAND SECTION OF THE NATIONAL COUNCIL OF JEWISH WOMEN awards scholarships to Jewish senior high school students from the Greater Portland area who are planning to continue their education in a college or vocational school.

WOMEN OF ROTARY, Portland, present a $300 scholarship to a senior girl planning to attend college or a vocational training school. This scholarship is based primarily on need, but achievement and school activity are a consideration.

In addition to the scholarships listed, we recommend that you read Feingold's Scholarships, Fellowships and Loans and the College Blue Book's Scholarships, Fellowships, Grants and Loans which you will find on the financial aid shelf of the Career Guidance Center.

APPENDIX F

FINANCIAL AID FOR POST-SECONDARY TRAINING

Financial aid is based on financial need. This need is determined by financial information included on the Parents' Confidential Statement (PCS). Counselors will gladly assist your parents in filling out these forms which should be filed as soon as application to your college or vocational school is made. The PCS is mailed directly to Princeton, New Jersey, where the need for financial aid is assessed. For example, PCS determines that you and your parents can afford $1500 per year to finance your higher education. If the cost is $2500, your need is $1000. If the cost is $5000, your need would be $3500. Should the school accept you it may meet your financial need. The findings of the PCS are forwarded directly to the institution to which you are applying. The guidance office never receives the results.

Once financial aid has been determined, you must apply to the school of your choice for their own financial aid application. The main sources of financial aid are

1. grants
2. student loans
3. work study
4. Basic Educational Opportunity Grant (BEOG)

A grant is an outright gift. A loan is to be repaid and work study is a program through which a student works on campus or in the community in a non-profit setting and gets paid directly. A financial aid package is usually made up of a combination of the sources mentioned.

These packages are offered to the student directly from the college or vocational school. PCS and BEOG forms are available in the guidance office.

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ABSTRACT: THIS CURRICULUM GUIDE IS DESIGNED FOR USE IN CLASSES OF ENGLISH AS A SECOND LANGUAGE. IT PROVIDES STUDENTS WITH INFORMATION ABOUT VARIOUS OCCUPATIONS AS WELL AS THE OPPORTUNITY TO BECOME MORE PROFICIENT IN ENGLISH. THE GUIDE WAS DEVELOPED AS AN EFFORT TO INTRODUCE STUDENTS TO VOCATIONAL PROGRAMS IN WHICH THEY COULD BE SUCCESSFUL WITH VARYING DEGREES OF ENGLISH SKILL. IT IS ONE OF A SERIES OF THREE, WITH THE PROGRAMS THAT REQUIRE THE LEAST SKILL IN ENGLISH INTRODUCED AT LEVEL I. THE LEVEL I GUIDE CONSISTS OF LESSONS ON SAFETY, WELDING, MAINTENANCE, GENERAL FACTORY, MACHINE OPERATOR, FOOD PREPARATION, NURSING ASSISTANT, AND AGRICULTURE. EACH LESSON CONTAINS A STUDENT OBJECTIVE, VOCABULARY LIST, DIALOGUE, AND GRAMMATICAL RULES AND EXERCISES. (NJ)

INSTITUTION NAME: GATEWAY TECHNICAL INST., KENOSHA, WIS.

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VT 103 227

VOCATIONAL ENGLISH

Level I

VT 103 227

VOCATIONAL ENGLISH

Developed at

Gateway Technical Institute

Keith W. Stoehr, District Director
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VOCATIONAL ENGLISH

Introduction

The materials in this series of lessons has been developed at Gateway Technical Institute for use in English as a Second Language classes under a special project funded by the State Board. Its objective is to provide the students with an overview of vocational diploma programs available in the institution so that as they become proficient in the use of English they are also increasing their knowledge of training opportunities available to them.

An effort has been made to introduce to different groups of students, programs in which they could be successful with varying degrees of English skill, with those programs requiring the least skill being introduced at Level I. In some instances, notably Health and Food Preparation, there are opportunities for a wide range of proficiency. These units were prepared on all three levels.

It is expected that teachers will supplement these units through discussion, films or film strips, related materials, resource speakers visits to the different labs, and industrial tours. In some instances, the work samples available through the Gateway Testing Center can be used as a "hands on" experience in the unit.

Within each unit is a structural English lesson ranging in Level I from verb usage, contractions, etc., to the use of adverbs and adjectives in Level III. Teachers will supplement the unit by using the vocabulary list for sentence writing and conversation practice.

VOCATIONAL ENGLISH

Level I

Safety
"Sit, Set", "There are, they're", Irregular verbs

Welding
"Ing" ending, past tense, negatives, sentences to questions

Maintenance
Past tense, future tense, nouns to verbs, commands to requests, sentences to questions

General Factory
Contractions, past tense

Machine Operator
"Their, there", "an", contractions

Food Preparation
Plurals, negatives, pronouns, abbreviations, sentences to questions

Nursing Assistant
Plurals, negatives, sentences to questions

Agriculture
Abbreviations, plurals, homonyms, verb tenses

Industrial Related

Because Gateway Technical Institute is in the center of a vast industrial area that is growing rapidly, specific programs are available for those who want to work in the manufacturing or production processes so abundantly available.

An awareness of good safety practices is needed in all types of industrial jobs for the protection of self and others. These concepts can be understood if presented early in ESL classes.

Many ESL students have a very limited knowledge of the variety of industrial jobs available and of the skills each requires. The four included at Level I, Welding, Maintenance, General Factory, and Machine Operation, have both training and employment opportunities for those with limited ability in English.

The units should be supplemented with visits to the labs, observation of the classroom and industrial tours. Representatives of the Urban League, industrial teachers from Gateway, or persons from industry could be invited to visit the class and discuss the types of jobs and training opportunities.

SAFETY

Student Objective: The student will be able to understand and identify words and general rules related to safety in the home and on the job.

Vocabulary:

smoke	safety
beware	fire
caution	hot
enter	protective
keep out	
run	
walk	

Dialogue:

Supervisor: We feel that safety is important on this job.
Worker: Do you have special rules that I need to follow?
Supervisor: Yes, we do. You will see them posted in all work areas.
Worker: Is there a special area for smoking?
Supervisor: Smoking is only allowed in the lounge area. There are also work areas where you must wear protective glasses.
Worker: Yes, I have noticed that.
Supervisor: We are proud of our safety record. I hope you will be proud of it also.

Grammatical Focus No. 1

Sit and set: Sit usually means to rest, to be in an upright or sitting position. (Principle parts or tenses: sit, sat, have sat, is sitting.) Set means to put or to place something. (Principle parts or tenses: set, set, have set, is setting.)

Exercise 1: Underline the correct form of set or sit in each sentence.

1. He (sit, set) the gasoline away from the fire.
2. If you (sit, set) on the damp ground, you may catch a cold.
3. Passengers (sitting, setting) with their seat belts fastened were not hurt in the accident.
4. The boxes have been (set, sat) out of the aisles for safety.
5. She is (sitting, setting) the light with the frayed wire on the table

to be fixed.

6. He (sat, set) in the sun too long and is sunburned.
7. The telephone numbers for the doctor and fire department are (sitting, setting) near the telephone.
8. In what row were you (setting, sitting)?
9. He just (sat, set) and said nothing.
10. She remembered to (set, sit) the pans on the range with the handles away from the area where they could be bumped.

Grammatical Focus No. 2

Proper use of <u>there are</u> and <u>they're</u> (they are)
Examples: They're careful to keep out of the dangerous area.
There are many safety rules.

Exercises: State whether "there are" or "they are" (they're) should be used in each sentence.

1. _____ many caution signs.
2. _____ fixing the broken stove.
3. _____ cleaning up the fire hazards.
4. _____ too many old papers near the furnace.
5. _____ fixing the frayed wires.
6. _____ many "caution" areas to beware of.
7. _____ too many hazards in that house.
8. _____ clearning the building of all fire hazards.
9. _____ to keep out of that area.
10. _____ in a no smoking area.

Grammatical Focus No. 3

Irregular verbs: Irregular verbs do <u>not</u> form their past and past participle by adding -d or -ed to the present form. They form the past and past participle by changing the vowel, adding -en, or by making no change at all. Examples are given below:

<u>Present</u>	<u>Past</u>	<u>Past Participle</u>
swim	swam	have swum
write	wrote	have written
hit	hit	have hit

Exercise 1: Place the correct form of the verb in each sentence. The forms of the verbs are given below.

Present	Past	Past Participle
do	did	have done
drink	drank	have drunk
freeze	froze	have frozen
get	got	have got or gotten
forget	forgot	have forgot or forgotten
go	went	have gone
run	ran	have run
see	saw	have seen
set	set	have set
sit	sat	have sat
take	took	have taken
wear	wore	have worn

1. I must be careful not to (ran) _____ in the building.
2. I will often (freeze) _____ my leftovers from dinner.
3. I have (set) _____ the gasoline can far away from the furnace..
4. He (see) _____ the sign "Do Not walk in the areas marked 'DANGER'."
5. He has (take) _____ the matches away from his baby many times.
6. She has (wear) _____ flame-proof clothing to work.
7. He (do) _____ remember to smoke only in the smoker's room.
8-9. Remember that when you (go) _____ into that area you must (wear) _____ protective glasses.
10. He has (take) _____ his protective gloves with him to work on the machine.

Exercise 2: Read each sentence, correcting the verb tense when necessary.

1. I will set the hot greasy pan off the stove.
2. I have get special shoes with extra protection to wear while I work.
3. He sit by the rubbish fire to make sure it did not spread to the grass.
4. He had forgotten how to use the fire extinguisher.
5. The child had drank some of the cleaner and was taken to the hospital.
6. He left his rings at home wo that his finger would not catch in the machine.
7. I have saw many caution signs.
8. She had did her best to keep the children out of the area marked "Beware."
9. He has seen many safety violations.
10. She begin to clean up the gasoline-soaked rags and burn them.

1. correct
2. _____
3. _____
4. _____
5. _____

6. _____
7. _____
8. _____
9. _____
10. _____

Situations:

A. Discuss hazards you would find in the house and how to remedy them.
B. Make a list of all the fire hazards in your home.
C. What are some rules of safety in a factory?

Reading:

Safety is very important. It is important in your work and in your home. You must know the hazards and dangers so that you will not be hurt. Check your home for hazards and take time to remedy them.

WELDING CAREER

Student Objective: The student will be able to understand and identify some of the functions, tools, and parts of a welder.

Vocabulary:

ampere	polarity	to draw	to weld
arc voltage	gas torch	to fuse	to transform
spot welding	arc torch	to weave	to bond
transformer	arc angle	to pass	to install

Dialogue:

Juan (a welder): Do you know what it means to fuse or pass in welding?
Chico (a student): No, I don't, what are these two things?
Juan: Let's take one step at a time: to pass is to make one single stroke over the object with your torch.
Chico: What is the second step?
Juan: To fuse means to bond two edges with the torch.
Chico: Are these welding steps always done with a torch?
Juan: Yes, there other steps, but these two are the most important.

Grammatical Focus No. 1:

Exercise 1: Add ing to the following verbs. On verbs that end with e, drop the e and ing. Example: hold - holding

1. inspect _____
2. draw _____
3. fuse _____
4. install _____
5. pass _____
6. weld _____
7. transform _____
8. bond _____
9. repair _____

Exercise 2: Change to past tense. Example: hold - held

1. draw _____
2. fuse _____
3. install _____
5. pass _____
6. weld _____
7. transofrm _____

8. bond _____
9. inspect _____
10. repair _____

Exercise 3: Use the correct verb form from the above words in the sentence.

1. Chico (fuse) _____ the two pieces of metal.
2. Juan is (install) _____ new welding equipment.
3. Juan (bond) _____ the two metal plates.
4. Juan and Chico are (weld)_____ with gas torches.
5& 6. Juan and Chico (repair) _____ the machinery by (pass) _____ the torch over the crack.
7. (draw) _____ the blueprints for the welders is a separate job.
8. Juan and Chicho (work) _____ w th arc or acetylene torches.
9. Chico (inspect) _____ the weld for bead size.
10. Aluminum and stainless steel are hard-to-weld materials and do not (repair) _____ easily.

Exercise 4: Find the meaning to match the verb.

_____ inspect	1. change
_____ repair	2. go over
_____ draw	3. form figures and designs
_____ pass	4. job
_____ weld	5. out of the way
_____ transform	6. put in place
_____ work	7. fuse
_____ install	8. fix
	9. play
	10. look over

Grammatical Focus No. 2: Adding the word <u>not</u> to change a sentence from positive to negative.
Example: I can work. I cannot work.

Exercise 1: Change the following sentences to negative form by adding <u>not</u>.

1. The teacher is in.
2. The welding torches have arrived.
3. The transformers are here.
4. I can arc weld very well.
5. He can weld very well.
6. The man can repair the pipes.
7. Chico will grind off the extra weld.
8. The welders will work today because the blueprints arrived.
9. Juan will fill in the hole by welding.
10. Chico will construct the new machine.

1.

2.

3.

4.

5.

6.

7.

8.

9.

10.

Exercise 2: Changing sentences to questions. Example: The welder needs a torch. Does the welder need a torch? Change the following sentences to questions.

1. Blueprint reading is necessary for welders.
2. The good welder uses safety precautions.
3. Welders need to work accurately.
4. The battery acid is dangerous.
5. Welding is very specialized.
6. The welder's torch was hooked up to the gas tanks.
7. Safety is very important in welding.
8. Goggles and an apron are needed in welding to protect your eyes and clothes.
9. The welder needs very particular training.

1.

2.

3.

4.

5.

6.

7.

8.

9.

Situation:

A. Call a technical school or a welding company and tell them you are interested in becoming a welder. Ask what training you need for the job.

B. Visit a welding class and talk to a welder about the duties and responsibilities.

C. Visit a welding class and look at the textbooks and tools used in the class.

Reading:

The job of a welder can be very interesting but also very specialized. Welders construct and repair equipment, machinery, and parts by welding metal parts together according to layouts and blueprints. The two most common types of welding are arc and acetylene.

The demand for welders is expected to increase because of the wider use of welding processes. Repair and maintenance work in the metalworking industries will require more welders.

MAINTENANCE

Student Objective: The student will be able to understand and identify the functions and duties of a maintenance worker.

Vocabulary:

buff -- verb
clean -- verb and adjective and adverb
carpet -- noun and verb
dust -- noun and verb
mop -- noun and verb
vacuum -- adjective and verb
polish -- noun and verb
wax -- noun and verb

maintenance
experience
supervisor
broom
hall
floor
furniture

Dialogue - Different uses of the same word:

Elena: I would like a job in the maintenance area.
Job Counselor: Do you know how to clean a floor?
Elena: Yes, my work is very neat and clean.
Job Counselor: Have you ever done carpeting?
Elena: No, I do not know how to work with wood.
Job Counselor: No, you misunderstood me. I asked you about "carpeting", not "carpentry."
Elena: Oh! Yes, I have used a vacuum cleaner when I worked in an office building. But I worked mostly on mopping the halls and dusting.
Job Counselor: Then you are familiar with using a mop and removing dust. Did you empty wastebaskets also?
Elena: Yes, and my supervisor taught me how to wax floors as well.
Job Counselor: You must know about using polish and wax too?
Elena: I really didn't polish furniture too much and we only waxed floors about every six months. I also know how to operate a floor buffer to make them shine.
Job Counselor: Since you have had experience at vacuumming, mopping, dusting, waxing, and buffing, I would think that many employers would be interested in hiring an experienced maintenance worker like yourself. Let's see what openings are available.

Grammatical Focus No. 1
Using various tenses of the same verb.

Examples: A maintenance worker is cleaning the bathrooms.
A maintenance worker cleaned the bathrooms
A maintenance worker will clean the bathrooms.

She is vacuuming the carpet.
She vacuumed the carpet.
She will vacuum the carpet.

Maria is washing, waxing, and buffing the floor.
Maria washed, waxed, and buffed the floor.
Maria will wash, wax, and buff the floor.

Is she dusting and polishing the furniture?
Has she dusted and polished the furniture?
Will she dust and polish the furniture?

Exercise #1: Change the following sentences to use past tense verb forms.

1. Juanita is polishing the table tops.
2. The supervisor will mop Rosa's floor for her.
3. Maria will vacuum her own carpet the same way.
4. Is Romero washing the windows with the right detergent?
5. Who will clean the windows in that office?

1.

2.

3.

4.

5.

Exercise #2: Change the following sentences to use the future tense verb form.

1. Maria is dusting all the clocks today.
2. He plans to sweep the stage after break time.
3. Has she finished buffing the brown tile room.
4. Is Carlos using clear soap on the windows?
5. The maintenance woman just waxed the cafeteria floor.

1.

2.

3.

4.

5.

Grammatical Focus No. 2

Exercise 1: Change the underlined word from a noun to a verb usage.

1. Use the vacuum cleaner in the halls.
2. The dust on the desks should be removed.
3. Wax will put a nice shine on that floor.
4. Is that the right polish for that furniture?
5. My supervisor installed the carpeting on these floors himself.
6. Would you please work with a mop on these floors?

1.

2.

3.

4.

5.

6.

Exercise 2: Change the following commands to requests.

1. Empty these wastebaskets before you leave.
2. Give me a hand in moving my ladder!
3. Don't make so much noise while cleaning the library.
4. Don't take your coffee break until we finish the halls and stairways.
5. Pick up your feet when I vacuum near your chair.
6. Since I will leave early, you buff my 2 floors for me.

1. Please empty these wastebaskets before you leave.

2.

3.

4.

5.

6.

Exercise 3: Make a sentence which asks a question using the following terms.

1. wash, wax
2. dust, polish
3. vacuum, carpet
4. mop, buff

1.

2.

3.

4.

Survey Questions:

1. What is the title of a boss on a maintenance job?
   a) chief, b) supervisor, c) conductor, d) steward, e) trainee

2. What do you clean with a vacuum cleaner?
   a) desks, b) ceilings, c) toilets, d) carpets, e) wastebaskets

3. A disinfectant soap is used in cleaning: a) bathrooms, b) parking ramps, c) ceiling lights, d) closets, e) sidewalks

4. The usual length of a lunch break is a) 5 minutes, b) 30 minutes, c) 2 hours d) once per week

5. Which of the following would <u>not</u> be used to remove dust?
   a) mop, b) rag, c) rake, d) broom, e) vacuum

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GENERAL FACTORY

Student Objective: The student is able to identify many of the words and tools used in the factory.

Vocabulary:

time card	day work	steward	hammer
time clock	piece work	screwdriver	pliers
punch in	foreman	time study	chisel
punch out	straight time	relief man	ratchet
punch press	time and one half	wash-up time	file
box wrench	open end wrench	gang press	break
ripping bar	torque wrench		

Dialogue:

Enrique: I like to work in this factory; there's a lot opportunity to work overtime, and get paid time and one half.

Jose: I know, and then I make extra money on piece work too because I am fast on the job I have now.

Enrique: There is another way to make more too--the second and third shift pay more.

Jose: I would rather stay on day work because I like the foreman and the others I work with.

Enrique: We better punch in on the time clock, it's getting late.

Grammatical Focus No. 1

there is - there's there are - there're

1. There is a time clock There's a time clock.
2. There are many types of time clocks. There're many types of time clocks.

Exercise 1: Change the following sentences using the contracted form.

1. There is a time clock. 1.

2. There are time cards. 2.

3. There is a foreman. 3.

4. There are three gang presses. 4.

5. There is a relief man. 5.

6. There is my steward. 6.

7. There are the opened wrenches. 7.

8. There are the ratchets. 8.

9. There is a time study man. 9.

10. There is a new break time. 10.

Grammatical Focus No. 2

Exercise 2: Change the following verbs to past tense.

1. I need a new time card. 1.

2. We punch in at 7:00 a.m. 2.

3. The work pays straight time. 3.

4. I need a steward. 4.

5. He wants to be the foreman. 5.

6. The job is piece work. 6.

7. They all want day work. 7.

8. The relief man needs help. 8.

9. The punch press is broken. 9.

10. We want a break. 10.

Situation:

A. Visit a factory and ask to see a time clock. Ask to meet a foreman and steward.
B. Compare the various types of presses and wrenches.
C. Tell a friend or relative about your visit.

Tools

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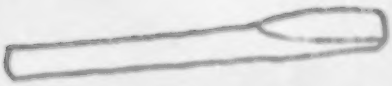
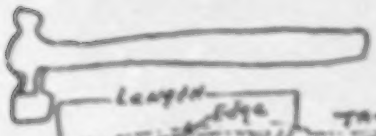
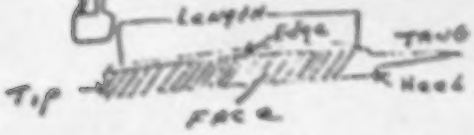


Chisel

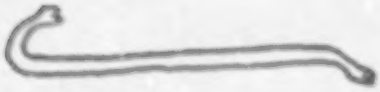


Hammer



File

Pliers



Ripping Bar

Screwdriver

Wrench

Ratchet

Ratcheting Pulling

Ratcheting Pulling

MACHINE OPERATOR

Student Objective: The student will be able to understand and identify the various tools and duties of a machine operator.

Vocabulary:

		Types of screws
vice	micrometer	Allan
clamp	screws	one-half inch
wrench	circular measure	Phillips
measure scale	angular measure	square
		hex

Dialogue between Charlie, a student, and Jorge, a machine operator:

Charlie: What are the most important objects and tools used by an operator?
Jorge: There are many objects and tools that are important, but two necessary ones are the scale of measure and the micrometer.
Charlie: Could you explain them?
Jorge: Yes, the scale of measure is a system that measures all the objects used by a machine operator.
Charlie: How about a micrometer?
Jorge: A micrometer is an instrument that is used as a ruler but measures much more accurately.

Grammatical Focus No. 1

Their and there. Their shows ownership (their tools).
There shows location (over there).

Exercise 1:

1. The man was using _____ Phillips screwdriver.
2. Machine operators know about _____ many tools.
3. _____ is the scale that is used to measure objects.
4. A clamp was used to fasten the pipe over _____.
5. _____ vice was used to steady the objects.
6. & 7. _____ micrometer is a more accurate measure than _____ ruler.
8. _____ was a square screw and an Allan wrench on the work bench.
9. _____ are training programs available to learn machine operation.
10. The angular measure was used to measure _____ machine parts.

Grammatical Focus No. 2

Use an before a word beginning with a vowel.
Example: The boy ate an apple.

Exercise 2: Fill the blank with a or an. The boy ate a peach.

1. He used ___ micrometer for more accurate measure.
2. __ angular measure was needed for the operator.
3. __ vice was used to steady the object.
4. __ student was seen in the machine shop.
5. The shop needed __ operator for the job.
6. __Allan wrench is very important to machine operators.
7. The operator needed __ hex screw.
8. It called for __ circular measure.
9. __ teacher with good qualifications is needed in a machine course.
10. The welder used __ gas torch on the job.

Grammatical Focus No. 3

Exercise 3: Change the contractions to words.
Example: The man didn't need the tool. The man did not need the tool.

1. He can't measure without a micrometer.
2. He won't be able to use the hex screws on the job.
3. The teacher didn't have the necessary tools.
4. It's the first time for the machine class.
5. He didn't use the Allan wrench in this case.
6. Isn't that a clamp on the pipe?
7. You're the only machine operator in the factory.
8. You've been the only person to go to the training.
9. The vice wasn't tight enough.
10. Hasn't he found the Phillips screws yet?

1. He cannot measure without a micrometer.

2.

3.

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Situation:

A. Call a technical school or a machine shop and tell them you are interested in becoming a machine operator. Ask what training you need either before or actually on the job.
B. Look and find out what the duties of a machine operator are.
C. Visit a technical school or machine shop and find out what facilities are used and what the duties of a machine operator are.

Reading:

The job of a machine operator is a real challenge. You should visit a machine shop before you decide if you would like that type of work. Find out what the job pays, and how long the training period is before you decide on a career as a machine operator.

Hospitality Programs

Food service jobs, part of the hospitality industry, are booming. Greater numbers of people are traveling and dining out. With increases in population, urban development, and more money available for trips and meals away from home, the spiral continues upward.

Individuals with limited skills in English are employable in the hospitality industry. Training in proper kitchen procedures, sanitation, and working with the public are available at various levels in the food service program at Gateway Technical Institute

This unit should be supplemented by visiting the food service labs on the Racine campus. Teachers in the program could be invited to talk to the class.

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FOOD PREPARATION
Salad Girl or Salad Boy

Student Objectives: The student will be able to understand and utilize the vocabulary and functional sentence patterns necessary in working as a salad girl.

Vocabulary:

beat	creamy	vegetables
cube	crisp	dressing
slice	wilted	portion
chop	dried	mold
garnish	tasty	recipe
flute	appetizing	menu
blend	discolored	hygiene
shred	sanitary	peelers
dissolve	fresh	weights
grate	tossed	measures

Dialogue:

Maria: I need a job
Restaurant Manager: What kind of job do you want?
Maria: Perhaps I could work in the kitchen.
R.M.: Have you worked in a restaurant before?
Maria: No, but I would like to learn.
R.M.: There is an opening for someone to work in the kitchen making salads.
Maria: Oh, I would like to do that.
R.M.: Be here tomorrow morning at 9 o'clock.
Maria: Thank you very much.

Grammatical Focus No. 1
Exercise 1: Make the following sentences plural.
Example: this - these that - those

1. This is an orange.	1. These are oranges.
2. This is an apple.	2.
3. This is a pineapple.	3.
4. This is a cherry.	4.
5. This is a pear.	5.
1. That is a lemon.	1.
2. That is a peach.	2.

3. That is a strawberry. 3.
4. That is an avocado. 4.
5. That is a banana. 5.

Exercise 2: Make the following sentences negative.

1. The floor is dirty.
2. The lettuce is wilted.
3. The carrots are crisp.
4. The salad dressing is creamy.
5. The tomatoes are discolored.
6. The refrigerator is cold.
7. The salad is tasty.
8. The kitchen is big.
9. The measuring cups are in the drawer.
10. The cutting board is on the table.

1.

2.

3.

4.

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Grammatical Focus No. 2
Exercise 1: Change the following sentences from I to he or she.
Example: I look she looks, he looks
I talk she talks, he talks
I laugh she laughs, he laughs

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1. I peel the oranges.	1. She peels the oranges.
2. I flute the cucumbers.	2.
3. I slice the tomatoes.	3.
4. I chill the melon.	4.
5. I shred the cabbage.	5.

1. I dice the apples	1. He dices the apples.
2. I mold the gelatin.	2.
3. I wash the utensils.	3.
4. I wrap the lettuce.	4.
5. I store the vegetables.	5.

Exercise 2: Abbreviations. Fill in the blanks with the correct abbreviation.

1. cup	c
2. teaspoon	____
3. gallon	____
4. tablespoon	____
5. pint	____
6. quart	____
7. ounce	____
8. pound	____

Exercise 3: Change the following sentences to questions. Present continuous tense.

1. Rosie is wearing a hairnet.
2. She is grating the carrots.
3. They are washing the lettuce now.
4. Maria and Rosie are blending the ingredients.
5. He is making a waldorf salad.

1. Is Rosie wearing a hairnet?

2.

3.

4.

5.

Lesson Theme:

Maria works in a restaurant.
It is a big restaurant.
She works as a salad girl.
Maria prepares salads in the kitchen.
The kitchen must be very clean.
Maria wears a uniform.
She likes her job.

Discussion questions:

1. Where does Maria work?
2. Is the restaurant big?
3. What does Maria prepare?
4. Must the kitchen be clean?
5. What does Maria wear?
6. Does she like her job?

Situation:

A. Talk to someone who works in food preparation. Ask questions about the duties.

B. Visit a place where food is prepared such as a restaurant, cafeteria, hospital, school, hotel, or lunch counter. Explain your interest to the manager.

C. Go to the nearest state employment office and learn what jobs are available in your area.

Structures that may be helpful in the situation:
I am interested in...
What jobs are available for me?
Is training...
How long...
May I visit...
I would like to work...

Reading:

Salad preparation is an art that can be learned. There are many kinds of salads. Some salads are made from fruit. Other salads are made from vegetables. There are also gelatin salads. Salads add zest to a meal. Learn all you can about this job.

Suggested other job possibilities at Level 1: dishwashing, potwasher, busboy, kitchen worker

Health Programs

The allied health programs all earn a diploma at Gateway and are oriented toward assistance in patient care in the dental or medical office or laboratory, in the operating theater, or on the hospital ward.

The nursing assistant is a six-week diploma program for the person who is stable, healthy, able to adjust and work under supervision to perform a variety of routine tasks.

The students could visit the nursing labs and tour the hospital. Nursing faculty can be used as resource speakers.

HEALTH CAREERS
NURSING ASSISTANT

Student Objectives: The student will be able to understand and identify the functions and duties of a nursing assistant.

Vocabulary:

health	hygiene	medical
hospital	disease	
patient	physician	
operation	pulse	
temperature	thermometer	

Dialogue:

Myrna: Will you help me with this patient, please?
(Nurse)
Ana: What would you like me to do?
(Nursing Assistant)
Myrna: She needs to have her temperature and pulse taken and recorded.

Ana: I will get the thermometer.

Myrna: Write the temperature down on the chart.

Ana: Why is this patient in the hospital?

Myrna: She is having an operation in the morning.

Grammatical Focus No. 1
Changing singular nouns to plural nouns.
Example: Singular - patient Plural - patients

Exercise 1: Change the nouns to plural form by adding s.

1. Help me with the patient.
2. Operations are performed by a physician.
3. We will change the bed.
4. Write the temperature on the chart.
5. She dropped the thermometer.
6. Will you call the nurse?
7. The nurse helps the doctor.

8. Washing your hands helps to prevent disease.
9. Sick patients require good medicine.
10. The hospital must be clean.

1. Help me with the patients.

2.

3.

4.

5.

6.

7.

8.

9.

10.

Grammatical Focus No. 2
Adding the word not to change a sentence from positive to negative.
Example: I can help. I cannot help.

Exercise 2: Change the following sentences to negative form by adding the word not.

1. The doctor is in.

2. The patient can talk.

3. The nurse will help you.

4. I am a nursing assistant.

5. The patient does have a temperature.

6. The patient's pulse should be recorded.

7. You may make the bed now.

8. I do want you to have the operation.
9. The hospital could help the patient.
10. The physicians have diagnosed the disease.

1.

2.

3.

4.

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Grammatical Focus No. 3 - Review Exercise
Change sentences to questions.
Example: The nursing assistant needs white shoes.
Does the nursing assistant need white shoes?

Exercise 1: Change the following sentences to questions.

1. The doctor is in.
2. The patient is very sick.
3. The hospital is always clean.
4. The patient has a temperature.
5. The patient needs an operation.
6. The medicine tastes good.
7. This thermometer is broken.
8. The patient's chart is missing.
9. This bed needs changing.
10. The patient is getting well.

1. Is the doctor in?

2.

3.

4.

5.

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Situation:

A. Call a hospital employment office and tell them you are interested in becoming a nursing assistant. Ask what training you need for the job.

B. Visit a hospital employment office and ask them what duties are required of a nursing assistant.

C. Visit a hospital and ask for a tour of the facilities to see if you would like to work there.

Structures that may be useful in the situation:

Is training required to become a...
How long...
Do I need...
I would like to work...
There are many interesting jobs in...

Reading:

There are many different kinds of jobs available in a hospital. You should visit a hospital before you decide if you would like that kind of work. Ask some nursing assistants how they like the work. Find out how long the training program is, and how much the job pays before you decide on a career as a nursing assistant.

Agri-Business

Agri-business is a combination of enterprises, made up of business and agricultural interests, created by increased technology and distribution methods. New concepts, government controls, and greater numbers of people to serve, all indicate greater involvement for the grower, producer or processor, and greater need for more education, information, and training.

Horticulture is the science or art of cultivating plants, especially garden plants. It is the cultivation of a garden or orchard, the art of growing fruits and ornamental plants, and the improvement of the landscape.

Floriculture is the cultivation of ornamental flowering plants.

Gateway operates a greenhouse for purposes of instruction in this program. This unit should include a tour of that facility and some discussion with the faculty concerning types of employment available. Many of our ESL students have an interest in this type of activity and practical experience.

AGRICULTURE

Student Objective: To become familiar with general agriculture terms and to gain a general knowledge of farming and farm duties.

Vocabulary:

fertilizer	to plant
farm	to harvest
tractor	to pick
cash crop	to sow
season	to plow
vegetables	to cultivate
dairy farm	to milk
fruits	to raise
fields	ripe
market	
chores	
truck farm	
seed	
soil	
grain	
livestock	

Dialogue:

Juan: I think the tomatoes are ripe enough to pick today.
Bill: Yes, I was out in the field yesterday and they seemed to be ready to harvest.
Juan: How many bushels do you think we should be able to market?
Bill: I'm not sure, but it should be a good crop.
Juan: The new fertilizer we used this year must have helped.
Bill: Yes, I'm sure it did. All the gruits and vegetables seem to be doing well this year. We've had good weather too.
Juan: Well, I'll finish my chores and then we can start picking.
Bill: I'll drive the tractor and wagon out to the field.
Juan: We will be able to start our truck farm stand tomorrow!

Grammatical Focus No. 1
Exercise 1: Many English words are abbreviated (made shorter). This is especially true with words used in measurement. Match the following words with their abbreviation. Abbreviations are always followed by a period.

_____ 1. bushel	a. oz.
_____ 2. peck	b. in.
_____ 3. pint	c. yd.
_____ 4. quart	d. cu.
_____ 5. pound	e. sq.
_____ 6. ounce	f. lb.
_____ 7. mile	g. ft.
_____ 8. gallon	h. gal.
_____ 9. rod	i. pt.
_____ 10. square	j. pk.
_____ 11. cubic	k. rd.
_____ 12. foot	l. mi.
_____ 13. yard	m. bl.
_____ 14. inch	n. qt.

Grammatical Focus No. 2

Forming plurals:

1. The most common way to form the plural of nouns is to add the letter s to the singular form.
2. To form the plural of a noun ending in ch, sh, x, s, add es.
3. To form the plural of a noun ending in a consonant and a y, change the y to i and add es.
4. To form the plural of a noun ending in a vowel and y, you usually add s without changing the y.
5. Words ending in o after a consonant often add es to form the plural.
6. Some words are the same in both singular and plural.

Examples: girl--girls church--churches monkey--monkeys, dairy--dairies deer--deer

Exercise 1: Write the plural for the following words:

1. potato _____

2. strawberry _____

3. crop _____

4. peach _____

5. lettuce _____

6. tomato _____

7. cherry _____

8. cabbage _____

9. apple _____

10. pepper _____

Grammatical Focus No. 3
Homonyms are words that sound alike but are spelled differently and have different meanings.

Exercise 3: Choose the correct word for the following sentences.

1. A (beet, beat) is a reddish vegetable that grows underground.
2. (Beets, beats) grow underground also.
3. The apple trees will (bare, bear) fruit this year.
4. I saw a (bear, bare) in the woods last week.
5. I will (buy, by) three dozen eggs from the farmer.
6. He drove (buy, by) the field with his tractor.
7. The weather was (fare, fair).
8. The bus (fair, fare) was 50¢.
9. Since the (son, sun) was shining, we decided to harvest the crops.
10. His oldest (son, sun) helps him at harvest time.
11. Our crops need lots of (rein, rain).
12. The horse's (rein, rain) was too tight.
13. (Weather, whether) is very important to the farmer.
14. He wasn't sure (whether, weather) or not the fields were dry enought to plant.
15. He wanted to (sew, sow) three fields by noon.
16. It is cheaper to (sew, sow) your own clothes.
17. The farmer is always up before the morning (dew, do) dries.
18. (Do, Dew) you really want to be a farmer?

Grammatical Focus No. 4
Verb tenses

1. Use grow when you are talking about the present--what is happening right now.
2. Use grew when you are talking about the past tense--something which has already taken place.

3. Use grown only with a helping verb--was, were, have, has, or had.

Exercise 4: Put the correct word--grow, grew, or grown in the following sentences.

1. Sun and rain help weed to _____.

2. We will have to plow tomorrow because the weeds have _____ so tall.
3. Some vegetables _____ very tall while others _____ only a few inches tall.
4. Last year we _____ as many as seven fields of corn.

5. We have _____ as many as seven fields of corn.

6. Our neighbors _____ an excellent crop of potatoes this year.

7. I like to _____ vegetables and fruits.

8. He _____ tomatoes better than he _____ beets.

Situation:

Visit an area farm. Find out the crops they produce. Inquire whether or not they employ farm laborers or hired hands. Find out whether the help would work primarily in the fields or would need knowledge of machinery or how to care for farm animals. Determine if you need previous experience and if the work is temporary or permanent.

Structures which may be helpful:

Do you employ...
Is experience necessary...
Do you have to know how to operate machinery...

Reading:

Farming is one of man's oldest and most important activities. Today farming has become very specialized. Farmers who deal with dairy cattle are called dairy farmers. They grow crops such as corn and oats to feed to their cows. They sell the milk to companies who supply our cities with dairy products such as milk, butter, cheese, and other dairy products. Dairy farmers might also raise chickens, pigs, and other small animals for additional income or for their own use.

Another type of farming is livestock farming. Here the farmer raises steers, and possibly other animals. He feeds them for a season and then sells them to a slaughter house company which provides the cities with meat.

Another familiar type of farming is truck farming. Here the farmer grows crops to sell, such as potatoes, and other fruits and vegetables. These crops are called cash crops. Truck farms often hire farm laborers during harvest time. Dairy farmers often hire one or two "hired hands" to help with the chores.

Farmers need to be in good health and to be able to use good judgment in planning work. Some mechanical ability is helpful. It is important to enjoy working outdoors in all kinds of weather, and to be will ing to work long hours seven days a week.

Farming offers work for the farm laborers, hired hands, farm managers, as well as owning one's own farm. Training is available through technical schools, but the best training available is actual work on a farm.

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ABSTRACT: THIS CURRICULUM GUIDE IS DESIGNED FOR USE IN CLASSES OF ENGLISH AS A SECOND LANGUAGE. IT PROVIDES STUDENTS WITH INFORMATION ABOUT VARIOUS OCCUPATIONS AS WELL AS THE OPPORTUNITY TO BECOME MORE PROFICIENT IN ENGLISH. THE GUIDE WAS DEVELOPED AS AN EFFORT TO INTRODUCE STUDENTS TO VOCATIONAL PROGRAMS IN WHICH THEY COULD BE SUCCESSFUL WITH VARYING DEGREES OF ENGLISH SKILL. IT IS ONE OF A SERIES OF THREE, WITH THE PROGRAMS WHICH REQUIRE THE LEAST SKILL IN ENGLISH INTRODUCED AT LEVEL I. THE LEVEL II GUIDE CONSISTS OF LESSONS ON AUTO MECHANICS, UPHOLSTERY AND AUTO TRIM, AUTO BODY, SMALL ENGINE REPAIR, BLUEPRINT READING, FOOD PREPARATION, GENERAL OFFICE, KEYPUNCH OPERATOR, AND WARD CLERK. EACH LESSON CONTAINS STUDENT OBJECTIVE, VOCABULARY LIST, DIALOGUE, AND GRAMMATICAL RULES AND EXERCISES. (NJ)

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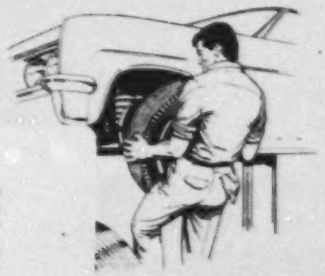
VOCATIONAL ENGLISH

Level II

GATEWAY TECHNICAL INSTITUTE



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VOCATIONAL ENGLISH

Developed at

Gateway Technical Institute

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VOCATIONAL ENGLISH

Introduction

The materials in this series of lessons has been developed at Gateway Technical Institute for use in English as a Second Language classes under a special project funded by the State Board. Its objective is to provide the students with an overview of vocational diploma programs available in the institution so that as they become proficient in the use of English they are also increasing their knowledge of training opportunities available to them.

An effort has been made to introduce to different groups of students, programs in which they could be successful with varying degrees of English skill, with those programs requiring the least skill being introduced at Level I. In some instances, notably Health and Food Preparation, there are opportunities for a wide range of proficiency. These units were prepared on all three levels.

It is expected that teachers will supplement these units through discussion, films or film strips, related materials, resource speakers visits to the different labs, and industrial tours. In some instances, the work samples available through the Gateway Testing Center can be used as a "hands on" experience in the unit.

Within each unit is a structural English lesson ranging in Level I from verb usage, contractions, etc., to the use of adverbs and adjectives in Level III. Teachers will supplement the unit by using the vocabulary list for sentence writing and conversation practice.

VOCATIONAL ENGLISH

Level II

Auto Mechanics
Plurals, positive to negative

Upholstery & Auto Trim
Homophones, who/whom, incomplete sentences, double comparisons, verb usage

Auto Body
Homonyms, word usage, nouns

Small Engine Repairman
Plurals, positive & negative, sentences to questions

Blueprint Reading
Subject/predicate, pronouns, verb usage

Food Preparation
Future and past tense, contractions, prepositions

General Office
Plural, forming negatives, sentences to questions

Keypunch Operator
Plurals, sentences to questions

Ward Clerk
Negative contractions, verb contractions

Industrial Related

Because Gateway Technical Institute is in the center of a vast industrial area that is growing rapidly, specific programs are available for those who want to work in the manufacturing or production processes so abundantly available.

An awareness of good safety practices is needed in all types of industrial jobs for the protection of self and others. These concepts can be understood if presented early in ESL classes.

Many ESL students have a very limited knowledge of the variety of industrial jobs available and of the skills each requires.

The units should be supplemented with visits to the labs, observation of the classroom and industrial tours. Representatives of the Urban League, industrial teachers from Gateway, or persons from industry could be invited to visit the class and discuss the types of jobs and training opportunities.

Auto Mechanic: Basic skills in auto tune-up, brake adjustment, wheel balancing, lubrication, and general auto servicing.

The home and the automobile today reflect a freer, more affluent society, and home and car owners decorate as they wish. Period furniture, luxurious fabrics, and bright new interiors in our cars, all reflect the way we live. Craftsmanship is called for in fitting out the car and the home as well. The diploma program at Gateway Technical Institute, described below, supplies it:

Upholstery & Auto trim: Moving from the simple to the more complex task, the student learns how to handle tools, equipment, and supplies: spring tying, stuffing, ordering and cutting material; cushion construction, tufting, channel back; woodworking, repair and restyling of frames; finishing and refinishing wood surfaces. The upholsterer is employed in custom upholstery shops, furniture factories, auto manufacturing, auto and body trim shops and furniture shops.

Auto body: The process of shaping metal is a vital part of the way we live today, and Gateway Technical Institute offers three different career education choices in metal shaping. Graduates in all three areas are always in demand. Audo body offers all phases of repair to damaged cars, including metal straightening, smoothing, grinding, sanding, and fill-in. Concealment of flaws, painting, and replacements of body components and trim are stressed.

Small Engine Repair: Techniques and methods for repairing equipment such as lawn mowers, snow blowers, gasoline engines. Much "hands on" instruction in a lab setting.

Blueprint Reading: Skill development necessary for many industrial jobs.

AUTO MECHANICS

Student Objective: The student will be able to understand some of the duties and training necessary in becoming an auto mechanic.

Vocabulary:

customer	ingition	defective
tune-up	exhaust system	
service writer	department	
solenoid	spark plug	
warranty		

Dialogue:
Manuel and Juan: Manuel is the service writer and must write up all work orders. Juan is the mechanic and will be doing most of the repair work.

Manuel: Juan, on your way to work tomorrow, will you bring in the blue 1974 Ford that belongs to Carlos? I want you to recheck the ignition timing. The car's engine does not stop when you shut the ignition switch off.
Juan: Did he call you this morning?
Manuel: No. Yesterday is when he called. Why?
Juan: Well, last week while you were on vacation, we gave his engine a tune-up, and I told him that we would have to replace the idle solenoid because it is defective. We didn't have the part in stock, so we ordered it from the Chicago warehouse.
Manuel: When will the part come in?
Juan: I believe the parts department has the solenoid in stock now.
Manuel: Will you pick up the car tomorrow?
Juan: Yes.
Manuel: I will call Carlos and tell him that you will pick up the car and reassure him that the work will be done under warranty.
Juan: The car also needs exhaust system work and at least one wiper blade.
Manuel: I will tell him about those problems when I call.

Grammatical Focus No. 1

Exercise 1: Change the noun forms from singular to plural by adding s.
Example: (singular) Ford (plural) Fords

1. I want to recheck the car.
2. Will you pick up the automobile?

3. We will check the timing of the engine.
4. There will be no charge to the customer.
5. We will change the part under warranty.
6. Does Carlos want the spark plug replaced?
7. There is a problem with the tire on Carlos' car.
8. The car will need a quart of oil when we reset the idle speed.
9. The car needs the muffler replaced.
10. The owner will pay for the wiper blade.

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Grammatical Focus No. 2

Exercise 1: Adding the word not will change a sentence from positive to negative and the statement is related to the dialogue.
Example: (positive) I can get the car. (negative) I cannot get the car.

1. He did call this morning.
2. The car can be turned off.
3. The car does idle all right?
4. Manuel is the mechanic.
5. The work will be done today.
6. The car does run too slow.
7. The solenoid is all right.

8. The car is fixed in the shop.
9. Carlos is the service writer.
10. Juan has the parts.

1. He did not call this morning.

2.

3.

4.

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Grammatical Focus No. 3 Review Exercise
Changing the sentences to questions.
Example: (statement) The 1974 Ford is blue. (question) Is the 1974 Ford blue?

Exercise 3: These statements pertain to the dialogue.

1. Juan will bring in the blue Ford tomorrow.
2. The ignition timing is to be checked.
3. The car ignition will not turn off.
4. Carlos did call in today.
5. Manuel was on vacation last week.
6. The solenoid is defective.
7. The part was ordered from the warehouse.
8. The part is in stock now.
9. We will pick up the car tomorrow.
10. The work is to be done under warranty.

1. Will Juan bring in the blue Ford tomorrow?

2.

3.

4.

5.

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Situation:

A. Call an automobile dealer and tell them you are interested in becoming an auto mechanic.
B. Then visit and discuss with the dealer what training you would need and ask him questions about the education and experience you need for the three basic levels in a service garage.

Structures that may be useful in the conversation with the dealer:
What type of training is needed for...
How long is the training program?
Where may I obtain the training for...
What tools will I need to work as...
The job salary and benefits are...

Reading:

Before you decide on becoming a mechanic, ask several employed mechanics about how they like the work. Ask them about their training and how much they may expect to earn.

UPHOLSTERY AND AUTO TRIM

Student Objectives: The student will become familiar with some of the vocabulary and duties of an upholsterer.

Vocabulary:

upholstery	ply foam	re-tying	merry
springs	homophones	tack	
webbing	injuries	sew	
filling	association	refinish	
cushion stuffer	argument	suspect	
cotton	dragon	suffer	
sisal	lawn	upholster	
fabric	materials	tangle	
frame	contact	upholstery (work)	
power stapler	repair	measurement	
heat gun	fix	favorite	

Dialogue:
Alfredo contacts Cheo's Upholstery to have his wife's favorite chair repaired.

Cheo: Hey man! What's happening?
Alfredo: Well, I'm trying to get some help fixing my old lady's messed up chair.
Cheo: Let's see what the problem is. Yes, it does look as though it will need some upholstery work.
Alfredo: Dig it, but like I don't want to stick a lot of bread into this thing.
Cheo: OK, but you're going to have to have some body work done which will include re-tying these springs and applying new webbing. It will also need some more filling with this cushion stuffer, here. Then, I'll have to add some sisal and cotton to the arms and tack the fabric where it has come undone. The frame needs refinishing but you might want to do that yourself.
Alfredo: Yeh, and maybe I ought to do the whole job myself and save a bundle.
Cheo: That's up to you, although I think you'll need a power stapler, a heat gun, a cushion stuffer, and a few measurement items. You'll also need filling material, ply foam, and wood finishing materials.
Alfredo: Forget it man, I can't get that stuff together. All right, how much will it cost to get it fixed up?
Cheo: I'd say about ten to fifteen dollars if you can do the refinishing.

Alfredo: OK, I'll pay you, but this looks like something I could do with a little training.

Cheo: Right on! And you can get it at Voc. Tech., in their Upholstery and Auto Trim training program.

Grammatical Focus No. 1

Homophones: Homophones present spelling problems because they sound alike but have different meanings and different spellings.

Exercise 1: Select the correct spelling for the homophones used in the following sentences.

Example: (to, two, too) Manual was __too__ low on his bid __to__ refinish that chair for __two__ dollars.

1. Can Cheo fix the _____ and the seat on that wheelchair before he goes on _____. (break, brake)
2. That does not _____ the fact that the groom did not show up at the _____. (alter, altar)
3. Of _____ you'll have to use a fabric which is less _____. (coarse, course)
4. _____ no use to use the sisal for _____ filling. (its, it's)
5. The _____ in the pencil _____ the police to suspect the secretary. (led, lead)
6. One _____ suffered _____ injuries from the cave-in. (miner, minor)
7. _____ going to count _____ money over _____ by the telephone booth. (their, there, they're)
8. Juan _____ that information on the _____ president of the association. (past, passed)
9. It is _____ to see why the _____ never got off the ground.
10. There won't be a moment's _____ until they have a _____ of the action. (piece, peace)

Exercise 2: Make sentences using the homphones listed below.

Example: a) Your: That power stapler will go on your next bill.
b) You're: You're much too tired to operate the heat gun safely.

1. (who's, whose)

2. (made, maid)

3. (know, no)

4. (waist, waste)

5. (mail, male)

6. (blew, blue)

7. (hour, our)

8. (knot, not)

9. (sea, see)

10. (due, dew, do)

Exercise 3: Make another sentence using a homophone for the underlined word in each sentence.

Example: a) The <u>deer</u> got tangled in the webbing of the lawn chair.
b) That rocker is very <u>dear</u> to me.

1. There is a picture of a <u>knight</u> and a dragon on Pedro's cushion.

2. Don't you think they had a <u>merry</u> time?

3. He became very angry after he <u>read</u> the bill.

4. Your ply foam order will <u>be</u> in tomorrow.

5. If tacking it up will not work, I'll try to <u>sew</u> it.

6. Alfredo never had <u>won</u> an argument with before today.

7. Armando will need <u>four</u> more springs in that cushion.

8. Lana has not given us the right size staples for this stapler.

9. Did you see where Ramon drove the stakes into the ground?

10. Your aunt will be expecting her sofa upholstered by Tuesday.

Grammatical Focus No. 2
Who/whom
"Who" refers to the nominative case and applies to the subject of the verb.
"Whom" refers to the objective case and applies to the object of the verb.

Exercise 4: Place the correct usage (who or whom) in the blank for the following sentences.
Example: Since I did not know to whom the heat gun belonged, I did not use it.

1. No one has figured out to _____ Miguel had talked regarding the power stapler.
2. _____ was that former employee _____ was allergic to the sisal?
3. Jesus was one of the men _____ didn't think the chair could be refinished.
4. Many upholsters _____ are on strike would rather be working.
5. Everyone _____ is interested in enrolling in the Upholstery and Auto Trim course should see me now.
6. Cheo couldn't begin the stuffing until he knew _____ was going to pay for it.
7. The customer _____ will be here at noon should be charged for those two brown chairs.
8. Sell it to the first person _____ wants to buy it.
9. _____ did you say had borrowed the power stapler?
10. It was Rivera _____ had asked you for _____ you had recovered those cushions.

Grammatical Focus No. 3
Dangling modifiers
A phrase or clause which does not clearly and sensibly modify a word in the sentence is a dangling modifier.

Exercise 5: Indicate which of the following sentences are correct (+) and which have a dangling modifier (-).
Example: While tacking the fabric on the arm, one of the spindles dropped off the back. (-)

1. If you wish to learn upholstery, vocational school can give you the training. ( )

2. Hopelessly confused by the problem, Alfredo asked Cheo for some help. ( )
3. Since Maria had only two choices, the decision was much easier. ( )
4. To remove the paint quickly, varnish remover will work well. ( )
5. Failing to receive the fabric on time, our contract with the State was canceled. ( )
6. After having to re-do Jose's work for the third time this week, he was fired. ( )
7. When stuffing with sisal, a cushion stuffer cannot be used. ( )
8. Just after lunch break, I began to have problems. ( )
9. For being 14 years old, this fabric is in good shape. ( )
10. Trying to keep the colors matching, Cheo had to recover all the cushions. ( )

Grammatical Focus No. 4
Double comparison
A double comparison is one which the degree if formed incorrectly by both adding -er or -est and using more or most.

Exercise 6: When necessary, write the correct form of the incorrect modifiers, eliminating double comparisons. Do not change those sentences which are correct.
Example: Carlos' tacking is more straighter than mine. ~~more~~ straighter

1. This is the most loveliest fabric of the group. _____

2. The chair rocks more worse than before. _____

3. When he gets angry, him hammering becomes more loud. _____

4. Pablo is the more faster stapler of the two. _____

5. The customer was least disturbed by the charges. _____

6. We were not sure which of the two filling materials would be more better to use. _____

7. Franco makes more fewer mistakes than anyone. _____

8. Jose was most best at refinishing. _____

9. Which one of the three chairs is more heavy? _____

10. Repairing the tears is the most costlier of the work needed to be done.

_____

Grammatical Focus No. 7
Irregular Verb Usage

Exercise 1: Write the correct verb usage in the blank for the following sentences.
Example: write I had <u>written</u> up the charges before I knew who he was.

1. give Yesterday Cheo _____ me more work to do.

2. break The arm on the left side is _____.

3. begin The stuffing suddenly _____ to fall out.

4. go Had he _____ to lunch before you reached him?

5. shrink When I cleaned the fabric, it _____.

6. freeze The fact that the stuffing had _____ shouldn't have made any difference

7. do Have you _____ that type of sewing before?

8. buy Juanita _____ the stain for the frame the same day.

9. burst Just as I finished tacking this side, the other _____ open!

10. know Alfredo should have _____ it would take longer than that just to complete the upholstery work.

AUTO BODY

Student Objective: The student will be able to understand all phases of repair on damaged cars, including metal straightening, smoothing, grinding, sanding, and fill-in. Concealment of flaws, painting, and replacement of body parts and trim are stressed.

Vocabulary:

dent	metal	ding
chrome	component	braze
fender	belt line	iron
paint	abrasive	bump
ripples	burp gun	weld
equipment	finish	shrink
windlace	replace	
turret	trim	

Dialogue:

Potential employer: O.K. Jose, I'll give you a chance to show me what you know about auto body repair.
Jose: What would you like me to do?
Potential employer: I'll have my foreman assign you on a smashed deck lid.
Foreman: Jose, all auto body tools are located on the east wall and all mechanical tools are on the west wall.
Jose: Where is the car?
Foreman: Out in the lot and it's a 1972 red Chevy. I want you to remove and replace the deck lid and treat damages. Also, check for initial point of impact.

Grammatical Focus No. 1:
Exercise 1: Meanings of three words that all sound the same (homonyms)
to - toward (infinitive preceding a verb)
too - also
two - the number 2
Example: Are you going <u>to</u> the shop?
Yes, I would like you to go <u>too</u>.
Now there are <u>two</u> of us going.

Fill in the following sentences with the correct word from above.

1. There are _____ dents in the right fender.

2. Does it need a paint job _____?

3. Do you have _____ use a burp gun?

4. The ripples were ironed out _____.

5.-6. It's _____ expensive _____paint all of the car again.

7. This truck has _____ have new chrome.

8. The trim has _____ separate parts.

9. The windlace is part of the roof _____.

10. Hammers are used _____ pound out dents.

Exercise 2: These words can be used as nouns, verbs, and adjectives: paint, dent, trim, iron, bump
Use the word in the correct form and identify whether it is a noun, verb, or adjective.
Example: The ironed (iron) section was being painted. adjective

1. The _____(dent) was filled and sanded. _____

2. Ripples on the fender had been _____(iron). _____

3. _____ (paint) had spilled on the chrome. _____

4. Cars are commonly _____(bump) in the fender. _____

5. The fender was _____(dent) by the truck. _____

6. The _____ (paint) door was not the right shade. _____

7. Jose _____(iron) the ripples. _____

8. The _____ (trim) was covered before the car was painted. _____

9. He _____(dent) the door when he opened it. _____

10. The auto body repairman _____ (trim) the chrome. _____

Grammatical Focus #2:
Exercise 1: The following are parts of a car that may need repair if your career is in auto body. Place the correct name identifying that part of the car. grill roof bumper fender door windshield trunk hood wheel side panel

1.

2.

3.

4.

5.

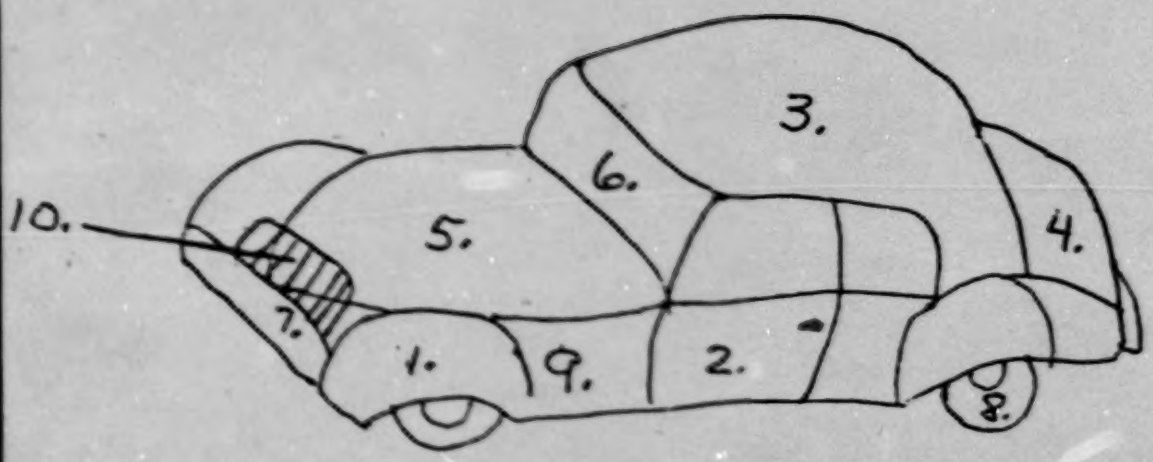
6.

7.

8.

9.

10.



Situation:

A. Call potential employers, Chevrolet-Cadillac Inc., Buick-Opel Co., Lincoln Mercury Inc., etc.

B. Note the agency's duty requirements.

C. Visit the agency's shop and take a tour of the facilities to see if you would like to work there.

Structures that may be useful in the situation:

Do I have to supply my own tools to become...
Is training required to become a ...
How long...
I would like to work...

Reading:

Auto body is a never-ending job. Its demand for good auto body men is good. Pay rates vary according to auto brand names. Visit the agency you are interested in and decide if you would like that kind of work. Find out if there is additional training provided by the company or on-the-job training. Finally, ask how much the job pays before you decide on a career as an auto body man.

SMALL ENGINE REPAIRMAN

Student Objective: As part of his training, the worker will be able to identify the proper part using the Tecumseh parts manual and state why it is important to have the engine type and serial number.

Vocabulary:

Tecumseh	piston
governor	air shroud
linkage	cylinder

Dialogue:
Between Calixto and Jose: Calixto is the trainee needing a governor spring for the Tecumseh engine he is repairing. Jose is the shop owner with many years of experience.

Calixto: Jose! I wonder is you could help me find the governor spring for the Tecumseh model LAV 30 which I am repairing.

Jose: Calixto, did you look the part up in the quick reference manual, or in the parts manual?

Calixto: No.

Jose: The Tecumseh carburetors use some unusual linkages and springs and it is important to have the correct one or the engine will not run smoothly when changing speeds.

Calixto: Well, I can say that from looking at the spark plug, the engine's governor spring has been missing for several weeks because the engine shows heat damage and excessive wear. Maybe, Jose, you should measure the cylinder and piston for wear.

Jose: That is a good idea. If the engine shows heat damage, we will need to look up the parts from the engine service manual by using the specific engine type number and then measure the parts for wear.

Calixto: Are not all the parts for a Tecumseh LAV 30 the same?

Jose: No. There are over 100 different carburetion and linkage spring combinations used on the LAV 30 and quite a few different head gaskets.

Calixto: Where is the type number stamped?

Jose: Usually on the air shroud.

Calixto: Are the internal engine parts all the same on a Tecumseh LAV 30?

Jose: No. On the ones used by Sears, the timing gears are different and so are some of the carburetors and valves. So we will have to look up the part by number before we can measure the part for wear.

Grammatical Focus No. 1

Exercise 1: Changing the singular to plural by adding an s to the underlined word. Example: (singular) engine (plural) engines

1. I want to find the correct governor spring.
2. We need the correct model number.
3. Did you check the cylinder for wear?
4. Did you check the head bolt?
5. We will need the Tecumseh service manual.
6. We will need to look up the part in the service manual.
7. Will you measure the piston for wear?
8. We need to replace the gasket.
9. Replace the gasket set on the carburetor.
10. Remove the spark plug.

1. I want to find the correct governor springs.

2.

3.

4.

5.

6.

7.

8.

9.

10.

Grammatical Focus No. 2

Exercise 2: Change a positive statement to a negative statement by adding the word not to the sentence. Example: (positive) All of the Tecumseh LAV 30 use the same governor springs. (negative) Not all of the Tecumseh LAV 30 use the same governor springs.

Note: The statements are true, but when you change them to negative statements, they will become incorrect.

1. I can find the governor spring.
2. I can find the model number.
3. I did look in the quick reference manual for a part number.
4. We need to measure the cylinder for wear.
5. There is heat damage to the engine.
6. The number is stamped on the air shroud.
7. The governor assembly is complete.
8. Jose can help Calixto find the governor parts.
9. Calixto can find the part by himself.
10. The head gasket must be replaced.

1. I can<u>not</u> find the governor spring.

2.

3.

4.

5.

6.

7.

8.

9.

10.

Grammatical Focus No. 3

Exercise 3: Change the sentence to a question.
Example: Statement: The Tecumseh engine is a good engine.
Question: Is the Tecumseh engine a good engine?

1. The engine needs repair.
2. The cylinder shows wear.
3. The governor spring is missing.
4. Look the part up in the manual.
5. The cylinder head is loose.
6. The linkages and springs are unusual on Tecumseh engines.
7. Calixto will measure the engine's cylinder for wear.
8. The Tecumseh LAV 30 parts are all the same.

9. The number is on the air shroud.
10. The Sears gaskets are all the same.

1. Does the engine need repair?

2.

3.

4.

5.

6.

7.

8.

9.

10.

Situation:

A. Check with any small engine shop owner and discuss with him what kind of problems are associated with small engine work.
B. Visit a shop and check with an employee about working conditions and what type of training is needed.

Structures that may be useful in the conversation with the employer or employee of a small engine service shop.

What type of training is required in...
How long does the training take...
What tools do I need to...
I would like to work as...
What advancements are there...

Reading:

There are limited kinds of jobs available in the area of small engine repair but there are thousands of industries which use small engines on their production equipment and these engines need periodic servicing and repair. If you check the newspaper you may find job openings with large firms in the area of maintenance or mechanical repair. There are several engine manufacturer schools as well as educational institutions that offer training and programs in the service and repair of small engines.

BLUEPRINT READING

Student Objective: The student will be able to understand the meaning and function of a blueprint. He will also gain some familiarity with the terminology used in blueprinting.

Vocabulary:

drawing	to measure
scale	to assemble
dimension	to construct
ruler	to build
print	to draw
layout	to read
lines	to show
elevations	exact
architect	accurate
draftsman	
measurement	
inch	
foot	
plan	

Dialogue:

Ellen: That is a very strange picture you are drawing.
Pedro: It's not really a picture. It's a blueprint.
Ellen: A blueprint?
Pedro: Yes. Blueprints show exactly how something is constructed.
Ellen: You mean like a house.
Pedro: A house, a machine, or a tool are all made from blueprints.
Ellen: I think I saw a carpenter use one of these.
Pedro: Many different people use blueprints. Without them it would be almost impossible to build buildings or assemble machines.
Ellen: Blueprints look very hard to make.
Pedro: They are not difficult once you have the training required to become a draftsman or architect.

Grammatical Focus No. 1
Subject/predicate
There are two basic parts in every sentence. They are called subjects and predicates. Subjects name the things we are talking about. Predicates tell what we have to say about them. If either the subject or the predicate is left out, then we do not have a sentence.

Example: The architect showed the blueprint to the carpenter.
subject: architect predicate: showed

Exercise 1: In the following sentences underline the subject once and the predicate twice.

1. The architect showed the blueprint to the carpenter.
2. The scale for the building was one inch for every ten feet.
3. The blueprint for the machine required 42 pages
4. The measurements for the new church were not accurate.
5. The engineer inspected the new bolts to see that they were the correct dimensions.
6. It took the draftsman 8 hours to finish drawing the blueprint.
7. When grease was spilled, the blueprint has to be redrawn.
8. Special measuring instruments are used to draw blueprints.
9. The blueprint elevation revealed the side of the house from top to bottom.
10. The thought of designing the new hospital excited the architect.

Grammatical Focus No. 2
Pronouns
The pronoun is a word that takes the place of a noun. Example: The workers assembled the machine. Workers and machine are nouns. Pronouns can be substituted for these nouns. Example: They assembled it. They is a pronoun which takes the place of workers and it is a pronoun that takes the place of machine.

Exercise 2: In the following sentences substitute the underlined nouns with pronouns. A list of pronouns are as follows: I, me, he, she, her, him, you, we, us, they, them.

1. Bill turned on the light above the drafting table.

2. The architect showed the blueprint to the carpenter.

3. The machine could not be assembled because the blueprints were missing.

4. The foreman could see the whole layout of the first floor by looking at the blueprint.

5. The new machinist had trouble reading the blueprint.

6. Fifty copies of the new blueprint were printed.

7. A scale model of the new bank was assembled by Jim.

8. Blueprints are also referred to as plans.

9. The light was turned on over the drafting tables.

Grammatical Focus No. 3
Verb tense: draw, drew, drawn

1. Use draw when you are talking about the present--what is happening right now.
2. Use drew when you are talking about the past tense--something which has already taken place.
3. Use drawn only with a helping verb such as was, were, has, had, or have.

Exercise 3: Put the correct word: draw, drew, drawn in the following sentences.

1. The draftsman _____ the blueprint.

2. I will _____ a layout.

3. The foreman asked if the blueprint was _____.

4. How can she _____ without her pens?

5. The building was _____ to the correct dimensions.

6. _____ up the plans by tomorrow!

7. Can Howard _____ as well as Julie?

8. He _____ the bushing to full scale.

9. I wish I could _____ blueprints like an architect.

10. He could not read the blueprint he had _____.

Situation:

Stop at a construction site and ask to see the blueprints. Explain that you are a student and would like to observe how a blueprint is used.

Visit a drafting class at a technical institute. Become familiar with the tools and instruments used by a draftsman.

Reading:

Blueprints play a very important role in constructing or assembling a building or machine. In fact, without them it would be almost impossible. A blueprint is like a map which shows the carpenter or machinist exactly what materials should be used and where to put them.

The draftsman or architect play a key role in society. We are all dependent upon their skill. They take an idea and are able to draw it exactly, each curve, line, and figure must be accurate to the inch or less.

Training is required to become a good draftsman or architect. It is a most challenging and rewarding profession.

Hospitality Programs

Food service jobs, part of the hospitality industry, are booming. Greater numbers of people are traveling and dining out. With increases in population, urban development, and more money available for trips and meals away from home, the spiral continues upward.

Individuals with limited skills in English are employable in the hospitality industry. Training in proper kitchen procedures, sanitation, and working with the public are available at various levels in the food service program at Gateway Technical Institute

This unit should be supplemented by visiting the food service labs on the Racine campus. Teachers in the program could be invited to talk to the class.

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FOOD PREPARATION
Waitress or Waiter

Student Objectives: The student will become familiar with some of the duties of a waitress as well as the vocabulary and sentence structure needed for comprehension.

Vocabulary:

stack	continental	entree
clear	ala carte	gourmet
prepare	courteous	garnishes
order	efficient	sauces
replace	spotless	liqueur
reset	elaborate	cocktails
dine	prime	appetizers
substitute	choice	finger bowls
		banquet
		gratuities
		beverages
		relish tray
		goblets
		china
		chef

Dialogue:

Irma: Jose has lost his job. Now I must look for work to earn money.
Maria: Would you like to be a waitress?
Irma: I don't know. Is that a good job?
Maria: Yes, I think so. Waitresses can earn tips too.
Irma: Is there anything available where you work?
Maria: One of the girls there just got married and moved away.
Irma: Tomorrow morning I will apply for her job.
Maria: I will tell the manager that you are coming and that you are a good worker.

Grammatical Focus No. 1
Exercise 1: Change the following sentences to future time.
Examples: I go - I will go I take - I will take I see - I will see

1. I take a bath every morning.
2. I comb my hair neatly.
3. I walk to work.
4. I come to work on time.
5. I keep my work station clean.
6. I smile at the customers.

7. I give them menus.
8. I set the table.
9. I am courteous at all times
10. I take orders and give them to the chef.

1. I will take a bath every morning.

2.

3.

4.

5.

6.

7.

8.

9.

10.

Exercise 2: Use contractions for the following:
Examples: do not - don't are not - aren't is not - isn't he is - he's
that is - that's

1. I will	1. _____	6. will not	6. _____
2. she is	2. _____	7. did not	7. _____
3. I am	3. _____	8. they are	8. _____
4. what is	4. _____	9. were not	9. _____
5. does not	5. _____	10. cannot	10. _____

Grammatical Focus No. 2
Exercise 1: Prepositions. Fill in the blanks with the correct preposition.
Use one of the following: in, on, to, from, by, at, for

1. She always eats _____ the restaurant.
2. Don't sit _____ that chair.
3. He explained everything _____ me.
4. Irma writes all the new words _____ her notebook.

5. They get us _____ eight o'clock in the morning.
6. I had only a sandwich ____ lunch.
7. He comes to work _____ bus.
8. She set the soup ____the table.
9. Do you take sugar _____ your coffee.
10. What would you like _____ dinner.
11. I took the dessert _____ the tray.
12. There is a message _____ you.

Exercise 2: Past tense. Give positive and negative answers to the questions.
Follow the example: Did you serve the food?
Yes, I served the food.
No, I didn't serve the food.

1. Did you wash your hands?

2. Did you wipe off the chairs?

3. Did you serve the appetizers first?

4. Did you bring the dessert?

5. Did you clear the table?

6. Did you replenish the water as needed?

7. Did you provide ice teaspoons?

8. Did you replace dropped items with clean ones?

9. Did you present the check face down?

Exercise 3: Opposites: up-down day-night big-small in-out
Give opposites for each of the following words.

1. hot
2. on
3. late
4. lose
5. often
6. heavy
7. high
8. thick
9. absent
10. sick
11. top
12. food
13. full
14. knife
15. arrive
16. useful
17. future
18. sharp
19. sweet
20. warm

Lesson theme:

Irma got a job as a waitress at the restaurant. Her friend, Maria, told her about the opening. Irma's duties include taking orders and bringing food to the customers. It is important for her to set the table correctly. Irma is popular and receives many tips.

Discussion questions:

1. What kind of job did Irma get?
2. Who told her about the opening?
3. What are Irm'as duties?
4. Is Irma popular?
5. What does Irma receive?

Situation:

A. Eat in a restaurant and judge the waitress' performance. Note her different duties.
B. Explain to a friend or relative why you think you would be a good waitress.
C. Practice being a waitress at home with your family or friends.

Strucures that may be useful in the situation:

She didn't...
She should have...
I'm going to...
Is it necessary to...
May I suggest...
Would you care to...
May I bring you...
Will there be anything else?

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Reading

Before you decide to be a waitress, ask yourself these questions:

Do I like to work with people?
Is my appearance neat and clean?
Will I remember to be courteous at all times?
Can I follow instructions?

Good service is the same the world over. A good waitress is never out of work. She can use the knowledge of her profession as a career, as a part-time occupation, or at home. This knowledge, along with dependability, and honesty, will make her a valuable, successful, and trusted employee.

Suggested other job possibilities at Level 2:

short order cook
cook's helper
baker's helper
kitchen worker

Secretarial & Office

All data and accounting systems are involved with the keeping of records. The computer works with a score of other office machines to process data. Fast and capable, the computer handles vast amounts of information, and carries out complex orders. At Gateway Technical Institute, there is a study of computers in the Accounting program as well as in Data Processing.

Account Clerk: The student learns to perform the duties essential to record keeping in any business, through the practical application of basic bookkeeping and accounting skills.

Data Processing Machine Operator: The student learns to operate the equipment that feeds information into the computer, and equipment used to recover information from the computer.

GENERAL OFFICE

Student Objectives: The student will be able to understand and identify the functions, duties, and terms of a general office worker.

Vocabulary:

supervisor	invoice	pleasant
employer	telephone	courteous
office	filing cabinet	neat
receptionist	folder	numerical
calculator	employee	alphabetized
typewriter	mail	punctual
desk	envelope	accurate
bookkeeper	conference	willing
copy	delivery	
	address	

Dialogue:

Employer: Will you open the mail, please?
File clerk: Yes, sir. Would you like me to deliver it?
Employer: Then will you do the filing?
File clerk: I will put the letters in the proper file folders.
Employer: Will you file the invoices for the day?
File clerk: I already have them alphabetized.
Employer: Here are some figures to be added.
File clerk: May I use the calculator?

Grammatical Focus No. 1

Exercise 1: Change the nouns to plural form by adding s.
Example: singular-letter plural-letters

1. Open this letter.
2. This letter requires an answer.
3. Will you file this invoice.
4. She used a paper clip.
5. The supervisor is in a conference.
6. Here is an envelope.
7. There is one desk in the office.

8. Type the letter neatly.
9. Please copy this notice for the bulletin board.
10. The visitor can wait in this office.

1. Open all the _____.

2. All these letters require _____.

3. Will you file these _____.

4. She used all the paper _____.

5. All the supervisors are in _____.

6. Here are two _____

7. There are six _____ in the office.

8. Type all the _____ neatly.

9. Please copy these _____ for the bulletin board.

10. Both _____ can wait in this office.

Grammatical Focus No. 2

Exercise 2: Change the following sentences to negative form by adding the word not in the correct place.

Example: Please file these. Please do not file these.

1. The supervisor is in the office.
2. The file drawer is open.
3. Your desk is very neat.
4. The telephone is ringing.
5. On this job I have many duties.
6. The employee is late.
7. This invoice has been paid.
8. Today you can use the calculator and the typewriter.
9. The receptionist is answering the telephone.
10. There are many letters to be answered.

1.

2.

3.

4.

5.

6.

7.

8.

9.

10.

Grammatical Focus No. 3

Exercise 3: Change the following sentences to questions.
Example: Your filing should be done accurately.
Should your filing be done accurately?

1. The supervisor is in the office.
2. You should greet visitors pleasantly.
3. The mail is ready to be sorted.
4. The conference will begin today.
5. The address on this envelope is correct.
6. We need more supplies.
7. The letter is not in the file.
8. The typewriter needs cleaning.
9. The stapler is empty.
10. The invoices are up-to-date.

1. Is the supervisor in the office?

2.

3.

4.

5.

Review:

1. If an office worker opens the in-coming, she opens the _____.
   (a) mail (b) calculator (c) stapler

2. A receptionist should answer a telephone pleasantly and promptly.
   True or false? _____

3. It is important to _____ papers in the proper place so they do not get lost. (a) hold (b) file (c) place aside

4. To total figures, use a _____.
   (a) calculator (b) telephone (c) typewriter (d) invoice

5. Place the following in the proper alphabetical order for filing:
   Wrapping Machinery Co. _____
   General Motors _____
   Ford Motor Company _____
   American Motors _____
   S.C. Johnson & Son, Inc. _____

6. It is important to keep filing accurate and up-to-date.
   True or false? _____

7. _____ is most important to your personal appearance.
   (a) a new dress (b) employee (c) neatness (d) fingernail polish

8. Essential office supplies include (check 3)

   ___ paper clips ___ coffee cup
   ___ clock ___ stapler
   ___ eraser ___ handkerchief

9. It is easier to work if your _____ is orderly and neat.
   (Pick work from vocabulary)

10. A _____ is someone who greets callers and salesmen.
    (a) bookkeeper (b) receptionist (c) file clerk

6.

7.

8.

9.

10.

Situation:

A. Visit some community service offices, such as the Urban League, Spanish Center, CAP, etc., and ask what the duties of a clerk are.
B. Visit a small company and the employment office of a large industry to find out what the duties of a clerk would be expected to be done.
C. Visit the State Employment Office to see office workers on the job.
D. Tour any companies in your vicinity where tours are offered.

Structure that may be useful in the situation:

What skills are necessary to handle the job?
Is any experience necessary...
How to improve the job skills you have...
Where to improve the skills you have...
Visit office equipment stores to see new types of equipment available.

Reading:

There are many different duties in some general office jobs while others may require doing a few things over and over. Talk to people you know who work in offices and ask about their duties. Practice skills you have and keep improving because there may be chances to be promoted from general office work to other interesting jobs in the same office which have a higher salary. Read the want ads of your local newspaper every day to see what the requirements are for different companies and situations.

OFFICE

Our increase in business has created an immediate opening for experienced general office assistant for all around duties including receptionist, telephone, good typing, basic record keeping and others.

Salary commensurate with ability, excellent working conditions and all fringe benefits.

Apply in person 8-4 daily.

AIDE INC.

KEYPUNCH OPERATOR

Student Objective: The student will be able to understand the Operators' requirements and the function of the Keypunch machine.

Vocabulary:

keypunch	card stacker
card	card hopper
program card	print
alphabetic punch	column
numeric punch	automatic
data processing	manual
machine accounting	operator
keyboard	computer
verifier	

Dialogue:

Supervisor:	Can you keypunch these payroll cards?
Keypunch Operator:	What would you like punched in them?
Supervisor:	Punch the clock number, the data and the hours they worked in the columns shown.
Keypunch Operator:	What color cards do you want them punched in?
Supervisor:	Punch them on white cards, we use the blue cards for vacation pay and the yellow cards for deductions

Grammatical Focus No. 1
Changing singular nouns to plural nouns.

Example: (singular) card (plural) cards

Exercise 1: Change the nouns to plural form by adding s or es. (Add <u>es</u> to words ending in <u>x</u>, <u>ch</u>, <u>sh</u>, <u>s</u>, or <u>z</u>.)

1. Do not bend the <u>card</u>.
2. A program card is used to control the <u>keypunch</u>.
3. Which <u>column</u> should be punched?
4. The <u>operator</u> should work where there is good lighting.
5. She punched the <u>number</u> wrong.
6. Do not leave the work on top of the <u>table</u>.
7. Store the <u>program card</u> away carefully.

8. Keep the keyboard clean.
9. The cards will be run through the computer.
10. Information will be punched from the invoice.

1. Do not bend the cards.

2.

3.

4.

5.

6.

7.

8.

9.

10.

Grammatical Focus No. 2
Changing sentences to questions.

Example: There are 80 column in this card.
Are there 80 columns in this card?

Exercise 1: Change sentences to questions.

1. The keypunch machine is used for punching holes in cards.
2. The program card tells the keypunch machine what you want it to do.
3. The program card is wrapped around the drum.
4. Blank cards are put into the card hopper.
5. The cards can be fed into the machine one at a time.
6. Both alphabetic and numeric information can be punched on the same card.
7. The punched cards will be used in machine accounting.
8. Some examples of punched card accounting are telephone bills, gas & electric bills and government checks.
9. Different colored cards are sometimes used for different jobs.
10. When a card is punched incorrectly there is no way to correct it on that card.

1. Is the keypunch machine used for punching holes in cards?

2.

3.

4.

5.

6.

7.

8.

9.

10.

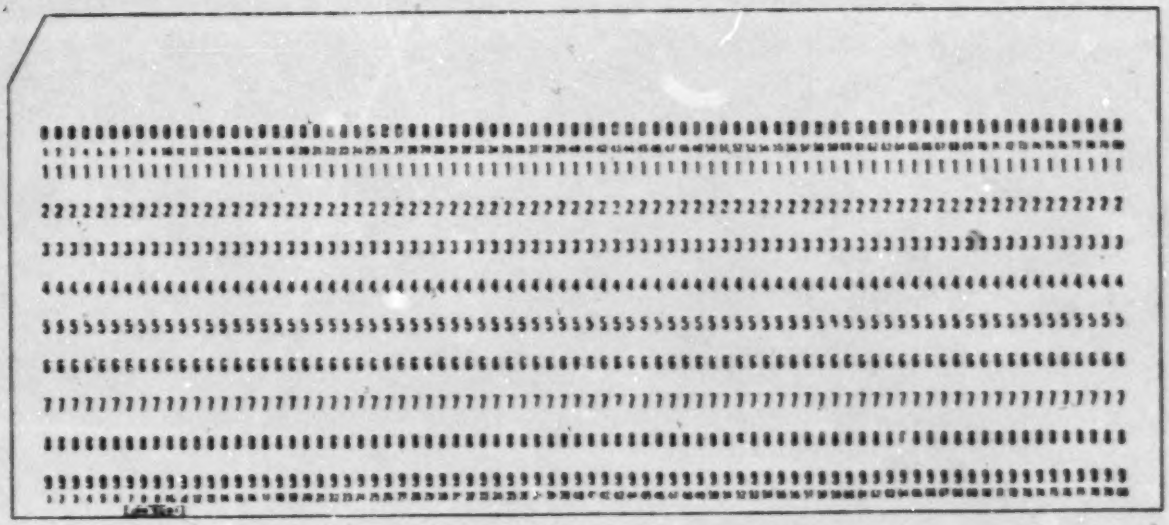
Situation:

A. Call the employment office of any firm that has a Data Processing Dept. and tell them you are interested in becoming a keypunch operator. Ask what training you need for the job.
B. Visit the employment office and ask them what qualifications are required of their keypunch operators.
C. Visit an office and ask for a tour of their Data Processing facilities to see if you would like to work there.

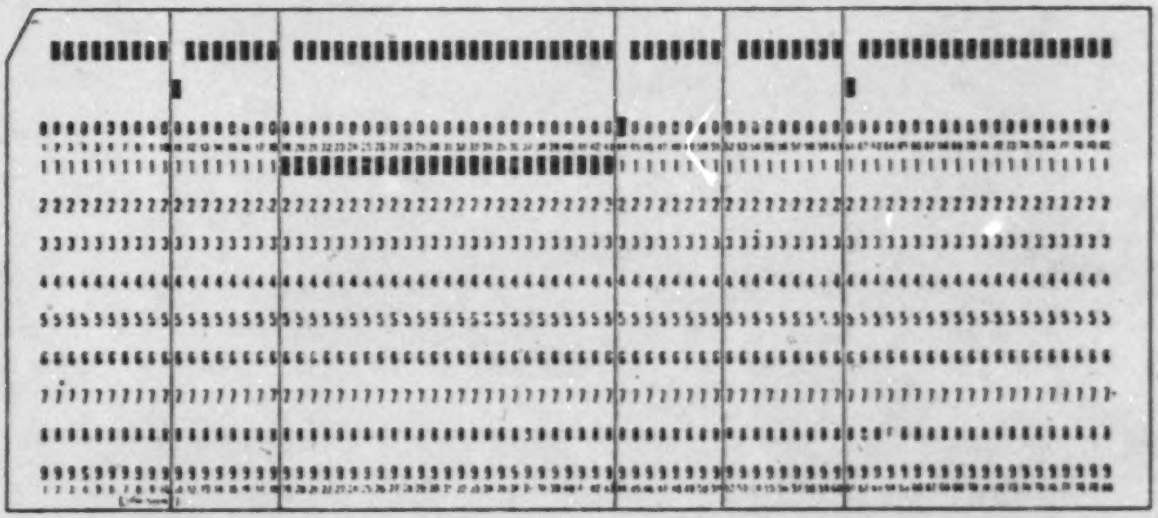
Structures that may be useful in the situation:

Is training required to become a...
How much...
How good of a typist do I have to be...
How important is speed...

This is what a blank card looks like.



This is what a punched program card might look like. Different codes are punched in for different jobs.



Here are the combination of punches required to give you a letter. By merely typing the letter, you will get the combination of holes.

The letters *A* through *I* combine a punch in the 12 zone with one of the digits 1 through 9. The next nine letters—*J* through *R*—use the 11 zone. The letters *S* through *Z* combine a digit (2 through 9) with the 0 zone.

Here are the punches for each letter:

	A	B	C	D	E	F	G	H	I
ZONE	12	12	12	12	12	12	12	12	12
DIGIT	1	2	3	4	5	6	7	8	9

	J	K	L	M	N	O	P	Q	R
ZONE	11	11	11	11	11	11	11	11	11
DIGIT	1	2	3	4	5	6	7	8	9

		S	T	U	V	W	X	Y	Z
ZONE		0	0	0	0	0	0	0	0
DIGIT		2	3	4	5	6	7	8	9

Reading:

The keypunch machine, which has a keyboard similar to that of a typewriter, is used to put data, or information, onto cards in the form of punched holes. These cards are later fed into a computer to perform automatically the various operations essential to record keeping.

The machine is easy to operate. Automatic duplicating and skipping are obtained by setting up a program card. A card is punched and mounted on a program drum, which is inserted in the machine. Blank cards are put into the card hopper and can be fed manually or automatically into the machine to be punched.

There are 80 columns in a card. Each column has 12 punching positions: one each for digits 1 to 9, and one each for the zones 0, 11, and 12. The 11-zone punch is sometimes referred to as X. The digits are recorded by punching a single hole in the corresponding digit or zero position of the desired column.

A letter is a combination of one zone punch and one digit punch in the desired column. A special character is one, two, or three holes in the desired column.

When a card is through being punched, it passes through the punch station and is fed into the card stacker.

Health Programs

The allied health programs all earn a diploma at Gateway and are oriented toward assistance in patient care in the dental or medical office or laboratory, in the operating theater, or on the hospital ward.

The nursing assistant is a six-week diploma program for the person who is stable, healthy, able to adjust and work under supervision to perform a variety of routine tasks.

The students could visit the nursing labs and tour the hospital. Nursing faculty can be used as resource speakers.

HEALTH CAREERS
WARD CLERK

Job Description: Ward clerks prepare records on patients in hospitals and nursing homes, transcribe doctors' orders, answer telephones, relay messages, and record information regarding patients' medical progress.

Student Objectives: The student will be familiar with the terminology required to carry on the duties of a ward clerk.

Vocabulary:

records	clerical
charts	sympathetic
temperature	medical
physician	surgical
receptionist	clinical
surgery	
pulse	transcribe
medication	require
requisition	
diet	
obstetrics	
pediatrics	

Dialogue:

Mrs. Lewis: We have a new patient in Room 303.
Maria: Would you like me to fill out her information sheet?
Mrs. Lewis: Yes. I am busy passing out medications.
Maria: Who is her doctor?
Mrs. Lewis: Dr. Jones. He'll see her in the morning.
Maria: I'll have the chart ready for him when he comes in.
Mrs. Lewis: Thank you, Maria.

Grammatical Focus No. 1
Many negative verb forms can be shortened to contractions. Most are changed by taking out the o in not and replacing it with an apostrophe. A few exceptions change spelling: example: will not - won't

Example: cannot - can't do not - don't

Exercise 1: Change the following verbs and negatives to contractions.

1. The patient does not want surgery.
2. A ward clerk cannot do clinical work.
3. The patient must not go off her diet.
4. The doctor will not give her any medication.
5. Podiatrics should not care for adults.
6. The nurse is not sympathetic.
7. We could not take his temperature.
8. The records have not arrive.
9. A doctor would not do clerical work.
10. Do not disturb the patient.

1.

2.

3.

4.

5.

6.

7.

8.

9.

10.

Grammatical Focus No. 2
The form of it's always means it is, or it has. It's is a contraction of it is, or it has, and always used an apostrophe.
Example: It is going to rain. It's going to rain.
It has rained all day. It's rained all day.

Exercise 2: In the following sentences, change it is, and it has, to it's.

1. It is a good job.
2. It has advanced in pay.
3. Do you think it is difficult work?
4. It is very hard work.
5. It is too hard for me.
6. It has become more detailed.
7. It is an interesting occupation.
8. It is rewarding to help people.

9. It is necessary to be in good health.
10. It has been fun working with children in pediatrics.

1.

2.

3.

4.

5.

6.

7.

8.

9.

10.

Situation:

A. Visit a school that teaches the course for Ward Clerk. Talk to a counselor about the subjects required to receive a diploma.
B. Visit a hospital employment office. Talk to the Employment Counselor about the duties required of a Ward Clerk.

Structures that may be useful in the situation:
I would like...
Could you tell me...
It's a job I...
I don't know...
Would I work with...
Would I need...
I think I would like...

Reading:

Do you like to work with people? Before you decide on a career as a ward clerk, ask yourself if you like working with people. You will be spending a lot of time talking with patients, getting information from them for their hospital records, talking with doctors and nurses. You might be working in pediatrics with children, or in obstetrics with new mothers. A ward clerk should be able to get along with all kinds of people in many

different situations. People who are ill are not often easy to get along with, and you must have a lot of patience and understanding.

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ABSTRACT: THIS CURRICULUM GUIDE IS DESIGNED FOR USE IN CLASSES OF ENGLISH AS A SECOND LANGUAGE. IT PROVIDES STUDENTS WITH INFORMATION ABOUT VARIOUS OCCUPATIONS AS WELL AS THE OPPORTUNITY TO BECOME MORE PROFICIENT IN ENGLISH. THE GUIDE WAS DEVELOPED AS AN EFFORT TO INTRODUCE STUDENTS TO VOCATIONAL PROGRAMS IN WHICH THEY COULD BE SUCCESSFUL WITH VARYING DEGREES OF ENGLISH SKILL. IT IS ONE OF A SERIES OF THREE, WITH THE PROGRAMS WHICH REQUIRE THE LEAST SKILL IN ENGLISH INTRODUCED AT LEVEL I. THE LEVEL III GUIDE CONSISTS OF LESSONS IN MECHANICAL DRAFTING, ELECTRONIC SERVICING, CLERK TYPIST, ACCOUNT CLERK, DATA PROCESSING, PRACTICAL NURSING, AND FOOD PREPARATION. EACH LESSON CONTAINS A STUDENT OBJECTIVE, VOCABULARY LIST, DIALOGUE, AND GRAMMATICAL RULES AND EXERCISES. (NJ)

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VOCATIONAL ENGLISH

Level III

GATEWAY TECHNICAL INSTITUTE

VT 103 229

VOCATIONAL ENGLISH

Developed at

Gateway Technical Institute

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VOCATIONAL ENGLISH

Introduction

The materials in this series of lessons has been developed at Gateway Technical Institute for use in English as a Second Language classes under a special project funded by the State Board. Its objective is to provide the students with an overview of vocational diploma programs available in the institution so that as they become proficient in the use of English they are also increasing their knowledge of training opportunities available to them.

An effort has been made to introduce to different groups of students, programs in which they could be successful with varying degrees of English skill, with those programs requiring the least skill being introduced at Level I. In some instances, notably Health and Food Preparation, there are opportunities for a wide range of proficiency. These units were prepared on all three levels.

It is expected that teachers will supplement these units through discussion, films or film strips, related materials, resource speakers visits to the different labs, and industrial tours. In some instances, the work samples available through the Gateway Testing Center can be used as a "hands on" experience in the unit.

Within each unit is a structural English lesson ranging in Level I from verb usage, contractions, etc., to the use of adverbs and adjectives in Level III. Teachers will supplement the unit by using the vocabulary list for sentence writing and conversation practice.

Within each unit is a structural English lesson ranging in Level I from verb usage, contractions, etc., to the use of adverbs and adjectives in Level III. Teachers will supplement the unit by using the vocabulary list for sentence writing and conversation practice.

VOCATIONAL ENGLISH

Level III

Mechanical Drafting
Singular & plural nouns, positive to negative, sentences to questions

Electronic Servicing
"Can" and "may", adjectives and adverbs, verb usage

Clerk Typist
Punctuation

Account Clerk
Verb usage

Data Processing
Synonyms, root words

Practical Nursing
Past tense, negative contractions

Food Preparation
Vocabulary, statements to questions, pronunciation, verb usage

Industrial Related

Because Gateway Technical Institute is in the center of a vast industrial area that is growing rapidly, specific programs are available for those who want to work in the manufacturing or production processes so abundantly available.

An awareness of good safety practices is needed in all types of industrial jobs for the protection of self and others. These concepts can be understood if presented early in ESL classes.

Many ESL students have a very limited knowledge of the variety of industrial jobs available and of the skills each requires. The four included at Level I, Welding, Maintenance, General Factory, and Machine Operation, have both training and employment opportunities for those with limited ability in English.

The units should be supplemented with visits to the labs, observation of the classroom and industrial tours. Representatives of the Urban League, industrial teachers from Gateway, or persons from industry could be invited to visit the class and discuss the types of jobs and training opportunities.

MECHANICAL DRAFTING

Student Objective: The student will be able to understand and identify the functions and duties of a mechanical draftsman.

Vocabulary:

detailer	design engineering department	sales engineer
draftsman	instrument	specifications
designer	blueprint	tracing
checker	product engineer	preliminary drawing
dimension line	project engineer	

Dialogue:

Sales Engineer:	I have a preliminary drawing and specifications of a machine to be designed.
Product Engineer:	Fine. I will look at your drawing and specifications and assign them to a project engineer.
Product Engineer:	I have a new project for you to start work on right away.
Project Engineer:	We will begin work on the new project right away.
Project Engineer:	We must begin work on this project immediately and each of you (draftsman, designer, detailer) will be involved in working on this project.
Designer:	I will draw the whole machine complete with all its parts.
Draftsman:	Then I will draw the mechanisms of the machine which, when put together, will make up the whole machine.
Detailer:	I will then draw detail drawings of the many individual parts so the draftsman can assemble them together to make his mechanisms.

Grammatical Focus #1
Changing singular nouns to plural nouns.
Example: Singular - blueprint; plural - blueprints

Exercise 1: Change the nouns to plural form by adding s, and drop the preceding "a" if necessary.

1. We will make a <u>blueprint</u>.
1.
2. Sales engineers will make a preliminary <u>drawing</u>.
2.
3. A checker checks the <u>drawing</u> made by the <u>draftsman</u>.
3.

4. The project incorporates the specification.
4.
5. A designer will draw the part.
5.
6. The detailer will make a detailed drawing of a machine part.
6.
7. A detailer and designer use a drafting instrument.
7.
8. A machine will be represented by a drawing of all the parts.
8.
9. A dimension line (is/are) drawn on the tracing paper.

10. An erasure should be made on the drawing.
10.

Grammatical Focus #2
Adding the word not to change a sentence from positive to negative.
Example: I can help. I cannot help
Exercise 2 . Change the following sentences to negative form by adding the word not.

1. There is a shading on the drawing.
1.
2. All dimensions are done freehand.
2.
3. Some lines on the drawing are heavier than others.
3.
4. The checker looks over all the drawings of the project.
4.
5. Blueprints are sent to other people.
5.
6. The detailer sits at the drafting board when drawing detailed parts.
6.
7. The designer must always be neat and orderly about his drawing work.
7.
8. Drawings are always made complete as possible.
8.
9. The detailer always uses a pencil when drawing.
9.
10. The checker checks a set of blueprints of the drawing project.
10.

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Grammatical Focus #3
Changing sentences to questions.
Example: The project engineer oversees the project. Does the project engineer oversee the project?

Exercise 3: Change the following sentences to questions.

1. The draftsman uses a pen when inking.
1.
2. The designer helps the draftsman and detailer.
2.
3. Mistakes should be held to a minimum on a drawing.
3.
4. The sales engineer discusses his work with the customer.
4.
5. The product engineer checks the project of the project engineer.
5.
6. Much time is required to complete a project.
6.
7. Preliminary drawings are made by the sales engineer.
7.
8. The drafting personnel draw on tracing paper.
8.
9. Mathematics are a part of mechanical drafting.
9.
10. The draftsman has his own set of drawing tools and instruments.
10.

Matching Statements
Directions: Place the correct letter to the left of the numbered column.

_____1. Detailer	a. checks the drawing for errors
_____2. Checker	b. makes preliminary drawing to meet customer's needs
_____3. Designer	c. makes small detail drawings
_____4. Draftsman	d. assigns projects to project engineer
_____5. Sales Engineer	e. draws machine mechanisms
_____6. Product Engineer	f. draws whole machine parts
_____7. Project Engineer	g. oversees the whole project

Situation:

A. Make an appointment for an interview for a detailer or draftsman's job in the design engineering department.

B. Visit an engineering deparment and ask what is required in job entry skills and knowledge.

C. Visit with draftsmen and engineers to find out if you would like their kind of work.

Structures that may be useful in the situation:

What training is required to become a....
How long....
What part of the country must I live in to be a ....
What related occupations could I enter with training in....
What physical requirements must I have to be a....
How good must I be in math to be a....

Reading:

There are many different kinds of drafting jobs available depending upon the type of industry. There are also many related occupations if one chooses not to become a draftsman. Visits to different types of industry should be made. Thought should be given to where most drafting jobs are, pay, work hours, and how one may progress on the job.

ELECTRONICS SERVICING

Student Objective: The student will become familiar with some of the terms and duties required in electronic servicing.

Vocabulary:

amperage	graphite	analyzing
antenna	impedance	grounding
blueprint reading	lineation	rectify
characteristics	oscilloscope	servicing
chassis	receivers	soldered
circuit continuity	resistance	traced
current	schematic	troubleshooting
density	signal generator	itemized
diagram	specifications	defective
electronic servicing	technical manual	audio
focus	transformer	video
fuses	tubes	intact
voltmeter	voltage	frustrated

Dialogue:
Romero picks up his repaired TV set and discusses his bill.

Romero: Hey, man! You can't be serious charging me $32.34 to fix my busted TV.

Julio: Well, I'm afraid the service charges are correct; but, as you can see, the bill is itemized.

Romero: Yeh, but this stuff doesn't mean anything to me. I think you're ripping me off!

Julio: O.K. Let me explain each item. First, I checked all the tubes and found three which were defective. The replacement costs were $7.35 and that's listed under "parts." The "labor" charge was for the 2-1/2 hours I spent "troubleshooting" and checking out circuit continuity. In analyzing the wiring diagram with the voltmeter, I found that everything was intact. However, in running a video test on the oscilloscope, I did find that some adjustments were needed for proper density, lineation, and focus.

Romero: Wow! This still sounds Greek to me. You mean I could have replaced those three tubes and made the adjustments to fix the thing myself?

Julio: No, because for one thing you don't have the necessary equipment and for another, it was another test which indicated the reason for the picture rolling. Using a signal generator, I traced a loose

wire which was grounding on the chassis. Then I just soldered it back into place and that seemed to rectify things.

Romero: O.K. Here's your bread, but it sure sounds like you've got a good job. I'll bet you need a college degree.

Julio: No you don't. You're talking about a technical skill which can be learned at Voc. Tech.

Romero: Dynamite! What's the name of the course?

Julio: My training was in the "Electronic Servicing" program, but I did take some tutoring in Blueprint Reading at one of the Adult Learning Centers and that made it much easier when I signed up for school.

Romero: O.K. I'm going to contact a counselor and get trucking!

Grammatical Focus No. 1

For proper usage of "can" and "may": "Can" refers to ability. "May" refers to possibility (usually based upon permission or probability).

Exercise 1: Give the correct usage in the blank.

1. _____ I please have the specifications for the oscilloscope?
2. _____ you hand me the schematic diagram?
3. I know that I _____ check the lineation first.
4. If there is no more to do, _____ I go home?
5. You _____ use the soldering iron only if you work safely.
6. I double that the antenna _____ operate without a transformer.
7. The specifications call for wiring material which we _____ not have.
8. If you _____ read the manual, the job is much more simple.
9. I _____ have to take your set into our service center.
10. You have three defective tubes which _____ be replaced for $7.35.

Grammatical Focus No. 2

Proper use of adjectives and adverbs

a. good and well
b. real and really
c. bad and badly
d. most and almost

a. Good is always used as an adjective.
Well may be an adjective or an adverb.

b. Real is used as an adjective.
Really is used as an adverb.

c. Bad is used as an adjective.
Badly is used as an adverb.

d. Most is used in referring to degree.
Almost is used in referring to proximity (nearness).

Exercise 1: Underline the correct usage in the following sentences:
Example: You performed good/well on the exam.

1. The customer behaved bad/badly when he saw the service charge.
2. I think that electronic servicing is good/well to learn.
3. Julio was real/really relieved to find the trouble.
4. Most/almost everyone thinks TV parts prices are too high.
5. The set performed good/well when it was in the service center.
6. The voltmeter test looked bad/badly compared to the others.
7. It takes a real/really small amount of electricity to rotate an antenna.
8. Repairs can be done in the customer's home in almost/most of the cases.
9. It's always good/well to consider safety first.
10. The signal generator was worn too bad/badly to operate well.

Exercise 2: Adjectives and adverbs. Indicate if the underlined word is an adjective or an adverb.
Example: If you know how to read blueprints the rest is simple. adverb

1. The waves on the oscilloscope became narrow when the audio was increased. _____
2. Which of these schematic diagrams will work best? _____
3. This wiring diagram is difficult to read. _____
4. Weak video tubes will produce a picture which is too dim. _____
5. The wire shorted deep in the chassis floor. _____
6. Romero appeared frustrated by the audio breakdown. _____
7. A successful career depends upon keeping abreast of technological advances. _____
8. The specifications are completely detailed in the manual. _____
9. It's hard to believe that the charges were so high! _____
10. An important skill to learn is blueprint reading. _____

Grammatical Focus No. 3

Verb usage.

Exercise 1: Singular and plural verb forms: underline the correct verb usage. Example: Even a good serviceman take/takes his time.

1. The oscilloscope show/shows the problem.
2. Maria and Julio want/wants their TV repaired.

3. A good service center make/makes a difference.
4. Your antenna increase/increases the picture quality.
5. Defective parts produce/produces a safety hazard.
6. Audio and video characteristics is/are first tested.
7. Density, lineation anf focus was/were adjusted.
8. Both technical manuals give/gives the same information.
9. Electronic servicing is/was a career you might consider.
10. Neither you nor Isidro can/may find the trouble.

Exercise 2: Past and past-participle: Underline the incorrect verb form in each of the following sentences and then write the correct form in the space provided.
Example: Did you see what the oscilloscope shown? showed

1. When no defective tubes were located, Teodoro begus to be puzzled. _____
2. Have you bring your signal generator to class? _____
3. The serviceman checked for a broke circuit. _____
4. Isidro analyze his bill carefully. _____
5. Where are my solder iron? _____
6. If it were not for these fuses your main tube would have blew. _____
7. Amperage refer to electrical resistance. _____
8. They had not understanded the charges on their bill. _____
9. A car and a valid driver's license is require in this job. _____

Exercise 3: Irregular Verbs: Select the appropriate verb form in the following sentences.

1. The lines on the oscilloscope swung/swang widely.
2. The prices on parts replacement have not fallen/fell.
3. Isidro has not spoke/spoken to Teodoro about the bill.
4. That clip sprang/sprung out when the nut was removed.
5. Those lines appear to be froze/frozen on the oscilloscope.
6. We saw/seen what kind of wages a serviceman earns.
7. They never have threw/thrown away a defective part without the customer's approval.
8. Both trainees have ran/run a check on the continuity of the circuit.
9. The signal grew/growed stronger when impedance was reduced.
10. The current has flown/flowed better with the new wiring.

Secretarial & Office

All data and accounting systems are involved with the keeping of records. The computer works with a score of other office machines to process data. Fast and capable, the computer handles vast amounts of information, and carries out complex orders. At Gateway Technical Institute, there is a study of computers in the Accounting program as well as in Data Processing.

Account Clerk: The student learns to perform the duties essential to record keeping in any business, through the practical application of basic bookkeeping and accounting skills.

Data Processing Machine Operator: The student learns to operate the equipment that feeds information into the computer, and equipment used to recover information from the computer.

CLERK TYPIST

Student Objective: The student will be able to identify the functions and duties of clerk typists and become familiar with the terms used on the job.

Vocabulary:

typewriter	to transcribe
dictaphone	to proofread
stencil	to compute
carbon copy	to file
notation	to distribute
correspondence	to compile
memorandum	to post
shorthand	to sort
receptionist	to dictate
documents	

Dialogue:

Office Manager: (Gustavo) Have you finished compiling and typing the report I gave you this morning?

Clerk Typist: (Magdelena) Yes, I was just about to ask you to sign it so I could mail it.

Gustavo: Did you make a carbon copy for our files? I might have to do some follow-up work on the report.

Magdelena: Yes, I made a carbon copy and filed it with the other reports. I did want to check to be sure the address of this firm was correct.

Gustavo: Yes, it is correct. Please make a notation of the address for future reference. Please address the envelope and mail it today. Have you sorted all the mail yet?

Magdelena: Yes, here is your mail.

Gustavo: I will have a couple more reports and some information for you to post this afternoon.

Magdelena: Yes, sir. Your next appointment is for 11:15.

Gustavo: Thank you.

Grammatical Focus No. 1
To use correct punctuation marks in sentences.

Examples:

1. I typed the letter. (The period (.) is used after a statement.)
2. Did you type the letter yesterday? (A question mark (?) is used after a question is asked.)
3. What a beautiful day! (An exclamation mark (!) is used after a sentence which expresses strong emotion.)

Exercise 1: Put the correct punctuation mark at the end of the following sentence

1. Sign your name on the last line of the letter__

2. Did you answer the telephone__

3. Did you fill out an application form__

4. I mailed three tickets to the office yesterday__

5. This is a great job__

6. She is always on time for her job__

7. Do you like to operate the telephone switchboard__

8. I made a notation on line 14__

9. Did you proofread the letter before you mailed it__

10. I didn't know how to spell memorandum, so I looked it up in the dictionary__

Grammatical Focus No. 2
The clerk typist also needs to know some additional punctuation marks. These are the comma, apostrophe, and quotation marks.

Examples:

1. Comma (,) There are many uses for the comma. We will work here with placing commas in the correct position when writing dates. Place a comma between the day of the month and the year. If no day is given, place a comma between the month and the year. Place a comma between the name of the day of the week and the month of the year.

January 1, 1967
January, 1967
Sunday, January 1, 1967

2. An apostrophe (') is used in making a contraction or in showing ownership.
   can't don't doesn't Mary's typewriter Joe's job Bob's desk

3. Quotation marks (" ") are used when the clerk typist wishes to type a direct quote (type the exact words that someone said). Quotation marks show that it is a direct quote.

   The president of the firm said, "Our business has shown a marked increase in profit in the last six months."

   "Mary, did you finish filing all the reports?" asked Louise.

Exercise 2: Put all the needed punctuation marks in the following sentences. Watch for needed marks within and at the end of the sentences.

1. I cant be present at the meeting on Saturday April 30 1976

2. Sue, please file this report, said Mr. Brown

3. The receptionists notebook was lost

4. Dont you know how to operate the dictaphone

5. Did you proofread the Monday April 5th report

6. What important meeting begins on Wednesday May 10 1976

7. The receptionists handwriting was very legible

8. Mrs Gomezs secretary has been very helpful

9. I cant leave for lunch until I finish compiling this information

10. Jan said I enjoy the work very much, Mr. Harris

Situation:

Contact the State Employment Service or other employment agencies in your area. Ask for a listing of clerk typists' positions in your area. Explain your present employment, your previous training, your skills, and your goals. Ask them for recommendations and training programs available to increase your skills. You will need to have a detailed account of your work experience and your education. If training pro-

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grams are available, find out if you qualify for them. Determine how long they take and the times they begin. Be sure to have goals in mind so you are prepared to answer all questions.

Structures that may be useful in the situation:

I would like a listing...
I have the following...
I talked to...
Are there any training programs available?
How long? How do I qualify?
Where can I get more information?

Reading:

If you have had some clerical skills and have a knowledge of typing, some additional training may well qualify you for a clerk-typist job.

The clerk-typist position will vary depending upon the type and size of the office you work in. Typical duties include compiling and typing reports, filing records and reports, posting information, sorting and distributing mail, answering the telephone, using adding machines, typing stencils, addressing envelopes, and operating telephone switchboards.

A wide range of offices employ clerk-typists. Be sure to keep in touch with state employment services and other agencies for a list of possible positions.

You should visit several offices to observe the kinds of duties that are expected of a clerk-typist, the pay scale, and the "atmosphere" of the office.

Training programs are available form vocational schools and other agencies. Choose a training program that will qualify you for the type of clerk-typist job you feel you would most like to have.

ACCOUNT CLERK

Student Objective: The student will be familiar with the qualifications and essential duties of an account clerk.

Vocabulary:

allotment	calculate
disbursement	posting
voucher	type
claim	compute
invoice	file
statement	accurately
inventory	quickly
rental	
interest	
filing cabinet	

Dialogue:
Students discuss classes they are taking.

Maria: Have you started filing yet?
Juanita: No, I am finishing my bookkeeping. I will start filing next week.
Jose: Why do you girls use a file in an office?
Juanita: It is not a file like you use in the factory. It is a set of drawers to keep papers in so we can find them.
Maria: It is a "filing cabinet".
Jose: What else do you do?
Maria: We check bills and time cards and things like that to be sure the numbers are right.
Juanita: We have to add them up to be sure they are figured right, too.
Jose: Is math necessary too? That's an all-day job itself.
Juanita: Well, it can't be for me. I will have to work quickly and accurately.
Jose: What will some of your other duties be?
Maria: Some of the other things I will eventually do are: posting allotments, disbursements, payroll deductions and expense vouchers, computing interest on refunds, and typing invoices.
Jose: Well, good luck.

Grammatical Focus
Forming the singular and plurals of verbs.

Exercise 1: Change the singular verbs to plurals and the plurals to singular forms. Singular subjects require singular verbs. Plural subjects require plural verbs. To make the singular form, add s or es to the root. The plural form is the root.

Example: singular - Junita types rapidly. plural - Juanita and Maria type rapidly.

1. Account clerks sometimes calculate interest.
2. She performs many duties.
3. Juanita keeps accurate records.
4. They use adding machines.
5. Her work pleases her superior.
6. Clerks compute rapidly.
7. Maria collects data from invoices.
8. She makes the payroll deductions.
9. Maria and Juanita work together in the office.
10. Clerks also use the adding machines.

1.

2.

3.

4.

5.

6.

7.

8.

9.

10.

Exercise 2: Indicate the verb in each sentence and its mode (singular or plural). Example: Maria posts the allotments. verb - posts mode - singular

1. Calculators cost much money.
2. She keeps a complete set of books.
3. Maria types the report.
4. The clerk files the forms.
5. Juanita performs clerical tasks.
6. Her friends learn the use of the calculator.
7. They watch Maria make the tax deductions on the payroll checks.
8. She makes out a check for the broken calculator.
9. She drinks coffee on her break.
10. The Xerox machine reproduces copies of the statements.

	Verb	Mode
1.	_____	_____
2.	_____	_____
3.	_____	_____
4.	_____	_____
5.	_____	_____
6.	_____	_____
7.	_____	_____
8.	_____	_____
9.	_____	_____
10.	_____	_____

Exercise 3: Underline the verb and change the mode of the verb from present to past. Example: They <u>have</u> the account clerk to do some bookkeeping. Verb: had

1. Juanita figures out the schedule for the day. _____
2. She has invoices at the end of the month. _____
3. Account clerks need to know fractions and decimals. _____
4. She makes carbon copies of all memos. _____
5. She answers the telephone all day! _____
6. The supervisor checks the work. _____
7. Maria returns to correct the typing mistake. _____
8. She places her letters in the outgoing mail. _____
9. The mail clerk delivers the intercompany mail at 9:00 a.m. _____
10. Maria punches out on the time clock. _____

Situation:

Contact a vocational or business school and ask them about classes to learn to do account clerk work in an office. Ask them what skills you need, especially how well do you need to speak English. Ask what kind of jobs there are in the town. Ask when the classes start, how long they last, and how much it will cost to enroll, and if the school help students get jobs.

Structures that may be useful in the situation:

Please explain your account clerk program.
When will...
How much...
Where are...
How long...
What will I ...

Reading: Account clerk training is used in different ways.

The student who learns to do account clerk work has a wide range of choices about his work situation.

Many of them find jobs in business offices where they may spend most of the time working with numbers. Clerks check over all invoices, or bills, that tell the businessmen who much goods he receives and what it cost. The arithmetic has to be checked for accuracy. They verify the time cards so each worker gets paid for the time he worked. They may count the material on hand to be sure the inventory of the business is correct. Sometimes they answer the telephone, sort and deliver mail, or type letters. A worker in a small office will probably do more different things than one in a big office.

Account clerks can also get jobs working as time-keepers or record keepers for companies who manufacture things, build houses, or commercial buildings, or roads, or for shippers.

All these businesses need accurate records of their daily transactions. The account clerk is an important person in doing this.

DATA PROCESSING

Student Objective: One of the purposes of this unit is to make the student become aware of the valuable role that computers play in his everyday life. Also, this unit will introduce a few of the technical terms used in data processing language.

Vocabulary:

card punch	memory
verifier	digital
sorter	computer
collator	reading station
data	sequencing
characters	grouping
card hopper	selecting
merge	calculating

Dialogue: A conversation between two men; one of whom has been replaced by a computer.

Sam: Hey, what's happening, man? You look like you just lost your last friend. Man, nothing can be that bad!
Ed: Sam, my man, it's worse than that. I just lost my gig.
Sam: What do you mean? Man, I thought you had it made, pushing a pencil all day. Lay it on me! What happened?
Ed: A computer took my job. Yea, a machine replaced me, me!
Sam: That's bad! Man, that's terrible! What are you gonna do now?
Ed. You know I am not gonna be beat. I refuse to let a computer replace me. If I can't beat 'em, I am sure gonna join 'em. I'm going to learn about all the jobs associated with computers.

Grammatical Focus No. 1

Exercise 1: Synonyms are words that have the same or nearly the same meaning. For each word in Column I find a synonym in Column II and write it.

I	II
1. merge	a. computation
2. sequencing	b. record
3. digital	c. rearrange

I	II
4. sort	d. write
5. verifier	e. arranging
6. calculate	f. explain
7. data	g. restate
8. manipulation	h. combine
9. file	i. information
10. print	j. numerical
11. collate	k. confirm
12. interpret	l. compare
	m. compute
	n. distant
	o. group

Exercise 2: Many words are built on base, or root, words that you already know. The same root word can be used to complete the two unfinished words in each sentence. Find the root word and write it.

compute	program	sort
group	operate	verify
file	punch	store
	produce	

1. The _____er made an error in the _____tion.

2. A re_____er performs three functions: re_____ing, gang punching, and summary punching.

3. The computer's memory is a stor_____ area that _____s various forms of data.

4. During _____tion of the punch cards, the _____er was disconnected.

5. If you know how to use the _____er, please start _____i this stack of cards.

6. The _____ion of the computer is largely dependent on the _____er.

7. Use the keypunch machine to re _____ this card because

there are errors in the _____ es.

8. These two cards should be filed in the _____ s you just

finished _____ ing.

9. Mary _____ s cards in groups by hand while the card

_____ er isn't working.

10. My brother writes _____ s, he is a computer

_____ er.

Exercise 3: Many words are built on base words that you already know. You can usually tell what the base word is, even when part of it has been left out.
Example: open 0 opener, unopened, reopening
group - regroup, grouping, grouper

The words in each line are built on the same base word. Decide what the base word is and write it.

1. processing, reprocessing, processional, procession

_____

2. recomputation, computerize, computability, computation

_____

3. cooperativeness, cooperation, operationalist, operative

_____

4. digitalize, digital, digitate, digitalis

_____

5. programmer, reporgram, programmed

_____

6. punching, puncher, repunching

_____

7. filer, filing, refile

_____

8. storage, restorable, restoration, restorability

_____

9. verifier, verifiable, verification, verifying

_____

10. record, recordation, recording, recorder

_____

Reading:

The computer affects the life of each of us. The economic impact is significant. New vocations have been created, such as computer systems analyst, computer programmer, computer operator, and computer technicians. The uses of the computer range from the most mundane data processing task to guiding a spacecraft to a landing zone. And yet it is not even 20 years since the computer was first applied to data processing.

The student, no matter what his career choice, is likely to have substantial contact with the computer or the results of computer processing in his future job. Business administration, medicine, government, library science, teaching, engineering, and research are a few examples of vocations in which the computer is having an impact. The computer has become such an important element in the society in which we live that an introductory knowledge of computers should be a part of the knowledge of the well-educated man.

Health Programs

The allied health programs all earn a diploma at Gateway and are oriented toward assistance in patient care in the dental or medical office or laboratory, in the operating theater, or on the hospital ward.

The nursing assistant is a six-week diploma program for the person who is stable, healthy, able to adjust and work under supervision to perform a variety of routine tasks.

The students could visit the nursing labs and tour the hospital. Nursing faculty can be used as resource speakers.

HEALTH CAREERS
PRACTICAL NURSING

Job Description: Practical nursing prepares men and women to give nursing care, under the supervision of a registered nurse or physician, to patients in simple nursing situations.

Student Objectives: The student will become familiar with terminology and procedures necessary for the prevention of disease.

Vocabulary:

infection	sterile
disease	infectious
bacteria	unsterile
hygiene	contaminated
isolation	
disinfectant	immunize
sterilization	sterilize
antiseptic	infect
instruments	isolate

Dialogue:

Mary: Have you studied for the exam today?
Virginia: Yes, we are having a test on preventing disease.
Mary: I have learned how important it is to keep myself and my patient clean.
Virginia: It is the best way to protect from infection.
Mary: I never realized how many ways infection is spread.
Virginia: I also watched the nurses sterilize the instruments in surgery today.
Mary: It is very important to have sterile instruments.
Virginia: I hope we do well on our test today. See you later.

Grammatical Focus No. 1
The past tense of most verbs can be formed by adding <u>ed</u> to the present tense. These verbs are called regular verbs.
Example: work--worked
play--played
study--studied
Verbs ending in <u>y</u>, following a consonant, change the <u>y</u> to <u>i</u>, and add <u>ed</u>.

Exercise 1: Change the following verbs to past tense.

1. Jane works. 1.
2. John studies. 2.

3. We work. 3.
4. Dr. Jones operates. 4.
5. The nurse helps. 5.
6. You stop. 6.
7. She walks. 7.
8. They listen. 8.
9. Children play. 9.
10. Germs infect. 10.
11. Doctors heal. 11.
12. Friends visit. 12.
13. We attend. 13.
14. Students ask. 14.
15. Cars pass. 15.
16. We like. 16.
17. Nurses learn. 17.
18. Students watch. 18.
19. Trains carry. 19.
20. They offer. 20.
21. People talk. 21.
22. Patients call. 22.
23. Mary follows. 23.
24. Students complain. 24.
25. Teachers help. 25.

Exercise 2: Change the following verbs to past tense.

1. John and Joan want to study nursing. 1.
2. They like helping sick people. 2.
3. They learn many things about disease. 3.
4. The hospitals offer many good job opportunities. 4.
5. I enroll in classes today. 5.
6. I study very hard. 6.
7. John and Joan attend classes every day. 7.
8. The doctors operate in a sterile room. 8.
9. Some sick patiens require isolation. 9.
10. Vaccinations immunize against disease. 10.

11. Technicians sterilize surgical instruments. 11.
12. Contaminated instruments infect the patients. 12.
13. We listen to lectures in class every day. 13.
14. Most hospitals isolate infectious diseases. 14.
15. The students ask for help in class. 15.
16. Disinfectants protect people from disease. 16.
17. Scientists discover cures for some diseases. 17.
18. Doctors wash very well before operating. 18.
19. Some visitors carry infectious diseases. 19.
20. The visitors pass on the germs to the patients. 20.

Grammatical Focus No. 2

Exercise 3: Forming contractions from verbs and negatives.
Example: cannot -- can't will not -- won't

1. She did not. 1.
2. John is not 2.
3. I will not. 3.
4. Mary could not 4.
5. You should not 5.
6. We cannot. 6.
7. He must not. 7.
8. James does not. 8.
9. I have not. 9.
10. You would not. 10.
11. Lonnie has not. 11.
12. They do not. 12.
13. Mary will not. 13.
14. Friends are not. 14.
15. Jane was not. 15.
16. We were not. 16.
17. He had not. 17.
18. She is not. 18.
19. Mary has not. 19.
20. He does not. 20.

Exercise 4: Forming negative past tense. Do not use the past tense of the verb with the past negative. Example: I worked. I didn't work. Do not say: I didn't worked.

Change the sentences from past tense to past negative.

1. The nurse studied.	1. The nurse didn't study.
2. The doctor operated.	2.
3. The machine worked.	3.
4. The students attended.	4.
5. John enrolled.	5.
6. He worked hard.	6.
7. He learned a lot.	7.
8. Mary looked for work.	8.
9. She wanted a job.	9.
10. Joan walked to school.	10.
11. She liked her classes.	11.
12. She talked to her friends.	12.
13. They listened to her.	13.
14. She finished school.	14.
15. John graduated first.	15.

Situation:

Visit a school of nursing and talk to the student counselor about applying for school. Ask her what subjects you must study, how many years, of training is required, and how much money it costs to enroll. The school may be able to help you get some financial assistance. Most schools have waiting lists to get in. Find out how long you would have to wait.

Structures that may be useful in the situation:

I am interested...
I would like...
What do I need...
How much...
When could I...
Do you have...
How long...
Where would I...

Reading:

There has always been a demand for people in the nursing profession. There is a special need for men in this field.

Most training programs for practical nursing require one year of study. There are long waiting lists in most schools, so it is a good idea to inquire early to get on the waiting list.

At the end of training, the student must pass State Board Exams to receive a license. The training programs and exams are hard work, but the rewards of working as a nurse, helping people, are great. You will have a lifetime skill in an interesting profession.

Hospitality Programs

Food service jobs, part of the hospitality industry, are booming. Greater numbers of people are traveling and dining out. With increases in population, urban development, and more money available for trips and meals away from home, the spiral continues upward.

Individuals with limited skills in English are employable in the hospitality industry. Training in proper kitchen procedures, sanitation, and working with the public are available at various levels in the food service program at Gateway Technical Institute

This unit should be supplemented by visiting the food service labs on the Racine campus. Teachers in the program could be invited to talk to the class.

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FOOD PREPARATION

Student Objective: The student will learn of the training and apprenticeship programs provided by local, state, and federal agencies and how to apply for them. Vocabulary and sentence structure to achieve this aim will be utilized.

Vocabulary:

memorize	profession
applied	quality
select	skills
maintain	training
quantity	preparation
isolated	methods
commercial	agencies
effective	personnel

Dialogue:

Francisco: I have been a busboy at this restaurant for three years.
Juan: Don't you like your job any more?
Francisco: Yes, but I would like to be a cook.
Juan: You would have to go into a training program to learn that.
Francisco: I know. Our teacher at night school suggested it to me. She said there are many training programs available in food preparation.
Juan: Do you think that I can apply for more training also?
Francisco: Oh, yes, I'm sure that you can.
Juan: Let's get the applications right away.

Grammatical Focus No. 1

Exercise 1: The mistake is underlined. Write in the correct answer.

1. There are <u>three</u> cups in a quart.
2. <u>Four</u> teaspoons are equal to one tablespoon.
3. The <u>busboy</u> prepares the food.
4. Apples, oranges, and grapefruit are classified as <u>vegetables</u>.
5. There are <u>nine</u> units in a dozen.
6. Milk, water, and juice is considered a <u>dry</u> measurement.
7. Restaurants show what they have to offer on a <u>recipe</u>.

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8. Sixteen cups make up a quart.
9. Roasts are cooked in the oven for minutes.
10. There are eighteen ounces in a pound.
11. Potatoes are usually bought by the ton.
12. A beverage is something you eat.
13. Pastry, ice cream, and fruit are all beverages.
14. There are four pints in a quart.
15. Restaurant kitchens should be kept dirty.

1.	10.
2.	11.
3.	12.
4.	13.
5.	14.
6.	15.
7.	
8.	
9.	

Exercise 2: Some - any. Choose the right answer. Some is used in a positive sentence. Any is used in a negative sentence.
I have some money. I don't have any money.
Do you have some books? I don't have any books.

1. Do you have(any, some) applications?
2. No, there aren't (any, some) left.
3. When will you have (any, some) more?
4. I should have (any, some) more tomorrow.
5. Do you think that I can apply for (any, some) training?
6. I'm sure that you will be accepted for (any, some) training.
7. Does the county offer (any, some) training programs?
8. Oh, yes, the county offers (any, some) fine programs.
9. Where can I get (any, some) more information?
10. The state employment office should have (any, some) information. I don't have (any, some) information on that.

Exercise 3: Complete the questions.

QUESTION	ANSWER
1. What did you see?	1. I saw some pictures.
2. What did he eat?	2. He ate some sandwiches.
3. What _____ they _____?	3. They took that package.
4. What _____ you _____?	4. I brought my English book.

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QUESTION	ANSWER
5. What _____?	5. I needed more training.
6. What _____?	6. I baked some fresh bread.
7. What _____?	7. I studied the vocabulary list.
8. What _____?	8. He said he would help me.
9. What _____?	9. She stacked the dishes on the tray.
10. What _____?	10. He wanted a different job.

Grammatical Focus No. 2

Exercise 4: Change these statements into questions.

1. Rose was here.	1. Was Rose here?
2. His father works in town.	2. Does his father work in town?
3. I went to school with him in Texas.	3.
4. Juan always learns the new words.	4.
5. She is studying English.	5.
6. They explained the program to him.	6.
7. You are working hard.	7.
8. The women were in the kitchen.	8.
9. Jose drove his car to the restaurant.	9.
10. He puts his money in the bank.	10.
11. The cook burned the roast.	11.
12. Maria is Juan's wife.	12.
13. His friend finished the dishes	13.
14. He lent her five dollars.	14.
15. They attend class regularly.	15.

Exercise 5: Pronunciation. Change each of these verbs to the past tense. The teacher will check your work and listen to your pronunciation.

1. describe	7. practice	13. manage	19. spill
2. notice	8. touch	14. need	20. count
3. insist	9. plan	15. decrease	
4. control	10. change	16. remain	
5. accept	11. force	17. prove	
6. learn	12. carry	18. indicate	

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Exercise 6: Use the words in Exercise 5 in sentences of your own. You may use present or past tense.

Lesson Theme:
This story is written in present tense EVERY DAY. Retitle it to YESTERDAY and change all the underlined verbs to past tense.

EVERY DAY

Francisco gets up at 6:00 a.m. After he takes a shower and dresses, he eats breakfast. Then he meets his friend Juan and they walk to the restaurant together. Juan is a kitchen helper. Francisco toils as a busboy. They arrive at work at eight o'clock. The restaurant has many customers and they are busy all morning. At noon Francisco and Juan eat their lunch in the park. They sit on a bench and practice speaking English. They bring their workbooks with them. Francisco likes to review the new words. Juan studies his lesson also. Their class starts at 6:30 p.m. sharp! They don't like to be late. When they learn more English, they will enter* a training program in food service.

*Will enter is future tense. Change this also to past tense.

Discussion Questions:
1. What is Juan's job?
2. What does Francisco do?
3. How do they spend their lunch time?
4. Where do they go for lunch?
5. What time does their class begin?
6. What are their future plans?

Situation:

A. Contact the State Employment Service to inquire about training programs in Food Preparation that are available in your area. They may refer you to other helpful agencies.
B. Inquire of large resorts, motels, restaurants, etc., if they have their own training programs for those interested in the food service profession.
C. Go to your vocational-technical school and learn about their programs and what they can offer you in training. A counselor would be glad to assist you and answer your questions.

Structures that may be useful in the situation:

Where is that located?
How long...

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When does...
Do you have...
May I talk to...
What is available...

Reading:

Preparation of food in commercial eating places is one of the largest industries in the country. Quantity cooking is a highly skilled craft requiring intensive training. Experienced cooks do not learn their trade by memorizing isolated recipes, but by learning general methods or skills which can be applied in a wide variety of cases.

Personnel in food service departments need to be able to select, care for, prepare, and serve quality food to maintain public health. In-service training in food preparation is an important addition in maintaining effective preparation standards.

The State Employment Service would know of any on-the-job training programs which would permit an employee to work while at the same time receiving training in food preparation. Public Service Employment is a federally backed program to assist those in need of training. The Comprehensive Employment Training Act also seeks out those who need to be in a training program before they will be able to be gainfully employed.

Suggested Job Opportunities After Training:

1. hospitals
2. college residence halls
3. school lunch programs
4. nursing homes
5. child care centers
6. restaurants
7. resorts
8. hotels
9. cafeterias
10. country clubs

ACCESSION NUMBER: VT103231

TITLE: ELECTRICAL DISCHARGE MACHINING FOR THE SECONDARY VOCATIONAL LEVEL.

PERSONAL AUTHOR: WILLIAMS, GEORGE V.

DESCRIPTOR: *TRADE AND INDUSTRIAL EDUCATION; *CURRICULUM GUIDES; *METAL WORKING OCCUPATIONS; *MACHINISTS; SECONDARY EDUCATION; POST SECONDARY EDUCATION

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ABSTRACT: THE OBJECTIVES OF THIS BOOKLET ON ELECTRICAL DISCHARGE MACHINING (EDM) WERE: (1) TO SIMPLIFY TECHNICAL DATA AND INFORMATION FOR SECONDARY VOCATIONAL AND POST HIGH SCHOOL STUDENTS; (2) TO ORGANIZE A COURSE CONTENT FOR TEACHING EDM AT THE SECONDARY VOCATIONAL LEVEL AND POST HIGH SCHOOL LEVEL; (3) TO DEVELOP LEARNING SEQUENCES AND PRACTICAL EXERCISES FOR TEACHING EDM; (4) TO PROVIDE A UNIT ON SAFETY AND SAFE WORKING HABITS CONCERNING THE EDM PROCESS; AND (5) TO INFORM STUDENTS OF THE ADVANTAGES AND LIMITATIONS OF EDM. THE INTRODUCTORY CHAPTER PRESENTS THE HISTORY OF EDM AND DESCRIBES THE BASIC EDM PROCESS. THE REMAINING CHAPTERS ARE ENTITLED: BASIC COMPONENTS OF EDM, CONTROL OF THE PROCESS, MACHINING ELECTRODES, AND ELECTRODE HOLDERS. ALSO INCLUDED IS A SECTION OF MACHINING EXERCISES WHICH ARE ADAPTABLE TO ALL MACHINES AND CAN BE USED TO ACQUAINT THE OPERATOR WITH THE MACHINE AND ITS CAPABILITIES. A GLOSSARY OF TERMS AND BIBLIOGRAPHY ARE APPENDED, ALONG WITH TECHNICAL INFORMATION ON THE OPERATION OF THE CINCINNATI MODEL 141 EDM MACHINE. (NJ)

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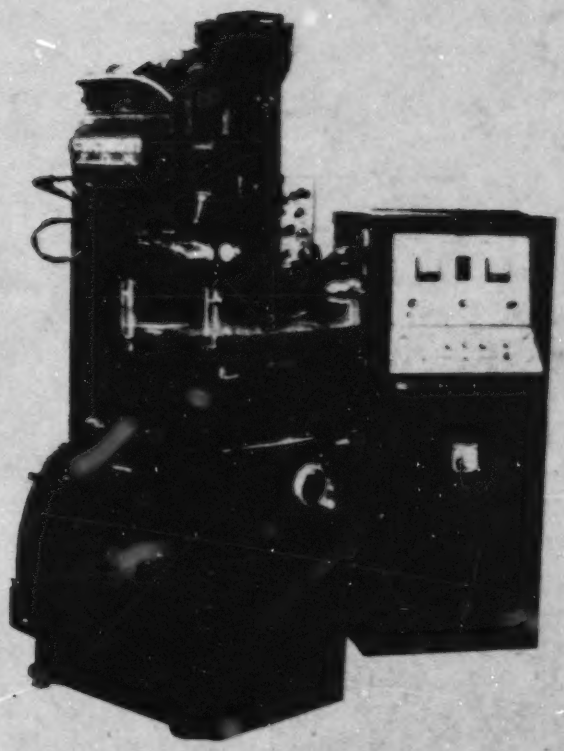
VT 103 231

ELECTRICAL DISCHARGE MACHINING FOR THE SECONDARY VOCATIONAL LEVEL



Approved And Funded Through
The Vocational Division Of
The Indiana State
Department Of Public Instruction

EDM

VT 103 231

101 P.

2

PREFACE

This research project was made possible by a grant approved by the State Board of Vocational and Technical Education of the State of Indiana.

Much data has been collected and studied for this project. Industrial personnel and industrial educators have been consulted. It has been difficult to keep the information applicable to all EDM machining due to the different types of machines available. Specific information has primarily been left out. It was felt that specific information about one certain type of machine could be obtained from the manufacturer. For example, in the exercises listed, specific power supply settings were not stated because of the differences in power supply units and the differences between tube-type and solid state units.

There is a wide variety of Electrical Discharge Machines on the market. Any instructor who wants to teach the basics of EDM but cannot fit the expense into the school budget might want to build, or have his students build, a model EDM machine. Plans for a model EDM can be found in the March 1968 issue of Popular Science and in the December 1971 issue of School Shop. These are functional models that will enable the instructor to teach the basic principles of electrical discharge machining.

Many individuals and companies contributed to this project.

Special thanks to the following:

Mr. Ed Krabacher, Cincinnati Milacron Company,
Mr. Bruce Gunn, South Bend EDM,
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Dr. William Middleton, Ball State University,
Dr. John Edwards, Ball State University,
Mr. Raymond Dekeyser, Ball State University,
Ex-Cell-O Corporation, Elwood, Indiana,
Emka Machine Tool Company, Elwood, Indiana,
Shepard Tool Company, Elwood, Indiana.

OBJECTIVES

The objectives of this booklet on Electrical Discharge Machining were:

1. To simplify technical data and information so that it may be better understood by secondary vocational students and post high school students;

2. To organize a course content for teaching EDM at the secondary vocational level and post high school level;

3. To develop learning sequences and practical exercises for teaching Electrical Discharge Machining;

4. To provide a unit on safety and safe working habits concerning the EDM process;

5. To inform students of the advantages and limitations of Electrical Discharge Machining.

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CHAPTER I

INTRODUCTION

THE HISTORY OF EDM

Electrical Discharge Machining as we know it today is a highly developed modern metalworking process. The basic process or idea, however, has actually been known for many years. A research of the patent files reveals that as early as December of 1889 a patent was issued to a man who discovered that an electric arc could be used to cut metals. Since that time, various people "rediscovered" the electric arc cutting tool, and patents were applied for every few years.

Soviet researchers B. R. and N. I. Lazarenko are credited with discovering EDM in 1943. They called their process "electrospark metalworking". This process depended upon a periodic flow of sparks between two electrical conductors both submerged in a dielectric fluid. Thus began the EDM process as we know it today.

Inventions and discoveries often come about because there is an urgent need for them. This was the case with EDM. During World War II, there was a short supply of industrial diamonds for use in cutting tools. Thus an alternate method for cutting hard metals was urgently required. Electrical Discharge Machining provided the alternate method,

and in so doing, opened up an entirely new metalworking process.

EDM appeared in the United States during the late 1940's and early 1950's as a "tap buster". It was used to cut broken drills and taps out of manufactured parts. This was a practical way of salvaging expensive parts that might otherwise have to be scrapped.

The new process grew through the fifties as more and more industries found that it could be easily adapted to fit their needs. Almost all types of conventional machine tools were converted to EDM. Milling machines, grinders, jig borers, and drill presses could be easily adapted to this new process. Thus the "tap buster" was refined and modernized as new and more sophisticated requirements were demanded toward the efficient equipment we now have.

Electrical Discharge Machines are found today in all sizes of shops. EDM has replaced many of the older accepted ways of manufacturing and/or at least has supplemented them. Its versatility provides an efficient method of machining intricate parts that had been so difficult before, and it has increased industry's ability to meet the demand for greater accuracy and finer detail.

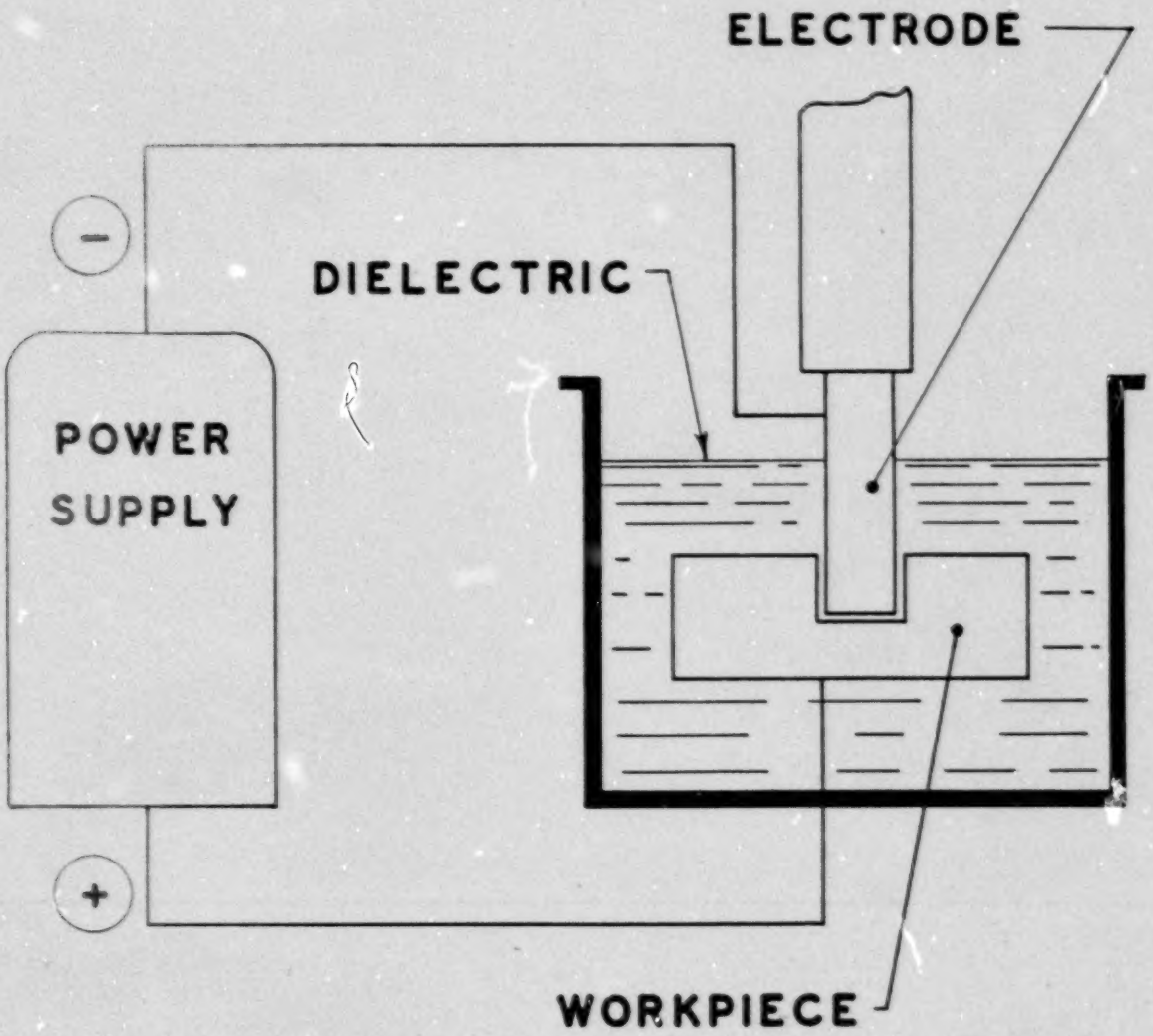
THE BASIC EDM PROCESS

Electrical Discharge Machining is a process of removing metal by controlled electrical discharges. It consists of an electrode, a workpiece and a dielectric fluid into which both the workpiece and electrode are submerged. (See Figure I., page 4). The tool (electrode) is usually connected to the negative side of the power supply, and the workpiece is connected to the positive. However, the polarity can be reversed if the situation calls for it. Examples of this will be explained later.

Pulsating D-C current is sent from the Power Supply causing a voltage to be applied between the tool and the workpiece. When the space between the tool and workpiece (machining gap) becomes small enough, the dielectric fluid in the gap is converted (ionized) into a gaseous envelope. A spark passes through this envelope from the tool to the workpiece. (See Figure II., page 5)

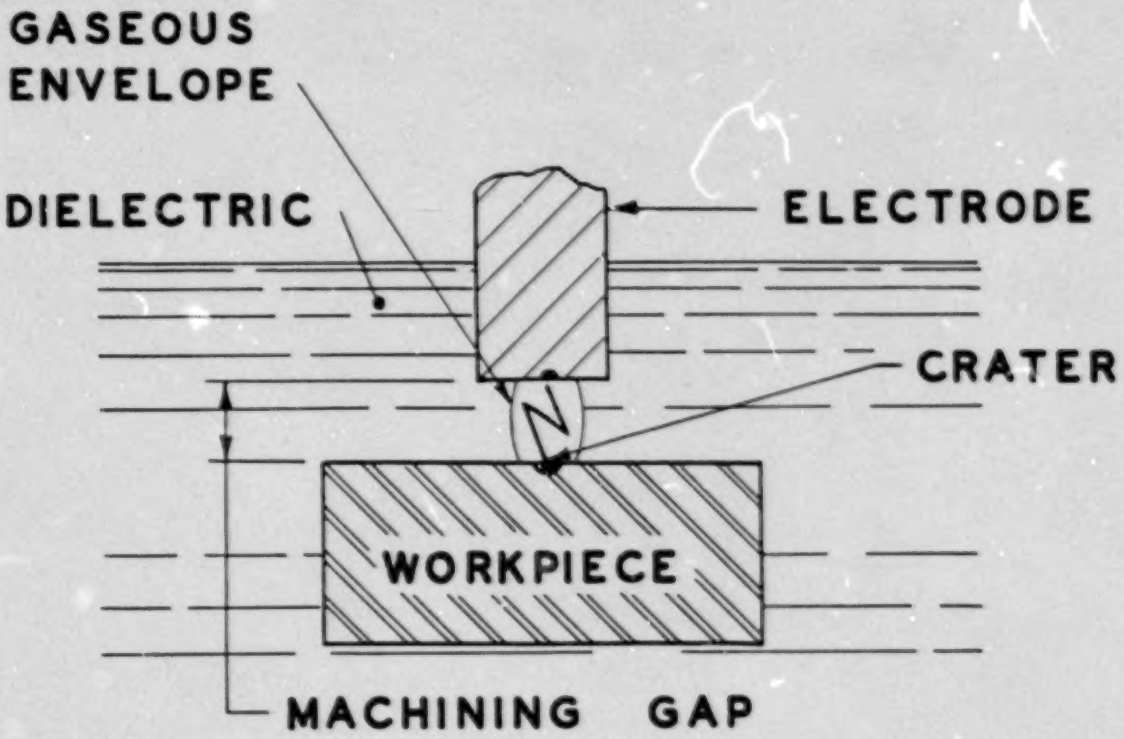
The spark creates a crater in the workpiece. A crater is a small depression where a particle of metal has been removed. In the EDM process, thousands of sparks occur each second, and thousands of small craters are eroded from the workpiece. The erosion process also causes the electrode to wear away but usually much more slowly than the workpiece depending upon the tool and the workpiece material.

With the preceding explanation in mind, it is obvious that both the electrode and the workpiece must be conductors of electricity. It can also be deduced that the tool must never touch the work. If this happens, no spark can traverse the gap and erode craters from the metal.



BASIC CONCEPT OF ELECTRICAL DISCHARGE MACHINING

Figure I. - The polarity can be reversed for special situations.



SPARK DISCHARGE PASSING THROUGH GASEOUS ENVELOPE

Figure II. - When the machining gap becomes small enough, the dielectric fluid in the gap ionizes and allows the spark to pass to the workpiece.

Therefore, unlike conventional machining which shears or tears metal away, EDM machining does not allow the tool to come in contact with the work.

ADVANTAGES OF EDM

The advantages of EDM are many and varied. It has been especially adapted to fit many applications in the various industries. Some of the common advantages are:

1. Hardness of workpiece is no problem. The only restriction of the workpiece material is that it must be a conductor. Some operators even feel that harder workpieces machine easier than softer ones. This, of course, was the original purpose of EDM-to machine hard metals. This is advantageous because heat treating can be done before the EDM operation.
2. Intricate shapes can be machined easily. Any shape can be cut as long as the electrode can be produced. Usually the electrode is much easier to machine with conventional machine tools than the desired opening in the workpiece. Also the electrode is often made from graphite or a soft metal which is easier to machine than a hardened workpiece.
3. Good duplication is easy to obtain. Parts or openings can be duplicated accurately as long as all conditions are constant.

4. Close tolerances can be maintained. Tolerances can be controlled in various ways. They can be controlled by varying the electrode size and by varying the machine settings to control the overcut.

5. Surface finishes can be controlled. By varying the machining gap distance, the surface finish can be predetermined. By setting the controls, the electrode can "rough out" a workpiece quickly leaving a coarse surface, or the controls can be adjusted to cut slower and leave a finer finish. Most machines provide the capability of obtaining a wide range of surface finishes.

6. There is an absence of almost all mechanical forces. The only mechanical force present in EDM work is that of the dielectric fluid. The fluid is sometimes forced through the cutting area to provide the flushing action required to remove the particles. The absence of mechanical forces allows the most fragile components to be machined without distortion. Also very delicate electrodes (such as thin wires) can be used to produce intricate detail.

7. EDM does not require constant operator attention. Several industrial EDM machines can be set up and operated at the same time by one operator. Most machines have controls that will automatically stop the machine when

the job is finished or if problems occur in the machining process.

DISADVANTAGES OF EDM

Although the electrical discharge machining process has fulfilled a vital need, it is not a cure-all for all machining problems. It cannot replace many operations of conventional machine tools because of the following reasons:

1. Since the tool and the workpiece both must be conductors of electricity, EDM is restricted in the types of materials that can be utilized both in the tool and the workpiece.
2. EDM is slow compared to conventional machining. Large cavities or workpieces are often roughed out by conventional machine tools and then finished on EDM machines.
3. The spark erosion process wears the tool more than conventional tools. Thus the electrode must be made of sufficient length and also must be dressed or sharpened back to original size in order to complete the job and hold the desired tolerances.

CHAPTER II

THE BASIC COMPONENTS OF EDM

THE MACHINE

The total EDM set up involves two basic units. These are the machine and the power supply. Both are vital to the process and must be selected according to the type of work to be done.

Electrical discharge machines have been produced in a wide range of sizes to fit the specific needs of different customers. Some manufacturers produce bench type models for use in schools in order to teach the basics of EDM with minimal expense. Other manufacturers produce industrial type machines which range in size up to the 168,000 pound Cincinnati EDM used in producing large automotive trim dies. Major companies can usually fill the needs of customers with their normal line of machines; however, the major companies can, and often do, build machines to fit special requirements of their customers.

There are two basic types of machines; these are the ram-type and the quill-type. The ram-type machine (See Figure III., page 10.) is used more for heavy-duty work. It is built for accuracy and repetitive positioning of heavy electrodes. It can handle smaller, more intricate work, but it is particularly adaptive to larger workpieces and electrodes. It

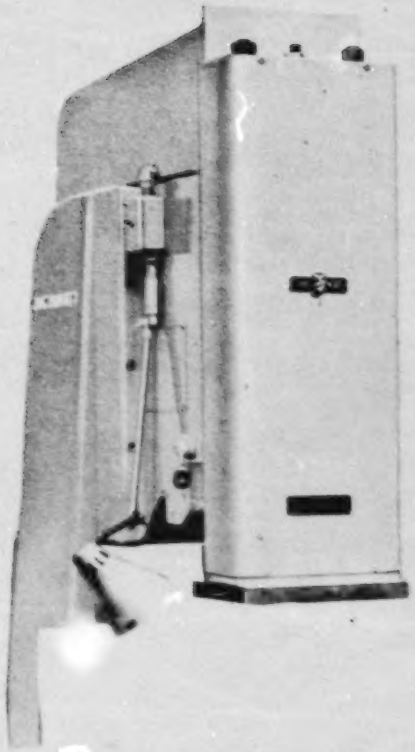


Figure III. - The ram type EDM machine to the left is designed primarily for machining stamping dies or cavity work where heavy large area electrodes are required.

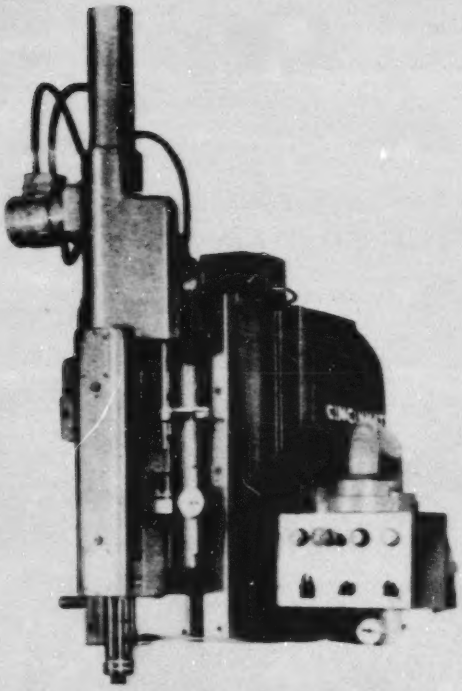


Figure IV. - The quill-type EDM machine to the right is particular well adapted for machining intricate parts, complex hole and cavity work, and long, precise holes.

also allows the use of split electrodes and multiple electrode set-ups.

The quill-type machine (See Figure IV., page 10.) is usually recommended for small, intricate parts or the machining of precise holes. Precision holes are obtained sometimes by utilizing a rotating collet chuck attachment which rotates the cylindrical electrode to produce a truer, more accurate diameter.

A servo system and a dielectric system are built into the EDM machine. The servo system is the "automatic feed" of the EDM machine. A circuit in the power supply constantly monitors the voltage change in the spark gap and compares it to the preselected reference voltage (controlled by the control settings of the power supply). The difference between the two voltages is the input signal that tells the servo how far and how fast to feed the electrode, and when to retract it. As a result, a very sensitive electro-hydraulic system is required to maintain a constant spark gap varying from .0005 inch to .004 inch (normal range can be greater) between the workpiece and the tool.

In order for the servo system to maintain such accuracy, the machine must be capable of minute movement without backlash. It must also be rigid enough and accurate enough to prevent any tilting of the electrode. In Electrical Discharge Machining, the tool never touches the workpiece. Therefore, the tool cannot be guided into the work as a drill can; it must rely upon the accuracy of the machine to keep it in correct position for cutting. If the tool should change position, it will not be guided back into the correct position; it will cut the opening oversize.

The EDM machine must be sturdy enough to withstand substantial forces from the flushing action of the dielectric system. For example, an electrode 3 inches by 10 inches would have approximately 600 pounds of pressure against it if the dielectric pressure for flushing the spark gap were set at 20 pounds per square inch (p. s. i.). Even higher pressure may sometimes be necessary. This pressure could deflect the ram if the machine were not rigid enough. (See Figure V., below.)

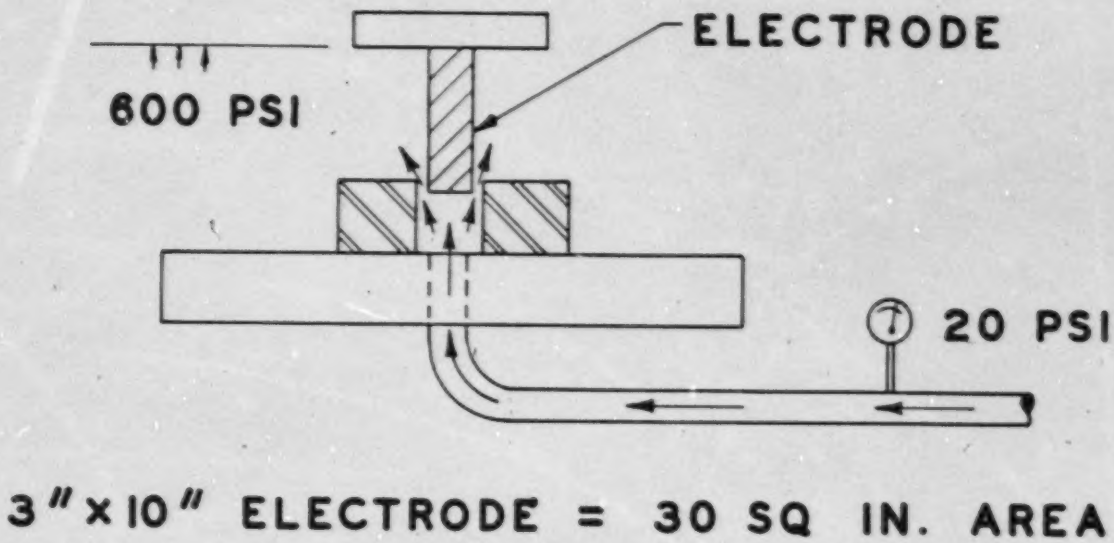


Figure V. - The above illustration shows the pressure that can build up in a confined space. Actually, the total pressure upward on the electrode can decrease due to the compression of the dielectric gases. However, care must be taken not to let the pressure become excessive.

The dielectric fluid is stored in the base unit of the machine until ready to be used. It is then pumped through a filter which removes the micro-fine particles of metal. From the filtering system, the fluid is pumped into the work tank through either the fast fill valve, into the spark gap area through the center flow system, or both.

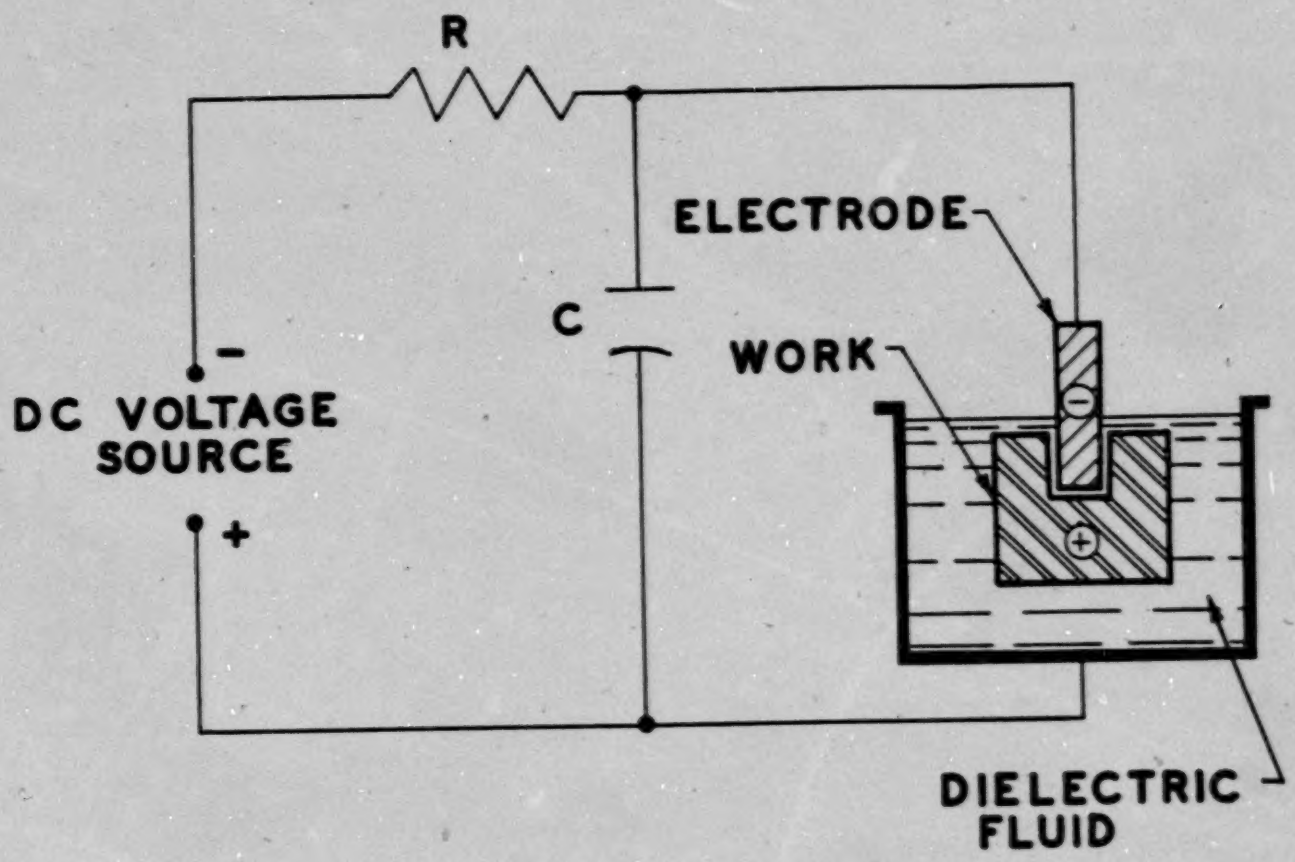
To remove the dielectric fluid from the work tank, there is a drain valve which permits fast draining back into the base unit. During the machining process, an overflow system is used to control the level of the fluid. The Cintrojet 141 machines have a row of holes arranged vertically along one side of the tank. The holes are closed with rubber plugs. At the desired level of fluid, a plug is removed to allow excess fluid to drain back into the base storage unit. The overflow system is important when fluid is being constantly sent into the work tank through the center flow. Larger Cincinnati EDM machines have an air fill system. The level of the dielectric is maintained by air pressure.

Many machines are equipped with a vacuum system which removes fluid from the work tank. The vacuum system drains the dielectric fluid through the machining gap and pumps it back into the base unit or work tank. This will be explained in a later section on flushing.

THE POWER SUPPLY

Care must be taken in selecting the proper power supply. The type of work to be done must be analyzed and discussed with manufacturers in order to choose the proper unit to meet the work requirements.

The three most prominent types of electrical discharge power supply units are the RC type or resistance-capacitance circuit, the RCI (resistance, capacitance, inductance), and the pulse-type (electronic tube or transistor units). The tube type and the solid state are both of the pulse type; the solid state is a refinement of the tube type. Both are widely used in industry.



THE RESISTANCE-CAPACITANCE CIRCUIT

(Charmilles Corporation of America)

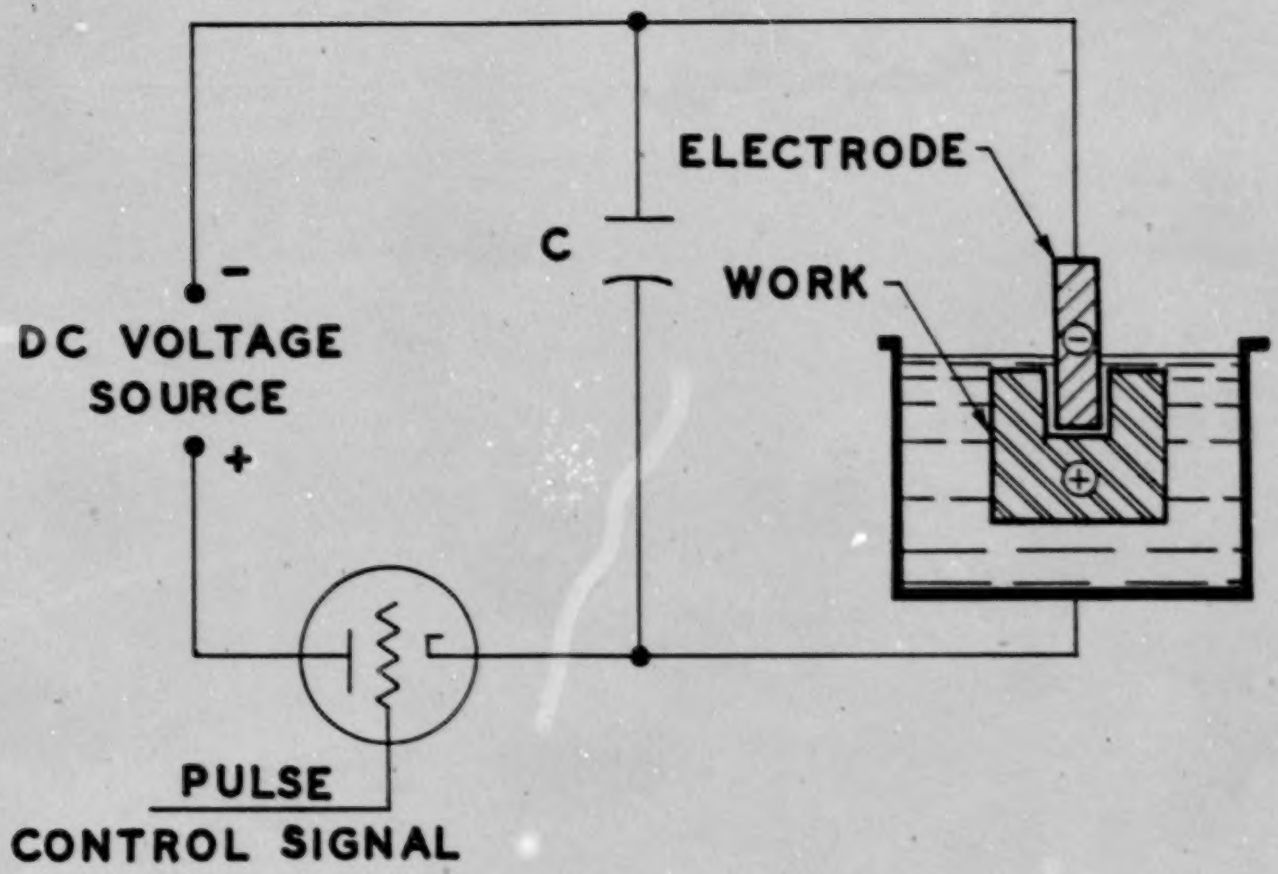
Figure VI. - Polarity can be reversed.

In the RC circuit (See Figure VI., page 14), as the voltage rises across the capacitor and the spark gap, the dielectric fluid ionizes. At complete ionization, the resistance between the workpiece and electrode breaks down. The energy stored in the capacitor is then discharged through a spark. This spark passes from electrode to workpiece. The length of time to discharge is much shorter than the time needed to recharge the capacitor. This happens because there is more resistance in the charging circuit than across the spark gap. When the capacitor is recharged, the cycle is repeated.

In some RC power units, the refinement of inductance has been added to create the RCI circuit. In the RCI power supplies, inductance has been introduced into the charging circuit to help control the charge and discharge rates of the capacitors.

The operation of the pulsating circuit is very much like the operation of the RC circuit except that the charging of the capacitor is controlled by an electron tube. (See Figure VII., page 16) The electron tube serves as a variable resistor. It switches in maximum current for charging the capacitor and then maximum resistance during its discharge. The charging frequency of the capacitor is controlled by the electron tube.

The solid state power supplies have many advantages over the tube type units in operation and maintenance costs. Costly tube replacement is eliminated in the solid state transistorized units. The transistors consume less power, last longer, are more reliable, require less space, produce less heat, and are less expensive to replace than electron tubes.



ELECTRON TUBE POWER SUPPLY

(Charmilles Corporation of America)

Figure VII. - The electron tube serves as a variable resistor. The solid state units provide better control over the EDM process, better machining efficiency, and a reduction of maintenance costs.

In large, open shops, the smaller 25 to 50 ampere units may not require venting. However, in small shops or labs, venting may be desirable to remove smoke or fumes caused by the machining process. Larger machines used to remove greater volumes of metal necessitate the use of a ventilation system.

THE DIELECTRIC FLUID

The dielectric fluid used in EDM is often called the coolant since this is one of its functions. There are four functions of the dielectric, and these are:

1. to provide a non-conductive barrier between the workpiece and the tool,

2. to ionize to permit a spark to pass from the tool to the workpiece when the gap is small enough,

3. to cool the eroded particles, the tool, and the workpiece, and,

4. to flush the particles, smoke, and gases away from the gap.

The dielectric fluids normally used are considered oils; however, they can be other fluids also. Some examples of dielectrics are mineral and silicone oils, kerosene, ethylene glycol polar fluids, glycerol, de-ionized water, sodium silicate solutions as well as compressed air and negative gases. The characteristics most favorable in a dielectric are low viscosity, high flash point, a dielectric strength of 200-250 volts per mil (.001"), no unpleasant odors, no harmful effects on skin or machine hoses, low in impurities, and no undesirable gap characteristics. EDM manufacturers can recommend the best dielectric for particular situations.

The first function of the fluid is to provide a non-conductive barrier so that the electric potential does not discharge sparks too soon. The second function of the dielectric is to ionize so that a spark can pass between the electrode and the workpiece. The space between the electrode and the workpiece (the machining gap) varies, depending upon the power

settings. As the electrode approaches the workpiece, the electrical potential between the two builds up until it exceeds the voltage breakdown strength of the dielectric. Then the dielectric is ionized and changed from an insulator to a conductor so that the spark can pass from tool to workpiece. (See Figure VIII., below)

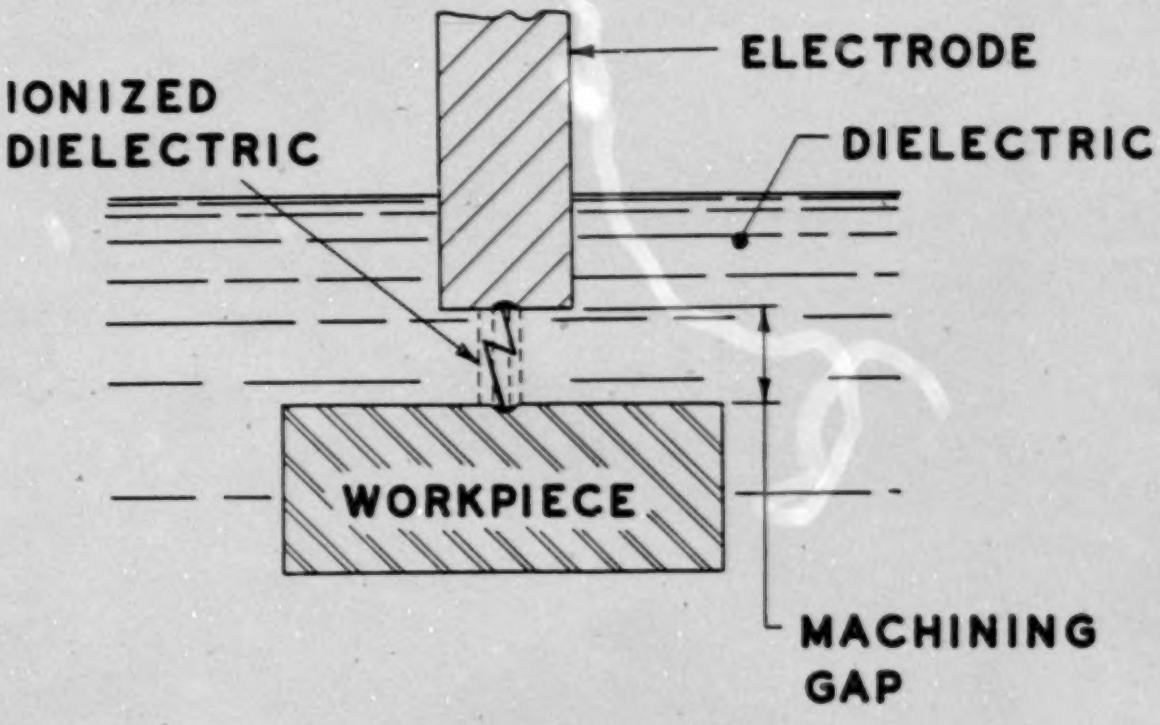


Figure VIII. - The dielectric must ionize so that the spark can pass between the electrode and the workpiece.

The third function of the dielectric, to cool the eroded particles, is necessary because of the tremendous heat generated by each spark. The dielectric fluid also cools the tool and work; this can be important on heavy, prolonged roughing cuts.

The fourth function is to flush away the eroded particles to keep the gap clear. The carbon particles, if allowed to remain in the gap, can accumulate and cause DC arcing. The particles act as stepping stones for the spark, and an accumulation of these particles will concentrate the spark in one place, thereby interfering with the desired cut and stopping the erosion process.

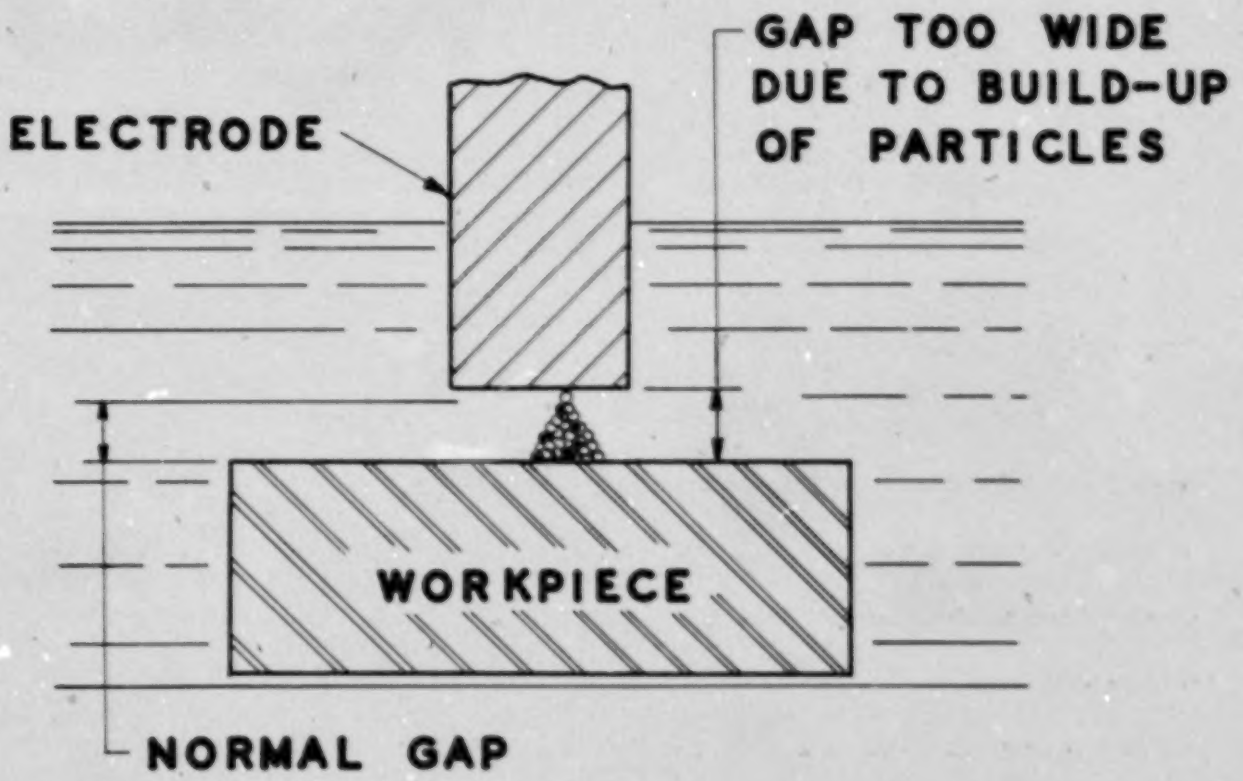


Figure IX. - Particle build-up can interfere with desired cutting action.

THE WORKPIECE

The most important characteristic of the workpiece is that it must be a conductor of electricity. Next the piece must be no larger

than the machine's capacity. Large jobs that cannot be machined on the existing EDM unit are sometimes set up on a large milling machine or drill press and cut by adapting the EDM unit to the larger machine.

Some workpiece materials will cause much higher metal removal rates than others. This is due to two factors. These factors are:

1. the conductivity of the material-for example, copper is an excellent conductor and stainless steel is a poor one; and

2. the melting point of the material-for example, aluminum melts at approximately 1200 degrees F., and steel melts at approximately 2700 degrees F.

THE ELECTRODE

Electrodes in Electrical Discharge Machining can be compared to cutting tools in conventional machining. However, the choice of the proper electrode for a specific task is more important than the selection of a tool for a conventional job. The reason for this is because the EDM tool reproduces its own configuration in the workpiece. Therefore, careful considerations have to be made in selecting the proper electrode.

Types of Electrodes

There are different types of electrodes to consider when selecting one for the job at hand. Most essential is that an electrode must be a conductor of electricity. Since some materials are much better conductors than others, this is an important factor. Some of the more common electrode materials are: graphite, copper and copper alloys,

and brass. The list of electrical conductors that can be used as electrode material is lengthy. (See page 22.)

The more common electrode materials can be purchased in slabs, flat sheets, rods, tubes, and cylinders of various sizes ground and unground. A prime consideration in selecting an electrode might be the availability of the shape and size desired. Time and machining costs would be saved if the electrode size and shape were readily available (such as tubes, rods, or square shapes).

When the shape and size electr[illegible] desired is not readily available, there are other types to consider. These are:

1. cast or molded electrodes,
2. forged or coined electrodes,
3. metal sprayed, and
4. machinable electrodes.

Cast or molded electrodes are made from graphite. These have not been widely accepted yet, but research and experimentation are still going on to perfect this type of electrode. In the past this type of electrode has been unsatisfactory because of high electrical resistivity, poor density, inferior gap characteristics, and poor cut-to-wear ratios.

Forged or coined electrodes are usually brass or copper or copper alloys. Metal sprayed electrodes are not too common yet; however, some electro-deposited copper electrodes are used for low amperage-high detail work. Machined electrodes seem to be the most widely used.

Machinable electrodes are those that are manufactured by conventional methods. They are milled, turned, drilled, ground, etc. to the desired shape. (Machining of electrodes will be discussed in another

PROPERTIES OF COMMON EDM ELECTRODE AND WORKPIECE MATERIALS

Materials	Symbols	Approximate Melting Points ^0F	Approximate Melting Points ^0C	Approximate Electrical Conductivity Copper - 100
Aluminum	Al	1220	660	60
Beryillum	Be	2332	1277	42
Brass	--	1650	899	26
Carbon-Graphite	C	6740	3727	2- 3
Cast Iron	Fe	2600	1427	17
Cast Steel	--	2700	1482	20
Chromium	Cr	3407	1875	13
Copper	Cu	1981	1083	100
Inconel	--	2700	1482	20
Molybdenum	Mo	4730	2610	30
Monel	--	2400	1316	4
Silver	Ag	1761	960	105
Stainless Steel	--	2600	1427	3
Steel	--	2700	1482	26
Tin	Sn	450	232	15
Titanium	Ti	3035	1668	3-4
Tungsten	W	6170	3410	31
Tungsten-Carbide	--	6000	3315	9
Zinc	Zn	787	419	26

section.) When machining electrodes, three factors must be considered; these are the shape desired, the cost, and the material. Intricate shapes are difficult to machine in harder materials. Softer, easier to machine materials should be selected for complex shapes and thin sections.

The cost of the electrode material is another prime consideration. Materials vary in expense, but poor selection of electrode material can also be costly. It is often better to utilize the more expensive material if it will get the job done more efficiently. A lesser grade of material might sacrifice in the cut-to-wear ratio, the tolerance holding capability, and the surface finish. It is not a simple task to choose the correct material since there are so many grades to choose from. Manufacturers can recommend the appropriate one.

Graphite is by far the most widely used electrode material because its cost is low compared to metals, it has good wear characteristics, it erodes the work faster, and it is machined more easily than metals.

Choosing an Electrode

Two basic considerations in choosing an electrode, in addition to machinability and cost, are wear and metal removal rate (MRR). In the EDM spark erosion process, the electrode also is eroded or worn away. The amount of wear depends upon the electrode material, the workpiece material, the electrical conductivity of each, and the polarity of the set up. Since electrode and workpiece materials have different melting points and different electrical conductivity, some combinations will cause

more wear than others. Brass melts at around 1650°F. and copper at around 2000°F. Graphite does not melt but vaporizes at a temperature above 6000°F. Spark temperatures, which can range up to 10,000°F., erode the conductive metals more quickly than the graphite.

Standard polarity means having the electrode negative and the workpiece positive. Reverse polarity is the opposite. In some instances, reverse polarity will give better wear ratios. This is beneficial where a higher quality of detail is desired on finishing cuts.

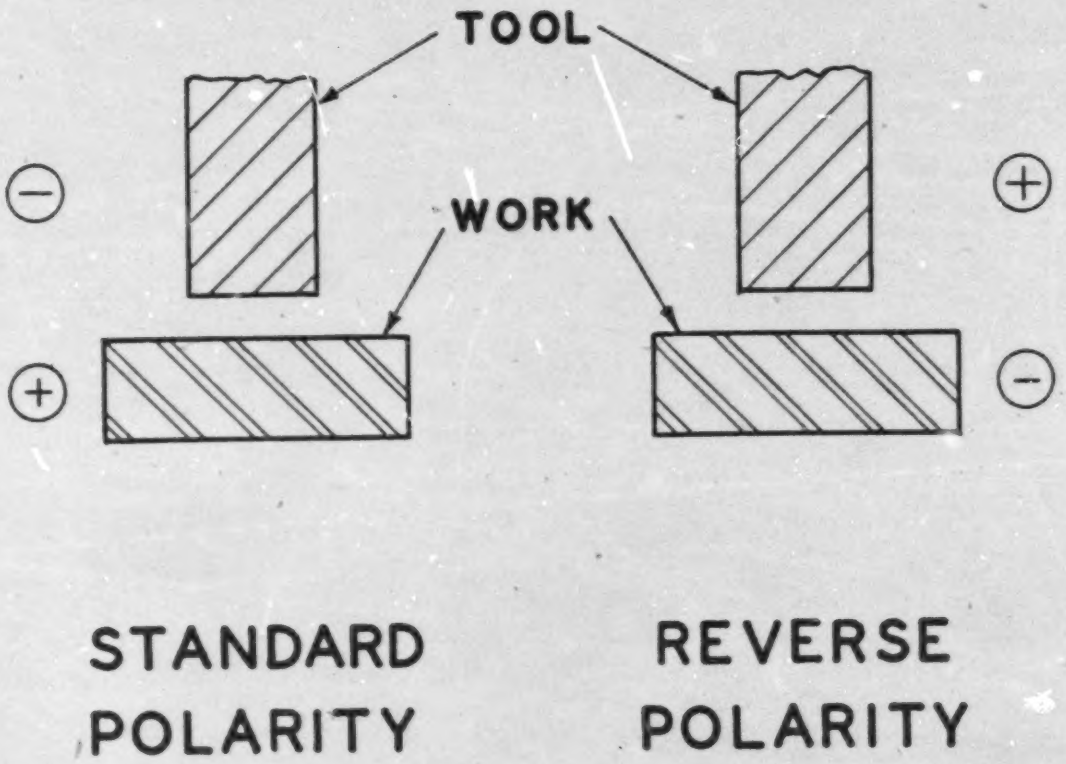


Figure X. - Standard polarity is also known as negative polarity. Reverse polarity is also known as positive polarity.

The second important factor in choosing an electrode is metal removal rate which is a measure of how fast the metal is eroded. Metal removal rate efficiency may be measured as the volume of metal removed per unit of electrical energy, or the amount of the work-piece that is removed in a given length of time (usually stated in cubic inches per hour) per average ampere.

CHAPTER III.

CONTROL OF THE PROCESS

Factors Involved in the Control of the Machining Process

Control of the EDM process involves five factors in addition to the basic components discussed in the previous section. These factors are the servo voltage, cutting current or amperage, frequency, amount of capacitance used in the discharge circuit, and stability and sensitivity of the servo system. These factors are all essential to the cutting operation and operate simultaneously.

Servo Voltage

The space between the electrode and the workpiece is called the gap, spark gap, machining gap, or cutting gap; and the voltage that passes through this space is called the gap voltage. The peak gap voltage for graphite electrodes is about 30 volts and 20 volts for metallic electrodes. The servo voltage, which is extremely important in stabilizing the cutting action, is an average peaking or striking voltage. It is the breakdown voltage used to initiate or ionize the gap. It is the ionization voltage. (See Glossary.)

The servo voltage is read on the voltmeter in the power supply. By increasing or decreasing the servo voltage, the cut can be stabilized.

When the cutting action is stable, the voltmeter will show little or no movement of the needle.

Increasing the voltage stabilizes the cut when poor flushing conditions prevent the adequate removal of chips from the cavity. Too many chips in the gap tend to reduce the voltage so that no current flows and the electrode retracts until the coolant can flush the chips away. An open circuit (no cutting action) can result if the gap is too large. Thus, the gap voltage and the servo voltage control contribute an integral part of the machining process.

Cutting Current (Amperage)

Metal removal rate depends on how much metal is removed (cubic inches/hour) by each spark in a given period of time. This is generally determined by the energy consumed. By increasing the current to the electrode, a faster machining rate can be achieved.

Using the same electrode and workpiece materials (See Figure XI., page 28), Figure A illustrates the effect of a one ampere discharge. A one ampere spark contains a certain amount of energy and will remove a certain amount of material; a two ampere spark contains twice as much energy and will remove twice as much material.

Note again that some materials have lower melting points than others and will machine faster. (Refer to the chart shown on page 22.) The lower melting point materials yield larger chips, thus producing faster cutting times. There is no significant difference between hardened steel and soft steel. In heat treating steel, the critical temperature

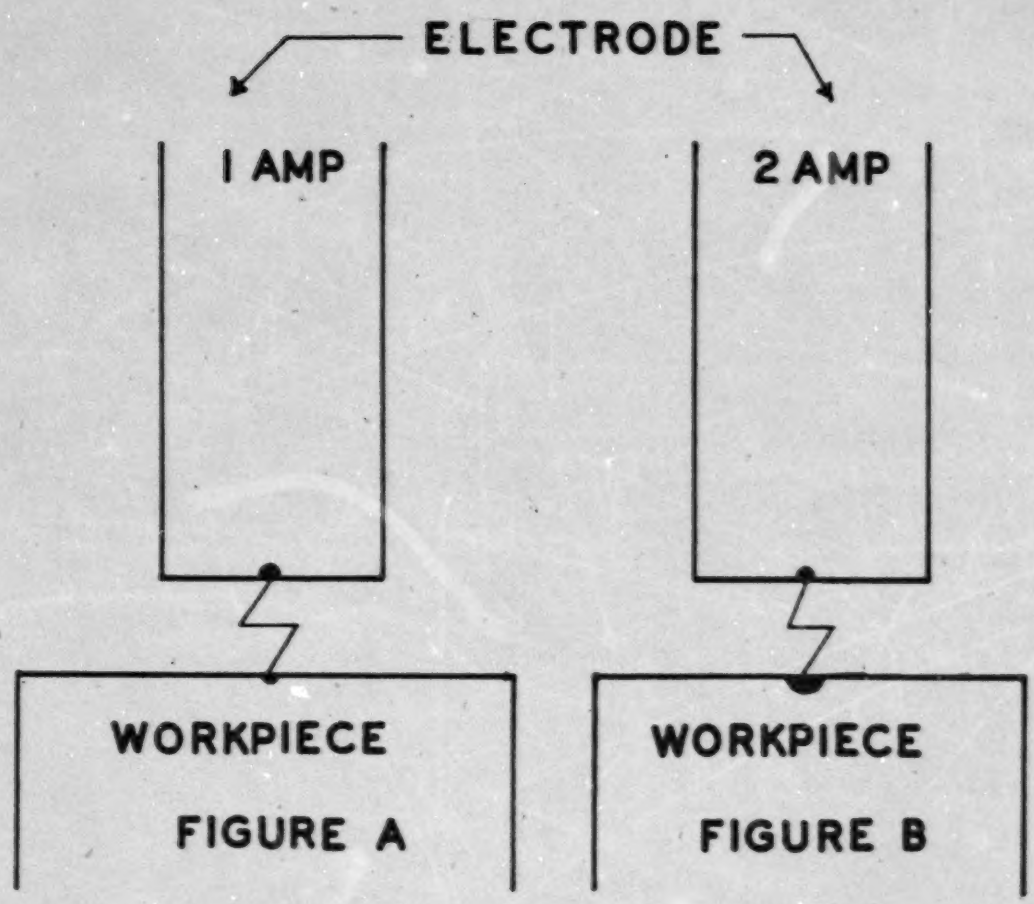


Figure XI. - Using the same electrode and the same workpiece, doubling the amperage will double the removal rate.

range for hardening is normally 1400°F. - 1850°F., and the melting point is much higher at approximately 2700°F. Both of these will vary with different alloys. Therefore, in order to EDM hardened or annealed steel, the spark must have a temperature far above the hardening range.

Another important consideration is that of conductivity. This

has an effect upon the erosion rate. Generally speaking, the higher the conductivity, the faster the erosion.

Amperage also affects the finish and the overcut. With increased amperage, more metal is removed and each spark discharged penetrates deeper into the workpiece leaving larger craters and a rougher finish.

Overcut is described as the space between the perpendicular wall of an electrode and the side wall of an EDM machined opening. (See Figure XII., shown below.)

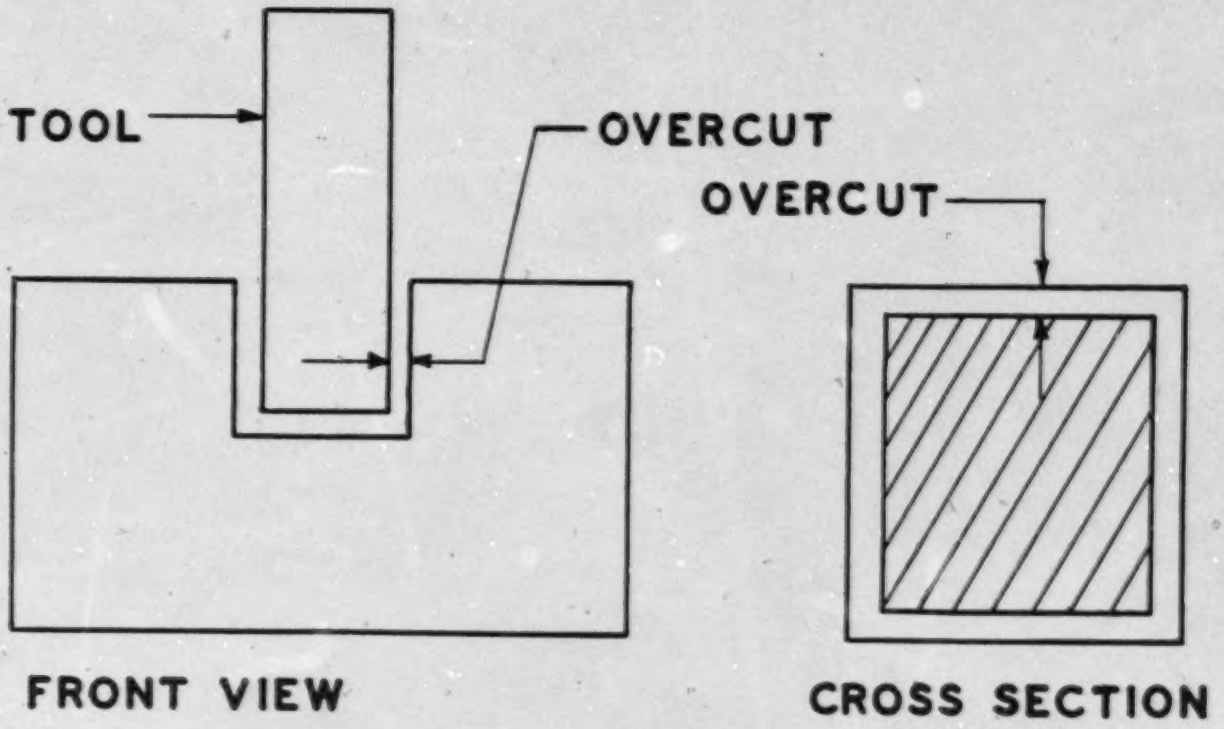
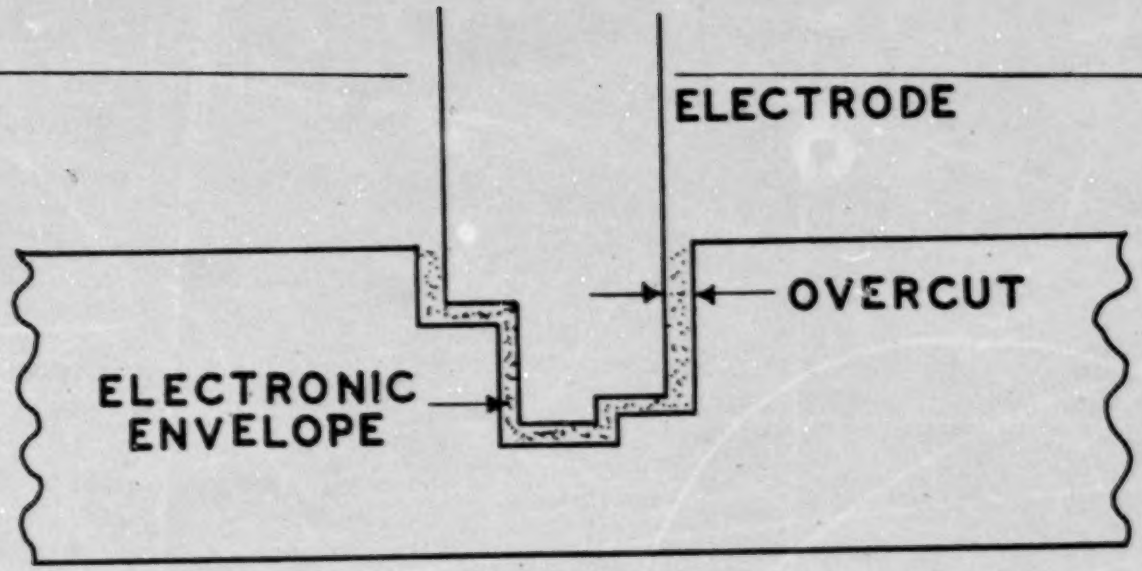
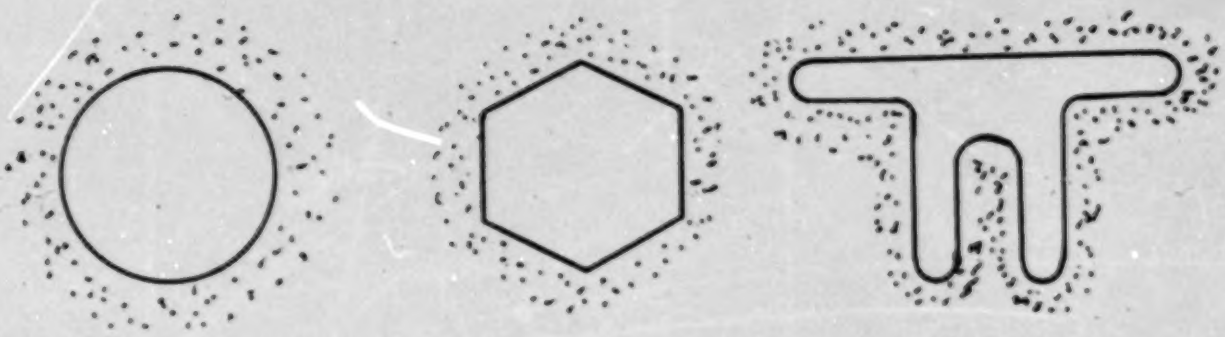


Figure XII. - Overcut is the space between the perpendicular wall of an electrode and the side wall of the opening.





OVERCUT
ELECTRONIC ENVELOPE

Figure XIII. - The electronic envelope follows the shape of the electrode.

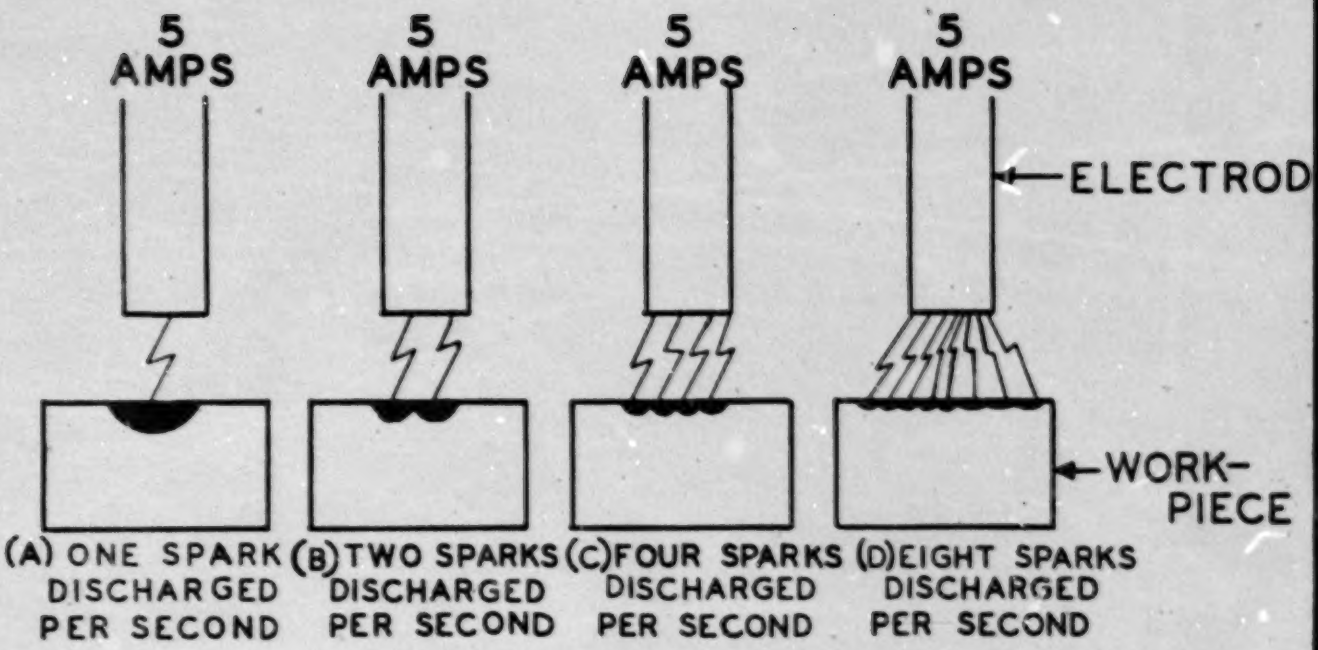
For accurate sized openings, the overcut must be controlled. Therefore, the amperage must be controlled so that the sparks do not erode too much metal from the sides of the opening.

Overcut is sometimes described as an electronic envelope. Figure XIII., page 30 shows that the electronic envelope follows the shape of the electrode no matter how irregular that shape may be.

Frequency

Surface finish is just as important in EDM machining as it is in conventional machining. EDM can produce a range of surface finishes varying from rough to fine.

The illustration shown in Figure XIV., page 32 shows the importance of frequency upon the surface finish. In all four figures the amperage, electrode, and workpiece material are all constant. By varying how many spark discharges occur per second, the surface finish can be controlled. With low frequency of discharges as in (A), large craters are formed resulting in a rough finish. As the frequency is increased, there are more sparks per second dividing the same amount of amperage. This results in smaller craters and a finer finish. It should be noted that since the amount of energy is constant, the same amount of material is being removed in all four cases. However, the increase in number of sparks reduces the energy per spark. Consequently, in (D) each spark removes a much smaller particle than a spark in (A), (B), or (C).



(Colt Industries - Elox, Inc. Division)

SURFACE FINISHES VARY WITH FREQUENCY

Figure XIV. - Frequency affects the surface finish.

Surface finish depends not only upon amperage and frequency but also upon the finish on the electrode. The electrode produces a hole or cavity according to its shape. Vertical machining lines, scratches, or nicks on the electrode will be reproduced on the workpiece. It is good practice to lightly polish electrodes with fine emery cloth to remove machining marks.

The EDM finish differs from surfaces machined by the more

conventional methods. It is composed of a series of small craters and has a nondirectional or multidirectional appearance as compared to turned or milled surfaces. The craters reflect light differently than a ground surface; consequently, the EDM surface doesn't appear as bright.

While the crater finish must sometimes be polished as in mold work, it is often advantageous to leave it in an unpolished state since it holds oil better than a ground surface. This is beneficial in stamping out parts which tend to stick to the die.

Another surface finish characteristic of the EDM machined surface is the recast white layer that results from the high temperatures required to erode the material. In heat-treatable metals, such as tool steels, this layer will be extremely hard. When high amperage is used in the final cutting operation, minute cracks may appear.

Tempering the die or part after EDM usually alleviates the problem caused by the white layer. Minute cracksare often removed by a polishing operation; however, the cracks can be a serious problem on sharp corners and thin sections.

Amount of Capacitance Used

Another factor which greatly affects control of the EDM process is the amount of capacitance used in the discharge circuit. On pages 13-16 the different types of power supplies were listed. It should be noted that there are basically two types of operating modes. These are the straight energy systems which are found in the solid state transistorized

power units, and the capacitor systems.

The solid state units have the capability of varying the pulses to an infinite degree. The on time and off time can be infinitely varied to achieve the desired results. Also, the servo voltage and amperage are controlled much more precisely than the capacitor type operating mode.

The straight energy systems produce a square wave pulse as shown in Figure XV.

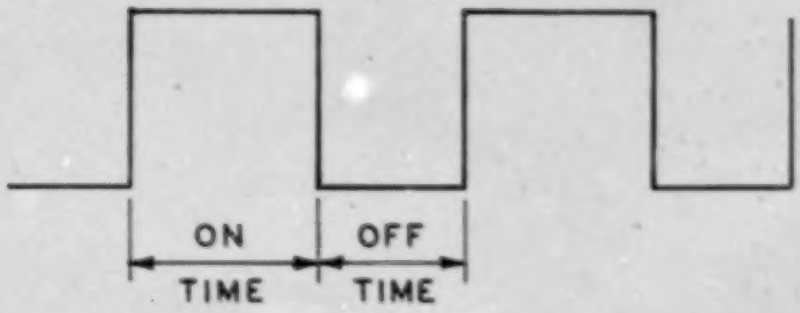


Figure XV. - Square wave pulse

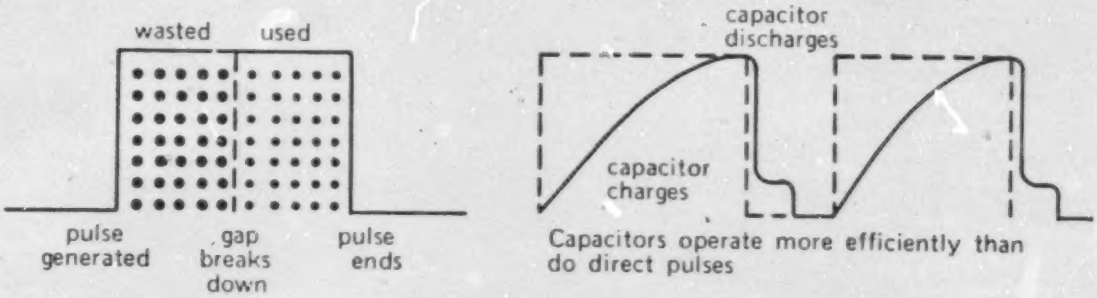
The on time is defined as the duration of a pulse, and the off time is the time interval between pulses.

In the capacitor systems, capacitors are merely convenient storage devices where the energy is stored until ready for use. The value of the capacitors are measured in microfarads. The higher the microfarad value, the greater is the energy storage capacity. On the South Bend-Ingersoll power supply, capacitors are available in energy storing capabilities of from .03 microfarads to 12 microfarads.

By combining capacitors, practically any microfarad value can be obtained. With a capacitor mode of operation, the capacitance determines

the metal removal rate and the finish. The duty cycle, power level, and frequency only determine the energy produced by the power supply for filling the capacitors. The higher the microfarad value selected, the greater will be the discharge energy, resulting in a higher metal removal and a rougher finish.

One advantage of the capacitor system is that the capacitors store the charge until conditions at the machining gap are ideal for a discharge. On straight energy systems, a pulse might be lost (a miss) or partially lost if the dielectric did not break down (ionize) in the gap. The illustration in Figure XVI. shows an example of this.



(South Bend Lathe EDM)

Figure XVI. - On straight energy systems, a miss can occur.

Stability and Sensitivity of the Servo System

The servo system was discussed briefly on page 11. This final factor in controlling the EDM process determines the response speed of the electrode to conditions at the machining gap. As metal is removed, the servo system monitors the gap distance and maintains a uniform distance

between the electrode and the workpiece according to conditions at the gap. If the response speed is too slow, machining time is slowed. If the response speed is too fast, the electrode might contact the workpiece and stop all cutting action.

Since the machining gap often ranges as low as .0005 of an inch, the servo system must be extremely sensitive and stable to maintain such a small distance between the electrode and workpiece.

As mentioned on pages 11 and 12, the servo system must be sturdy and stable because of the flushing pressure that might at some time be exerted upon it. (See Figure V., page 12.)

PROGRAMMING

In order to achieve the most efficient results in EDM machining, a systematic approach to each job should be taken. This means a "hit or miss" approach in setting the controls must be eliminated. EDM manufacturers print charts, tables, and graphs as well as special machining suggestions to help in obtaining the desired results in the least amount of time according to the criteria established. This means that the job must be analyzed and evaluated as to which factors are most important and least important. For example, if the surface finish of a workpiece is unimportant, the machine may be set to cut fast with a rough surface finish.

Four main concerns in electrical discharge machining are:

1. overcut, 2. metal removal rate, 3. surface finish, and 4. electrode wear. It must be determined which of these four factors is most important. Then the other factors must also be ranked in importance. Once the order of importance has been established, the charts can be used to determine the required machine settings.

The charts are merely a starting point, just as RPM charts are. The charts are representative of ideal conditions. If for some reason the conditions are not ideal, then adjustments must be made. Experienced EDM operators can decide very quickly the proper settings needed for particular jobs on the machines they operate. It is sometimes recommended that charts be made for each machine because identical machines do perform differently. This is done by keeping data from each job performed and compiling the information.

The South Bend EDM Company uses amperage charts overcut charts, and Duty Cycle Charts to aid in programming the machine for the desired results. The company also includes in its service manual the EDM Parameter Consideration Chart (See page 38.) which is most helpful.

The Cincinnati Milacron Company uses a different type of chart system. Note the Operating Data Chart No. 1 on page 39. This chart is for one particular machine, the Cintrojet 141, which is a solid state power supply. Note also that the chart is used when a graphite electrode with negative polarity (standard polarity) is used on a steel workpiece. The Cincinnati Company includes charts for its other machines and for both standard and reverse polarity in their manuals.

EDM PARAMETER CONSIDERATION CHART

The parameter chart will assist in arriving at the general power supply settings for the type of machining desired.

Cutting Parameters

	Polarity		Frequency			Mode		Capacitance			Power				Duty Cycle			
Results Desired	Normal	Reverse	0-8 KHz	8-40 KHz	40-200 KHz	Pulse	Capacitor	.03-1 mfd	1-6 mfd	6-40 mfd	1-30 amp	2-45 amp	3-60 amp	4-75 amp	10% - 40%	40% - 60%	60% - 90%	Fine finish Attachment
Extra-Fine Finish	●				●		●								●			●
Fine Finish	●				●		●	●			●	●			●			
Medium Finish	●			●			●		●		●	●	●			●	●	
Medium Finish (Low Wear)		●		●		●						●	●				●	
High Metal Removal (No Wear)		●	●			●							●	●			●	
Low Overcut	●				●		●	●			●				●			
Exotic Metals	●			●	●		●	●	●	●	●	●	●	●	●	●		
Poor Flushing	●			●			●		●	●	●	●	●	●	●			

OPERATING DATA CHART NO. 1

CINTROJET 141 (1 MODULE)

Graphite (-) On Steel

On Time Setting	PEAK CURRENT SETTING 1	2	3	4	5	6	7	8	9	10	11	12
A2	0.8 / 45+ / .011 / 58	0.8 / 40+ / .014 / 59	0.9 / 36 / .019 / 60	0.9 / 33 / .025 / 61	0.9 / 32 / .026 / 62							
A4	0.8 / 40+ / .014 / 60	0.8 / 37 / .018 / 62	0.9 / 34 / .024 / 64	1.0 / 28 / .030 / 67	1.1 / 27 / .032 / 70							
A5	0.8 / 36 / .016 / 64	0.9 / 34 / .021 / 68	1.0 / 31 / .029 / 72	1.2 / 28 / .038 / 76	1.2 / 27 / .040 / 80							
A8	0.9 / 33 / .019 / 70	1.0 / 31 / .024 / 75	1.1 / 29 / .033 / 80	1.3 / 26 / .042 / 85	1.4 / 25 / .044 / 90							
B2	0.9 / 31 / .021 / 70	1.1 / 29 / .027 / 80	1.2 / 27 / .035 / 90	1.4 / 25 / .046 / 100	1.6 / 25 / .049 / 120	1.7 / 24 / .052 / 130	1.8 / 22 / .056 / 140	1.9 / 21 / .058 / 150	2.0 / 20 / .060 / 160	2.2 / 19 / .062 / 170	2.4 / 18 / .064 / 180	2.7 / 17 / .067 / 190
B3	1.0 / 29 / .022 / 80	1.2 / 28 / .029 / 90	1.4 / 26 / .038 / 100	1.6 / 24 / .049 / 120	1.8 / 23 / .052 / 140	1.9 / 22 / .055 / 150	2.0 / 21 / .061 / 160	2.2 / 20 / .063 / 170	2.4 / 19 / .065 / 180	2.5 / 18 / .067 / 190	2.7 / 17 / .069 / 200	3.0 / 16 / .072 / 225
B5	1.1 / 28 / .025 / 80	1.2 / 27 / .030 / 100	1.5 / 25 / .039 / 120	1.7 / 24 / .051 / 140	1.9 / 23 / .055 / 150	2.0 / 22 / .059 / 160	2.2 / 20 / .065 / 180	2.2 / 19 / .067 / 200	2.4 / 18 / .069 / 210	2.6 / 18 / .071 / 225	3.0 / 17 / .073 / 235	3.0 / 16 / .076 / 250
B7	1.1 / 28 / .024 / 90	1.3 / 26 / .030 / 120	1.7 / 24 / .040 / 140	1.9 / 22 / .053 / 160	2.1 / 21 / .056 / 170	2.2 / 21 / .060 / 180	2.3 / 20 / .066 / 200	2.6 / 19 / .068 / 225	2.8 / 18 / .071 / 250	3.1 / 17 / .073 / 260	3.4 / 17 / .076 / 275	3.4 / 16 / .079 / 300
C1	1.2 / 28 / .022 / 100	1.5 / 26 / .028 / 120	1.8 / 24 / .039 / 140	2.0 / 22 / .052 / 180	2.2 / 21 / .056 / 200	2.3 / 21 / .060 / 220	2.4 / 20 / .067 / 250	2.7 / 19 / .070 / 260	2.9 / 18 / .073 / 275	3.2 / 17 / .076 / 300	3.5 / 17 / .076 / 320	3.5 / 16 / .080 / 350
C2	1.3 / 28 / .020 / 100	1.6 / 26 / .027 / 140	2.1 / 24 / .038 / 160	2.3 / 22 / .051 / 200	2.5 / 21 / .055 / 225	2.6 / 21 / .061 / 250	2.8 / 20 / .068 / 275	3.1 / 19 / .071 / 300	3.5 / 18 / .074 / 350	3.6 / 17 / .076 / 370	3.9 / 17 / .078 / 400	4.0 / 16 / .080 / 430
C3		1.8 / 27 / .025 / 160	2.2 / 25 / .037 / 180	2.4 / 23 / .050 / 250	2.6 / 22 / .054 / 260	2.8 / 21 / .058 / 275	3.0 / 19 / .067 / 350	3.2 / 18 / .070 / 370	3.6 / 17 / .073 / 400	4.0 / 17 / .075 / 420	4.1 / 16 / .077 / 450	4.2 / 16 / .079 / 500
C4			2.4 / 26 / .034 / 225	2.5 / 24 / .048 / 275	2.7 / 23 / .052 / 300	3.0 / 21 / .056 / 350	3.4 / 19 / .065 / 400	3.6 / 18 / .069 / 440	4.0 / 17 / .072 / 500	4.2 / 17 / .074 / 550	4.5 / 16 / .076 / 600	4.7 / 16 / .078 / 650
C6				3.0 / 24 / .045 / 350	3.1 / 23 / .049 / 360	3.3 / 22 / .051 / 375	3.6 / 19 / .061 / 450	4.0 / 18 / .065 / 500	4.3 / 17 / .069 / 550	4.6 / 17 / .071 / 600	4.9 / 16 / .073 / 650	5.3 / 16 / .075 / 700
C8				3.2 / 25 / .042 / 400	3.6 / 24 / .046 / 425	3.9 / 23 / .050 / 450	4.2 / 20 / .058 / 525	4.5 / 18 / .062 / 600	4.8 / 17 / .066 / 650	5.2 / 17 / .068 / 700	5.8 / 16 / .070 / 750	6.5 / 16 / .072 / 800

Variations on either side of the nominal ON-TIME settings shown are imperceptible in the finish area. In the roughing area, an increase or decrease in ON-TIME will result in a value between the two nearest nominals on the chart.

Page 41 shows the controls of the Cintrojet 141 power supply. This illustration should be helpful in understanding the following information.

A typical program might be labeled 3A2G6-5. This program is explained in the following paragraph. Note that some parts of the program are not included when they are not needed for the job.

Programming Cintrojet Power Supplies

The following is the method used for specifying and recording settings used on the Cintrojet Power Supply:

If operated in split mode, the letter "S" should precede a digit which indicates the number of modules used per split.

Number of modules being used and/or connected to one electrode.

Peak Current Switch Setting 1-12

Range Switch Setting A, B, C, D

On-Time 1-10

Graphite, Metallic Switch G or M

Off-Time 1-10

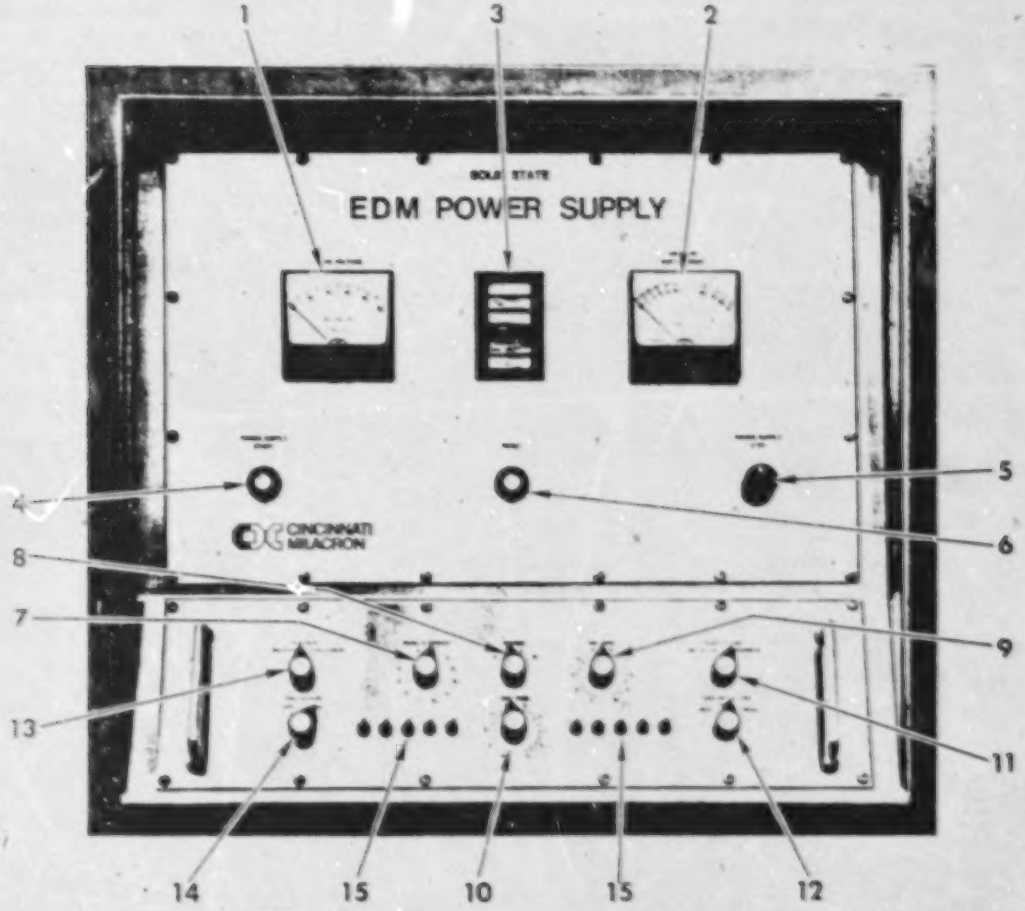
Electrode Polarity + or -

Gap Initiation 0 thru 9

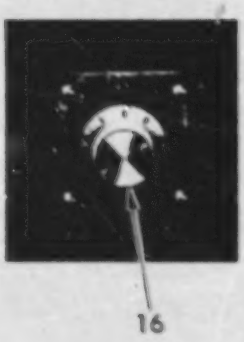
ARC-Guard (when required)

3 A 2 G 6 - 5

CINCINNATI CINTROJET GENERAL PURPOSE POWER SUPPLY



1. Servo Voltage Meter
2. Average Current Meter
3. Indicating Lights
4. Power Supply Start Button
5. Power Supply Stop Button
6. Reset Button
7. Peak Current Switch
8. Range Switch
9. On Time Control
10. Off-Time Control
11. Electrode Material Switch
12. Gap Initiation Switch
13. Master Follower Switch (On Dual Units Only)
14. Arc-Guard Switch
15. Test Points
16. Gap Initiation Control



LOCATION OF OPERATOR CONTROLS

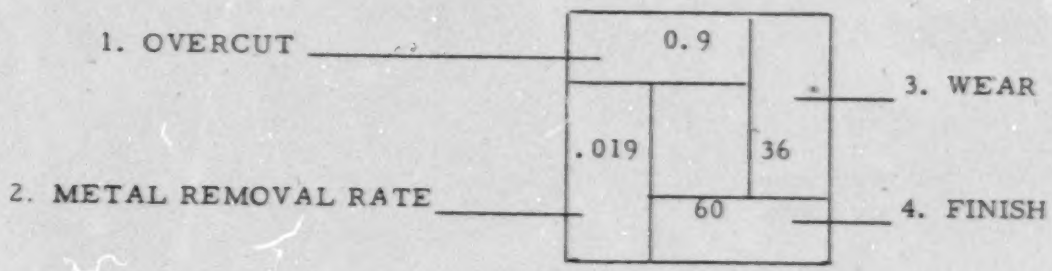
The blocks of information from Chart No. 1, page 39, are explained below:

1. Mean Overcut - Average of top, middle and bottom overcut, measured by expanding-type gage, in thousandths of inches per side.

2. Metal Removal Rate - Metal removed in cubic inches per hour per average ampere, with ideal flow.

3. Electrode Wear - Percent of electrode wear with respect to metal removed. This is a volume ratio. An asterisk (*) in this block indicates less than 1% electrode wear ratio.

4. Finish - Surface roughness, in Micro-inches RMS.



The typical program 3A2G6-5 is for a finishing cut. The 3 is the peak current setting; A is the range setting; 2 is the on time setting; G means that a graphite electrode is to be used; 6 is the off time setting; the negative sign (-) means that standard polarity is to be used; and the 5 is the gap initiation setting. By using Chart No. 1, the following information can be obtained.

With ideal conditions, the overcut will be .0009 per side; the metal removal rate will be .019 cubic inches per hour per average ampere; the electrode wear will be 36 per cent; and the finish will be 60 RMS.

It should be noted that the Operating Data Chart No. 1 does not

provide all the information required. The off time setting must be calculated.

The Technical Information sheets found in Appendix A and the Operation sheets found in Appendix B may be used when studying this part of programming.

METHODS OF FLUSHING

Removing particles from the machining gap is probably the most important single factor for efficient electrical discharge machining. Thus it becomes very important to maintain adequate flushing at the gap to clear the area of residue. Poor flushing can easily destroy the effects of proper power settings. It can make the overcut larger than desired and destroy the accuracy of the opening. It can make the difference between a stable, efficient cut and an unstable, low efficiency cutting action.

A "stepping stone" effect can result when too much residue is left in the gap. The electrical discharges are then transferred through the gap by the particles. This situation reduces the efficiency of the discharge. Ionization will occur at a lower voltage and the magnitude of the discharges will be reduced. This in turn reduces the metal removal rate and permits the build-up of carbon on the workpiece. The carbon build-up will then reduce the efficiency of the servo sensing unit which will further reduce the cutting efficiency.

Without proper flushing, excess particles can also create a short circuit, or direct path, between the electrode and the workpiece. This creates excessive energy at one localized area of the workpiece and

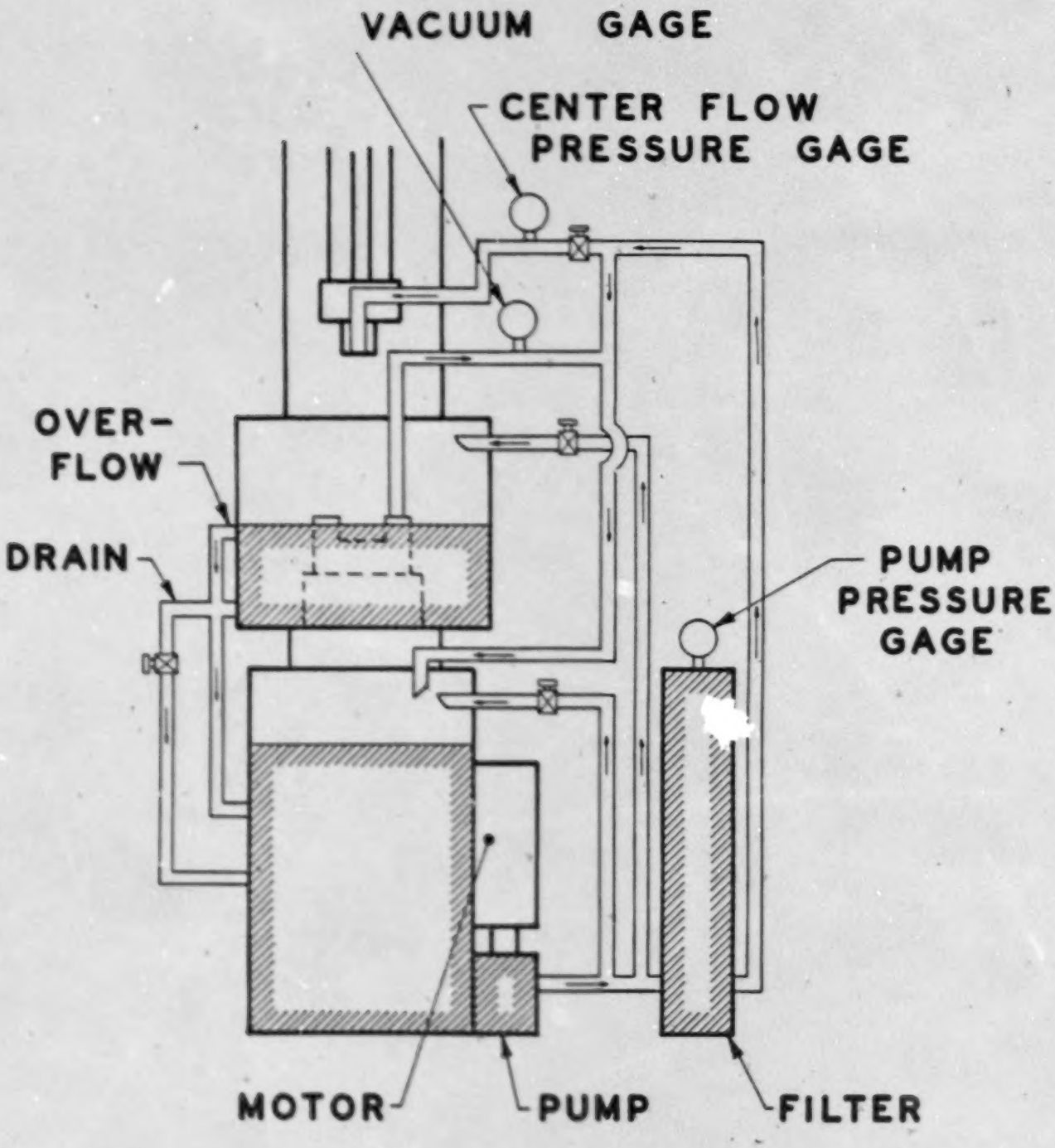
results in a burning effect. This condition is commonly referred to as "DC arcing" and can easily ruin a workpiece.

The type of job determines the flushing method and amount of flushing required. For example, when a high energy discharge is being used (high power level/long duty cycle/low frequency), the size of the particles is large. These large particles have a greater tendency to cause "shorting" and must be removed. Metals that machine easily deposit more residue and require a high degree of flushing.

Although flushing is extremely important, it must also be noted that excessive flushing pressure can be detrimental. It can increase the voltage necessary to create a discharge, and can also distort smaller electrodes, and this will deform the opening being cut. Flushing must be balanced for each particular job.

The dielectric flow system, shown in Figure XVII., page 45, as described on page 13 is an example of the system used on the Cincinnati Cintrojet 141 EDM machine. Note that this system uses an overflow arrangement to control the level of the dielectric. On larger Cincinnati machines as well as many other brands, the level of the dielectric fluid is maintained by air pressure.

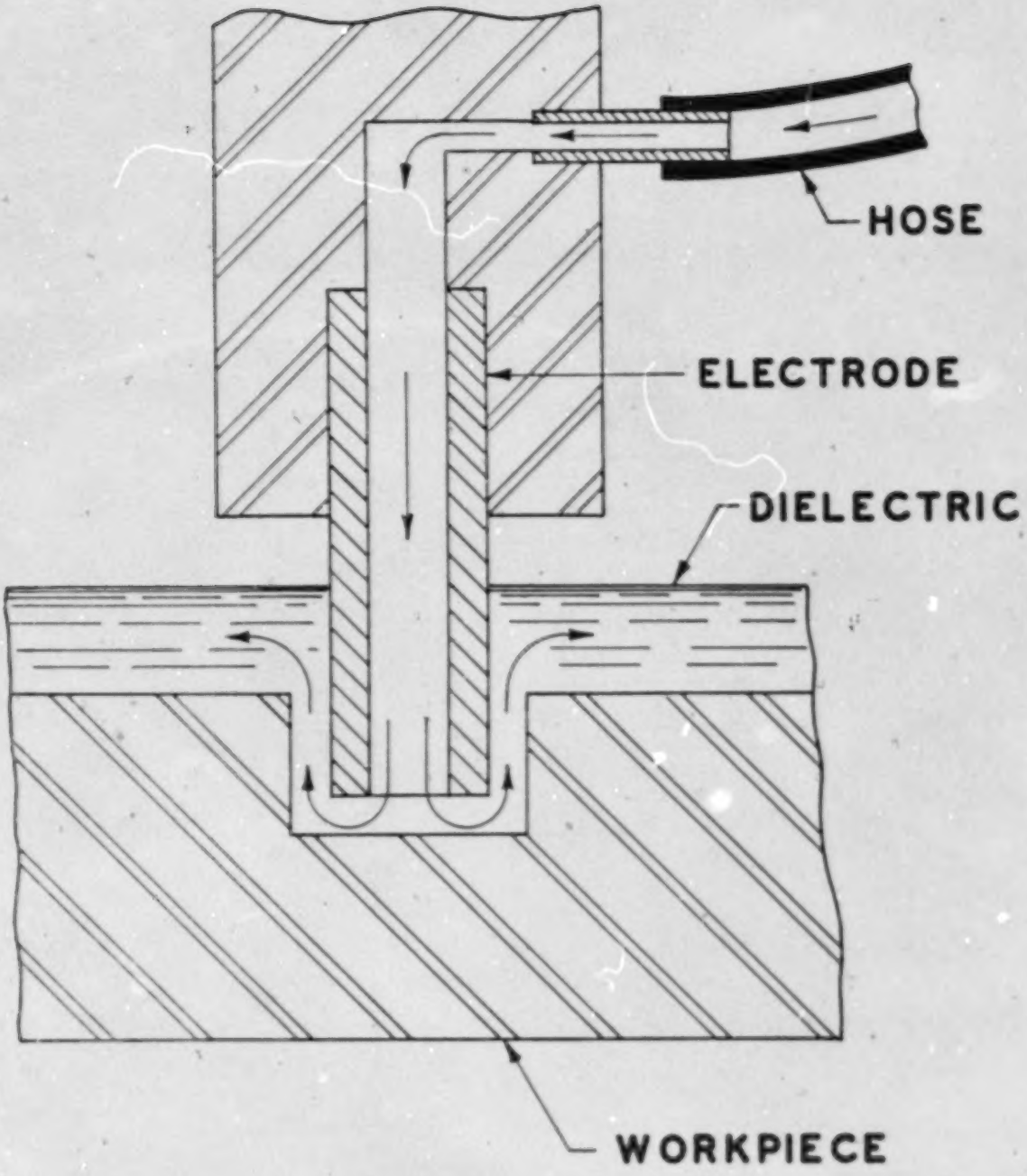
It is very often convenient to force dielectric coolant through hollow electrodes for the purpose of flushing. This method is called center flow pressure. This process is illustrated in Figure XVIII. on page 46. It leaves a core which drops out as the electrode passes through the workpiece. This is an excellent method of flushing when it can be



DIELECTRIC FLOW SYSTEM

(Cincinnati Cintrojet 141)
(Cincinnati Milacron Company)

Figure XVII. - One type of Dielectric Flow System



CENTER FLOW PRESSURE

Figure XVIII. - The coolant is forced through the electrode

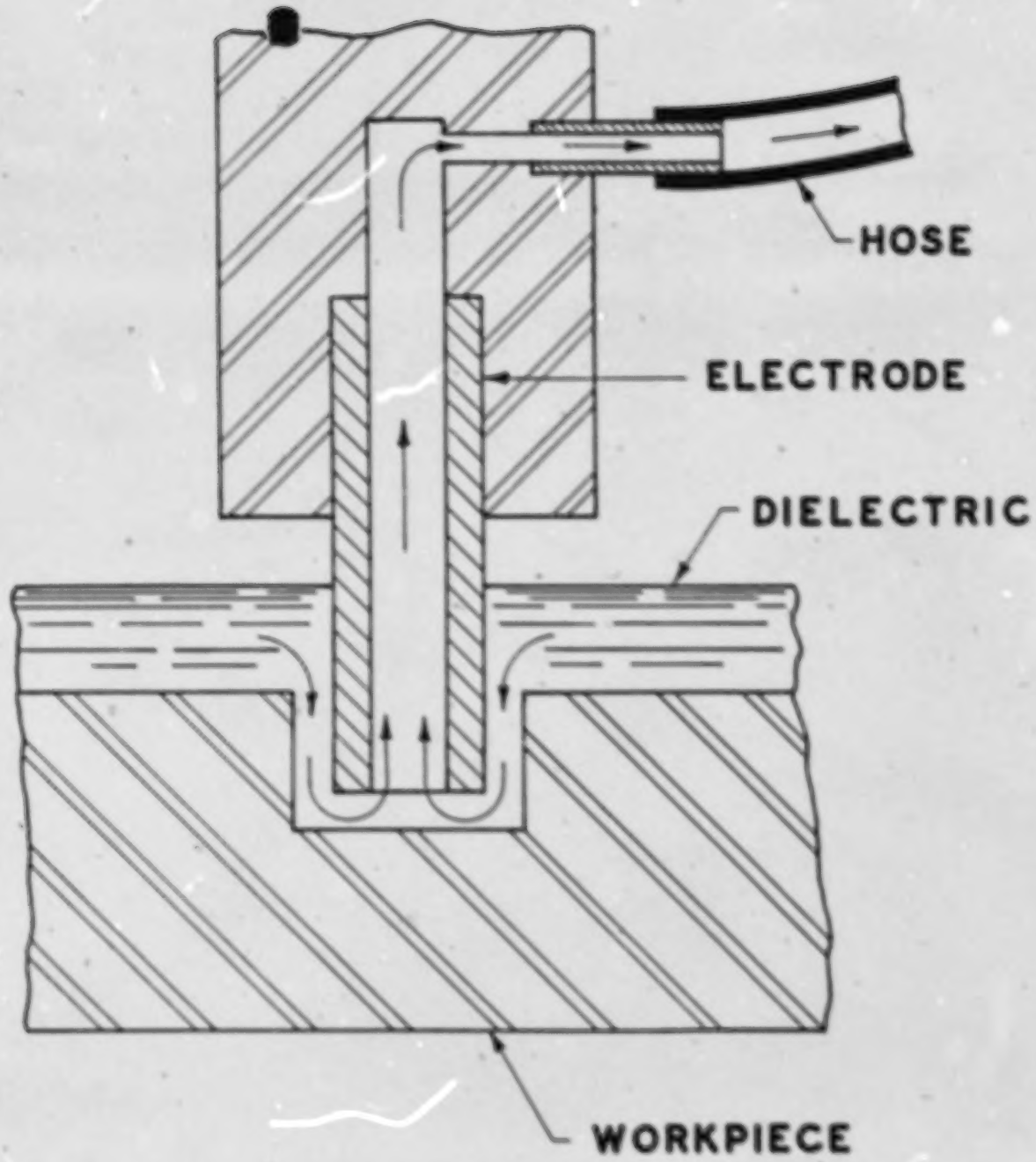
used. Sometimes, however, the design of the electrode will not permit the use of center flow holes in the electrode. On irregular electrodes a center flow hole may not provide a uniform flushing action. A flush hole in the center of a round electrode usually provides a good uniform flushing action.

The hollow electrode can also be used to provide a vacuum center-flush method of removing particles. This is shown in Figure XIX. on page 48. The vacuum center flush method draws the dielectric fluid and the particles up through the electrode and back into the storage unit.

The vacuum flush method, shown in Figure XX. on page 49, draws the particles and coolant down through the workpiece and coolant riser and back to the storage unit. This is an excellent method to use when using thin or irregularly shaped electrodes, and it is used by many shops engaged in through hole machining.

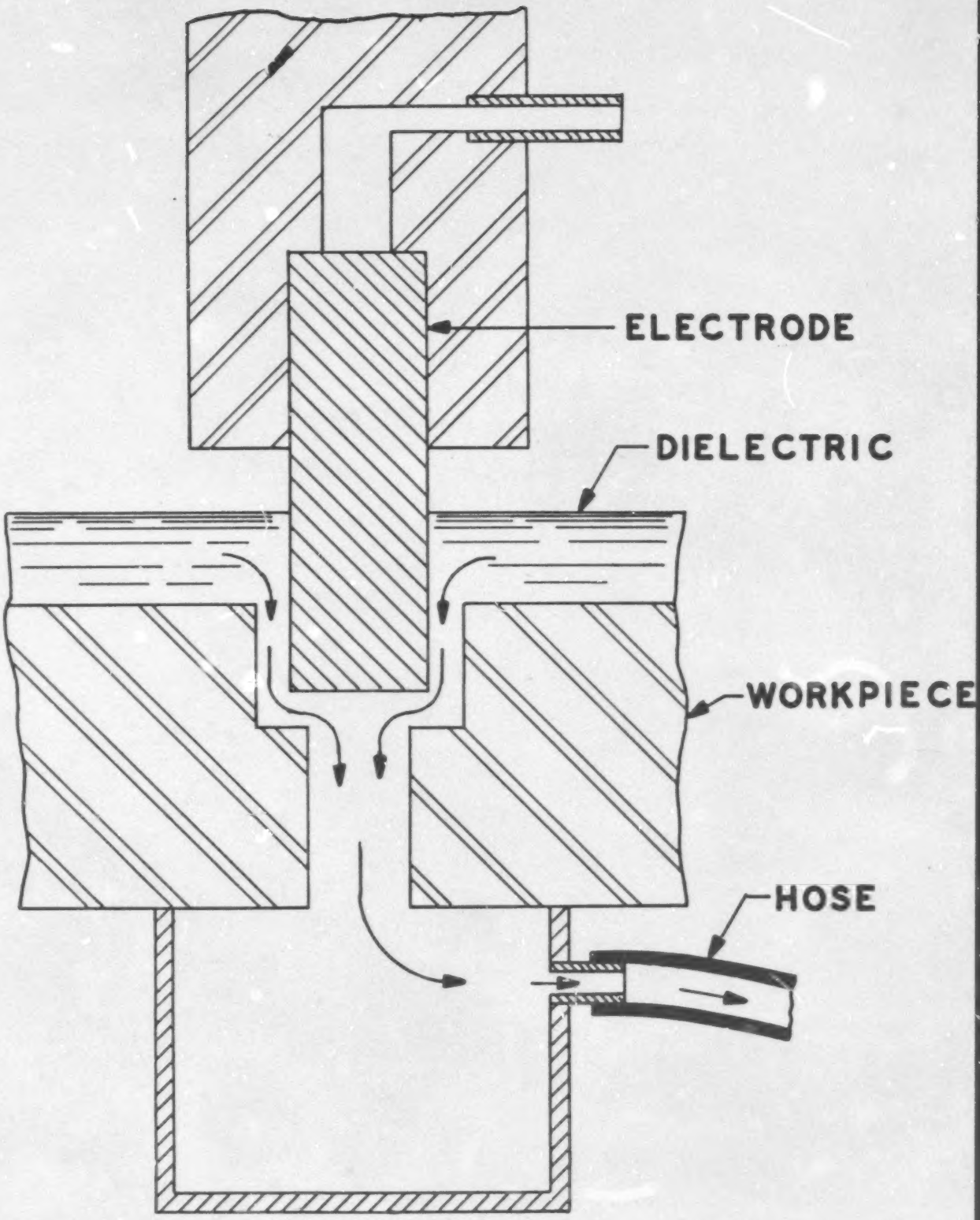
Jet flushing, shown in Figure XXI. on page 50, is the method which directs a stream or several streams of dielectric toward the machining gap to provide the flushing action. This method is used only if the previous methods are not practical. Too much pressure by this method could deflect a thin electrode and cause a distorted opening in the workpiece.

Another system of flushing, the opposite of the vacuum flush, is to force dielectric up through the workpiece and through the machining gap. This is illustrated in Figure V. on page 12. This method requires the workpiece to have a through hole before EDM machining. This is known as "reverse flow" coolant flushing.



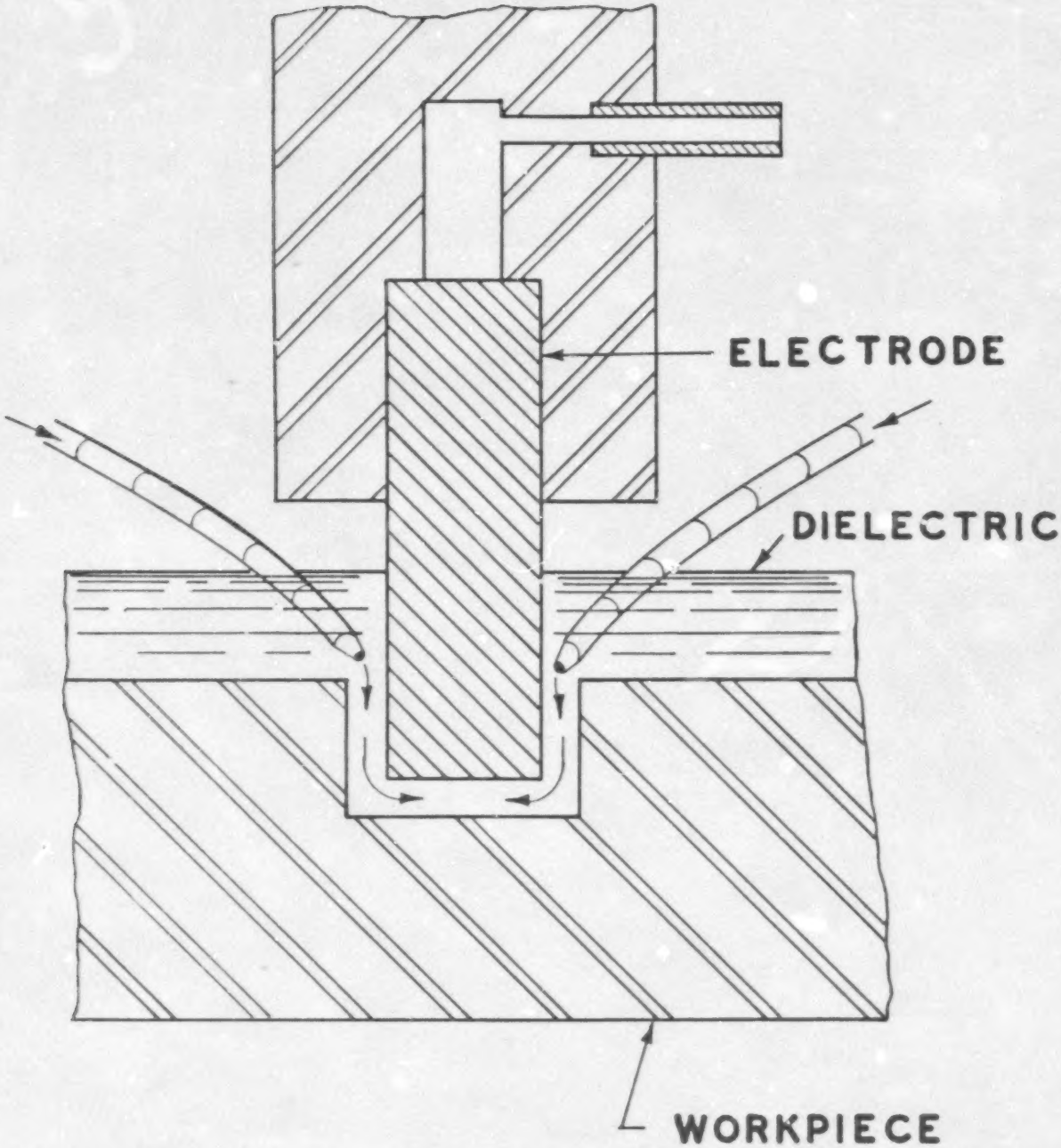
VACUUM CENTER-FLUSH

Figure XIX. - In this process, the dielectric fluid is drawn upward through the electrode.



VACUUM FLUSH

Figure XX. - In vacuum, the coolant and particles are drawn down and away from the machining gap.



JET FLUSH

Figure XXI. - Care must be taken not to exert too much flushing pressure on thin electrodes.

In some cases it may not be possible to have a coolant flushing hole in either the electrode or the workpiece. In this situation, it is practical to use a vibrator system of flushing. Some set-ups utilize an electrode holder which vibrates the electrode. Other set-ups utilize a vibrating worktable which causes the workpiece to vibrate. The vibrating causes a pumping action and will agitate machined particles out of the gap. The vibration system of flushing is a convenient method to use in situations where direct coolant flow is not possible.

Whichever method of flushing is used, it should be the one which will be suited to the particular job. The method used should be the one which will most efficiently remove particles from the machining gap without reducing the machining efficiency. Only then can ideal conditions be realized.

SAFETY

The subject of safety is an integral part of any machining operation and must not be regarded lightly in electrical discharge machining. The most important safety information about any piece of equipment will be found in the manufacturer's books and pamphlets pertaining to that item. The manufacturer's recommendations should be followed. They should be referred to when in doubt. Exceeding or disregarding those recommendations is an unsafe practice.

Manufacturers of EDM equipment can and do give advice on machining problems as well as safety practices. Following are a few of

the safety rules listed by the Cincinnati Milacron Company:

1. Always turn the master disconnect switch to the OFF position before attempting to clean the machine.

2. Have proper lighting around the machine.

3. Operate the EDM equipment only as set forth in the appropriate instruction manuals.

4. Consult the appropriate service manual and parts catalog before performing any service or repair work.

5. Only qualified personnel, instructed in safety and all machine functions, should be entrusted to operate this machine.

6. Report any unusual sounds, smoke, heat, damaged parts, etc. to your supervisor.

7. Never touch the electrode or platen when in the "Machining" position, as electrical shock may result. The voltages used can seriously injure an operator.

8. Do not allow dielectric oil to exceed 130 degrees F. Above this point the dielectric oil loses its effectiveness, and the possibility of fire becomes greater. Heat exchanges are recommended to control temperatures in these instances.

9. Know where all the stop buttons are located in case of an emergency.

10. Maintain an oil level above the machining area of at least 1/4 inch per 25 amps of average machining current. Failure to follow this warning may result in dangerous discharge gas fire or oil fire.

The preceding ten safety rules are just a few of the many listed by the Cincinnati Company. Operators should become familiar with the complete list before operating an EDM machine.

CHAPTER IV.

MACHINING ELECTRODES

The section on electrodes, discussed on pages 20-25, dealt with types of electrodes, electrode materials, and considerations in choosing an electrode. This section deals with machining characteristics of common electrode materials and various methods of machining electrodes.

When considering electrode materials, there are several questions to ask:

1. How easy does it machine?
2. What is the cut-to-wear ratio?
3. How fast can it remove metal?
4. What is its cost per unit volume?
5. What kind of finish and size tolerance can be produced on the electrode?

In addition, the type of power supply is important. For example, brass is the workhorse of metal electrodes for pulse-type circuitry, and copper is relied upon more in the RC-type power supplies. However, the suppliers of electrode materials have developed, and are continuing to develop, high grades of graphite as well as copper alloys and tungsten alloys that are replacing the older accepted electrode materials in many instances.

Stock is removed from the electrode as well as the workpiece during each energy discharge. Once an operator has established reliable

overcut charts, he can determine the size electrode required to machine an accurate opening. For example, if a one inch square opening is to be machined at a power supply setting which will produce a .001 overcut, the operator knows to machine the electrode to .998 inches square. This allows for .001 inch overcut on all four sides.

Figure XXII., page 56 illustrates "corner wear". Edges and corners wear much faster than the rest of the electrode. The sharper the corner, the greater the wear on the electrode. This is a factor in determining length of electrode needed. The reason for high corner wear is a result of the small area at the corner of the electrode. The sharp corners cannot dissipate the heat of the discharges as well as the flat surfaces; therefore, the corners deteriorate much faster. In addition, the electrode corners must machine more surface area of the workpiece than a flat area. This means more discharges must occur at the corners to remove the additional stock.

By measuring the length of the electrode before and after machining, the "end wear" can be determined. This is essentially the same as "volume wear" which is the difference between the volume before and after machining. Figure XXIII., page 57 illustrates the erosion of the electrode during machining.

Side wear is the difference between the original electrode length and the lowest point on the machined electrode, showing the original dimension of the electrode. This wear comparison is normally used for circular electrodes where corner wear would not be a consideration.

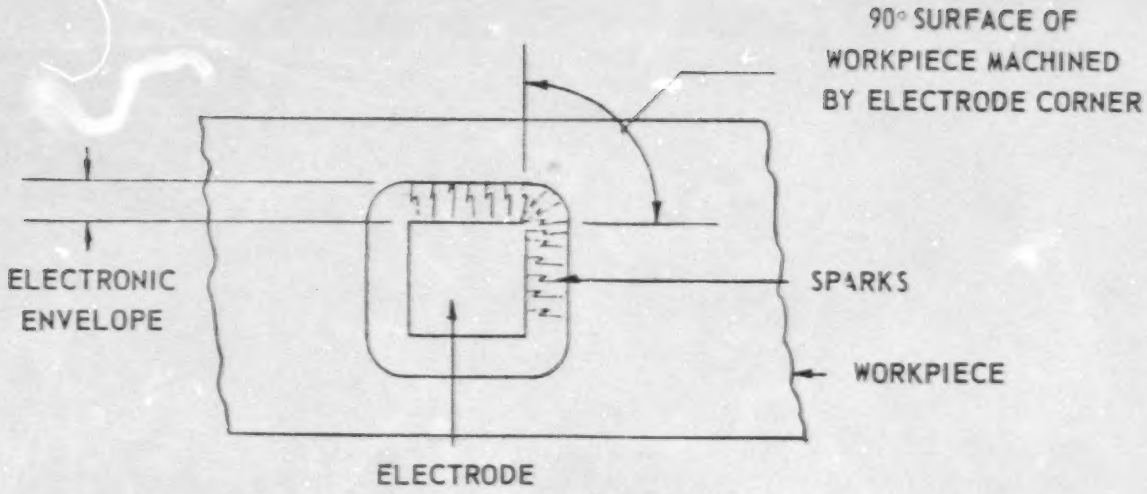


Figure XXII. - Electrode Corner Wear.

Individual sparks are all controlled by the "Electronic Envelope". Each spark travels the same distance so that discharges in the flat areas are not concentrated. Corners of the electrode, however, must provide the source for all the sparks required to machine the 90 degree corner of the workpiece. This results in a concentration of sparks from the corner and consequently increased erosion. For this reason, corners and fine detail must be considered in the choice of an electrode material. (Colt Industries, Elox, Inc. Division)

It is possible to keep electrode wear to a minimum by using the "low wear" or "no wear" parameters which can be obtained in the pulse

mode of operation. In this situation, there is a certain amount of re-plating of material back onto the electrode. Replating back onto the electrode is done most effectively in reverse polarity, using a long duty cycle and operating at low frequency.

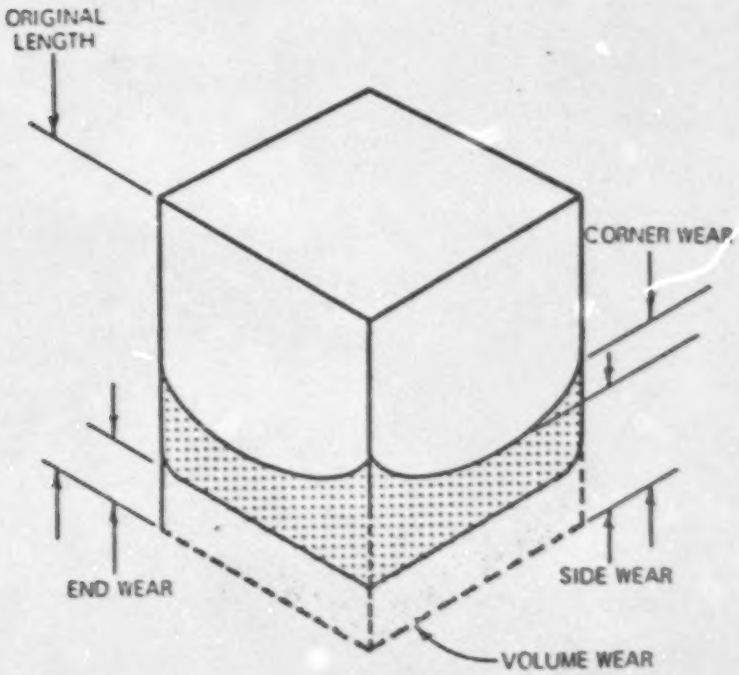


Figure XXIII. - Corner wear determines electrode wear in through-hole cutting. In cavity cutting, volume wear is the controlling factor. (South Bend EDM)

Machining Characteristics

Machinability is one of the first considerations in choosing a material for an electrode which requires shaping to an exact size. Some of the characteristics of the more common electrode materials are

discussed in the following paragraphs.

Copper, which is probably the oldest metal known to man, is a base metal or a pure metallic element. Its electrical conductivity makes it a valuable electrode material. Copper can be shaped easily but becomes hard as it is worked and must be annealed. Though it is easy to shape, it is more difficult to machine because of its roughness and softness. Tools must be kept sharp and deep cuts should be taken. The softness of copper results in a poor "gummy" cutting action. The chips from drilling cling to the drill bit and must be cleared away frequently. Extreme care must be taken when tapping a hole drilled in copper. The metal builds up in the flutes and frequently results in broken taps. It is recommended that holes be drilled oversize when tapping in copper.

Milling and sawing heat a copper workpiece quickly; adequate chip clearance and ample coolant flow are used to cool and clear the chips away.

Copper's versatility is further shown by its use in alloying with other materials to produce electrode materials. Copper tungsten and copper graphite are examples of these, as well as brass.

Brass was once the primary choice for electrodes, and still is in many cases. It can be extruded, stamped, or formed and is available in sheets, rods, and tubes of various sizes. It is an alloy of copper and zinc. Brass ranges in color from reddish yellow to a silvery yellow, according to the percentage of zinc it contains. Most brasses can be readily machined with ordinary cutting tools in machine shops.

Page 63 was retyped at The Center for Vocational Education.

Brass can be rolled, cast, drawn, formed, and turned with little difficulty and is often used because of its free-working features. Like copper, brass will work-harden in forming, bending, and drawing operations and often must be annealed for further machining.

Tungsten, by itself or alloyed with other materials, is now a common electrode material. Tungsten Carbide, Silver Tungsten, and Copper Tungsten are some excellent electrode materials. Expense becomes a factor when choosing these, but their cutting results often justify the expense.

Tungsten's high melting point (6170°F.) is an important factor in its cut to wear ratio. Machining must be done with carbide tools and is quite difficult. Preheating the work to about 400°F. is sometimes recommended to ease the machining. Grinding is usually done to finish a tungsten electrode. Adequate cooling of the grinding wheel is necessary.

Carbon and graphite are terms often used to refer to graphite electrodes. Graphite is actually obtained from amorphous carbon (no definite form-referring to molecular structure). A great percentage of electrodes are now made of graphite. The reasons for this are numerous. Economy, machinability, and good wear characteristics are the primary reasons. There are many grades of graphite available now for electrodes. The cost is more with the better grades, but even so graphite proves to be more economical than other materials.

Graphite is unique in that it conducts heat and electricity like metals, but it doesn't melt. It withstands high temperatures at which

metals will melt. Graphite vaporizes at around 6700°F. This allows for good cut to wear ratios. Also graphite increases in strength with increased temperatures while metals lose strength.

Machining of graphite is easily accomplished. It can be done with equipment generally used in wood-working or metalworking with only slight modification. Machines used strictly for working graphite are usually equipped with vacuum dust collecting equipment. The dust generated by machining graphite can cause problems to both the machinist and the machine if it is not properly removed. The machinery need not be of the heavy duty type.

Large graphite electrodes can be fabricated by using two or more sections and joining them together with adhesive or bolts. This is often done on large cavity dies. (This is discussed in Chapter V.)

Machining Methods

A wide variety of machines are used for machining electrodes. Metallic electrodes are produced by extruding, stamping, forming, and machining on conventional machine tools. Graphite electrodes are also fabricated with conventional machine tools; however, the dust produced must be vacuumed away to prevent damage to the machine.

Standard band saws are used to saw graphite materials. The speed recommended is 1600-1800 surface feet per minute. Saw guides should be adjusted to allow minimal clearance to insure saw blade rigidity.

When machining graphite on the engine lathe, care must be taken not to overtighten the chuckjaws. It is advisable to use collets if possible.

Vibration must be eliminated as much as possible. High speed steel tools and carbide tools are used to machine graphite. Care must be taken not to cut too heavy, as the graphite material can break.

The gibs on milling machines should be well adjusted to prevent chatter marks on the milled electrode. This is especially true of metallic electrodes. Firm clamping and shortened tool extensions are also recommended. Overloading the machine's capacity will cause graphite material to fracture. In some cases with cheaper graphite, the material will chip away at the end of a cut leaving a ragged edge instead of a sharp corner.

Grinding is the way many electrodes are finished to close tolerances. Once again, when machining graphite the dust should be removed. A vacuum attachment ahead of the grinding wheel is recommended. Clamping graphite securely is a must. Electrodes often are "dressed" or "cut back" to remove worn ends by grinding.

Drilling is another operation done on many electrodes. Carbide tools used at high speeds are sometimes recommended, but high speed steel drills are usually used in drilling graphite. The drill must be kept free of dust which can pack into the flutes.

The Poco Graphite Company recommends that machining lubricants not be used when machining graphite, as it contaminates the product. In rare instances where water must be used, they recommend exposing the parts to temperatures of about 400°F. for one hour after machining to "decontaminate" the parts.

In addition to the basic machine tools listed, many common holding devices are used as well as special fixtures to obtain the desired electrode configurations. The dividing head or indexing head is extremely useful in milling, grinding, and drilling operations.

Duplicating machines such as Contour Mills are commonly used to fabricate electrodes. The master or pattern can be made of cast epoxy or from a master die.

Large slabs of graphite can be ground flat on Blanchard rotary grinders by blocking around the slab to hold it in place upon the magnetic table.

Graphite electrodes for extrusion dies are made by filing on die filing machines and by numerical control milling machines.

Punches for stamping dies are often "tipped" with copper tungsten or other electrode materials. The punch and tip are then machined together to the desired size and shape. Then the tipped punch is used to EDM the die opening. This method insures proper alignment and doesn't increase the cost of electrode or punch fabrication very much.

The list of machining methods for electrodes, metallic or graphite, seems endless. Each shop must discover the best or most economical way of obtaining their electrodes. The competition in this particular area has produced some excellent machining ideas.

CHAPTER V.

ELECTRODE HOLDERS

As electrical discharge machining became more sophisticated with its evolution from the simple "tap buster", the need for more and different electrode holding devices also grew. Presently, there are numerous electrode holders and accessories available through EDM machine distributors. In addition, many shops design and build their own accessories. Some electrode holders are fairly common or standard with all EDM machines, and others are adapted for special requirements. The following paragraphs discuss this aspect of electrical discharge machining.

Common Holders

The most common electrode holder is the collet. EDM collets come in different sizes and shapes. They are similar to those used on lathes and milling machines. One series of collets is available with four internal diameter sizes: 1/4", 1/2", 3/4", and 1". The electrode is held in place by a set screw. Another type of collet is the precision ground split collet. This collet tightens on the electrode as the collet is drawn up in a tapered sleeve. The only problem with this type of electrode holder is that the electrode must have a round shank or the electrode

must be affixed to an adaptor which does have a round shank. Large heavy electrodes cannot be held in collets because there is a chance that they might slip out or turn.

Oil-thru tubing chucks are used for small (1/4" diameter and smaller) tubular electrodes that require the use of centerflow flushing. These are like the Jacobs chucks found on drill presses, except that they usually have either 1/2", 3/4", or 1" diameter straight shanks to fit into a collet. They also have a hole through the entire unit to allow for the dielectric centerflow.

Another popular type of electrode holder is the adjustable V-block. These are available in different designs. They are for square or rectangular electrodes. The holders are made in different sizes to accept small to larger size electrodes. Small V-block holders are sometimes mounted directly to the platen. These can be obtained with an X and Y axis adjustment for more accurate electrode alignment. As with the collets, V-block holders permit quick and easy electrode interchanging.

Accessories

There are many accessories and attachments that can be purchased for EDM machining. Many are used in conjunction with the electrode. Some are work-holding devices, and some are for locating the electrode and workpiece more accurately.

Vibration was mentioned in the section pertaining to methods of flushing. There are vibrating electrode holders and vibrating work

tables available.

A pulser attachment, when desired, is usually built into the machine rather than being an "add on" feature. This, like the vibrating accessories, is used when flushing conditions are poor. It retracts and returns the electrode to the cut in regular pulsations. The up and down movement serves to flush away the particles.

Rotating attachments can be purchased in either built-in or added-on forms. Many machines have this feature built in. The rotation of cylindrical electrodes is extremely beneficial when machining through holes and blind holes. It results in good flushing and better roundness and finish.

A tapping attachment allows holes in hardened steel to be threaded. Some of these are manually operated while the better ones are run automatically by a separate motor. Before this attachment came about, threaded inserts had to be welded into oversize holes cut into the hardened workpiece.

A table servo unit is available which allows machining in the horizontal plane rather than the vertical. This is helpful when cutting holes in large workpieces that might otherwise be difficult to set up.

There are many accessories sold which are designed to accurately position the electrode in relation to the workpiece. Electronic edge finders and microscopic edge finders are used for positioning the workpiece. Optical measuring equipment and indicating attachments are also used for this purpose.

When there is a need, manufacturers will build an accessory designed to fulfill that need. Special dielectric systems are designed and built by EDM manufacturers and individual shops to meet special requirements. Most EDM companies are extremely cooperative in working with their customers. They are continually developing better machines and equipment. The competitiveness and ingenuity of industry has resulted in many refinements and developments.

Other Methods of Attaching Electrodes

Gluing electrodes to a holder is another holding method used in EDM machining. The base of the holder is usually a flat disk with a straight shank ground to fit in a standard collet. These are made in various sizes to fit particular requirements. They are not purchased but manufactured inexpensively by those shops which use them. Usually they have a hole drilled through for flushing purposes. This type of fixture is used in the aluminum extrusion industry for mounting irregularly shaped tools, such as T-shaped electrodes.

The adhesive used to mount electrodes is a special type of bond. It has great holding strength. There are several types of these adhesives available for mounting electrodes and for gluing electrode sections together. Some are conductive, and others are non-conductive of electricity. A non-conductive adhesive should be spread sparingly along the edge of the electrode next to the base of the holder. It should not be placed between the electrode and the base because it will hamper the

electrical conductivity necessary for cutting. It is an excellent adhesive when applied correctly. Conductive adhesives are designed to use between parts. These contain silver or copper flakes to insure conductivity.

Large electrodes and split electrodes are sometimes mounted to a plate which is bolted directly to the platen of a ram-type EDM machine. Electrode sections are also sometimes bolted together to form the complete tool. Graphite can be easily drilled and tapped. It is especially good for use in large cavity machining.

Other fixtures used for electrode holding have quick change and accurate locating features, such as a dovetail unit for sliding the electrode into place. Special holders can be fabricated which will allow machining in a horizontal plane or an upward travel rather than the conventional downward motion.

CHAPTER VI.

EXERCISES

When learning to operate an EDM machine, machining exercises can be done to acquaint the operator with the machine and its capabilities. Data should be collected during these exercises so that overcut charts can be compiled. Some of the data to collect might include the following:

1. type of workpiece,
2. type of electrode,
3. method of flushing,
4. power settings used and any adjustments made during cut,
5. time for cutting,
6. flow pressure,
7. size of electrode before and after cut,
8. amperage shown on meter during cut,
9. stability of cut-stable, intermittent, erratic,
10. depth of cut-depth shown if indicator dial is used and actual depth measured,
11. overcut, and
12. finish.

The following exercises are some that can be used effectively. Specific machine settings have been omitted because of the different terms used with EDM units made by the various manufacturers. Terminology used with an older tube-type machine is not applicable to a newer solid state machine from a different manufacturer. The following exercises can be adapted to all machines.

Surface Finish Plate

This exercise is used to show the finishes that can be obtained by EDM machining. A flat steel plate is selected for the workpiece. It should be surface ground to provide a uniform surface. Select surface finishes from the charts and the settings needed. Use six or eight settings. Depth of cut should vary because with the smoother finishes the cut will be slower. Rougher finishes will machine easily and cut deeper quickly. A one inch diameter graphite electrode is an excellent tool for this exercise. Center flow or vacuum center-flush is recommended. The electrode should be dressed after several cuts. This can be done by facing on the lathe, taking care to obtain a smooth surface. Flushing should be adjusted with the various settings to insure stability of cut.

Cavity Machining

Cavity machining is done in mold making and forging die production. EDM machining of cavities has solved many machining problems.

A simple cavity exercise can be done by using a half-round graphite electrode and a block of steel. A two inch long, one inch diameter piece of graphite can be milled or ground flat on one side and glued to an electrode holder. Flush holes can be used. Three or four holes can be drilled through the electrode. On the flat surface, a slot can be milled to connect the holes. The dielectric can then be forced through the holder and into all the flush holes.

Different settings should be used. Low amperage settings should be used at first to get the cut started. As the cut progresses, the amperage can be increased. The amperage can be reduced for better finish toward the end of the cut.

This is an excellent exercise to analyze flushing benefits and electrode wear. The flushing pressure will have to be adjusted to maintain cutting stability. The electrode should be measured for thickness before and after the cut. When the electrode makes contact with the workpiece, the indicator on the ram can be set to zero and the length of ram travel can be recorded. After the cut is completed, the depth of the cavity can be measured and compared to the travel recorded by use of the indicator on the ram. The thickness of the electrode after cutting is compared to the thickness before machining. This is a means of measuring electrode wear.

Through Hole Machining

An exercise in through hole machining involves cutting a hole completely through a workpiece. This can be done with or without a pre-drilled hole in the workpiece. If there is no hole already in the workpiece, centerflow pressure should be used. With a hole in the workpiece, vacuum flush should be used.

A split workpiece can be used for this project. A workpiece 6" x 3" x 1" can be cut lengthwise. The two sawed edges are then ground. Holes are drilled to allow bolts to pass through the two sections. The two sections, ground sides together, are bolted tight.

Holes can then be drilled in the workpiece at intervals for different cuts. A space can be left for machining a hole through the solid workpiece. Round or square electrodes can be used. Different settings and different polarities can be used. When the machining is completed, the sections can be taken apart. The surface finishes can then be checked, and the taper of the holes can be measured. This exercise will take some time to complete if fine finishes are desired. A coolant riser (see Glossary) should be used for vacuum flushing.

Comparison of Brass, Copper and Graphite Electrodes

In this exercise, three different electrodes are used on the same workpiece. The electrodes should be the same size with the same method of flush used. By using different workpiece materials, data can be analyzed to see which material is cut best with brass, copper, or graphite. Machining parameters should state which considerations are most important - the overcut, the metal removal rate, the wear, or the surface finish. The settings will vary with the different electrodes. The depth of cut could be held, and the times to cut the depths could be compared. Or a time limit could be set and the depths obtained compared. Through hole machining in this exercise could take too much time unless thin workpieces are used. Electrodes can be measured for wear and compared. In this exercise, data should be carefully compiled.

Examples

The following projects and set ups are some that have been

accomplished at Mid-Central Area Vocational School in Elwood. The main objective of these exercises was to show what can be done on the EDM machine in addition to the more common exercises.

The picture in Figure XXIV. on page 73 shows a set up for machining in the horizontal position. The graphite electrode has been bolted to the holder. On the face of the electrode, the letters VICA (backwards) have been cut on a duplicating machine. (Note: The letters have been highlighted for better visibility.) The EDM machine used did not have automatic servo feed on the worktable. Therefore, the electrode had to be fed into the work by hand. The cut had to be monitored by watching the sparking action. When the electrode touched the workpiece, the sparking stopped and the electrode had to be backed up and restarted. There was no flushing method used. The horizontal position allowed the particles to drop from the machining gap. This exercise showed that electrodes could be bolted to a holder, horizontal machining could be accomplished, and detail work could be done.

The picture in Figure XXV. on page 73 shows that carbide can be machined using a brass electrode. Brass is the usual selection for carbide; however, some companies are now producing a type of graphite for machining carbide. The brass electrode wore considerably during this exercise. (Notice on page 22 the relatively low melting point of brass.)

The electrode holder shown in Figure XXVI. on page 73 was used to machine a blind hole in the upward direction. An adult student wanted to machine a 1/2" square hole in the end of a long ratchet breaker bar.

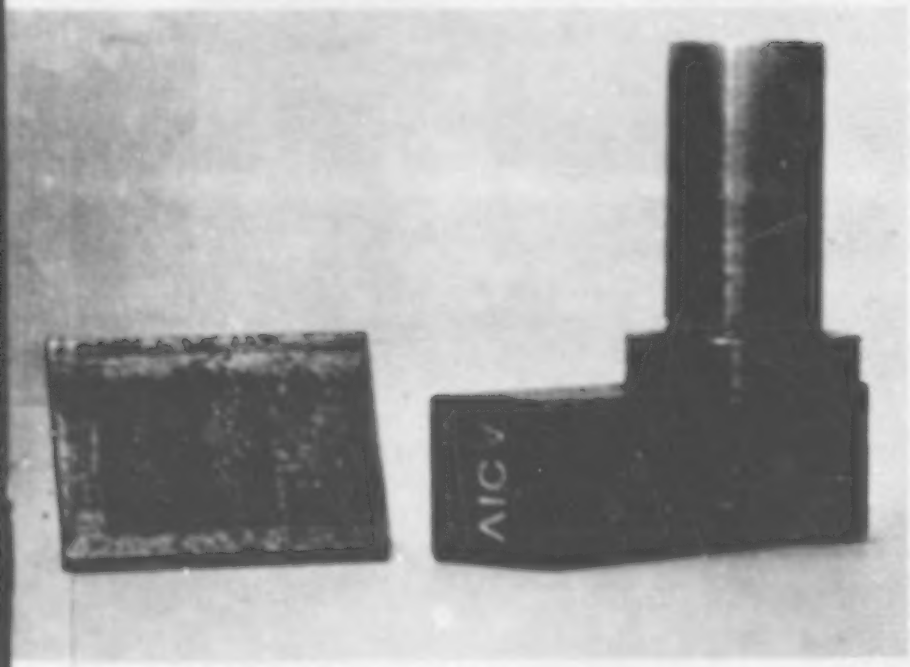


Figure XXIV.

This set-up was used to illustrate EDM machining in the horizontal plane and detail work. The electrode is bolted to a homemade tool holder.

Figure XXV.

A brass electrode has been used to EDM a hole through a carbide insert. Centerflow was used to keep the gap free of particles.

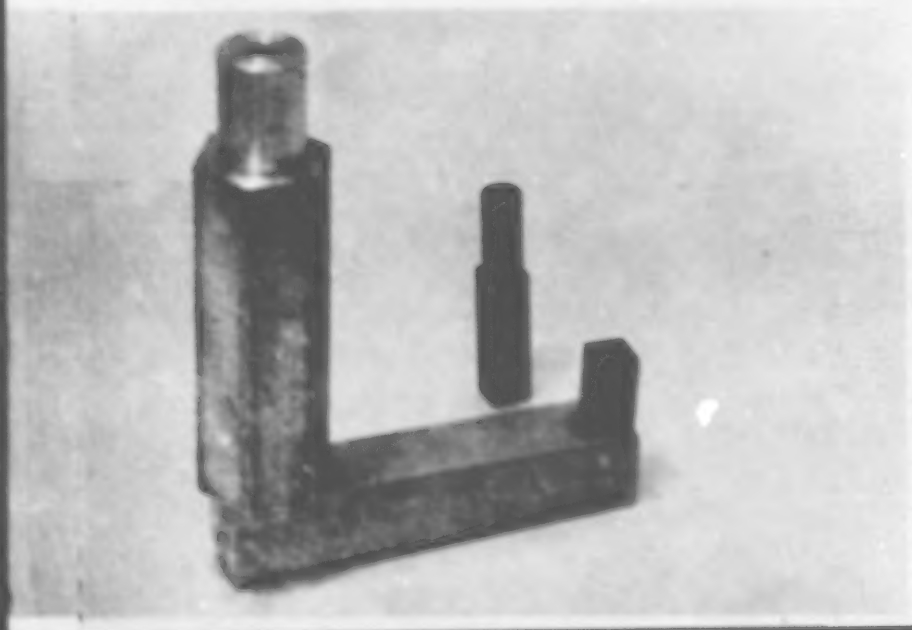


Figure XXVI.

This homemade fixture was used to machine holes upward. This set-up is used for work-pieces that are too long to set up in the normal position.

The breaker bar was too long to set up to machine in the downward position or in the horizontal position. The machine used has the capability of cutting upward; some machines may not have this capability. The set up was the most difficult part of the project. The electrode and holder were made with a centerflow hole for flushing. A 1/2" hole was drilled in the end of the breaker bar on the lathe. This left the square corners to be cut. The hole was cut to a depth of 3/4" in approximately ten minutes.

The same electrode holder was used with a round electrode to cut out a broken dowel pin from a long bar used on a sheet metal brake.

EDM GLOSSARY

ACCURACY: Exactness or precision: EDM is capable of accuracies comparable to conventional machining. Electrical and hydraulic control systems used in EDM machines are extremely sensitive and capable of high degrees of accuracy.

AMPERAGE: The force of electrical energy used in EDM. It can be compared to horsepower in conventional machining. The higher the amperage, the greater metal removing potential.

AMPERE: Unit of electrical current.

ARC GAP: Same as machining gap and spark gap: the distance between the electrode and the work where spark discharging occurs. This distance can be controlled by the predetermined setting of amperage and voltage. (See illustration on page 18.)

AUTOMATIC CYCLING: An attachment which allows for automatic retraction and reentry of the electrode. The purpose of this retraction is to allow flushing to wash the expanded gap free of particles to facilitate more stable machining.

BREAKING THROUGH: This occurs when one corner or one side of the electrode is lower than the rest. The poor flushing condition which results slows down the cutting action.

BURNING: Sometimes used to mean cutting a hole: sometimes burning refers to "DC arcing". Under poor flushing conditions, carbon is allowed to build up on the surface of the work and the electrode. This carboning has poor electrical qualities: consequently, poor monitoring or sensing results. As the machining is allowed to continue under these adverse conditions, a compounding of carbon build-up results. In addition to building up, a burning or cavitating takes place. The discharging takes place at the closest point between electrode and work. Because the burn starts with a deposit of carbon, with poor electrical characteristics, the subsequent discharges which deposit and burn rather than machine always occurs in the same spot. The threat of such damage dictates that careful consideration must always be given to proper flushing and correct electrical settings for each job.

CAPACITORS: This is a storage component which is charged by the electrical pulses from the power supply. When fully charged, they discharge energy at the gap. Proper use of capacitors results in a near balance between the pulse frequency of the power supply and the discharge frequency at the gap. Too high a capacity value results in reduced frequency and greater energy per discharge. Too low a capacitance value results in a spill over of pulse current which causes unstable machining.

CENTER FLOW: Dielectric fluid flowing through the electrode or workpiece through the machining gap.

CONTAMINATION: When sustained machining is performed with a loaded filter, or a by-passed filter, particles remain suspended in the dielectric. This suspension of particles is referred to as contamination. The extent of contamination depends on how much machining has been performed without adequate filtering and what rate of machining has been performed.

COLLET: A device used to hold round shank electrodes in place.

COOLANT FLUSHING: Wherever possible, dielectric fluid should be circulated through the arc gap. This circulation can be induced through several methods:

a. Pumped under pressure. Introduced through holes in the electrode or hole in the workpiece.
b. Suction or vacuum. Evacuated through same type holes as pressure is induced.
c. Pulsing through vibration. A perpendicular pulsing motion keeps particles in suspension and tends to pump the particles up and out of the arc gap.
d. An intense jet of dielectric fluid directed in a plane most likely to create a wash between the electrode and work is a last resort method of flushing. Care should be taken not to create any deflection to the electrode with a high pressure stream of this nature.

COOLANT RISER: A box construction with several considerations but no fixed design. Those shops engaged in through hole machining tend to build the riser higher to allow for over travel of the electrode. They also design replacement top plates to allow for over travel of different size and quantities of electrodes. On the other hand, those engaged in sinking cavities tend to build the riser lower and with many tapped holes on the top plate. The tapped holes double for anchoring holes and reverse flushing holes. When the tapped holes are not in use, they are plugged with set screws to produce a pressure tight riser.

Page 81 was retyped at The Center for Vocational Education.

CUT-TO-WEAR: The ratio of the amount of workpiece material removed to the amount of electrode material consumed, usually measured in terms of volume or length.

DETRITUS: Metal and electrode particles which are the result of the cutting action. Also called swarf.

DIELECTRIC FLUID: A dielectric of determinable strength which must be present between the electrode and the work. The importance of the dielectric in the gap is:

a. Offers a resistance at the arc gap which can be monitored for control of positioning the electrode to the work.
b. Offers cooling effects to the highly elevated temperatures of minute areas on the work surface and the dislodged molten particles in the arc gap.
c. Flushes particles from the arc gap allowing the electrode to be servo advanced to proper proximity for additional machining to take place.

DIELECTRIC STRENGTH: The term used to designate the potential needed to break down a gap filled with a dielectric fluid.

DIGGING IN: This occurs when one corner, or one side, of the electrode is lower than the rest of the electrode or a portion of the workpiece is higher than the rest. The sparks occur at this lowest point and cause uneven cutting and poor flushing conditions.

DISCHARGE: The spark that occurs between the electrode and the workpiece.

DISCHARGE VOLTAGE: The voltage established by the electrode-workpiece combination during the on-time of the machining pulse.

DUTY CYCLE: This refers to the measure of time the current is turned on relative to the time the current is off during one pulse cycle. The greater the length of time the current is on, the greater the metal removal. Some EDM manufacturers consider the on-time plus the off time as the duty cycle.

E. D. M.: Abbreviation for Electrical Discharge Machining. Electrical Discharge Machining is a process for shaping electro-conductive materials through erosion produced by a series of spark discharges. Because it is an eroding process, practically any shape can be produced without distorting the workpiece. Because it is accomplished by spark discharging, any electro-conductive material can be machined with relatively equal ease.

ELECTRODE: Commonly referred to as the tool in EDM. The electrode has a primary requirement: it must be an electrical conductor. There are three basic types:

a. Two dimensional used for through opening machining.
b. Three dimensional used for machining cavities to shapes opposite that of the electrode.
c. Rotation cylindrical electrodes used to simulate grinding. This type of electrode is used in a modified surface grinder or an EDM machine with table servo and rotating spindle.

ELECTRODE ALIGNMENT: In keeping with overcut and taper, alignment should be controlled. Due to the fact that theremust always be an arc gap in order to allow electrical discharging, it becomes apparent that there are no forces to align the tool. Unlike a reamer following a predrilled hole, the electrode always creates its own opening. If an electrode is not perpendicular, during a plunge cut, an elliptical hole will result. In the case of a rotating plunge cut, an oversized and excessively tapered hole will result. This lack of self aligning compounds the possible error when you consider the inaccuracy of the machine, the electrode holder, and the electrode itself. Care in accurate set up cannot be over stressed.

ELECTRONIC ENVELOPE: Also called overcut; the clearance between the electrode and the workpiece. The electronic envelope follows the shape of the electrode. It is dependent on the machining parameters and not the size or shape of the electrode. (See illustration on page 30.)

FINISH, SURFACE: Refers to surface roughness of the workpiece after EDM machining. Usually measured in micro-inches RMS. See also surface finish.

FINISH CUT: The last machining cut removing a small amount of material at a comparatively low pulse energy.

FINISH ELECTRODE: That electrode which is made precisely a predetermined amount undersize based on overcut. This electrode produces a precise opening to a predetermined size and surface finish. The accuracy of an EDM opening depends on the accuracy and detail produced by the manufacture of this tool. Any inaccuracy produced in this tool will be precisely reproduced in the EDM opening. The accuracy of the EDM opening is based on controlled electrode manufacture, alignment of electrode, location of electrode, and proper electrical settings of EDM equipment.

FILTERING: Various types of filtering are employed in EDM. Most common are paper or cloth elements. The purpose is to eliminate

excessive contamination and remove particles from the dielectric which are larger than the arc gap. The filtering of dielectric is most critical during finishing operations which dictate close gap conditions.

FREQUENCY: The number of pulses as referred to in electrical discharging. Frequency affects surface finish when machining current on the meter remains constant and the frequency of discharge increases or decreases. The higher the discharge frequency at a given amperage improves the surface finish. This indicates that a given amount of work can be performed most efficiently at the highest usable amperage and the maximum frequency capable of machining at that amperage. Frequency of cycles vary from 400 cycles to 2,000,000 cycles per second, depending on type of circuit. (See illustration on page 32.)

GAP, MACHINING: The space between the electrode and the workpiece. It is not the same as overcut. (See illustration on page 18.)

GAP CABLES: The wires which conduct the machining power from the power supply to the machining gap.

GAP CURRENT: The current flowing in the machining gap.

HERTZ: Unit of frequency-in cycles per second.

INDUCTANCE: A property of a circuit tending to oppose changes in current flow through the circuit.

IONIZATION: That electrically charged area in the arc gap which has been changed from a dielectric area to high conductive path. This area is always at the closest point between the electrode and the work in a clean gap condition, or that area which is sufficiently contaminated to constitute closer gap condition, causing a stepping condition between electrode and work. (See illustration on page 18.)

IONIZATION TIME: The length of time the voltage is impressed across a gap before ionization occurs.

IONIZATION VOLTAGE: The voltage level at which the spark discharge initiates.

KILOHERTZ: One thousand Hertz; one thousand cycles per second.

LOW WEAR: Process in which the volume electrode wear is between 2% and 15%. This fills the gap between no-wear and normal negative polarity wear ratios.

MACHINING PULSE: A pulse delivered to the gap that results in an electrical discharge.

MEAN OVERCUT: The average between top and bottom overcut. The midpoint overcut in a workpiece not over one inch thick.

MICROFARAD: A measure of capacitance value as inches are to length.

MISS: A pulse delivered to the gap that does not result in a machining pulse because the gap spacing is too wide to initiate a discharge. The pulse exhibits voltage but no current, hence no energy and no machining.

NEGATIVE ELECTRODE: When the black gap lead (-) is attached to the platen or electrode, and the gap plug symbols are matched, the operation is with negative electrode. Sometimes referred to as standard polarity. Turning the gap plug to mismatch the symbols will change conditions to positive electrode. (See illustration on page 24.)

NO-WEAR: Process in which electrode wear is virtually eliminated and the cut-to-wear ratio reaches exceedingly high values. Usually considered to be less than 1% electrode wear by volume.

OFF-TIME: The time interval between pulses.

ON-TIME: The time duration of a pulse.

OVERCUT: The space between the perpendicular wall of an electrode and the side wall of an EDM machined opening. This space is controllable and is varied by amperage, voltage, and frequency. Through proper control, techniques of manufacturing precise tooling can be facilitated. Overcut refers to one side. (See illustration on page 29.)

PARAMETERS: In EDM, this term refers to all the criteria considered for machining, such as overcut, metal removal rate, surface desired, electrode wear, and machine settings.

PARTICLE: The chips in EDM are referred to as particles. These particles are spherical in appearance. It has been detected, through photo-micrographs, that on occasion these spheres are hollow. They vary in size depending on machining energy. (See illustration on page 19.)

PEAK CURRENT: The maximum value of current imposed during a machining pulse.

POLAR FLUIDS: Fluids miscible with water; fluids that can be mixed with water.

POLARITY: There are two polarities commonly referred to as "Normal" or "Standard" and "Reverse":

a. Normal polarity is where the electrode is negative and the work positive. On the vacuum tube power supply, normal polarity is used in conjunction with capacitors across the gap. There are a few electrode-work combinations which require reverse polarity for stable machining capabilities, but these are the exceptions.

b. Reverse polarity is used where excessive wear to metallic electrodes is required. Example: Where the production of an electrode to the reverse shape is required. Reverse polarity is also used on low frequency taps when using graphite as an electrode. No capacitors are used in this situation. The advantage is approximately 50% improvement in positive wear. With the newer circuit developments, this improvement can be reduced to under 1% wear. (See illustration on page 24.)

POSITIVE ELECTRODE: When the red gap lead (+) is attached to the platen or electrode, and the gap plug symbols are matched, the operation is with positive electrode. Sometimes referred to as reverse polarity. Turning the gap plug to mismatch the symbols will change conditions to negative electrode. (See illustration on page 24.)

PRESSURE FLOW: Positive pressure created by a pump to cause a flow of dielectric through an opening in the electrode or workpiece. Reads in pounds per square inch (p. s. i.).

PULSE: The signal supplied to the gap to become a machining pulse.

PULSE ENERGY: The energy in a machining pulse which is proportional to the value of the peak current and the time duration of the pulse (on-time).

PULSE WIDTH: More correctly called pulse duration. It is the time interval of the pulse on-time.

RATE, METAL REMOVAL: The amount of the workpiece that is removed in a given length of time. Usually stated in cubic inches per hour.

REPETITION RATE: The frequency or the number of pulses per second. Measured in Hertz. (See illustration on page 32.)

ROUGH CUT: A machining operation with high metal removal rates at rougher finishes.

ROUGHING ELECTRODE: The electrode which is used to remove the bulk of the material. The roughing electrode is made a predetermined amount undersize dictated by overcut and surface affected material which will be removed by the finish electrode.

SENSITIVITY CONTROLS: Variable controls located on the machine control panel. Their function is to adjust the gain of the servo amplifier, which in turn will determine the speed with which the servo reacts. (Cincinnati machines)

SERVO FEED: Is a compensating feed. The mechanism, on up-to-date equipment, consists of a hydraulic pump and reservoir, hydraulic cylinder, and an electro-hydraulic servo valve.

SERVO SYSTEM: The automatic control of the ram or table feed by the use of a reference signal. The servo voltage is compared to a reference voltage, and amplified signals are used to operate the servo drive mechanism.

SHORT: A condition when contact is made because of a particle bridging the gap, or when the electrode is making contact with the workpiece preventing the initiation of a discharge.

SOLID ELECTRODE: An electrode with no center flow holes or slots for flow.

SPARK-IN: This is a method of picking up location. The power supply is set to the highest frequency and lowest cutting current settings with no capacitance across the gap. The electrode is then advanced toward the work until it retracts. This tells you that you have reached the proper proximity of electrode to work. Location is made mechanically from this point. In the case of picking up an existing hole, the same steps are followed except that the electrode will settle in the existing hole.

When it settles at the deepest point, you are on location. Some people prefer to use a continuity light to accomplish the same purpose. With a light you can use precision measuring equipment, such as a depth micrometer in conjunction.

SPLIT ELECTRODE: Two or more electrodes on one machine insulated from each other.

SURFACE FINISH: Surface finishes range from approximately 10 RMS to approximately 800 RMS. Looking back on the contributing

factors of surface finish, we see that amperage (metal removal rate) and frequency (number of discharges per a given time) are the biggest factors. It becomes apparent that the least metal removal per discharge results in the finest finish. The acceleration of metal removal then is achieved by the increased number of times we can discharge the minute particles. Because of minimum gap conditions and limitations on discharging appreciable current at high frequency, it becomes highly uneconomical to attempt machining to 10 RMS. The secret to effective EDM machining is the proper balance of quality (surface finish and detail) and speed. Attempting to produce a surface superior to that required is time consuming. The difference in time, required to perform subsequent operations to EDM, is usually insignificant. The combination of EDM and glass peening, vapor blast, or electro polishing many times makes the difference in a competitive situation.

SWARF: Metal and electrode particles which are the result of the cutting action. Also called detritus.

TAPER: In EDM there is an inherent taper. This taper can be minimized (.0002 per inch) by special techniques. It is caused by the washing of particles through the overcut. These particles serve as stepping stones for the current to flow through, thereby allowing machining on the side walls. If the dielectric is over contaminated or excessive material is left for EDM, the taper will increase. When accurate prediction is required, proper filtering and roughing out of the opening should be controlled.

VACUUM FLOW: Dielectric fluid drawn from the worktank through the electrode or workpiece by means of a vacuum.

VARIABLE VOLTAGE: Voltage is used to monitor the arc gap. Under condition where the arc gap is difficult to flush, increasing the voltage spreads the gap and consequently improves the flushing possibilities. The higher voltage has a greater striking force which also assists in a more stable cutting under adverse conditions. Variable voltage on most EDM equipment is an attachment and is only recommended where considerable blind cavity and deep slotting is performed.

VIBRATOR: An attachment which is capable of inducing vibration in a vertical motion at various amplitudes. Care should be taken to detect any linear motion from such an attachment because size will be affected proportionate to such motion.

VOLTAGE: Measurement of electric energy expressed in volts. Monitored to control the proximity of electrode to the work for efficient

spark discharge.

WEAR RATIO: Pertains to the relative wear of the electrode (the tool) versus the work. A condition where the electrode wears more than the work is a negative wear, or wear in the wrong direction. A condition where the work wears more rapidly than the electrode is called positive wear, or wear in the right direction. The biggest contributing factors to improve wearing capabilities of an electrode are high melting point and density. These factors also affect, in reverse, the machinability of the work, from a wear standpoint, plus one additional factor, tensil strength, such as is found in high heat resistant stainless materials.

WHITE LAYER: Remelt zone; heat affected zone; the outermost surface of an EDM machine surface. The white layer is a melted layer which is hardened during the process of cooling. It is, depending on the material, an extremely hard martensitic layer. There are usually apparent cracks in such a surface. This surface is undesirable where the part is subjected to vibratory loads or high fatigue failure. Some materials have tendencies of annealing. In any case, this surface effect is minimized with lower machining currents at higher frequencies. Stress relieving has proven beneficial where stress free surfaces are required.

WORKPIECE: That product you intend to machine by means of EDM. The primary requirement here also is that the material must be electro conductive.

APPENDIX A

Technical Information

on

Programming the

Cincinnati Model 141

EDM Machine

TECHNICAL INFORMATION SHEET

COURSE UNIT TITLE: Electrical Discharge Machining

TECHNICAL INFORMATION TITLE: Power Programming the Cincinnati Milacron Model 141 EDM

INTRODUCTION: The EDM process is fairly slow when compared to conventional machining processes, such as milling or turning. Often, however, the machining time of EDM can be decreased if the operator takes time to select the proper power setting established by research performed by the EDM manufacturer.

GENERAL OBJECTIVE: To provide the student an opportunity to learn the procedure of power programming the Cincinnati Cinturjet 141 EDM for maximum machine efficiency desired.

TECHNICAL INFORMATION: When operating the EDM, the operator must decide the type of hole he is to machine by considering the following criteria:

1. How much overcut will be allowed,
2. What will be the metal removal rate,
3. The amount of electrode wear, and
4. The desired surface finish of the machined hole.

Often only one of the above mentioned factors will stand out to be the most important. For example:

> If you, as the operator, are given a job which must be done quickly and with little regard for surface finish, you would be primarily concerned with metal removal rate as the primary factor in selecting the power setting. Burning out a broken tap would be an example of this kind of power setting.

Once you have decided what factors are important to do the job, then refer to chart no. 1 on page 4 of this technical information unit.

You will note that the chart is divided into squares with numbers in each square. Each number and its position within the square represents the four factors which have already been mentioned. These factors again are:

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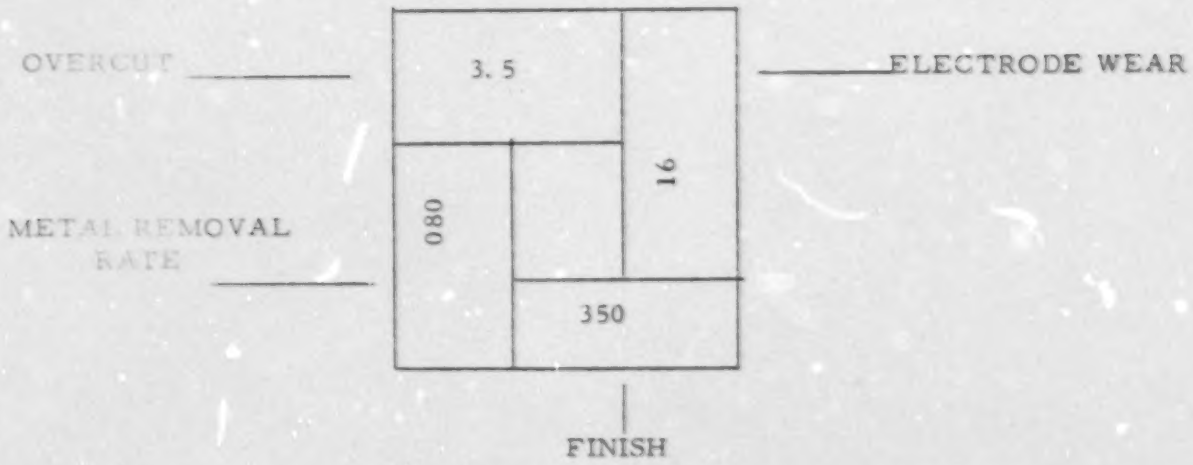
1. Overcut,
2. Metal Removal Rate,
3. Percent of Electrode Wear, and
4. Surface Finish.



To follow up with the preceding example which was concerned with high metal removal rate, the above block of information has been selected from Chart No. 1.

As you look at Chart No. 1, you will see that the information for the example is taken from the vertical column which has the number 12 at the top. This number 12 represents the peak current setting which is set by a switch located on the main power supply panel just to the right of the machine.

The left end of the horizontal column for this block of information has the symbol C1 which represents the range setting C and the "on time" setting 1 on the main control panel. However before setting this on the machine, you must take this C1 and turn to Table III on page 5 in this unit in order to find the correct setting. By looking at the vertical column, you will find the number 1. Therefore the "on time" setting for the machine is 30 microseconds.

Now proceed to find the "off time" setting by using the following formula:

$$\frac{\text{On Time}}{\text{On Time + Off Time}} = .6$$

SOLUTION:

$$\frac{30}{30 + X \text{ (off)}} = 6$$

$$\cancel{(30 + X)} \frac{30}{\cancel{30 + X}} = .6 \ (30 + X)$$

$$30 = 18.0 + .6X$$
$$30 - 18 = .6X$$
$$12 = .6X$$
$$20 = X$$

The solution is 20 microseconds.

This formula is used to find the Duty cycle. The .6 in this case means that the duty cycle will be 60%. Normal operations with negative electrodes require duty cycles ranging from 15 to 65% with an average of 50%.

No wear and low wear can be obtained by using certain electrode materials, such as graphite or copper. The work material is usually steel. Positive polarity must be used to the electrode and the duty cycle can be 90 to 95% when roughing and lowered to 50% for surface finishes of 85-100 RMS.

Having solved the equation, take the answer and go to Table III on page 5 and look in the vertical column for a matching number or the number nearest your answer. When you have found this, look across horizontally to the far left for the "off time" setting on the control panel.

Having followed this process you now have the power supply programmed for the desired results. Should you wish to use this program setting in the future, the following is the method used for specifying and recording settings which can be filed for easy reference:

Peak current switch setting 1-12
Range switch setting A B C D
On time 1-10
Graphite-Metallic switch G or M
Off time 1-10
Electrode polarity + or -

12 C 1 G 1 -

OPERATING DATA CHART NO. 1

CINTROJET 141 (1 MODULE)

Graphite (-) On Steel

On Time Setting	PEAK CURRENT SETTING 1	2	3	4	5	6	7	8	9	10	11	12
A2	0.8 / 45+ / .011 / 58	0.8 / 40+ / .014 / 59	0.9 / 36 / .019 / 60	0.9 / 33 / .025 / 61	0.9 / 32 / .026 / 62							
A4	0.8 / 40+ / .014 / 60	0.8 / 37 / .018 / 62	0.9 / 34 / .024 / 64	1.0 / 28 / .030 / 67	1.1 / 27 / .032 / 70							
A5	0.8 / 36 / .016 / 64	0.9 / 34 / .021 / 68	1.0 / 31 / .029 / 72	1.2 / 29 / .038 / 76	1.2 / 27 / .040 / 80							
A8	0.9 / 33 / .019 / 70	1.0 / 31 / .024 / 75	1.1 / 29 / .033 / 80	1.3 / 26 / .042 / 85	1.4 / 25 / .044 / 90							
B2	0.9 / 31 / .021 / 70	1.1 / 29 / .027 / 80	1.2 / 27 / .035 / 90	1.4 / 25 / .046 / 100	1.6 / 25 / .049 / 120	1.7 / 24 / .052 / 130	1.8 / 22 / .056 / 140	1.9 / 21 / .058 / 150	2.0 / 20 / .060 / 160	2.2 / 19 / .062 / 170	2.4 / 18 / .064 / 180	2.7 / 17 / .067 / 190
B3	1.0 / 29 / .022 / 80	1.2 / 28 / .029 / 90	1.4 / 26 / .038 / 100	1.6 / 24 / .049 / 120	1.8 / 23 / .052 / 140	1.9 / 22 / .055 / 150	2.0 / 21 / .061 / 160	2.2 / 20 / .063 / 170	2.4 / 19 / .065 / 180	2.5 / 18 / .067 / 190	2.7 / 17 / .069 / 200	3.0 / 16 / .072 / 225
B5	1.1 / 28 / .025 / 80	1.2 / 27 / .030 / 100	1.5 / 25 / .039 / 120	1.7 / 24 / .051 / 140	1.9 / 23 / .055 / 150	2.0 / 22 / .059 / 160	2.2 / 20 / .065 / 180	2.2 / 19 / .067 / 200	2.4 / 18 / .069 / 210	2.6 / 18 / .071 / 225	3.0 / 17 / .073 / 235	3.0 / 16 / .076 / 250
B7	1.1 / 28 / .024 / 90	1.3 / 26 / .030 / 120	1.7 / 24 / .040 / 140	1.9 / 22 / .053 / 160	2.1 / 21 / .056 / 170	2.2 / 21 / .060 / 180	2.3 / 20 / .066 / 200	2.6 / 19 / .068 / 225	2.8 / 18 / .071 / 250	3.1 / 17 / .073 / 260	3.4 / 17 / .076 / 275	3.4 / 16 / .079 / 300
C1	1.2 / 28 / .022 / 100	1.5 / 26 / .028 / 120	1.8 / 24 / .039 / 140	2.0 / 22 / .052 / 180	2.2 / 21 / .056 / 200	2.3 / 21 / .060 / 220	2.4 / 20 / .067 / 250	2.7 / 19 / .070 / 260	2.9 / 18 / .073 / 275	3.2 / 17 / .076 / 300	3.5 / 17 / .076 / 320	3.5 / 16 / .080 / 350
C2	1.3 / 28 / .020 / 100	1.6 / 26 / .027 / 140	2.1 / 24 / .038 / 160	2.3 / 22 / .051 / 200	2.5 / 21 / .055 / 225	2.6 / 21 / .061 / 250	2.8 / 20 / .068 / 275	3.1 / 19 / .071 / 300	3.3 / 18 / .074 / 350	3.6 / 17 / .076 / 370	3.9 / 17 / .078 / 400	4.0 / 16 / .080 / 430
C3		1.8 / 27 / .025 / 160	2.2 / 25 / .037 / 180	2.4 / 23 / .050 / 250	2.6 / 22 / .054 / 260	2.8 / 21 / .058 / 275	3.0 / 19 / .067 / 350	3.2 / 18 / .070 / 370	3.6 / 17 / .073 / 400	4.0 / 17 / .075 / 420	4.1 / 16 / .077 / 450	4.2 / 16 / .079 / 500
C4			2.4 / 26 / .034 / 225	2.5 / 24 / .048 / 275	2.7 / 23 / .052 / 300	3.0 / 21 / .056 / 350	3.4 / 19 / .065 / 400	3.6 / 18 / .069 / 440	4.0 / 17 / .072 / 500	4.2 / 17 / .074 / 550	4.5 / 16 / .076 / 600	4.7 / 16 / .078 / 650
C6				3.0 / 24 / .045 / 350	3.1 / 23 / .049 / 360	3.3 / 22 / .053 / 375	3.6 / 19 / .061 / 450	4.0 / 18 / .065 / 500	4.3 / 17 / .069 / 550	4.6 / 17 / .071 / 600	4.9 / 16 / .073 / 650	5.3 / 16 / .075 / 700
C8				3.2 / 25 / .042 / 400	3.6 / 24 / .046 / 425	3.9 / 23 / .050 / 450	4.2 / 20 / .058 / 525	4.5 / 18 / .062 / 600	4.8 / 17 / .066 / 650	5.2 / 17 / .068 / 700	5.8 / 16 / .070 / 750	6.5 / 16 / .072 / 800

Variations on either side of the nominal ON-TIME settings shown are imperceptible in the finish area. In the roughing area, an increase or decrease in ON-TIME will result in a value between the two nearest nominals on the chart.*

For interpretation of chart data, see page 5-9.

TABLE III
ON-TIMES AND OFF-TIMES

This table shows the On-Times and Off-Times corresponding to the RANGE switch and ON-TIME and OFF-TIME settings. Example: Setting (3)12C1G1 will give an On-Time of 30 microseconds and an Off-Time of 20 microseconds.

On-Time or Off-Time Knob Setting	Time (in Microseconds)							
	Range A		Range B		Range C		Range D	
	On	Off	On	Off	On	Off	On	Off
1	.7	1.8	6	7	30	20	300	50
2	1.4	3.5	8	12	50	60	500	150
3	2.1	6.0	11.	18	80	110	800	400
4	2.6	8.5	15	24	120	170	1,200	610
5	3.3	11.0	18	29	150	230	1,500	820
6	3.9	13.5	21	34	180	290	1,800	1,030
7	4.6	16.0	24	39	210	350	2,100	1,240
8	5.3	18.5	28	45	250	410	2,500	1,450
9	6.0	21.0	31	51	280	460	2,800	1,660
10	6.5	23.0	33	55	300	500	3,000	1,800

APPENDIX B

Operation Sheet

for

Electrical Discharge Machining

a Through Hole on the

Cincinnati Model 141

OPERATION SHEET

OPERATION: Electrical Discharge Machining a through hole using a graphite electrode.

COURSE UNIT TITLE: Electrical Discharge Machining

INTRODUCTION: Several materials can be used for electrodes in Electrical Discharge Machining. This operation is concerned with using graphite because it is one of the more common and most economical electrode materials used in industry today.

TOOLS AND MATERIALS REQUIRED:

Adjustable wrench
Strap clamps
Threaded parallels, studs and nuts
3/8 inch diameter graphite electrode 4 inches long
Hardened steel workpiece

PROCEDURE:

Operation	Related Information
1. Clamp workpiece on parallels to workbase in EDM tank.	1. Take care that strap clamps are parallel to table and clear of area to be machined.
2. Select 3/8 collet and place in spindle, then insert graphite electrode and tighten collet.	2. The electrode must extend about 2" below collet.
3. Depress "Power on" button of control panel of the machine.	3. The "on" button of the main power supply must remain off.
4. Close drain valve at left side of tank and open fill valve at right side of tank.	4. Dielectric fluid must reach a level of at least 1/4 inch above the workpiece.
5. Turn switch on control panel of machine to rapid down until	5. Until you have acquired more experience it is recommended that

PROCEDURE:

Operation	Related Information
electrode is within 1/2" of workpiece, then switch to "stand by".	you "jog" the "rapid down" switch to "stand by" in order to avoid ramming the electrode into the workpiece.
6. Refer to Technical Information Sheet to program for power supply setting.	6. It is important to select proper power setting in order to assure best cutting action.
7. On control panel of machine, adjust the servo voltage, retract, and advance dials to a stationary setting of 5.	7. The recommended setting to begin a cut is 5. These can be adjusted later for better cutting efficiency.
8. Turn to main power supply and depress "power on" button.	8. Be sure that the "power on" light is on and other warning lights are off.
9. Place plastic guard on front of machine.	9. Machine will not operate without guard in place. (A built-in safety feature).
10. On control panel of machine, turn switch from "stand by" to "machine".	10. Watch for speed and direction of movement of electrode by observing indicator on the machine.
11. After cutting begins, go to main power supply and adjust "on time" and "off time" dials for stable cutting by observing voltage and amperage meters.	11. Stable cutting occurs when voltage registers between 50 and 60 volts, and current registers between 4 and 6 amps for 3/8 dia. electrode on this particular exercise.
12. Adjust micrometer stop above limit switch on machine to the thickness of workpiece plus .100".	12. The extra .100" is to allow for electrode wear. Going deeper will insure a straighter hole.
13. When electrode has passed through the hold and stopped, turn switch to "rapid up" on machine control panel.	13. Be sure the electrode has stopped cutting before raising the head.
14. Turn same switch to "stand by".	14. Tighten ram clamp to prevent ram from creeping downward.
15. Drain tank by opening valve on left side of tank.	15. Be sure tank is completely drained before removing door.
16. Check workpiece.	16. Be sure power is off.

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ABSTRACT: THIS CURRICULUM GUIDE IS PART OF A THREE-VOLUME SERIES DEVELOPED TO PROVIDE INDOCHINESE STUDENTS WITH LANGUAGE SKILLS NEEDED IN THE WORLD OF WORK. THESE GUIDES ARE INTENDED FOR USE IN CLASSES OF ENGLISH AS A SECOND LANGUAGE. THE LESSONS PROVIDE AN OVERVIEW OF AVAILABLE VOCATIONAL PROGRAMS SO THAT STUDENTS INCREASE THEIR KNOWLEDGE OF CAREER OPPORTUNITIES AS THEY BECOME MORE PROFICIENT IN ENGLISH. THE LESSONS ARE DESIGNED TO INTRODUCE STUDENTS TO VOCATIONAL PROGRAMS IN WHICH THEY CAN BE SUCCESSFUL WITH VARYING DEGREES OF ENGLISH SKILL, WITH THE PROGRAMS THAT REQUIRE THE LEAST SKILL INTRODUCED AT LEVEL I. THIS LEVEL I GUIDE CONTAINS LESSONS ON FOOD PREPARATION, NURSING ASSISTANT, SAFETY, WELDING, MAINTENANCE, GENERAL FACTORY, MACHINE OPERATOR, AND AGRICULTURE. EACH LESSON CONSISTS OF A VOCABULARY LIST WITH VIETNAMESE TRANSLATIONS OR EXPLANATIONS FOLLOWED BY A DIALOGUE PRINTED IN BOTH LANGUAGES WHICH FORMS THE BASIS FOR SUBSEQUENT DISCUSSIONS. INSTRUCTIONS ARE PRINTED IN BOTH ENGLISH AND VIETNAMESE. THE READING CONTAINED IN EACH LESSON PROVIDES FURTHER INFORMATION CONCERNING THE VOCATIONAL PROGRAM DISCUSSED IN THE LESSON. A FINAL SECTION INCLUDES SUGGESTIONS FOR DISCUSSION TOPICS, OUTSIDE ACTIVITIES, AND ADDITIONAL PRACTICE. (NJ)

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ANH NGỮ TRONG CÔNG VIỆC

ENGLISH ON THE JOB

LEVEL I

VT 103 232

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ENGLISH ON THE JOB

Developed by

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ANH NGỮ TRONG CÔNG VIỆC

Lời Tựa

Văn Phòng Trợ Giúp Định Cư Wisconsin đã soạn tài liệu này để dùng cho các lớp dạy tiếng Anh như một ngoại ngữ (ESL) trong một chương trình đặc biệt được Uỷ Ban Giáo Dục, Chuyên Nghiệp và Kỹ Thuật Tráng Niên Wisconsin tài trợ. Việc soạn thảo và thực hiện chương trình đã được Cơ Quan Đặc Trách Người Tị Nạn Đông Dương South Carolina và Đài Phát Thanh WHA giúp đỡ. Những bài học này được thâu thập từ những tài liệu giảng dạy của Uỷ Ban Giáo Dục với sự cộng tác của các trường chuyên nghiệp quận.

Những bài này được soạn ra với mục đích để giúp các học viên Đông Dương làm quen với ngôn ngữ đặc biệt dùng trong các công việc chuyên môn và hiểu biết tổng quát những chương trình chuyên nghiệp sẵn có. Khi dùng tài liệu này học viên sẽ biết thêm về nghề mà mình muốn học đồng thời cũng sẽ học thêm Anh ngữ.

Chương trình này được thực hiện để giúp các học viên có trình độ Anh ngữ khác nhau, thích hợp với trình độ của từng cá nhân; những phần ít đòi hỏi Anh ngữ được trình bày ở Trình Độ I. Một số bài như 'Health' và 'Food Preparation' sẽ giúp cho học viên mở mang tầm hiểu biết.

Các giảng viên sẽ bổ túc các bài học với những buổi hội thảo, chiếu phim, các tài liệu liên hệ, thuyết trình, thăm viếng các phòng thực tập và các cơ xưởng kỹ nghệ. Trong một vài trường hợp, "công việc mẫu" (work sample) có sẵn tại các trường chuyên nghiệp có thể được dùng như một kinh nghiệm sẵn có.

Giảng viên cũng nên dùng cuốn "Indochinese Refugee Education Guides" do Trung Tâm Ngôn Ngữ Học Ứng Dụng soạn. Những tài liệu này nói rõ những khó khăn đặc biệt mà học viên Việt Nam sẽ gặp phải khi học Anh ngữ và cũng cho nhiều thí dụ rất hay trong cách tập phát âm.

ENGLISH ON THE JOB

Introduction

The materials in this series of lessons have been developed by the Wisconsin Resettlement Assistance Office for use in English as a Second Language classes under a special project funded by the Wisconsin Board of Vocational, Technical and Adult Education. They were developed and produced with the assistance of the South Carolina Indochina Refugee Agency and WHA radio. The written texts are based upon materials originally developed by the State Board in cooperation with its districts.

The texts are designed to provide Indochinese students with language skills needed in the world of work, along with an overview of available vocational diploma programs. Students using these materials will increase their knowledge of career opportunities as they become proficient in the use of English.

An effort has been made to introduce students to programs in which they could be successful with varying degrees of English skill, with those programs requiring the least skill being introduced at Level I. In some instances, notably Health and Food Preparation, there are opportunities for a wide range of proficiency. These units were prepared on all three levels.

It is expected that teachers will supplement these units through discussion, films or film strips, related materials, resource speakers, visits to labs, and industrial tours. In some instances, the work samples available through vocational schools can be used as a "hands on" experience in the unit.

It is also highly recommended that the teacher make use of "Indochinese Refugee Education Guides" developed by the Center of Applied Linguistics. These materials illustrate the unique problems which the Vietnamese student will have in learning English and provide useful samples for use in phonic drills to improve pronunciation .

The vocational English texts and accompanying tapes have been designed to provide a maximum degree of flexibility for students and teachers. They may be used in a general ESL classroom for all foreign students, in a self-contained classroom for Vietnamese students, or in a tutorial program. Vietnamese students can use them on their own with minimal guidance. However, whenever possible, we recommend that these materials be supplemented by substantial amounts of spontaneous conversation.

Students with a fair degree of general English competency and an established career goal may wish to concentrate upon those lessons which deal with, or are related to, their vocational interests. They can thereby become familiar with many of the technical terms and jargon which are essential to every job, but which do not appear in many dictionaries and most ESL texts.

Những bài học Anh ngữ chuyên nghiệp kèm theo bằng ghi âm sẽ giúp cho sự giảng dạy trở nên linh động tối đa; có thể được dùng chung trong các lớp ESL cho các học viên ngoại quốc, trong một lớp dành riêng cho học viên Việt Nam, hay trong các chương trình dạy nghề. Học viên Việt Nam cũng có thể tự học bằng tài liệu này sau khi được hướng dẫn sơ qua. Tuy nhiên, nếu có thể, tài liệu này cần phải được bổ túc bằng các cuộc đối thoại tự nhiên.

Học viên với trình độ Anh ngữ trung bình và định theo một nghề nhất định có thể chăm chú vào những bài học liên quan đến môn chuyên nghiệp mình thích. Như vậy mới có thể quen thuộc với nhiều danh từ kỹ thuật và tiếng lóng rất cần thiết cho mọi nghề và những danh từ này không có trong các tự điển và trong các bài học ESL khác.

Trong mỗi bài học, học viên sẽ được hướng dẫn về cách đặt câu Anh ngữ, từ cách dùng động từ, cach bốt vần (Thể Tĩnh Lược), v.v. trong Trình Độ I cho đến cách dùng trạng từ và tĩnh từ trong Trình Độ III. Giảng viên sẽ bổ túc bài học bằng cách dùng bản ngữ vựng để đặt câu và thực tập đối thoại.

Mỗi bài gồm có bảng ngữ vựng với phần cắt nghĩa và dịch sang tiếng Việt. Nhiều danh từ kỹ thuật không có chữ tương đương bằng tiếng Việt, vì tân kỹ thuật học mới có tại Việt Nam lúc gần đây mà thôi, nên mỗi tiếng có câu cắt nghĩa vắn tắt. Phần lớn học viên Việt Nam quen dùng cách học thuộc lòng nên những bảng ngữ vựng này dài hơn những bảng trong các bài ESL khác. Nếu học viên không học hẳn một ngành riêng biệt nào thì số ngữ vựng chuyên nghiệp này có thể dùng để tham khảo hơn là phải học thuộc lòng.

Sau mỗi bảng ngữ vựng là một bài đối thoại dùng làm căn bản cho những bài tập và thảo luận.

Bài đối thoại cũng được dịch sang tiếng Việt , như vậy học viên có thể

With each unit is a structural English lesson ranging from verb usage and contractions, in Level I to the use of adverbs and adjectives in Level III. Teachers will supplement the unit by using the vocabulary list for sentence writing and conversation practice.

Each lesson contains a Vocabulary List with Vietnamese translations or explanations. Since modern technology has only recently been introduced in Viet Nam, many technical terms do not have Vietnamese equivalents and a brief explanation of the term has therefore been provided. Most Vietnamese students are used to a great deal of memorization, so lists are longer than would be expected in most American texts. If the student will not be active in a particular field, some of the technical vocabulary may be used as reference, rather than memorization material.

Following each vocabulary list is a Dialogue which forms the basis for subsequent exercises and discussions. This is printed in both English and Vietnamese so that the student may be completely confident in his or her understanding of the subject matter. However, students should use this and all other translated material only when necessary.

Each lesson contains several Exercises which expand upon the subject matter of the dialogue. Exercise instructions are printed in both English and Vietnamese. When necessary, Teachers' Notes and Students' notes have been included and are printed in italic. Teachers' Notes are printed only in English and Students' Notes are printed only in Vietnamese. These notes explain the grammatical differences between the two languages and will help both teachers and students cope with the special problems which Vietnamese students face when learning English.

The Reading contained in each lesson provides further information concerning the vocational program discussed in the lesson. Students should read it aloud and to themselves and discuss it in class. If a particular Reading presents comprehension problems, the student may turn to the back of the book where the Readings have each been printed in Vietnamese.

The final section in each lesson contains suggestions for discussion topics, outside activities and additional practice. Teachers may find it difficult to draw Indochinese students into classroom discussions. Vietnamese education is based upon the old European model of the student as a passive recipient of information . The student may therefore feel very uncomfortable when encouraged to question, discuss, challenge and argue with classmates and the teacher. Use discussions with other class members to demonstrate to Vietnamese students that this behavior is appropriate and expected, then gradually encourage Vietnamese students to participate in these conversations.

Each lesson has a corresponding tape which includes the Student Objective, Vocabulary, Dialogue, and Reading sections. The directions for each tape are

tin là đã hoàn toàn hiểu thấu bài học. Tuy nhiên, học viên chỉ nên dùng bài này và tất cả những tài liệu phiên dịch khác khi cần mà thôi.

Mỗi bài học sẽ gồm nhiều bài tập với mục đích giúp cho học viên quen cách đối thoại. Cách dẫn giải làm bài tập được in bằng cả tiếng Anh lẫn tiếng Việt. Khi cần, chú thích cho giảng viên và học viên được in bằng chữ nghiêng; chú thích cho giảng viên in bằng tiếng Anh và cho học viên thì bằng tiếng Việt. Những lời chú thích này cắt nghĩa những mẹo khác nhau của văn phạm giữa hai ngôn ngữ và sẽ giúp cho cả giảng viên cũng học viên biết cách tránh những khó khăn đặc biệt mà học viên Việt Nam sẽ gặp phải khi học Anh ngữ.

Bài tập đọc trong mỗi bài học giúp thêm những chi tiết liên quan đến chương trình chuyên nghiệp đã được nói đến trong bài học. Học viên cần phải đọc to lên và thảo luận về bài tập đọc đó. Nếu có một bài tập đọc nào đặc biệt khó hiểu học viên có thể xem phần dịch sang tiếng Việt in ở cuối cuốn sách.

Đoạn cuối của mỗi bài học có những đề nghị cho các đầu đề của cuộc thảo luận, thực tập thêm bên ngoài và những bài tập bổ túc. Giảng viên có thể gặp khó khăn khi muốn học viên Đông Dương tham dự vào các cuộc thảo luận: giáo dục tại Việt Nam theo phương pháp ngày xưa nên học sinh rất thụ động trong việc học hỏi. Học viên có thể cảm thấy bối rối khi được khuyến khích trả lời các câu hỏi, thảo luận, phản đối và bàn cãi với học viên cùng lớp hay với giảng viên. Giảng viên nên dùng những buổi thảo luận với các học viên để giúp cho học viên Việt Nam thấy đó là một hoạt động thích hợp trong các lớp học tại Hoa Kỳ và dần dần khuyến khích họ tham gia vào các cuộc đối thoại.

Mỗi bài học có kèm theo một cuốn bằng gồm có các phần Mục Tiêu của Học Viên, Ngữ Vựng và Tập Đọc. Những phần hướng dẫn đều được thâu bằng cả tiếng Anh lẫn tiếng Việt. Phần Ngữ Vựng và Đối Thoại chỉ có bằng tiếng Anh và

provided in both English and Vietnamese. The Vocabulary and Dialogues are in English only with pauses for student responses. These tapes allow the student to practice verbal comprehension and expression on his own. They may be stopped and replayed until the student is confident in his work. A native speaker should check the student's pronunciation frequently to insure that mistakes are not being repeated. Except for Lesson II-IX and Lesson III-VII (which must be rewound), each tape should be allowed to run its full length so that it will be at the beginning when turned over.

người đọc sẽ ngưng lại sau mỗi câu và mỗi chữ để học viên có thì giờ nhắc lại. Những cuốn băng này giúp cho học viên thực hành bằng cách tự đặt câu và bài kiểm. Học viên có thể cho băng ngưng và chạy lại cho đến khi nào hoàn toàn tin tưởng là mình đã hiểu thấu bài học. Giảng viên cần phải luôn luôn nghe lại cách phát âm của học viên để chắc chắn là họ không nhắc lại những lỗi đã phạm. Trừ bài học IX trong Trình Độ II và bài VII trong Trình Độ III (băng cần phải được quay lại vì chỉ thâu có một mặt) mỗi cuốn băng phải cho chạy hết để khi lật qua mặt bên kia, bài học kế tiếp sẽ bắt đầu.

ANH NGỮ TRONG CÔNG VIỆC

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ENGLISH ON THE JOB

LEVEL I

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TRÌNH ĐỘ I

CÁC CHƯƠNG TRÌNH HỌC CÁCH TIẾP ĐÃI KHÁCH

Các công việc dọn đồ ăn, một phần trong kỹ nghệ tiếp đãi khách, đang phát triển mạnh mẽ. Số người thích đi du lịch và ăn ở nhà hàng mỗi ngày một đông hơn. Dân số gia tăng, thành thị mở mang, tiền bạc dư dả để đi du lịch và ăn tại nhà hàng, tất cả những sự kiện đó đã giúp cho sự phát triển của kỹ nghệ tiếp đãi khách bành trướng.

Những người kém khả năng Anh ngữ có thể tìm công việc trong lãnh vực này. Huấn luyện về vệ sinh trong nhà bếp và giao tiếp với khách hàng có sẵn trong các trình độ trong chương trình về 'food preparation'* tại các trường kỹ thuật.

Bài học này cần được bổ túc bằng những cuộc đi thăm viếng các phòng thực tập 'food preparation'. Giảng viên của các phòng thực tập này có thể được mời đến để nói chuyện với học viên của cả lớp.

* *Food preparation: nói chung tất cả những nghề như nấu ăn, bề đồ ăn, dọn bàn, phụ bếp, rửa chén, v.v.*

LEVEL I

HOSPITALITY PROGRAMS

Food service jobs, part of the hospitality industry, are booming. Greater numbers of people are traveling and dining out. With increases in population, urban development, and more money available for trips and meals away from home, growth continues.

Individuals with limited skills in English are employable in the hospitality industry. Training in proper kitchen procedures, sanitation, and working with the public are available at various levels in the food service program at technical institutes.

This unit should be supplemented by visiting the food service labs. Teachers in the program could be invited to talk to the class.

TRÌNH ĐỘ I

BÀI I

FOOD PREPARATION*

I-A Mục Tiêu của Học Viên: dùng những ngữ vựng và những câu mẫu cần thiết trong công việc chộn sã lát.

I-B Ngữ Vựng:

1. đánh trứng
2. cục(dường), thái thành hình vuông
3. sắt lát mỏng
4. bằm, thái
5. trình bày cho đẹp
6. cắt thành từng khía (như tỉa cà rốt ngâm dồ chua)
7. xay nhỏ và chộn đều lên
8. cắt vụn, nhỏ
9. hòa tan ra
10. mài, xát thành bột
11. béo ngậy như kem
12. dồn
13. bị héo, úa
14. khô
15. ngon
16. ngon miệng
17. bay màu, mất màu sắc
18. điều kiện vệ sinh
19. tươi
20. chộn đều lên
21. rau trái
22. sốt để chộn sà lát
23. phần ăn
24. khuôn
25. cách nấu một món ăn
26. thực dồn
27. phép vệ sinh
28. dao để gọt vỏ
29. cái cân; cân
30. đo
31. trái bò
32. cái thớt
33. ướp lạnh

---

* *Food Preparation: noi chung tat ca nhunh nghe nhu nau an, phu bep, be do an, don ban, rua chen, v.v.*

LEVEL I

LESSON I

FOOD PREPARATION

I-A Student Objectives: The student will be able to understand and utilize the vocabulary and functional sentence patterns necessary in working as a salad girl.

I-B Vocabulary:

1. beat
2. cube
3. slice
4. chop
5. garnish
6. flute
7. blend
8. shred
9. dissolve
10. grate
11. creamy
12. crisp
13. wilted
14. dried
15. tasty
16. appetizing
17. discolored
18. sanitary
19. fresh
20. tossed
21. vegetables
22. dressing
23. portion
24. mold
25. recipe
26. menu
27. hygiene
28. peelers
29. weights
30. measures
31. avocado
32. cutting board
33. chill

I-C Bài Đối Thoại:

Mai: Thưa Ông tôi cần có việc làm.

Quản Lý Hãng Ăn: Cô muốn làm công việc gì?

Mai: Có lẽ tôi có thể làm trong nhà bếp.

Quản Lý: Cô có làm việc trong hãng ăn bao giờ chưa?

Mai: Dạ chưa, nhưng tôi muốn học.

Quản Lý: Có một việc làm trong nhà bếp: chuyên môn chộn sã lát.

Mai: Ồ, thế tôi thích làm việc đó.

Quản Lý: Thế sáng mai cô có mặt tại đây lúc 9 giờ nhé.

Mai: Dạ, cám ơn Ông nhiều lắm.

I-D Bài Văn Phạm - Số nhiều.

Bài Tập 1: Hãy đổi những câu sau đây sang số nhiều:

Thí dụ: This is an orange — That is a lemon

Those are lemons

I-E Bài Văn Phạm - Thể Phủ Định.

Bài Tập 1: Hãy đổi những câu sau đây thành thể phủ định bằng cách thêm not vào đúng chỗ:

Thí dụ: The floor is dirty

The floor is not dirty

I-C Dialogue:

Mai:	I need a job.
Restaurant Manager:	What kind of job do you want?
Mai:	Perhaps I could work in the kitchen.
Restaurant Manager:	Have you worked in a restaurant before?
Mai:	No, but I would like to learn.
Restaurant Manager:	There is an opening for someone to work in the kitchen making salads.
Mai:	Oh, I would like to do that.
Restaurant Manager:	Be here tomorrow morning at 9 o'clock.
Mai:	Thank you very much.

I-D Grammatical Focus - Plurals

Teachers Note: Vietnamese nouns are invariant. Plurals are formed by adding an additional word such as several, three, many, etc. Vietnamese speakers may therefore tend to ignore plural endings.

Exercise I. Make the following sentences plural.

Examples:	This is an orange.	That is a lemon.
	These are oranges.	Those are lemons.

1. This is an orange.	1. That is a lemon.
2. This is an apple.	2. That is a peach.
3. This is a pineapple.	3. That is a strawberry.
4. This is a cherry.	4. That is an avocado.
5. This is a pear.	5. That is a banana.

I-E Grammatical Focus - Negatives

Exercise I. Change the following sentences from positive to negative by adding not in the correct place.

1. The floor is dirty.

I-F Bài Văn Phạm - Hình thức của động từ.

Bài Tập 1: Hãy đổi những câu sau đây từ "I" (ngôi thứ nhất) sang "he" hay "she" (ngôi thứ ba): *(động từ theo sau đại danh từ ngôi thứ ba số ít bao giờ cũng thêm "s" hay "es")*

Thí dụ: I look

He looks, she looks

I-G Bài Văn Phạm - Cách viết tắt.

Bài tập 1: Hãy viết tắt những chữ sau đây:

Thí dụ: cup* ___c___

---

* *Xin xem bảng do lường của Mỹ ở cuối sách.*

2. The lettuce is wilted.

3. The carrots are crisp.

4. The salad dressing is creamy.

5. The tomatoes are discolored.

6. The refrigerator is cold.

7. The salad is tasty.

8. The kitchen is big.

9. The measuring cups are in the drawer.

10. The cutting board is on the table.

I-F Grammatical Focus - Verb Forms

Teachers Note: Vietnamese verbs are invariant. Students may therefore tend to ignore second person singular endings.

Exercise 1: Change the following sentences from I to he or she.

Examples:		
I look	she looks	he looks
I talk	she talks	he talks
I laugh	she laughs	he laughs

1. I peel the oranges.
2. I flute the cucumbers.
3. I slice the tomatoes.
4. I chill the melon.
5. I shred the cabbage.

1. I dice the apples.
2. I mold the gelatin.
3. I wash the utensils.
4. I wrap the lettuce.
5. I store the vegetables.

I-G Grammatical Focus - Abreviations

Exercise 1: Write the correct abbreviation for the following words.

1. cup
2. teaspoon
3. gallon
4. tablespoon
5. pint
6. quart
7. ounce
8. pound

I-H Bài Văn Phạm - Thể Nghi Vấn.

Bài Tập 1: Hãy đổi những câu sau đây sang thể nghi vấn bằng cách đổi lại thứ tự của chữ:

Thí dụ: Rose is wearing wearing a hairnet

Is Rose wearing a hairnet?

I-J Bài Tập Bổ Túc:

1. Hãy đọc đại ý của bài học:

Mai làm trong 1 hàng ăn. Đó là một hàng ăn lớn. Cô ta làm một người chọn sà lát. Mai chọn sà lát ở trong bếp. Nhà bếp cần phải sạch sẽ. Mai mặc đồng phục. Cô ta thích công việc đang làm.

Thảo luận bằng cách trả lời các câu hỏi:

1. Mai làm việc ở đâu?
2. Hàng ăn có lớn không?
3. Mai làm việc gì?
4. Nhà bếp có cần phải sạch sẽ không?
5. Mai ăn mặc thế nào?
6. Cô ta có thích công việc đó không?

2) Nói chuyện với người làm trong food preparation* để hỏi về các nhiệm vụ.

---

* *Food Preparation: nói chung tất cả các nghề như nấu ăn, dọn bàn, bê đồ ăn, phụ bếp, rửa chén, v.v.*

I-H Grammatical Focus - Questions

Exercise 1: Change the following sentences to questions by inverting the word order. (Present continuous tense.)

1. Rose is wearing a hairnet.

2. She is grating the carrots.

3. They are washing the lettuce now.

4. Mai and Rose are blending the ingredients.

5. He is making a waldorf salad.

I-I Reading:

Salad preparation is an art that can be learned. There are many kinds of salads. Some salads are made from fruit. Other salads are made from vegetables. There are also gelatin salads. Salads add zest to a meal. Learn all you can about this job.

I-J Additional Exercises:

1. Read the lesson theme:

   Mai works in a restaurant. It is a big restaurant. She works as a salad girl. Mai prepares salads in the kitchen. The kitchen must be very clean. Mai wears a uniform. She likes her job.

   Discussion questions:

   1. Where does Mai work?
   2. Is the restaurant big?
   3. What does Mai prepare?
   4. Must the kitchen be clean?
   5. What does Mai wear?
   6. Does she like her job?

2. Talk to someone who works in food preparation. Ask questions about the duties.

3. Visit a place where food is prepared such as a restaurant, cafeteria, hospital, school, hotel, or lunch counter. Explain your interest to the manager.

4. Go to the nearest state employment office and learn what jobs are available in your area.

3) Đi thăm một nơi sửa soạn thực phẩm như hãng ăn, cafeteria*, bệnh viện, trường học, khách sạn, hay quầy ăn trưa. Cắt nghĩa ý thích của bạn cho người quản lý nhà hàng biết.

4) Tới các Sở Tìm Việc gần nhất để xem có công việc nào có sẵn trong vùng bạn ở không.

Mấy câu có thể giúp ích...

Tôi thích...

Có những công việc gì có sẵn cho tôi?

Huấn luyện gì?

Bao nhiêu lâu?

Tôi có thể đi thăm?

Tôi muốn làm việc?

---

* *Cafeteria: Quán bán đồ giải khát, cà phê, bánh ngọt v.v.*

Structures that may be helpful in the situation:

I am interested in...
What jobs are available for me?
Is training...
How long...
May I visit...
I would like to work...

TRÌNH ĐỘ I

CÁC CHƯƠNG TRÌNH VỀ Y TẾ VÀ VỆ SINH

Các chương trình trong ngành y tế và vệ sinh đều được cấp chứng chỉ tại các trường kỹ thuật và được huấn luyện để săn sóc bệnh nhân trong các phòng nha khoa, phòng mạch, phòng thí nghiệm, trong phòng mổ hay trong bệnh viện.

Môn phụ tá điều dưỡng là một chương trình học 6 tuần và có cấp chứng chỉ. Nghề này thích hợp cho những người bình tĩnh, khỏe mạnh để thi hành công việc giao phó như các việc điều dưỡng thường nhật.

Học viên có thể đi thăm các khu điều dưỡng và bệnh viện. Giảng viên của Trường Cao Đẳng Điều Dưỡng có thể được mời đến thuyết trình.

LEVEL I

HEALTH PROGRAMS

The allied health programs are oriented toward assistance in patient care in the dental or medical office or laboratory, in the operating theater, or on the hospital ward.

The nursing asistant is a six-week diploma program for the person who is stable, healthy, able to adjust and work under supervision to perform a variety of routine tasks.

The students could visit the nursing labs and tour the hospital. Nursing faculty can be used as resource speakers.

TRÌNH ĐỘ I

BÀI II

PHỤ TÁ ĐIỀU DƯỠNG

II-A Mục Tiêu của Học Viên: hiểu và nhận rõ được các công việc và nhiệm vụ của người Phụ Tá Điều Dưỡng.

II-B Ngữ Vựng:

1. sức khỏe
2. bệnh viện
3. bệnh nhân
4. cuộc giải phẫu (mổ)
5. nhiệt độ
6. vệ sinh
7. căn bệnh
8. y sĩ
9. mạch
10. hãn thử biểu (ống cặp sốt)
11. thuộc về y học
12. biểu đồ để ghi nhiệt độ của bệnh nhân
13. khám bệnh, định bệnh
14. thi hành, làm

II-C Bài Đối Thoại:

Minh (Điều Dưỡng): Cô làm ơn săn sóc bệnh nhân này giúp tôi.

Anne (Phụ Tá Điều Dưỡng): Dạ, bà muốn tôi làm gì?

Minh: Bà ta cần phải được đếm mạch và ghi nhiệt độ.

Anne: Để tôi đi lấy hãn thử biểu.

Minh: Cô hãy ghi nhiệt độ trên biểu đồ nhé.

Anne: Tại sao bệnh nhân này lại nằm bệnh viện?

Minh: Bà ta sẽ được giải phẫu sáng nay.

---

* *Health có nghĩa tổng quát gồm tất cả các ngành về y khoa, giữ gìn sức khỏe, vệ sinh, v.v.*

Nursing Assistant là người giúp cho người Điều Dưỡng (y tá) trong các công việc săn sóc bệnh nhân như làm giường, thay quần áo, tắm, cho bệnh nhân ăn, đo mạch, cặp sốt, v.v.

LEVEL I

LESSON II

HEALTH CAREERS
NURSING ASSISTANT

II-A Student Objectives: The student will be able to understand and identify the functions and duties of a nursing assistant.

II-B Vocabulary:

1. health
2. hospital
3. patient
4. operation
5. temperature
6. hygiene
7. disease
8. physician
9. pulse
10. thermometer
11. medical
12. chart
13. diagnose
14. perform

II-C Dialogue:

Minh: Will you help me with this patient, please?
(Nurse)

Anne: What would you like me to do?
(Nursing Assistant)

Minh: She needs to have her temperature and pulse taken and recorded.

Anne: I will get the thermometer.

Minh: Write the temperature down on the chart.

Anne: Why is this patient in the hospital?

Minh: She is having an operation in the morning.

II-D Bài Văn Phạm - Số nhiều.

Bài Tập 1: Hãy đổi những danh từ trong những câu sau đây sang số nhiều bằng cách thêm "s":

Thí dụ: Help me with the patient

Help me with the patients

II-E Bài Văn Phạm - Thể Phủ Định.

Muốn đổi một câu từ Thể Xác Định sang Thể Phủ Định hãy thêm "not".

Bài Tập 1: Hãy đổi các câu sau đây sang Thể Phủ Định:

Thí dụ: The doctor is in.

The doctor is not in.

II-D Grammatical Focus - Plurals

Teacher's Note: Vietnamese nouns are invariant. Plurals are formed by adding an additional word such as several, three, many, etc. Vietnamese speakers may therefore tend to ignore plural endings.

Exercise 1: Change the noun to plural form by adding s.

Example: Singular - patient Plural - patients

1. Help me with the patient.
2. Operations are performed by a physician.
3. We will change the bed.
4. Write the temperature on the chart.
5. She dropped the thermometer.
6. Will you call the nurse?
7. The nurse helps the doctor.
8. Washing your hands helps to prevent disease.
9. Sick patients require good medicine.
10. The hospital must be clean.

II-E Grammatical Focus - Negatives

Exercise 1: Change the following sentences to negative form by adding the word not.

1. The doctor is in.
2. The patient can talk.
3. The nurse will help you.
4. I am a nursing assistant.
5. The patient does have a temperature.
6. The patient's pulse should be recorded.
7. You may make the bed now.

II-F Bài Văn Phạm - Thể Nghi Vấn.

Bài Tập 1: Hãy đổi những câu sau đây thành Thể Nghi Vấn bằng cách đổi lại thứ tự của chữ:

Thí dụ: The nursing assistant needs white shoes.

Does the nursing assistant need white shoes?

II-H Bài Tập Bổ Túc:

1. Hãy gọi phòng nhân viên của một bệnh viện và cho họ biết là bạn thích trở thành một người phụ tá điều dưỡng. Hỏi xem bạn cần phải được huấn luyện gì cho công việc đó.
2. Đi thăm phòng nhân viên của một bệnh viện và hỏi họ xem một người phụ tá điều dưỡng có những trách nhiệm gì?

8. I do want you to have the operation.

9. The hospital could help the patient.

10. The physicians have diagnosed the disease.

II-F Grammatical Focus - Questions

Exercise 1: Change the following sentences to questions by inverting the word order.

Example: The nursing assistant needs white shoes.
Does the nursing assistant need white shoes?

1. The doctor is in.

2. The patient is very sick.

3. The hospital is always clean.

4. The patient has got a temperature.

5. The patient must have an operation.

6. The medicine tastes good.

7. This thermometer is broken.

8. The patient's chart is missing.

9. This bed should be changed.

10. The patient is getting well.

II-G Reading

There are many different kinds of jobs available in a hospital. You should visit a hospital before you decide if you would like that kind of work. Ask some nursing assistants how they like the work. Find out how long the training program is, and how much the job pays before you decide on a career as a nursing assistant.

II-H Additional Exercises

1. Call a hospital employment office and tell them you are interested in becoming a nursing assistant. Ask what training you need for the job.

2. Visit a hospital employment office and ask them what duties are required of a nursing assistant.

3. Đi thăm một bệnh viện và yêu cầu được đi xem các phương tiện của bệnh viện để xem bạn có thích làm việc ở đó không.

Mấy câu căn bản có thể giúp ích cho cuộc đối thoại:

Có cần phải được huấn luyện để trở thành?

Bao nhiêu lâu?

Tôi có cần phải?

Tôi muốn làm việc...

Có nhiều công việc thích thú trong...

3. Visit a hospital and ask for a tour of the facilities to see if you would like to work there.

   Structures that may be useful in the situation:

   Is training required to become a ...
   How long...
   Do I need...
   I would like to work...
   There are many interesting jobs in...

TRÌNH ĐỘ I

CÁC NGÀNH LIÊN HỆ ĐẾN KỸ NGHỆ

Sự hiểu biết về an toàn rất cần thiết trong các công việc để bảo vệ cho chính mình và những người cùng làm việc với mình. Những khái niệm an toàn sẽ được trình bày cho học viên trong các lớp ESL* đầu tiên.

Nhiều học viên ESL ít hiểu biết về các loại công việc trong các ngành kỹ nghệ hiện sẵn có, và những tài năng mà mỗi việc đòi hỏi. Bốn loại công việc có ở Trình Độ I là: Hàn, Bảo Trì, General Factory*, và việc Điều Khiển Máy; những công việc này đều có cơ hội huấn luyện và có công việc làm cho những người kém khả năng Anh ngữ.

Những buổi giảng dạy lý thuyết cần được bổ túc bằng những cuộc đi thăm viếng các phòng thực tập, quan sát các lớp huấn nghệ và đi thăm các khu kỹ nghệ. Các đại diện của Urban League*, các giảng viên dạy về kỹ nghệ và các người có trách nhiệm trong giới kỹ nghệ có thể được mời đi thăm các lớp học và thảo luận về các loại công việc và các cơ hội thực tập.

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* *ESL: học Anh ngữ như ngoại ngữ*

General Factory: nói chung tất cả các loại xưởng trong ngành kỹ nghệ

Urban League: là một hội tư có khế ước với chính phủ để giúp những người thiểu số được huấn nghệ và tìm công việc làm và là một hội rất có thế lực tại Hoa Kỳ.

LEVEL I

INDUSTRIAL RELATED

An awareness of good safety practices is needed in all types of industrial jobs for the protection of self and others. These concepts can be understood if presented early in ESL classes.

Many ESL students have a very limited knowledge of the variety of industrial jobs available and the skills each requires. The four included at Level I, Welding, Maintenance, General Factory, and Machine Operator, have both training and employment opportunities for those with limited ability in English.

The units should be supplemented with visits to the labs, observation of the classroom and industrial tours. Representatives of the Urban League, industrial teachers, or persons from industry could be invited to visit the class and discuss the types of jobs and training opportunities.

TRÌNH ĐỘ I

BÀI III

SỰ AN TOÀN

III-A <u>Mục Tiêu của Học Viên</u>: hiểu và nhận biết những chữ và những luật thông thường liên quan đến sự an toàn ở nhà và trong công việc.

III-B <u>Ngữ Vựng</u>:

1. khói
2. coi chừng
3. thận trọng
4. vào
5. tránh xa
6. chạy
7. di
8. an toàn
9. lửa
10. nóng
11. bảo vệ
12. tránh xa chỗ
13. ẩm ướt
14. bị cảm lạnh
15. giầy an toàn
16. hành lang
17. giầy điện bị mòn
18. bị cháy nắng
19. Sở Cứu Hỏa
20. bị dụng
21. dễ dễ bắt lửa

III-C <u>Bài Đối Thoại</u>:

Người Cai: Chúng tôi thấy là sự an toàn rất quan trọng trong công việc này.

Công nhân: Thưa Ông có những qui tắc đặc biệt nào mà tôi cần phải theo không?

LEVEL I

LESSON III

SAFETY

III-A Student Objective: The student will be able to understand and identify words and general rules related to safety in the home and on the job.

III-B Vocabulary:

1. smoke
2. beware
3. caution
4. enter
5. keep out
6. run
7. walk
8. safety
9. fire
10. hot
11. protective
12. away from
13. damp
14. to catch a cold
15. seat belts
16. aisles
17. frayed wires
18. sunburned
19. fire department
20. to be bumped
21. fire hazards

III-C Dialogue:

Supervisor: We feel that safety is important on this job.

Worker: Do you have special rules that I need to follow?

Người cai: Có. Anh sẽ thấy các qui tắc đặc biệt dán ở trên tường trong tất cả các khu làm việc.

Công nhân: Thưa Ông có khu nào đặc biệt được hút thuốc không?

Người cai: Chỉ được phép hút thuốc ở lounge* thôi. Cũng có những khu làm việc anh cần phải mang kiến an toàn.

Công nhân: Dạ, tôi có nhận thấy điều đó.

Người cai: Chúng tôi hãnh diện về việc giữ gìn an toàn của chúng tôi. Tôi hy vọng anh cũng sẽ hãnh diện vì điều đó.

III-D Bài Văn Phạm - Ngồi và để (hay đặt).

Ngồi thường có nghĩa là nghỉ ngơi, ở thế thẳng lên. Những thì chính của động từ "to sit" là: sit, sat, have sat, is sitting (ngồi đã ngồi, vừa ngồi, đang ngồi.)

Để có nghĩa là đặt hay để một vật gì xuống. Những thì chính của động từ "to set" là: set, set, have, is setting (đặt, đã đặt, vừa đặt, đang đặt.)

Bài Tập 1: Hãy kể động từ nào đúng, set hay sit, trong mỗi câu sau đây:

Thí dụ: He (sit, set) the gasoline away from the fire.
(Ông ta để xăng tránh xa lửa)
If you (sit, set) on the damp ground, you may catch a cold.
(Nếu anh ngồi trên mặt đất ẩm, anh có thể bị cảm)

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* *Lounge: một phòng rộng dùng làm chỗ cho công nhân ngồi nghỉ, giải khát, hút thuốc, v.v. trong giờ nghỉ.*

Supervisor: Yes, we do. You will see them posted in all work areas.

Worker: Is there a special area for smoking?

Supervisor: Smoking is only allowed in the lounge area. There are also work areas where you must wear protective glasses.

Worker: Yes, I have noticed that.

Supervisor: We are proud of our safety record. I hope you will be proud of it also.

III-D Grammatical Focus - Sit and Set

Sit usually means to rest, to be in an upright or sitting position. (Principle parts or tenses: sit, sat, have sat, is sitting.) Set means to put or to place something. (Principle parts or tenses: set, set, have set, is setting.)

1. He (sit, set) the gasoline away from the fire.

2. If you (sit, set) on the damp ground, you may catch a cold.

3. Passengers (sitting, setting) with their seat belts fastened were not hurt in the accident.

4. The boxes have been (set, sat) out of the aisles for safety.

5. She is (sitting, setting) the light with the frayed wire on the table to be fixed.

6. He (sat, set) in the sun too long and is sunburned.

7. The telephone numbers for the doctor and fire department are (sitting, setting) near the telephone.

8. In what row were you (setting, sitting)?

9. He just (sat, set) and said nothing.

10. She remembered to (set, sit) the pans on the range with the handles away from the area where they could be bumped.

III-E Bài Văn Phạm - There are (có những) và they are (họ là).

("they are" có thể dùng thể tỉnh lược (bớt vần) trong câu chuyện thường hay thân mật: they're.)

Bài Tập 1: Hãy dùng đúng chữ "there are" hay "they're" trong mỗi câu sau đây:

Thí dụ: There are many safety rules.
(có nhiều luật lệ về sự an toàn)
They're careful to keep out of the dangerous areas.
(Họ cẩn thận tránh xa những nơi nguy hiểm)

III-F Bài Văn Phạm - Động Tự Bất Qui Tắc.

Thì quá khứ của động tự bất qui tắc không thêm "d" hoặc "ed" như động tự qui tắc. Chia các thì "past" của động tự bất qui tắc bằng cách đổi nguyên âm (vowel) hay không thay đổi gì cả.

Hãy xem những thí dụ sau đây:

Present	Past
swim	swam (bơi, lội)
write	wrote (viết)
hit	hit (đánh, đập)
do	did (làm)
drink	drank (uống)
get	got (được, mua)
forget	forgot (quên)

III-E Grammatical Focus - There Are and They're (they are)

Exercise 1: State whether "there are" or "they are" (they're) should be used in each sentence.

Examples: They're careful to keep out of the dangerous area.
There are many safety rules.

1. _____ many caution signs.
2. _____ fixing the broken stove.
3. _____ cleaning up the fire hazards.
4. _____ too many old papers near the furnace.
5. _____ fixing the frayed wires.
6. _____ many "caution" areas to beware of.
7. _____ too many hazards in that house.
8. _____ clearing the building of all fire hazards.
9. _____ to keep out of that area.
10. _____ in a no smoking area.

III-F Grammatical Focus - Irregular Verbs

Irregular verbs do not form their past by adding -d or -ed to the present form. They form the past be changing the vowel, or by making no change at all. Examples are given below:

Present	Past
swim	swam
write	wrote
hit	hit
do	did
drink	drank
freeze	froze
get	got
forget	forgot
go	went
run	ran
see	saw
set	set
sit	sat
take	took
wear	wore

Present	Past
go	went (đi)
run	ran (chạy)
see	saw (thấy)
set	set (để, đặt)
sit	sat (ngồi)
take	took (lấy)
wear	wore (mặc)

Bài Tập 1: Hãy viết đúng thì quá khứ của động từ trong những câu sau đây:

Thí dụ: Jack (fall) felt down the stairs yesterday.

Bài Tập 2: Hãy sửa đúng thì của mỗi câu sau đây khi cần:

Thí dụ: 1. correct

2. got

Teacher's Note: Vietnamese verbs are both invariant and limited. There are fewer tenses than in English and they are formed by the context of the sentence rather than verb modification.

Exercise 1: Write the sentence using the correct form of the verb in the past tense.

1. Jack (fall)_____down the stairs yesterday.
2. He got hurt because he (run)_____in the building.
3. Last week I (set)_____the gasoline away from the fire.
4. He (see)_____the DANGER sign.
5. She (take)_____the matches away from the baby.
6. The firemen (wear)_____protective clothing as they walked into the fire.
7. He (do)_____remember to smoke only in the smokers' room.
8. He (swim)_____in the water that was too deep.
9. She (forget)_____ to wear safety glasses.
10. Tom (wear)_____heavy gloves so his hands were not hurt.

Exercise 2: Write each sentence, correcting the verb tense when necessary.

1. I will set the hot greasy pan off the stove.
2. Yesterday I get special shoes with extra protection.
3. He sit by the rubbish fire to make sure it did not spread to the grass.
4. He needed the fire extinguisher but forget how to use it.
5. The child drank some of the cleaner and was taken to the hospital.
6. He left his rings at home so that his finger would not catch in the machine.
7. I seen many caution signs.
8. She write the safety rules on the paper.
9. He seen many safety violations.
10. She begin to clean up the gasoline-soaked rags and burn them.

III-H <u>Bài Tập Bổ Túc</u>:

1. Hãy thảo luận về những sự nguy hiểm bạn có thể gặp phải ở trong nhà và tìm cách nào để tránh.
2. Hãy liệt kê tất cả những đồ để bắt lửa ở trong nhà bạn.
3. Hãy kể một vài qui luật an toàn trong xưởng máy.

III-G Reading:

Safety is very important. It is important in your work and in your home. You must know the hazards and dangers so that you will not be hurt. Check your home for hazards and take time to remedy them.

III-H Additional Exercises

1. Discuss hazards you would find in the house and how to remedy them.

2. Make a list of all the fire hazards in your home.

3. What are some rules of safety in a factory?

TRÌNH ĐỘ I

BÀI IV

NGHỀ THỢ HÀN

IV-A Mục Tiêu của Học Viên: hiểu và nhận rõ được một số công việc, dụng cụ và các bộ phận của máy hàn.

IV-B Ngữ Vựng:

1. am pe
2. chảy hợp kim khi hàn
3. Để 2 miếng hàn giữa 2 điện cực và cho điện chạy qua một khoảng thời gian ngắn
4. cái biến điện
5. cực điện
6. máy hàn xì
7. máy hàn điện
8. một dụng cụ để đo đúng mối hàn sâu, rộng bao nhiêu
9. vẽ
10. hàn liền hai cạnh lại
11. đưa mỏ hàn qua lại nhiều lần
12. đưa mỏ hàn qua lại nhiều lần
13. hàn liền lại
14. biến đổi
15. làm cho dính liền với nhau
16. lắp (máy)
17. máy hàn xì
18. họa đồ
19. tìm kiếm
20. kính an toàn
21. mài
22. lối xếp đặt trước khi hàn
23. quan sát
24. một cách chính sác

IV-C Bài Đối Thoại:

Xuân (thợ hàn): Anh có biết nghĩa fuse hay pass trong nghề hàn không?

Sally (học viên): Không, tôi không biết. Hai chữ đó nghĩa là gì?

Xuân: Chúng ta hãy đi từng bước một: pass có nghĩa là chỉ lướt hay đi mỏ hàn vào vật anh định hàn một lần mà thôi.

Sally: Thế còn việc thứ hai là gì?

LEVEL I

LESSON IV

WELDING CAREER

IV-A Student Objective: The student will be able to understand and identify some of the functions, tools, and parts of a welder.

IV-B Vocabulary:

1. ampere
2. arc voltage
3. spot welding
4. transformer
5. polarity
6. gas torch
7. arc torch
8. arc angle
9. draw
10. fuse
11. weave
12. pass
13. weld
14. transform
15. bond
16. install
17. acetylene torch
18. blueprint
19. look up
20. goggles
21. grind off
22. layouts
23. look over
24. accurately

IV-C Dialogue:

Xuan (a welder): Do you know what it means to fuse or pass in welding?

Sally (a student): No, I don't, what are those two things?

Xuan: Let's take one step at a time: to pass is to make one single stroke over the object with your torch.

Sally: What is the second step?

Xuan: Fuse co nghia la dinh lien hai mep lai bang may han.

Sally: Co phai nhung viec han nay deu luon luon can den mo han phai khong?

Xuan: Dung the, cung co nhung viec khac nua, nhung hai viec nay quan trong nhat.

IV-D Bài Văn Phạm - Các thì của động từ.

Bài Tập 1: Hãy thêm "ing" vào các động tự sau đây. Những động tự tận cùng bằng "e" hãy bỏ "e" và thêm "ing."

Thí dụ: hold - holding use - using

Bài Tập 2:- Hãy đổi những động tự sau đây sang thì quá khứ:

Thí dụ: hold - held

Bài Tập 3: Hãy dùng những thì nào đúng (past hay present continuous) trong những câu sau đây: *(To Be + present participles thành present continuous: chỉ một hành động đang tiếp diễn.)*

Thí dụ: Sally fused the two pieces of metal.

Xuan: To fuse means to bond two edges with the torch.

Sally: Are these welding steps always done with a torch?

Xuan: Yes, there are other steps, but these two are the most important.

IV-D Grammatical Focus - Verb Tenses.

Teacher's Note: Vietnamese verbs are both invariant and limited. There are fewer tenses that in English and they are formed by the context of the sentence rather than verb modification.

Exercise 1: Add ing to the following verbs. On verbs that end with e drop the e and add ing:

Example: hold - holding use - using

1. inspect
2. draw
3. fuse
4. install
5. pass
6. weld
7. transform
8. bond
9. repair

Exercise 2: Change to past tense.

Example: hold - held

1. draw
2. fuse
3. install
4. pass
5. weld
6. transform
7. bond
8. inspect
9. repair

Exercise 3: Use the correct verb form (past or present continuous) in in the following sentences:

Example: Sally fused the two pieces of metal.

1. Sally (fuse)_____the two pieces of metal.
2. Xuan is (install)_____new welding equipment.
3. Xuan (bond)_____the two metal plates.

Bài Tập 4: Hãy tìm những chữ đồng nghĩa với các động tự sau dãy:

Thí dụ: Look over: inspect

IV-E Bài Văn Phạm - Thể Sác Định và Thể Phủ Định.

Bài Tập 1: Hãy đổi những câu sau dãy sang thể phủ định bằng cách thêm "not":

Thí dụ:	I can work	I will work
	I cannot work	I will not work

4. Xuan and Sally (weld)_____with gas torches.

5.& 6. Xuan and Sally (repair)_____the machinery by (pass)_____the torch over the crack.

7. (draw)_____the blueprints for the welders is a separate job.

8. Xuan and Sally (work)_____with arc or acetylene torches.

9. Sally (inspect)_____the weld for bead size.

10. The aluminum (fuse)_____ poorly.

Exercise 4: Find the meaning to match the verb:

Example: Look over: inspect

_____inspect	1. change
_____repair	2. go over
_____draw	3. form figures and designs
_____pass	4. job
_____weld	5. out of the way
_____transform	6. put in place
_____work	7. fuse
_____install	8. fix
	9. play
	10. look over

IV-E Grammatical Focus - Positives and Negatives.

Exercise 1: Change the following sentences to negative form by adding not.

Example: I can work. I will work.
I cannot work. I will not work.

1. The teacher is in.

2. The welding torches have arrived.

IV-F Bài Văn Phạm - Thể Nghi Vấn.

Bài Tập 1: Hãy đổi những câu sau đây thành thể nghi vấn bằng cách đổi lại thứ tự của chữ hay thêm "does":

Thí dụ: The welder needs a torch.

Does the welder need a torch?

("does" ở đây là trợ động từ)

The work is hard.

Is the work hard?

(muốn đổi 1 câu từ thể xác định sang thể nghi vấn (câu hỏi) thì ta đặt chủ từ (subject) sau trợ động từ hay động từ chính.)

3. The transformers are here.

4. I can arc weld very well.

5. He can weld very well.

6. The man can repair the pipes.

7. Sally will grind off the extra weld.

8. The welders will work today because the blueprints arrived.

9. Xuan will fill in the hole by welding.

10. Sally will construct the new machine.

IV-F Grammatical Focus - Questions.

Exercise 1: Change the following statements to questions by inverting the work order or adding a form of the word does:

Example: The welder needs a torch.
Does the welder need a torch?

The work is hard.
Is the work hard?

1. Blueprint reading is necessary for welders.

2. The good welder uses safety precautions.

3. Welders need to work accurately.

4. The battery acid is dangerous.

5. Welding is very specialized.

6. The welder's torch was hooked up to the gas tanks.

7. Safety is very important in welding.

8. Goggles and an apron are needed in welding to protect your eyes and clothes.

9. The welder needs very particular training.

IV-H Bài Tập Bổ Túc:

1. Hãy gọi tới trường kỹ thuật hay xưởng hãn và cho họ biết bạn thích trở thành người thợ hãn. Hỏi xem bạn cần phải thực tập những gì cho công việc đó.
2. Đi thăm một lớp dạy hãn và nói chuyện với người thợ hãn về những nhiệm vụ và trách nhiệm của họ.
3. Đi thăm một lớp dạy hãn và coi các sách giáo khoa và các dụng cụ dùng trong lớp học.

IV-G Reading:

The job of a welder can be very interesting but also very specialized. Welders construct and repair equipment, machinery, and parts by welding metal parts together according to layouts and blueprints. The two most common types of welding are arc and acetylene.

The demand for welders is expected to increase because of the wider use of welding processes. Repair and maintenance work in the metalworking industries will require more welders.

IV-H Additional Exercises:

1. Call a technical school or a welding company and tell them you are interested in becoming a welder. Ask what training you need for the job.

2. Visit a welding class and talk to a welder about the duties and responsibilities.

3. Visit a welding class and look at the textbooks and tools used in the class.

TRÌNH ĐỘ I

BÀI V

BẢO TRÌ

V-A Mục Tiêu của Học Viên: hiểu và nhận rõ được các công việc và phận sự của một công nhân bảo trì.

V-B Ngữ Vựng:

1. đánh bóng
2. lau sạch, sạch sẽ
3. thảm; lót thảm
4. bụi; lau bụi
5. chổi bằng vải hay sợi; lau bằng chổi vải (có nghĩa ẩm ướt)
6. hút bụi
7. đánh bóng
8. sì; đánh bóng bằng sì
9. bảo trì (giữ gìn phòng ốc)
10. kinh nghiệm
11. người cai
12. cái chổi
13. phòng lớn
14. sàn nhà
15. đồ đạc (bàn, ghế, tủ v.v.)
16. máy hút bụi
17. thuốc giặt tẩy
18. người học việc
19. tủ ở trong tường
20. nùi rẻ

V-C Bài Đối Thoại:

Ellen: Tôi muốn có một công việc trong lãnh vực bảo trì (giữ gìn phòng ốc)

Vị Cố Vấn ở Sở Tìm Việc: Cô có biết lau, rửa sàn nhà không?

Ellen: Dạ có, công việc tôi làm rất gọn gàng và sạch sẽ.

Vị Cố Vấn: Cô có biết cách hút bụi trên thảm không?

LEVEL I

LESSON V

MAINTENANCE

V-A Student Objective: The student will be able to understand and identify the functions and duties of a maintenance worker.

V-B Vocabulary:

1. buff
2. clean
3. carpet
4. dust
5. mop
6. vacuum
7. polish
8. wax
9. maintenance
10. experience
11. supervisor
12. broom
13. hall
14. floor
15. furniture
16. vacuum cleaner
17. detergent
18. trainee
19. closets
20. rag

V-C Dialogue: Different uses of the same word:

Ellen: I would like a job in the maintenance area.

Job Counselor: Do you know how to clean a floor?

Ellen: Yes, my work is very neat and clean.

Job Counselor: Have you ever done carpeting?

Ellen: Tôi đã dùng máy hút bụi hồi tôi làm ở văn phòng trong cao ốc. Nhưng phần lớn tôi lau quét các phòng lớn và lau bụi.

Vị Cố Vấn: Như vậy cô quen cách dùng chổi và lau bụi. Thế cô có đổ các thùng đựng rác nữa chứ?

Ellen: Dạ có, Ông xếp tôi cũng chỉ cả cách đánh xi sàn nhà nữa.

Vị Cố Vấn: Chắc cô biết cách đánh bóng và dùng xáp chứ?

Ellen: Thật ra tôi không hay đánh bóng đồ đạc mà cứ 6 tháng chúng tôi chỉ đánh si sàn nhà thôi. Tôi cũng biết cách xử dụng máy đánh bóng để làm cho sàn nhà bóng.

Vị Cố Vấn: Vì cô đã có kinh nghiệm về hút bụi, lau nhà, lau bụi, đánh xi bóng và chà bóng, tôi nghĩ là người ta sẽ thích mượn một công nhân có kinh nghiệm như cô. Để coi xem có công việc nào sẵn không.

V-D <u>Bài Văn Phạm - Các thì của động từ.</u>

<u>Thí dụ</u>: A maintenance worker <u>is cleaning</u> the bathrooms (present con continuous)

(người công n hân bảo trì phòng ốc đang lau chùi nhà tắm)

A maintenance worker <u>cleaned</u> the bathrooms (past tense)

(người công nhân bảo trì phòng ốc đã lau chùi nhà tắm)

A maintenance worker <u>will clean</u> the bathrooms (future tense)

(người công nhân bảo trì phòng ốc sẽ lau chùi nhà tắm)

Cô ta <u>đang hút bụi</u> tấm thảm.

Cô ta <u>đã hút bụi</u> tấm thảm

Cô ta <u>sẽ hút bụi</u> tấm thảm

Ellen: Yes, I have used a vacuum cleaner when I worked in an office building. But I worked mostly on mopping the halls and dusting.

Job Counselor: Then you are familiar with using a mop and removing dust. Did you empty wastebaskets also?

Ellen: Yes, and my supervisor taught me how to wax floors as well.

Job Counselor: You must know about using polish and wax too?

Ellen: I really didn't polish furniture too much and we only waxed floors about every six months. I also know how to operate a floor buffer to make them shine.

Job Counselor: Since you have had experience at vacuuming, mopping, dusting, waxing and buffing, I would think that many employers would be interested in hiring an experienced maintenance worker like yourself. Let's see what openings are available.

V-D Grammatical Focus - Verb Tenses.

Teacher's Note: Vietnamese verbs are both invariant and limited. There are fewer tenses than in English and they are formed by the context of the sentence rather than verb modification.

Examples: A maintenance worker is cleaning the bathrooms. (present continuous)
A maintenance worker cleaned the bathrooms. (past)
A maintenance worker will clean the bathrooms. (future)

She is vacuuming the carpet.
She vacuumed the carpet.
She will vacuum the carpet.

Mary đang rửa, đánh xi và chà bóng sàn nhà

Mary đã rửa, đánh xi và chà bóng sàn nhà

Mary sẽ rửa, đánh xi và chà bóng sàn nhà

Có phải cô ấy đang lau bụi và đánh bóng bàn ghế không?

Cô ấy đã lau bụi và đánh bóng sàn nhà bàn ghế chưa?

Cô ấy có sẽ lau bụi và đánh bóng bàn ghế không?

Bài Tập 1: Hãy đổi những động từ trong các câu sau đây thành thì quá khứ:

Thí dụ: John is polishing the table tops

John polished the table tops

Bài Tập 2: Hãy đổi các động từ trong những câu sau đây sang thì tương lai bằng cách thêm will. Hãy dùng chữ gốc của động từ.

Thí dụ: Mary dusts all the clocks

Mary will dust all the clocks

V-E Bài Văn Phạm - Danh từ và động từ.

Bài Tập 1: Hãy đổi những danh từ có kẻ dưới thành động từ:

Thí dụ: He put the wax on the floor.

He waxed the floor.

Mary is washing, waxing, and buffing the floor.
Mary washed, waxed, and buffed the floor.
Mary will wash, wax, and buff the floor.

Is she dusting and polishing the furniture?
Has she dusted and polished the furniture?
Will she dust and polish the furniture?

Exercise 1: Change the following sentences to use past tense verb forms:

Example: John is polishing the table tops.
John polished the table tops.

1. John is polishing the table tops.

2. The supervisor will mop Rosa's floor for her.

3. Ngoc will vacuum her own carpet the same way.

4. Is Thuy washing the windows with the right detergent?

5. Who will clean the windows in that office?

Exercise 2: Change the following sentences to use the future tense verb forms by adding "will". Use the root form of the verb:

Example: Mary dusts all the clocks.
Mary will dust all the clocks.

1. Mary dusts all the clocks.

2. He plans to sweep the stage after break time.

3. Has she finished buffing the brown tile room?

4. Is Carl using clear soap on the windows?

5. The maintenance woman just waxed the cafeteria floor.

V-E Grammatical Focus - Nouns and Verbs.

Exercise 1: Change the underlined word from a noun to a verb usage:

Example: He put the wax on the floor.
He waxed the floor.

1. Use the vacuum cleaner in the halls.

C2

V-F Bài Kiểm:

Bài Tập 1: Hãy dùng những chữ sau đây đặt thành câu hỏi:

Thí dụ: Is she washing and waxing the floor?

Bài Tập 2: Hãy trả lời những câu hỏi sau đây:

Thí dụ: What do you clean with a vacuum cleaner? carpets.

2. The dust on the desks should be removed.

3. Wax will put a nice shine on that floor.

4. Is that the right polish for that furniture?

5. My supervisor installed the carpeting on these floors himself.

6. Would you please work with a mop on these floors?

V-F Comprehension:

Exercise 1: Make a sentence which asks a question using the following terms:

Example: Is she washing and waxing the floor?

1. wash, wax

2. dust, polish

3. vacuum, carpet

4. mop, buff

Exercise 2: Answer the questions below:

Example: What do you clean with a vacuum cleaner? carpets.

1. What do you clean with a vacuum cleaner?
a) desks, b) ceilings, c) toilets, d) carpets, e) wastebaskets

2. A disinfectant soap is used in cleaning: a) a bathrooms, b) carpets c) ceiling lights, d) closets, e) sidewalks

3. The usual length of a lunch break is a) 5 minutes, b) 30 minutes, c) 2 hours d) once per week

4. Which of the following would not be used to remove dust?
a) mop, b) rag, c) rake, d) broom, e) vacuum

TRÌNH ĐỘ I

BÀI VI

GENERAL FACTORY*

VI-A Mục Tiêu của Học Viên: nhận biết được nhiều tiếng và dụng cụ trong xưởng máy.

VI-B Ngữ Vựng:

1. phiếu ghi giờ*
2. đồng hồ tính giờ*
3. bấm giờ tới*
4. bấm giờ về*
5. máy bấm phiếu
6. hộp đựng chìa khóa vặn bù-loong, đinh ốc
7. xà beng
8. ca làm ban ngày
9. một việc làm (làm khoán)
10. người cai
11. giờ ấn định
12. trả gấp rưỡi
13. đầu của chìa khóa vặn bù-loong (mỏ lét)
14. chốt vặn của chìa khóa mỏ lét*
15. người công nhân trong xưởng máy có nhiệm vụ liên lạc với nghiệp đoàn công nhân
16. đồ để vặn đinh ốc (cái tuốc nơ vít)
17. cách nghiên cứu thì giờ để làm tăng năng xuất
18. người thay thế
19. dọn dẹp trước giờ nghỉ
20. bộ máy ép
21. cái búa
22. cái kìm
23. cái đục
24. chìa khóa vặn ốc có răng cưa
25. cái dũa
26. giờ nghỉ (trong giữa buổi làm)
27. giờ phụ trội
28. ca làm
29. cơ hội

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* *Time card, time clock, punch in, punch out: trong các xưởng máy tại Hoa Kỳ tất cả các công nhân khi đến giờ làm việc phải lấy 1 tấm phiếu cho vào một loại đồng hồ bấm giờ, nó sẽ tự động ghi giờ vào lần hay ra về để chủ hãng để kiểm soát.*

Torque wrench: một loại khóa dẹp, trên đầu có răng cưa và có thể điều chỉnh rộng hẹp đúng để vặn đinh bù-loong.

* *General Factory: nói chung tất cả các loại cơ xưởng trong ngành kỹ nghệ.*

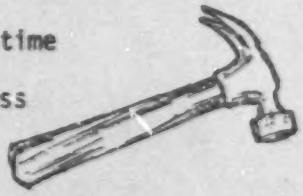
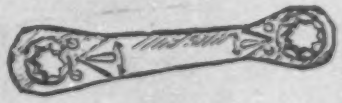
LEVEL I

LESSON VI

GENERAL FACTORY

VI-A <u>Student Objective</u>: The student is able to identify many of the words and tools used in the factory.

VI-B <u>Vocabulary</u>:

1. time card
2. time clock
3. punch in
4. punch out
5. punch press
6. box wrench
7. ripping bar
8. day work
9. piece work
10. foreman
11. straight time
12. time and a half
13. open end wrench
14. torque wrench
15. steward
16. screwdriver
17. time study
18. relief man
19. wash-up time
20. gang press
21. hammer 
22. pliers
23. chisel
24. ratchet 
25. file
26. break
27. overtime
28. shift
29. opportunity

VI-C Bài Đối Thoại:

An: Tôi muốn làm việc trong xưởng này, vì có nhiều cơ hội làm thêm giờ phụ trội, và được trả lương gấp rưỡi.

Tom: Tôi biết, và tôi cũng có thể kiếm thêm khi được trả công từng việc một, vì công việc hiện giờ tôi làm rất nhanh.

An: Cũng có cách khác kiếm được thêm tiền--làm ca thứ nhì và ca thứ ba được trả khá hơn.

Tom: Tôi thích làm ban ngày hơn vì tôi thích Ông Cai và những người làm cùng với tôi.

An: Chúng mình nên bấm giờ vào làm đi, sắp trễ rồi.

VI-D Bài Văn Phạm - Thể bớt vần (Thể Tinh Lược)

Thể bớt vần của "there is" là "there's" và "there are" là "there're"

(dùng thể bớt vần trong câu chuyện thường hay thân mật)

Bài Tập 1: Hãy đổi những câu sau đây thành thể bớt vần:

Thí dụ: There is a time clock. - There's a time clock.

There are many types of time clocks. - There're many types of time clocks.

VI-C Dialogue:

An: I like to work in this factory; there's a lot of opportunity to work overtime, and get paid time and a half.

Tom: I know, and then I make extra money on piece work too because I am fast on the job I have now.

An: There is another way to make more too--the second and third shifts pay more.

Tom: I would rather stay on day work because I like the foreman and the others I work with.

An: We better punch in on the time clock, it's getting late.

VI-D Grammatical Focus - Contractions.

There is - there's there are - there're

Teacher's Note: While spoken Vietnamese has elisions, there are no written contractions.

Exercise 1: Change the following sentences using the contracted form:

Example: There is a time clock.
There's a time clock.

There are many types of time clocks.
There're many types of time clocks.

1. There is a time clock.
2. There are time cards.
3. There is a foreman.
4. There are three gang presses.
5. There is a relief man.
6. There is my steward.
7. There are the opened wrenches.
8. There are the ratchets.
9. There is a time study man.
10. There is a new break time.

VI-E Bài Văn Phạm - Các thì của động từ.

Bài Tập 1: Hãy đổi những động từ sau đây thành Thì Quá Khứ bằng cách thêm "ed" vào chữ gốc:

Thí dụ: I need a new time card. - I needed a new time card.

VI-F Bài Tập Bổ Túc:

1. Hãy đi thăm một xưởng máy và xin coi đồng hồ bấm giờ. Yêu cầu gặp người đốc công và người thư ký nghiệp đoàn.
2. So sánh nhiều loại máy ép và chìa khóa mỏ-lét.
3. Hãy kể cho bạn bè hoặc người quyến thuộc về cuộc đi thăm viếng của bạn.

VI-E Grammatical Focus - Verb Tenses.

Teacher's Note: Vietnamese verbs are both invariant and limited. There are fewer tenses than in English and they are formed by the context of the sentence rather than verb modification.

Exercise 1: Change the following verbs to past tense by adding ed to the stem:

Example: I need a new time card.
I needed a new time card.

1. I need a new time card.
2. We punch in at 7:00 a.m.
3. The work pays straight time.
4. I need a steward.
5. He wants to be the foreman.
6. Jack and Hiep work hard.
7. They all want day work.
8. The relief man needs help.
9. The punch press stops suddenly.
10. We want a break.

VI-F Additional Exercises:

1. Visit a factory and ask to see a time clock. Ask to meet a foreman and steward.
2. Compare the various types of presses and wrenches.
3. Tell a friend or relative about your visit.

TRÌNH ĐỘ I

BÀI VII

CHUYÊN VIÊN ĐIỀU KHIỂN MÁY

VII-A Mục Tiêu của Học Viên: có thể hiểu và nhận rõ được những dụng cụ khác nhau và nhiệm vụ của người điều khiển máy (thợ máy.)

VII-B Ngữ Vựng:

1. Cái ê-tô
2. bàn kẹp hay đồ để xiết chặt
3. chìa khó mở-lết để mở bù-loong
4. cái cân đo
5. thước trắc vi (một đơn vị đo lường (dài bằng 1 phần triệu của 1 thước)
6. con vít, đinh ốc
7. phép đo vòng tròn
8. đo cạnh
9. cái tuốc-nở-vít (chìa khóa vặn đinh ốc)
10. kích thước
11. xiết hay buộc chặt lại
12. làm cho vững chắc
13. một loại bù-loong đầu có 8 cạnh
14. loại đinh ốc dài một nửa inch
15. loại đinh ốc trên đầu có hai vạch chéo
16. loại đinh ốc đầu vuông
17. loại đinh bù-loong trên đầu có 6 cạnh

VII-C Bài Đối Thoại: giữa Charlie, một học viên, và Dậu, thợ máy:

Charlie: Những đồ vật gì hay dụng cụ gì quan trọng nhất mà người thợ máy dùng?

Dậu: Có nhiều đồ và dụng cụ quan trọng, nhưng có 2 vật cần nhất là cái cân đo và thước trắc vi.

Charlie: Anh có thể cắt nghĩa nó là gì không?

Dậu: Được chứ, cái cân đo là một bộ dụng cụ dùng để đo kích các đồ vật mà người thợ máy dùng.

LEVEL I

LESSON VII

MACHINE OPERATOR

VII-A Student Objective: The student will be able to understand and identify the various tools and duties of a machine operator.

VII-B Vocabulary:

1. vise
2. clamp
3. wrench
4. measure scale
5. micrometer
6. screws
7. circular measure
8. angular measure
9. screwdriver
10. dimensions
11. fasten
12. steady

Type of screws

13. Allan
14. one-half inch
15. Phillips
16. square
17. hex

VII-C Dialogue: between Charlie, a student, and Dau, a machine operator:

Charlie: What are the most important objects and tools used by an operator?

Dau: There are many objects and tools that are important, but two necessary ones are the scale of measure and the micrometer.

Charlie: Could you explain them?

Dau: Yes, the scale of measure is a set of tools that measure all the dimensions of objects used by a machine operator.

Charlie: Thế còn thước trắc-vi?

Dau: Thước trắc-vi là một dụng cụ rất chính xác dùng để đo bề dày của một đồ vật.

VII-D Bài Văn Phạm - Their và there.

Their là sở hữu chủ (thí dụ: their tools: dụng cụ của họ). There chỉ vị trí (thí dụ: over there: ở đằng kia). There is và there are có nghĩa của một thành ngữ: there is: có - there are: có những

Bài Tập 1: Hãy dùng đúng there hay their trong các câu sau đây:

Thí dụ: The men were using their Phillips screwdrivers.

VII-E Bài Văn Phạm - A and An

Dùng "a" trước một chữ bắt đầu bằng một phụ âm và dùng "an" trước một chữ bắt đầu bằng một nguyên âm.

Bài Tập 1: Hãy điền vào khoảng trống chữ "a" hay "an" trong những câu sau đây:

Thí dụ: The boy ate an apple.

Jack gave him a tool box.

Charlie: How about a micrometer?

Dau: A micrometer is a very accurate tool for measuring thickness.

VII-D Grammatical Focus - Their and There.

Their shows ownership (their tools).
There shows location (over there) and there is or there are is an idiom meaning "co" or "co nhung".

Exercise 1: Write the sentence correctly using their or there:

Example: The men were using their Phillips screwdrivers.

1. The men were using_____Phillips screwdrivers.

2. Machine operators know about_____many tools.

3. _____is the scale that is used to measure objects.

4. A clamp was used to fasten the pipe over_____.

5. _____vise was used to steady the objects.

6. & 7. _____micrometers are more accurate measures than _____rulers.

8. _____was a square screw and an Allan wrench on the bench.

9. _____are training programs available to learn machine operation.

10. The angular measure was used to measure_____machine parts.

VII-E Grammatical Focus - A and An

Use a before a word beginning with a consonant and an before a word beginning with a vowel.

Example: The boy ate an apple.
Jack gave him a tool box.

Exercise 1: Fill the blank with a or an.

1. He used _____ micrometer for more accurate measure.

2. _____ angular measure was needed for the operator.

3. _____ vise was used to steady the object.

VII-F Bài Văn Phạm - Thể bớt vắn (Thể Tỉnh Lược)

(dùng thể bớt vắn trong câu nói chuyện thường hay thân mật.)

Bài Tập 1: Hãy đổi những chữ ở Thể Tỉnh Lược sau đây thành chữ thường:

Thí dụ: He can't measure without a micrometer.

He cannot measure without a micrometer.

4. _____ student was seen in the machine shop.

5. The shop needed _____ operator for the job.

6. _____ Allan wrench is very important to machine operators.

7. The operator needed _____ hex screw.

8. It called for _____ circular measure.

9. _____ teacher with good qualifications is needed in a machine course.

10. The welder used _____ gas torch on the job.

VII-F Grammatical Focus - Contractions

Teacher's Note: While spoken Vietnamese has elisions, there are no written contractions.

Exercise 1: Change the contractions to words:

Example: He can't measure without a micrometer.
He cannot measure without a micrometer.

1. He can't measure without a micrometer.

2. He won't be able to use the hex screws on the job.

3. The teacher didn't have the necessary tools.

4. It's the first time for the machine class.

5. He didn't use the Allan wrench in this case.

6. There's a clamp on the pipe.

7. You're the only machine operator in the factory.

8. You've been the only person to go to the training.

9. The vise wasn't tight enough.

10. He hasn't found the Phillips screws.

VII-G Reading:

The job of a machine operator is a real challenge. You should visit a machine shop before you decide if you would like that type of work. Find out what the job pays, and how long the training period is before you decide on a career as a machine operator.

VII-H Bài Tập Bổ Túc:

1. Hãy gọi tới một trường kỹ thuật hay một nhà máy và cho họ biết là bạn thích trở thành một chuyên viên điều khiển máy. Hỏi xem bạn có cần phải thục tập trước khi nhận việc hay thục tập ngay trong công việc làm.
2. Coi và tìm xem nhiệm vụ của chuyên viên điều khiển máy phải làm những gì.
3. Đi thăm viếng một trường kỹ thuật hay một xưởng máy và tìm xem những công việc hay nhiệm vụ của người điều khiển máy là gì.

VII-H Additional Exercises:

1. Call a technical school or a machine shop and tell them you are interested in becoming a machine operator. Ask what training you need either before or actually on the job.

2. Look and find out what the duties of a machine operator are.

3. Visit a technical school or machine shop and find out what facilities are used and what the duties of a machine operator are.

TRÌNH ĐỘ I

NÔNG THƯỜNG

Nông Thường gồm những nghề thương mại và canh nông. Sự phối hợp quan trọng này bắt buộc phải có vì sự tiến bộ của kỹ thuật và các phương pháp phân phối. Những quan niệm mới, những sự kiểm soát của chính quyền và số lớn dân chúng cần được phục vụ,tất cả những sự kiện ấy cho ta thấy sự phối hợp chặt chẽ giữa các nhà trồng tỉa, sản xuất và biến thể thực phẩm, cùng sự đòi hỏi học vấn, hiểu biết và huấn luyện.

"Horticulture" là một khoa học hay nghệ thuật trồng tỉa, đặc biệt là trồng trọt trong vườn. Đó là sự canh tác trong vườn hay vườn cây ăn trái, nghệ thuật trồng cây ăn trái và cây cảnh, và sự sửa sang phong cảnh.

"Floriculture" là một ngành trồng bông trong chậu cảnh.

Nhiều trường có nhà ươm cây để giảng dạy chương trình này. Bài này cần được bổ túc với một cuộc đi thăm nơi trồng tỉa và các buổi thảo luận với nhà trường về các loại công việc này.

LEVEL I

AGRI-BUSINESS

Agri-business is a combination of enterprises, made up of business and agricultural interests, created by increased technology and distribution methods. New concepts, government controls, and greater numbers of people to serve, all indicate greater involvement for the grower, producer or processor, and greater need for more education, information, and training.

Horticulture is the science or art of cultivating plants, especially garden plants. It is the cultivation of a garden or orchard, the art of growing fruits and ornamental plants, and the improvement of the landscape.

Floriculture is the cultivation of ornamental flowering plants.

Some institutes operate a greenhouse for purpose of instruction in this program. This unit should include a tour of such a facility and some discussion with the faculty concerning types of employment available.

TRÌNH ĐỘ I

BÀI VIII

CANH NÔNG

VIII-A Mục Tiêu của Học Viên: quen thuộc với những chữ thông thường trong nghề nông và gặt hái được kiến thức tổng quát về nông trại và nhiệm vụ trong nông trại.

VIII-B Ngữ Vựng:

1. phân bón
2. trái
3. xe máy kéo
4. trồng cây, rau trái v.v.
5. mùa màng
6. rau trái
7. trại nuôi bò sữa
8. trái cây
9. ruộng, cánh đồng
10. chợ, thị trường
11. công việc hằng ngày trong nông trại
12. trại trồng rau trái cung cấp cho thị trường tiêu thụ
13. hạt giống
14. đất
15. hạt lúa
16. súc vật nuôi trong trại
17. trồng cây
18. gặt hái
19. hái trái cây
20. reo hạt
21. cấy dất lên
22. trồng trọt
23. vắt sữa
24. nuôi xúc vật
25. chín (trái cây chín)
26. mùa gặt
27. củ cải đỏ
28. cỏ hoang; nhổ cỏ
29. người giúp việc trong nông trại*
30. người giúp việc*

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* *Farm laborer: người giúp việc theo từng mùa*

Hired hands: người giúp việc quanh năm

LEVEL I

LESSON VIII

AGRICULTURE

VIII-A Student Objective: To become familiar with general agriculture terms and to gain a general knowledge of farming and farm duties.

VIII-B Vocabulary:

1. fertilizer
2. farm
3. tractor
4. cash crop
5. season
6. vegetables
7. dairy farm
8. fruits
9. fields
10. market
11. chores
12. truck farm
13. seed
14. soil
15. grain
16. livestock
17. plant
18. harvest
19. pick
20. sow
21. plow
22. cultivate
23. milk
24. raise
25. ripe
26. crop
27. beet
28. weed
29. farm laborers
30. hired hands

VIII-C Bài Đối Thoại:

Thu: Tôi nghĩ rằng cà tô mát đã chín có thể hái được ngày hôm nay.

Bill: Dạ, tôi ở ngoài đồng cả ngày hôm qua và thấy nó có vẻ như đã hái được rồi.

Thu: Nãy anh nghĩ là mình có thể mang ra chợ bán được độ bao nhiêu thùng?

Bill: Tôi không chắc lắm, nhưng thế nào nó cũng được mùa.

Thu: Phân bón mới mình dùng năm nay tốt lắm.

Bill: Dạ, tôi chắc như vậy. Tất cả trái cây và rau trái hình như năm nay đều tốt cả. Thời tiết năm nay cũng tốt nữa.

Thu: Tốt, để tôi làm xong mấy việc rồi mình bắt đầu hái trái cây.

Bill: Để tôi sẽ lái xe kéo và xe wagon (một loại xe không mui) ra ngoài đồng.

Thu: Mình sẽ có thể bắt đầu dựng cái quán bán đồ rau trái ngày mai được.

VIII-D Bài Văn Phạm - Chữ viết tắt.

Nhiều chữ trong Anh ngữ được viết tắt, đặc biệt là những chữ dùng trong phép đo lường. Các chữ viết tắt luôn luôn theo sau bằng một dấu chấm.

Bài Tập 1: Hãy chọn những chữ viết tắt cho đúng những chữ sau đây:

Thí dụ: bushel bu.

VIII-C Dialogue:

Thu: I think the tomatoes are ripe enough to pick today.

Bill: Yes, I was out in the field yesterday and they seemed to be ready to harvest.

Thu: How many bushels do you think we should be able to market?

Bill: I'm not sure, but it should be a good crop.

Thu: The new fertilizer we used this year must have helped.

Bill: Yes, I'm sure it did. All the fruits and vegetables seem to be doing well this year. We've had good weather too.

Thu: Well, I'll finish my chores and then we can start picking.

Bill: I'll drive the tractor and wagon out to the field.

Thu: We will be able to start our truck farm stand tomorrow!

VIII-D Grammatical Focus - Abbreviations

Many English words are abbreviated (made shorter). This is especially true with words used in measurement. Abbreviations are always followed by a period.

(Teachers Note: The equivalency chart in the back of the book may be reproduced and made available to each student.)

Exercise 1: Match the following words with their abbreviation:

Example: bu. 1. bushel

_____1. bushel	a. oz.	_____8. gallon	h. gal.
_____2. peck	b. in.	_____9. rod	i. pt.
_____3. pint	c. yd.	_____10. square	j. pk.
_____4. quart	d. cu.	_____11. cubic	k. rd.
_____5. pound	e. sq.	_____12. foot	l. mi.
_____6. ounce	f. lb.	_____13. yard	m. bu.
_____7. mile	g. ft.	_____14. inch	n. qt.

VIII-E Bài Văn Phạm - Số nhiều.

1) Lối thông thường nhất để đổi các danh tự sang số nhiều bằng cách thêm "s" vào sau số ít. Thí dụ: girl - girls

2) Đổi thành số nhiều ở các danh tự tận cùng bằng ch, sh, x, s bằng cách thêm "es". Thí dụ: church - churches

3) Các danh tự tận cùng bằng một phụ âm (consonant) và "y", đổi sang số nhiều bằng cách đổi y thành i và thêm es.

   Thí dụ: dairy - dairies

4) Các danh tự tận cùng bằng 1 mẫu âm (vowel) và "y", thường thường đổi sang số nhiều bằng cách thêm s và không đổi chữ y.

   Thí dụ: monkey - monkeys

5) Những chữ tận cùng bằng "o" sau một phụ âm (consonant) thường thêm es để đổi sang số nhiều. Thí dụ: potato - potatoes

6) Một số chữ không thay đổi trong cả số nhiều lẫn số ít.

   Thí dụ: deer - deer

Bài Tập 1: Hãy đổi những chữ sau đây thành số nhiều:

Thí dụ: crop - crops

VIII-F Bài Văn Phạm - Chữ đồng âm.

Chữ đồng âm là những chữ có cách phát âm giống nhau nhưng viết và nghĩa khác nhau.

Bài Tập 1: Hãy chọn những chữ đúng cho các câu sau đây:

Thí dụ: A (beet, beat) is a reddish vegetable that grows underground.

VIII-E Grammatical Focus - Plurals

1. The most common way to form the plural of nouns is to add the letter s to the singular form.

2. To form the plural of a noun ending in ch, sh, x, s, add es.

3. To form the plural of a noun ending in a consonant and a y, change the y to i and add es.

4. To form the plural of a noun ending in a vowel and y, you usually add s without changing the y.

5. Words ending in o after a consonant often add es to form the plural.

6. Some words are the same in both singular and plural.

Teacher's Note: Vietnamese nouns are invariant. Plurals are formed by adding an additional word such as several, three, many, etc. Vietnamese speakers may therefore tend to ignore plural endings.

Exercise 1: Write the plural for the following words:

Examples: girl--girls church--churches monkey--monkeys, dairy--dairies deer--deer

1. potato
2. strawberry
3. crop
4. peach
5. lettuce
6. tomato
7. cherry
8. cabbage
9. apple
10. pepper

VIII-F Grammatical Focus - Homonyms

Homonyms are words that sound alike but are spelled differently and have different meanings.

Exercise 1: Choose the correct word for the following sentences.

1. A (beet, beat) is a reddish vegetable that grows underground.
2. She (beet, beat) the rug to clean it.
3. The apple trees will (bare, bear) fruit this year.
4. I saw a (bear, bare) in the woods last week.
5. I will (buy, by) three dozen eggs from the farmer.
6. He drove (buy, by) the field with his tractor.

VIII-G Bài Văn Phạm - Các thì của động từ.

1) Dùng thì hiện tại để chỉ một sự việc đang xảy ra.

2) Dùng thì quá khứ để chỉ một việc đã qua.

3) Present Perfect bao giờ cũng phải đi cùng với trợ động từ (helping verbs): was, were, have, has, hay had.

Bai Tap 1: Hãy đặt đúng những chữ grow, grew, grown vào những câu sau đây:

Thí dụ: He grows tomatoes better than he grows beets.

7. The weather was (fair, fare).

8. The bus (fair, fare) was 50¢.

9. Since the (son, sun) was shining, we decided to harvest the crops.

10. His oldest (son, sun) helps him at harvest time.

11. Our crops need lots of (rein, rain).

12. The horse's (rein, rain) was too tight.

13. (Weather, whether) is very important to the farmer.

14. He wasn't sure (whether, weather) or not the fields were dry enough to plant.

15. He wanted to (sew, sow) three fields by noon.

16. It is cheaper to (sew, sow) your own clothes.

17. The farmer is always up before the morning (dew, do) dries.

18. (Do, Dew) you really want to be a farmer?

VIII-G <u>Grammatical Focus - Verb tenses</u>

1. Use <u>grow</u> when you are talking about the present--what is happening right now.

2. Use <u>grew</u> when you are talking about the past tense--something which has already taken place.

3. Use <u>grown</u> only with a helping verb--was, were, have, has, or had.

<u>Exercise 1</u>: Put the correct word--grow, grew, or grown in the following sentences.

<u>Example</u>: He grows tomatoes better than he grows beets.

1. Sun and rain help weeds to _____.

2. We will have to plow tomorrow because the weeds have _____ so tall.

3. Some vegetables_____very tall while others_____only a few inches tall.

4. Last year we _____ as many as seven fields of corn.

5. We have_____ as many as seven fields of corn.

6. Our neighbors_____an excellent crop of potatoes this year.

7. I like to _____vegetables and fruits.

8. He _____tomatoes better than he _____beets.

VIII-I Bài Tập Bổ Túc:

Đi thăm một khu nông trại. Tìm xem họ trồng gì. Hỏi xem họ có muốn người làm tạm hay người giúp việc suốt năm không. Tìm xem công việc sẽ chỉ làm ở ngoài đồng hay là phải biết về máy móc hoặc biết cách săn sóc súc vật trong trại. Đoán xem bạn có cần phải có kinh nghiệm trước không và công việc chỉ tạm thời hay lâu dài.

Mấy câu có thể giúp ích cho cuộc đối thoại.

Ông có mướn?

Có cần phải có kinh nghiệm?

Có cần phải biết điều khiển máy không?

VIII-H Reading:

Farming is one of man's oldest and most important activities. Today farming has become very specialized. Farmers who deal with dairy cattle are called dairy farmers. They grow crops such as corn and oats to feed to their cows. They sell the milk to companies who supply our cities with milk, butter, cheese and other dairy products.

Dairy farmers might also raise chickens, pigs, and other small animals for additional income or for their own use.

Another type of farming is livestock farming. Here the farmer raises steers, and possibly other animals. He feeds them for a season and then sells them to a slaughter house company which provides the cities with meat.

Another familiar type of farming is truck farming. Here the farmer grows crops to sell, such as potatoes, and other fruits and vegetables. These crops are called cash crops. Truck farms often hire farm laborers during harvest time. Dairy farmers often hire one or two "hired hands" to help with the chores.

Farmers need to be in good health and to be able to use good judgment in planning work. Some mechanical ability is helpful. It is important to enjoy working outdoors in all kinds of weather, and to be willing to work long hours seven days a week.

Farming offers work for the farm laborers, hired hands, farm managers, and farm owners. Training is available through technical schools, but the best training available is actual work on a farm.

VIII-I Additional Exercises:

Visit an area farm. Find out the crops they produce. Inquire whether or not they employ farm laborers or hired hands. Find out whether the help would work primarily in the fields or would need knowledge of machinery or how to care for farm animals. Determine if you need previous experience and if the work is temporary or permanent.

Structures which may be helpful:

Do you employ...
Is experience necessary...
Do you have to know how to operate machinery...

TRÌNH ĐỘ I

PHẦN TẬP ĐỌC
READING

BÀI I - Cách chộn sã lát lã một nghệ thuật có thể học dược. Có nhiều loại sã lát. Có mấy loại sã lát chộn với trái cây. Có nhiều thứ khác chộn với rau. Cũng có thứ sã lát chộn với thạch. Món sã lát làm bữã ăn thêm phần dậm dã, thú vị. Bạn nên học hỏi tất cả những việc bạn có thể học về nghề này.

BÀI II - Có nhiều loại việc khác nhau trong bệnh viện. Ban nên di thăm một bệnh viện trước khi quyết định xem bạn có thích loại việc đó không. Hỏi mấy người phụ tá điều dưỡng xem họ có thích công việc đó không. Tìm xem chương trình huấn luyện mất bao nhiêu lâu, và công việc dược trả lương bao nhiêu trước khi bạn quyết định chọn nghề phụ tá điều dưỡng.

BÀI III - Sự an toàn rất quan trọng. Nó quan trọng tại nơi bạn làm việc và ngay trong nhã bạn. Bạn nên biết những sự rủi ro nguy hiểm để đề phòng. Bạn hãy coi xem trong nhã có đồ gì có thể gây ra nguy hiểm và tìm cách để sửa lại.

BÀI IV - Công việc của người thợ hãn rất lã thích thú nhưng cũng rất chuyên môn. Người thợ hãn phải làm và sửa chữã dụng cụ, máy móc cũng những bộ phận bằng cách hãn kim khí vào với nhau theo sự sắp xếp và bản họa đồ. Có hai loại hãn thông dụng nhất lã hãn bằng diện hồ quang vã hãn xì (bằng hỏi acetylene.)

Sự đòi hỏi nhiều thợ hãn sẽ gia tăng vì sự phát triển của nghề hãn ngày thêm rộng lớn. Công việc sửa chữã vã bảo trì trong các kỹ nghệ về kim khí sẽ đòi hỏi thêm nhiều thợ hãn.

BÀI VII - Công việc của chuyên viên điều khiển máy thật là một việc thử thách. Bạn nên đi thăm một xưởng máy trước khi quyết định xem bạn có thích loại công việc đó không. Tìm xem công việc được trả lương như thế nào, và thời gian huấn luyện mất bao nhiêu lâu trước khi bạn quyết định chọn nghề thợ máy.

BÀI VIII - Nghề trồng tỉa là một hoạt động xưa nhất và quan trọng nhất của loài người. Ngày nay v iệc trồng tỉa trở nên rất chuyên môn. Những người nuôi gia súc để lấy sữa gọi là "dairy farmers". Họ trồng mùa như bắp, lúa mạch để cho gia súc ăn. Họ b án sữa cho các hãng và các hãng này cung cấp lại cho dân chúng ở các thành thị, những thứ như sữa, bơ, phó mát, và những sản phẩm khác làm bằng sữa. Đôi khi trại nuôi gia súc cũng nuôi thêm gà, heo và những loại gia súc nhỏ khác để có thêm lợi tức hay để chính họ dùng.

Nông trại cũng có thể nuôi súc vật khác gọi là "livestock farming". Người ta nuôi bò đực hay bò con và có thể các gia súc khác. Họ nuôi theo mùa rồi đem bán cho các lò sát sinh để cung cấp thực phẩm cho người ở thành thị.

Một loại khác gọi là "truck farming". Ở đây người ta trồng trái cây và rau đậu để bán như khoai tây, và các loại rau trái khác. Những mùa màng này gọi là "cash crop". Nông trại trồng rau, trái thường mướn người làm công theo mùa gặt. Trại nuôi bò sữa thường mướn 1 hay 2 người giúp việc trong các công việc hàng ngày.

Nhà nông cần phải có sức khỏe và cần phải có trí xét đoán để dự tính công việc. Nên có khả năng về máy móc. Việc quan trọng là phải thích làm việc ngoài trời trong bất cứ thời tiết nào và phải có thiện chí làm việc 7 ngày một tuần và nhiều giờ trong một ngày.

Nghề nông có nhiều công việc cho người làm việc lao động ở trại, người phụ việc, người quản lý trại, cũng như cho người chủ trại. Chương trình huấn luyện có sẵn tại các trường kỹ thuật, nhưng cách huấn luyện tốt nhất là làm việc ngay trong trại.

PHỤ LỤC B

MEASUREMENTS CHART
BẢNG ĐO LƯỜNG

APPENDIX B

U.S. TO METRIC

Đơn vị đo lường Mỹ sang đơn vị thước tây

LENGTH			Đơn vị chiều dài
	1 inch	=	25,0 ly
12 inches	= 1 foot	=	0,3 thước
3 feet	= 1 yard	=	0,9 thước
	1 mile	=	1,6 cây số

AREA			Đơn vị diện tích
	1 square inch	=	6,5 phân vuông
	1 square foot	=	0,09 thước vuông
	1 square yard	=	0,8 thước vuông
	1 acre	=	0,4 mẫu tây
	1 square mile	=	2,6 cây số vuông

MASS			Đơn vị trọng khối
	1 grain	=	64,8 milligrams (mg)
	1 ounce	=	28 gam (g)
16 ounces	= 1 pound	=	0,45 ki lô gam (kg)
2000 pounds	= 1 short ton	=	9,071 ki lô gam

POWER			Đơn vị động lực
	1 horsepower (1 mã lực)	=	0,75 ki-lo uất

ENERGY			Đơn vị nhiệt lượng
	1 calorie	=	4,18 joules (j)

METRIC TO U.S.

Đơn vị thước tây sang đơn vị đo lường Mỹ

Đơn vị chiều dài			LENGTH
1/1,000 thuoc (mm)		=	0.04 inch
1 thước (m)		=	3.3 feet
1 thước		=	1.1 yards
1 cây số		=	0.6 mile

Đơn vị diện tích			AREA
1 phân vuông (cm^2)		=	0.16 square inch
1 thước vuông (m^2)		=	11 square feet
1 thước vuông		=	1.2 square yards
1 mẫu tây (hectare*)		=	2.5 acres
1 cây số vuông		=	0.39 square miles

Đơn vị trọng khối			MASS
1/1,000 gam (mg)		=	0.015 grain
1 gam (g)		=	0.035 ounce
1 ki lô (kg)		=	2.2 pounds
1 tấn		=	1.102 tons (short)

Đơn vị động lực			POWER
1 ki-lo uất		=	1.3 Horsepower (1 mã lực)

Đơn vị nhiệt lượng			ENERGY
1 joule (j)		=	0.24 calorie

VOLUME			Đơn vị thể tích
	1 cubic inch	=	16 phân khối
	1 cubic foot	=	0,03 thước khối
	1 cubic yard	=	0,76 thước khối
	1 teaspoon	=	5/1,000 lít
3 teaspoons	= 1 tablespoon	=	15/1,000 lít
	1 fluid ounce	=	30/1,000 lít
8 ounces	= 1 cup	=	0,24 lít
2 cups	= 1 pint	=	0,47 lít
2 pints	= 1 quart	=	0,95 lít
4 quarts	= 1 gallon	=	3,78 lít
2 gallons	= 1 peck	=	8,81 lít
4 pecks	= 1 bushel	=	0.04 thước khối

Đơn vị thể tích			VOLUME
1 phân khối (cm^3)		=	0.06 cubic inch
1 thước khối (m^3)		=	35 cubic feet
1 thước khối		=	1.3 cubic yards
1/1,000 lít (ml)		=	0.2 teaspoon
1/1,000 lít		=	0.07 tablespoon
1/1,000 lít		=	0.03 ounce
1 lít (l)**		=	4.2 cups
1 lít		=	2.1 pints
1 lít		=	1.1 quarts
1 lít		=	0.28 gallons
1 lít		=	0.14 pecks
1 thước khối		=	28 bushels

* hectare bằng 10,000 thước vuông
** 1 lít bằng 1 tấc khối (dm^3)

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ABSTRACT: THIS CURRICULUM GUIDE IS PART OF A THREE-VOLUME SERIES DEVELOPED FOR USE IN CLASSES OF ENGLISH AS A SECOND LANGUAGE TO PROVIDE INDOCHINESE STUDENTS WITH LANGUAGE SKILLS NEEDED IN THE WORLD OF WORK. THE LESSONS PROVIDE AN OVERVIEW OF AVAILABLE VOCATIONAL PROGRAMS SO THAT STUDENTS INCREASE THEIR KNOWLEDGE OF CAREER OPPORTUNITIES AS THEY BECOME MORE PROFICIENT IN ENGLISH. THE LESSONS ARE DESIGNED TO INTRODUCE STUDENTS TO PROGRAMS IN WHICH THEY CAN BE SUCCESSFUL WITH VARYING DEGREES OF ENGLISH SKILLS, WITH THE PROGRAMS THAT REQUIRE THE LEAST SKILL INTRODUCED AT LEVEL I. THIS LEVEL II GUIDE CONTAINS LESSONS ON WARD CLERK, GENERAL OFFICE, FOOD PREPARATION, AUTO MECHANICS, SMALL ENGINE REPAIR, BLUEPRINT READING, AUTO BODY, KEYPUNCH OPERATOR, AND UPHOLSTERY AND AUTO TRIM. EACH LESSON CONSISTS OF A VOCABULARY LIST WITH VIETNAMESE TRANSLATIONS OR EXPLANATIONS FOLLOWED BY A DIALOGUE PRINTED IN BOTH LANGUAGES WHICH FORMS THE BASIS FOR THE SUBSEQUENT EXERCISES AND DISCUSSIONS. INSTRUCTIONS ARE PRINTED IN BOTH ENGLISH AND VIETNAMESE. THE READING CONTAINED IN EACH LESSON PROVIDES FURTHER INFORMATION CONCERNING THE VOCATIONAL PROGRAM DISCUSSED IN THE LESSON. A FINAL SECTION INCLUDES SUGGESTIONS FOR DISCUSSION TOPICS, OUTSIDE ACTIVITIES, AND ADDITIONAL PRACTICE. (NJ)

INSTITUTION NAME: WISCONSIN RESETTLEMENT ASSISTANCE OFFICE, MADISON. DIV. OF EMERGENCY GOVERNMENT, LOCAL AFFAIRS AND DEVELOPMENT.; WISCONSIN STATE BOARD OF VOCATIONAL, TECHNICAL, AND ADULT EDUCATION, MADISON.

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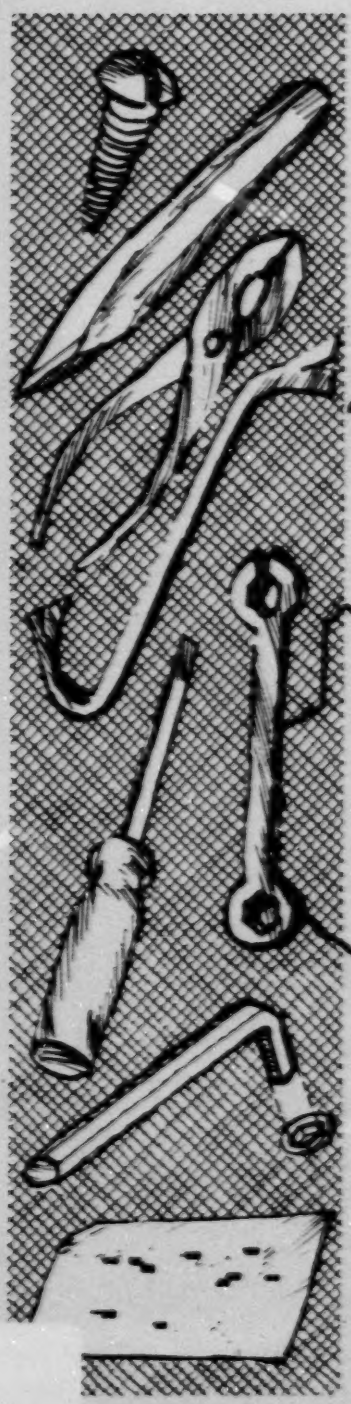
ANH NGỮ TRONG CÔNG VIỆC

ENGLISH ON THE JOB



LEVEL II

VT 103 233

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2

ANH NGỮ TRONG CÔNG VIỆC

ENGLISH ON THE JOB

Developed by

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ANH NGỮ TRONG CÔNG VIỆC

Lời Tựa

Văn Phòng Trợ Giúp Định Cư Wisconsin đã soạn tài liệu này để dùng cho các lớp dạy tiếng Anh như một ngoại ngữ (ESL) trong một chương trình đặc biệt được Uỷ Ban Giáo Dục, Chuyên Nghiệp và Kỹ Thuật Tráng Niên Wisconsin tài trợ. Việc soạn thảo và thực hiện chương trình đã được Cơ Quan Đặc Trách Người Tị Nạn Đông Dương South Carolina và Đài Phát Thanh WHA giúp đỡ. Những bài học này được thâu thập từ những tài liệu giảng dạy của Uỷ Ban Giáo Dục với sự cộng tác của các trường chuyên nghiệp quận.

Những bài này được soạn ra với mục đích để giúp các học viên Đông Dương làm quen với ngôn ngữ đặc biệt dùng trong các công việc chuyên môn và hiểu biết tổng quát những chương trình chuyên nghiệp sẵn có. Khi dùng tài liệu này học viên sẽ biết thêm về nghề mà mình muốn học đồng thời cũng sẽ học thêm Anh ngữ.

Chương trình này được thực hiện để giúp các học viên có trình độ Anh ngữ khác nhau, thích hợp với trình độ của từng cá nhân; những phần ít đòi hỏi Anh ngữ được trình bày ở Trình Độ I. Một số bài như 'Health' và 'Food Preparation' sẽ giúp cho học viên mở mang tầm hiểu biết.

Các giảng viên sẽ bổ túc các bài học với những buổi hội thảo, chiếu phim, các tài liệu liên hệ, thuyết trình, thăm viếng các phòng thực tập và các cơ xưởng kỹ nghệ. Trong một vài trường hợp, "công việc mẫu" (work sample) có sẵn tại các trường chuyên nghiệp có thể được dùng như một kinh nghiệm sẵn có.

Giảng viên cũng nên dùng cuốn "Indochinese Refugee Education Guides" do Trung Tâm Ngôn Ngữ Học Ứng Dụng soạn. Những tài liệu này nói rõ những khó khăn đặc biệt mà học viên Việt Nam sẽ gặp phải khi học Anh ngữ và cũng cho nhiều thí dụ rất hay trong cách tập phát âm.

ENGLISH ON THE JOB

Introduction

The materials in this series of lessons have been developed by the Wisconsin Resettlement Assistance Office for use in English as a Second Language classes under a special project funded by the Wisconsin Board of Vocational, Technical and Adult Education. They were developed and produced with the assistance of the South Carolina Indochina Refugee Agency and WHA radio. The written texts are based upon materials originally developed by the State Board in cooperation with its districts.

The texts are designed to provide Indochinese students with language skills needed in the world of work, along with an overview of available vocational diploma programs. Students using these materials will increase their knowledge of career opportunities as they become proficient in the use of English.

An effort has been made to introduce students to programs in which they could be successful with varying degrees of English skill, with those programs requiring the least skill being introduced at Level I. In some instances, notably Health and Food Preparation, there are opportunities for a wide range of proficiency. These units were prepared on all three levels.

It is expected that teachers will supplement these units through discussion, films or film strips, related materials, resource speakers, visits to labs, and industrial tours. In some instances, the work samples available through vocational schools can be used as a "hands on" experience in the unit.

It is also highly recommended that the teacher make use of "Indochinese Refugee Education Guides" developed by the Center of Applied Linguistics. These materials illustrate the unique problems which the Vietnamese student will have in learning English and provide useful samples for use in phonic drills to improve pronunciation .

The vocational English texts and accompanying tapes have been designed to provide a maximum degree of flexibility for students and teachers. They may be used in a general ESL classroom for all foreign students, in a self-contained classroom for Vietnamese students, or in a tutorial program. Vietnamese students can use them on their own with minimal guidance. However, whenever possible, we recommend that these materials be supplemented by substantial amounts of spontaneous conversation.

Students with a fair degree of general English competency and an established career goal may wish to concentrate upon those lessons which deal with, or are related to, their vocational interests. They can thereby become familiar with many of the technical terms and jargon which are essential to every job, but which do not appear in many dictionaries and most ESL texts.

Những bài học Anh ngữ chuyên nghiệp kèm theo bằng ghi âm sẽ giúp cho sự giảng dạy trở nên linh động tối đa; có thể được dùng chung trong các lớp ESL cho các học viên ngoại quốc, trong một lớp dành riêng cho học viên Việt Nam, hay trong các chương trình dạy nghề. Học viên Việt Nam cũng có thể tự học bằng tài liệu này sau khi được hướng dẫn sơ qua. Tuy nhiên, nếu có thể, tài liệu này cần phải được bổ túc bằng các cuộc đối thoại tự nhiên.

Học viên với trình độ Anh ngữ trung bình và định theo một nghề nhất định có thể chăm chú vào những bài học liên quan đến môn chuyên nghiệp mình thích. Như vậy mới có thể quen thuộc với nhiều danh từ kỹ thuật và tiếng lóng rất cần thiết cho mọi nghề và những danh từ này không có trong các tự điển và trong các bài học ESL khác.

Trong mỗi bài học, học viên sẽ được hướng dẫn về cách đặt câu Anh ngữ, từ cách dùng động từ, cách bỏt vần (Thể Tĩnh Lược), v.v. trong Trình Độ I cho đến cách dùng trạng từ và tĩnh từ trong Trình Độ III. Giảng viên sẽ bổ túc bài học bằng cách dùng bản ngữ vựng để đặt câu và thực tập đối thoại.

Mỗi bài gồm có bảng ngữ vựng với phần cắt nghĩa và dịch sang tiếng Việt. Nhiều danh từ kỹ thuật không có chữ tương đương bằng tiếng Việt, vì tân kỹ thuật học mới có tại Việt Nam lúc gần đây mà thôi, nên mỗi tiếng có câu cắt nghĩa vắn tắt. Phần lớn học viên Việt Nam quen dùng cách học thuộc lòng nên những bảng ngữ vựng này dài hơn những bảng trong các bài ESL khác. Nếu học viên không học hẳn một ngành riêng biệt nào thì số ngữ vựng chuyên nghiệp này có thể dùng để tham khảo hơn là phải học thuộc lòng.

Sau mỗi bảng ngữ vựng là một bài đối thoại dùng làm căn bản cho những bài tập và thảo luận.

Bài đối thoại cũng được dịch sang tiếng Việt , như vậy học viên có thể

With each unit is a structural English lesson ranging from verb usage and contractions, in Level I to the use of adverbs and adjectives in Level III. Teachers will supplement the unit by using the vocabulary list for sentence writing and conversation practice.

Each lesson contains a Vocabulary List with Vietnamese translations or explanations. Since modern technology has only recently been introduced in Viet Nam, many technical terms do not have Vietnamese equivalents and a brief explanation of the term has therefore been provided. Most Vietnamese students are used to a great deal of memorization, so lists are longer than would be expected in most American texts. If the student will not be active in a particular field, some of the technical vocabulary may be used as reference, rather than memorization material.

Following each vocabulary list is a Dialogue which forms the basis for subsequent exercises and discussions. This is printed in both English and Vietnamese so that the student may be completely confident in his or her understanding of the subject matter. However, students should use this and all other translated material only when necessary.

Each lesson contains several Exercises which expand upon the subject matter of the dialogue. Exercise instructions are printed in both English and Vietnamese. When necessary, Teachers' Notes and Students' notes have been included and are printed in italic. Teachers' Notes are printed only in English and Students' Notes are printed only in Vietnamese. These notes explain the grammatical differences between the two languages and will help both teachers and students cope with the special problems which Vietnamese students face when learning English.

The Reading contained in each lesson provides further information concerning the vocational program discussed in the lesson. Students should read it aloud and to themselves and discuss it in class. If a particular Reading presents comprehension problems, the student may turn to the back of the book where the Readings have each been printed in Vietnamese.

The final section in each lesson contains suggestions for discussion topics, outside activities and additional practice. Teachers may find it difficult to draw Indochinese students into classroom discussions. Vietnamese education is based upon the old European model of the student as a passive recipient of information . The student may therefore feel very uncomfortable when encouraged to question, discuss, challenge and argue with classmates and the teacher. Use discussions with other class members to demonstrate to Vietnamese students that this behavior is appropriate and expected, then gradually encourage Vietnamese students to participate in these conversations.

Each lesson has a corresponding tape which includes the Student Objective, Vocabulary, Dialogue, and Reading sections. The directions for each tape are

tin là đã hoàn toàn hiểu thấu bài học. Tuy nhiên, học viên chỉ nên dùng bài này và tất cả những tài liệu phiên dịch khác khi cần mà thôi.

Mỗi bài học sẽ gồm nhiều bài tập với mục đích giúp cho học viên quen cách đối thoại. Cách dẫn giải làm bài tập được in bằng cả tiếng Anh lẫn tiếng Việt. Khi cần, chú thích cho giảng viên và học viên được in bằng chữ nghiêng; chú thích cho giảng viên in bằng tiếng Anh và cho học viên thì bằng tiếng Việt. Những lời chú thích này cắt nghĩa những mẹo khác nhau của văn phạm giữa hai ngôn ngữ và sẽ giúp cho cả giảng viên cũng học viên biết cách tránh những khó khăn đặc biệt mà học viên Việt Nam sẽ gặp phải khi học Anh ngữ.

Bài tập đọc trong mỗi bài học giúp thêm những chi tiết liên quan đến chương trình chuyên nghiệp đã được nói đến trong bài học. Học viên cần phải đọc to lên và thảo luận về bài tập đọc đó. Nếu có một bài tập đọc nào đặc biệt khó hiểu học viên có thể xem phần dịch sang tiếng Việt in ở cuối cuốn sách.

Đoạn cuối của mỗi bài học có những đề nghị cho các đầu đề của cuộc thảo luận, thực tập thêm bên ngoài và những bài tập bổ túc. Giảng viên có thể gặp khó khăn khi muốn học viên Đông Dương Nam dự vào các cuộc thảo luận: giáo dục tại Việt Nam theo phương pháp ngày xưa nên học sinh rất thụ động trong việc học hỏi. Học viên có thể cảm thấy bối rối khi được khuyến khích trả lời các câu hỏi, thảo luận, phản đối và bàn cãi với học viên cùng lớp hay với giảng viên. Giảng viên nên dùng những buổi thảo luận với các học viên để giúp cho học viên Việt Nam thấy đó là một hoạt động thích hợp trong các lớp học tại Hoa Kỳ và dần dần khuyến khích họ tham gia vào các cuộc đối thoại.

Mỗi bài học có kèm theo một cuốn bằng gồm có các phần Mục Tiêu của Học Viên, Ngữ Vựng và Tập Đọc. Những phần hướng dẫn đều được thảo bằng cả tiếng Anh lẫn tiếng Việt. Phần Ngữ Vựng và Đối Thoại chỉ có bằng tiếng Anh và

provided in both English and Vietnamese. The Vocabulary and Dialogues are in English only with pauses for student responses. These tapes allow the student to practice verbal comprehension and expression on his own. They may be stopped and replayed until the student is confident in his work. A native speaker should check the student's pronunciation frequently to insure that mistakes are not being repeated. Except for Lesson II-IX and Lesson III-VII (which must be rewound), each tape should be allowed to run its full length so that it will be at the beginning when turned over.

người đọc sẽ ngưng lại sau mỗi câu và mỗi chữ để học viên có thì giờ nhắc lại. Những cuốn băng này giúp cho học viên thực hành bằng cách tự đặt câu và bài kiểm. Học viên có thể cho băng ngưng và chạy lại cho đến khi nào hoàn toàn tin tưởng là mình đã hiểu thấu bài học. Giảng viên cần phải luôn luôn nghe lại cách phát âm của học viên để chắc chắn là họ không nhắc lại những lỗi đã phạm. Trừ bài học IX trong Trình Độ II và bài VII trong Trình Độ III (băng cần phải được quay lại vì chỉ thâu có một mặt) mỗi cuốn băng phải cho chạy hết để khi lật qua mặt bên kia, bài học kế tiếp sẽ bắt đầu.

ANH NGỮ TRONG CÔNG VIỆC

TRÌNH ĐỘ II

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ENGLISH ON THE JOB

LEVEL II

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TRÌNH ĐỘ II

CÁC CHƯƠNG TRÌNH VỀ Y TẾ VÀ VỆ SINH*

Tất cả các chương trình về ngành Y Tế và Vệ Sinh* đều có cấp chứng chỉ sau khi học viên được hướng dẫn về cách giúp các bệnh nhân trong các phòng nha khoa, phòng mạch hay phòng thí nghiệm, trong phòng mổ hay bệnh viện.

Môn Phụ Tá Điều Dưỡng* là một chương trình học 6 tuần và có cấp chứng chỉ. Nghề này thích hợp cho những người bình tĩnh, khỏe mạnh để thi hành công việc giao phó như các việc điều dưỡng thường nhật.

Học viên có thể đi thăm các khu điều dưỡng và bệnh viện. Giảng viên của Trường Cao Đẳng Điều Dưỡng có thể được mời đến thuyết trình.

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* *Health: có nghĩa tổng quát gồm tất cả các ngành về y khoa, giữ gìn sức khỏe, vệ sinh, v.v.*

Nursing Assistant: là người giúp cho người điều dưỡng (y tá) trong các công việc săn sóc bệnh nhân như làm giường, thay quần áo, tắm, cho bệnh nhân ăn, đo mạch, cặp sốt, v.v.

LEVEL II

Health Programs

The allied health programs are oriented toward assistance in patient care in the dental or medical office or laboratory, in the operating theater, or on the hospital ward.

The nursing assitant is a six-week diploma program for the person who is stable, healthy, able to adjust and work under supervision to perform a variety of routine tasks.

The students could visit the nursing labs and tour the hospital. Nursing faculty can be used as resource speakers.

TRÌNH ĐỘ II

BÀI I

NHỮNG NGHỀ THUỘC VỀ Y TẾ VÀ VỆ SINH

WARD CLERK (Thư Ký Nhận Bệnh)

Người Ward Clerk lo hồ sơ bệnh nhân tại các bệnh viện và viện dưỡng lão, viết lại toa bác sĩ, trả lời điện thoại, chuyển những lời nhắn lại, và ghi các chi tiết liên quan đến sự bình phục của bệnh nhân.

I-A Mục Tiêu của Học Viên: quen thuộc với các danh từ cần dùng để thi hành phận sự của người ward clerk.

I-B Ngữ Vựng:

1. hồ sơ
2. biểu đồ
3. nhiệt độ
4. người y sĩ
5. người tiếp khách
6. cuộc giải phẫu
7. mạch
8. thuốc men
9. xin, yêu cầu
10. kiêng ăn
11. sản khoa
12. nhi khoa
13. thuộc về văn phòng
14. có cảm tình
15. thuốc về y khoa
16. thuộc về khoa giải phẫu
17. thuộc về bệnh viện
18. dịch ra, chuyển ra
19. vất vả, khó nhọc
20. hoàn cảnh
21. đòi hỏi

I-C Bài Đối Thoại:

Bà Lewis: Mình có một bệnh nhân mới ở phòng 303.

Ô. Được: Thưa bà, bà có muốn tôi điền các chi tiết cá nhân vào phiếu của bà ta không?

LEVEL II

LESSON I

HEALTH CAREERS

WARD CLERK

Ward clerks prepare records on patients in hospitals and nursing homes, transcribe doctors' orders, answer telephones, relay messages, and record information regarding patients' medical progress.

I-A Student Objectives: The student will be familiar with the terminology required to carry on the duties of a ward clerk.

I-B Vocabulary:

1. records
2. charts
3. temperature
4. physician
5. receptionist
6. surgery
7. pulse
8. medication
9. requisition
10. diet
11. obstetrics
12. pediatrics
13. clerical
14. sympathetic
15. medical
16. surgical
17. clinical
18. transcribe
19. require
20. hard
21. initiation

I-C Dialogue:

Mrs. Lewis: We have a new patient in Room 303.

Mr. Duoc: Would you like me to fill out her information sheet?

Bà Lewis: Có, Ông làm ơn. Tôi đang bận đưa thuốc cho bệnh nhân.

Ô. Được: Ai là bác sĩ của bà ta?

Bà Lewis: Bác Sĩ Jones. Bác sĩ sẽ tới thăm bà ta vào buổi sáng.

Ô. Được: Tôi sẽ để sẵn biểu đồ khi bác sĩ tới.

Bà Lewis: Cám ơn Ông.

I-D <u>Bài Văn Phạm - Thể Bớt Vần (Thể Tỉnh Lược)</u>.

Hình thức của động từ ở Thể Phủ Định có thể làm ngắn đi bằng cách bớt vần. Phần lớn đổi bằng cách bỏ chữ "o" trong chữ <u>not</u> và thay bằng một dấu phẩy. Một vài trường hợp thay hẳn cách đánh vần. <u>Thí dụ</u>: will not - won't

<u>Bài Tập 1</u>: Hãy đổi những động từ trong Thể Phủ Định có kẻ dưới thành Thể Bớt Vần:

<u>Thí dụ</u>: cannot - can't

do not - don't

Mrs. Lewis: Yes. I am busy passing out medications.

Mr. Duoc: Who is her doctor?

Mrs. Lewis: Dr. Jones. He'll see her in the morning.

Mr. Duoc: I'll have the chart ready for him when he comes in.

Mrs. Lewis: Thank you.

I-D Grammatical Focus - Contractions

Many negative verb forms can be shortened to contractions. Most are changed by taking out the o in not and replacing it with an apostrophe. A few exceptions change spelling; example: will not - won't

Teacher's Note: While spoken Vietnamese has elisions, there are no written contractions.

Exercise 1: Write the sentences, changing the underlined verbs and negatives to contractions.

Example: cannot - can't do not - don't

1. The patient does not want surgery.
2. A ward clerk cannot do clinical work.
3. The patient must not go off her diet.
4. The doctor will not give her any medications.
5. Pediatrics should not care for adults.
6. The nurse is not sympathetic.
7. We could not take his temperature.
8. The records have not arrived.
9. A doctor would not do clerical work.
10. Do not disturb the patient.

Bài Tập 2: Chữ it's bao giờ cũng có nghĩa là it is hay là it has. Đó là thể bớt vắn của it is hay it has và luôn luôn có 1 dấu phẩy. Hãy đổi it is và it has thành it's trong những câu sau đây:

Thí dụ: It is going to rain - It's going to rain.

It has rained all day - It's rained all day.

I-F Bài Tập Bổ Túc:

1. Hãy đi thăm 1 trường có lớp dạy về nghề ward clerk. Nói chuyện với vị cố vấn về những môn cần thiết để lấy chứng chỉ.
2. Đi thăm phòng nhân viên của bệnh viện. Nói chuyện với vị cố vấn trong công việc về các nhiệm vụ của ward clerk.

Exercise 2: The form of "it's" always means it is or it has. It's is a contraction of it is, or it has, and always uses an apostrophe. In the following sentences, change "it is", and "it has", to "it's".

Examples: It is going to rain. It has rained all day.
It's going to rain. It's rained all day.

1. It is a good job.

2. It has advanced in pay.

3. Do you think it is difficult work?

4. It is very hard work.

5. It is too hard for me.

6. It has become more detailed.

7. It is an interesting occupation.

8. It is rewarding to help people.

9. It is necessary to be in good health.

10. It has been fun working with children in pediatrics.

I-E Reading:

Do you like to work with people? Before you decide on a career as a ward clerk, ask yourself if you like working with people. You will be spending a lot of time talking with patients, getting information from them for their hospital records, talking with doctors and nurses. You might be working in pediatrics with children, or in the obstetrics with new mothers. A ward clerk should be able to get along with all kinds of people in many different situations. People who are ill are not often easy to get along with, and you must have a lot of patience and understanding.

I-F Additional Exercises:

1. Visit a school that teaches the course for Ward Clerk. Talk to a counselor about the subjects required to receive a diploma.

2. Visit a hospital employment office. Talk to the Employment Counselor about the duties required for a Ward Clerk.

Mấy câu giúp ích cho cuộc đi thăm....

Tôi muốn dược...

Thưa Ông/Bà có thể cho tôi biết...?

Đó là một việc tôi...

Tôi không biết...

Có phải tôi sẽ làm việc với...?

Có phải tôi sẽ cần...?

Tôi nghĩ là tôi muốn...

Structures that may be useful in the situation:

I would like....
Could you tell me....
It's a job I....
I don't know....
Would I work with....
Would I need...
I think I would like....

TRÌNH ĐỘ II

CÔNG VIỆC THƯ KÝ VĂ VĂN PHÒNG

Tất cả các phương pháp ghi chép và kế toán đều liên quan đến việc lưu trữ hồ sơ, sổ sách. Máy điện toán hoạt động cùng với một số các máy khác trong văn phòng đưa đến kết toán. Máy điện toán có khả năng ghi nhận một số lớn tin tức và giải những bài toán phức tạp rất nhanh chóng. Nhiều trường chuyên nghiệp có dạy về máy điện toán trong các chương trình kế toán và phương pháp "data processing."

Thư Ký Kế Toán: phải học những nhiệm vụ cần thiết trong việc ghi chép hồ sơ của bất cứ ngành thương mại nào, qua cách thực hành kỹ thuật căn bản về việc lưu trữ hồ sơ kế toán.

Chuyên viên máy "data processing" phải học cách điều khiển máy để đưa các tin tức vào máy điện toán và máy dùng để thu lại những tin tức từ máy điện toán.

LEVEL II

Secretarial & Office

All data and accounting system are involved with the keeping of records. The computer works with a number of other office machines to process data. Fast and capable, the computer handles large amounts of information, and carries out complex orders. At many vocational schools, there is a study of computers in the Accounting program as well as in Data Processing.

Account Clerk: The student learns to perform the duties essential to record keeping in any business, through the practical application of basic bookkeeping and accounting skills.

Data Processing Machine Operator: The student learns to operate the equipment that feeds information into the computer, and equipment used to recover information from the computer.

TRÌNH ĐỘ II

BÀI II

CÔNG VIỆC VĂN PHÒNG

II-A Mục Tiêu của Học Viên: hiểu và nhận được công việc, nhiệm vụ và những danh từ của một người làm việc trong văn phòng.

II-B Ngữ Vựng:

1. giám đốc, người xếp
2. chủ nhân
3. văn phòng
4. người tiếp đón khách
5. máy tính
6. máy chữ
7. bàn giấy
8. người giữ sổ sách
9. bản sao
10. hóa đơn
11. điện thoại
12. tủ đựng hồ sơ
13. bìa đựng hồ sơ
14. nhân viên
15. thư từ
16. bao bì
17. buổi họp
18. giao hàng, đưa thư
19. địa chỉ
20. vui vẻ
21. lịch sự, có lễ độ
22. bảng con số
23. thứ tự theo vần a, b,c
24. đúng giờ
25. chính xác
26. các con số
27. đòi hỏi, cần dùng
28. đồ để kẹp giấy
29. tiếp liệu
30. đồ để đóng kẹp

LEVEL II

LESSON II

GENERAL OFFICE

II-A <u>Student Objective</u>: The student will be able to understand and identify the functions, duties, and terms of a general office worker.

II-B <u>Vocabulary</u>:

1. supervisor
2. employer
3. office
4. receptionist
5. calculator
6. typewriter
7. desk
8. bookkeeper
9. copy
10. invoice
11. telephone
12. filing cabinet
13. folder
14. employee
15. mail
16. envelope
17. conference
18. delivery
19. address
20. pleasant
21. courteous
22. numerical
23. alphabetized
24. punctual
25. accurate
26. figure
27. require
28. paper clip
29. supply
30. stapler

II-C Bài Đối Thoại:

Chủ nhân: Cô làm ơn mở thư ra hộ.

Thư ký: Dạ. Thưa Ông có muốn tôi đi đưa thư không?

Chủ nhân: Cô đưa dùm. Thế cô có cất giữ hồ sơ không?

Thư ký: Tôi sẽ xếp văn thư vào đúng hồ sơ.

Chủ nhân: Thế cô có cất những hóa đơn cho ngày hôm nay không?

Thư ký: Dạ thưa tôi đã cất theo thứ tự a, b, c rồi

Chủ nhân: Đây là mấy con số cần phải thêm vào.

Thư ký: Thưa tôi có thể dùng máy tính được không?

II-D Bài Văn Phạm - Số nhiều.

Bài Tập 1: Hãy đổi những danh tự sang số nhiều bằng cách thêm "s":

Thí dụ: singular: letter

plural: letters

II-C Dialogue:

Employer: Will you open the mail, please?

File Clerk: Yes. Would you like me to deliver it?

Employer: Please. Then will you do the filing?

File Clerk: I will put the letters in the proper file folders.

Employer: Will you file the invoices for the day?

File Clerk: I already have them alphabetized.

Employer: Here are some figures to be added.

File Clerk: May I use the calculator?

II-D Grammatical Focus - Plurals

Exercise 1: Change the nouns to plural form by adding s.
Drop a or an when necessary.

Example: singular-letter
plural-letters

Teacher's Note: Vietnamese nouns are invariant. Plurals are formed by adding a word such as several, three, many, etc. Vietnamese speakers may therefore tend to ignore plural endings.

1. Open the letter.
2. This letter requires an answer.
3. Will you file this invoice?
4. She used a paper clip.
5. The supervisor is in a conference.
6. Put the envelope in the drawer.
7. The office has a desk.
8. Type the letter neatly.
9. Please copy the notice for the bulletin board.
10. The visitor can wait in this office.

II-E Bài Văn Phạm - Thể Phủ Định.

Bài Tập 1: Hãy đổi những câu sau đây thành thể phủ định bằng cách thêm "not" vào đúng chỗ:

Thí dụ: The address is complete

The address is not complete

II-F Bài Văn Phạm - Thể Nghi Vấn (câu hỏi).

Bài Tập 1: Hãy đổi những câu sau đây thành câu hỏi bằng cách xếp lại thứ tự của chữ:

Thí dụ: Your filing should be done accurately.

Should your filing b e done accurately?

II-E Grammatical Focus - Negatives

Exercise 1: Change the following sentences to negative form by adding the word not in the correct place.

Example: The address is complete.
The address is not complete.

1. The supervisor is in the office.
2. The file drawer is open.
3. Your desk is very neat.
4. The telephone is ringing.
5. I do have many duties here.
6. The employee is late.
7. This invoice has been paid.
8. Today you can use the calculator.
9. The receptionist is answering the telephone.
10. There are many letters to be answered.

II-F Grammatical Focus - Questions

Exercise 1: Change the following statements to questions by inverting the word order.

Example: Your filing should be done accurately.
Should your filing be done accurately?

1: The supervisor is in the office.
2. You should greet visitors pleasantly.
3. The mail is ready to be sorted.
4. The conference will begin today.
5. The address on this envelope is correct.
6. More supplies are needed.
7. The letter is in the file.
8. The typewriter needs cleaning.
9. The stapler is empty.
10. The invoices are up-to-date.

II-G Bài Kiểm.

Bài Tập 1: Hãy làm bài tập sau đây:

II-G Comprehension:

Exercise 1: Complete the following exercises.

1. If an office worker opens the "in-coming", she opens the _____.

   (a) mail (b) calculator (c) stapler

2. A receptionist should answer a telephone pleasantly and promptly.

   True or false? _____

3. It is important to _____ papers in the proper place so they do not get lost.

   (a) hold (b) file (c) place aside

4. To total numbers, use a _____.

   (a) calculator (b) telephone (c) typewriter (d) invoice

5. Place the following in the proper alphabetical order for filing:

   Wrapping Machine Co.
   General Motors
   Ford Motors Company
   American Motors
   S.C. Johnson & Son, Inc.

6. It is important to keep filing accurate and up-to-date.

   True or false? _____

7. Essential office supplies include: (check 3)

   _____paper clips _____coffee cups

   _____clock _____stapler

   _____eraser _____handkerchief

8. It is easier to work if your _____ is orderly and neat.

   (a) home (b) desk (c) conference

9. A _____ is someone who greets callers and salespeople.

   (a) bookkeeper (b) receptionist (c) file clerk

II-I Bài Tập Bổ Túc:

1. Hãy đi thăm một số các văn phòng như Urban League, Spanish Center, CAP v.v. và hỏi xem nhiệm vụ của người thư ký là gì?
2. Đi thăm một hãng nhỏ và phòng nhân viên của một xưởng kỹ nghệ lớn hỏi xem nhiệm vụ của người thư ký là gì?
3. Hãy đi thăm Sở Tìm Việc để quan sát người làm văn phòng trong khi đang làm việc.
4. Đi thăm tất cả các hãng trong vùng bạn ở, nếu có các cuộc thăm viếng được tổ chức.

Mấy câu có thể giúp ích khi thảo luận về công việc ở văn phòng?

Phải cần có khả năng gì để làm công việc...?

Có cần phải có kinh nghiệm không...?

Làm thế nào để tài năng của bạn được tiến triển.

II-H **Reading:**

There are many different duties in some office jobs, while others may require doing a few things over and over. Talk to people you know and keep improving them - there may be chances to be promoted from general office work to other interesting jobs which have a higher salary. Read the want ads of your local newspaper every day to see what the requirements are for different companies and situations.

OFFICE

Our increase in business has created an immediate opening for experienced general office assitant for all around duties including receptionist, telephone, good typing, basic record keeping, and others.

Salary commensurate with ability, excellent working conditions and all fringe benefits.

Apply in person 8-4 daily
AIDE, INC.

II-I **Additional Exercises:**

A. Visit some community service offices, such as the Urban League, Spanish Center, CAP, etc., and ask what the duties of a clerk are.

B. Visit a small company and the employment office of a large industry to find out what the duties of a clerk would be.

C. Visit the State Employment Office to see office workers on the job.

D. Tour any companies in your vicinity where tours are offered.

Structure that may be useful in discussing office work:

What skills are necessary to handle the job?
Is any experience necessary...
How to improve the job skills you have...
Where to improve the skills you have...

TRÌNH ĐỘ II

CÁC CHƯƠNG TRÌNH HỌC CÁCH TIẾP ĐÃI KHÁCH

Các công việc dọn đồ ăn, một phần trong kỹ nghệ tiếp đãi khách, đang phát triển mạnh mẽ. Số người thích đi du lịch và ăn ở nhà hàng mỗi ngày một đông hơn. Dân số gia tăng, thành thị mở mang, tiền bạc dư dả để đi du lịch và ăn tại nhà hàng, tất cả những sự kiện đó đã giúp cho sự phát triển của kỹ nghệ tiếp đãi khách bành trướng.

Những người kém khả năng Anh ngữ có thể tìm công việc trong lãnh vực này. Huấn luyện về vệ sinh trong nhà bếp và giao tiếp với khách hàng có sẵn trong các trình độ trong chương trình về 'food preparation'* tại các trường kỹ thuật.

Bài học này cần được bổ túc bằng những cuộc đi thăm viếng các phòng thực tập 'food preparation'. Giảng viên của các phòng thực tập này có thể được mời đến để nói chuyện với học viên của cả lớp.

* *Food preparation: nói chung tất cả những nghề như nấu ăn, bề đồ ăn, dọn bàn, phụ bếp, rửa chén, v.v.*

LEVEL II

Hospitality Programs

Food service jobs, part of the hospitality industry, are booming. Greater numbers of people are traveling and dining out. With increases in population, urban development, and more money available for trips and meals away from home, growth continues.

Individuals with limited skills in English are employable in the hospitality industry. Training in proper kitchen procedures, sanitation, and public relations are available at various levels in the food service program at technical institutes.

This units should be supplemented by visiting food service labs or restaurants. Teachers in food services programs could be invited to talk to the class.

TRÌNH ĐỘ II

BÀI III

FOOD PREPARATION*

Nữ và Nam Hầu Bàn

III-A <u>Mục Tiêu của Học Viên</u>: quen thuộc với một số nhiệm vụ của người hầu bàn cũng như các ngữ vựng và cách đặt câu cần cho sự hiểu biết.

III-B <u>Ngữ Vựng</u>:

1. chồng lên có thứ tự
2. dọn sạch
3. sửa soạn
4. đặt mua
5. thay thế
6. để lại chỗ cũ
7. ăn cơm (tối)
8. thay thế vào
9. tiền "buộc-boa"
10. kiếm được (lợi tức)
11. gọn gàng
12. bữa điểm tâm nhẹ (bánh mì, bơ, mứt v,v.) theo lối Âu Châu
13. đặt ăn từng món riêng
14. lịch sự
15. có khả năng
16. không một vết bẩn
17. sửa soạn cẩn thận
18. ngon hơn hết
19. sự lựa chọn
20. món ăn chính
21. món ăn đặc biệt, cầu kỳ người sành điệu về những thức ăn
22. trình bày cho đẹp
23. nước xốt
24. rượu mùi (uống sau bữa ăn)

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* <u>*Food Preparation:*</u> *nói chung tất cả những nghề như nấu ăn, phụ bếp, bê đồ ăn, dọn bàn, rửa chén, v.v.*

LEVEL II

LESSON III

FOOD PREPARATION

Waitress or Waiter

III-A Student Objectives: The student will become familiar with some of the duties of a waitress as well as the vocabulary and sentence structure needed for comprehension.

III-B Vocabulary:

1. stack
2. clear
3. prepare
4. order
5. replace
6. reset
7. dine
8. substitute
9. tip
10. earn
11. neatly
12. continental
13. ala carte
14. courteous
15. efficient
16. spotless
17. elaborate
18. prime
19. choice
20. entree
21. gourmet
22. garnishes
23. sauces
24. liqueur

25. rượu hỗn hợp, rượu "cốc-tay"

26. uống rượu trước bữa ăn (khai vị)

27. bát đựng nước rửa tay

28. bữa tiệc

29. tiền buộc boa

30. đồ uống

31. khay bày các đồ rau tươi và dưa leo muối, v.v.

32. ly rượu có chân

33. đồ sứ

34. đầu bếp

III-C Bài Đối Thoại:

Mary: Joe bị mất việc. Bây giờ tôi phải tìm việc làm để kiếm tiền.

Nhiệm: Chị có thích làm người hầu bàn không?

Mary: Tôi cũng chả biết nữa. Thế công việc có tốt không?

Nhiệm: Có chứ, tôi nghĩ là tốt. Làm nghề hầu bàn có thể có tiền "buộc boa."

Mary: Thế có chỗ nào trống ở chỗ anh làm không?

Nhiệm: Có một cô trong bốn vừa mới kết hôn và dọn nhà đi nơi khác.

Mary: Sáng mai tôi sẽ xin làm thế chỗ cô ta.

Nhiệm: Tôi sẽ nói với Ông Quản Lý là chị sẽ tới và chị là người làm việc giỏi.

III-D Bài Văn Phạm - Thì Tương Lai.

Bài Tập 1: Hãy đổi những động từ trong các câu sau đây thành thì tương lai bằng cách thêm "will":

Thí dụ: I go - I will go

I take - I will take

I see - I will see

25. coctails
26. appetizers
27. finger bowls
28. banquet
29. gratuities
30. beverages
31. relish tray
32. goblets
33. china
34. chef

III-C Dialogue:

Mary: Joe has lost his job. Now I must look for work to earn money.

Nhiem: Would you like to be a waitress?

Mary: I don't know. Is that a good job?

Nhiem: Yes, I think so. Waitresses can earn tips too.

Mary: Is there anything available where you work?

Nhiem: One of the women there just got married and moved away.

Mary: Tomorrow morning I will apply for her job.

Nhiem: I will tell the manager that you are coming and that you are a good worker.

III-D Grammatical Focus - Future Tense

Exercise 1: Change the following sentences to future time by adding will.

Examples: I go - I will go; I take - I will take; I see - I will see

1. I take a bath every morning.
2. I comb my hair neatly.
3. I walk to work.
4. I come to work on time.
5. I keep my work station clean.
6. I smile at the customers.

III-E Bài Văn Phạm - Thể Tính Lược (bớt vần).

Bài Tập 1: Hãy dùng thể bớt vần cho những động tự sau đây:

Thí dụ: do not - don't

III-F Bài Văn Phạm - Giới tự.

Bài Tập 1: Hãy dùng đúng giới tự on, to, from, by, at, for trong các câu sau đây:

Thí dụ: She always eats at the restaurant.

7. I give them menus.

8. I set the table.

9. I am courteous at all times.

10. I take orders and give them to the chef.

III-E Grammatical Focus - Contractions

Exercise 1: Write contractions for the following:

Examples: do not - don't will not - won't I am - I'm
does not - doesn't he has - he's he will - he'll
that is - that's

Teacher's Note: While spoken Vietnamese has elisions, there are no written contractions.

1. I will
2. she is
3. I am
4. what is
5. does not
6. will not
7. did not
8. they are
9. were not
10. cannot

III-F Grammatical Focus - Prepositions

Exercise 1: Write the sentences using the correct preposition from the following list: in, on, to, from, by, at, for.

Example: She always eats at the restaurant.

Teacher's Note: Because the use of prepositions is largely idiomatic, this is often confusing and deserves extensive practice. Location in Vietnamese is usually indicated in relation to the speaker rather than in relation to other objects. Confusion over the meanings of words such as "in, on, and by" can easily arise and care should be taken in demonstrating these concepts.

1. She always eats _____ the restaurant.
2. Don't sit _____ that chair.
3. He explained everything _____ me.
4. Thuy writes all the new words _____ her notebook.

III-G Bài Văn Phạm - Thì Quá Khứ.

Bài Tập 1: Hãy dùng câu xác định và phủ định để trả lời những câu hỏi sau đây:

Thí dụ: Did you serve the food?

Yes, I served the food.

No, I didn't serve the food.

III-H Bài Kiểm.

Bài Tập 1: Hãy tìm những chữ tương phản cho những chữ sau đây:

Thí dụ: up - down big - small

day - night in - out

5. They get us _____ eight o'clock in the morning.

6. I had only a sandwich _____ lunch.

7. He comes to work _____ bus.

8. She set the soup _____ the table.

9. Do you cake a sugar _____ your coffee?

10. What would you like _____ dinner?

11. I took the dessert _____ the tray.

12. There is a message _____ you.

III-G Grammatical Focus - Past Tense

Exercise 1: Give positive and negative answers to the questions.
Follow the example: Did you serve the food?
Yes, I served the food.
No, I didn't serve the food.

1. Did you wash you hands?

2. Did you wipe off the chairs?

3. Did you serve the appetizers first?

4. Did you bring the dessert?

5. Did you clear the table?

6. Did you refill the water as needed?

7. Did you provide teaspoons?

8. Did you replace dropped items with clean ones?

9. Did you present the check face down?

III-H Comprehension:

Exercise 1: Give opposites for each of the following words.

Example: up-down day-night big-small in-out

1. hot
2. on
3. late
11. top
12. food
13. full

III-J Bài Tập Bổ Túc:

1. Hãy ăn ở một nhà hàng và xét đoán công việc của người nữ hầu bàn. Ghi những nhiệm vụ khác nhau của cô ta.
2. Hãy cắt nghĩa cho bạn bè hay họ hàng tại sao bạn nghĩ là mình sẽ trở thành người hầu bàn giỏi?
3. Ở nhà tập làm người hầu bàn với những người trong gia đình hay với bạn bè.

Mấy câu giúp ích trong cuộc thảo luận về nhiệm vụ của một người hầu bàn.

Cô ấy không...

Cô ấy phải...

Tôi đi tới...

Có cần phải...?

Tôi xin đề nghị...

Ông có thích...?

Tôi có thể mang cho Bà/Cô/Ông...?

Thưa Bà/Cô/Ông cần thứ gì khác nữa không...?

4.	lose	14.	knife
5.	often	15.	arrive
6.	heavy	16.	useful
7.	high	17.	future
8.	thick	18.	sharp
9.	absent	19.	sweet
10.	sick	20.	warm

III-I Reading:

Good service is the same the world over. A good waitress is never out of work. She can use the knowledge of her profession as a career, as a part-time occupation, or at home. This knowledge, along with dependability, and honesty, will make her a valuable, successful, and trusted employee.

III-J Additional Exercises:

1. Eat in a restaurant and judge the waitress' performance. Note her different duties.

2. Explain to a friend or relative why you think you would be a good waitress.

3. Practice being a waitress at home with your family or friends.

Structures that may be useful in discussing the duties of a waitress:

She didn't...
She should have...
I'm going to...
Is it necessary to...
May I suggest...
Would you care to...
May I bring you...
Will there by anything else?

TRÌNH ĐỘ II

CÁC NGÀNH LIÊN HỆ ĐẾN KỸ NGHỆ

Sự hiểu biết về an toàn rất cần thiết trong các công việc để bảo vệ cho chính mình và những người cùng làm việc với mình. Những khái niệm an toàn sẽ được trình bày cho học viên trong các lớp ESL* đầu tiên.

Nhiều học viên ESL ít hiểu biết về các loại công việc trong các ngành kỹ nghệ hiện sẵn có, và những tài năng mà mọi việc đòi hỏi. Bốn loại công việc có trong Trình độ I là: Hàn, Bảo Trì, General Factory*, và việc Điều Khiển Máy; những công việc này đều có cơ hội huấn luyện và có công việc làm cho những người kém khả năng Anh ngữ.

Những buổi giảng dạy lý thuyết cần được bổ túc bằng những cuộc đi thăm viếng các phòng thực tập, quan sát các lớp huấn nghệ và đi thăm các khu kỹ nghệ. Các đại diện của Urban League*, các giảng viên dạy về kỹ nghệ và các người có trách nhiệm trong giới kỹ nghệ có thể được mời đi thăm các lớp học và thảo luận về các loại công việc và các cơ hội thực tập.

Thợ Máy Xe Hơi: chuyên môn căn bản gồm có: điều chỉnh máy, điều chỉnh thắng, cân bằng bánh xe, cho dầu, mỡ và bảo trì tổng quát cho xe.

Nhà cửa và xe cộ ngày nay phản ảnh một xã hội tự do, phong phú, và ai cũng có thể trang hoàng nhà và xe của mình theo ý thích riêng. Đồ đạc theo thời trang, vải vóc sang trọng, và bề trong của chiếc xe mới mẻ, rực rỡ, tất cả những thứ đó phản ảnh lối sống của chúng ta. Thủ công nghệ rất cần để làm cho xe cộ

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* *ESL: học Anh ngữ như ngoại ngữ.*

General Factory: nói chung tất cả các loại xưởng trong ngành kỹ nghệ.

Urban League: là một hội tư có khế ước với chính phủ để giúp những người thiểu số được huấn nghệ và tìm công việc làm và là một hội rất có thế lực tại Hoa Kỳ.

LEVEL II

Industrial Related

An awareness of good safety practices is needed in all types of industrial jobs for the protection of self and others. These concepts can be understood if presented early in ESL classes.

Many ESL students have a very limited knowledge of the variety of industrial jobs available and of the skills each requires.

The units should be supplemented with visits to the labs, observation of the classroom and industrial tours. Representatives of the Urban Leaque, industrial teachers or persons from industry could be invited to visit the class and discuss the types of jobs and training opportunities.

Auto Mechanic: Basic skills in auto tune-up, brake adjustment, wheel balancing, lubrication, and general auto servicing.

The home and the automobile today reflect a freer, more affluent society, and home and car owners decorate as they wish. Period furniture, luxurious fabrics, and bright new interiors in our cars, all reflect the way we live. Craftsmanship is called for in fitting out both the car and the home. The diploma programs at Technical Institutes, described below, supply it.

cũng như nhà cửa được đẹp đẽ. Những chương trình học có cấp chứng chỉ ở các trường kỹ thuật được trình bày sau đây.

Bọc nệm và trang hoàng chiếc xe: chuyển từ công việc giản dị đến công việc phức tạp hơn, học viên học cách dùng dụng cụ, máy móc và đồ dùng như: lò xo, nhồi nệm, đo và cắt vải bọc, cách làm nệm, nhồi bông vào nệm; làm những phần bằng gỗ của xe hơi, sửa và làm lại khung xe, đánh bóng những chỗ mặt gỗ. Người bọc nệm làm việc ở những hãng làm nệm, công ty làm đồ đạc, hãng sản xuất xe hơi, của tiệm bán xe hơi và trang hoàng xe và các nhà buôn bán đồ đạc.

Làm đồng: phương pháp uốn nắn kim loại là việc thiết yếu cho lối sống của chúng ta ngày nay, các trường kỹ thuật có cung ứng ba ngành học khác nhau về nghề uốn nắn kim loại. Những người tốt nghiệp trong tất cả các lãnh vực luôn luôn được trọng dụng. Ngành làm đồng cung ứng cho tất cả các giai đoạn của việc sửa chiếc xe bị hư hại, gồm có việc vỗ phẳng những chỗ móp, làm nhẵn, mài, đánh giấy nhám, và kín các lỗ thủng. Sửa sang che đậu các chỗ khuyết điểm, sơn và thay các đồ phụ tùng và trang hoàng bề ngoài chiếc xe.

Sửa các loại máy nhỏ: kỹ thuật và cách thức sửa những dụng cụ như máy cắt cỏ, máy gạt tuyết, máy chạy sàng. Nhiều cách giảng dạy có sẵn tại các phòng thực tập.

Nghề đọc họa đồ: tài năng chuyên môn này rất cần cho nhiều công việc trong lãnh vực kỹ nghệ.

Upholstery & Auto Trim: Moving from the simple to the more complex task, the student learns how to handle tools, equipment, and supplies: spring tying, stuffing, ordering and cutting materials; cushion construction, tufting, channel back; woodworking, repair and restyling of frames; finishing and refinishing wood surfaces. The upholsterer is employed in custom upholstery shops, furniture factories, auto manufacturing, auto and body trim shops and furniture shops.

Auto body: the process of shaping metal is a vital part of the way we live today, and Technical Institutes offer several different career education choices in metal shaping. Graduates in all areas are always in demand. Auto body offers all phases of repair to damaged cars, including metal straightening, smoothing, grinding, sanding, and filling-in. Concealment of flaws, painting, and replacement of body components and trim are stressed.

Small Engine Repair: Techniques and methods for repairing equipment such as lawn mowers, snow blowers, gasoline engines. Much "hands on" instruction in a lab setting.

Blueprint Reading: Skill development necessary for many industrial jobs.

TRÌNH ĐỘ II

BÀI IV

THỢ SỬA MÁY XE HỞI

IV-A Mục Tiêu của Học Viên: hiểu một số phận sự và huấn luyện cần thiết để trở thành người thợ máy xe hởi.

IV-B Ngữ Vựng:

1. người lái buôn
2. khách hàng
3. điều chỉnh cho máy chạy đúng
4. người ghi những việc sửa chữa cho chiếc xe
5. solenoid (bộ phận ngắt điện khi muốn tắt máy)
6. sự bảo đảm
7. ignition (sự sinh điện trong máy để đốt hơi sáng cho máy nổ)
8. bộ phận trong ống pô làm giảm khói
9. chi nhánh
10. bu-di
11. bộ phận làm êm tiếng máy
12. miếng cao su của cần gạt nước
13. bị trục trặc, khuyết điểm không hoàn toàn
14. canh lửa
15. kho hàng
16. có sẵn trong kho
17. sửa chữa
18. canh ra-lăng-ti

IV-C Bài Đối Thoại:

Thụy là người ghi công việc sửa chữa và phải viết tất cả những việc phải làm. John, thợ sửa xe, sẽ làm gần hết các việc sửa chữa.

Thụy: John, ngày mai trên đường đi làm, Anh hãy mang cái xe Ford 1974 màu xanh của Ông Mark lại nhé. Tôi muốn anh điều chỉnh lại lửa điện (canh lửa). Máy xe không ngừng chạy khi anh tắt máy.

John: Thế sáng nay Ông ta gọi Anh hả?

Level II

Lesson IV

AUTO MECHANICS

IV-A Student Objective: The student will be able to understand some of the duties and training necessary in becoming an auto mechanic.

IV-B Vocabulary:

1. dealer
2. customer
3. tune-up
4. service writer
5. solenoid
6. warranty
7. ignition
8. exhaust system
9. department
10. spark plug
11. muffler
12. wiper blade
13. defective
14. timing
15. warehouse
16. in-stock
17. fix
18. idle

IV-C Dialogue:

Thuy is the service writer and must write up all work orders. John is the mechanic and will be doing most of the repair work.

Thuy: John, on your way to work tomorrow, will you bring in the blue 1974 Ford that belongs to Mark. I want you to recheck the ignition timing. The car's engine does not stop when you shut the ignition switch off.

John: Did he call you this morning?

Thụy: Không, Ông ấy gọi ngày hôm qua. Sao vậy?

John: À, tuần vừa rồi khi anh nghỉ phép, tụi tôi điều chỉnh lại máy xe của Ông ta và tôi bảo Ông ấy là mình sẽ phải thay bộ phận ngắt điện vì nó bị trục trặc. Mình không có sẵn bộ phận thay, bởi vậy chúng tôi đã đặt mua ở kho hàng Chicago.

Thụy: Khi nào thì đồ tới?

John: Tố. chắc là hôm nay ban đồ phụ tùng đã nhận bộ phận ngắt điện trong kho.

Thụy: Thế mai anh có lấy xe không?

John: Dạ có.

Thụy: Tôi sẽ kêu Ông Mark và cho ông ta biết là anh sẽ đến lấy xe và bảo cho Ông ấy yên trí là công việc làm sẽ có bảo đảm.

John: Cái xe cũng cần phải sửa lại bộ phận giảm khói trong ống pô và cần một miếng cao su cho cần gạt nước.

Thụy: Khi nào gọi điện thoại, tôi sẽ cho ông ta biết những việc trục trặc đó.

IV-D <u>Bài Văn Phạm - Số nhiều.</u>

<u>Bài Tập 1</u>: Hãy đổi những động từ số ít sang số nhiều bằng cách thêm "s"

<u>Thí dụ</u>: (singular) Ford - (plural) Fords

Thuy: No. Yesterday is when he called. Why?

John: Well, last week while you were on vacation, we gave his engine a tune-up, and I told him that we would have to replace the idle solenoid because it is defective. We didn't have the part in stock, so we ordered it from the Chicago warehouse.

Thuy: When will the part come in?

John: I believe the parts department has the solenoid in stock now.

Thuy: Will you pick up the car tomorrow?

John: Yes.

Thuy: I will call Mark and tell him that you will pick up the car and reassure him that the work will be done under warranty.

John: The car also needs exhaust system work and at least one wiper blade.

Thuy: I will tell him about those problems when I call.

IV-D Grammatical Focus - Plurals

Exercise 1: Change the noun forms from singular to plural by adding s.

Example: (singular) Ford (plural) Fords

Teacher's Note: Vietnamese nouns are invariant. Plurals are formed by adding a word such as several, three, many, etc. Vietnamese speakers may therefore tend to ignore plural endings.

1. I want to recheck the car.
2. Will you pick up the automobile?
3. We will check the timing of the engine.
4. There will be no charge to the customer.
5. We will change the part under warranty.
6. Does Mark want the spark plug replaced?

IV-E Bài Văn Phạm - Thể Phủ Định.

Bài Tập 1: Hãy đổi những câu sau đây sang Thể Phủ Định bằng cách thêm "not":

Thí dụ: I will get the car - I will not get the car

IV-F Bài Văn Phạm - Thể Nghi Vấn.

Bài Tập 1: Hãy đổi những câu sau đây thành câu hỏi bằng cách đổi lại thứ tự của chữ:

Thí dụ: The 1974 Ford is blue - Is the 1974 Ford blue?

7. There is a problem with the tire on Mark's car.

8. The car will need a quart of oil when we reset the idle speed.

9. The car needs the muffler replaced.

10. The owner will pay for the wiper blade.

IV-E Grammatical Focus - Negatives

Exercise 1: Change the following sentences from positive to negative by adding not in the correct place.

Example: I will get the car. (positive) I will not get the car. (negative)

1. He did call this morning.

2. The car can be turned off.

3. The car does idle all right.

4. Manuel is the mechanic.

5. The work will be done today.

6. The car does run too slow.

7. The solenoid is all right.

8. The car is fixed in the shop.

9. Mark is the service writer.

10. Mike does have the parts.

IV-F Grammatical Focus - Questions

Exercise 1: Change the following statements to questions by inverting the word order.

Example: The 1974 Ford is blue. (statement) - Is the 1974 Ford blue? (question)

1. John will bring in the blue Ford tomorrow.

2. The ignition timing is to be checked.

3. The car ignition will turn off.

4. Mark did call in today.

5. Thuy was on vacation last week.

IV-H <u>Bài Tập Bổ Túc</u>:

1. Hãy gọi một người buôn, bán xe hỏi và cho họ biết bạn muốn trở thành người thợ máy.
2. Sau đó thăm và thảo luận với người buôn bán xe xem bạn cần phải huấn luyện những gì và hỏi họ về học vấn và kinh nghiệm bạn cần có cho 3 trình độ căn bản trong công việc sửa xe.

Mấy câu có thể giúp ích khi nói chuyện với người buôn xe:

Cần loại huấn luyện nào cho.....?

Chương trình huấn luyện mất bao nhiêu lâu.....?

Tôi có thể xin huấn luyện ở đâu.....?

Tôi cần phải làm việc với những dụng cụ nào.....?

Tiền lương và những quyền lợi.....?

6. The solenoid is defective.

7. The part was ordered from the warehouse.

8. The part is in stock now.

9. We will pick up the car tomorrow.

10. The work is to be done under warranty.

IV-G Reading:

Before you decide on becoming a mechanic, ask several employed mechanics about how they like the work. Ask them about their training and how much they may expect to earn.

IV-H Additional Exercises:

1. Call an automobile dealer and tell them you are interested in becoming an auto mechanic.

2. Then visit and discuss with the dealer what training you would need and ask him questions about the education and experience you need for the three basic levels in a service garage.

Structures that may be useful in the conversation with the dealer:

What type of training is needed for.....?
How long is the training program.....?
Where may I obtain the training for.....?
What tools will I need to work as.....?
The job salary and benefits are.....?

TRÌNH ĐỘ II

BÀI V

THỢ SỬA CÁC LOẠI MÁY NHỎ

V-A Mục Tiêu của Học Viên: nhận biết các bộ phận của một máy nhỏ và trở nên thông thạo trong cách dùng cuốn liệt kê các bộ phận máy.

V-B Ngữ Vựng:

1. một bộ phận chạy bằng hơi nước hay điện dùng để kiểm soát, giới hạn và làm đều tốc độ của một bộ máy.
2. "biên" (một loạt các cần nhỏ dùng để truyền sự chuyển động từ pít tông đến bánh xe.)
3. "pít tông" (một bộ phận hình ống tròn đặt trong một si lanh dùng để cung cấp sự chuyển động cho một bộ máy.)
4. nắp che bộ máy
5. "si lanh" (một bộ phận hình ống trong có pít tông.)
6. một loại bù loong (có ốc xoáy ở một đầu.)
7. sách chỉ dẫn
8. "doành" (một miếng kim khí mỏng, nhẹ dùng làm miếng đệm giữa ống si lanh và đầu ống si lanh để cho chắc và kín.)
9. tham khảo
10. bu gi
11. một nhóm bánh xe răng cưa chuyển động dây truyền dùng để điều chỉnh sự phát điện trong máy
12. "xú báp" (nắp mở hay đóng, ngăn hơi nhiên liệu trong ống si lanh.)
13. "cạt-bu-ra-tơ" (một bộ phận làm tan nhiên liệu với không khí, làm nhiên liệu thành những hạt nhỏ và kiểm soát nhiên liệu theo đúng như bộ máy cần.)

Level II

Lesson V

SMALL ENGINE REPAIRMAN

V-A <u>Student Objective</u>: The student will be able to identify the parts of a small engine & be familiar with the use of a parts manual.

V-B <u>Vocabulary</u>:

1. Tecumseh
2. governor
3. linkage
4. piston
5. housing
6. cylinder
7. bolt
8. manual
9. reference
10. gaskets
11. spark plug
12. timing gear
13. valve

14. sự mòn, hư đi

15. nhíp, lò so (ống nhún)

16. một loại máy nhỏ 3 mã lực dùng để chạy máy cắt cỏ, máy bơm, máy phát điện, v.v.

V-C <u>Bài Đối Thoại</u>:

Giữa Cathy và Xưởng. Cathy, người học việc, đang cần cái "governor spring" cho máy Tecumseh cô ta đang sửa. Xưởng là chủ tiệm và có kinh nghiệm lâu năm.

Cathy: Này Xưởng, anh có thể tìm giúp tôi cái "governor spring" cho máy Tecumseh LAV 30 tôi đang sửa đây không?

Xưởng: Cathy, thế cô có coi trong cuốn sách tham khảo hay cuốn chỉ dẫn các bộ phận máy không?

Cathy: Dạ không.

Xưởng: "cạt-bu-ra-tơ" của máy Tecumseh dùng "biên" và lò so khác thường, nên cần phải có bộ phận đúng nếu không máy sẽ bị giật khi sang số.

Cathy: À, nhìn vào cái bu-ơi tôi có thể nói là lò so của cái "governor" bị mất từ nhiều tuần nay vì thấy máy bị nóng và bị mòn quá nhanh Này Anh Xưởng, có lẽ anh phải dò xem ống si lanh và pít tông bị mòn thế nào.

Xưởng: Ý kiến hay lắm. Nếu thấy là máy bị hư vì quá nóng, mình cần phải tìm các đồ phụ tùng trong cuốn chỉ dẫn các bộ phận máy bằng cách dùng đúng số của loại máy và phải đo lại tất cả các bộ phận xem bị mòn ra sao.

Cathy: Thế tất cả các phụ tùng của máy Tecumseh LAV 30 không giống nhau hay sao?

14. carburetor

15. wear

16. spring

V-C <u>Dialogue</u>: Between Cathy and Mr. Xuong; Cathy is a trainee needing a governor spring for the Tecumseh engines she is repairing. Mr. Xuong is a shop owner with many years of experience.

Cathy: Mr. Xuong! I wonder if you could help me find the governor spring for the Tecumseh model LAV 30 which I am repairing.

Xuong: Cathy, did you look the part up in the quick reference manual, or in the parts manual?

Cathy: No.

Xuong: The Tecumseh carburetors use some unusual linkages and springs and it is important to have the correct one or the engine will not run smoothly when changing speeds.

Cathy: Well, I can see that from looking at the spark plug, the engine's governor spring has been missing for several weeks because the engine shows heat damage and a lot of wear. Maybe, Mr. Xuong, you should measure the cylinder and piston for wear.

Xuong: That is a good idea. If the engine shows heat damage, we will need to look up the parts from the engine service manual by using the specific engine type number and then measure the parts for wear.

Cathy: Aren't all the parts for a Tecumseh LAV 30 the same?

Xưởng: Không, có trên một trăm loại carburators và "biên" khác nhau dùng cho cái LAV 30 và có mấy loại "head gaskets" khác nhau nữa.

Cathy: Thế số của loại máy đóng ở đâu?

Xưởng: Thường đóng ở trên bộ phận bao máy.

Cathy: Thế những bộ phận bên trong máy của máy Tecumseh LAV 30 có giống nhau không?

Xưởng: Không, những bộ phận mà hãng Sears dùng có cái "timing gear" khác và một số carburators và dầu "xú-báp" cũng vậy. Như vậy mình phải tìm kiếm các bộ phận bằng số trước khi mình dò xem nó hư thế nào.

V-D <u>Bài Văn Phạm - Số nhiều</u>.

<u>Bài Tập 1</u>: Hãy đổi những chữ có kẻ dưới từ số ít sang số nhiều bằng cách thêm "s" hay "es."

<u>Thí dụ</u>: singular: engine

plural: engine<u>s</u>

Xuong: No. There are over 100 different carburetion and linkage spring combinations used on the LAV 30 and quite a few different head gaskets.

Cathy: Where is the type number stamped?

Xuong: Usually on the engine housing.

Cathy: Are the internal engine parts all the same on a Tecumseh LAV 30?

Xuong: No. On the ones used by Sears, the timing gears are different and so are some of the carburetors and valves. So we will have to look up the part by number before we can measure the part for wear.

V-D Grammatical Focus - Plurals

Exercise 1: Change the singular to plural by adding an s.

Example: (singular) engine (plural) engines

Teacher's Note: Vietnamese nouns are invariant. Plurals are formed by adding a word such as several, three, many, etc. Vietnamese speakers may therefore tend to ignore plural endings.

1. I want to find the correct governor spring.
2. We need the correct model number.
3. Did you check the cylinder for wear?
4. Did you check the head bolt?
5. We will need the Tecumseh service manual.
6. We will need to look up the part in the service manual.
7. Will you measure the piston for wear?
8. We need to replace the gasket.
9. Replace the gasket set on the carburetor.
10. Remove the spark plug.

V-E Bài Văn Phạm - Thể Phủ Định.

Bài Tập 1: Hãy đổi những câu sau đây sang Thể Phủ Định bằng cách thêm "not" vào đúng chỗ trong mỗi câu:

Thí dụ: Engines are easy to fix (positive)

Engines are not easy to fix (negative)

Bài Tập 2: Hãy đổi những câu sau đây sang thể Phủ Định bằng cách thêm do not, did not, hay does not khi cần:

Thí dụ: The carburator works well.

The carburator does not work well.

(Khi động tụ chính chia cùng với trợ động tụ, thì động - tụ chính ở ngôi thứ 3 số ít bao giờ cũng phải bỏ "s" đi.)

V-E Grammatical Focus - Negatives

Exercise 1: Change a positive statement to a negative statement by adding the word not to the sentence.

Example: Engines are easy to fix. (positive)

Engines are not easy to fix. (negative)

1. I can find the governor spring.
2. I can find the model number.
3. I did look in the quick reference manual for a part number.
4. We must measure the cylinder for wear.
5. The engine is damaged.
6. The number is stamped on the engine housing.
7. The governor assembly is complete.
8. Xuong can help Cathy find the governor parts.
9. Cathy can find the part by herself.
10. The head gasket must be replaced.

Exercise 2: Change the following statements from positive to negative by adding do not, does not and changing the verb form when necessary.

Example: The carburetor works well.

The carburetor does not work well.

1. Jack helped Thach with the piston.
2. Friction wears the cylinder.
3. Bob dropped the engine.
4. The old manual pages fall out.
5. We need that part.
6. Get lost!
7. The piston moves up & down.
8. The old gasket leaks.
9. The spark plug fires correctly.
10. I found the governor spring.

V-F Bài Văn Phạm - Thể Nghi Vấn (câu hỏi)

Bài Tập 1: Hãy đổi những câu sau đây sang Thể Nghi Vấn bằng cách đổi lại thứ tự của chữ hay là dung do, did hay does:

Thí dụ: The Tecumseh engine is a good engine.

Is the Tecumseh engine a good engine?

The carburator works well.

Does the carburator work well?

V-H Bài Tập Bổ Túc:

1. Hãy hỏi bất cứ người chủ tiệm chữa các loại máy nhỏ nào xem những sự trục trặc gì liên quan đến việc chữa máy nhỏ.
2. Hãy đi thăm một cửa tiệm và hỏi một công nhân xem điều kiện làm việc ra sao và cần phải huấn luyện những gì?

V-F Grammatical Focus - Questions

Exercise 1: Change the following statements to questions by inverting the word order or adding a form of do.

Examples: Statement: The Tecumseh engine is a good engine.

Question: Is the Tecumseh engine a good engine?

Statement: The carburetor works well.

Question: Does the carburetor work well?

1. The engine needs repair.
2. The cylinder shows wear.
3. The governor spring is missing.
4. Jack looked the part up in the manual.
5. The cylinder head is loose.
6. The linkages and springs are unusual on Tecumseh engines.
7. Cathy will measure the engine's cylinder for wear.
8. The Tecumseh LAV 30 parts are all the same.
9. The number is on the air shroud.
10. The Sears gaskets are all the same.

V-G Reading:

There are limited kinds of jobs available in the area of small engine repair but there are thousands of industries which use small engines in their production equipment and these engines need periodic servicing and repair. If you check the newspaper you may find job openings with large firms in the area of maintenance or mechanical repair. There are several engine manufacturer schools as well as educational institutions that offer training and programs in the service and repair of small engines.

V-H Additional Exercises

1. Check with any small engine shop owner and discuss with him what kind of problems are associated with small engine work.
2. Visit of a shop and check with an employee about working conditions and what type of training is needed.

Mấy câu có thể giúp ích khi nói chuyện với người chủ hay công nhân trong một tiệm sửa các loại máy nhỏ:

Cần phải loại huấn luyện nào...?

Phải được huấn luyện trong bao nhiêu lâu...?

Cần phải dụng cụ gì...?

Tôi muốn được làm việc như...

Có những cơ hội tiến thân nào...?

Structures that may be useful in the conversation with the employer or employee of a small engine service shop.

What type of training is required in ....?
How long does the training take....?
I would like to work as...?
What advancements are there....?

TRÌNH ĐỘ II

BÀI VI

NGHỀ ĐỌC HỌA ĐỒ

VI-A Mục Tiêu của Học Viên: hiểu nghĩa và tác dụng của một bản họa đồ; làm quen với danh từ dùng trong việc vẽ họa đồ.

VI-B Ngữ Vựng:

1. bản vẽ
2. số hay thước tỷ lệ
3. kích thước
4. cái thước
5. in
6. lối sắp xếp
7. các hàng kẻ
8. diện đồ
9. kiến trúc sư
10. người vẽ họa đồ (vẽ hình của một bộ máy
11. kích thước, cách đo lường
12. bằng 2 phân 54
13. bằng 30 phân 48
14. họa đồ, kế hoạch
15. đo
16. ráp lại
17. làm, vẽ, kiến trúc
18. xây dựng, cấu tạo, kiến trúc
19. vẽ
20. coi, xem, đọc (bản họa đồ)
21. cho thấy, chỉ
22. đúng
23. chính xác

VI-C Bài Đối Thoại:

Ellen: Bức họa anh đang vẽ trông lạ quá.

Phúc: Đúng ra không phải là một bức họa mà đó là bản họa đồ.

Ellen: Một bản họa đồ?

Phúc: Dạ. Bản họa đồ chỉ dùng một vật định làm, hay định xây dựng.

LEVEL II

LESSON VI

BLUEPRINT READING

VI-A Student Objective: The student will be able to understand the meaning and function of a blueprint. He will also gain some familiarity with the terminology used in blueprinting.

VI-B Vocabulary:

1. drawing
2. scale
3. dimension
4. ruler
5. print
6. layout
7. lines
8. elevations
9. architect
10. draftsman
11. measurement
12. inch
13. foot
14. plan
15. measure
16. assemble
17. construct
18. build
19. draw
20. read
21. show
22. exact
23. accurate

VI-C Dialogue:

Ellen: That is a very strange picture you are drawing.

Phuc: It's not really a picture. It's a blueprint.

Ellen: A blueprint?

Phuc: Yes. Blueprints show exactly how something is constructed.

Ellen: Anh định nói như một căn nhà?

Phúc: Một căn nhà, một cái máy hay một dụng cụ tất cả đều xây (kiến trúc) hay chế tạo theo bản họa đồ.

Ellen: Tôi nghĩ là tôi đã thấy một người thợ mộc dùng cái này.

Phúc: Rất nhiều người trong các ngành khác nhau dùng họa đồ. Không có nó gần như là không thể xây cất các cao ốc hay ráp các máy móc.

Ellen: Trông nó khó làm quá.

Phúc: Nó không khó khi mà cô đã được huấn luyện để thành người vẽ họa đồ hay kiến trúc sư.

VI-D Bài Văn Phạm - Chủ Từ/Thuộc Từ.

Trong mỗi câu có 2 phần chính gọi là: Chủ Từ và Thuộc Từ. Chủ Từ chỉ những vật mình nói. Thuộc Từ (hay Động Từ) chỉ những gì mình muốn nói về chủ từ. Nếu thiếu Chủ Từ hoặc Thuộc Từ, chúng ta sẽ không thể làm thành một câu.

Thí dụ: The architect showed the blueprint to the carpenter.

Subject: the architect - Predicate: showed

Bài Tập 1: Hãy kẻ một giòng kẻ dưới chủ từ và 2 giòng kẻ dưới thuộc từ trong những câu sau đây:

Thí dụ: Many different people use the blueprints.

Ellen: You mean like a house.

Phuc: A house, a machine, or a tool are all made from blueprints.

Ellen: I think I saw a carpenter use one of these.

Phuc: Many different people use blueprints. Without them it would be almost impossible to build buildings or assemble machines.

Ellen: Blueprints look very hard to make.

Phuc: They are not difficult once you have the training required to become a draftsman or architect.

VI-D Grammatical Focus - Subject-predicate

There are two basic parts in every sentence. They are called subjects and predicates. Subjects name the things we are talking about. Predicates (or verbs) carry the action. If either the subject or the predicate is left out, then we do not have a sentence.

Example: The architect showed the blueprint to the carpenter.
subject: architect predicate: showed

Exercise 1: In the following sentence underline the subject once and the predicate twice.

Example: Many different people use the blueprints.

1. The architect showed the blueprint to the carpenter.
2. The scale for the building was one inch for every ten feet.
3. The blueprint required 42 pages.
4. The measurements for the new church were not accurate.
5. The engineer inspected the new bolts.

VI-E Bài Văn Phạm - Đại Danh Từ.

Đại Danh Từ là một chữ thay cho danh từ. Thí dụ: The workers assembled the machine. Workers và machine là danh từ. Đại danh từ có thể được dùng để thay cho những danh từ này. Thí dụ: They assembled it. They là đại danh từ thay cho chữ workers và it là đại danh từ thay cho chữ machine.

Bài Tập 1: Hãy viết các câu sau đây và thay những danh từ có kẻ dưới bằng những đại danh từ sau đây: I, me, he, him, she, her, you, we, us, they, them, it.

6. The draftsman took 8 hours to finish drawing the blueprint.

7. The blueprint had to be redrawn.

8. Special measuring instruments are used to draw blueprints.

9. The blueprint showed the side of the house from top to bottom.

10. The thought of designing the new hospital excited the architect.

VI-E Grammatical Focus - Pronouns

The pronoun is a word that takes the place of a noun.

Example: Workers assembled the machine.

They assembled it.

"Workers" and "machines" are nouns. They is a pronoun which replaces workers; and it is a pronun which replaces the machine.

Exercise 1: Write the following sentences, replacing the underlined nouns with pronouns. A list of pronouns are as follows: I, me, he, him, she, her, you, we, us, they, them, it.

1. Bill turned on the light above the drafting table.

2. The architect showed the blueprint to the carpenter.

3. The machine could not be assembled because the blueprints were missing.

4. The foreman could see the whole layout of the first floor by looking at the blueprint.

5. The new machinist had trouble reading the blueprint.

6. Fifty copies of the new blueprint were printed.

7. A scale model of the new bank was assembled by Jim.

8. Blueprints are also referred to as plans.

9. The light was turned on over the drafting tables.

VI-F Bài Văn Phạm - Thì của động từ. Draw, drew, drawn

1) Dùng draw (present) chỉ những hành động hiện tại, đang xảy ra ngay lúc này.

2) Dùng drew (past) chỉ những hành động đã qua, một việc đã xảy ra rồi.

3) Dùng drawn cùng với trợ động từ như was, were, has, had hay là have.

Bài Tập 1: Hãy dùng đúng chữ drawn, drew hay drawn trong những câu sau đây.

Thí dụ: The draftman draws the blueprint.

VI-F Grammatical Focus - Verb Tenses

draw, drew, drawn

1. Use draw when you are talking about the present--what is happening right now.

2. Use drew when you are talking about the past tense--something which has already taken place.

3. Use drawn only with a helping verb such as was, were, has, had, or have.

Teacher Note: Vietnamese verbs are both invariant and limited. There are fewer tenses than in English and they are formed by the context of the sentence rather than verb modification.

Exercise 1: Write the sentence using the correct word: draw, drew, or drawn.

Example: The draftsman drew the blueprint.

1. The draftsman _____ the blueprint.

2. I will_____ a layout.

3. The foreman asked if the blueprint was _____.

4. How can she _____ without a pen?

5. The building was _____ to the correct dimensions.

6. _____ up the plans by tomorrow!

7. Can Howard _____ as well as Julie?

8. He _____ the bushing to full scale.

9. I wish I could _____ blueprints like an architect.

10. He could not read the blueprint he had _____.

VI-H Bài Tập Bổ Túc:

1. Hãy dừng lại ở một chỗ đang xây cất để hỏi xem bản họa đồ; cắt nghĩa bạn là học viên và muốn được quan sát xem cách dùng bản họa đồ thế nào.
2. Hãy đi thăm một lớp dạy vẽ họa đồ ở một trường kỹ thuật. Trở nên quen thuộc với các dụng cụ và đồ dùng mà người vẽ họa đồ cần dùng.

VI-G Reading:

Blueprints play a very important role in constructing or assembling a building or machine. In fact, without them it would be almost impossible. A blueprint is like a map which shows the carpenter or machinist exactly what materials should be used and where to put them.

The draftsman or architect plays a key role in society. We are all dependent upon their skill. They take an idea and are able to draw it exactly. Each curve, line, and figure must be accurate.

Training is required to become a good draftsman or architect. It is a most challenging and rewarding profession.

VI-H Additional Exercises:

1. Stop at a construction site and ask to see the blueprints. Explain that you are a student and would like to observe how a blueprint is used.

2. Visit a drafting class at a technical institute. Become familiar with the tools and instruments used by a draftsman.

TRÌNH ĐỘ II

BÀI VII

NGHỀ LÀM ĐỒNG XE HỞI

VII-A Mục Tiêu của Học Viên: hiểu được tất cả các giai đoạn sửa chữa xe bị hủ, gồm có: vỗ phẳng kim khí, làm cho nhẵn nhụi, mài, và kín các lỗ thủng. Học viên sẽ được huấn luyện đặc biệt về sửa sang che dấu các khuyết điểm, sơn, thay đồ phụ tùng và trang hoàng cho chiếc xe.

VII-B Ngữ Vựng:

1. chỗ móp
2. mạ kền
3. vẽ xe
4. sơn
5. lượn sóng, như gợn sóng
6. dụng cụ
7. trục để kéo vật gì nặng
8. tay cầm quay trong một bộ phận máy
9. kim khí
10. một phần, một bộ phận
11. giây cua-roa
12. chất dùng để mài nhẵn (như cát, giấy nhám)
13. mỏ hàn (giống chiếc súng)
14. đánh bóng
15. thay
16. trang hoàng
17. tiếng va chạm của sắt
18. hàn bằng một chất hợp kim
19. sắt
20. đúng
21. hãn
22. co lại
23. nắp ca pô
24. chỗ bị đụng

Level II

Lesson VII

AUTO BODY

VII-A Student Objective: The student will be able to understand all phases of repair on damaged cars, including metal straightening, smoothing, grinding, sanding, filling-in. Concealment of flaws, painting, and replacement of body parts and trim are stressed.

VII-B Vocabulary:

1. dent
2. chrome
3. fender
4. paint
5. ripples
6. equipment
7. windlace
8. turret
9. metal
10. component
11. belt line
12. abrasive
13. burp gun
14. finish
15. replace
16. trim
17. ding
18. braze
19. iron
20. bump
21. weld
22. shrink
23. deck lid
24. point of impact

VII-C Bài Đối Thoại:

Chủ Nhân: Được rồi, Joe, tôi sẽ cho anh một cơ hội để tỏ cho tôi xem anh biết những gì về làm đồng chiếc xe.

Joe: Dạ Ông muốn tôi phải làm những gì?

Chủ Nhân. Tôi sẽ bảo người đốc công chỉ cho anh sửa cái ca pô xe bị bẹp. Joe, tất cả dụng cụ để làm đồng treo trên tường về phía đông và các dụng cụ sửa máy ở trên tường phía tây.

Joe: Thế cái xe đâu?

Chủ Nhân: Ở ngoài sân, đó là cái xe Chevy 1972 màu đỏ. Tôi muốn anh tháo và thay cái nắp ở đầu xe và sửa sang chỗ bị hư hại và coi lại chỗ bị dụng.

VII-D Bài Văn Phạm - Chữ đồng âm.

Sau đây là nghĩa của ba tiếng đồng âm (đọc nghe như giống nhau.)

To: toward (về phía; và dùng để đặt trước một động từ chưa chia)

Too: also (cũng)

Two: the number 2 (số hai)

Bài Tập 1: Hãy đặt đúng những chữ trên vào các câu sau đây: "to", "too" hoặc "two":

Thí dụ: Are you going to the shop?

I would like you to go too.

Now there are two of us going.

VII-C Dialogue:

Potential employer: O.K. Joe, I'll give you a chance to show me what you know about auto body repair.

Joe: What would you like me to do?

Potential employer: I'll have my foreman assign you on a smashed deck lid. Joe, all auto body tools are located on the east wall and all mechanical tools are on the west wall.

Joe: Where is the car?

Potential employer: Out in the lot and it's a 1972 red Chevy. I want you to remove and replace the deck lid and treat damages. Also, check for the initial point of impact.

VII-D Grammatical Focus - Homophones

Meanings of three words that all sound the same (homophones):

to - toward or infinitive preceding a verb

too - also or

two - the number 2

Exercise 1: Write the sentence using the correct word: to, too, or two.

Examples: Are you going to the Shop?

I would like to go, too.

Now there are two of us going.

1. There are _____ dents in the right fender.
2. Does it need a paint job _____?
3. Do you have _____ use a burp gun?
4. The ripples were ironed out _____.
5. - 6. It's _____ expensive _____ paint all of the car again.
7. This truck has _____ have new chrome.

VII-F Bài Tập Bổ Túc:

1. Hãy gọi chủ các hãng có thể mướn mình như Chevrolet-Cadillac Inc., Buick-Open Co., Lincoln-Mercury Inc. v.v. Hãy ghi lại những nhân sự của người thợ làm đồng mà hãng đòi hỏi.

2. Đi thăm một xưởng của hãng và coi tất cả các công việc xem bạn có thích làm việc ở đó không.

Mấy câu có thể giúp ích trong những trường hợp trên:

Tôi có phải dùng dụng cụ của tôi để trở thành...?

Bao nhiêu lâu...?

Tôi muốn làm việc...

VII-F Additional Execrise:

1. Call potential employers, such as Chevrolet - Cadillac Inc., Buick - Opel Co., Lincoln Mercury Inc., etc. & inquire what their requirement are for auto body repairmen.

2. Visit the agency's shop and take a tour of the facilities to see if you would like to work there.

   Structures that may be useful in the situation:

   Do I have to supply my own tools to become....?
   Is training required to become a ...?
   How long...?
   I would like to work....?

Bài Tập 2: Hãy dùng chữ nào đúng trong các câu sau đây và chỉ rõ nó là danh tự, động tự hay tính tự. (Những chữ này có thể dùng như những danh tự, động tự và tính tự.)

Thí dụ: The (dent) section was fixed_____adjective_____

8. The trim has _____ separate parts.

9. The windlace is part of the roof_____.

10. Hammers are used _____ pound out dents.

These words can be used as nouns, verbs, and adjectives:

paint, dent, trim, iron, bump

Excerise 2: Write the sentence using the correct form of the word in parentheses and identify whether it is being used as noun, verb, adjective or adverb.

Examples: The _____(dent) section was fixed.

The dented section was fixed. (adjective)

1. The _____(dent) was filled and sanded.

2. Ripples on the fender had been_____ (iron).

3._____(paint) had spilled on the chrome.

4. Cars are commonly _____ (bump) in the fender.

5. The fender was _____(dent) by the truck.

6. The _____(paint) door was not the right shade.

7. Joe _____ (iron) the ripples.

8. The _____ (trim) was covered before the car was painted.

9. He _____ (dent) the door when he opened it.

10. The auto body repairman _____(trim) the chrome.

VII-E Reading:

Auto body is a never-ending job. There is a high demand for good auto body men. Pay rates vary according to auto brand names. Visit the agency you are interested in and decide if you like that kind of work. Find out if there is additional training provided by the company or on-the-job training. Finally, ask how much the job pays before you decide on a career as an auto body man.

TRÌNH ĐỘ II

BÀI VIII

CHUYÊN VIÊN XUYÊN PHIẾU

VIII-A Mục Tiêu của Học Viên: hiểu biết công việc của một chuyên viên bấm phiếu và công dụng của máy keypunch*

VIII-B Ngữ Vựng:

1. bấm thành lỗ thủng trên mặt phiếu
2. tấm phiếu
3. phiếu được bấm thành lỗ sẵn sàng để được dùng trong máy điện toán
4. bấm theo vần a, b, c
5. bấm theo số
6. việc làm có thứ tự lần lượt hay máy tính các công việc có thứ tự
7. máy đếm, kết toán điện tử
8. mặt của máy tính, máy chữ v.v.
9. kiểm lại cho đúng
10. hộp dựng phiếu
11. hộp dựng phiếu cho phiếu chạy thẳng vào máy
12. in
13. một cột
14. tự động
15. làm bằng tay; cuốn sách chỉ dẫn nhỏ
16. người điều khiển máy
17. máy tính điện tử rất tinh vi (giải đáp được những bài tính phức tạp)
18. sự khấu trừ
19. số phiếu của mỗi nhân viên

VIII-C Bài Đối Thoại:

Người Giám Thị: Ông/Bà có thể bấm vào những phiếu lường này không?

Xuyên Phiếu Viên: Thưa Ông cần bấm để ghi cái gì trên đó ạ?

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* *Keypunch machine: máy để bấm phiếu dùng trong máy điện toán (computer)*

LEVEL II

LESSON VIII

KEYPUNCH OPERATOR

VIII-A Student Objectives: The student will be able to understand the Operator's requirements and the function of the Keypunch machine.

VIII-B Vocabulary:

1. keypunch
2. card
3. program card
4. alphabetic punch
5. numeric punch
6. data processing
7. machine accounting
8. keyboard
9. verifier
10. card stacker
11. card hopper
12. print
13. column
14. automatic
15. manual
16. operator
17. computer
18. deduction
19. clock number

VIII-C Dialogue:

Supervisor: Can you keypunch these payroll cards?

Keypunch Operator: What would you like punched in them?

Người Giám Thị: Bà hãy bấm số phiếu của nhân viên, mục kết toán và số giờ họ làm việc vào những cột này.

Xuyên Phiếu Viên: Thưa Ông muốn bấm lên phiếu màu gì ạ?

Người Giám Thị: Bà bấm vào phiếu màu trắng, mình dùng phiếu màu xanh để ghi ngày nghỉ có ăn lương và màu vàng cho các khoản khấu trừ.

VIII-D Bài Văn Phạm - Số nhiều.

Bài Tập 1: Hãy đổi những danh tự có kẻ dưới sang số nhiều bằng cách thêm "s" (hay "es" vào những chữ tận cùng bằng x, ch, sh, s hay z):

Thí dụ:	singular:	card	singular:	dish
	plural:	cards	plural:	dishes

VIII-E Bài Văn Phạm - Thể Nghi Vấn (câu hỏi)

Bài Tập 1: Hãy đổi những câu sau đây sang thể nghi vấn bằng cách đổi chỗ của động tự chính hay thêm does:

Supervisor: Punch the clock number, the accounting data and the hours they worked in the columns shown.

Keypunch Operator: What color cards do you want them punched in?

Supervisor: Punch them on white cards, we use the blue cards for vacation pay and the yellow cards for deductions.

VIII-D Grammatical Focus - Plurals

Exercise 1: Change the underlined nouns to plural form by adding s or es. (Add es to words ending in x, ch, sh, s, or z.)

Teacher's Note: Vietnamese nouns are invariant. Plurals are formed by adding a word such as several, three, many, etc. Vietnamese speakers may therefore tend to ignore plural endings.

Example: Singular: card Singular: dish
Plural: cards Plural: dishes

1. Do not bend the card.
2. A program card is used to control the keypunch.
3. Which column should be punched?
4. The operator should work where there is good lighting.
5. She punched the wrong number.
6. Do not leave the work on top of the table.
7. Store the program card away carefully.
8. Keep the keyboard clean.
9. The cards will be run through the computer.
10. Information will be punched from the invoice.

VIII-E Grammatical Focus - Questions

Exercise 1: Change the following statements to questions by inverting the word order or adding a form of does.

Thi' du: There are 80 columns in this card.

Are there 80 columns in this card?

The keypunch operator types quickly.

Does the keypunch operator type quickly?

Examples: There are 80 columns in this card.
Are there 80 columns in this card?
The keypunch operator types quickly.
Does the keypunch operator type quickly?

1. The keypunch machine is used for punching holes in cards.

2. The program card tells the keypunch machine what you want it to do.

3. The program card is wrapped around the drum.

4. Blank cards are put into the card hopper.

5. The cards can be fed into the machine one at a time.

6. Both alphabetic and numeric information can be punched on the same card.

7. The punched cards will be used in machine accounting.

8. Telephone bills, gas and electric bills and government checks are some examples of punched card accounting.

9. Different colored cards are sometimes used for different jobs.

10. An incorrect card must be thrown away.

VIII-F Reading:

The keypunch machine, which has a keyboard similar to that of a typewriter, is used to put data, or information, onto cards in the form of punched holes. These cards are later fed into a computer to perform automatically the various operations essential to record keeping.

The machine is easy to operate. Automatic duplicating and skipping are obtained by setting up a program card. A card is punched and mounted on a program drum, which is inserted in the machine. Blank cards are put into the card hopper and can be fed manually or automatically into the machine to be punched.

There are 80 columns in a card. Each column has 12 punching positions: one each for digits 1 to 9, and one each for the zones 0, 11, and 12. The 11-zone punch is sometimes referred to as X. The digits are recorded by punching a single hole in the corresponding digit or zero position of the desired column.

A letter is a combination of one zone punch and one digit punch in the desired column. A special character is one, two or three holes in the desired column.

When a card is through being punched, it passes through the punch station and is fed into the card stacker.

VIII-G Bài Tập Bổ Túc:

1. Hay gọi phỏng nhân viên của bất cứ hãng nào có Ban Data Processing và nói cho họ biết bạn muốn trở thành chuyên viên keypunch. Hãy hỏi xem bạn cần huấn luyện về gì để làm việc đó.
2. Đi thăm sở tìm việc và hỏi họ xem những nhân viên keypunch đòi hỏi phải có khả năng gì?
3. Đi thăm một văn phòng và xin đi coi những tiện nghi làm việc của ngành "data processing" xem bạn có thích làm ở đó không.

Mấy câu có thể giúp ích cho cuộc đối thoại:

Có cần phải huấn luyện để trở thành...?

Bao nhiêu...?

Tôi cần phải biết đánh máy giỏi không...?

Tốc độ quan trọng thế nào...?

VIII-G Additional Exercises:

1. Call the employment office of any firm that has a Data Processing Dept. and tell them you are interested in becoming a keypunch operator. Ask what training you need for the job.

2. Visit the employment office and ask them what qualifications are required of their keypunch operators.

3. Visit an office and ask for a tour of their Data Processing facilities to see if you would like to work there.

Structures that may be useful in the situation:

Is training required to become a...
How much...
How good of a typist do I have to be...
How important is speed....

TRÌNH ĐỘ II

BÀI IX

NGHỀ BỌC NỆM XE VÀ TRANG HOÀNG CHIẾC XE

IX-A <u>Mục Tiêu của Học Viên</u>: trở nên thông thạo với một số ngữ vựng và công việc của người thợ bọc nệm.

IX-B <u>Ngữ Vựng</u>:

1. bọc nệm xe
2. lò xo
3. cái đai bằng vải hẹp, dệt dày để đỡ sức nặng, đặc biệt dùng khi nhồi bông vào nệm ghế
4. nhồi vào
5. đồ để nhồi gối, nệm
6. bông
7. một loại giấy sợi mềm màu trắng rất dai
8. vải vóc
9. cái khung
10. đồ đóng kẹp bằng điện
11. mỏ hàn bằng hơi nóng (hình giống như cây súng)
12. cao su mút dùng để nhồi nệm
13. chữ đồng âm (đọc giống nhưng nghĩa và viết khác nhau)
14. thương tích
15. hội
16. tranh luận, bàn cãi
17. bãi cỏ
18. vật liệu
19. liên lạc
20. sửa chữa
21. sửa lại
22. cột, buộc lại
23. đinh ngắn đầu dẹt dùng để đóng thảm hay nệm ghế
24. khâu
25. dánh vẹc ni, dánh bóng lại
26. nghỉ ngơ
27. chịu đựng, đau đớn
28. người thợ bọc nệm ghế
29. làm cho rối tung lên
30. việc bọc nệm
31. kích thước
32. ưa thích
33. vui vẻ
34. dị ứng
35. đình công

Level II

Lesson IX

UPHOLSTERY AND AUTO TRIM

IX-A Student Objectives: The student will become familiar with some of the vocabulary and duties of an upholsterer.

IX-B Vocabulary:

1. upholstery
2. springs
3. webbing
4. filling
5. cushion stuffer
6. cotton
7. sisal
8. fabric
9. frame
10. power stapler
11. heat gun
12. ply foam
13. homophones
14. injuries
15. association
16. argument
17. lawn
18. materials
19. contact
20. repair
21. fix
22. re-tying
23. tack
24. sew
25. refinish
26. suspect
27. suffer
28. upholster
29. tangle
30. upholstery (work)
31. measurement
32. favorite
33. merry
34. allergic
35. on strike

IX-C Bài Đối Thoại:

Fred liên lạc với tiệm bọc nệm của Long để sửa cái ghế ưa thích nhất của vợ anh ta.

Long: Chao Ba. Toi co the giup duoc gi khong a?

Fred: À, tôi đang tìm cách nhờ chữa lại cái ghế hư của bà xã tôi.

Long Để coi xem nó hư cái gì. Đúng, coi bộ như nó cần phải bọc lại.

Fred: Đồng ý, nhưng tôi không muốn tốn tiền quá nhiều vào việc này đâu.

Long: Được rồi, nhưng anh cần phải làm lại phần trong gồm có buộc lại mấy cái lò so, đặt thêm đai mới. Nó cũng cần phải nhồi thêm bông với đồ dùng để nhồi nệm này. Sau đấy tôi sẽ phải cho thêm ít sợi và bông vào tay ghế và đóng đanh chỗ vải bị bung ra. Khung ghế cần phải đánh bóng lại nhưng anh có thể làm lấy được nếu muốn.

Fred: Ừ, có lẽ tôi phải làm lấy tất cả và sẽ để dành được khá tiền đấy.

Long: Cái đó tùy anh, tuy nhiên tôi nghĩ là anh sẽ cần cái đồ đóng kẹp bằng điện, cái mỏ hàn nóng, đồ dùng để nhồi mặt nệm và mấy thứ dùng để đo. Anh cũng cần có loại cao su mút để nhồi và thuốc để đánh vẹc ni gỗ.

Fred: Thôi quên đi bạn, tôi không thể nào kiếm mấy thứ đó được. Thôi được rồi, vậy sửa mất bao nhiêu tiền?

Long: Có thể từ 10 đến 15 mỹ kim nếu anh có thể đánh vẹc ni lấy.

Fred: Được, tôi sẽ trả anh; nhưng hình như tôi chỉ cần một chút thực tập là làm được việc này.

Long: Đúng thế, anh có thể học ở trường chuyên nghiệp kỹ thuật, chương trình học về nghề bọc nệm và trang hoàng xe hơi.

IX-C Dialogue:

Fred contacts Long's Upholstery to have his wife's favorite chair repaired.

Long: Hello. May I help you?

Fred: Well, I'm trying to get some help fixing the wife's busted chair.

Long: Let's see what the problem is. Yes, it does look as though it will need some upholstery work.

Fred: Yeah, but I don't want to stick a lot of bread into this thing.

Long: Ok, but you're going need to have some body work done. That will include re-tying these springs and applying a new webbing. It will also need some more filling with this cushion stuffer, here. Then, I'll have to add some sisal and cotton to the arms and tack the fabric where it has come undone. The frame needs refinishing but you might want to do that yourself.

Fred: Yeh, and maybe I ought to do the whole job myself and save a bundle.

Long: That's up to you, although I think you'll need a power stapler, a heat gun, a cushion stuffer, and a few measurement items. You'll also need filling materials, ply foam, and wood finishing materials.

Fred: Forget it. I can't get that stuff together. All right, how much will it cost to get it fixed up?

Long: I'd say about ten to fifteen dollars if you can do the refinishing.

Fred: Ok, I'll pay you, but this looks like something I could do with a little training.

Long: Sure, and you can get it at Vocational Technical, in their Upholstery and Auto Trim training program.

IX-D Bài Văn Phạm - Chữ đồng âm.

Chữ đồng âm đánh vần hơi khó, vì nó đọc giống nhau nhưng nghĩa và cách viết khác nhau. Thí dụ: break (đánh bể)*

brake (cái thắng)

Bài Tập 1: Hãy chọn chữ nào đánh vần đúng cho những đồng âm dùng trong những câu sau đây:

Thí dụ: Tom was too low on his bid to refinish that chair for two dollars.

Bài Tập 2: Hãy dùng những chữ đồng âm sau đây để đặt thành câu.

Thí dụ: a) your: That power stapler will go on your next bill.

b) you're: You're much too tired to operate the heat gun safely.

IX-D Grammatical Focus - Homophones

Homophones present spelling problems because they sound alike but have different meanings and different spellings.

Example: Break - Brake

Exercise 1: Select the correct spelling for the homophones used in the following sentences.

Example: (to, two, too) Tom was too low on this bid to refinish that chair for two dollars.

1. Can Mr. Long fix the _____ and the seat on that wheelchair before he goes on _____. (break, brake)

2. That does not _____ the fact that the groom did not show up at the _____. (alter, altar)

3. Of _____ you'll have to use a fabric which is less_____. (coarse, course)

4. _____ no use to use the sisal for _____ filling. (its, it's)

5. The _____ in the pencil _____ the police to suspect the secretary. (led, lead)

6. One _____ suffered _____ injuries from the cave-in. (miner, minor)

7. _____ going to count _____ money over _____ by the telephone booth. (their, there, they're)

8. John _____ that information on to the _____ president of the association. (past, passed)

9. It is _____ to see why the _____ never got off the ground. (plain, plane)

10. There won't be a moment's _____ until they have a _____ of pie. (piece, peace)

Exercise 2: Make sentences using the homophones listed below.

Example: a) Your: That power stapler will go on your next bill.

b) You're: You're much too tired to operate the heat gun safely.

Bài Tập 3: Hãy chọn những chữ đồng âm cùng với những chữ có kẻ dưới để đặt thành một câu khác.

Thí dụ: a) a deer got tangled in the webbing of the lawn chair.

b) that rocker is very dear to me.

IX-E Bài Văn Phạm - Who/whom (relative pronouns: liên đại danh tự)

Who (ai; thay cho người nào) dùng cho chủ từ của động tự. Whom (của người nào) dùng cho túc từ (object) của động tự.

1. (who's, whose)

2. (made, maid)

3. (know, no)

4. (waist, waste)

5. (mail, male)

6. (blew, blue)

7. (hour, our)

8. (knot, not)

9. (sea, see)

10. (due, dew, do)

Exercise 3: Make another sentence using a homophone for the underlined word in each sentence.

Example: a) The deer got tangled in the webbing of the lawn chair.

b) That rocker is very dear to me.

1. The deer ran through the woods.

2. Don't you think they had a merry time?

3. He became very angry after he read the bill.

4. Your ply foam order will be in tomorrow.

5. If tacking it up will not work, I'll try to sew it.

6. Fred never had won an argument with Bob before today.

7. Hiep will need four more springs in that cushion.

8. Lana has not given us the right size staples for this stapler.

9. Did you see where Hal drove the stakes into the ground?

10. Your aunt will be expecting her sofa upholstered by Tuesday.

IX-E Grammatical Focus - Who/Whom

"Who" applies to the subject of the verb.

"Whom" applies to the object of the verb.

Bài Tập 1: Hãy dùng "who" hay "whom" trong khoảng trống của các câu sau đây:

Thí dụ: I did not know to whom the heat gun belonged.

Who will help with this safa?

IX-F Bài Văn Phạm - So sánh Hơn và Nhất.

So sánh hơn bằng cách thêm "er" hoặc "more". So sánh nhất bằng cách thêm "est" hoặc "most". Không bao giờ dùng er hoặc est cùng với những chữ more hoặc most.

Thí dụ:	weak (yếu)	fun	(vui thích)
	weaker (yếu hơn)	more fun	(vui thích hơn)
	weakest (yếu nhất)	most fun	(vui thích nhất)

Exercise 1: Write the sentences using the correct word: Who or Whom.

Examples: I did not know to whom the heat gun belonged.

Who will help with this sofa?

1. No-one has figured out to _____ Mrs. Long had talked regarding the power stapler.

2. _____ was that former employee _____ was allergic to the sisal?

3. Tach was one of the men_____ didn't think the chair could be refinished.

4. Many upholsterers _____ are on strike would rather be working.

5. Everyone _____is interested in enrolling in the Upholstery and Auto Trim course should see me now.

6. Mr. Long couldn't begin the stuffing until he knew _____ was going to pay for it.

7. The customer _____ will be here at noon should be charged for those two brown chairs.

8. Sell it to the first person _____ wants to buy it.

9. _____ did you say had borrowed the power stapler?

10. It was Robert_____ had asked you for _____ you had recovered those cushions.

IX-F Grammatical Focus - Comparatives & Superlatives

A comparison is formed by adding "-er" or "more". A superlative is formed by adding "-est" or "most." Never use the suffix -er or -est with the modifiers more or most.

Example:	weak	fun
	weaker	more fun
	weakest	most fun

Teacher's Note: Vietnamese adjectives are invariant. Comparatives and superlatives are formed only by adding a word such as more or most.

Bài Tập 1: Hãy chúa lại cho dúng nhưng chữ dưng sai bằng cách bỏ nhưng chữ thừa khi so sánh trưng 2 lần. Không cần phải dổi nhưng câu dúng.

Thí dụ: Mark's taking is more straighter than mine. more straighter

The thread is the most strong of all. strongest

IX-G Bài Văn Phạm - Cách dưng động tử bất qui tắc.

Bài Tập 1: Hãy viết dúng cách dưng của các động tử trong các câu sau dây:

Thí dụ: I had written up the charges before I knew who he was.

Exercise 1: When necessary, write the correct form of the incorrect modifiers, eliminating double comparisons. Do not change those sentences which are correct.

Examples: Mark's tacking is more straighter than mine. straighter

This thread is the most strong of all. strongest

1. This is the most loveliest fabric of the group.
2. The chair rocks more worse than before.
3. When he gets angry, his hammering becomes more loud.
4. Paul is the more faster stapler of the two.
5. The customer was more happier when Sally reduced the charges.
6. We were not sure which of the two filling materials would be more better to use.
7. Frank makes more fewer mistakes than anyone.
8. Duoc was most best at refinising.
9. Which one of the three chairs is more heavy?
10. Repairing the tears is the most costly of the work needed to be done.

IX-G Grammatical Focus - Irregular Verb Usage

Exercise 1: Write the sentence using the correct form of the verb in parentheses.

Example: (write) I had written up the charges before I knew who he was.

Teacher's Note: Vietnamese verbs are both invariant and limited. There are fewer tenses than in English and they are formed by the context of the sentence rather than verb modification.

1. (give) Yesterday Joe _____ me more work to do.
2. (break) The arm on the left side is _____.
3. (begin) The stuffing suddenly _____ to fall out.
4. (go) Had he _____ to lunch before you reached him?

5. (shrink) When I cleaned the fabric, it _____.

6. (freeze) The fact that the stuffing had _____ should not have made any difference.

7. (do) Have you _____ that type of sewing before?

8. (buy) Jack _____ the stain for the frame the same day.

9. (burst) Just as I finished tacking this side, the other_____ open!

10. (know) Fred should have _____ it would take longer than that that just to complete the upholstery work.

TRINH DO II

PHAN TAP DOC

BÀI I - Bạn có thích làm việc với người khác không? Trước khi quyết định chọn nghề ward clerk, bạn hãy tự hỏi xem mình có thích làm việc với người khác không? Bạn sẽ dùng một phần lớn thì giờ để nói chuyện với bệnh nhân, ghi các chi tiết về cá nhân họ để lập hồ sơ bệnh lý, nói chuyện với bác sĩ và y tá. Bạn có thể phải làm về ngành nhi khoa với con nít, hay là về sản khoa với các bà mẹ mới sanh. Một người ward clerk cần phải dễ dàng làm quen với đủ các loại người trong nhiều hoàn cảnh khác nhau. Những người đau ốm không phải lúc nào cũng luôn luôn dễ dàng giao thiệp với họ, và bạn cần phải có nhiều kiên nhẫn và thông cảm.

BÀI II - Một số chức vụ văn phòng có nhiều nhiệm vụ khác nhau, nhưng cũng có những chức vụ chỉ có một ít nhiệm vụ cứ lập đi lập lại. Hãy tập dượt những khả năng bạn sẵn có và tiếp tục trau giồi thêm - có thể có cơ hội lên chức từ công việc thường trong văn phòng đến những công việc quan trọng có số lương cao hơn. Hãy đọc mục quảng cáo tìm người mỗi ngày trong tờ báo địa phương để coi xem những điều kiện của các hãng và các công việc khác nhau.

BÀI III - Làm việc giỏi thì ở đâu cũng vậy. Một người hầu bàn giỏi không bao giờ thiếu việc làm. Cô ta có thể dùng sự thạo việc như là một nghề chính hay một nghề phụ hay là làm cho gia đình. Sự hiểu biết này cùng với sự tín nhiệm và thẳng thắn sẽ làm cho cô ta trở thành một công nhân có giá trị, thành công và được tin cậy.

BÀI IV - Trước khi bạn quyết định trở thành người thợ máy xe hơi, hãy hỏi thăm những người thợ đang làm xem họ có thích công việc đó không? Hỏi họ về việc huấn luyện của họ và họ có thể hy vọng kiếm được bao nhiêu tiền.

BÀI V - Mặc dù chỉ có một số hạn chế các loại công việc trong lãnh vực sửa chữa các loại máy nhỏ nhưng có hàng ngàn kỹ nghệ dùng các loại máy nhỏ trong dụng cụ sản xuất của họ và các máy này cần phải bảo trì và sửa chữa. Nếu coi trong báo hàng ngày bạn có thể tìm thấy các công việc làm trong các hãng lớn trong lãnh vực bảo trì và sửa chữa. Nhiều hãng chế tạo máy có trường để huấn luyện chuyên viên máy nhỏ và cũng có nhiều cơ quan giáo dục có những lớp với chương trình học về bảo trì và sửa chữa máy nhỏ.

BÀI VI - Bản họa đồ giữ một vai trò rất quan trọng trong việc xây cất một cao ốc hay ráp một bộ máy. Đúng ra, nếu không có nó sẽ không thể làm gì được. Một bản họa đồ cũng giống như một tấm bản đồ (địa dư), nó chỉ cho người thợ mộc hay người thợ máy phải cần những gì và đặt các đồ đó vào chỗ nào.

Người vẽ họa đồ hay kiến trúc sư giữ một vai trò quan trọng xã hội. Tất cả chúng ta đều phải tùy thuộc vào sự khéo léo, tài năng của họ. Họ lấy một ý kiến và họa nó ra thành hình một cách chính xác; mọi đường cong, đường thẳng và hình thể cần phải thật chính xác từng inch.

Người vẽ họa đồ và kiến trúc sư giỏi cần phải được huấn luyện. Đó là một nghề có rất nhiều sự thử thách và đem lại nhiều điều thích thú.

BÀI VII - Nghề làm đồng không bao giờ hết việc. Nó đòi hỏi những người thợ làm đồng giỏi. Tiền công thay đổi tùy theo hiệu xe. Hãy đi thăm đại lý của hãng nào bạn thích và quyết định xem bạn có thích công việc đó

không. Hỏi xem hãng có cho huấn luyện thêm không hay thực tập ngay trong công việc. Cuối cùng, hãy hỏi xem công việc được trả lương bao nhiêu trước khi bạn quyết định chọn nghề làm động xe hơi.

BÀI VIII - Máy xuyên phiếu có mặt máy giống như máy đánh chữ, dùng để ghi những kết toán, hay tin tức trên tấm phiếu trong hình thức những lỗ bấm. Sau đó những phiếu này được đưa vào máy điện toán để máy tự động thi hành những việc thiết yếu đến việc lưu trữ hồ sơ.

Máy dễ sử dụng. Việc chép lại bản chính và việc nhảy cách tự động làm bằng cách sắp đặt một phiếu kiểm soát. Một tấm phiếu được bấm và lắp vào "program drum" (một bộ phận tròn giống cái trống) để lắp vào máy. Phiếu trống để vào hộp đựng phiếu và có thể dùng tay hay tự động đưa vào máy để bấm.

Trên tấm phiếu có 80 cột. Mỗi cột có 12 chỗ để bấm, cho các số từ 1 đến 9 và các "vùng" 0, 11 và 12. "Vùng" 11 thỉnh thoảng được gọi là chữ X. Những số được ghi vào bằng cách bấm 1 lỗ đúng vào chỗ của nó hay chỗ của số 0 trong cột cần bấm.

Một chữ là một sự phối hợp của một "vùng" và một số trên cột. Mỗi số hay chữ sẽ được biểu lộ bằng 1, 2 hoặc 3 lỗ trong một cột.

Khi một tấm phiếu đã bấm xong, nó được chuyển từ nơi bấm qua một chỗ trong máy để cho vào hộp đựng phiếu.

BANG DO LUONG

U.S. TO METRIC

đơn vị đo lường Mỹ sang đơn vị thước tây

LENGTH — đơn vị chiều dài

	1 inch	=	25,0 ly
12 inches	= 1 foot	=	0,3 thước
3 feet	= 1 yard	=	0,9 thước
	1 mile	=	1,6 cây số

AREA — đơn vị diện tích

1 square inch	=	6,5 phân vuông
1 square foot	=	0,09 thước vuông
1 square yard	=	0,8 thước vuông
1 acre	=	0,4 mẫu tây
1 square mile	=	2,6 cây số vuông

MASS — đơn vị trọng khối

	1 grain	=	64,8 milligrams (mg)
	1 ounce	=	28 gam (g)
16 ounces	= 1 pound	=	0,45 ki lô gam (kg)
2000 pounds	= 1 short ton	=	9,071 ki lô gam

POWER — đơn vị động lực

1 horsepower (1 mã lực)	=	0,75 ki-lo watt

ENERGY — đơn vị nhiệt lượng

1 calorie	=	4,18 joules (j)

VOLUME — đơn vị thể tích

	1 cubic inch	=	16 phân khối
	1 cubic foot	=	0,03 thước khối
	1 cubic yard	=	0,76 thước khối
	1 teaspoon	=	5/1,000 lít
3 teaspoons	= 1 tablespoon	=	15/1,000 lít
	1 fluid ounce	=	30/1,000 lít
8 ounces	= 1 cup	=	0,24 lít
2 cups	= 1 pint	=	0,47 lít
2 pints	= 1 quart	=	0,95 lít
4 quarts	= 1 gallon	=	3,78 lít
2 gallons	= 1 peck	=	8,81 lít
4 pecks	= 1 bushel	=	0.04 thước khối

METRIC TO U.S.

đơn vị thước tây sang đơn vị đo lường Mỹ

đơn vị chiều dài — LENGTH

1/1,000 thuoc (mm)	=	0.04 inch
1 thước (m)	=	3.3 feet
1 thước	=	1.1 yards
1 cây số	=	0.6 mile

đơn vị diện tích — AREA

1 phân vuông (cm^2)	=	0.16 square inch
1 thước vuông (m^2)	=	11 square feet
1 thước vuông	=	1.2 square yards
1 mẫu tây (hectare*)	=	2.5 acres
1 cây số vuông	=	0.39 square miles

đơn vị trọng khối — MASS

1/1,000 gam (mg)	=	0.015 grain
1 gam (g)	=	0.035 ounce
1 ki lô (kg)	=	2.2 pounds
1 tấn	=	1.102 tons (short)

đơn vị động lực — POWER

1 ki-lo watt	=	1.3 horsepower (1 mã lực)

đơn vị nhiệt lượng — ENERGY

1 joule (j)	=	0.24 calorie

đơn vị thể tích — VOLUME

1 phân khối (cm^3)	=	0.06 cubic inch
1 thước khối (m^3)	=	35 cubic feet
1 thước khối	=	1.3 cubic yards
1/1,000 lít (ml)	=	0.2 teaspoon
1/1,000 lít	=	0.07 tablespoon
1/1,000 lít	=	0.03 ounce
1 lít (l)**	=	4.2 cups
1 lít	=	2.1 pints
1 lít	=	1.1 quarts
1 lít	=	0.28 gallons
1 lít	=	0.14 pecks
1 thước khối	=	28 bushels

* hectare bằng 10,000 thước vuông
** 1 lít bằng 1 tấc khối (dm^3)

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ABSTRACT: INTENDED FOR USE IN CLASSES OF ENGLISH AS A SECOND LANGUAGE, THIS CURRICULUM GUIDE IS PART OF A THREE-VOLUME SERIES DEVELOPED TO PROVIDE INDOCHINESE STUDENTS WITH LANGUAGE SKILLS NEEDED IN THE WORLD OF WORK. THE LESSONS PROVIDE AN OVERVIEW OF AVAILABLE VOCATIONAL PROGRAMS SO THAT STUDENTS INCREASE THEIR KNOWLEDGE OF CAREER OPPORTUNITIES AS THEY BECOME MORE PROFICIENT IN ENGLISH. THE LESSONS ARE DESIGNED TO INTRODUCE STUDENTS TO PROGRAMS IN WHICH THEY CAN BE SUCCESSFUL WITH VARYING DEGREES OF ENGLISH SKILLS, WITH THE PROGRAMS THAT REQUIRE THE LEAST SKILL INTRODUCED AT LEVEL I. THIS LEVEL III GUIDE CONTAINS LESSONS ON CLERK TYPIST, ACCOUNT CLERK, PRACTICAL NURSING, DATA PROCESSING, MECHANICAL DRAFTING, ELECTRONIC SERVICING, AND FOOD PREPARATION. EACH LESSON CONSISTS OF A VOCABULARY LIST WITH VIETNAMESE TRANSLATIONS OR EXPLANATIONS FOLLOWED BY A DIALOGUE PRINTED IN BOTH LANGUAGES WHICH FORMS THE BASIS FOR SUBSEQUENT EXERCISES AND DISCUSSIONS. INSTRUCTIONS ARE PRINTED IN BOTH ENGLISH AND VIETNAMESE. THE READING CONTAINED IN EACH LESSON PROVIDES FURTHER INFORMATION CONCERNING THE VOCATIONAL PROGRAM DISCUSSED IN THE LESSON. A FINAL SECTION INCLUDES SUGGESTIONS FOR DISCUSSION TOPICS, OUTSIDE ACTIVITIES, AND ADDITIONAL PRACTICE. (NJ)

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ENGLISH ON THE JOB

LEVEL III

VT 103 234

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ENGLISH ON THE JOB

Developed by

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ANH NGỮ TRONG CÔNG VIỆC

Lời Tựa

Văn Phòng Trợ Giúp Định Cư Wisconsin đã soạn tài liệu này để dùng cho các lớp dạy tiếng Anh như một ngoại ngữ (ESL) trong một chương trình đặc biệt được Uỷ Ban Giáo Dục, Chuyên Nghiệp và Kỹ Thuật Tráng Niên Wisconsin tài trợ. Việc soạn thảo và thực hiện chương trình đã được Cơ Quan Đặc Trách Người Tị Nạn Đông Dương South Carolina và Đài Phát Thanh WHA giúp đỡ. Những bài học này được thâu thập từ những tài liệu giảng dạy của Uỷ Ban Giáo Dục với sự cộng tác của các trường chuyên nghiệp quận.

Những bài này được soạn ra với mục đích để giúp các học viên Đông Dương làm quen với ngôn ngữ đặc biệt dùng trong các công việc chuyên môn và hiểu biết tổng quát những chương trình chuyên nghiệp sẵn có. Khi dùng tài liệu này học viên sẽ biết thêm về nghề mà mình muốn học đồng thời cũng sẽ học thêm Anh ngữ.

Chương trình này được thực hiện để giúp các học viên có trình độ Anh ngữ khác nhau, thích hợp với trình độ của từng cá nhân; những phần ít đòi hỏi Anh ngữ được trình bày ở Trình Độ I. Một số bài như 'Health' và 'Food Preparation' sẽ giúp cho học viên mở mang tầm hiểu biết.

Các giảng viên sẽ bổ túc các bài học với những buổi hội thảo, chiếu phim, các tài liệu liên hệ, thuyết trình, thăm viếng các phòng thực tập và các cơ xưởng kỹ nghệ. Trong một vài trường hợp, "công việc mẫu" (work sample) có sẵn tại các trường chuyên nghiệp có thể được dùng như một kinh nghiệm sẵn có.

Giảng viên cũng nên dùng cuốn "Indochinese Refugee Education Guides" do Trung Tâm Ngôn Ngữ Học Ứng Dụng soạn. Những tài liệu này nói rõ những khó khăn đặc biệt mà học viên Việt Nam sẽ gặp phải khi học Anh ngữ và cũng cho nhiều thí dụ rất hay trong cách tập phát âm.

ENGLISH ON THE JOB

Introduction

The materials in this series of lessons have been developed by the Wisconsin Resettlement Assistance Office for use in English as a Second Language classes under a special project funded by the Wisconsin Board of Vocational, Technical and Adult Education. They were developed and produced with the assistance of the South Carolina Indochina Refugee Agency and WHA radio. The written texts are based upon materials originally developed by the State Board in cooperation with its districts.

The texts are designed to provide Indochinese students with language skills needed in the world of work, along with an overview of available vocational diploma programs. Students using these materials will increase their knowledge of career opportunities as they become proficient in the use of English.

An effort has been made to introduce students to programs in which they could be successful with varying degrees of English skill, with those programs requiring the least skill being introduced at Level I. In some instances, notably Health and Food Preparation, there are opportunities for a wide range of proficiency. These units were prepared on all three levels.

It is expected that teachers will supplement these units through discussion, films or film strips, related materials, resource speakers, visits to labs, and industrial tours. In some instances, the work samples available through vocational schools can be used as a "hands on" experience in the unit.

It is also highly recommended that the teacher make use of "Indochinese Refugee Education Guides" developed by the Center of Applied Linguistics. These materials illustrate the unique problems which the Vietnamese student will have in learning English and provide useful samples for use in phonic drills to improve pronunciation .

The vocational English texts and accompanying tapes have been designed to provide a maximum degree of flexibility for students and teachers. They may be used in a general ESL classroom for all foreign students, in a self-contained classroom for Vietnamese students, or in a tutorial program. Vietnamese students can use them on their own with minimal guidance. However, whenever possible, we recommend that these materials be supplemented by substantial amounts of spontaneous conversation.

Students with a fair degree of general English competency and an established career goal may wish to concentrate upon those lessons which deal with, or are related to, their vocational interests. They can thereby become familiar with many of the technical terms and jargon which are essential to every job, but which do not appear in many dictionaries and most ESL texts.

Những bài học Anh ngữ chuyên nghiệp kèm theo bằng ghi âm sẽ giúp cho sự giảng dạy trở nên linh động tối đa; có thể được dùng chung trong các lớp ESL cho các học viên ngoại quốc, trong một lớp dành riêng cho học viên Việt Nam, hay trong các chương trình dạy nghề. Học viên Việt Nam cũng có thể tự học bằng tài liệu này sau khi được hướng dẫn sơ qua. Tuy nhiên, nếu có thể, tài liệu này cần phải được bổ túc bằng các cuộc đối thoại tự nhiên.

Học viên với trình độ Anh ngữ trung bình và định theo một nghề nhất định có thể chăm chú vào những bài học liên quan đến môn chuyên nghiệp mình thích. Như vậy mới có thể quen thuộc với nhiều danh từ kỹ thuật và tiếng lóng rất cần thiết cho mọi nghề và những danh từ này không có trong các tự điển và trong các bài học ESL khác.

Trong mỗi bài học, học viên sẽ được hướng dẫn về cách đặt câu Anh ngữ, từ cách dùng động tự, cách bớt vần (Thể Tĩnh Lược), v.v. trong Trình Độ I cho đến cách dùng trạng tự và tĩnh tự trong Trình Độ III. Giảng viên sẽ bổ túc bài học bằng cách dùng bản ngữ vựng để đặt câu và thực tập đối thoại.

Mỗi bài gồm có bảng ngữ vựng với phần cắt nghĩa và dịch sang tiếng Việt. Nhiều danh từ kỹ thuật không có chữ tương đương bằng tiếng Việt, vì tân kỹ thuật học mới có tại Việt Nam lúc gần đây mà thôi, nên mỗi tiếng có câu cắt nghĩa vắn tắt. Phần lớn học viên Việt Nam quen dùng cách học thuộc lòng nên những bảng ngữ vựng này dài hơn những bảng trong các bài ESL khác. Nếu học viên không học hẳn một ngành riêng biệt nào thì số ngữ vựng chuyên nghiệp này có thể dùng để tham khảo hơn là phải học thuộc lòng.

Sau mỗi bảng ngữ vựng là một bài đối thoại dùng làm căn bản cho những bài tập và thảo luận.

Bài đối thoại cũng được dịch sang tiếng Việt , như vậy học viên có thể

With each unit is a structural English lesson ranging from verb usage and contractions, in Level I to the use of adverbs and adjectives in Level III. Teachers will supplement the unit by using the vocabulary list for sentence writing and conversation practice.

Each lesson contains a Vocabulary List with Vietnamese translations or explanations. Since modern technology has only recently been introduced in Viet Nam, many technical terms do not have Vietnamese equivalents and a brief explanation of the term has therefore been provided. Most Vietnamese students are used to a great deal of memorization, so lists are longer than would be expected in most American texts. If the student will not be active in a particular field, some of the technical vocabulary may be used as reference, rather than memorization material.

Following each vocabulary list is a Dialogue which forms the basis for subsequent exercises and discussions. This is printed in both English and Vietnamese so that the student may be completely confident in his or her understanding of the subject matter. However, students should use this and all other translated material only when necessary.

Each lesson contains several Exercises which expand upon the subject matter of the dialogue. Exercise instructions are printed in both English and Vietnamese. When necessary, Teachers' Notes and Students' notes have been included and are printed in italic. Teachers' Notes are printed only in English and Students' Notes are printed only in Vietnamese. These notes explain the grammatical differences between the two languages and will help both teachers and students cope with the special problems which Vietnamese students face when learning English.

The Reading contained in each lesson provides further information concerning the vocational program discussed in the lesson. Students should read it aloud and to themselves and discuss it in class. If a particular Reading presents comprehension problems, the student may turn to the back of the book where the Readings have each been printed in Vietnamese.

The final section in each lesson contains suggestions for discussion topics, outside activities and additional practice. Teachers may find it difficult to draw Indochinese students into classroom discussions. Vietnamese education is based upon the old European model of the student as a passive recipient of information . The student may therefore feel very uncomfortable when encouraged to question, discuss, challenge and argue with classmates and the teacher. Use discussions with other class members to demonstrate to Vietnamese students that this behavior is appropriate and expected, then gradually encourage Vietnamese students to participate in these conversations.

Each lesson has a corresponding tape which includes the Student Objective, Vocabulary, Dialogue, and Reading sections. The directions for each tape are

tin là đã hoàn toàn hiểu thấu bài học. Tuy nhiên, học viên chỉ nên dùng bài này và tất cả những tài liệu phiên dịch khác khi cần mà thôi.

Mỗi bài học sẽ gồm nhiều bài tập với mục đích giúp cho học viên quen cách đối thoại. Cách dẫn giải làm bài tập được in bằng cả tiếng Anh lẫn tiếng Việt. Khi cần, chú thích cho giảng viên và học viên được in bằng chữ nghiêng; chú thích cho giảng viên in bằng tiếng Anh và cho học viên thì bằng tiếng Việt. Những lời chú thích này cắt nghĩa những mẹo khác nhau của văn phạm giữa hai ngôn ngữ và sẽ giúp cho cả giảng viên cũng học viên biết cách tránh những khó khăn đặc biệt mà học viên Việt Nam sẽ gặp phải khi học Anh ngữ.

Bài tập đọc trong mỗi bài học giúp thêm những chi tiết liên quan đến chương trình chuyên nghiệp đã được nói đến trong bài học. Học viên cần phải đọc to lên và thảo luận về bài tập đọc đó. Nếu có một bài tập đọc nào đặc biệt khó hiểu học viên có thể xem phần dịch sang tiếng Việt in ở cuối cuốn sách.

Đoạn cuối của mỗi bài học có những đề nghị cho các đầu đề của cuộc thảo luận, thực tập thêm bên ngoài và những bài tập bổ túc. Giảng viên có thể gặp khó khăn khi muốn học viên Đông Dương tham dự vào các cuộc thảo luận: giáo dục tại Việt Nam theo phương pháp ngày xưa nên học sinh rất thụ động trong việc học hỏi. Học viên có thể cảm thấy bối rối khi được khuyến khích trả lời các câu hỏi, thảo luận, phản đối và bàn cãi với học viên cùng lớp hay với giảng viên. Giảng viên nên dùng những buổi thảo luận với các học viên để giúp cho học viên Việt Nam thấy đó là một hoạt động thích hợp trong các lớp học tại Hoa Kỳ và dần dần khuyến khích họ tham gia vào các cuộc đối thoại.

Mỗi bài học có kèm theo một cuốn băng gồm có các phần Mục Tiêu của Học Viên, Ngữ Vựng và Tập Đọc. Những phần hướng dẫn đều được thâu bằng cả tiếng Anh lẫn tiếng Việt. Phần Ngữ Vựng và Đối Thoại chỉ có bằng tiếng Anh và

provided in both English and Vietnamese. The Vocabulary and Dialogues are in English only with pauses for student responses. These tapes allow the student to practice verbal comprehension and expression on his own. They may be stopped and replayed until the student is confident in his work. A native speaker should check the student's pronunciation frequently to insure that mistakes are not being repeated. Except for Lesson II-IX and Lesson III-VII (which must be rewound), each tape should be allowed to run its full length so that it will be at the beginning when turned over.

người đọc sẽ ngưng lại sau mỗi câu và mỗi chữ để học viên có thì giờ nhắc lại. Những cuốn băng này giúp cho học viên thực hành bằng cách tự đặt câu và bài kiểm. Học viên có thể cho băng ngưng và chạy lại cho đến khi nào hoàn toàn tin tưởng là mình đã hiểu thấu bài học. Giảng viên cần phải luôn luôn nghe lại cách phát âm của học viên để chắc chắn là họ không nhắc lại những lỗi đã phạm. Trừ bài học IX trong Trình Độ II và bài VII trong Trình Độ III (băng cần phải được quay lại vì chỉ thâu có một mặt) mỗi cuốn băng phải cho chạy hết để khi lật qua mặt bên kia, bài học kế tiếp sẽ bắt đầu.

ANH NGỮ TRONG CÔNG VIỆC

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ENGLISH ON THE JOB

LEVEL III

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TRÌNH ĐỘ III

CÔNG VIỆC THƯ KÝ VĂ VĂN PHÒNG

Tất cả các phương pháp ghi chép và kế toán đều liên quan đến việc lưu trữ hồ sơ, sổ sách. Máy điện toán hoạt động cùng với một số các máy khác trong văn phòng đưa đến kết toán. Máy điện toán có khả năng ghi nhận một số lớn tin tức và giải những bài toán phức tạp rất nhanh chóng. Nhiều trường chuyên nghiệp có dạy về máy điện toán trong các chương trình kế toán và phương pháp "data processing."

Thư Ký Kế Toán: phải học những nhiệm vụ cần thiết trong việc ghi chép hồ sơ của bất cứ ngành thương mại nào, qua cách thực hành kỹ thuật căn bản về việc lưu trữ hồ sơ kế toán.

Chuyên viên máy "data processing" phải học cách điều khiển máy để đưa các tin tức vào máy điện toán và máy dùng để thu lại những tin tức từ máy điện toán.

LEVEL III

Secretarial & Office

All data and accounting system are involved with the keeping of records. The computer works with a number of other office machines to process data. Fast and capable, the computer handles large amounts of information, and carries out complex orders. At many vocational schools, there is a study of computers in the Accounting program as well as in Data Processing.

Account Clerk: The student learns to perform the duties essential to record keeping in any business, through the practical application of basic bookkeeping and accounting skills.

Data Processing Machine Operator: The student learns to operate the equipment that feeds information into the computer, and equipment used to recover information from the computer.

TRÌNH ĐỘ III

BÀI I

THƯ KÝ ĐÁNH MÁY

I-A Mục Tiêu của Học Viên: biết rõ các công việc và nhiệm vụ của người thư ký đánh máy và trở nên thông thạo trong cách sử dụng các danh từ trong công việc.

I-B Ngữ Vựng:

1. Máy đánh chữ
2. một loại máy ghi âm người thư ký dùng để nghe và đánh máy lại
3. giấy tăng sin (một loại giấy đánh máy để quay rô-nê-ô)
4. giấy than dùng để làm bản sao
5. ký hiệu
6. thư tín
7. sự vụ văn thư; sổ để ghi nhớ
8. tốc ký
9. người thư ký tiếp khách
10. tài liệu
11. chuyển dịch; chép lại
12. đọc lại cho đúng
13. tính toán với các con số
14. xếp vào hồ sơ
15. phân phối
16. góp nhặt tài liệu
17. thư từ; gởi thư
18. soạn ra
19. đọc cho người khác viết
20. bản báo cáo; báo cáo
21. theo rõi
22. hãng
23. tham chiếu
24. một vài cái
25. tổng đài điện thoại

I-C Bài Đối Thoại:

George (Trưởng Phòng): Cô đã thâu thập tài liệu và đánh máy xong cái báo cáo tôi đưa cô sáng nay chưa?

Thu Dung (Thư Ký Đánh Máy): Dạ, tôi đang định trình Ông ký để gửi đi.

Level III

Lesson I

CLERK TYPIST

I-A Student Objective: The student will be able to identify the functions and duties of clerk typists and be familiar with the terms used on the job.

I-B Vocabulary:

1. typewriter
2. dictaphone
3. stencil
4. carbon copy
5. notation
6. correspondence
7. memorandum
8. shorthand
9. receptionist
10. documents
11. transcribe
12. proofread
13. compute
14. file
15. distribute
16. compile
17. mail
18. sort
19. dictate
20. report
21. follow-up
22. firm
23. reference
24. a couple
25. telephone switchboard

I-C Dialogue:

George:
(Office Manager) Have you finished compiling and typing the report I gave you this morning?

Thu Dung:
(Clerk Typist) Yes, I was just about to ask you to sign it so I could mail it.

George: Cô có làm bản sao để lưu vào hồ sơ của mình không? có thể tôi sẽ phải theo rõi bài báo cáo.

Thu Dung: Dạ, tôi đã làm một bản sao và xếp vào cùng với các báo cáo khác. Tôi muốn coi lại cho chắc chắn xem địa chỉ của hãng này có đúng không.

George: Phải, địa chỉ đó đúng. Cô làm ơn ghi lại danh hiệu của hãng để tham chiếu sau này. Cô đánh máy luôn hộ địa chỉ lên bao bì và gửi đi ngay hôm nay. Cô đã lựa tất cả thư ra chưa?

Thu Dung: Dạ rồi, thư của Ông đây.

George: Tôi sẽ đưa thêm vài cái báo cáo và một ít tin tức để cô gửi đi chiều nay.

Thu Dung: Thưa Ông vâng. Buổi hẹn tới của Ông vào lúc 11 giờ 15.

George: Cảm ơn Cô.

I-D <u>Bài Văn Phạm: Cách chấm câu.</u>

Các dấu chấm câu ở cuối mỗi câu chỉ câu đó thuộc loại nào.

<u>Thí dụ</u>: 1) I typed a letter.

(dấu chấm (.) đứng sau một câu xác định)

2) Did you type the letter yesterday?

(dấu chấm hỏi (?) đứng sau một câu hỏi)

3) What a beautiful day !

(dấu chấm than (!) đứng sau một câu diễn tả cảm xúc hoặc cảm giác)

<u>Bài Tập 1</u>: Hãy đứng đúng chấm câu trong các câu sau đây:

<u>Thí dụ</u>: Sign your name on the last line of the letter.

George: Did you make a carbon copy for our files? I might have to do some follow-up work on the report.

Thu Dung: Yes, I made a carbon copy and filed it with the other reports. I did want to check to be sure the address of this firm was correct.

George: Yes, it is correct. Please make a notation of the address for future reference. Please address the envelope and mail it today. Have you sorted all the mail yet?

Thu Dung: Yes, here is your mail.

George: I will have a couple more reports and some information for you to mail this afternoon.

Thu Dung: Yes, sir. Your next appointment is for 11:15.

George: Thank you.

I-D Grammatical Focus - Punctuation

Punctuation marks at the end of a sentence indicate what type of sentence it is.

Examples:

1. I typed the letter. (The period (.) is used after a statement.)

2. Did you type the letter yesterday? (A question mark (?) is used after a question is asked.)

3. What a beautiful day! (An exclamation mark (!) is used after a sentence which expresses strong emotion.)

Exercise 1: Write or type the sentences using the correct punctuation.

1. Sign your name on the last line of the letter__

2. Did you answer the telephone__

3. Did you fill out an application form__

4. I mailed three tickets to the office yesterday__

5. This is a great job__

Người thư ký đánh máy cũng cần phải biết thêm một số các dấu chấm câu khác như dấu phẩy, dấu phẩy (') và dấu ngoặc kép "..."

1. Dấu phẩy (,) có nhiều cách dùng dấu phẩy. Ở đây chúng ta sẽ tập cách dùng dấu phẩy khi viết ngày tháng và các chữ số. Bạn hãy đặt dấu phẩy vào giữa chữ ngày (trong tháng) và năm. Thí dụ: January 1, 1967. Ở Hoa Kỳ, tháng luôn luôn viết trước, tiếp theo là ngày rồi đến năm. Nếu không có ngày, bạn hãy đặt một dấu phẩy giữa chữ tháng và năm. Thí dụ: January, 1967. Bạn hãy đặt một dấu phẩy giữa chữ ngày trong tuần và chữ tháng của năm. Thí dụ: Sunday, January 1, 1967. Người Mỹ chia từng nhóm 3 chữ số bằng cách dùng dấu phẩy. Cho nên, một triệu viết là 1,000,000. Dấu phẩy dùng trong tiếng Việt để phân cách các số lẻ được thay bằng một dấu chấm trong tiếng Mỹ. Như vậy, hai và lẻ mười hai viết là 2.12 ở Hoa Kỳ.

2. Một dấu phẩy (') dùng cho một chữ bớt vần hay để chỉ quyền sở hữu. Thí dụ: Can't, don't - Mary's typewriter, Joe's job.

3. Dấu ngoặc kép ("...") để chỉ một dẫn chứng trực tiếp hay muốn nhắc lại đúng những câu nói của ai. Thí dụ: The President of the firm said: "our business has shown a marked increase in profit in the last six months." - "Mary, did you finish filing all the reports?" asked Louise.

Bài Tập 2: Hãy đặt những chấm câu cần thiết trong những câu sau đây. Hãy coi kỹ những dấu cần thiết ở giữa câu và cuối câu.

Thí dụ: . can't be present at the meeting on Saturday

I can't be present at the meeting on Saturday, April 30, 1967.

6. She is always on time for her job__

7. Do you like to operate the telephone switchboard__

8. I made a notation on line 14__

9. Did you proofread the letter before you mailed it__

10. I didn't know how to spell memorandum, so I looked it up in the dictionary__

The clerk typist also needs to know some additional punctuation marks. These are the comma, apostrophe, and quotation marks.

Examples:

1. Comma, (,) There are many uses for the comma. We will work here with placing commas in the correct position when writing dates and numerals. Place a comma between the day of the month and the year. In the United States the month is always written first, followed by the day and then the year. Place a comma between the name of the day of the week and the month of the year. American numerals are grouped in threes using commas. Thus, one million is written 1,000,000. The comma, which is used in Vietnamese to separate whole numbers from fractions, is replaced by a decimal point. Thus, two and twelve hundredths is written as 2.12 in the United States.

   January 1, 1967
   January, 1967
   Sunday, January 1, 1967

2. An apostrophe (') is used in making a contraction or in showing ownership.

   can't don't doesn't Mary's typewriter Joe's job Mr. Jones' desk

3. Quotation marks (" ") are used when the clerk typist wishes to type a direct quote (type the exact words that someone said). Quotation marks show that it is a direct quote.

   The president of the firm said, "Our business has shown a marked increase in profit in the last six months."

   "Mary, did you finish filing all the reports?" asked Louise.

Exercise 2: Put all the needed punctuation marks in the following sentences. Watch for needed marks within and at the end of the sentences.

1. I cant be present at the meeting on Saturday April 30 1976

2. Sue, please file this report, said Mr. Brown

3. The receptionists notebook was lost

I-F <u>Bài Tập Bổ Túc</u>:

Bạn Hãy liên lạc với Sở Tìm Việc của tiểu bang hay những cơ quan tìm việc khác trong vùng bạn ở. Hãy hỏi họ bản liệt kê các chỗ thư ký đánh máy trong vùng của bạn. Hãy cắt nghĩa công v iệc hiện thời của bạn, sự huấn luyện trước kia, khả năng và mục đích của bạn. Nhờ họ hướng dẫn bạn và hỏi các chương trình huấn luyện có sẵn để làm gia tăng khả năng của bạn. Bạn cần phải có một bản đầy đủ các chi tiết về kinh

4. Dont you know how to operate the dictaphone

5. Did you proofread the Monday April 5th report

6. What important meeting begins on Wednesday May 10 1976

7. The receptionists handwriting was very legible

8. Mrs Thuys secretary has been very helpful

9. I cant leave for lunch until I finish compiling this information

10. Jan said I enjoy the work very much, Mr. Harris

I-E Reading:

If you have had some clerical skills and have a knowledge of typing, some additional training may well qualify you for a clerk-typist job.

The clerk-typist position will vary depending upon the type and size of the office you work in. Typical duties include compiling and typing reports, filing records and reports, posting information, sorting and distributing mail, answering the telephone, using adding machines, typing stencils, addressing envelopes, and operating telephone switchboards.

A wide range of offices employ clerk-typists. Be sure to keep in touch with state employment services and other agencies for a list of possible positions.

You should visit several offices to observe the kinds of duties that are expected of a clerk-typist, the pay scale, and the "atmosphere" of the office.

Training programs are available from vocational schools and other agencies. Choose a training program that will qualify you for the type of clerk-typist job you feel you would most like to have.

I-F Additional Exercises:

Contact the State Employment Service or other employment agencies in your area. Ask for a listing of clerk typists' positions in your area. Explain your present employment, your previous training, your skills, and your goals. Ask them for recommendations and training programs available to increase your skills. You will need to have a detailed account of your work experience and your education. If training programs are available, find out if you qualify for them. Determine how long they take and the times they begin. Be sure to have goals in mind so you are prepared to answer all questions.

nghiệm và học vấn của bạn. Nếu đã có sẵn những chương trình huấn luyện, hỏi xem bạn có đủ điều kiện theo học không? Xem kỹ chương trình huấn luyện mất bao nhiêu lâu, và khi nào khai giảng. Bạn nên nghĩ sẵn mục đích để có thể trả lời tất cả các câu hỏi.

Mấy câu có thể giúp ích cho cuộc đối thoại:

Tôi muốn xin một bản liệt kê...

Tôi có.....sau đây.....

Tôi đã nói chuyện với...

Có sẵn chương trình huấn luyện gì không...?

Bao nhiêu lâu? Làm thế nào để hội đủ điều kiện?

Tôi có thể hỏi thêm chi tiết ở đâu?

Structures that may be useful in the situation:

I would like a listing...
I have the following...
I talked to...
Are there any training programs available?
How long? How do I qualify?
Where can I get more information?

TRÌNH ĐỘ III

BÀI II

ACCOUNT CLERK (Thư Ký Kế Toán)

II-A Mục Tiêu của Học Viên: hiểu và thông thạo với những khả năng và nhiệm vụ thiết yếu của người thư ký kế toán.

II-B Ngữ Vựng:

1. một khoản tiền dành riêng cho việc gì
2. tiền xuất ra, chi ra
3. biên lai
4. sự yêu cầu hay đòi hỏi
5. hóa đơn, phiếu gửi hàng
6. bản báo cáo; sự xác nhận
7. kiểm kê, làm bản kê tất cả hàng hóa
8. cho thuê
9. tiền lời
10. tủ đựng hồ sơ
11. tính toán
12. sự vào sổ
13. đánh máy
14. tính toán (liên quan đến các con số)
15. xếp hồ sơ
16. chính xác
17. nhanh chóng
18. phiếu ghi giờ làm
19. chi phiếu lương
20. máy fôtô-copy (in ra các bản sao)
21. tính ra
22. hàng hóa
23. người giữ sổ lương; ghi phiếu lương

II-C Bài Đối Thoại: Học viên thảo luận về các lớp họ đang học.

Thu: Chị đã học cách xếp hồ sơ chưa?

Hồng: Chưa, tôi vừa học xong môn kế toán. Tôi sẽ bắt đầu học cách xếp hồ sơ vào tuần tới.

Arnold: Tại sao các cô lại đứng đưa trong văn phòng?

Level III

Lesson II

ACCOUNT CLERK

II-A Student Objective: The student will be familiar with the qualifications and essential duties of an account clerk.

II-B Vocabulary:

1. allotment
2. disbursement
3. voucher
4. claim
5. invoice
6. statement
7. inventory
8. rental
9. interest
10. filing cabinet
11. calculate
12. posting
13. type
14. compute
15. file
16. accurately
17. quickly
18. time card
19. payroll check
20. xerox machine
21. figure out
22. goods
23. time keeper

II-C Dialogue: Students discuss classes they are taking.

Thu: Have you started filing yet?

Hong: No, I am finishing my bookkeeping. I will start filing next week.

Arnold: Why do you use a file in an office?

Hồng: Không phải là cái dũa anh dùng trong xưởng máy đâu. Đó là một bộ ngăn kéo dùng để đựng giấy tờ để chúng tôi có thể dễ dàng tìm kiếm.

Thu: Đó là tủ đựng hồ sơ.

Arnold: Cô còn phải làm gì nữa?

Thu: Chúng tôi coi lại hóa đơn, phiếu lương và các việc tương tự để biết chắc là các số đó đúng.

Hồng: Chúng tôi cũng phải cộng lại xem nó có đúng thực không.

Arnold: Có cần phải biết làm toán không? Nguyên việc đó chắc cũng mất cả ngày rồi.

Hồng: Làm như vậy là không thể nào được rồi. Tôi còn phải làm cho nhanh và đúng nữa.

Arnold: Thế cô còn có nhiệm vụ nào khác không?

Thu : Có thêm mấy việc khác tôi phải làm như: vào sổ các ngân khoản dành cho từng việc, tiền xuất ra, khoản khấu trừ trong tiền lương, biên lai chi tiêu, tính tiền lời và các khoản tiền trả lại, và đánh máy hóa đơn.

Arnold: Nếu vậy chúc các cô may mắn nhé.

II-D <u>Bài Văn Phạm - Cách dùng động từ</u>.

Chủ từ thuộc số ít thì động từ cũng phải theo số ít và chủ từ ở số nhiều thì động từ cũng theo số nhiều. Danh từ và đại danh từ ở số nhiều và đại danh "I" và "you" lấy chữ gốc của động từ. Động từ chia ở ngôi thứ 3 số ít (trong các câu dùng "he", "she" hoặc "it" như chủ từ) hãy thêm <u>s</u> hoặc <u>es</u> vào chữ gốc.

<u>Thí dụ</u>: Hồng <u>types</u> rapidly.

Hồng and Thu <u>type</u> rapidly.

<u>Bài Tập 1</u>: Hãy dùng thể đúng của động từ trong những câu sau đây:

<u>Thí dụ</u>: Joan <u>work</u> well. - Joan works well.

Hong: It is not a file like you see in the factory. It is a set of drawers to keep papers in so we can find them.

Thu: It is a "filing cabinet."

Arnold: What else do you do?

Thu: We check bills and time cards and things like that to be sure the numbers are right.

Hong: We have to add them up to be sure they are figured right, too.

Arnold: Is math necessary, too? That's an all-day job in itself.

Hong: Well, it can't be for me. I have to work quickly and accurately.

Arnold: What will some of your other duties be?

Thu: Some of the other things I will eventually do are: posting allotments, disbursements; payroll deductions and expense vouchers; computing interest on funds; and typing invoices.

Arnold: Well, good luck.

II-D Grammatical Focus - Verb Usage.

Singular subjects require singular verbs. Plural subjects require plural verbs. Plural nouns and pronouns and the pronouns "I" and "you" take the root form of the verb. To make the third person singular verb form (in sentences which could use "she", "he" or "it" as subject) add s or es to the root.

Example: singular: Hông types rapidly

plural: Hông and Thu type rapidly

Exercise 1: Write the sentences using the correct form of the underlined verb.

Example: Joan work well.
Joan works well.

Teachers Note: Since both nouns and verbs are invariant, Vietnamese speakers may have difficulty with verb agreement.

Bài Tập 2: Hãy chỉ động tự trong những câu sau đây thuộc về số nhiều hay số ít:

Thí dụ: Mary posts the allotments verb: posts - singular

Bài Tập 3: Hãy đổi những động tự trong các câu sau đây thành thì quá khứ:

Thí dụ: They have the account clerk to do some bookkeeping.

They had the account clerk to do some bookkeeping.

Joan works hard.

Joan worked hard.

1. Account clerks sometimes calculates interest.

2. She perform many duties.

3. Joan keep accurate records.

4. They uses adding machines.

5. Her work please her superior.

6. Clerks computes rapidly.

7. Mary collect data from invoices.

8. She make the payroll deductions.

9. Mary and Joan works together in the office.

10. Clerks also uses the adding machines.

Exercise 2: Indicate the verb in each sentence and say whether it is singular or plural.

Example: Mary posts the allotments. verb: posts - singular

1. Calculators cost a lot of money.

2. She keeps a complete set of books.

3. Mary types the report.

4. The clerk files the forms.

5. Joan performs clerical tasks.

6. Her friends learn the use of the calculator.

7. They watch Mary make the tax deductions on the payroll checks.

8. She makes out a check for the broken calculator.

9. She drinks coffee on her break.

10. The Xerox machine reproduces copies of the statements.

Exercise 3: Change the following sentences to the past tense.

Examples: They have the account clerk to do some bookkeeping.
They had the account clerk to do some bookkeeping.
Joan works hard.
Joan worked hard.

Teacher's Note: Vietnamese verbs are both invariant and limited. There are fewer tenses than in English and they are formed by the context of the sentence rather than verb modification.

II-F <u>Bài Tập Bổ Túc</u>:

Bạn hãy liên lạc với một trường chuyên nghiệp hay thương mại và hỏi họ về các lớp học nghề account clerk trong văn phòng. Hỏi họ xem bạn cần phải có khả năng gì. Hỏi xem có loại công việc gì trong tỉnh, bao giờ lớp học bắt đầu, học trong bao nhiêu lâu, giá tiền ghi tên học mất bao nhiêu.

Mấy câu có thể giúp ích cho cuộc đối thoại:

Xin ông làm ơn cắt nghĩa chương trình account clerk...

Khi nào...?

Bao nhiêu tiền...?

Học ở đâu...?

Học bao nhiêu lâu...?

Tôi sẽ...

1. Joan figures out the schedule for the day.

2. She has invoices at the end of the month.

3. Account clerks need to know fractions and decimals.

4. She makes carbon copies of all memos.

5. She answers the telephone all day!

6. The supervisor checks the work.

7. Mary returns to correct the typing mistake.

8. She places her letters in the outgoing mail.

9. The mail clerk delivers the intercompany mail at 9:00 a.m.

10. Mary punches out on the time clock.

II-E Reading:

The student who learns to do account clerk work has a wide range of choices about his work situation.

Many clerks find jobs in business offices where they may spend most of the time working with numbers. Clerks check over all invoices, or bills, that tell the businessmen what goods he received and how much they cost. The arithemetic has to be checked for accuracy. Clerks verify the time cards so each worker gets paid for the time he worked. They may count the material on hand to be sure the inventory of the business is correct. Sometimes they answer the telephone, sort and deliver mail, or type letters. A worker in a small office will probably do more varied work than one in a big office.

Account clerks can also get jobs working as time keepers or record keepers for companies who manufacture things, ship things, or build houses, commercial buildings, or roads.

All these businesses need accurate records of their daily transactions. The account clerk is an important person in doing this.

II-F Additional Exercises:

Contact a vocational or business school and ask them about classes to learn to do account clerk work in an office. Ask them what skills you need. Ask what kind of jobs there are in town. Ask when the classes start, how long they last, and how much it will cost to enroll.

Structures that may be useful in the situation:

Please explain your account clerk program.
When will...
How much...
Where are...
How long...
What will I...

TRÌNH ĐỘ III

BÀI III

PRACTICAL NURSING (Điều Dưỡng Thực Hành)

III-A <u>Mục Tiêu của Học Viên</u>: Môn "Practical Nursing" (Điều Dưỡng Thực Hành) dạy cho nam và nữ học viên học cách săn sóc bệnh nhân dưới sự hướng dẫn của người "registered nurse" (y tá có chứng chỉ hành nghề) hay y sĩ trong các công việc giản dị. Học viên sẽ trở nên thông thạo với ngôn ngữ và phương pháp cần thiết cho sự phòng ngừa bệnh tật.

III-B <u>Ngữ Vựng</u>:

1. Sự nhiễm trùng
2. bệnh tật
3. vi khuẩn
4. sự vệ sinh
5. để riêng ra, sự cô lập
6. khử độc, tẩy uế
7. sự sát trùng, khử trùng
8. sát trùng
9. dụng cụ
10. tính sát trùng, vô khuẩn
11. sự nhiễm độc
12. không sát trùng
13. bị truyền nhiễm
14. miễn dịch (tránh khỏi truyền nhiễm)
15. sát trùng
16. nhiễm độc, sự truyền nhiễm
17. để riêng ra một nơi, tách riêng ra

III-C <u>Bài Đối Thoại</u>:

Mary: Chị đã học bài thi ngày hôm nay chưa?

Dược: Học rồi, chúng tôi đang thi cách phòng bệnh.

Mary: Tôi đã học cách giữ gìn vệ sinh cho chính mình và cho bệnh nhân quan trọng như thế nào.

Level 3

Lesson III

PRACTICAL NURSING

III-A Student Objectives: The student will become familiar with terminology and procedures necessary for the prevention of disease.

Practical nursing prepares men and women to give nursing care, under the supervision of a registered nurse or physician, to patients in simple nursing situations.

III-B Vocabulary:

1. infection
2. disease
3. bacteria
4. hygiene
5. isolation
6. disinfectant
7. sterilization
8. antiseptic
9. instruments
10. sterile
11. infectious
12. unsterile
13. contaminated
14. immunize
15. sterilize
16. infect
17. isolate
18. test
19. vaccination

III-C Dialogue:

Mary: Have you studied for the exam today?

Duoc: Yes, we are having a test on preventing disease.

Mary: I have learned how important it is to keep myself and my patient clean.

Dược: Đó là cách tốt nhất để đề phòng sự nhiễm trùng.

Mary: Trước tôi chưa ý thức được là sự nhiễm trùng truyền đi bằng nhiều lối.

Dược: Hôm nay tôi cũng coi người điều dưỡng khử trùng tất cả những dụng cụ giải phẫu.

Mary: Việc sát trùng các dụng cụ rất quan trọng.

Dược: Tôi hy vọng chúng mình làm bài thi hôm nay khá. Gặp chị sau nhé.

III-D Bài Văn Phạm - Thì Quá Khứ.

Thì quá khứ của phần lớn các động từ được hợp thành bằng cách thêm "ed" vào chữ gốc (ngữ căn). Những động từ này gọi là động từ qui tắc.

Thí dụ: work - worked
play - played
study - studied
stop - stopped

Những động từ tận cùng bằng y theo sau một chữ phụ âm, thì chữ y đổi thành i và thêm ed. Những động từ tận cùng bằng một chữ phụ âm hãy gấp đôi phụ âm đó rồi thêm ed.

Bài Tập 1: Hãy đổi những động từ sau đây thành thì quá khứ:

Thí dụ: They help - they helped
He stops - he stopped

Duoc: It is the best way to protect from infection.

Mary: I never realized how many ways infection is spread.

Duoc: I also watched the nurses sterilze the instruments in surgery today.

Mary: It is very important to have sterile instruments.

Duoc: I hope we do well on our test today. See you later.

III-D Grammatical Focus - Past Tense

The past tense of most verbs can be formed by adding ed to the root word. These verbs are called regular verbs.

Example: work--worked
play--played
study--studied
stop--stopped

Verbs ending in y, following a consonant, change the y to i, and add ed. Verbs ending in a single consonant double the consonant and add ed.

Teachers Note: Vietnamese verbs are both invariant and limited. There are fewer tenses than in English and they are formed by the context of the sentence rather than verb modification.

Exercise 1: Change the following verbs to past tense.

Examples: They help. They helped.
He stops. He stopped.

1. Jane works.
2. John studies.
3. We work.
4. Dr. Jones operates.
5. The nurse helps.
6. You stop.
7. She walks.
8. They listen.
9. Children play.
10. Germs infect.
11. Doctors heal.
12. Friends visit.
13. We attend.
14. Students ask.
15. Cars pass.
16. We like.
17. Nurses learn.
18. Students watch.

Bài Tập 2: Hãy đổi những câu sau đây sang thì quá khứ:

Thí dụ: John and Joan study nursing.

John and Joan studied nursing.

19. Trains carry.
20. They offer.
21. People talk.
22. Patients call.
23. Mary follows.
24. Students complain.
25. Teachers help.

Exercise 2: Change the following sentences to past tense.

1. John and Joan study nursing.
2. They like helping sick people.
3. They learn many things about disease.
4. The hospitals offer many good job opportunities.
5. I enroll in classes today.
6. I study very hard.
7. John and Joan attend classes every day.
8. The doctors operate in a sterile room.
9. Some sick patients require isolation.
10. Vaccinations immunize against disease.
11. Technicians sterilize surgical instruments.
12. Contaminated instruments infect the patient.
13. We listen to lectures in class every day.
14. Most hospitals isolate infectious diseases.
15. The students ask for help in class.
16. Disinfectants protect people from disease.
17. Scientists discover cures for some diseases.
18. Doctors wash very well before operating.
19. Some visitors carry infectious diseases.
20. The visitors pass on the germs to the patients.

III-E <u>Bài Văn Phạm - Thể Bớt Vần.</u>

<u>Bài Tập 1:</u> Hãy dùng thể bớt vần trong những câu sau đây, để thay cho động tự và "not":

<u>Thí dụ:</u> He had not - He hadn't

I cannot - I can't

He will not - he won't

III-E Grammatical Focus - Contractions

Exercise 1: Write the sentences below, using contractions in place of the verb and not.

Example: He had not. He hadn't.
I cannot. I can't
He will not. He won't

Teacher's Note: While spoken Vietnamese has elisions, there are no written contractions.

1. She did not.
2. John is not.
3. I will not.
4. Mary could not.
5. You should not.
6. We cannot.
7. He must not.
8. James does not.
9. I have not.
10. You would not.
11. Lonnie has not.
12. They do not.
13. Mary will not.
14. Friends are not.
15. Jane was not.
16. We were not.
17. He had not.
18. She is not
19. Mary has not.
20. He does not.

III-F <u>Bài Văn Phạm - Phủ Định trong Thì Quá Khứ.</u>

Muốn đặt một câu phủ định trong thì quá khứ, hãy dùng động tự "do" (chia theo một thứ như thường lệ) cộng thêm "not", rồi thêm chữ gốc của động tự chính.

<u>Thí dụ</u>: I worked

I did not work Đừng nói: I did not worked.

III-F Grammatical Focus - Negative Past Tense

To form a negative sentence in the past tense, use a form of the verb does, plus not, plus the root of the verb.

Example: I worked.
I did not work.
Do not say: I did not worked.

Exercise 1: Change the sentences from past tense to past negative.

Example: The nurse studied.
The nurse did not study.

1. The nurse studied.
2. The doctor operated.
3. The machine worked.
4. The students attended.
5. John enrolled.
6. He worked hard.
7. He learned a lot.
8. Mary looked for work.
9. She wanted a job.
10. Joan walked to school.
11. She liked her classes.
12. She talked to her friends.
13. They listened to her.
14. She finished school.
15. John graduated first.

III-G Reading:

There has always been a demand for people in the nursing profession. There is a special need for men in this field.

III-H Bài Tập Bổ Túc:

Bạn hãy đi thăm một trường điều dưỡng và nói chuyện cùng vị cố vấn cho học viên về cách xin nhập học. Hãy hỏi bà ấy xem bạn cần phải học môn gì, cần phải huấn luyện trong bao nhiêu năm và tiền học mất bao nhiêu? Trường có thể giúp đỡ bạn một phần nào về trợ cấp tài chánh. Phần lớn các trường đều có danh sách chờ để được nhập học. Hãy hỏi xem bạn phải đợi mất bao nhiêu lâu.

Mấy câu có thể giúp ích cho câu chuyện:

Tôi thích...

Tôi muốn...

Tôi cần phải làm gì...?

Bao nhiêu tiền...?

Khi nào tôi có thể...?

Ông có...?

Trong bao nhiêu lâu...?

Tôi phải.....ở đâu?

Most training programs for practical nursing require one year of study. There are long waiting lists in most schools, so it is a good idea to inquire early to get on the waiting list.

At the end of training, the student must pass State Board Exams to receive a license. The training programs and exams are hard work, but the rewards of working as a nurse, helping people, are great. You will have a lifetime skill in an interesting profession.

III-H Additional Exercises:

Visit a school of nursing and talk to student counselor about applying for school. Ask her what subjects you must study, how many years of training are required, and how much money it costs to enroll. The school may be able to help you get some financial assistance. Most schools have waiting lists to get in. Find out how long you would have to wait.

Structures that may be useful in the situation:

I am interested...
I would like...
What do I need...
How much...
When could I...
Do you have...
How long...
Where would I...

TRÌNH ĐỘ III

CÁC CHƯƠNG TRÌNH VỀ Y TẾ VÀ VỆ SINH*

Tất cả các chương trình về ngành Y Tế và Vệ Sinh* đều có cấp chứng chỉ sau khi học viên được hướng dẫn về cách giúp các bệnh nhân trong các phòng nha khoa, phòng mạch hay phòng thí nghiệm, trong phòng mổ hay bệnh viện.

Môn Phụ Tá Điều Dưỡng* là một chương trình học 6 tuần và có cấp chứng chỉ. Nghề này thích hợp cho những người bình tĩnh, khỏe mạnh để thi hành công việc giao phó như các việc điều dưỡng thường nhật.

Học viên có thể đi thăm các khu điều dưỡng và bệnh viện. Giảng viên của Trường Cao Đẳng Điều Dưỡng có thể được mời đến thuyết trình.

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* *Health: có nghĩa tổng quát gồm tất cả các ngành về y khoa, giữ gìn sức khỏe, vệ sinh, v.v.*

Nursing Assistant: là người giúp cho người điều dưỡng (y tá) trong các công việc săn sóc bệnh nhân như làm giường, thay quần áo, tắm, cho bệnh nhân ăn, đo mạch, cặp sốt, v.v.

LEVEL III

Health Programs

The allied health programs assist in patient care in the dental or medical office or laboratory, in the operating theater, or on the hospital ward.

The nursing assistant program is a six-week diploma course for the stable, healthy person who can perform a variety of routine tasks under supervision.

The students could visit the nursing labs and tour the hospital. Nursing faculty can be used as resource speakers.

TRÌNH ĐỘ III

BÀI IV

ĐIỆN TOÁN

IV-A <u>Mục Tiêu của Học Viên</u>: Một trong những mục đích của bài này là để cho học viên hiểu biết vai trò quan trọng của máy điện toán ngay trong đời sống của chúng ta. Bài học này cũng giới thiệu một số những danh từ kỹ thuật dùng trong điện toán.

IV-B <u>Ngữ Vựng</u>:

1. bấm phiếu
2. kiểm lại
3. máy lựa các tấm phiếu theo những lỗ ám hiệu bấm trên phiếu
4. một bộ phận lựa những bộ phiếu đã bấm vào cùng một loại
5. tin tức, chi tiết
6. một lô các ký hiệu trong máy tính điện tử, nó có thể được sắp xếp thứ tự để cho biết các tin tức.
7. hộp đựng phiếu để chạy vào trong máy
8. sắp xếp lại (sắp xếp một loại các vật nối tiếp nhau cho có thứ tự theo như nguyên tắc không thay đổi kích thước v.v.)
9. một bộ phận trong máy điện toán dùng để lưu trữ các tin tức, chi tiết
10. để chỉ các con số
11. máy điện toán
12. một bộ phận trong máy điện toán có thể làm cho đọc được rõ một số các phiếu, characters v.v. trong một thời gian ấn định.
13. sắp đặt có thứ tự.
14. khoảng cách ở giữa những đường kẻ của tấm bảng nhựa

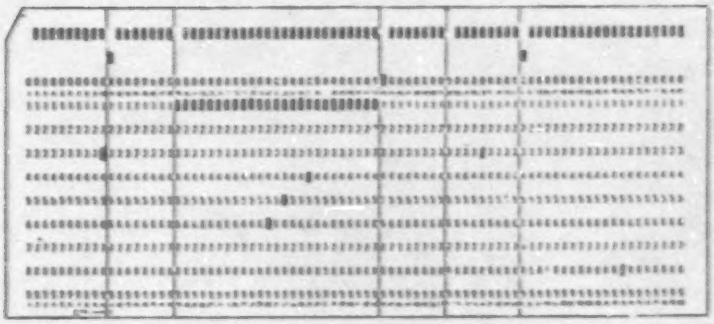
Level III

Lesson IV

DATA PROCESSING

IV-A <u>Student Objective</u>: One of the purposes of this unit is to make the student become aware of the valuable role that computers play in his everyday life. This unit will also introduce a few of the technical terms used in data processing.

IV-B <u>Vocabulary</u>:



1. card punch
2. verifier
3. sorter
4. collator
5. data
6. characters
7. card hopper
8. merge
9. memory
10. digital
11. computer
12. reading station
13. sequencing
14. grouping

15. việc báo cáo tình trạng và nguyên do theo như tấm phiếu chỉ

16. một tác dụng của máy kết toán

17. ngắt ra, tách ra

18. tùy theo, tùy vào

19. sự điều khiển, sự vận máy

IV-C Bài Đối Thoại:

Kim: Này, có chuyện gì vậy? Trông anh giống như là vừa mới mất người bạn cuối cùng. Thôi, không việc gì mà phải bết bát quá như vậy.

Ed: Còn bết hơn thế nữa ấy, tôi vừa mất việc xong.

Kim: Anh nói thế nghĩa là làm sao? Tôi nghĩ là anh đã có việc làm ngon rồi mà ! chỉ ngoáy bút chì suốt ngày. Thế chuyện gì xảy ra vậy?

Ed: Một cái máy điện toán đã tranh việc làm của tôi. Đúng, một cái máy đã thay thế tôi.

Kim: Cái đó thì bi thật, này, thế anh làm thế nào bây giờ?

Ed: Chị biết không, tôi sẽ không để cho nó hạ tôi được. Tôi từ chối để cho cái máy đó thay thế tôi. Nếu tôi không hạ được nó, tôi sẽ hợp tác với nó. Tôi sẽ đi học tất cả mọi công việc có liên quan đến máy điện toán.

IV-D Bài Văn Phạm - Những chữ đồng nghĩa.

Chữ đồng nghĩa là những chữ có nghĩa giống nhau hay gần giống nhau.

Bài Tập 1: Hãy tìm những chữ ở cột II cho hợp nghĩa với chữ ở cột I:

Thí dụ: 1. merge h. combine

15. selecting

16. calculating

17. disconnect

18. depend on

19. manipulation

IV-C Dialogue:

Kim: Hey, what's the matter? You look like you just lost your last friend. Nothing can be that bad!

Ed: It's worse than that. I just lost my job.

Kim: What do you mean? I thought you had it made, pushing a pencil all day. What happened?

Ed: A computer took my job. Yea, a machine replaced me, me!

Kim: That's bad! That's terrible! What are you gonna do now?

Ed: You know I am not gonna be beat. I refuse to let a computer replace me. If I can't beat them, I'm sure gonna join them. I'm going to learn about all the jobs associated with computers.

IV-D Grammatical Focus - Synonyms

Exercise 1: Synonyms are words that have the same or nearly the same meaning. For each word in Column I, find a synonym in Column II and write it.

IV-E Bài Văn Phạm - Tiếp Đầu Ngữ và Tiếp Vĩ Ngữ.

Nhiều chữ được tạo nên bởi những chữ căn bản như bạn đã biết. Nghĩa của nó thay đổi bằng cách thêm 1 chữ ở dạng đầu (Tiếp Đầu Ngữ) hay một chữ ở dạng cuối (Tiếp Vĩ Ngữ) như re, er, s, ing, tion va age. Bạn hãy lưu ý đến nguyên âm phải luôn luôn thay đổi như thế nào bằng cách bỏ chữ "e", thay chữ "y" bằng "i", hoặc gấp đôi chữ phụ âm cuối cùng.

Thí dụ: compute: computation

verify: verifier

program: programmer

I		II	
1.	merge	a.	computation
2.	sequencing	b.	record
3.	digital	c.	rearrange
4.	sort	d.	write
5.	verifier	e.	arranging
6.	calculate	f.	explain
7.	data	g.	restate
8.	manipulation	h.	combine
9.	file	i.	information
10.	print	j.	numerical
11.	collate	k.	confirm
12.	interpret	l.	information
		m.	compute
		n.	distant
		o.	group

IV-E Grammatical Focus - Prefixes and Suffixes

Many words are built on base words that you already know. Their meaning is changed by adding prefixes and suffixes such as re, er, s, ing, tion, and age. Notice how the root must often be changed by dropping the "e", changing "y" to "i", or doubling the final consonant.

Examples: compute - computation
verify - verifier
program - programmers

Teacher's Note: Vietnamese is a monosyllabic language. Adfixes are therefore unknown.

Bài Tập 1: Hãy tìm trong bảng dưới dây chữ căn bản có thể dùng để bổ túc cho 2 chữ chỉ có tiếp dấu ngữ hay tiếp vĩ ngữ trong những câu sau dây:

Thí dụ: Filing the cards in the correct drawer will keep the files straight. (file, filing, files)

Bài Tập 2: Những chữ ở mỗi hàng sau dây đều được tạo nên bởi cùng một chữ căn bản. Bạn hãy tìm xem chữ căn bản là chữ gì và hãy viết ra:

Thí dụ: open: opener, unopened, reopening

group: regroup, grouping, grouper

Exercise 1: The same base word can be used to complete the two unfinished words in each sentence, using the prefixes or suffixes provided. Find the correct root word from the list below and write it, along with the two new words.

Example: _____ing the cards in the correct drawer will keep the _____s straight.
file: filing, files

compute	program	sort
group	operate	verify
file	punch	store
	produce	

1. The _____er made an error in the _____ation.
2. A re_____er performs three functions: re_____ing gang punching, and summary punching.
3. The computer's memory is a _____age area that _____s various forms of data.
4. During _____tion of the punch cards, the _____er was not disconnected.
5. If you know how to use the _____er, please start _____ing this stack of cards.
6. The _____ion of the computer is largely dependent on the _____or.
7. Use the keypunch machine to re_____ this card because there are errors in the _____es.
8. These two cards should be filed in the _____s you just finished _____ing.
9. Mary _____s cards in groups by hand while the card _____er isn't working.
10. My brother writes _____s, he is a computer _____er.

Exercise 2: The words in each line are built on the same base word. Decide what the base word is and write it.

Example: open - opener, unopened, reopening
group - regroup, grouping, grouper

1. processing, reprocessing, processional, procession
2. recomputation, computerize, computability, computation

3. cooperativeness, cooperation, operational, operative

4. digitalize, digital, digitate, digitalis

5. programmer, reprogram, programmed

6. punching, puncher, repunching

7. filer, filing, refile

8. storage, restore, restorable, restoration

9. verifier, verifiable, verification, verifying

10. recording, recorder

IV-F Reading:

The computer affects the life of each of us. The economic impact is significant. New vocations have been created, such as computer systems analyst, computer programmer, computer operator, and computer technician. The uses of the computer range from the most elementary data processing task to guiding a spacecraft to a landing zone. And yet it is not even 20 years since the computer was first applied to data processing.

The student, no matter what his career choice, is likely to have substantial contact with the computer or the results of computer processing in his future job. Business administration, medicine, government, library science, teaching, engineering, and research are a few examples of vocations in which the computer is having an impact. The computer has become such an important element in the society in which we live that an introductory knowledge of computers should be a part of the knowledge of a well educated person.

TRÌNH ĐỘ III

CÁC NGÀNH LIÊN HỆ ĐẾN KỸ NGHỆ

Sự hiểu biết về an toàn rất cần thiết trong các công việc để bảo vệ cho chính mình và những người cùng làm việc với mình. Những khái niệm an toàn sẽ được trình bày cho học viên trong các lớp ESL* đầu tiên.

Nhiều học viên ESL ít hiểu biết về các loại công việc trong các ngành kỹ nghệ hiện sẵn có, và những tài năng mà mỗi việc đòi hỏi. Bốn loại công việc có ở Trình Độ I là: Hàn, Bảo Trì, General Factory*, và việc Điều Khiển Máy; những công việc này đều có cơ hội huấn luyện và có công việc làm cho những người kém khả năng Anh ngữ.

Những buổi giảng dạy lý thuyết cần được bổ túc bằng những cuộc đi thăm viếng các phòng thực tập, quan sát các lớp huấn nghệ và đi thăm các khu kỹ nghệ. Các đại diện của Urban League*, các giảng viên dạy về kỹ nghệ và các người có trách nhiệm trong giới kỹ nghệ có thể được mời đi thăm các lớp học và thảo luận về các loại công việc và các cơ hội thực tập.

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* *ESL: học Anh ngữ như ngoại ngữ*

General Factory: nói chung tất cả các loại xưởng trong ngành kỹ nghệ

Urban League: là một hội tư có khế ước với chính phủ để giúp những người thiểu số được huấn nghệ và tìm công việc làm và là một hội rất có thế lực tại Hoa Kỳ.

LEVEL III

Industrial Related

An awareness of good safety practices is needed in all types of industrial jobs for the protection of self and others. These concepts can be understood if presented early in ESL classes.

Many ESL students have a very limited knowledge of the variety of industrial jobs available and of the skills each requires. The four included at Level I, Welding, Maintenance, General Factor, and Machine Operation, have both training and employment opportunities for those with limited ability in English.

The units should be supplemented with visits to the labs, observation of the classroom and industrial tours. Representatives of the Urban League, industrial teachers, or persons from industry could be invited to visit the class and discuss the types of jobs and training opportunities.

TRÌNH ĐỘ III

BÀI V

NGƯỜI VẼ HỌA ĐỒ VỀ CƠ KHÍ

V-A <u>Mục Tiêu của Học Viên</u>: hiểu và biết được công việc và nhiệm vụ của một người vẽ họa đồ về cơ khí.

V-B <u>Ngữ Vựng</u>:

1. người vẽ các chi tiết
2. người vẽ họa đồ
3. người vẽ kiểu
4. người kiểm soát lại
5. dùng vẽ theo kích thước
6. ban kỹ sư vẽ kiểu máy
7. bản họa đồ
8. kỹ sư về sản xuất
9. kỹ sư kế hoạch
10. ngay lập tức
11. ngay tức khắc
12 kế hoạch
13. cá nhân, riêng từng cái
14. kỹ sư chuyên vẽ kiểu các đồ vật mà khách hàng muốn đặt làm
15. sự ghi rõ những chi tiết v.v.
16. kẻ từng dòng
17. bản vẽ sơ lược (đầu tiên)
18. xong hoàn toàn

V-C <u>Bài Đối Thoại</u>:

Kỹ Sư Vẽ Kiểu: Tôi có một bản vẽ sơ lược và bảng chi tiết của một bộ máy cần phải vẽ kiểu ngay.

Người Vẽ Kiểu: Tôi sẽ vẽ cái máy với đầy đủ bộ phận. Sau đó người vẽ họa đồ sẽ vẽ phần máy móc mà sau khi được ráp xong sẽ thành nguyên một cái máy.

Người vẽ các chi tiết: Tôi sẽ vẽ chi tiết của từng bộ phận để người vẽ họa đồ có thể gom góp lại làm thành một bộ phận máy.

LEVEL III

LESSON V

MECHANICAL DRAFTING

V-A Student Objective: The student will be able to understand and identify the functions and duties of a mechanical draftsman.

V-B Vocabulary:

1. detailer
2. draftsman
3. designer
4. checker
5. dimension line
6. design engineering department
7. blueprint
8. product engineer
9. project engineer
10. right away
11. immediately
12. project
13. individual
14. sales engineer
15. specifications
16. tracing
17. preliminary drawing
18. complete

V-C Dialogue:

Sales Engineer: I have a preliminary drawing and specifications of a machine to be designed immediately.

Designer: I will draw the whole machine complete with all its parts. Then the draftsman will draw the mechanisms of the machine which, when put together, will make up the whole machine.

Detailer: I will then make detail drawings of the many individual parts so the draftsman can assemble them together to make his mechanisms.

V-D Bài Văn Phạm - Số nhiều.

Cách đổi danh tự từ số ít sang số nhiều: Thí dụ: singular: blueprint

plural: blueprints

Bài Tập 1: Hãy đổi những danh tự sau đây từ số ít sang số nhiều bằng cách thêm "s" và bỏ mạo tự "a" đằng trước danh tự nếu cần:

Thí dụ: Joe erased a mistake

Joe erased mistakes

V-E Bài Văn Phạm - Thể Phủ Định.

Nếu muốn đổi một câu từ thể xác định sang thể phủ định hãy thêm chữ "not" hay "does not".

Bài Tập 1: Hãy đổi những câu sau đây từ thể xác định sang thể phủ định bằng cách thêm "not hay does not vào đúng chỗ:

Thí dụ: I will help (will la tro dong tu)

I will not help

Tom checks the drawing (checks la dong tu chinh)

Tom does not check the drawing

V-D Grammatical Focus - Plurals

Changing singular nouns to plural nouns.

Example: Singular - blueprint; plural - blueprints

Teacher's Note: Vietnamese nouns are invariant. Plurals are formed by adding a word such as several, three, many, etc. Vietnamese speakers may therefore tend to ignore plural endings.

Exercise 1: Change the nouns to plural form by adding s, and drop the preceding "a" if necessary.

Example: Joe erased a mistake.
Joe erased mistakes.

1. We will make a blueprint.
2. Sales engineers will make a preliminary drawing.
3. A checker checks the drawing made by the draftsman.
4. The project incorporates the specifications.
5. A designer will draw a part.
6. The detailer will make a detailed drawing of a machine part.
7. A detailer and designer use a drafting instrument.
8. A machine will be represented by a drawing of all the parts.
9. A dimension line can be drawn on the tracing paper.
10. An erasure should be made on the drawing.

V-E Grammatical Focus - Negatives

Exercise 1: Change the following sentences from postive to negative by adding not or does not in the correct place.

Examples: I will help (auxiliary verb)
I will not help.

Tom checks the drawing. (active verb)
Tom does not check the drawing.

1. The shading is on the drawing.
2. All dimensions are done freehand.
3. Some lines on the drawing are heavier than others.
4. The checker looks over all the drawings of the project.

V-F Bài Văn Phạm - Thể Nghi Vấn.

Bài Tập 1: Hãy đổi những câu sau đây thành câu hỏi bằng cách đổi lại thứ tự của những chữ hay thêm trợ động tự "does":

Thí dụ: The project engineer should supervise the project (should la tro dong tu)
Should the project engineer supervise the projects?

The project engineer supervises the project (supervises la dong tu chinh)
Does the project engineer supervise the projects?

5. Blueprints are sent to other people.

6. The detailer sits at the drafting board when drawing detailed parts.

7. The designer must always be neat and orderly about his drawing work.

8. Drawings are always made as complete as possible.

9. The detailer always uses a pencil when drawing.

10. The checker checks a set of blueprints of the drawing project.

V-F Grammatical Focus - Questions

Exercise 1: Change the following statements to questions by inverting the word order or adding a form of do.

Examples: The project engineer should supervise the project. (auxiliary vert
Should the project engineer supervise the project?

The project engineer supervises the project. (active verb)
Does the project engineer supervise the project?

1. The draftsman uses a pen when inking.

2. The designer helps the draftsman and detailer.

3. Mistakes should be held to a minimum on a drawing.

4. The sales engineer discusses his work with the customer.

5. The product engineer checks the project of the project engineer.

6. Much time is required to complete the project.

7. Preliminary drawings are made by the sales engineer.

8. The drafting personnel draw on tracing paper.

9. Mathematics are a part of mechanical drafting.

10. The draftsman has his own set of drawing tools and instruments.

V-G Bài Kiểm - Những chữ đồng nghĩa.

Bài Tập 1: Hãy viết trọn một câu bằng cách dùng những chữ của bảng bên trái đặt vào một câu bên bảng bên mặt cho hợp nghĩa:

Thí dụ: a. Checks the drawing for errors

2. The Checker.

V-I Bài Tập Bổ Túc:

1. Hãy xin một buổi hẹn để xin làm công việc của người vẽ các chi tiết, hay người vẽ họa đồ trong ban kỹ sư vẽ kiểu máy.
2. Đi thăm một ban kỹ sư và hỏi xem làm việc ở đó cần phải có khả năng và sự hiểu biết gì?
3. Đi thăm những người thợ vẽ họa đồ và kỹ sư làm việc xem bạn có thích làm công việc của họ không?

Mấy câu có thể giúp ích cho cuộc đi thăm đó:

Cần phải huấn luyện như thế nào để trở thành một...?

Trong bao nhiêu lâu...?

Tôi cần phải ở miền nào trong nước để trở thành một...?

Tôi có thể làm công việc liên hệ gì với sự huấn luyện như...?

Tôi phải có tình trạng sức khỏe như thế nào để trở thành một...?

Tôi cần phải khá về toán như thế nào để trở thành một...?

V-G Comprehension - Matching Statements

Exercise 1: Write the complete sentence by matching the phrase on the left with the correct phrase on the right.

____1. The detailer	a. checks the drawing for errors.
____2. The checker	b. makes preliminary drawings to meet customer's needs.
____3. The designer	c. makes small detail drawings.
____4. The draftsman	d. assigns projects to the project engineer.
____5. The sales engineer	e. draws machine mechanisms.
____6. The product engineer	f. draws whole machine parts.
____7. The project engineer	g. oversees the whole project.

V-H Reading:

There are many different kinds of drafting jobs available depending upon the type of industry. There are also many related occupations if one chooses not to become a draftsman. Visits to different types of industry should be made. Thought should be given to where most drafting jobs are, pay, work hours, and how one may progress on the job.

V-I Additional Exercises:

1. Make an appointment for an interview for a detailer or draftsman's job in the design engineering department.

2. Visit an engineering department and ask what is required in job entry skills and knowledge.

3. Visit the draftsman and engineers to find out if you would like their kind of work.

Structures that may be useful in the situation:

What training is required to become a...
How long...
What part of the country must I live in to be a....
What related occupations could I enter with training in...
What physical requirements must I have to be a...
How good must I be in math to be ....

TRÌNH ĐỘ III

BÀI VI

NGHỀ SỬA CHỮA VÀ BẢO TRÌ MÁY ĐIỆN TỬ

VI-A Mục Tiêu của Học Viên: quen thuộc với một số danh từ và phận sự đòi hỏi trong nghề sửa chữa máy điện tử.

VI-B Ngữ Vựng:

1. cường độ giòng điện (số lượng am pe chạy trong dường giây điện)
2. giây ăng ten
3. cách xem bản họa đồ của một vật dịnh sửa chữa hay cấu tạo
4. tính chất của một vật có thể đo được như điện, cơ khí, độ nóng v.v.
5. tấm kim loại dùng để cắm các điện tử (tạo thành một bộ phận của một máy)
6. mạch điện liên tục soay chiều
7. luồng điện
8. năng lượng
9. lược đồ của mạch điện
10. nghề sửa chữa và bảo trì máy điện tử
11. tiêu điểm; điểm tập trung của những tia điện tử
12. cầu chì
13. điện kế đo volt (đồng hồ đo sự sai biệt về điện thế)
14. than chì dùng trong một vài loại máy điện
15. cường độ điện trở
16. sự điều chỉnh đúng hình ảnh trên màn ảnh máy truyền hình
17. một dụng cụ để ghi sự giao động của điện thế

LEVEL III

LESSON VI

ELECTRONICS SERVICING

VI-A Student Objective: The student will become familiar with some of the terms and duties required in electronic servicing.

VI-B Vocabulary:

1. amperage
2. antenna
3. blueprint reading
4. characteristics
5. chassis
6. circuit continuity
7. current
8. density
9. diagram
10. electronic servicing
11. focus
12. fuses
13. voltmeter
14. graphite
15. impedance
16. lineation
17. oscilloscope

18. một dụng cụ điện tử để biến điện năng thành những tín hiệu

19. điện trở

20. sắp đặt

21. một loại điện kế để đo bằng tín hiệu

22. sự chỉ rõ các chi tiết

23. cuốn sách chỉ dẫn về kỹ thuật

24. cái biến điện

25. đèn tube (trong các loại máy điện tử như radio, T.V. v.v.)

26. điện thế

27. sự phân tách

28. sự chạm mát, sự mát điện, giây "te"

29. sửa lại cho đúng

30. nghề sửa chữa, sự làm việc

31. hàn

32. tìm chỗ hư

33. sự tìm sửa những chỗ bị trục trặc

34. chia ra từng mục

35. bị hư, trục trặc

36. sóng âm thanh

37. sóng truyền hình, hình ảnh

38. không tổn hại, còn nguyên

39. hỏng, tổn hại

VI-C <u>Bài Đối Thoại</u>:

Bà Di tới lấy cái TV sửa và bàn cãi về cái hóa đơn của bà ta.

Bà Di: Này Anh bạn, anh không thể nào tính đến $32.34 để sửa cái TV hỏng của tôi được.

John: Tôi nghĩ lá tiền công đã tính đúng đó; nhưng bà có thể coi đây, cái hóa đơn đã chia ra từng món một.

18. receivers

19. resistance

20. schematic

21. signal generator

22. specifications

23. technical manual

24. transformer

25. tubes

26. voltage

27. analyzing

28. grounding

29. rectify

30. servicing

31. soldered

32. traced

33. troubleshooting

34. itemized

35. defective

36. audio

37. video

38. intact

39. frustrated

VI-C <u>Dialogue</u>: Mrs. Di picks up her repaired TV set and discusses her bill.

Mrs. Di: Hey. You can't be serious, charging me $32.34 to fix my busted TV.

John: Well, I'm afraid the service charges are correct; but, as you can see, the bill is <u>itemized</u>.

Bà Di: Hử! nhưng cái này chả có nghĩa gì đối với tôi cả, tôi nghĩ là anh đã ăn gian của tôi.

John: Được rồi, để tôi cắt nghĩa từng mục một. Đầu tiên, tôi coi lại tất cả các bóng đèn và tìm thấy ba cái bị hư. Giá tiền thay mất $7.35 và nó được ghi ở dưới mục các bộ phận thay. Tiền công cho 2g30 mà tôi đã phải mất để tìm các chỗ hư và coi mạch điện. Khi dùng đồng hồ đo điện để phân tách giây quấn theo cái diagram tôi thấy mỗi cái đều nguyên vẹn. Tuy nhiên, khi thử xem hình ảnh bằng cái oscilloscope, tôi thấy cần phải điều chỉnh cho năng lượng, hình ảnh và tiêu điểm.

Bà Di: Ồ, đối với tôi vẫn còn khó hiểu quá; anh nói thế có nghĩa là chính tôi có thể thay 3 cái bóng và sửa những thứ này?

John: Không, bởi vì một là bà không có dụng cụ cần thiết, hai là cần phải thử để xem tại sao hình ảnh cứ nhảy. Dùng cái điện kế "signal generator" tôi đã tìm thấy một đường giây bị tuột ra và chạm mát vào cái chassis. Rồi tôi lại phải hàn nó lại để cho công việc bình thường lại.

Bà Di: Thôi được. Đây tiền của anh đây, nhưng chắc chắn là công việc làm của anh rất tốt. Tôi đoán là anh phải có bằng đại học.

John: Bà không cần phải có bằng đại học, bà đang nói chuyện về khả năng kỹ thuật mà bà có thể học ở trường chuyên nghiệp kỹ thuật.

Bà Di: Nhất rồi, thế tên lớp đó là gì?

John: Lớp huấn luyện của tôi gọi là "chương trình sửa chữa máy điện tử" nhưng tôi cũng được chỉ dẫn thêm về "cách coi bản họa đồ" ở Trung Tâm Kiến Thức Tráng Niên cho nên chương trình học của tôi đã được dễ dàng hòn.

Bà Di: Thế à! Tôi sẽ tiếp súc với vị cố vấn và khởi sự ngay.

Mrs. Di: Yeh, but this stuff doesn't mean anything to me. I think you're ripping me off!

John: O.K. Let me explain each item. First, I checked all the tubes and found three which were defective. The replacement cost was $7.35 and that's listed under "parts". The "labor" charge was for the 2½ hours I spent "troubleshooting" and checking out circuit continuity. In analyzing the wiring diagram with the voltmeter, I found that everything was intact. However, in running a video test on the oscilloscope I did find that some adjustments were needed for proper density, lineation, and focus.

Mrs. Di: Wow! This still sounds Greek to me. You mean I could have replaced those three tubes and made the adjustments to fix the thing myself?

John: No, because for one thing you don't have the necessary equipment and for another, it was another test which indicated the reason for the picture rolling. Using a signal generator, I traced a loose wire which was grounding on the chassis. Then I just soldered it back into place and that seemed to rectify things.

Mrs. Di: O.K. Here's your money, but it sure sounds like you've got a good job. I'll bet you need a college degree.

John: No you don't. You're talking about a technical skill which can be learned at Voc. Tech.

Mrs. Di: What's the name of the course?

John: My training was in the "Electronic Servicing" program, but I did take some tutoring in Blueprint Reading at one of the Adult Learning Centers and that made it much easier when I signed up for school.

Mrs. Di: O.K. I'm going to contact a counselor and get going!

VI-D Bài Văn Phạm - Can và May

"can" có nghĩa là có khả năng để làm một việc.

"may" chỉ một việc có thể (thường chỉ sự xin phép hay có lẽ)

Bài Tập 1: Hãy dùng đúng chữ "can" hay "may" trong những câu sau đây:

Thí dụ: I can do that easily.

May I go with you?

VI-E Bài Văn Phạm - Tính Từ và Trạng Từ.

Cách dùng tính từ và trạng từ.

a. good and well

b. bad and badly

a) Good luôn luôn dùng như một tính từ.

Well có thể dùng như một tính từ hay trạng từ.

b) Bad dùng như một tính từ.

Badly dùng như một trạng từ.

Bài Tập 1: Hãy dùng những chữ trong dấu ngoặc đặt vào những câu sau đây:

Thí dụ: You performed (good/well) on the exam.

You performed well on the exam.

VI-D Grammatical Focus - Can and May

"Can" refers to ability. "May" refers to possibility (usually based upon permission or probability).

Exercise 1: Write the sentences using the correct word can or may:

Examples: I can do that easily. May I go with you?

1. _____ I please have the specifications for the oscilloscope?

2. _____ you hand me the schematic diagram?

3. I know that I _____ check the lineation first.

4. If there is no more to do, _____ I go home?

5. You _____ use the soldering iron only if you work safely.

6. I doubt that the antenna _____ operate without a transformer.

7. The specifications call for wiring material which we ___ not have.

8. If you _____ read the manual, the job is much simpler.

9. I _____ have to take your set into our service center.

10. You have three defective tubes which _____ be replaced for $7.35.

VI-E Grammatical Focus - Adjectives and Adverbs

Proper use of adjectives and adverbs

a. good and well
b. bad and badly

a. Good is always used as an adjective.
Well may be an adjective or an adverb.

b. Bad is used as an adjective.
Badly is used as an adverb.

Exercise 1: Write the sentences using the correct word in parentheses.

Example: You performed (good/well) on the exam.
You performed well on the exam.

1. The customer behaved (bad/badly) when he saw the service charge.

2. I think that electronic servicing is (good/well) to learn.

3. John was glad to find the (bad/badly) connection.

Bài Tập 2: Hãy chỉ những chữ có kẻ dưới trong những câu sau đây là tính từ hay trạng từ:

Thí dụ: If you know how to read the blueprints the rest is simple.

adverb.

VI-F Bài Văn Phạm - Cách dùng động từ.

Bài Tập 1: Hãy dùng động từ đúng trong dấu ngoặc ở những câu sau đây:

Thí dụ: A good serviceman (take/takes) his time.

4. A (bad/badly) broken TV set can be expensive to fix.

5. The set performed (good/well) when it was in the service center.

6. The voltmeter test looked (bad/badly) compared to the others.

7. It takes a very small amount of electricity to rotate a (good/well) antenna.

8. Repairs can usually be done (good/well) in the customer's home.

9. It's always (good/well) to consider safety first.

10. The signal generator was worn too (bad/badly) to operate well.

Exercise 2: Indicate if the underlined word is an adjective or an adverb.

Example: If you know how to read blueprints, the rest is simple. adverb

1. The waves on the oscilloscope became narrow when the audio was increased.

2. Which of these schematic diagrams will work best?

3. This wiring diagram is difficult to read.

4. Weak video tubes will produce a picture which is too dim.

5. The wire shorted deep in the chassis floor.

6. Robert appeared frustrated by the audio breakdown.

7. A successful career depends upon keeping abreast of technological advances.

8. The specifications are completely detailed in the manual.

9. It's hard to believe that the charges were so high.

10. An important skill to learn is blueprint reading.

VI-F Grammatical Focus - Verb Usage

Exercise 1: Write the sentences using the correct form of the verb in parentheses.

Examples: A good serviceman (take/takes) his time.
A good serviceman takes his time.

Teacher's Note: Vietnamese verbs are both invariant and limited. There are fewer tenses than in English and they are formed by the context of the sentence rather than verb modification.

Bài Tập 2: Hãy dùng thể đúng của động tự trong dấu ngoặc của những câu sau đây:

Thí dụ: The line on the oscilloscope (swung/swang) widely.

The line on the oscilloscope swang widely.

Bài Tập 3: Hãy kẻ dưới những thì sai của động tự trong mỗi câu sau đây, sau đó viết thì đúng vào chỗ trống:

Thí dụ: Did you see the oscilloscope shown? showed.

1. The oscilloscope (show/shows) the problem.

2. Mary and John (want/wants) their TV repaired.

3. A good service center (make/makes) a difference.

4. Your antenna (increase/increases) the picture quality.

5. Defective parts (produce/produces) a safety hazard.

6. Audio and video characteristics (is/are) tested first.

7. Density, lineation, and focus (was/were) adjusted.

8. Both technical manuals (give/gives) the same information.

9. Electronic servicing (is/was) a career you might consider.

10. Neither you nor Ellen (can/may) find the trouble.

Exercise 2: Write the sentences using the correct form of the verb in parentheses.

1. The lines on the oscilloscope (swung/swang) widely.

2. The prices on parts replacement have not (fallen/fell).

3. Ellen has not (spoke/spoken) to Ted about the bill.

4. That clip (sprang/sprung) out when the nut was removed.

5. Those lines appear to be (froze/frozen) on the oscilloscope.

6. We (saw/seen) what kind of wages a serviceman earns.

7. They never have (threw/thrown) away a defective part without the customer's approval.

8. Both trainees have (ran/run) a check on the continuity of the circuit.

9. The signal (grew/growed) stronger when impedance was reduced.

10. The acid has (eaten/ate) through the wire.

Exercise 3: Write the sentences using the correct past tense form for the underlined verb.

Example: Did you see what the oscilloscope shown? showed

1. When no defective tubes were located, Ted begun to be puzzled.

2. Have you bring your signal generator to class?

3. The serviceman checked for a broke circuit.

4. Thach analyze his bill carefully.

5. Where are my solder iron?

6. If it were not for these fuses your main tube would have blew.

7. Electrical resistance increase when he turned on the iron.

8. They had not understanded the charges on their bill.

9. A car and a valid driver's license is require in this job.

TRÌNH ĐỘ III

CÁC CHƯƠNG TRÌNH HỌC CÁCH TIẾP ĐÃI KHÁCH

Các công việc dọn dồ ăn, một phần trong kỹ nghệ tiếp dãi khách, đang phát triển mạnh mẽ. Số người thích đi du lịch và ăn ở nhà hàng mỗi ngày một đông hơn. Dân số gia tăng, thành thị mở mang, tiền bạc dủ dả để đi du lịch và ăn tại nhà hàng, tất cả những sự kiện đó đã giúp cho sự phát triển của kỹ nghệ tiếp dãi khách bành trướng.

Những người kém khả năng Anh ngữ có thể tìm công việc trong lãnh vực này. Huấn luyện về vệ sinh trong nhà bếp và giao tiếp với khách hàng có sẵn trong các trình độ trong chương trình về "food preparation*" tại các trường kỹ thuật.

Bài học này cần được bổ túc bằng những cuộc đi thăm viếng các phòng thực tập "food preparation". Giảng viên của các phòng thực tập này có thể được mời đến để nói chuyện với học viên của cả lớp.

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* *Food Preparation: nói chung tất cả những nghề như nấu ăn, bày đồ ăn, dọn bàn, phụ bếp, rửa chén, v.v.*

LEVEL III

Hospitality Programs

Food service jobs, part of the hospitality industry, are booming. Greater numbers of people are traveling and dining out. With increases in population, urban development, and more money available for trips and meals away from home, growth continues.

Individuals with limited skills in English are employable in the hospitality industry. Training in proper kitchen procedures, sanitation, and public relations are available at various levels in the food service program at most vocational schools.

This unit should be supplemented by visiting the food service labs or a restaurant kitchen. Teachers in the program could be invited to talk to the class.

TRÌNH ĐỘ III

BÀI VII

FOOD PREPARATION*

VII-A Mục Tiêu của Học Viên: biết về các chương trình huấn luyện có sẵn về food preparation*; hiểu và dùng các ngữ vựng cùng cách cân, đo lường dùng trong ngành food preparation.

VII-B Ngữ Vựng:

1. ghi nhớ
2. xin một chỗ làm
3. lựa chọn
4. duy trì
5. số lượng
6. tách riêng ra
7. thương mại
8. có hiệu lực, công hiệu
9. nghề nghiệp
10. phẩm chất
11. khả năng, sự khéo léo
12. huấn luyện
13. sự sửa soạn
14. phương pháp
15. sở, chi nhánh
16. nhân viên
17. người dọn bàn
18. thịt bò lò
19. dơ bẩn
20. vườn bông, công viên
21. đúng, lanh lẹ
22. chỗ nghỉ mát
23. đồ làm bằng tay, thủ công nghệ
24. mạnh mẽ
25. có lời
26. nhấn mạnh về một điểm
27. sức lực; bắt buộc
28. giảm đi
29. còn lại
30. chứng tỏ; thử
31. làm tràn ra, chảy ra
32. sách bài làm

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* *Food Preparation: nói chung tất cả những nghề như nấu ăn, bê đồ ăn, phụ bếp, dọn bàn, rửa chén v.v.*

Level III

Lesson VII

FOOD PREPARATION

VII-A <u>Student Objective</u>: The student will know about training programs available in food preparation and will be able to understand and use the vocabulary and weights and measures used in the kitchen.

VII-B <u>Vocabulary</u>:

1. memorize
2. applied
3. select
4. maintain
5. quantity
6. isolated
7. commercial
8. effective
9. profession
10. quality
11. skills
12. training
13. preparation
14. methods
15. agencies
16. personnel
17. busboy
18. roast
19. dirty
20. park
21. sharp
22. resorts
23. craft
24. intensive
25. gainful
26. insist
27. force
28. decrease
29. remain
30. prove
31. spill
32. workbook

VII-C Bài Đối Thoại:

Frank: Tôi làm người dọn bàn trong hàng ăn này đã 3 năm nay.

Nga: Thế anh không thích làm việc đó nữa hả?

Frank: Có chứ, nhưng tôi muốn trở thành người nấu ăn.

Nga: Anh phải ghi tên vào chương trình huấn luyện để học nghề đó.

Frank: Tôi biết. Bà giáo lớp đêm đã đề nghị với tôi rồi. Bà ấy nói có sẵn nhiều chương trình trong ngành Food preparation.

Nga: Anh nghĩ là tôi cũng có thể xin được huấn luyện thêm không?

Frank: Ồ, được chứ, tôi chắc chắn là chị có thể học được.

Nga: Thế mình đi lấy đơn xin ghi tên học ngay đi.

VII-D Bài Kiểm: Chữ kẻ dưới trong những câu sau đây sai, bạn hãy viết câu đó lại bằng cách dùng đúng chữ:

(*Chú thích: Bảng chỉ dẫn cách cân đo tương đương với mét đính kèm ở cuối cuốn sách này có thể in ra và phát cho mỗi học viên.*)

Thí dụ: There are six quarts in a gallon.

There are four quarts in a gallon.

VII-C Dialogue:

Frank: I have been a busboy at this restaurant for three years.

Nga: Don't you like your job any more?

Frank: Yes, but I would like to be a cook.

Nga: You would have to go into a training program to learn that.

Frank: I know. Our teacher at night school suggested it to me. She said there are many training programs available in food preparation.

Nga: Do you think that I can apply for more training also?

Frank: Oh yes, I'm sure that you can.

Nga: Let's get the applications right away.

VII-D Comprehension:

Exercise 1: The mistake in each sentence is underlined. Write the sentence using the correct word.

Example: There are six quarts in a gallon.
There are four quarts in a gallon.

Note: The chart of metric equivalencies provided in the back of this book may be duplicated and provided to each student.

1. There are three cups in a quart.
2. Four teaspoons are equal to one tablespoon.
3. The busboy prepares the food.
4. Apples, oranges, and grapefruit are classified as vegetables.
5. There are nine units in a dozen.
6. Milk, water, and juice are measured with dry measures.
7. Restaurants show what they have to offer on a recipe.
8. Sixteen cups make up a quart.
9. Roasts are cooked in the oven for several minutes.
10. There are eighteen ounces in a pound.
11. Potatoes are usually bought by the ton.

VII-E Bài Văn Phạm - Some/any (một vài cái)

"some" dùng trong một câu thuộc thể xác định.

"any" dùng trong một câu thuộc thể phủ định.

Thí dụ: I have some money. I don't have any money.

Do you have some books? I don't have any books.

Bai Tập 1: Bạn hãy dùng chữ đúng trong dấu ngoặc đặt vào những câu sau đây:

VII-F Bài Văn Phạm - Thể Nghi Vấn (câu hỏi).

Bài Tập 1: Hãy đổi những câu sau đây thành thể nghi vấn bằng cách xếp lại vị trí của động từ hay thêm "does":

Thí dụ: Rose was here.	His father works in town.
Was Rose here?	Does his father work in town?

12. A beverage is something you eat.

13. Pastry, ice cream, and fruit are all beverages.

14. There are four pints in a quart.

15. Restaurant kitchens should be kept dirty.

VII-E Grammatical Focus - Some/Any

Some is used in a positive sentence or question. Any is used in a negative sentence and may should be used in questions.

Example: I have some money. I don't have any money.
Do you have some books? I don't have any books.

Exercise 1: Write the sentences using the correct word in parentheses.

1. Do you have (any, some) applications?

2. No, there aren't (any, some) left.

3. When will you have (any, some) more?

4. I should have (any, some) more tomorrow.

5. Do you think that I can apply for (any, some) training?

6. I'm sure that you will be accepted for (any, some) training.

7. Does the county offer (any, some) training programs?

8. Oh yes, the county offers (any, some) fine programs.

9. Where can I get (any, some) more information?

10. The state employment office should have (any, some) information.

11. I don't have (any, some) information on that.

VII-F Grammatical Focus - Questions

Exercise 1: Change the following statements to questions by inverting the word order or adding a form of does.

Example: Rose was here.
Was Rose here?

His father works in town.
Does his father work in town?

1. I went to school with him in Texas.

2. Xuan always learns the new words.

VII-G Bài Văn Phạm - Thì Quá Khứ.

Bài Tập 1: Hãy đổi những động từ sau đây thành Thì Quá Khứ. Giảng viên sẽ coi lại bài làm và nghe cách phát âm của các bạn.

Bài Tập 2: Hãy dùng những động từ trong bài tập 1 và đặt thành câu. Bạn có thể dùng thì hiện tại hay thì quá khứ.

Bài Tập 3: Câu chuyện sau đây được viết trong thì hiện tại, xảy ra mỗi ngày. Bạn hãy đổi thời gian thành ngày hôm qua và đổi tất cả những động từ có kẻ dưới thành thì quá khứ.

*will enter là thì tương lai, bạn cũng đổi nó thành thì quá khứ.

3. She is studying English.

4. They explained the program to him.

5. You are working hard.

6. The women were in the kitchen.

7. He puts his money in the bank.

8. The cook burned the roast.

9. Mai is Xuan's wife.

10. His friend finished the dishes.

VII-G Grammatical Focus - Past Tense

Exercise 1: Change each of these verbs to the past tense. The teacher will check your work and listen to your pronunciation.

Teacher's Note: Vietnamese verbs are both invariant and limited. There are fewer tenses than in English and they are formed by the context of the sentence rather than verb modification.

1. describe	7. practice	13. manage	19. spill
2. notice	8. touch	14. need	20. count
3. insist	9. plan	15. decrease	
4. control	10. change	16. remain	
5. accept	11. force	17. prove	
6. learn	12. carry	18. indicate	

Exercise 2: Use the words in Exercise 1 above in sentences of your own. You may use present or past tense.

Exercise 3: This story is written in present tense EVERY DAY. Retitle it to YESTERDAY and change all the underlined verbs to past tense.

EVERY DAY

Xuong gets up at 6:00 a.m. After he takes a shower and dresses, he eats breakfast. Then he meets his friend Nga and they walk to the restaurant together. Nga is a kitchen helper. Xuong works as a busboy. They arrive at work at eight o'clock. The restaurant has many customers and they are busy all morning. At noon Xuong and Nga eat their lunch in the park. They sit on a bench and practice speaking English. They bring their workbooks with them. Xuong likes to review the new words. Nga studies her lesson, also. Their class starts at 6:30 p.m. sharp! They don't like to be late. When they learn more English, they will enter* a training program in food service.

*Will enter is future tense. Change this also to past tense.

VII-I Bài Tập Bổ Túc:

1. Hãy tiếp sức với Sở Tìm Việc của Tiểu Bang để hỏi về các chương trình huấn luyện về food preparation có sẵn trong vùng bạn ở. Họ có thể giới thiệu bạn đến những cơ sở khác có thể giúp bạn được.

2. Hãy hỏi những nhà hàng, quán trọ, hàng ăn v.v. tại những nơi nghỉ mát xem họ có các chương trình huấn luyện cho những người thích làm việc về ngành thực phẩm không?

3. Nên đến trường chuyên nghiệp kỹ thuật để biết về các chương trình của họ và xem họ có thể giúp bạn huấn luyện được gì. Vị cố vấn sẽ sẵn sàng hướng dẫn và trả lời các câu hỏi của bạn.

Mấy câu có thể giúp ích cho cuộc đối thoại:

Chỗ đó ở đâu?

Bao nhiêu lâu...?

Khi nào...?

Ông có...không?

Tôi xin nói chuyện với...

Có sẵn những gì...?

VII-H Reading:

Preparation of food in commercial eating places is one of the largest industries in the country. Quantity cooking is a highly skilled craft requiring intensive training. Experienced cooks do not learn their trade by memorizing isolated recipes, but by learning general methods or skills which can be applied in a wide variety of cases.

Personnel in food service departments need to be able to select, care for, prepare, and serve quality food to maintain public health. In-service training in food preparation is important in maintaining effective preparation standards.

The State Employment Service knows of any on-the-job training programs which would permit an employee to work while at the same time receiving training in food preparation. Public Service Employment is a federally backed program to assist those in need of training. The Comprehensive Employment Training Act also seeks out those who need to be in a training program before they will be able to be gainfully employed.

VII-I Additional Exercises:

1. Contact the State Employment Service to inquire about training programs in Food Preparation that are available in your area. They may refer you to other helpful agencies.

2. Inquire of large resorts, motels, restaurants, etc., if they have their own training programs for those interested in the food service profession.

3. Go to your vocational-technical school and learn about their programs and what they can offer you in training. A counselor would be glad to assist you and answer your questions.

   Structures that may be useful in the situation:

   Where is that located?
   How long...
   When does...
   Do you have...
   May I talk to...
   What is available...

TRINH DO III

PHAN TAP DOC

BÀI I - Nếu bạn đã có một chút khả năng về công việc văn phòng và biết đánh máy, thì sự huấn luyện thêm có thể giúp cho bạn đủ sức để nhận công việc của một người thư ký đánh máy.

Công việc của người thư ký đánh máy thay đổi tùy theo loại và sự rộng lớn của văn phòng bạn làm việc. Nhiệm vụ chính gồm có thâu thập tai liệu và đánh máy các báo cáo, cất giữ hồ sơ và báo cáo, dán các thông cáo, soạn và phân phối thư từ, trả lời điện thoại, sử dụng máy tính, đánh máy giấy tăng sin, đánh máy bao thư, và coi tổng đài điện thoại.

Có nhiều loại văn phòng mượn thư ký đánh máy; bạn nên giữ liên lạc với các Sở Tìm Việc của Tiểu Bang và các cơ quan khác để xem các bảng liệt kê chỗ trống.

Bạn nên đi thăm nhiều văn phòng và quan sát các nhiệm vụ mà người thư ký đánh máy phải làm, giả biểu lường, và bầu không khí làm việc trong văn phòng.

Các chương trình huấn luyện có sẵn tại các trường chuyên nghiệp và các cơ quan khác. Bạn hãy chọn một chương trình huấn luyện giúp bạn trở nên có khả năng cho loại công việc của người thư ký đánh máy mà bạn cảm thấy thích nhất.

BÀI II - Học viên học về công việc của người account clerk có nhiều cơ hội để lựa chọn công việc trong lãnh vực đó.

Có nhiều account clerk tìm việc làm trong các văn phòng thương mại và phần lớn công việc của họ là tính toán các con số. Account clerk coi lại tất

cả các phiếu gửi hàng và các hóa đơn để những nhà buôn biết mình nhận được những hàng hóa gì và giá tiền bao nhiêu. Các con tính cần phải coi lại cho chính xác. Họ kiểm lại các phiếu ghi giờ để mỗi công nhân được trả lương đúng những giờ đã làm. Họ có thể cần phải kiểm các hàng hóa còn lại xem sự kiểm kê có đúng không. Thỉnh thoảng họ trả lời điện thoại, soạn và phân phát thư tư, hay đánh máy văn thư. Một người làm việc trong một văn phòng nhỏ có thể làm nhiều công việc khác nhau hơn là một người làm trong hãng lớn.

Account clerk có thể tìm được việc làm như người giữ sổ lương hay giữ hồ sơ trong các hãng sản xuất các đồ dùng, các hãng vận tải bằng đường biển hay hãng xây cất nhà cửa, cao ốc thương mại hoặc dưỡng xá.

Tất cả các ngành thương mại này đều cần những sổ sách chính xác trong công việc giao dịch hàng ngày. Account clerk là người giữ nhiệm vụ quan trọng trong công việc này.

BÀI III - Những người làm trong ngành điều dưỡng luôn luôn được trọng dụng; trong ngành này đặc biệt rất cần đến đàn ông.

Phần lớn chương trình huấn luyện cho ngành điều dưỡng thực hành đòi hỏi phải học trong một năm. Phần nhiều các trường đều có danh sách chờ rất dài. Bạn nên tìm hỏi ngay để có tên trên danh sách chờ.

Lúc hết chương trình huấn luyện học viện phải qua kỳ thi của Hội Đồng Y Khoa Tiểu Bang để lãnh chứng chỉ hành nghề. Các chương trình huấn luyện và các kỳ thi là một công việc vất vả, nhưng việc làm của người điều dưỡng, giúp đỡ người khác đem lại nhiều thích thú. Bạn sẽ có khả năng làm một nghề quan trọng trong suốt cuộc đời bạn.

BÀI IV - Điện toán ảnh hưởng đến đời sống của mọi người trong chúng ta; ảnh hưởng về kinh tế rất quan trọng. Nhiều nghề về ngành này đã xuất hiện như

"computer systems analyst," "computer programmer," "computer operator," và "computer technician."

Máy điện toán được xử dụng từ những công việc rất tầm thường như "data processing" đến việc hướng dẫn phi thuyền không gian đến chỗ đáp mặc dù chưa đầy 20 năm từ ngày điện toán bắt đầu được áp dụng vào phương pháp "data processing".

Học viên, dù chọn nghề gì chẳng nữa, cũng sẽ giao dịch nhiều với máy điện toán hay kết quả của việc xử dụng điện toán trong các nghề tương lai của mình. Quản trị xí nghiệp, y khoa, hành chánh, quản trị thư viện, giáo dục, ngành kỹ sư, và khảo cứu là một vài thí dụ những nghề chịu nhiều ảnh hưởng của điện toán. Vì điện toán đã trở nên rất quan trọng trong xã hội chúng ta, cho nên sự hiểu biết về điện toán phải là một phần trong sự hiểu biết của một người có học thức.

BÀI V - Có sẵn nhiều loại công việc khác nhau về nghề vẽ họa đồ tùy theo từng loại kỹ nghệ. Cũng có nhiều công việc liên hệ khác nếu ta không muốn chọn nghề vẽ họa đồ; cần phải đi thăm các loại kỹ nghệ khác nhau, cần phải suy nghĩ kỹ xem chỗ nào công việc vẽ họa đồ trả lương và giờ làm việc tốt nhất và có cơ hội nào để ta tiến thân trong công việc.

BÀI VII - Nghề sửa soạn thực phẩm ở những nơi bán đồ ăn là một kỹ nghệ lớn nhất trong nước. Cách nấu nướng cho nhiều người ăn là một nghề cần nhiều khéo léo và đòi hỏi nhiều huấn luyện. Những người nấu ăn chuyên nghiệp không phải học nghề của họ bằng cách nhớ riêng từng món một, mà bằng cách học các phương pháp tổng quát hay sự khéo léo có thể áp dụng trong nhiều món ăn khác nhau.

Nhân viên trong các ban thực phẩm cần phải biết lựa chọn, chăm sóc, sửa soạn và dọn những đồ ăn có phẩm chất để giữ gìn sức khỏe cho thực khách. Huấn luyện tại chỗ trong ngành food preparation rất quan trọng trong việc duy trì các tiêu chuẩn hữu hiệu trong cách nấu nướng.

Cơ Quan Tìm Việc của Tiểu Bang biết các chương trình huấn luyện nào có thể cho phép một nhân viên vừa làm việc cùng lúc được huấn luyện về ngành Food Preparation. Public Service Employment là một chương trình được liên bang nâng đỡ để giúp đỡ những người cần được huấn luyện. Luật Comprehensive Employment Training cũng giúp cho những người cần phải theo một chương trình huấn luyện trước khi họ có thể được mướn làm.

TRÌNH ĐỘ III

BẢNG ĐO LƯỜNG

U.S. TO METRIC

Đơn vị đo lường Mỹ sang đơn vị thước tây

LENGTH			Đơn vị chiều dài
		1 inch	= 25,0 ly
12 inches	=	1 foot	= 0,3 thước
3 feet	=	1 yard	= 0,9 thước
		1 mile	= 1,6 cây số

AREA			Đơn vị diện tích
		1 square inch	= 6,5 phân vuông
		1 square foot	= 0,09 thước vuông
		1 square yard	= 0,8 thước vuông
		1 acre	= 0,4 mẫu tây
		1 square mile	= 2,6 cây số vuông

MASS			Đơn vị trọng khối
		1 grain	= 64,8 miligrams (mg)
		1 ounce	= 28 gam (g)
16 ounces	=	1 pound	= 0,45 ki lô gam (kg)
2000 pounds	=	1 short ton	= 9,071 ki lô gam

POWER			Đơn vị động lực
		1 horsepower (1 mã lực)	= 0,75 ki-lo uất

ENERGY			Đơn vị nhiệt lượng
		1 calorie	= 4,18 joules (j)

VOLUME			Đơn vị thể tích
		1 cubic inch	= 16 phân khối
		1 cubic foot	= 0,03 thước khối
		1 cubic yard	= 0,76 thước khối
		1 teaspoon	= 5/1,000 lít
3 teaspoons	=	1 tablespoon	= 15/1,000 lít
		1 fluid ounce	= 30/1,000 lít
8 ounces	=	1 cup	= 0,24 lít
2 cups	=	1 pint	= 0,47 lít
2 pints	=	1 quart	= 0,95 lít
4 quarts	=	1 gallon	= 3,78 lít
2 gallons	=	1 peck	= 8,81 lít
4 pecks	=	1 bushel	= 0.04 thước khối

METRIC TO U.S.

Đơn vị thước tây sang đơn vị đo lường Mỹ

Đơn vị chiều dài		LENGTH
1/1,000 thuoc (mm)	=	0.04 inch
1 thước (m)	=	3.3 feet
1 thước	=	1.1 yards
1 cây số	=	0.6 mile

Đơn vị diện tích		AREA
1 phân vuông (cm^2)	=	0.16 square inch
1 thước vuông (m^2)	=	11 square feet
1 thước vuông	=	1.2 square yards
1 mẫu tây (hectare*)	=	2.5 acres
1 cây số vuông	=	0.39 square miles

Đơn vị trọng khối		MASS
1/1,000 gam (mg)	=	0.015 grain
1 gam (g)	=	0.035 ounce
1 ki lô (kg)	=	2.2 pounds
1 tấn	=	1.102 tons (short)

Đơn vị động lực		POWER
1 ki-lo uất	=	1.3 Horsepower (1 mã lực)

Đơn vị nhiệt lượng		ENERGY
1 joule (j)	=	0.24 calorie

Đơn vị thể tích		VOLUME
1 phân khối (cm^3)	=	0.06 cubic inch
1 thước khối (m^3)	=	35 cubic feet
1 thước khối	=	1.3 cubic yards
1/1,000 lít (ml)	=	0.2 teaspoon
1/1,000 lít	=	0.07 tablespoon
1/1,000 lít	=	0.03 ounce
1 lít (1)**	=	4.2 cups
1 lít	=	2.1 pints
1 lít	=	1.1 quarts
1 lít	=	0.28 gallons
1 lít	=	0.14 pecks
1 thước khối	=	28 bushels

* hectare bằng 10,000 thước vuông
** 1 lít bằng 1 tấc khối (dm^3)

ACCESSION NUMBER: VT103250

PUBLICATION DATE: 30JUN76

TITLE: CAREER AWARENESS INSERVICE FOR EDUCATORS. FINAL REPORT.

PERSONAL AUTHOR: ETZEL, NAT

DESCRIPTOR: *CAREER AWARENESS; *VIDEO TAPE RECORDINGS; *INSERVICE TEACHER EDUCATION; *ELEMENTARY EDUCATION; *LEARNING ACTIVITIES; CLASS ACTIVITIES

EDRS PRICE: MF AND HC AVAILABILITY WILL BE ANNOUNCED IN VOL. 10, NO. 2.

DESCRIPTIVE NOTE: 66P.

ABSTRACT: THIS PROJECT DEVELOPED FOUR 20-MINUTE CAREER AWARENESS INSERVICE TAPES AND AN INDIVIDUALIZED CURRICULUM TO ACCOMPANY EACH TAPE. THE TITLES ARE: CAREER EDUCATION IN OREGON, WHO AM I?, CAREER GUIDANCE, AND CLASSROOM ACTIVITIES IN CAREER AWARENESS. INCLUDED IN THE DOCUMENT ARE THE FOUR CURRICULUMS, EACH CONTAINING TWO SECTIONS. ONE SECTION SHOULD BE READ PRIOR TO VIEWING THE TAPE; THE SECOND CONTAINS ACTIVITIES TO BE PERFORMED BY THE STUDENTS. THESE ACTIVITIES INVOLVE CONCEPTS OF DECISION MAKING, LEARNING STYLES, APTITUDES AND INTERESTS, SELF-AWARENESS, ROLE PLAYING, AND PERSONALITY TRAITS. (AUTHOR)

CONTRACT NUMBER: 15-000-038

INSTITUTION NAME: JACKSON COUNTY INTERMEDIATE EDUCATION DISTRICT, MEDFORD, OREG.

SPONSORING AGENCY NAME: OREGON STATE DEPT. OF EDUCATION, SALEM. CAREER PROGRAM DEVELOPMENT AND EVALUATION UNIT.; OFFICE OF EDUCATION (DHEW), WASHINGTON, D.C.

VT 103 250

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FINAL REPORT

CAREER AWARENESS INSERVICE FOR EDUCATORS

(Project No. R-A-2-75)
(Grant No. 15-000-038)

Nat Etzel
Regional Coordinator
Career Education

JACKSON COUNTY INTERMEDIATE EDUCATION DISTRICT
101 North Grape Street

MEDFORD, OREGON

June 30, 1976

OREGON DEPARTMENT OF EDUCATION

CAREER PROGRAM DEVELOPMENT AND EVALUATION UNIT

Developed In Oregon Under Auspices
of
Part C - Research Grant - P.L. 90-576

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ABSTRACT

TITLE:	Career Awareness Inservice for Educators
INSTITUTION:	Nat Etzel, Project Director Jackson County Intermediate Education District 101 North Grape Street Medford, Oregon 97501 (503) 779-5510
PROJECT DURATION:	February 1, 1975 through June 30, 1976

COSTS:	Federal	Local	Total
	$1,300.00	$2,350.00	$3,650.00

NUMBER OF STUDENTS AFFECTED: N/A Number of Staff Involved: 20

PROJECT DESCRIPTION: Four twenty minute half-inch video tapes have been developed on Career Education in Oregon, Who Am I?, Career Guidance, and Classroom Activities in Career Awareness. Each tape also has developed curriculum to be used in conjunction with the concepts portrayed on video.

Purpose:

The purposes of the project are to provide inservice to educators on career awareness by the use of the modern media of video tape. Accompanying each twenty minute tape is an individualized curriculum which can be used before viewing and shortly afterwards which enhances the concepts of the video presentation.

Procedures and Outcomes

The project has been designed that you read the yellow pages in the curriculum packet for each tape entitle "Prior to Viewing the Tape." After that is accomplished, the video tape is viewed. Following the showing, the activities which are in the blue pages are to be read and performed. The participants will then be able to increase their knowledge and concepts about implementing career awareness in the elementary classroom.

APPENDIX C

BUDGET

TITLE OF PROJECT _____

	TOTAL COSTS	LOCAL COSTS	FEDERAL COSTS
A. Personnel--Including Employee Benefits			
1) Staff--List Names			
George Raw		$ 250.00	
Sandy Hansen		175.00	
2) Consultants--List Names			
Craig Thorsen			$ 150.00
Niki Laird			150.00
Other Educators			431.50
--For teacher release time and substitute pay	$1,156.50		
B. Travel	188.84		188.84
C. Services--Please Specify			
Secretarial	150.00	150.00	
D. Supplies			
Video Tapes	363.00		363.00
E. Equipment--Use only when appropriate	1,500.00	1,500.00	
F. Other Costs			
Zerox	266.66	250.00	16.66
Long Distance	25.00	25.00	
Cost Sharing (percent)			
Column Totals	$3,650.00	$2,350.00	$1,300.00

Revised 10/1/75

A. Background and Instruction

1. Goals and Objectives

This project has developed four - 20 minute video Career Awareness Inservice tapes plus an individualized curriculum has been developed to accompany each tape. These tapes are planned to provide inservice for educators on career awareness.

2. Rationale

If career awareness is to reach all of the students (K-6) in the elementary schools of Oregon, it seemed impossible that one State Specialist and fifteen Regional Coordinators could accomplish this goal without substantial assistance. The Career Education Coordinator of the Jackson County Intermediate Education District initiated the proposal to use a media approach in transporting Career Awareness.

3. Staff and Student Usage

At the present time, we have only field tested project with an evaluation team and material hasn't been released for county or statewide usage.

4. Setting

The video taping was conducted in the studio at the Jackson County I.E.D. by the Instructional Television Staff with some remote work accomplished at several Jackson County Elementary Schools. Accompanying curriculum was originated by John Davies, Principal of Laurel Elementary School, Junction City, Oregon, and written and perfected by Niki Laird, Eugene. Oregon.

B. Major Accomplishments or Outcome

1. Methods of Strategies

The video tape Career Education in Oregon gives an overview of Career Awareness in Oregon with particular emphasis to defining the concepts at the elementary level and its relationship to the total career education thrust. The accompanying curriculum is 25 pages of activities for educators involving the concepts of decision making, learning styles, aptitudes and interests, and self awareness.

The video tape "Who Am I?" presents the concepts of Role Playing for elementary students by using parts from Inside Out's "Bully." In this series, the producer attempted to show the value or role playing for elementary students.

The curriculum for Tape II is 12 pages of the values of role playing with elementary students.

The video tape Career Guidance III approaches the technique from the factors to consider in implementation. A role playing specialist discusses with teachers the means of implementing role playing in a classroom situation. The curriculum discusses successful methods of role playing and speaks to a number of examples.

Tape IV attempts to show several examples of Career Awareness activities. One is the industrial arts assembly line project, one on value clarification, and one showing teachers at an industrial arts workshop. The accompanying curriculum explains the examples that are shown on the tape.

Educator Outcome:

The video tape can be used individually in sequence or out, with curriculum or without, and honest attempt has been made to try and keep them as flexible as possible so maximum utilization can be made. Also, the project director feels that an inservice would greatly enhance the users effectiveness.

Dissemination and Utilization:

The project director plans to encourage a workshop with the Regional Coordinators sometime this August on usage of the video tape and accompanying curriculum. It would therefore be advisable, if acceptable to the Regional Coordinators, that they make them available to the Career Education Directors in his region, or other administrators responsible for Career Education within their district. The project would be able to furnish curriculum and tapes at costs to any LEA with the state.

Evaluation:

The video tapes and accompanying curriculum were strenuously evaluated by ten elementary teachers and three administrators from Jackson and Josephine Counties, in late May. They unanimously agreed that the project is very viable and urged its immediate completion so it could be used in the area as soon as possible.

CAREER EDUCATION IN OREGON

DEVELOPED IN OREGON UNDER THE AUSPICES OF PART C OF PUBLIC LAWS 90-567

PRODUCED BY THE INSTRUCTIONAL TELEVISION DEPT., JACKSON COUNTY I.E.D.,
GEORGE RAW ITV SPECIALIST

WRITER - NICKI LAIRD

CURRICULUM DESIGN - JOHN DAVIES ELEMENTARY PRINCIPAL JUNCTION CITY

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CAREER AWARENESS IN OREGON

Prior to Viewing the Tape

The video tape presentation is designed to give an overview of career education in Oregon with particular emphasis given to defining career awareness at the elementary level and its relationship to the total program. The following excerpt will summarize the salient points discussed in the tape.

> Career education objectives are manifest at the elementary level as career awareness. Under a career focused curriculum, career awareness is not a separate subject but is developed in each classroom within traditional subject matter areas. The scope of each subject changes to incorporate the many occupational careers related to the topic being studied. As with the entire career education program, career awareness emphasizes the producer role and its relationship with other life roles. Moreover, the dignity of all work is stressed by examining the contributions of a variety of occupations to society. The student is the focal point of career awareness learning activities intended to implement the career development process. As a departure point, students are encouraged to examine personal needs in relation to various occupations. An awareness program provides opportunities for learners to participate actively in:
> -Making decisions that relate to their career development.
> -Discovering their occupational aptitudes and interests.
> -Developing their individual learning styles-ways they learn best.
> -Expressing their self awareness as it relates to career development, occupational interest, and the role of the producer.
>
> from Implementing Career Awareness at the Elementary School, Oregon State Department of Education (1975)

In the tape, you will see cuts from films from the Bread and Butterflies series which will help you to relate better to the four components of career awareness as listed above. Through participation in career awareness learning activities, you will quickly gain insight into the process which provides a view for learners of self in relation to work, attitude toward work, choices which might be made as a worker, and ways to implement these choices.

CAREER AWARENESS
LEARNING ACTIVITIES

Introduction

It might be helpful to provide more information about the components of career awareness as it has been defined before we move into the activities.

1. Decision making - It is a systematic process requiring specific skills and practice. One basic skill is the ability to use the vocabulary of the decision making process. Another vital area is information gathering skills. Methods of information gathering are based on external and rational factors as well as internal factors - values, goals, feelings.

2. Learning styles - Daily experiences of children in mastering tasks are accompanied by feelings of desire, hope, adequacy, inadequacy, acceptance, etc. These feelings have profound effect on the learning process itself and the concept individuals develop of themselves.

3. Aptitudes and interests - People are often identified as "being good with" or "having a knack for" or "being gifted with" or "having a mind for" something. These are certain behaviors from which one can conclude that a person has a certain ability or aptitude. These kinds of abilities are as important to success in many kinds of work and non-work activities as are the aptitudes measured by standardized tests.

4. Self awareness - Central to career development is clarification of the self concept. There is a complicated and personal character involved which can be achieved only through suffusing career education with many efforts to tie a growing understanding of work life with a growing understanding of self and what one wants from life.

Essential to a well planned program is an understanding of the intent and purpose of these components, their relationship to one another and their application, i.e. translating to learners what they can do with what they have learned.

Consideration must also be given to the awareness of the great variety of occupations and the interdependence of workers. This may not be left to chance for every experience that a child has in learning about people around him/her help him/her to learn about the self and the opportunities open to him/her.

At the primary level, occupational information is usually limited to the immediate environment and firsthand experiences of children. Learners' career horizons broaden through pertinent experiences in and around the school to discover who works, why people work, when and where people work.

At the intermediate level when aspirations are determined by needs and likes, the pupil characteristically believes that they can become whatever they want to become. Occupational role models are needed, especially for girls whose aspirational levels are rising and opportunities expand.

Introduction (cont.)

At the upper elementary level determination of aspirations begins to move from the basis of likes to capacity, from "I like the job," or "It is exciting and interesting," to "I am good at art," or "I am editor of the school newspaper," or "My best scores are in reading." At this level, learner relate interests and abilities to different jobs; explore the educational requirements of jobs; and identify changes in the job market including the wide variety of new occupations that exist.

Statewide Goals for Schooling

Each individual will have the opportunity to develop to the best of his or her ability the knowledge, skills, and attitudes necessary to function in each life role.

1. In preparation for the role of LEARNER:

   Each individual will develop the basic skills of reading, writing, computation, spelling, speaking, listening, and problem-solving; and will develop a positive attitude toward learning as a lifelong endeavor.

2. In preparation for the role of INDIVIDUAL:

   Each learner will develop the skills to achieve fulfillment as a self-directed person; acquire the knowledge to achieve and maintain physical and mental health; and develop the capacity to cope with change through an understanding of the arts, humanities, scientific processes, and the principles involved in making moral and ethical choices.

3. In preparation for the role of PRODUCER:

   Each individual will learn of the variety of occupations; will learn to appreciate the dignity and value of work and the mutual responsibilities of employers nad employees; and will learn to identify personal talents and interests, make appropriate career choices, and develop career skills.

4. In preparation for the role of CITIZEN:

   Each individual will learn to act in a responsible manner; will learn of the rights and responsibilites of citizens of the community, state, nation, and world; and will learn to understand, respect, and interact with other cultures, generations, and races.

5. In preparation for the role of CONSUMER:

   Each individual will acquire knowledge and develop skills in the management of personal resources to provide wisely for personal and family needs and meet obligations to self, family and society.

6. In preparation for the role of FAMILY MEMBER:

   Each individual will learn of the rights and responsibilities of family members, and acquire the skills and knowledge to strengthen and enjoy family life.

Participants' Role in Learning Activities

Now you are ready to supervise and/or participate in learning activities. In the next few pages you will find four learning activities as follows: 1) What are the Risks? 2) Reporting My Observations; 3) Discovering What I Can Do; 4)

These are presented to you through an evolutionary process which includes four steps. This is done to give you as many "how to's" as possible and thus provide a good learning experience.

Step I presents an activity involving decision-making skills (What Are The Risks?). It will provide a model from which you will work with other activities.

Step II
Observations). This is the result of pulling together some scattered suggestions and building them around the same format as that used in Activity 1.

Step III will have you divide into four groups and start some of your own rewriting.

Step IV provides you with suggestions and considerations which should be helpful to you in rewriting.

STEP I

The first activity (What Are The Risks?) is complete and ready for you to use in the classroom. This was taken from a module of sequenced learning activities developed through a Career Education Curriculum Project at the University of Missouri-Columbia. If it is appropriate the group should read through the activity and have the supervisor lead the participation. If time does not permit, the activity can be taken back to the group on learners' response at a later date.

There are some unique qualities of the format which you should give attention to:

(a) Right after the activity title are suggested curriculum areas where the skill can be presented.

(b) Development of vocabulary is considered very important.

(c) Adaptions are given special consideration so that no learner is excluded from full participation.

Risks involve...

danger.

bad feelings.

loss.

damage.

dislike.

DECISION-MAKING SKILLS

ACTIVITY ONE: WHAT ARE THE RISKS? (MATH, SCIENCE, LANGUAGE ARTS)

Performance Objective: The learner will identify risks in consequences.

Class Grouping Whole Class

Total Time About four sessions

Concepts and Vocabulary Alternative, consequence, risk

Learner Prerequisites Learners should have a definition of decision making; understand that decisions (both difficult and easy) are made everyday; that alternatives exist with each decision made; that these alternatives must be ranked.

Educator's Preparation Tasks Prepare continuum; prepare a transparency and copies of the "Risks" sheet (see Resource II); set up continuum line; On the left, place a sign saying "I will take this risk", in the center, a sign saying "I won't take this risk"; prepare a transparency, or more preferably, a chart of "Risks Involve.." (see Resource I); read through the entire activity and adapt it for your group.

Materials/Resources None

Skills Responding on a chart, listening, relating information to oneself, evaluating information

RISK: (risk) n. The chance of injury, damage, or loss; dangerous; chance; hazard.

REMEMBER (AND TALK ABOUT WITH LEARNERS FROM TIME TO TIME): - EVERYDAY SIMPLE DECISIONS INVOLVE RISK - WE ARE NOT ALWAYS AWARE OF THE RISKS WE TAKE - IMPORTANT PERSONAL DECISIONS ARE SELDOM WITHOUT RISK - BIG DECISIONS MAY INVOLVE BIG RISKS - OUR VALUES INFLUENCE OUR RISK TAKING

Process

a. Present and explain vocabulary. Say something like: When we have to make a decision, we have alternatives or choices. Each alternative has at least one consequence. A consequence is what might happen after we decide and act upon a certain alternative. Some of these consequences have risks. A risk is a chance we take because we cannot know ahead of time exactly what will happen. If we each had a crystal ball, we could see into the future and wouldn't need to take risks. We all take risks when we make decisions. Explain that some risks involve damage to something. Some risks involve an important persons's disliking you. Some risks involve losing something. As you talk, point to the chart "Risks Involve....." (see Resource I).

b. Ask learners to chose alternatives for the question, "How can you get from where you are in the classroom to the hall?"

Choose one alternative and write it on the chalkboard or overhead projector. Ask learners to think quietly for the consequences (things that might happen) if they choose this alternative.

Let the whole class brainstorm to get a wide range of possible consequences. List their suggestions on the chalkboard or overhead projector.

> Many bad decisions are made as a result of failure to give enough consideration to the consequences.

c. Then focus on one of these consequences. Read it to the group. Brainstorm again for a list of risks.

> Then explain that placing themselves on the line will help them get in touch with their values. Read the signs and explain to learners that they may stand at any point along the line or at either end.

d. Say: "The decision you have to make is how you will go from the classroom to the hallway. One alternative is to climb out the window and go around. Now if you do that alternative or choice one consequence might be that you may get hurt becuase our room is oh the second floor and you will have to jump."

> It is expected that there will be unanimous internal constraint against actually jumping out the window!

e. "I will read some risks involved in that consequence (see Resource II). After I read each one I want you all to place yourself on the continuum to show how you feel about taking that risk."

> If their movement and interaction is decidedly not task-oriented, they may need to do some physical and then relaxation exercises. This segment of the activity can then be started again. If they have seized upon this activity as only a break from sitting still, then learners may need more breaks from sitting still.

After reading each risk ask:
--what are the advantages in taking this risk?
--disadvantages?
--what could make you change your mind?

f. For all but the pre-readers distribute copies of "Risks" (see Resource II). Show the transparency and read it aloud as learners follow and respond on the sheet. Do this so that no learner is excluded because of reading difficulty. When finished, go through the sheet again. Ask children to raise their hands to show whether they will, might, or won't take the risk in question. Collect and display the sheets. Display them all - not just the neatly done ones. Save them for future reference. At that time do the worksheet and/or continuum activity. Talk about changing goals and how they influence our values and risk-taking.

Bernhardt, Edna Erickson, You Can Decide. University of Missouri-Columbia: College of Education, 1975. (Developed by Career Education Curriculum Project, Norman C. Gysbers, Director)

RISKS

What I must decide:	How will I get from where I am now in the classroom to the hallway?
An alternative:	Climb out the window. Drop to the ground. Walk around to the front door. Use the stairs.
One consequence of that alternative:	We are on the second floor so I will have to jump.

R I S K S	I will take this risk	I might take this risk	I won't take this risk
I might break my leg.			
The teacher might get upset if I broke the rule about windows.			
I might squash the bushes below the window.			
I might disturb the other children.			

Use the chart presented below to relate the concept of risks to the learner's role of "Leisurer". Fold the spring section back out of sight and tape up the chart. Read an discuss the chart in the fall. When all have signed it in their spare time, remove it and post it again in the spring with the fall section covered. When all have signed, remove the covering and compare. Focus on responses that changed and those that remained the same both times. Allow learners the opportunity to give possible reasons for this. Perhaps they can isolate specific events in their lives that caused the changes.

		Fall Sign below, please				Spring Sign below, please			
I must decide	A likely consequence might be that ...	I will take this risk	I might take this risk	I won't take this risk	This is not a risk for me	I will take this risk	I might take this risk	I won't take this risk	This is not a risk for me
...if I'm going to ask a friend to play	...the friend might say no and this would make me feel bad								
...if I will climb the fence to get my ball	...the teacher might get angry and not like it								
...if I will leave my coat outside on the playground today.	...I might lose it because someone might come along and take it.								
...if I'm going to play catcher without the catcher's mitt.	...I might catch a fly on the end of my finger that would hurt.								

STEP II

The second activity (Reporting my observations) is taken from among a list of those suggested in Career Development at the Primary Level by Chicago Public Schools. A few of the suggestions which appeared appropriate to helping learners develop individual learning styles provided the framework. These were built up using a similar approach to that used in Activity I. Incorporation of specific curriculum areas along with vocabulary and concept development, the activity will become meaningful from the outset. Continual consideration should be given to the application of the learning experiences so that the learner can see the usefulness of the experience.

DEVELOPING LEARNING STYLES

ACTIVITY TWO: REPORTING MY OBSERVATIONS (Science, Language Arts)

Performance Objective: Learners will report observations list contrasting aspects of familiar environments.

Class Grouping Whole class

Total Time About three sessions

Concepts and Vocabulary Observations, Atmosphere, Reactions, Background

Learner Prerequisites Depends on the sequence that is planned

Educator's Preparation Tasks Prepare copies of "Classroom Objects" sheet (see Resource III)

Materials/Resources None

Skills Listening,

> Teacher should attempt to relate own observations to learners - these should be observations made at home and in the community as well as in the classroom.

Process

a. Explain the vocabulary by describing a situation where a group of people are walking together on a tour of a large old house which has some historical significance. They are all making observations as they tour - they see or notice objects. Because it is an historical building there is an atmosphere or surrounding influence of thoughtfulness. However, as each person observes an object they will probably have a different reaction or an action in response to that object than do the others. This is because of the difference in each person's background or their past experiences.

> Point out that observations are not made only when we are in new or different surroundings. We make observations in places where we might be every day.

b. Ask learners to tell how objects in the classroom are observed using the chart "Classroom Objects" (see Resource III). Extra blanks are left so that additions can be made if there are other objects your classroom. Note that some of the objects can be in more than one space. This discussion should include the use of the objects as well. Go through each item on the list asking the learner sho made the contribution to describe its use. Then ask the others if they think there are different uses for that object.

> Be sure that learners understand that they have different reactions to different objects than do their classmates.

c. This list of objects and their use can be applied in showing learners how the influence of surroundings or the atmosphere will make a difference in our observations. You can explain for example that the clock in the classroom is used to show us when it's time for lunch, recess, or to start another task. The clock at home is used to tell us when it's time to go to school, to go to bed, to eat dinner.

> Encourage learners to move the object to places other than home, perhaps to work settings as they discuss different surroundings.

d. Expand the concept of atmosphere and make it more individualized by asking students to relate their feelings in different surroundings. This will reinforce the point made earlier about how feelings influence our observations. Ask them how they feel - - -

the first snowfall of the season
the fifty-first snowfall of the season
Valentine's Day
the first day of school
the last day of school
on a rainy Saturday

e. Follow this with the question, "How do these sound to you?"

pumpkin pie in July
a barbecue on the ice
turkey in June
a picnic in December
a sleigh ride in May

Adaptions

a. Pictures might be pasted in the left column of the Classroom Objects sheet for younger learners.

b. For the younger learners the last two discussion groups might be grouped on the floor in a circle to facilitate a good sharing atmosphere.

Relate school curriculum to the world of work by talking with one of your working parents.
Ask:
-how would you describe the atmosphere at work?
-does it change sometimes? how?
-do you perform your job differently when these changes take place?
-do you think you perform your job differently depending on your mood?

Resource III

Put an X in the correct space to tell us how you observe classroom objects.

	SEE	HEAR	TASTE	TOUCH	SMELL
Clock					
Window					
Desk					
Piano					
Chalkboard					
Terrarium					
Water fountain					
Aquarium					
Fluorescent light					

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STEP III

Now it's your turn! You have two activities to take back to your classrooms - one in decision making skills and another in developing individual learning styles. The next two will provide you with a group of four which covers each of the components of career awareness as discussed. Some thinking and writing is going to be required first. In order to facilitate this you should break into four groups as follows:

A - Activity Three at the primary level

B - Activity Three at the intermediate level

C - Activity Four at the primary level

D - Activity Four at the intermediate level

APTITUDES AND INTERESTS

ACTIVITY THREE: DISCOVERING WHAT I CAN DO (_____)

Performance Objectives: To identify individual talents and abilities; to demonstrate one's special skills; to describe ways in which' individual assets differ.

Class Grouping

Total Time

Concepts and Vocabulary ability, talents, interests, individual unique

Learner Prerequisites

Educator's Preparation Tasks

Materials/Resources

Skills

Process

a. Show us what you can do:

Bounce like a ball	Wiggle like a snake
Hop like a rabbit	Strut like a peacock
Whistle like a teakettle	Cry like a baby
Croak like a frog	Squeak like a mouse
Run like a football player	Bark like a dog
Smile like a happy person	Growl like a bear

b. Make a list or booklet of words about yourself. Title the list or booklet Words About Me or draw pictures to illustrate the words.

c. Say to the class, "I know many things." Then tell as many things as you can in one minute.

d. Place some articles on a table in front of the room such as a rock, a piece of paper, an egg carton, a paper clip. Come to the table and select an article. Show or tell what you can do with it.

e. The following are activities that some of you can do well now, but you will be better able to do some of them when you are older. Talk about the reasons for thinking you can do them better when you are older.

Basketball	Ironing your clothes
Mowing the lawn	Swimming
Washing dishes	Subtraction
Writing a story	

f. Finish the story:

Today I can hop on one foot _____

Tomorrow I will be able to _____

Today I can spell my name _____

Soon I will be able to _____

Today I can run, tomorrow I will be able to _____

Think of some other stories like this. Draw a picture to complete each story.

g. Bring to school something you have made and tell us about it.

SELF AWARENESS

ACTIVITY FOUR: WHAT DO I FEEL? (_____)

Performance Objective: To share feelings.

Class Grouping

Total Time

Concepts and Vocabulary Feelings, angry, lonesome, share

Learner Prerequisites

Educator's Preparations Tasks

Materials/Resources

Skills

Process

a. Listen to the record. How does it make you feel? Note: Any action-type records which allow the learners to interpret the words or musical rhythms which help them learn to control their bodies and to express their feelings. This experience will give them personal satisfactions and understandings of how to coordinate their bodies. It will also provide an awareness that things which are seen, heard, and said are related to how we feel.

   Draw a picture which shows what you think is happening while the music is playing.

b. Invite two people who can speak together in a language other than English to talk before your group. Discuss how members of the group felt while listening without understanding the conversation.

c. "I feel" Game:
   Form a circle. Choose a leader to stand in the middle of the circle. The leader pulls a card from the box which has a sentence on it. The leader reads the sentence and points to someone in the circle to react. They must begin by saying, "I feel," and then make a face to show that feeling.

   How do you feel when you.....
   - lost your turn in line/game
   - knock something off a table
   - are not satisfied with your school work
   - have something taken away from you
   - don't know how to do or make something
   - want something that belongs to someone else
   - are scolded by mother/father
   - move away from your friends

" I Feel" (cont.)

do a good job
share with a friend
make a new friend
enter a dark room
see a new baby
cut your finger
are lost
win a prize
are home alone
lose a pet
are hit by another child
don't know an answer
get a new pet
trip and fall
hear a loud noise
get a hug from mom
smell cookies baking
hurt someone

d. Cut out magazine pictures of people. Bring them to school. Show your picture to the class. Tell how you think the person in the picture feels. Put all pictures on the bulletin board under the word which tells you about the person in each picture. Note: Prepare a "Feelings Bulletin Board". Post word categories such as:

Sad Happy Angry Frightened Surprised

e. We sometimes have more than one feeling at a time. Play the game, "But". Here are some examples:

I was happy to come to school, but I was sorry to see my brother look so sad.

I was unhappy to be sick in bed, but happy to get so many toys.

Think of some others. Note: Each player in turn may hold a large cardboard face which we turned upside down will visually indicate the "But".

Make notes for the teacher, as appropriate and cut them to tape into the space needed in the activity.

STEP IV

The last two activities provide you with suggestions for the process only. It will be your task to complete the activity with additional information as follows: the curriculum areas in which the skill can be presented; the vocabulary or concepts to be developed; essential information in the blanks left in bold. The empty boxes on the following page should be filled in and placed as needed. The primary purpose here is to emphasize the application of what has been learned. This may be in the form of timely reminders for the teacher or important points which the teacher should call attention to at a certain time. The list of questions which follow should help you develop appropriate and pertinent points of reminder. Keep these in mind as you work through the activity. Don't worry about including everything in the list.

CONSIDERATIONS FOR GROUPS A AND C

1. Have the roles of family members been identified and described?

2. Are various tasks the learner performs in the family provided?

3. Have workers in the community been identified?

4. Has it been shown that some work requires individual effort and other work requires group participation?

5. Is there an attempt to provide understanding of the monetary system?

6. Will learner recognize why most members of the community seek work?

7. How can self be described in relationship to family and school?

8. Have uniqueness of family, citizen, individual, producer, learner, and consumer life roles been shown?

9. Has it been shown how learners can begin to appreciate, understand, and function in a constructive manner in relationship to the physical environment?

10. What are acceptable behaviors in the home, school, and community?

11. What interpersonal skills could be developed?

12. Will learners recognize the learning involved within this career development activity?

13. Could you introduce play as formative exercise for future habits within the work role?

14. What interpersonal relationship could be identified?

15. Are there any examples of decision-making identified?

16. Are basic methods of communication introduced?

17. Has the need for creativity in many occupations been shown?

18. Will learners become aware that the world of work requires certain physical movements or skills?

CONSIDERATIONS FOR GROUPS B AND D:

1. Has the work of others been identified and the individual's dependence on other members of the community been realized?

2. Has home environment as a factor in career development been shown?

3. Will learners understand the societal need of work and workers?

4. Has the community been shown as a resource for career development?

5. Has the school environment been shown as a resource for career development?

6. Can the economic system and the elements of production, distribution, or consumption be included?

7. Has the impact of economics been demonstrated relative to the citizen, family, individual, producer, learner, and consumer life roles?

8. Have any careers which learners could explore in the junior high school been introduced?

9. Can additional interpersonal skills especially as they affect the life roles be identified?

10. Will learners identify strength and weaknesses and how they can affect job choice?

11. Can you show that different experiences may create different work habits and attitudes?

12. Will learners be able to evaluate personal strengths, weaknesses, likes and dislikes as they apply to present career interests?

13. Has a decision making process been included?

14. Are communication skills needed in various occupations discussed.

15. Have you shown how basic methods of communication skills help individuals complete works tasks and participate in life roles?

16. Has decision making in an occupational role been identified?

17. Will learners demonstrate that certain occupations require certain physical movements or skills?

18. Have you shown learners how they can apply skills learned to job performance in the classroom and their relationship with careers?

Oregon State Board of Education, Implementing Career Awareness in the Elementary School. (1975) The considerations given here are taken from the student outcomes written in this source. Compiled and developed by: Niki Laird

WHO AM I ?

DEVELOPED IN OREGON UNDER THE
AUSPICES OF PART C OF
PUBLIC LAWS 90-567

PRODUCED BY THE INSTRUCTIONAL TELEVISION DEPT., JACKSON COUNTY ESD.
GEORGE RAW ITV SPECIALIST

WRITER - NANCY LATED

CURRICULUM DESIGN - JOHN DAVIS ELEMENTARY PRINCIPAL, JUNCTION CITY

ROLE PLAYING IN THE CLASSROOM

Prior to Viewing the Tape

The tape you will be viewing has been produced by Inside/Out and is available for classroom use by writing to Len Tritsch, Health Specialist, Oregon Department of Education, 942 Lancaster Drive NE, Salem, Oregon.

In this film entitled"Bully " you will see portrayals of jealously, frustration and fear at work between two boys as well as concrete examples of teacher insensitivity. The story is left open ended so that students can arrive at a conclusion through role play.

Before dealing with this particular story, let's turn our attention to role playing in the classroom. A definition, taken from Role Playing for Social Values by Shaftel and Shaftel, will provide a broad base from which to start. They state the purpose (s) of role play as follows:

> The experiences inherent in the role-playing process have their own rewards. There is much to be gained from the spontaneity training, the interaction of feelings and ideas, the stimulation of group interaction. (p. 83)

> To describe role playing in still other terms; it is the opportunity to explore, through spontaneous (that is, unrehearsed) improvisation and carefully guided discussion, typical group problem situations in which individuals are helped to become sensitive to the feelings of the people involved, where the consequences of choices made are delineated by the group and where members are helped to explore the kinds of behavior that society will sanction. In this process, young people are guided to become sensitive to feelings, to the personal consequences of the choices they make, and to the consequences of those choices for other people. The group members practice many roles, or different approaches to roles; and gradually they develop skills for solving problems of social conduct and interpersonal relations. (p. 84)

Even though current experimental research provides only limited support for role play, there are other reasons why it should be considered for regular use in conjunction with other classroom procedures.

ROLE PLAY.....

1. applies many of the accepted principles of learning
2. employs principles of democracy
3. emphasizes behavior in contrast to mere memorization

The latter point is of special significance; the traditional approach to learning tends to consider facts as ends in themselves while the role play point of view considers them as guides to useful behavior. In role play, one practices talking and listening, leadership, analysis, sensitivity to others and to norms.

The Career Awareness Guidelines, Oregon Department of Education, lists student outcomes at specific checkpoints in the student's career development. One area in particular should be mentioned at this point; stated as follows:

> "Students should experience activities in decision making, communicating, and creating as related to the world of work."

Critical to achieving this general objective is the ability to extend traditional individual learning to include social learning - all methods being part of one all-inclusive process.

As you are watching the tape, try to identify the major problems or issues of each individual in each of the situations shown.

HOW TO GET STARTED

As with any nontraditional approach attempted in the classroom the most difficult task before you is getting started. There are lots of unknowns upon which one can build fears and apprehensions. Recognizing this to be a problem for the classroom teacher, Chesler and Fox make some suggestions in Role-Playing Methods in the Classroom. Because they are practical and usable, they are included here for your future reference.

A first step might be practicing and exploring the technique with friends and/or family colleagues. Possibly a group of interested teachers could meet after school or in the evening for an informal session.

A second step in self preparation might be to interest a small group of students in staying after school to try some "creative dramatics." In learning this technique, it can become a cooperative project and as such introduced to the rest of the class.

The teacher using role play for the first time should start with very simple situations that are familiar to the students and in which the action is clear cut. The first few sessions should be brief and stopped while student interest is still high.

In preparing for a role-playing session, the teacher may find it helpful to write out briefing sheets to give to each participant in the role play. The card below is an example of the information.

> Don: You're good at art. You're well along in modeling an Irish setter. You know your mind and take suggestions if they are good; if not, you do as you please. Evelyn and Florence are also making figures.

Name tags might be used to indicate the name, position, or characteristics of the persons to be portrayed: "Pip" "Fourth Grader" or "Stubborn". These name tags also help to differentiate the actor student from the role being played.

USES OF ROLE PLAY

Note: You should be aware in the outset that the open-ended problem story is just one example of role play technique. For purposes of this lesson, emphasis will be not on methods, but on its use in helping to solve classroom interpersonal problems to teach human relations skills in the classroom.

The success of role play as a meaningful activity is centered upon pertinent and timely questions to direct the thinking process, based upon predetermined objectives.

The following are examples of the type of questioning which classroom teachers have developed to teach the difficult areas of values and interpersonal relations.

The first was written by Nancy Bauer in The Instructor (August/September 1970). The specific questions are divided into six broad areas and designed to teach values without forcing children to accept the viewpoint of teacher, society, or classmates. The teacher is not asking, "What am I thinking?" but rather, "What do you think?"

1. Observation of data gathering - What happened? What did each person involved think? What did each one do? Did anything else happen?

2. Analysis - What makes this a problem? Do we need anymore information? What do other people think about the problem? What might make them think so?

3. Synthesis - What do you think is the most important issue in the problem situation?

4. Alternatives - What might the people involved do? What would you do in a similar situation?

5. Predicting consequences - What probably would happen if each alternative was carried out?

6. Noting values - What value is strengthened by each alternative? What difference does it make what solution is chosen? Who is affected by the chosen action?

The second example provided here show how role play can be used to turn negative experiences like the one in "Bully" into positive opportunities for thought and understanding. The activity is designed to help students explore interpersonal relations, to help them think about their own feelings and those of other.

In an article entitle "Me and Him" in The Instructor (Feb. 1972) Joseph Malkiewicz provides examples of problem situations which he observed among his children at home as well as in the classroom. More than likely, all of you can think of at least one situation you have observed in the last couple of weeks which could make for an open-ended story like those that follow:

Billy was playing with his toy cars in the bedroom he shared with his younger brother, Mark.

He had all his toy cars set up in the middle of the floor. There were small toy houses, gas stations, and stores to make it all look as if Billy's toy cars were driving in a city.

Billy stood up and looked at what he had built. Then he went to ask his mother to come and look at it.

While he was out of the bedroom, Mark walked in and saw the toy city. He kicked all the toys, and scattered them about the room.

When Mark heard Billy returning with their mother, he hid behind the bed.

"What happened?" Billy cried, when he and his mother entered the room.

QUESTIONS FOR DISCUSSION:

1. What must Billy feel inside of himself right now?
2. Do we hurt other's feelings when we damage their things?
3. What should Mark do?
4. What should his mother say?

****

Tommy was learning how to swim. At least that's what his parents hoped when they sent him to the school every morning during the summer.

Tommy hated to go, but he was ashamed to tell his Mom and Dad. The fact was that Tommy was afraid of the water and the other boys in his class didn't help.

"Come on° Jump in, Tommy. It's not deep. It's not even over my head," yelled Gregory, who was in the water already.

"Go ahead; jum," said Mr. Sweeney, the swimming teacher. "He's chicken!", shouted Bob. "He's chicken."

Tommy just stood at the edge of the pool, looking down at the clear water. He wanted to run and hide. He wanted to cry.

"He's chicken!", shouted some of the other boys.

"What am I going to do?", thought Tommy.

QUESTIONS FOR DISCUSSION:

1. What do you think you would do if you were Tommy?
2. Can we all learn to do things the way others can?
3. Why might Tommy be afraid of the water?
4. Why might Tommy be ashamed to tell his parents?

****

"Today, I couldn't find my new pencil," Mary told her mother when she came home from school. "I bet Scott took it from my desk when I was with my group."

"Have you told your teacher, Mary?", asked Mother.

"Yes, but she just says 'I can't do anything about it, Mary. You have to take care of your own things.'"

The next day in school, Mary was working with some other children on a project at the bulletin board when she saw Scott put his hand in her desk.

"Get out of my desk, Scott, I saw you. You had your hand in there," she was yelling, and everyone in the room looked at both of them. "What did you take this time, Scott?"

"Nothing," replied Scott.

"Now let's see," said their teacher.

"I didn't take anything. Honest I didn't," insisted Scott.

QUESTIONS FOR DISCUSSION:

1. What should Mary do?
2. What should Scott do?
3. Why do some people take things which don't belong to them?
4. What might happen to Scott?

****

Nancy walked into the house crying.

"What's the matter, Nancy?", asked Mother.

"Terry and Lisa keep running away from me. They won't let me play with them," sobbed Nancy.

Nancy's mother went to the door. "Terry," she called. "Come here - you too, Lisa."

Mother asked them why Nancy couldn't play with them.

"She's such a baby, Mommy," said Terry.

"She's your sister, Terry," snapped Mother angrily.

"I know, Mommy, but she bugs me and Lisa."

"She's your baby sister and she wants to be with you."

"But....

"That's enough, Terry," interrupted Mother.

QUESTIONS FOR DISCUSSION:

1. Are Terry and Lisa right in wanting to play by themselves?
2. What can Mother do for Nancy?
3. What do you suppose Terry is thinking to herself now?
4. How would you solve this problem?

Maximizing Interaction in the Classroom

An essential ingredient for the teacher using role play is listening. In developing better listening skills, you will want to start with the question, "Why am I here?" Do you plan to get anything out of the discussion? You will need to have a reason for listening if you're going to hear the important things that students will be expressing about themselves.

By attending to students from this point of view, they will in turn feel secure in exploring their feelings and expressing themselves. Students will express themselves in many different ways. The teacher can respond to the student's experiences in many different ways. The teacher can meet the child's needs by his or her physical and verbal responses.

The following are offered as suggestions which will help to increase the interaction in the group discussion. These are provided to the teacher who is concerned with meeting individual needs of students in their classroom.

1. Treat the children the way you would like them to treat you. Remember that you are a model as you act to lead, stimulate and influence the group.

2. Give children the opportunity to advise you on matters in the classroom.

3. Don't be afraid or embarrassed to share some of your self doubt, things you are working through, information about yourself.

4. Make regular perception checks and actively listen to what the child is thinking or feeling.

5. Have faith in the child's ability to work things through on his own.

6. Ask the children if they're interested in your suggestion or opinion. If they are not, drop the subject.

7. Treat children as social equals.

Activity I

The first step in teaching with role play is to make certain you have the right classroom environment for interaction to occur. In planning any lesson, unit, etc., there are a sequence of teaching concerns which should be considered. In using role play, these are of great significance in helping you to show students what you are trying to accomplish. Student understanding is critical to the success of role play. These concerns have to do with community building, instilling motivation, information gathering and sharing, and value exploration. The following are activities which you will do at this time to help you get a feeling for what the activities are designed to do.*

I. Community Building

Each person in the group should offer an instance when they have come into a group for the first time. In addition, you should recount the experience and tell how it felt to be new in a group. Each person will then reflect individually and write down three or four questions that they might ask in order to get to know somebody. After you have had time to think of a few questions, stand and go to a person that you don't know well or at all and spend four minutes getting to know that person better, using some of the questions that you have constructed. At the end of four minutes, each pair should spend two more minutes working together trying to identify things that they have in common. Several possibilities are open at this point. You can leave your partners, find new partners and repeat the process; or each pair could join another pair forming groups of four where each person introduces his partner to the other members of the group; or conduct a general discussion, focusing on things that you may have in common, the feelings that people have in a new situation, and ways that the group can become a better community.

II. Achievement Motivation

This activity centers upon discussion which will show that the teacher does not have to be present in order for important learning to take place. You will also see that learning is not merely the acquiring and storing bits of information for easy retrieval at the teacher's demand. First, the group should discuss how they learned to walk, talk, ride a bicycle, throw a ball, find their way home, buy things with money, run the television set or record player, etc. Then try to identify as many people as possible who could be called "teacher" - storekeepers, brothers and sisters, etc.

Using the following list of alternative learning styles, discuss your experiences with each and the possible uses of each style.

1. class discussion
2. lecture
3. reading and report
4. large and small group discussion with or without leader
5. individual study
6. film
7. field work
8. case study
9. simulation and role play

III. Information Gathering

This group will start with the question, "What do you know, and what do you want to know?" The subject is role play (for your class it might be the pilgrims' first Thanksgiving, the anatomy of a frog, the concept of prejudice). Now, brainstorm all the things that you know about the subject, and make note of these things that you know about the subject, and make note of these items. After four or five minutes, reflect individually on what things you would like to know about the subject. After a minute or two for reflection, say what some of the things are that you really want to know about the subject. Write these questions down on the board or piece of paper.

When the list of questions has been gathered, look over the list to see if there are any questions that individuals in the group might be able to answer or shed light on.

Note: There may be certain pieces of misinformation among the items "known" but you should write down every item which is brainstormed no matter how wrong or inaccurate it may be. If there is an instant arbiter of what shall and shall not be placed on this list, then some individuals will be reluctant to volunteer for fear of being put down. Also, it is important to know if misinformation does exist and to what extent it does. Finally, many pieces of information may appear incorrect from your perspective but later become valid through supporting evidence from the individual.

IV. Value Exploration

You will be given three situations to rank as you perceive them from best to worst, or, if you perceive them as all good (or bad) from most to least good (or bad). Rankings should be made individually. Then they may be compared and discussed with the others in the group.

1. Rank these situations:

   a. you are in Air Force bombadier about to drop bombs on suspected enemy troop concentrations, knowing that innocent civilians are likely to be killed and injured as well.

   b. You are the executioner who must pull the switch on a convicted murderer in the electric chair.

   c. You are a home-owner who is about to shoot at a dark moving shape which has entered your home at night.

   After discussing your rank-orders, try the next:

2. If you were the principal of this school, rank these situations as to their desirability to you:

   a. The students love you.

   b. Your colleagues respect your opinion.

   c. Your school is the showplace of the district.

   After discussing your rank-ordering of these situations, try to expand this list by making up a situation that would be more desirable than the one you put at the top, and one that would be less desirable than your bottom-ranked situation. Now try ranking these:

3. Rank these actions that you might take when you see another student copying off your paper in a test:

   a. Do nothing.

   b. Hide your paper as well as you can with your arm, realizing that you cannot work as well in that position.

   c. Call the professor and ask if you can change your seat.

   What other possibilities can you come up with?

4. A person in your class whom you don't like very well has been accused of taking some lunch money from the teacher's desk. You saw someone else take the money. How do you rank the following?

   a. Do nothing.

   b. Defend the person openly, knowing that you will be pressured to tell who really took the money.

   c. Write an anonymous letter to the principal explaining the situation without identifying the person.

What are some other possibilities? Students can learn to make up rank-order situations to help clarify important issues in their own lives.

* Hawley, Robert C. Human Values in the Classroom. Amherst, Mass: Education Research Associates (1973)

Activity II

You have explored some activities which will help you toward establishing a good classroom environment for interaction. There is another step in this sequence of learning which deserves special attention in the discussion of role play in the classroom that is fostering open communication.

Hawley in Human Values in the Classroom describes communication on six continuums as follows:

DEFENSE-PRODUCING		SUPPORTIVE
Evaluation (Value laden message)	.1. .2. .3. .4. .5. .6. 7	Descriptive (Idea, fact message)
Controlling ("I want to control)	.1. .2. .3. .4. .5. .6. 7.	Cooperative ("I want to work with you")
Hidden (Hidden purpose)	.1. .2. .3. .4. .5. .6. 7.	Open (Direct and clear)
Neutral (Lack of concern for feelings)	.1. .2. .3. .4. .5. .6. 7.	Empathetic (Concern for feelings)
Superior. (Teacher is powerful)	.1. .2. .3. .4. .5. .6. 7.	Equal (Play down teacher superiority)
Certain (Teacher not open to modification)	.1. .2. .3. .4. .5. .6. 7.	Provisional (Teacher information is provisional)

Messages, both verbal and nonverbal which appear to evaluate the listener are defense-raising. The put-down is a good example of a highly evaluative kind of communication which is popular among students: "Wouldn't you know it?" or "That's just like you!" or "Nice going." Or nonverbally hitting the forehead with the butt of the palm and rolling the eyes.

Descriptive communication, on the other hand, is less likely to arouse defensiveness and more likely to engender a climate of mutual supportiveness. Messages which present feelings, ideas, or facts, but which do not imply that the receiver should change his attitudes or behavior can be seen as at the descriptive end of the continuum.

In a group discussion, move through the list and cite other examples of verbal and nonverbal messages of each end of each continuum. Ask youself, "How do my students see me?" Try to think how your students might rate you on each of these continuums. What behaviors of yours do you expect raise defensiveness in students? What behaviors do you expect raise supportiveness?

To improve your communication patterns in the classroom, pick one or two items where your students might rate your behavior as defense-raising. Then brainstorm ways to modify your behavior so that your communication will engender more support in that area.

CAREER GUIDANCE

DEVELOPED IN OREGON UNDER THE
AUSPICES OF PART C OF
PUBLIC LAWS 90-567

PRODUCED BY THE INSTRUCTIONAL TELEVISION DEPT., JACKSON COUNTY ESD.
GEORGE RAW TVV SPECIALIST

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CURRICULUM DESIGN: JOHN DAVIES ELEMENTARY PRINCIPAL JUNCTION CITY

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c.1 v.2

Tape 3

ROLE PLAY IN THE CLASSROOM

Prior to Viewing the Tape

You have seen an open ended problem situation on the last video tape and have had the opportunity to become acquainted with the discussion phase of the role play technique. What is said in the discussion is critical in the teaching of values, interpersonal relations, and decision-making. However, in using role play, you need to be aware that several steps are involved in this technique.

These steps are in order as follows:

1. Warming Up the Group

   The "warm up" serves to present the problem to the group. The problem should be presented in a clear and concise manner. For example, before viewing the tape, the teacher might ask, "Why do people feel jealous of others?" This could be followed with a discussion of what it feels like to be jealous. Of course, the nature of the question will be geared to the group's ability to deal with abstracts.

2. Selecting Role Players

   Participants should be selected by the teacher based on the discussion that followed the problem story. The choice may be a student who will play an exceptionally strong role or a student who will be in an opposite role from their own.

3. Setting the Stage

   Review with the participants and the audience the problem situation. Make sure that each role player knows his role.

4. Prepare the Audience to be Participating Observers

   Make sure the audience employs good "listening" skills. Ask the class to observe and listen to the role playing, and try to see if they think that what the participants say and do could really happen. The students

should gain ability to empathize by "putting themselves in the other person's position" or "walking a mile in his shoes."

5. Role Playing (the enactment)

Don't interupt a player who is at a loss for words, uses strong language or gestures wildly. Do not evaluate a student on acting ability. This is not in keeping with the objective of role play.

6. Discussion and Evaluation

This is an important phase of role play. Children learn what is and is not acceptable to their peers. The class will, in all likelihood, be very anxious to tell what they were thinking during the enactment. You will want to pose questions at regular intervals to provide the class with an opportunity to explore alternatives. You might say, "We have seen what would happen if someone acted in that manner. What do you think would happen if this (state alternative) action had been taken?"

7. Reenactments

Here is another important step. You now offer the same players, or different players if you desire, the second or third chance at the same problem situation (the second or third chance that does not come in real life very often). This offers the students the opportunity to learn from their mistakes, or the suggestions of others, in a situation that is neither threatening nor socially damaging.

8. Further Discussions

(Repeat Step 6 following each reenactment.)

9. Sharing Experiences and Generalizing

This is where we sum up what we have learned, and express our new feelings on the subject encountered. Keep in mind that all role play activities do not lend themselves to generalizations.

CAUTIONS

You will have objectives in mind when using role play, but keep in mind that outcomes develop gradually. You should not expect quick dramatic changes in attitudes or behavior from role play exercies. Role play, like games and simulations, are essentially long range in effect.

Interaction is the heart of social life and as such must be the heart of role play. As the convener, you should note certain cautions which will facilitate and enhance the interaction.

1. There are no wrong answers.
2. Avoid any semblence of a hidden agenda. If a story ignites a concern which is more meaningful to the goup, pursue it rather than the story's problem.
3. Respect the student's "right to pass."
4. Don't confront with too high level of risk.
5. Don't put students on the spot concerning their views.
6. Don't focus too narrowly on predetermined teaching objectives. Let children develop their own generalizations and insights.
7. Encourage variations in the interpretation after the dramatization.
8. Avoid overdirection at the risk of rushing, even though you are working within a time frame. However, retain a sense of timing. When you feel that a problem being explored cannot be expanded further, change direction.
9. Emphasize the fact that this is not to be a theatrical situation.
10. Be patient.

A. CHANGING TEACHER'S BEHAVIOR SCENE (I)

You are a fifth grade teacher. Your class recognizes you as an authoritarian muscle leader upon whom they rely for the dispensation of knowledge. You have been very introspective the last couple of days due to some things said in a family argument over the weekend. You have spent considerably less time lecturing to the class. Your attention has been turned to work at your desk and you are filling the time for the class by allowing them to work together on a project.

B.

You are a fifth grade student. Your teacher is usually a strong authoritarian type who allows little or no interaction among the class. However, this behavior changed the last few days now and the class has been allowed twice as must time to work together on a project. Prior to this time it had been pursued on an individual basis with the teacher providing all of the direction and decision-making. The class has enjoyed this arrangement and everyone is excited about it. Because of this enthusiasm you are prompted to approachthe teacher after school and share the feeling of the class.

C.

A is a fifth grade teacher; B is a student in the class. A is a strong authoritarian type who maintains strict control of the class. However, this behavior has changed dramatically, the result of a serious family flare-up. The class has been delighted with the change. The teacher has not wanted to spend time lecturing and as a result has allowed some group work on a class project. One of the students approaches the teacher after school to express the positive feeling of the class.

ALLOWING CHILD'S CREATIVITY SCENE (II)

A.

You're a third grade teacher. You have decided to try some role play using familiar stories. You introduced "Three Little Pigs" and chose volunteers to role play. The class is having a lively discussion of the reenactment, but you notice that the time is up on what you had planned.

B.

You are a third grade student. Your teacher is having you role play "Three Little Pigs". The volunteers did a good job with the role play, but it occurred to you that the story might be fun to do if the Mother Pig decided to leave instead of sending the pigs out. You ask the teacher if a group could reenact the changed story and volunteer to be one of the pigs.

C.

This is a third grade classroom. The teacher is using role play for the first time and has started with familiar stories. They have just completed "Three Little Pigs" and are engaged in a lively discussion of the reenactment. The teacher notices that time has run out when one of the students asks for another reenactment, changing the story this time.

KIDS HAVE RIGHTS SCENE (III)

A.

You are a fourth grade teacher. You have set up an interest corner in the classroom, and have told the students they may go there when they are free. You have also told them that they should consider it their corner. A student with whom you have had some discipline problems is in the interest corner by himself. He does not appear to be actively involved in anything. You are curious about his intentions and go over to ask him what he plans to do.

B.

You are a fourth grade student. You are an average student but you don't like your teacher because you think she picks on you. An interest corner has been set up in the classroom where students can go when they are free. You have just hurried to complete an assignment so that you could go to the corner. You want to get away from the class for awhile. You are sitting there thinking things through when the teacher comes over to you. You thought that the teacher was only invited to the corner.

C.

This is a fourth grade classroom. The teacher has just set up and supplied an interest corner which is supposed to be for children only. They have been told they may go to the corner whenever they are free. One of the "problem" students has just completed the assignment and goes to the corner to sit alone for a while. The teacher is concerned about the productivity of the student and approaches with a question.

OBJECTIVES vs. CHILD'S NEEDS SCENE (IV)

A.

You are a second grade teacher. You spent at least four hours last night finishing the plans for a unit on intercultural understanding. Your primary concern at this point is getting it off to a good start. You have asked some good probe questions and the class in involved in a lively discussion. You are really encouraged when one of the students who is very quiet and shy raises his hand.

B.

You are a second grade student. You don't have a lot of friends in the class mainly because you are very shy and quiet. You have just had a very exciting weekend. It was Easter and your parents took you to the Easter egg hunt at the city park. There must have been 1,000 kids there!! And a lot of them were older than you. Anyway, you found the most eggs and got a swell prize for your efforts.

C.

This is a second grade classroom. The day has just begun and the teacher is introducing a unit on intercultural understanding. It has involved many hours of planning and she is very anxious to get it off to a good start. Right at the climax of a good discussion one of the students makes an announcement of a personal nature.

DECISIONS, DECISIONS SCENE (V)

A.

You are an elementary school principal. You invitied a group to come and talk to the kids in an assembly and they have just notified you of the date that they will be available. You don't note any major activity already scheduled so you agree on the date and make the necessary arrangements. Checking the other schedules in the school you note that one of the teachers is planning an all day field trip. You are anxious to have all the classes in attendance so you go to talk with the teacher about the possibilities of postponing the trip.

B.

You are a first grade teacher. Your class is well into a unit and part of it will include a field trip which everyone is really looking forward to. You have made all the arrangements in setting it up and have planned follow-up for the class. You have attempted to involve the kids in planning for this trip and to help in some decision making.

C.

This is a first grade classroom. Everyone has been talking about and looking forward to an upcoming field trip. It should be a meaningful experience as the trip is part of a unit and some follow-up has been planned. The principal comes into the room and tells the teacher that it is necessary to have a school assembly and there is a conflict with the field trip.

CLASSROOM ACTIVITIES IN CAREER AWARENESS

DEVELOPED IN OREGON UNDER THE AUSPICES OF PART C OF PUBLIC LAWS 90-567

PRODUCED BY THE INSTRUCTIONAL TELEVISION DEPT., JACKSON COUNTY IED.
GEORGE RAW ITV SPECIALIST

WRITER - NICKI LAIRD

CURRICULUM DESIGN - JOHN DAVIES ELEMENTARY PRINCIPAL JUNCTION CITY

12730
c.2pa

CAREER AWARENESS

CLASSROOM ACTIVITIES

Prior to Viewing the Tape

One should view this tape with the rational that career awareness activities can affect the student's self image, and that with the growth process, teachers and parents become models. The first segment of the tape shows a group of teachers participating in an Elementary Industrial Arts Workshop. The teachers were provided an opportunity to get hands on experience with activities which they might offer to students within the classroom. A product was presented as the goal and they were told, "this is what you are going to make today." Ultimately, they were involved in a mass production activity.

Many teachers are well aware of this type of activity, but let's pause for a moment for a closer look at this element. The tape will show the same activity used in a classroom situation. Students will be involved in the same task as preceding one with teacher. Give particular attention to the differences as well as the similarities in the approaches and methods taken by the two groups. In both situations, there will be a considerable amount of movement and involvement.

Children don't know all the proper methods - see if you can identify a girl holding the wrong end of the wood as she is sawing it. As a result of conducting Industrial Arts in the classroom, children will:

1. Learn about their environment
2. Become relatively free from the pressures of various needs, fears and demands of adults.

3. Explore and build and understanding to their world.

4. Be able to solve their problems.

5. Think productively.

The students involved in the activity are hammering, sawing, sanding, drilling. With this activity are a multitude of personal learning experiences. Some of these are brought out through an interview with two of the students. The purpose of the interview was to help students identify the relationship to the world of work and other life roles.

In the interview, the students are asked if that was the first time they had worked on an assembly line; what was their job? Did they enjoy it? Did they make mistakes? How would they feel about doing this job when they grew up? If they thought about the paycheck? Listen carefully and try to note any different approaches which could have been used.

Kids who are bored with this work should be helped in recognizing this, not from a negative point of view but as it relates to the child's present interests. How many kids hear the dismay of their parents each morning in having to go to work? Unfortunately, far too many of them will be able to relate this concept. People have more reasons for working than just survival. Kids have to be exposed to sets of reasons for working other than those based on economics. With this emphasis, we might be able to avert another generation of "white collar woes" and "blue collar blues."[1]

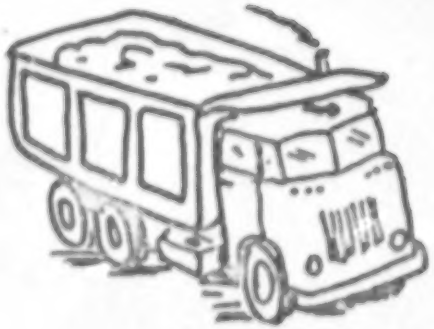
Work opportunities in the school need to be made available; more meaningful application of basics to uses outside of the classroom needs to occur. This experience allows the child to develop personal data which creates

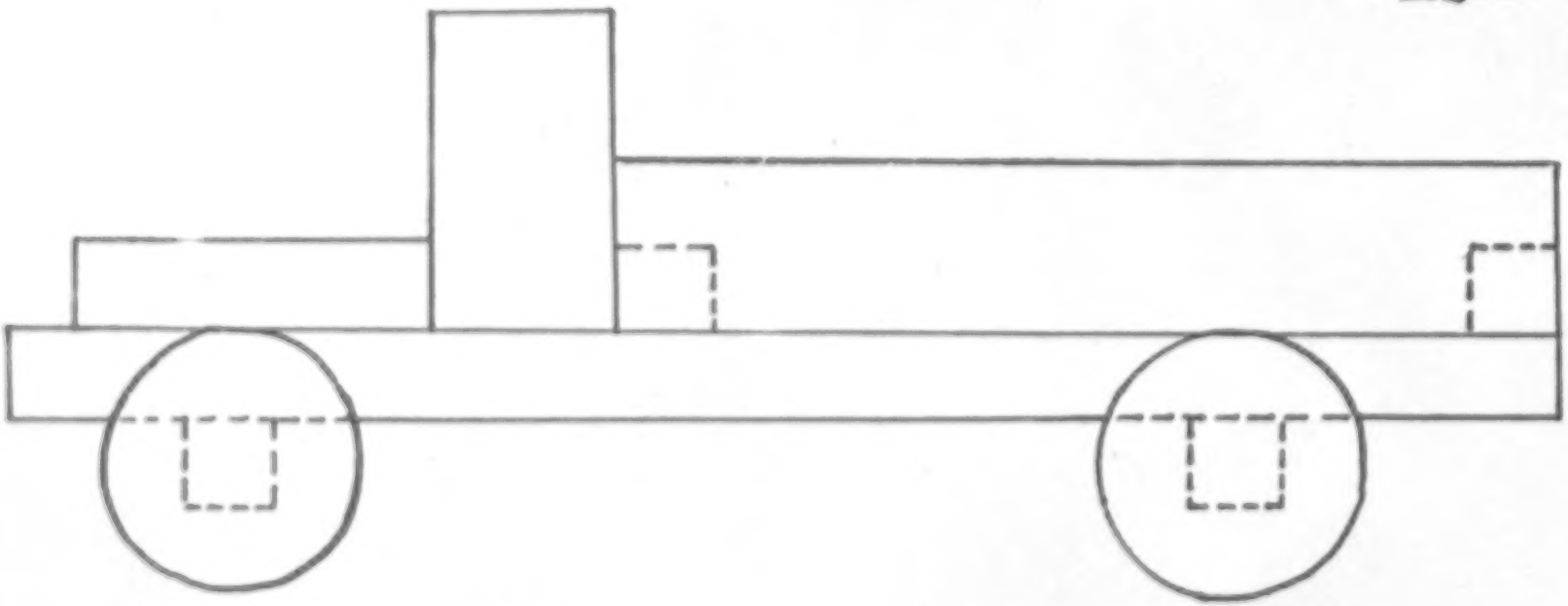
[1]Hoyt, Kenneth B. Career Education: Contributions to an Evolving Concept. Salt Lake City, Utah: Olympus Pub. Co. 1975.

the basis for future career decisions. Student's should be encouraged to ask themselves, "Did I really enjoy school today?" "Why, or why not?" Central to this discussion is the fact that a person must first be someone before he or she can become something.

Through the use of this program, it is hoped that teachers will be able to go beyond persistent belief that the purpose of education is simply education. What about preparation for the real world?

TRUCK





8

MASS PRODUCED TRUCK ACTIVITY

INPUT

This learning module will allow all of the students in the class to participate. The preliminary discussion should include the process of manufacturing, transportation and how the workers in a corporation are all dependent upon each other. The whole concept of manufacturing and mass production allows us to have uniform products at a reasonable cost. This unit should help the students to understand about the economic structure of the country.

DIRECTIONS

All material should be be proper thickness and width. The teacher should construct a truck to be sure it all works and fits together and be a resource if students have difficulty.

Cutters. Using panel saws or back saws with fixtures.

1. Axels - 3/4 x 3/4 same length as width of truck body
2. Cabs - 1 3/4 x 1 3/4 same length as width of truck body
3. Supports - 3/4 x 3/4 same length as body width minus thickness of 2 sides
4. Sides - 1/4 x 1 1/2 x 5
5. Motor - 3/4 x 1 1/4 x 2 1/2
6. Body or bed - 3/4" x 2 1/2" x 10"
7. Wheels - 2 3/4 or 3" 1/8" masonite - cut with hole saw

Assembly. With glue and brads.
The assembly should be done in the order the class decides. This should be trial and error, to avoid awkward situations.

1. Axles to body - drill axles for screws first
2. Cab, motor, supports to body
3. Fasten sides to supports. Do any painting before wheels
4. Wheels last - with screw drivers

COMMENT

This activity can utilize the talents of each class member. Please share with us any activity that you have used or thought of that could demonstrate this concept to students of any grade level or age.

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4. Sides 1/4 x 1/2 x 5
5. Motor - [illegible] x 1/4 x 2 1/2
6. [illegible] or bed - 3/4 x 2 1/2" x 10"
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COMMENT

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Part II

In the second part of the tape you will see a classroom of fourth graders who have been asked to rank a group of personality traits. Following this is the subsequent small group discussion which is centered on their responses. In this discussion you will note the frequent reference made to what the teacher would find most desirable. In other words, they are ranking first those traits which they feel either their parents and/or teacher might rank at the top. Adult values have a greater impact on the elementary child than we realize.

The students are involved in relatively easy to understand concepts such as honesty, cleanliness, etc. For purposes of this discussion you are asked to apply this same thinking to some of the basic principles of the teaching process (e.g. curiosity, open-mindedness, objectivity, respect for evidence, and the capacity to think critically). Recognizing that we live in a world of permanent change educators need to adopt and live by these principles in order to teach them effectively. Attitude is the key word. As teachers we should try to find answers from within. In order to do this a set of assumptions is essential as a framework. To help illustrate, consider the case of the objective educator reflecting the assumption that in a conflict situation all sides usually have legitimate concerns opposed to the teacher who freely takes sides.

Try ranking the items found on the next page and compare your ranking with the students in the tape.

TRAITS OF A STUDENT

Grades 3-6

Objective: The activity allows students to clarify their values as to which traits of a student are most important to them.

Outcomes: Students will:

- Gain additional vocabulary development
- Develop and utilize listening skills
- Begin to clarify values
- Become aware of a process for decision-making

(10 min.) Phase one

Place on the board the following student traits:

1. honest
2. good sport
3. happy
4. smart
5. clean
6. cooperative
7. dependable

Be sure to only read the list and do not interpret any meanings for the children. The directions are (using my numbers) to rank the list of traits I have provided. Do this activity by yourself. Student's list may look like this:

2. good sport
4. smart
3. happy
1. honest
7. dependable
6. cooperative
5. clean

(10 min.) Phase two:

Tell the children to find one other child they would like to share their list. Let them pair themselves off naturally. Tell them you are allowing 5 minutes for each of them to explain the reasons for their ranking.

(10 min.) Phase three:

Instruct student to get into groups of five. They have the task of appointing a recorder and a convener. Once again, natural selection should occur rather than numbering off or having teacher composed groups. By consensus, each group is to come up with a rank order of the traits. When agreement has been reached, they are to place their ranking on the graph on the board.

Example

Groups

1	2	3	4	5
4	4	4	3	3
1	1	3	4	4
2	3	1	1	2
3	2	2	7	1
5	7	5	6	7
6	5	7	6	6
7	6	6	2	5

Phase Four

(60 Min.) This part of the activity can probably be done the next day. Allow each group to explain the reason for their ranking. Then carry out and open class discussion about the similarities and differences of groups.

NOTE Be sure to tell yourself 100 times the night before starting the last phase, "I will not pass judgment or place my values on the student's decisions or discussions."

Part III

In the last part of the tape you will see classroom activity which many of you have done. There is no interaction amoung students in this part. You merely observe how one teacher does the activity. There is an opportunity, however, to reinforce some of what has been said to this point. Student involvement and interaction is essential to this activity and this creates a certain level of "noise" in the classroom. Are you as a classroom teacher comfortable with student involvement and interaction? If so, this acceptance will be noted quickly by the children and their concern will turn to productivity.

READ BEFORE GROUP DISCUSSION

A final word about the classroom environment. While we will all readily admit that the type of classroom environment is a critical factor, there is a little understanding of how to nurture a good learning environment. We can look at it as a content/context situation. You have just seen some examples of the content. For purposes of this discussion, context will be defined as the appropriate environment for successful learning to occur. Two points are to be made here: 1) Research shows us that in the elementary school years the child needs to learn how to make and do things with others - the dangers in development during this time are inferiority and inadequacy, which leads us to the second point; 2) Maslow's hierarchy of needs, the second level, cites the psychological need for love, hence the need for an environment capable of providing love and fostering growth of self esteem.[2] This is offered as a possible lead to better understanding of what we are trying to achieve and production of desired results.

[2]Dillon, Stephen V. et al. "In Defense of Playfullness." Elementary School Journal January '75, pp. 207-13.

Topics for group discussion:

1. The first part of the tape includes an interview with two children conducted for the purpose of showing the relationship between life roles and the activity. Discuss this relationship specifically, i.e. what is the tie with the roles of producer, individual, family member, consumer, learner, citizen.

2. Play is the source of most of what children learn before they are school age. Discuss the value of play as the child's source of learning.

3. Educators tend to "thingify" students in order to confront them as institutional abstractions rather than concrete persons. Name a label commonly placed on kids in the classroom; describe at least two ways in which the classroom environment might be altered to allow for the innocence and reality of the child.

4. Parents and/or teachers are influential in kids' perceptions of their own priorities and values. This was evidenced in the student discussion of personality traits. With this assumption as a given, discuss how this might relate to your own classroom and/or school situation.

ACCESSION NUMBER: VT103255

TITLE: THE DECISION-ORIENTED EVALUATION SYSTEM.

DESCRIPTOR: *PROGRAM DESCRIPTIONS; *PROGRAM EVALUATION; *CAREER EDUCATION; *VOCATIONAL EDUCATION

IDENTIFIER: PONTIAC; MICHIGAN

EDRS PRICE: MF AND HC AVAILABILITY WILL BE ANNOUNCED IN VOL. 10, NO. 2.

DESCRIPTIVE NOTE: 20P.; RELATED DOCUMENTS VT 103 203 AND VT 103 204 AND VT 103 255 THROUGH VT 103 258 IN THIS ISSUE.

ABSTRACT: THIS REPORT DESCRIBES A PROJECT TO DETERMINE THE SIGNIFICANCE OF CAREER, VOCATIONAL, AND COOPERATIVE EDUCATION PROGRAMS IN THE PONTIAC, MICHIGAN SCHOOLS AND TO DEVELOP AN EVALUATION SYSTEM INTENDED TO GUIDE VOCATIONAL PROGRAM DECISIONS. IN MEETING THESE GOALS, THE FOLLOWING OBJECTIVES WERE ACCOMPLISHED: (1) THE UNIT COSTS FOR VOCATIONAL AND GENERAL EDUCATION PROGRAMS IN THE SENIOR HIGH SCHOOLS WERE DETERMINED; (2) THE NEEDS OF THE EMPLOYERS IN THE COMMUNITY WITH RESPECT TO EMPLOYEE SKILLS WERE ASSESSED; (3) THE LONG RANGE IMPACT OF THE VOCATIONAL EDUCATION PROGRAM WAS ASSESSED THROUGH A FOLLOWUP QUESTIONNAIRE OF RECENT GRADUATES; (4) THE LEGAL REQUIREMENTS FOR EMPLOYMENT OF MINORS WERE DEFINED AND DESCRIBED IN A MANUAL FOR EMPLOYERS; AND (5) THE LEGAL REQUIREMENTS FOR EMPLOYEES WERE DEFINED AND DESCRIBED IN A MANUAL. REVIEWED IN THIS REPORT ARE THE ACTIVITIES COMPLETED IN MEETING THE OBJECTIVES. THE REPORT ALSO DESCRIBES THE SETTING OF THE STUDY, THE ACHIEVEMENT AND ASPIRATIONS OF THE STUDENTS, AND THE EXISTING VOCATIONAL EDUCATION PROGRAMS. (AUTHOR/NJ)

INSTITUTION NAME: PONTIAC CITY SCHOOL DISTRICT, MICH.

SPONSORING AGENCY NAME: OFFICE OF EDUCATION (DHEW), WASHINGTON, D.C.

VT 103 255

DECISION_ ORIENTED
EVALUATION SYSTEM

DECISION-ORIENTED EVALUATION SYSTEM

THE CENTER
FOR RESEARCH
EVALUATION AND
INFORMATION
SERVICES

SCHOOL DISTRICT
CITY OF PONTIAC

The School District of the City of Pontiac
Pontiac, Michigan

VT 103 255

2

The Decision-Oriented Evaluation System

THE SCHOOL DISTRICT OF THE CITY OF PONTIAC
350 WIDE TRACK DRIVE EAST
PONTIAC, MICHIGAN 48058

Board of Education: Francis Webster, President
Elsie Mihalek, Vice-President
Gloria Hardiman, Secretary
Guy Blackburn
Stephanie Clanagan
John Irwin
Archibald Mosley

CE 008 923

Project report of the Decision-Oriented Evaluation System, (DOES), funded by USOE, Department of Health, Education and Welfare, Vocational Education, Part C, "Research and Training in Vocational Education".

Velma S. Brawner, Project Officer, Washington, D.C.

**

DOES Project Report Titles:

The Young Worker and the Law: a guide for 14-18 year olds.

Youth Employment Laws: a handbook for supervisors of young workers.

Did School Help Me Go to Work? Experiences of '72 Graduates.

Do Schools Prepare Good Workers? Views of Employers.

A Cost-Effective View of Vocational Education Programs.

**

DOES Project conducted and reported by the Research and Evaluation Department, School District of the City of Pontiac

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ACKNOWLEDGMENTS

The Research and Evaluation Department and the staff of the Decision-Oriented Evaluation System of the Pontiac Schools, express deep appreciation for the assistance received from many sources in the conduct of the study reported in this publication. The graduates of Pontiac Central and Northern High Schools and Pontiac area employers who responded to questionnaires and interviews were very cooperative and supportive of the study. The vocational and cooperative education staff members and the business management staff of the Pontiac School District who provided consultant service, made generous contributions of time and information. Special thanks to Mr. M.C. Prottengeier, Director of Vocational Education, and Mr. Donald Kaiser, Placement Consultant.

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School District Administration Building

350 WIDE TRACK DRIVE, EAST, PONTIAC, MICHIGAN 48058 Phone 338-9151

DANA P. WHITMER, SUPERINTENDENT

FOREWORD

The preparation of students to become skilled, productive, and self-fulfilled workers is one of the schools' major functions. There is widespread concern among employers, labor organizations, and governmental agencies about the effectiveness of the schools' contribution to the skill preparation and work attitudes of young people. Such concern is not misplaced, for studies of the American work force indicate the strong presence of dissatisfaction, uncertainty, and hostility toward their jobs among American workers. In response to these evidences of unease about the role of work in the life of the nation, educational planners have given increasing attention to school programs which contribute to the work-readiness of youth.

The School District of the City of Pontiac, located in an industrial center and serving a working population, is very conscious of its responsibility to assist Pontiac students in making a successful transition from school to work. Recent years have seen substantial progress in our programs in career development, career education, and vocational education. We are proud of our progress, but we are aware that many of our students are not prepared sufficiently to cope with their uncertain vocational futures. The Decision-Oriented Evaluation System (DOES), a project funded under Part C, Vocational Education Act, and reported in part in this publication, has afforded the Pontiac schools an excellent opportunity to examine and evaluate portions of the district's programs in vocational education and work experience. The findings from the study will provide valuable information for school district planners and decision makers in determining future program directions. It is our sincere hope that the DOES report will be of assistance to other educators, as they examine their programs in vocational education.

Dana P. Whitmer

DECISION ORIENTED EVALUATION SYSTEM

A review of the products - April 1976

The Pontiac School District has spent the past twenty months researching various dimensions of the district's Vocational Education program. The goal of this research was to ".... provide information for decision makers." This the project staff has done.

The information in the final report is valuable to the Pontiac School District and the educational community at large. The project staff have:

1) determined the unit costs for vocational and general education program in the senior high school setting

2) assessed the needs of the employers in the community with respect to employee skills

3) assessed the long range impact of the vocational education program through a follow-up questionnaire of recent school graduates

4) defined the legal requirements for employment of minors and described this in a manual for employers

5) defined the legal requirements for employees (both underaged and majority-aged youth). A description of the available choices, restrictions, and the employment requirements are in a manual developed by the project.

The staff have used accepted research techniques in compiling the data and forming the conclusions. The information can be regarded as reliable in that professional standards were maintained in its collection.

The D.O.E.S. project has made an important beginning in developing an Educational Resource Management System (ERMS).

The Unit Costing Model developed by the project is readily adaptable to school districts throughout the state and nation.

The other products, too, have the virtue of utility beyond Pontiac School District boundaries. The questionnaires, the employer manual, and the employee manual are useful to school districts wishing to improve the quality of information regarding their vocational education program.

Howard Heitzeg

Howard Heitzeg
Supervisor of Research & Evaluation
Waterford School District

SETTING OF STUDY

Pontiac is a middle-sized industrial city located on the northern fringe of the Detroit metropolitan area. Its population is 85,000. The school district of the City of Pontiac extends beyond the city limits to include a population of 120,000. Oakland County, of which Pontiac is the county seat, has a population of close to a million and among the highest per capita incomes in the nation. Of the seventy communities in the tri-county metropolitan area, Pontiac ranked sixty-seventh in income, with a mean family income of $9,681 in 1969 (Census Bureau). A half billion dollar, state equalized, property tax base is dominated by industry, mainly by three General Motors Plants: Pontiac Motor Division, Truck and Coach Division and Fisher Body. Forty per cent of industrial employment in Oakland County is centered in Pontiac. In full employment years, 45,000 industrial workers and 25,000 clerical, service and government workers are employed within city limits.

Pontiac is an old town, settled in the early 1800's and incorporated in 1861. It grew at a modest rate for many years. When the General Motors Corporation was founded in Pontiac, based on the existing carriage trade, its population and that of nearby communities mushroomed as the demand for labor grew. People were attracted by openings for both skilled and unskilled workers, by high wages and, later, by union protection and benefits and a relative lack of discrimination in hiring. Labor advertisements drew members of various nationality groups who settled here with their families, including Irish, Italians, Polish, Greeks, Albanians, Russians, Hungarians and others. Sharecroppers and small farmers from the South, miners from Appalachia and Mexican-American migrant workers came to stay during and after the war years. A small native American population,

many in the construction industries based here, lives in Pontiac. Professionals and semi-professionals of Asian and Indian extraction make their homes here. The remarkable ethnic diversity of Pontiac for a city of its size had led to some problems. There has been a long-term trend for auto executives, lower-level managers, and professionals to move outside the city limits, leaving behind handsome but aging homes. Housing has been rigidly segregated in Pontiac until recently, with most black families residing on the city's south side. Incidents of racial conflict closed various schools in the years before 1971. The rate of crimes against people made Pontiac one of the five most dangerous cities in the country until a decline in the crime rate began two years ago.

On February 17, 1970, as a result of a suit filed by the NAACP cooperating attorneys in Pontiac, U.S. District Judge Damon J. Keith ordered immediate integration of Pontiac schools and the submission of a complete desegregation plan. Judge Keith found that the nine new schools built between 1955 and 1963 served only to reinforce segregation patterns.

The school board voted to appeal to the U.S. District Court, which denied a stay of execution of Judge Keith's order on April 30, 1970. The board then announced that it would appeal to the Sixth Circuit Court of Appeals in Cincinnati. On May 28, approximately 3 weeks after the Supreme Court's decision in the Charlotte-Mecklenburg case, the Appeals Court upheld Keith's order. On July 12, the Pontiac School Board submitted a revised integration plan to Judge Keith, and on August 25 formally filed an appeal with the U.S. Supreme Court.

On September 2, Judge Keith refused an injunction against implementation of the busing order. On October 26, the U.S. Supreme Court denied certiorari to hear the appeal of the Pontiac Board of Education.

Schools were reorganized into clusters so that students would stay together throughout their school years (except kindergarten) and would move from building to building as groups. Single grade schools were established for grades 7, 8 and 9. (Grade 9 was moved into the high schools for the first time in the 1974-75 school year.) The high schools were affected only indirectly by the court order. Their ethnic makeup now reflects the school district more completely.

Chronic poverty has developed along with the cyclical recessions to which Pontiac is heavily subject. The 1969 (Census Bureau), ten per cent of white families and twice that proportion of black families had incomes below the poverty level. In March, 1973, 9,285 Pontiac children under 18 received AFDC funds and that caseload is growing. Ten years ago, close to 2500 schoolchildren got free or reduced-price lunches. Today 44 per cent of all students in schools with lunch programs (K-8, 5900 students) receive free or reduced-price lunches. Summer free lunch programs feed over 5500 children. There are nearly 7,000 children from families with incomes of less that $3,000 in this city of 85,000.

ACHIEVEMENT AND ASPIRATIONS

Among Pontiac residents over 25, 37.3 per cent have graduated from high school. The average number of school years completed is 10.5 for males, and 10.8 for females. Several thousand residents have less than a 6th grade education and close to a thousand, no formal education. About 4500 adult residents have some college experience or have earned degrees, and among this group are most of the managers, high-level clerical and service workers, and highly skilled manual workers.

On national norm-referenced tests of academic achievement (Metropolitan Achievement Tests), Pontiac students perform at about the 25th percentile; that is, 75 per cent of the nation's students do better in reading and math than Pontiac students.

On the state's objective-referenced tests (Michigan Educational Assessment Program), designed to measure minimal essential skills which nearly all students should be able to master, Pontiac students fare no better. Compared to the statewide results on these tests, Pontiac 4th and 7th graders have been in the first or lowest percentile.

There is a wide disparity between achieved scores of black, white, and Latino students. White students gain the highest scores, and Latino students, the lowest.

Intensive effort, categorical aid programs, the gradual introduction of objective-referenced teaching, and increased home-school cooperation may be helping to turn the tide of achievement. Significant improvement in 1974 and 1975 is indicated in a variety of test results. Nevertheless, achievement is at a generally low level with, of course, numerous individual exceptions.

Despite this, Pontiac parents and students have high aspirations for jobs and higher education. The realization that low-skill jobs are unstable and that their number is shrinking has been borne in on many people in the last few years. More black and Latino students are staying in high school to graduate; many, if not most, dropouts find their way into Adult Education or some other kind of training.

VOCATIONAL EDUCATION IN PONTIAC

Vocational education in Pontiac has held an important position in the total school program for many years. Its purpose has always been to prepare students for entry into employment upon their leaving the schools. However, the status and the success of vocational education programs have fluctuated with changes in social and economic conditions in the Pontiac area and the nation at large. Prior to, during, and following World War II the Pontiac vocational education programs enjoyed a vigorous and respected position during that period of industrial and economic expansion. Business and

manufacturing settings in the community provided work placements for young people with a wide range of skills and backgrounds. Many students perceived vocational training and local work placement as appropriate steps in their career development, and their parents and the community concurred with their views.

The post war effect of the G.I. Bill was to place the achievement of a college education within the reach of many who would not have considered such a goal in previous years. Consequently, college attendance became an almost universal value. Youth, parents, business and industry, came to view college preparation as an essential to success in an expanding population and a growing economy, an attitude which only now is being readjusted to fit a new reality. The over-emphasis upon the importance of a college education had a profound effect upon vocational education programs. Capable and motivated students, who, formerly would have entered vocational programs, were urged into college preparatory curricula. Vocational classes which had enrolled students of varied talents and abilities became the province of students of limited academic achievement and commitment to success in school. Naturally, these trends had a negative effect upon the status and success of vocational programs.

One of the few beneficiaries of the recent declines in employment, production, and college attendance has been vocational education. The combination of a very competitive job market and the need among school graduates for salable skills has led to a widespread resurgence of vocational education programs. The variety of skills being taught in schools, the number of vocational training centers, and the political and economic support for the funding of vocational education have all increased substantially in recent years.

To support the re-emphasis of vocational preparation, educational planners have recognized the needs of young people for training which extends beyong the skills needed for specific job performance. Employers and educators are cooperating to design programs which address the values, attitudes and inter-personal relations associated with successful participation in the world of work.

These trends have been embodied in the educational concepts of career development and career education, areas in which the Pontiac Schools have taken a position of leadership. Beginning in 1971, experimental programs specifically designed to meet the career development needs of Pontiac students have been instituted and tested. The following brief descriptions illustrate programs having a significance for high school students.

P.A.L.S. - Pontiac Adult Student Learning System

A federally funded Part D project that provides students with Career exploration skills, Communication skills, Decision Making skills, Program Planning and Development skills. Internships are a vital part of the program that allow students to use their skills in a real life situation. Students are taught to transfer these skills to living, learning and working areas of their lives. Significant evaluation results have been obtained through this program.

C.A.S.T. - Career Achievement Skills Training

A Part "C" federally funded project that trained teachers, counselors and administrators in human, education and career skills. Over 100 participants are now trainers and are continuing to in-service others in these skills K-12.

C.A.O.S. - Computer Assisted Occupational Search

A self exploration system that is used in both the PALS, CAST, Adult Education, Project Growth and NEOVEC students, this program can be infused into any high school program that relates its program to occupational clusters.

It allows students to apply their values to jobs, to access career information, to reference information sources using, DOT, and to expand values. Again good evaluation results were obtained.

V.I.E.W. - Vocational Information for Education and Work

A project that was developed by the State Department of Michigan which provides updated microfiche to be used by students, teachers, and counselors in obtaining information about a wide variety of occupations.

The students in the PALS program are trained to use this system and help students in both high schools to explore careers in the library. They also work with teachers and community agencies to help them use their system with their populations.

NEOVEC - North East Oakland Vocational Education Center

A skills training center that provides 11-12 grade student career preparation skills in sixteen areas. Students going through the regular high school PALS programs and work study programs develop career plans that would use the skills center to obtain skills.

THE DECISION-ORIENTED EVALUATION SYSTEM (DOES)

To determine the significance of the described career programs for the long-established vocational and cooperative education programs in Pontiac and to develop an evaluation system intended to guide vocational program decisions, the Decision-Oriented Evaluation System (DOES) project reported in this and the attached documents was instituted.

The end product, or overarching goal, of the DOES project was to--"produce information designed to improve vocational education." Meeting this goal required the attainment of five (5) program objectives listed below:

1. To identify those aspects of alternative work experience programs which produce positive approaches with business, industry and community organizations.

2. To determine methods for improving student and employer satisfaction in work experience programs.

3. To clarify legal and other barriers to work experience programs.

4. To determine program costs on a per student basis and compare program costs in terms of student outcomes.

Reviewed in this report are the activities that the project staff completed to meet the objectives.

PROGRAM OBJECTIVE 1:

To identify those aspects of alternative work experience programs which produce positive approaches with business, industry, and community organizations.

Activities Performed

The project staff designed survey instruments to ascertain student and employer perceptions held towards work experience programs and to determine the impact of the work experience programs on job performance. A copy of the student questionnaire is included in the accompanying document describing student responses.

The student survey was sent to recent graduates (class of 1972) of the Pontiac High Schools. Initial response to the student questionnaire was very low, due probably to the high mobility of this age group. Project staff intensified their efforts to collect the information via telephone calls and at times through personal contact. Staff collected information from 75% of the initial sample and estimated that they gathered data from 89% of those for whom current addresses could be obtained. Analysis of the data from the student questionnaires, along with information received from the employer survey was completed. Questionnaire data was coupled with information contained in the students' records to facilitate a student profile illustrating their personal traits and their chosen school courses with "on the job success". The publication of the DOES project entitled, Did School Help Me Go to Work? Experiences of '72 Graduates contains the description and analysis of the findings from the extensive study of 1972 graduates from the two Pontiac high schools and accompanies this summary report.

PROGRAM OBJECTIVE 2:

To determine methods for improving student and employer satisfaction in work experience programs.

Activities Performed

Employers of the students of the class of 1972 were surveyed to determine their satisfaction with the skills, experience and attitudes of the young employees. Questionnaires were sent to employers in Pontiac and immediate

vicinity. The employer population surveyed was comprised of those who had hired cooperative education workers, had worked with Pontiac Adult Learning System youth, were identified as current employers by the 1972 graduate respondents, or were randomly selected from the Polk's business listing for any employer having a Pontiac address.

The questionnaire was designed to assess several areas of employer opinion in regard to 1) attitudes and work readiness of young, new employees, 2) general preparation and 3) vocational preparation of students by Pontiac Schools, 4) value of work education programs, and 5) recommendations for schools in work education preparation of students.

Letters were also sent to selected firms reminding them of the questionnaire they had received and informing them that a DOES staff member would be calling to request an interview. The letters requested that those to be interviewed consider four elements of the work preparation of youth:

a. The academic skills necessary to work effectively.

b. The job performance skills which a student might bring from his school training.

c. The attitudes and values appropriate to employment.

d. Evaluation and recommendations for school programs including cooperative education which seek to increase work preparedness of students.

However, emphasis was made that the interviewers were seeking the employers' opinions and that there was no intention to limit the interviews to the listed areas. The selected employers were very cooperative in granting interviews.

The completed findings and analysis of the employer questionnaires and interviews are included in the DOES publication, Do Schools Prepare Good Workers? Views of Employers, which accompanies this summary report.

PROGRAM OBJECTIVE 3:

To clarify legal and other barriers to work experience programs.

Activities Performed

Objective 3 was the most elusive of the DOES program's tasks in terms of gaining expert opinions and recommendations for action. Legal and educational authorities responded to DOES inquiries by referring the staff back to the established laws and restrictions and avoiding comment on problem areas and needed revisions of those areas. The assorted documents from the United States and Michigan Department of Labor which list and interpret child labor laws were obtained early in the term of the project. Copies of the documents' title pages were included in Appendix of the DOES Progress Report of March 1, 1975. Review of these documents did not provide a clear-cut direction to the project staff in the completion of this portion of the study. Consultations were held with a local attorney, experienced in the laws of affecting youth employment. As a result of discussion between the attorney and the project staff, a meeting of school district personnel who have responsibility for the work placement of youth was arranged.

After discussing specific questions and areas of confusion with vocational teachers, cooperative education coordinators, and school administrators, it became apparent that the legal questions raised by the school personnel could be grouped into two major categories:

1. Those related to purely "legal" matters, such as minimum wage and hour restrictions, hazardous occupations, confidentiality of student information contained in school records, etc.

2. Those related to "pseudo-legal" matters such as the issuance or or revocation of work permits, disciplining of students who fail to meet school or work requirements related to their placements, methods to increase employer participation, etc.

The responses to "legal" questions which could be prepared, based upon application of existing laws, form the body of two DOES project publications which are included among the materials accompanying this report.

1. Youth Employment Laws: a Handbook for Supervisors of Young Workers

Presents responses by a qualified attorney to actual questions which were raised by school personnel involved in the work placement of students and which can be answered by the application of law. The pertinent youth employment laws are gathered, condensed, and interpreted, so that this handbook represents an easily-used reference for school personnel and employers.

Answers to "pseudo-legal" questions were not attempted, since they arise out of practice, working relationships, and company and school policies, which are not governed by established law.

2. The Young Worker and the Law: a Guide for 14-18 Year Olds

Was designed for use by young people who are employed or seeking employment. It is written in an informal style using clear, direct language and is intended as a guide for young workers to the steps in obtaining employment and to their rights and responsibilities as beginning employees. The document was prepared by a reading specialist working in cooperation with the consulting attorney.

PROGRAM OBJECTIVE 4:

To determine vocational education program costs on a per student basis and compare them to non-vocational, non-laboratory program costs.

Activities Performed

In this study, certain principles of cost anaylsis were applied to vocational education programs in the Pontiac Schools in order to provide a more detailed financial picture upon which to base program evaluations and decisions. Four major objectives formed the basis for the study of cost analysis of vocational education programs in the Pontiac Schools:

1. To determine the costs per unit of student credit of vocational education programs and compare them to the costs of non-vocational education programs.

2. To determine and compare the initial costs of constructing and equipping instructional facilities for the twenty-six vocational education programs and a non-laboratory example of a non-vocational education program.

3. To determine the cost per year of operating each of the twenty-six vocational education programs and a non-vocational education program.

4. To determine the existence and extent of difference in vocational program costs between the Pontiac high school and the Northeast Oakland Vocational Education Center.

Numerous studies and articles in cost effectiveness related to vocational education were reviewed. The essence of their content was that: a. writings in cost effectiveness tend to be theoretical rather than applicable, b. most cost data available is simply descriptive and needs to be refined to provide measured units of student outcome, c. analysis of expenditures by educational level is inadequate at present and is essential to sound decision making, d. vocational education is more costly than non-vocational education, but observed results seem to indicate benefits meriting the added cost.

Several decisions and limitations were established in order to conduct the study within the limits of time, personnel, and resources available. The function system of cost analysis was used in the study, since it is compatible with a new accounting system to be installed in the Pontiac Schools in 1976-77 and provides cost data at the instructional program or course level. The new Pontiac Central High School was used as the model for study of vocational education costs, since its recent completion date would provide current construction and equipment costs. Administrative costs outside the building level were excluded from the study, because the identification of their relationship to vocational education would be extremely difficult. Instead,

an indirect cost percentage which is used for all programs was employed by the study.

Procedures in the conduct of the study were to gather costs by function and category, identify student enrollments per class, and compute costs to deliver one-half credit per semester per enrollee on an annual basis. Costs to provide resources for learning were measured; educational benefits to students were not measured.

Educational costs were gathered and categorized by six functions:

1. Building cost of the room.
2. Utilities
3. Maintenance
4. Equipment and furnishings
5. Consumable supplies
6. Salary (including fringe benefits and cost of living adjustments)

The six functions were applied to each instructional program within the three vocational education areas of business, home economics, and industrial education, and to cooperative education and a typical non-laboratory, non-vocational education program. Functional costs were related to a salary index and operational budget formula to facilitate replication of the process in settings other than Pontiac. Further, costs for depreciation of facilities and equipment were computed. Tables for all of these data for Pontiac Central High School and the Northeast Oakland Vocational Education Center provided detailed analysis of the program costs for the two buildings. The tables and a detailed description of the procedures and findings of this portion of the DOES project are contained in the accompanying publication, A Cost-Effective View of Vocational Education Programs.

It has been Pontiac's custom in the past to submit reports of special projects under one cover. As the various products of the DOES study neared completion, their bulk and variety suggested the adoption of a different

format.

This summary report serves to describe Pontiac as a setting for the DOES project and to review the design and conduct of the project.

The four major goals and the information assembled and reported to meet them are directed to audiences with particular interests. To aid these audiences in gaining quick access to information related to their interests, the four major goals are reported in five separately bound documents.

Their titles, which have been cited in this summary report, are listed below:

<u>The Young Worker and the Law:</u> a guide for 14-18 year olds

<u>Youth Employment Laws:</u> a handbook for supervisors of young workers

<u>Did School Help Me Go to Work?</u> Experiences of '72 Graduates

<u>Do Schools Prepare Good Workers?</u> Views of Employers

<u>A Cost-Effective View of Vocational Education Programs</u>

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ACCESSION NUMBER: VT103256

TITLE: DID SCHOOL HELP ME GO TO WORK? EXPERIENCES OF 1972 GRADUATES.

PERSONAL AUTHOR: FONDER, MICHAEL

DESCRIPTOR: *WORK EXPERIENCE PROGRAMS; *GRADUATE SURVEYS; *PROGRAM DESCRIPTIONS; *COMPARATIVE ANALYSIS; STATISTICAL ANALYSIS; TABLES (DATA); *VOCATIONAL FOLLOWUP; VOCATIONAL ADJUSTMENT; JOB SATISFACTION; SUCCESS FACTORS; VOCATIONAL EDUCATION; WORK ATTITUDES

IDENTIFIER: PONTIAC; MICHIGAN

EDRS PRICE: MF AND HC AVAILABILITY WILL BE ANNOUNCED IN VOL. 10, NO. 2.

DESCRIPTIVE NOTE: 194P.; RELATED DOCUMENTS VT 103 203 AND VT 103 204 AND VT 103 255 THROUGH VT 103 258 IN THIS ISSUE.

ABSTRACT: THIS STUDY SOUGHT TO DETERMINE WHETHER VOCATIONAL TRAINING AND PARTICULARLY PARTICIPATION IN THE PONTIAC SCHOOLS WORK EXPERIENCE PROGRAM (WEP) MADE A DIFFERENCE IN THE WORK HISTORY, JOB SATISFACTION, WAGE LEVEL, AND JOB SECURITY OF HIGH SCHOOL GRADUATES. DATA WERE COLLECTED VIA MAILED QUESTIONNAIRE FROM A STRATIFIED SAMPLE OF 1972 WEP GRADUATES IN FOUR AREAS AND FROM NON-WORK EXPERIENCE GRADUATES. THE REPORT INCLUDES A DESCRIPTION OF THE 1972 GRADUATES, THEIR VOCATIONAL BACKGROUNDS, THEIR WORK HISTORY, AND THEIR WORK EXPERIENCE BEFORE AND AFTER GRADUATION. SURVEY DATA FROM THE 198 RESPONDENTS ARE PRESENTED AS SELECTED OUTCOMES OF THE WEP EFFECTS ACCORDING TO THE VARIABLES OF JOB PREPARATION BACKGROUND, SEX, AND RACE. THE OVERALL CONCLUSION WAS THAT GRADUATES WITH BOTH WORK EXPERIENCE AND VOCATIONAL COURSE WORK CONSISTENTLY DO BETTER THAN THOSE WITH ONLY WORK EXPERIENCE. WORK EXPERIENCE GRADUATES ARE WORK-ORIENTED, ABLE TO OBTAIN JOBS THEY LIKE FAIRLY EASILY, EARN ADEQUATE INCOMES, AND HAVE SECURE JOBS. APPENDIXES CONSIST OF A DETAILED DESCRIPTION OF THE GRADUATE POPULATION AND SAMPLE SELECTION PROCESS, SAMPLE DATA COLLECTION FORMS, AND DATA REDUCTION CODEBOOKS FOR SELECTED ITEMS. (NJ)

INSTITUTION NAME: PONTIAC CITY SCHOOL DISTRICT, MICH.

SPONSORING AGENCY NAME: OFFICE OF EDUCATION (DHEW), WASHINGTON, D.C.

VT 103 256

JUN 16 1978

DID SCHOOL HELP ME GO TO WORK?

experiences of '72 graduates

The Decision-Oriented Evaluation System

THE CENTER FOR RESEARCH EVALUATION AND INFORMATION SERVICES

SCHOOL DISTRICT CITY OF PONTIAC

2

Project report of the Decision-Oriented Evaluation System, (DOES), funded by USOE, Department of Health, Education and Welfare, Vocational Education, Part C, "Research and Training in Vocational Education".

Velma S. Brawner, Project Officer, Washington, D.C.

**

DOES Project Report Titles:

The Young Worker and the Law: a guide for 14-18 year olds.

Youth Employment Laws: a handbook for supervisors of young workers.

Did School Help Me Go to Work? Experiences of '72 Graduates.

Do Schools Prepare Good Workers? Views of Employers.

A Cost-Effective View of Vocational Education Programs.

**

DOES Project conducted and reported by the Research and Evaluation Department, School District of the City of Pontiac

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DID SCHOOL HELP ME GO TO WORK?
EXPERIENCES OF 1972 GRADUATES

prepared by

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through special arrangement
with the Department of Research
and Evaluation of the School
District of the City of Pontiac

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Guy Blackburn; Stephanie Clanagan; John Irwin;
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CE 008 924

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ACKNOWLEDGMENTS

The Research and Evaluation Department and the staff of the Decision-Oriented Evaluation System of the Pontiac Schools, express deep appreciation for the assistance received from many sources in the conduct of the study reported in this publication. The graduates of Pontiac Central and Northern High Schools and Pontiac area employers who responded to questionnaires and interviews were very cooperative and supportive of the study. The vocational and cooperative education staff members and the business management staff of the Pontiac School District who provided consultant service, made generous contributions of time and information. Special thanks to Mr. M.C. Prottengeier, Director of Vocational Education, and Mr. Donald Kaiser, Placement Consultant.

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DANA P. WHITMER, SUPERINTENDENT

FOREWARD

The preparation of students to become skilled, productive, and self-fulfilled workers is one of the schools' major functions. There is widespread concern among employers, labor organizations, and governmental agencies about the effectiveness of the schools' contribution to the skill preparation and work attitudes of young people. Such concern is not misplaced, for studies of the American work force indicate the strong presence of dissatisfaction, uncertainty, and hostility toward their jobs among American workers. In response to these evidences of unease about the role of work in the life of the nation, educational planners have given increasing attention to school programs which contribute to the work-readiness of youth.

The School District of the City of Pontiac, located in an industrial center and serving a working population, is very conscious of its responsibility to assist Pontiac students in making a successful transition from school to work. Recent years have seen substantial progress in our programs in career development, career education, and vocational education. We are proud of our progress, but we are aware that many of our students are not prepared sufficiently to cope with their uncertain vocational futures. The Decision-Oriented Evaluation System (DOES), a project funded under Part C, Vocational Education Act, and reported in part in this publication, has afforded the Pontiac schools an excellent opportunity to examine and evaluate portions of the district's programs in vocational education and work experience. The findings from the study will provide valuable information for school district planners and decision makers in determining future program directions. It is our sincere hope that the DOES report will be of assistance to other educators, as they examine their programs in vocational education.

Dana P. Whitmer

PREFACE

The study of the 1972 Pontiac high school graduates reported in this publication is part of a larger examination of the effects of work experience programs, funded under the provisions of Public Law 90576, Vocational Education, Part C, "Research and Training in Vocational Education." The project from which this report is derived was entitled Decision Oriented Evaluation System for Alternative Work Experience Program (DOES) and was conducted by the Research and Evaluation Department of the Pontiac Schools, Pontiac, Michigan.

The Pontiac Schools submitted its proposal for funding and conducted the DOES project in response to two major concerns which are prevalent in vocational education: the need to examine the effectiveness of vocational programs, and the apparent difficulty experienced by many young people in making a successful transition from school to work. The two Pontiac high schools have long-established, well equipped and staffed vocational education programs, and a cooperative education program (work experience) in which nearly one-third of twelfth grade students participate.

To combine the concerns for program evaluation and successful transition of youth from school to work, four

goals were selected for the DOES project:

1. To determine methods for improving student and employer satisfaction in work experience programs
2. To use evaluation evidence to make decisions on standards for alternative work experience programs
3. To clarify legal and other barriers to work experience programs
4. To determine program costs on a per student basis and compare program costs in terms of student outcomes

Goals One, Three, and Four implied particular tasks for the DOES project staff. (1) Two populations of 1972 Pontiac high school graduates, one of participants in the cooperative education program, and another of non-participants, were surveyed to determine their occupational placement and their evaluation of their educational preparation for work. (2) A substantial number of employers who provide cooperative education work placements for high school students were surveyed and/or interviewed to obtain their views on the schools' preparation of young people for work. (3) An attorney was engaged to examine and clarify the legal and quasi-legal barriers which affect the employment of school-age youth. (4) A detailed analysis of Pontiac's vocational education program was conducted to determine their costs per academic credit for facilities, equipment, and instruction and to compare them to the per credit costs

of non-vocational programs. During the conduct of the project, Goal Two (decision making based on evaluation evidence) has been addressed through continued consultation with vocational education administrators and instructors about project activities and products and their potential value in the modification of vocational education programs.

CHAPTER I

INTRODUCTION AND METHODOLOGY

Several individuals, including parents, employers, and educators, have voiced concern about the vocational preparation and work adjustment difficulties of recent high school graduates as they enter full-time employment. These concerns are typically expressed as questions about both the process and the performance of the high schools in preparing students for careers and work. Typical questions are: Why do high school students take vocational courses, and what are the effects of their training experiences? How do high school students make vocational decisions? What are the major influences upon students' formulation of their post high school plans? What are the effects of participation in school-sponsored work experience programs upon the career decisions, work placement, and job satisfaction of Pontiac graduates? What are the perceptions of graduates about work after they have been out of school a year or two?

To answer these questions, the DOES project conducted an evaluation of the impact of vocational

education and work experience programs (Cooperative Education)* on students educated in the district high schools. Many factors, outside the direct influence or control of the schools, combine to affect the adult work experiences of recent high school graduates. Regardless of individual vocational backgrounds, the graduates' chances for employment are strongly restricted by local labor market conditions, the state of the economy, governmental labor-economic policies, and the all-too-pervasive skepticism many employers exhibit toward young workers (see Slawski and Packard, 1976:13-19).

But most people work at some time in their life, and job opportunities must favor the vocationally prepared graduate at some point. All employment cannot be viewed as simply accidental--a random distribution of jobs to whomever is available. Schools can do little to control the non-school factors that affect employment. But schools can do something about that which they do control--their vocational education programs. They can examine and modify them to better prepare their graduates for jobs.

Most public institutions today find themselves under increasing demands by their clients. Schools are no exception to this, and their principle clients,

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*In the 1971-72 school year, nearly all Work Experience Program participants were identified as Co-op. In this report, these terms are used synonymously. Additional types of work experience have since become part of an expanding Pontiac Work Experience Program.

students, are increasingly interested in jobs. Vocational teachers, counselors, coordinators, and administrators can expect to be held more and more accountable for the effectiveness of their programs in preparing students for work.

This report is based upon data collected on the students who graduated from Pontiac high schools in 1972. The vocational education program in the Pontiac Schools has changed over the past few years. More courses are offered every year and opportunities for placement are expanding. However, we believe that the basic experience of high school vocational education has not changed despite program growth, making our data still relevant to today's graduates. In addition, a longer term perspective on graduates may enable us to design better programs for the work careers of our students.

RESEARCH OBJECTIVES

It was our objective to determine whether vocational training and particularly participation in the Pontiac Schools Work Experience Program, made a difference in the work history, job satisfaction, wage level, and job security of high school graduates. We hoped to find out how graduates who completed the Work Experience Program adjusted to work, how they were influenced in their selection of employment, and how they compared with graduates who did not participate in the Work Experience Program.

The overall goal was to produce information that would assist local vocational educators in their decisions. As this group assesses the effects of the Work Experience Program, they need to have on hand information that specifies the relationship of the Pontiac Schools' vocational preparation programs to employment outcomes for the districts graduates.

In Pontiac, as well as in many other school districts, we suspect that there is a strong "compensatory" aspect to vocational education programs. Indeed, it is believed by many that only the less academically-able students enroll in vocational classes. Whatever is the reality, vocational education has a nortoriously "bad image" among many students and educators that is relatively unsupported by data. It is our belief that work experience and vocational education courses may have differing levels of importance in determining the benefits for each graduate of vocational education. For example, some students may require more course work in preparation for obtaining and keeping a job, while others may benefit more from the practical experience of work. Work experience itself may even convince some graduates to seek a different career or it may confirm their vocational choice. And some students may not require either course work or work experience to secure employment that they desire or find satisfactory. Better information about these types of students would greatly assist vocational administrators as they make decisions designed to maintain or improve the high school vocational program.

RESEARCH DESIGN

We gathered data on the 1972 graduates from two sources: school district student records and a mailed survey of a sample of the graduates. Our target population were the 1972 graduates who had participated in the Work Experience Program. Approximately one-third (32 percent) of the over one thousand 1972 graduates had completed this program in one of four areas: business education, distributive education, home economics and health education, and trade and industrial education.

In support of our plan to gather data from both records and graduates, several activities were initiated. Consultations were conducted with many people who would be interested in the potential findings of the study and with those who might provide assistance in the planning and execution of the research. Local vocational education administrators and teachers were informed of the project as were the staffs of the vocational departments of the Oakland Intermediate School District and the Michigan Department of Education. Many area employers and university educators were solicited for advice and information.

A review of research literature located techniques, instruments, and findings of potential use. School district administrators were consulted to determine possible legal restrictions on the use of student data files. The extent and relevance of the permanent and cumulative

student records concerning academic background, attendance, demographics, standardized testing, and work experience was determined.

These preparatory activities assisted us in developing our research design by helping us identify and assess our personnel resources, locate existing student data, and more specifically define our objectives. The final preliminary step was the selection of a research team which consisted of two members with guidance and counseling experience, a vocational instructor, a consulting sociologist, and the Director of Research and Evaluation for the Pontiac School District.

SAMPLE

Over one thousand (N=1023) students graduated from Pontiac high schools in 1972. A list of these graduates was compiled using data from the two high schools. Records secured from the Vocational Education Department identified those graduates who had participated in the Work Experience Program (N=327) and their vocational area.

Since the Work Experience Program (WEP) graduates were our primary concern, we over-sampled this group in order to guarantee a minimum case base in each of the four work experience areas. Approximately equal numbers of graduates were selected from each program area (business, N=34; distributive education, N=33; home economics-health, N=30; and trade and industrial, N=30). In effect, this

resulted in sampling each of the four sub-groups at a different rate since each area accounted for a different proportion of the total WEP population. In order to make comparisons with the total graduate population, we also sampled graduates who had not participated in the Work Experience Program. Our sample consisted of 127 work experience graduates (stratified in four areas) and 132 non-work experience graduates for a total of 259.

Because of the sampling procedures used, the high response rate, and some statistical weighting of respondents (see discussion below), we are confident that the sample and respondent data accurately represent the 1972 graduate population. A complete description of the population and sample selection process can be found in Appendix A of this report.

DATA COLLECTION

The team determined general guidelines, according to the goals and objectives of the proposal, for the development of the student survey questionnaire. Several local sources were consulted to elicit areas of interest, and other vocational follow-up surveys from local, state, and national sources were examined to identify useful items. Research topic areas and proposed items were revised and a preliminary draft was developed which was pre-tested with fifty Pontiac adult education students. In addition, district vocational education personnel and

Research and Evaluation staff reviewed the instrument. A cover letter, a stamped self-addressed return envelope, a pencil, and a thirty-one item questionnaire were mailed to the survey population (see Appendix B for copies of these materials). The format of the questionnaire was designed for ease of use by the respondent and for convenience in data reduction.

A return rate of 43.3 percent was accomplished on the first mailing. Two follow-up mailings, telephone calls, and personal contact with non-respondents were initiated. These efforts yielded 198 usable questionnaires for a final rate of return of 76.4 percent. One problem with the research was the difficulty of obtaining current addresses for the graduates. No systematic records are kept by the schools which forced us to create our own address list from many sources. Our rate of return for those for whom we could locate a current address was 89 percent. Our experience suggests that earlier identification of potential follow-up candidates before graduation will ease subsequent location of these graduates and reduce non-response bias.

In addition to the survey information, selected data was gathered from each respondent's permanent student record file. Project staff members were authorized by district administrators to obtain the

following information: (a) high school attended, (b) student number, (c) sex, (d) grade point average, (e) rank in graduating class, (f) month and year of birth, (g) parent's educational levels, (h) vocational course credits, and (i) Differential Aptitude Test Scores.

DATA ANALYSIS

All questionnaires returned were prepared for analysis by numerically coding all responses; open-ended responses were categorized (see Appendix C for coding categories). Each respondent's survey data was then merged with the background data gathered from the student records. Confidentiality of survey and student record data was maintained through the use of arbitrary case numbers.

So that our stratified sample respondents (N=198) would more nearly represent their actual proportion of the work experienced and non-work experienced graduates, weight factors were assigned to each of the four work experience areas creating a "weighted case base" of 738. This weighted case base therefore, proportionately represents the 1972 population of graduates (see Appendix B for an explanation of this process).

Preliminary analysis of all survey responses was completed for several independent variables: sex, ethnic category, grade point average, vocational course

work, and WEP participation. In the presentations that follow, survey data are presented according to these variables when appropriate. Several dependent variables such as wage level, job satisfaction, and job security are also utilized as predictors on occasion. Finally, a summary concept, Job Preparation (see explanation in Chapter III) is used to present much of our analysis of the effects of the WEP in Chapter V. Chapter VI is a separate description of selected outcomes considering the sexual and racial status of the respondents.

Not all of the data gathered by the project are presented here, nor has our analysis been exhaustive. Some of the information obtained proved to be so incomplete, inaccurate, or ambiguous that presentation at this time would be confusing or misleading. Specifically, data gathered from student records on parent educational level was incomplete for nearly one-fifth of our respondents. Since much of this information is recorded during early elementary grades through interviews with children, there is a question as to its accuracy. Attendance data for our respondents also are not reported. Subsequent to our data collection efforts, we learned that attendance records could be seriously misleading as a result of subjective recording methods used by teachers. For example, students late to some classes, who are marked absent at the beginning of the class, are not "re-recorded" as tardy. Other

teachers count a certain number of tardies as an absence. Although school district policy has been consistent in this area, there are widespread differences in teacher attendance recording practices.

We had hoped to use this information on parent educational level and student attendance to investigate some common assumptions made about their relationship to the career aspirations and employability of Pontiac high school graduates. If these concerns have merit, alternate sources of data will be necessary before they can be adequately understood. Our cautions here should not be interpreted as a general indictment of all school district records on students and parents.

Additional reliable and valid data gathered during this investigation, such as student grade point average, rank in graduating class, and Differential Aptitude scores, are not extensively treated in this report due to time considerations as well as overall research concerns. Since this project's primary focus was the effects of the Work Experience Program, these data must await future analysis.

CHAPTER II

OVERVIEW OF FINDINGS

PROJECT REVIEW

This study has provided us with a very necessary and useful set of data with which to examine the effects of vocational education on Pontiac's high school graduates. Our decision to study the 1972 graduating class was guided by our interest in the potential outcomes of participation in a supervised Work Experience Program. We have studied the high school and post graduation work histories, experiences, and attitudes of graduates who participated in the Work Experience Program (Co-op) during high school. These participants were compared with non-Work Experience Program participants for differences in background, attitudes, and employment.

Data were gathered from school district records and from a survey mailed to a stratified sample of the 1972 graduates. Responses and background data were analyzed by several independent variables including extent of vocational education background (Job Preparation), sexual and racial status, job satisfaction and security, and income. We think this analysis has been beneficial to our understanding of the impact of the Work Experience Program as well

as of the vocational education and employment experiences of high school graduates in general. Additional analyses are contemplated to better understand some of the interrelationships of the many variables studied; subtle or complex relationships have not as yet been extensively explored.

This chapter, then, is a summary of the main findings of our study according to Job Preparation background, sex, and race. This presentation is organized according to these three major concepts. For more specific information, the reader should review the appropriate chapter in this report (see Chapter V for Job Preparation and Chapter VI for sex and race).

JOB PREPARATION FINDINGS*

SELECTION OF VOCATIONAL COURSES. Respondents with no Job Preparation were most likely to select their vocational courses because of interest or hobbies (70 percent), while those with some Job Preparation were most influenced by the "type of work" the course may represent. Those with only work experience (and one related vocational course) also were substantially influenced by "good pay and working conditions" (20 percent). Respondents with both vocational course credits and work experience selected vocational courses because of interests and hobbies (42 percent) and the type of work it represented (26 percent).

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*See pp.45-47 for an explanation of this concept.

COURSE SELECTION AND POST SCHOOL WORK PLANS. Respondents with only work experience and those with work experience and vocational course credits were the most definite about their post graduation work plans when they selected their vocational courses. One-fourth of both groups (26 percent and 25 percent respectively) "definitely planned" to work in a field related to their high school vocational courses. Only 14 percent of respondents with only a vocational course background and 18 percent of those without a vocational Job Preparation background definitely intended to seek course-related employment after graduation. Interestingly, one-fifth (21 percent) of those respondents with the greatest Job Preparation (VC-WE Prep) reported that they did not know what they were going to do after graduation at the time they selected their vocational courses.

POST HIGH SCHOOL JOB PLANS. While one-fourth (25 percent) of the respondents did not plan to work after graduation, 33 percent of those with no Job Preparation did not plan to work compared to 18 percent of those with only vocational courses, 28 percent of those with only work experience, and 19 percent of those with both courses and work experience. Those with work experience (42 percent) and those with work experience and vocational credits (38 percent) were most likely to plan to get a job "directly related" to the vocational courses studied in school.

EFFECT OF VOCATIONAL COURSES ON CAREER/JOB CHOICE. Vocational courses had the greatest effect on respondents with no Job Preparation. Forty-two percent said it "confirmed" their job choice compared to 35 percent of the work experience respondents and 32 percent of those with both work experience and vocational course work. Work experienced respondents were also most likely to report that vocational courses had "no effect" on their job choices (over 60 percent); they were least likely to report that their courses "changed" their job choices (four percent or less). Therefore, those without work experience were more likely to have "changed" their job choice because of vocational courses; those with no Job Preparation were most likely to have had their job choice "confirmed" by a vocational course. Apparently work experienced respondents were more sure of their job choices when they began course work and were not negatively influenced.

IMPORTANCE OF SEVERAL FACTORS IN GRADUATES' POST HIGH SCHOOL PLANS. For all respondents, regardless of vocational background, parents or relatives received the highest proportion of "very important" ratings (36 percent). School subjects were rated as "very important" by 29 percent, and work experience in high school (not necessarily supervised) by 27 percent. Overall, no major differences in response are noted by Job Preparation background. However, those with no Job Preparation were most likely to say their parents or relatives were "very important" in their post high school plans (40 percent). Non-work experienced respondents also were

most likely to rate high school counselors, teachers, and friends as "very important" in their plans.

UNAVAILABLE HIGH SCHOOL CURRICULUM. Over six-in-ten respondents (63 percent) reported that there were areas or courses they wanted in high school which were not offered. There is a strong relationship between work experience and this response. Only 50 percent of those with no preparation and 60 percent of those with only vocational courses wanted curriculum they thought unavailable. Nearly three-fourths (74 percent) of the work experience only group, and 80 percent of those with both work experience and courses wanted additional curriculum. In addition, 35 percent of the specific courses listed as desirable by all respondents were vocational.

HIGH SCHOOL JOB HISTORY. Seven-in-ten of all respondents (72 percent) had worked at a job during high school for one month or longer. Work experienced respondents were most likely to have worked (100 percent of work experienced only and 90 percent of VC-WE Prep respondents) at least one month while in school. However, over three-fifths of the No Prep respondents (63 percent) and the vocational courses only respondents (61 percent) also had worked one month or longer while in high school.

HIGH SCHOOL JOB AREAS. Jobs held by respondents during high school were fairly evenly distributed among the four work experience categories (business, 19 percent;

distributive education and health-home economics, 24 percent; trade and industrial, 20 percent; other jobs, 13 percent). Respondents with both work experience and vocational credits, and those with only vocational credits were most likely to have trade and industrial jobs (32 percent and 26 percent respectively). Those with only work experience and those with no Job Preparation were those most likely to have the business related jobs (37 percent and 26 percent respectively). Distributive education related jobs most likely to be held by respondent with work experience and vocational courses (29 percent) with the other three Job Preparation categories having approximately equal proportions in this area.

TYPE AND YEAR OF HIGH SCHOOL JOB. Most of the jobs (66 percent or more) held by work experienced respondents were Co-op jobs while those with no Job Preparation or only vocational were more likely to have jobs that were not related to the vocational program (69 percent and 58 percent respectively). No difference was noted for the year respondents held their jobs and their vocational background. Most (78 percent) who worked did so during their junior and/or senior year of high school.

RELATIONSHIP OF HIGH SCHOOL JOBS TO COURSES OF STUDY. Respondents with no Job Preparation were more likely to have job "not related" to their high school courses of study (65 percent) then were work experience only respondents (44 percent) or VOCWE Prep respondents (55 percent).

Work experience only respondents reported the largest proportion (29 percent) of "directly related" jobs compared to 22 percent of all respondents.

FIRST POST HIGH SCHOOL JOB. Nearly all respondents (93 percent) had been employed since graduation. Over one-half (54 percent) continued a job they already had or started immediately after graduation. Twenty percent started within two months after high school. The majority (74 percent) were working very soon after graduation. However, work experienced were even more likely to be working soon. Eighty-three percent of those with both work experience and vocational courses and 85 percent of those with only work experience were employed within two months of graduation; only 71 percent of those with no Job Preparation and 69 percent of those with only vocational courses were employed so soon after high school. Further, 19 percent of those with no Job Preparation were not employed until more than seven months after graduation. Work experienced graduates, clearly, are more likely to go to work after high school and begin their jobs sooner.

JOBS AND PARENTS, RELATIVES, AND FRIENDS. Nearly six-in-ten (58 percent) respondents reported they did not have a parent, relative, or friend in the same line of work they entered after high school. Those respondents with only work experience were significantly less likely to have parents, relatives, or friends in their field of work (81 percent).

Those with no Job Preparation had the highest proportion with friends in their job area (24 percent). The vocational course preparation group and those with course work and work experience had the highest proportion of parents or relatives in the same line of work (31 and 30 percent respectively).

VOCATIONAL AREA OF FIRST JOBS. Respondents with only work experience are most likely to have a business education related job (35 percent), and those with only vocational credits are the most likely to have a distributive education related job (28 percent). Those with both vocational credits and work experience have the largest proportion (36 percent) in trade and industrial, while the largest groups of respondents with no Job Preparation had health-home economics related (27 percent) or trade and industrial jobs (27 percent).

NATURE OF BUSINESS OF FIRST JOB LOCATION. Most jobs the respondents held were at trade and industrial businesses (34 percent combined) and at businesses involving the distribution and sale of products (21 percent). The industrial nature of Pontiac and its identity as a retailing center for the area are borne out by these statistics. Further, the number (23 percent) of work experience only respondents employed in the general business category is nearly three times that for all respondents (8 percent). The proportion of No Prep respondents employed in home economics-health related businesses (23 percent) is higher

than for the total respondent group (16 percent). And, the percentage of respondents with both vocational credits who work for trade and industrial businesses (42 percent) exceeds that for all groups (34 percent). Respondents were most likely to work for businesses employing eleven to forty-nine employees (34 percent) or employing 100 or more (30 percent). This pattern holds regardless of Job Preparation background, especially for those with no Job Preparation background.

FIRST JOB EARNINGS. The range of income on the respondents first jobs was from fifty cents to $7.10 per hour. The median was $2.00 per hour, the minimum wage in 1972. Those with both vocational credits and work experience were more likely, than those with other Job Preparation backgrounds, to be in the lowest quarter of the wage distribution (34 percent) or in the highest quarter (30 percent). Those with only work experience were more likely to be found in the two lowest quarters (61 percent).

METHOD OF OBTAINING FIRST JOB. Forty-seven percent of the respondents reported they obtained their first jobs "on my own". One-third (33 percent) "got help from parents, relatives or friends". Respondents with only work experience were the most likely to utilize school-related sources of help (42 percent), while one-fifth (21 percent) of the VC-WE Prep respondents got help from school sources. Non-work experienced respondents, No Prep and VC Prep, obtained less help from school sources (18 percent and 14 percent

respectively). Most respondents, therefore, obtained help from non-school sources, especially parents and relatives, while the largest proportion reported they obtained their first post high school job without assistance.

ALL POST HIGH SCHOOL JOBS. When all post high school jobs are considered (rather than only the first) the largest proportion are in the trade and industrial area (30 percent) with approximately equal distributions in business, distributive education, and health-home economics related jobs. Those with no Job Preparation were more likely to have health-home economics related jobs (32 percent), while those with only vocational credits and those with both credit and work experience were more likely to have trade and industrial jobs (31 percent and 44 percent respectively).

Most of these jobs were full-time (78 percent). Those with No Prep were the least likely to have had full-time jobs (65 percent), and those with both work experience and vocational credits were most likely to have had full-time employment (84 percent).

RELATIONSHIP OF POST HIGH SCHOOL JOBS TO COURSES OF STUDY. Slightly more respondents (27 percent) with both credits and work experience have had jobs "directly related" to their high school courses of study then have all respondents (19 percent). Those with no Job Preparation were more likely than others to have had jobs "not related" to their high school courses of study.

REASONS CITED FOR LEAVING JOBS. Most respondents (42 percent) cited reasons for leaving a job since graduation that we categorized as desire to "change their life style" (e.g.,go to school, move away, take a vacation, seek other training, marriage). One-fourth of all reasons cited were to go to school. Over one-third (35 percent) were categorized as a "voluntary change of job" (e.g., get better pay, promoted, quit). Only 17 percent of the reasons cited were categorized as "involuntary loss of job" (e.g., laid-off, business closed, job ended), and only 6 percent involved "personal" reasons such as pregnancy, health, or transportation problems. These data, while possibly self-serving or unclear at times, clearly indicate that the respondents were (in 1974-75) not drastically affected by the national economic problems; most of those who left their jobs did so to make a voluntary change in their life style or job, especially to go to school.

Those with no Job Preparation were more likely to cite "change in life style" reasons for leaving a job (61 percent) as did those with only work experience (73 percent). Those with only vocational credit preparation were most likely to cite "voluntary change of job" reasons (49 percent), and those with both vocational credits and work experience had the highest proportion of those who involuntarily lost their jobs (28 percent).

PRESENT EMPLOYMENT SITUATION. One-half (50 percent) of the respondents reported that they were currently (January 1975) working full-time (30 hours or more per week). This was consistently true for all those with some Job Preparation background. Of those with no Job Preparation, only 34 percent were employed full-time; one-fifth of this group were not working and going to school full-time as compared to only 11 percent for all respondents. Seventeen percent of the No Prep group were also working and going to school. Twelve percent were unemployed and looking for work. However, 18 percent of those with only a vocational credit background were in this status compared to 3 percent of the work experience only respondents and 9 percent of those with both vocational credits and work experience.

PRESENT OR MOST RECENT JOB. There is a strong relationship between Job Preparation background and earnings per hour on the respondents' present or most recent job. Nearly two-thirds (65 percent) of those with both vocational credits and work experience are in the upper half of the income distribution, while those with only work experiences are least likely (30 percent) to be in the upper half. Those with No Prep or only vocational course preparation are about equally divided into the upper and lower halfs (53 percent and 50 percent respectively in the upper half).

RATINGS OF CURRENT EARNINGS. Only 10 percent of the respondents felt that their current income was "impossible to live on", but 27 percent did think it was "barely enough" to

meet their needs. Those with both vocational credits and work experience preparation were most likely to rate their earnings as "enough to have some extras" (22 percent) or "enough to have extras and save some" (19 percent). The work experience only respondents and those with no preparation were least likely to rate their earnings as "enough" and more likely to rate it as "impossible" (14 percent and 11 percent respectively) or "barely enough to meet needs" (32 percent and 38 percent respectively).

One-fourth or more of all respondents also rated their chances for increased wages (other than normal or cost of living increases) as "poor" or "none at all." Roughly one-third of each Job Preparation group thought their chances for wage increases were "good" or "excellent." However, those with no Job Preparation were more likely to think they had no chance for wage increases (19 percent) compared to 14 percent for all respondents, or that their chances were "excellent" (14 percent) compared to 10 percent for all respondents. Those with both vocational credits and work experience had the most even distribution of responses from "none" to "excellent."

JOB SATISFACTION. Overall, respondents were satisfied with their current or most recent jobs. Nearly four-in-ten (39 percent) reported themselves as "satisfied" and over one-fifth (22 percent) said they were "very satisfied." There is a relationship between work experience and general job satisfaction. Those with both work experience and vocational courses (32 percent) were most likely to be "very satisfied"

with their jobs, but only 19 percent of those with only work experience were "very satisfied." Interestingly, 30 percent of those with no Job Preparation were "very satisfied," while only 12 percent of those with only a vocational course background were "very satisfied" with their jobs. Approximately an equal number from each Job Preparation background category were "dissatisfied" or "very dissatisfied" with their jobs, although, those with the greatest Job Preparation were the least "dissatisfied" (6 percent) of the respondents.

SATISFACTION WITH SEVERAL JOB RELATED ITEMS. Respondents reported themselves "very satisfied" with the people they work with (42 percent), the distance they travel to work (41 percent), the training they are getting (36 percent) and the things they work with at work (32 percent). The lowest number of "very satisfied" responses were indicated for their wages (16 percent), promotion possibilities (19 percent) and hours (23 percent).

Job Preparation background is mildly related to high levels of satisfaction with several job related items. Respondents with no Job Preparation appear to be more generally satisfied than other respondents, particularly those with only a work experience background. The work experience only respondents were "very satisfied" with the people they work with (50 percent) and least satisfied with their promotion possibilities (15 percent), the training they are getting, and their wages (16 percent each). Those

with both work experience and vocational courses were "very satisfied" with the things they do at work and the distance traveled to work (40 percent each); they were least satisfied with their promotion possibilities (13 percent), their hours and working conditions (19 percent each).

JOB SECURITY. The largest groups of respondents (37 percent) felt that their current job was theirs "for as long as I want it," or that it was "one I can depend on for several years" (25 percent). Three-in-ten (29 percent) did feel their job was "uncertain," but less than one percent said their job would definitely "end soon." The No Prep respondents felt highly secure in their jobs with over one-third (36 percent) saying they could depend on it for several years, with those with only vocational credits the least secure (17 percent) as measured by this response. Yet this group also had the highest percentage of response (49 percent) that their job would be theirs for as long as they wanted it.

Combining the two "secure" responses, shows that 68 percent of those with no Job Preparation have "secure" jobs, while those with both work experience and vocational credits have the least security (56 percent). Overall, however, the respondents perceived their current or most recent jobs in January 1975 as secure. Additional research in this area would be beneficial in light of the poor national and local economies of the last year or so (1974-1976).

SEX AND RACE FINDINGS

SELECTION OF COURSES. Males were more likely to report they selected vocational courses because of interests or hobbies (55 percent vs. 28 percent). Females, however, were more likely than males to "want to do that type of work" (37 percent vs. 25 percent) or to be attracted by perceived "good pay and working conditions" (17 percent vs. 1 percent). No difference is noted for blacks and whites.

POST HIGH SCHOOL WORK PLANS. There are substantial differences in the responses of both males and females and blacks and whites about their post-high school work plans when they selected courses. One-fifth (19 percent) said they definitely planned to work in their vocational field after graduation, but one-fourth (25 percent) of the females and 26 percent of the blacks chose this reply. More blacks and males (34 percent) also said they were not planning to work in the field of training, although they qualified their replies by saying they were not really certain.

KIND OF JOB WANTED AFTER GRADUATION. No important differences are found between blacks and whites in regard to the kinds of post-high school jobs wanted. One-fourth (25 percent) did not plan to get a job after graduation. About one-third (33 percent) did plan to get a job directly related to vocational courses studied in school. This pattern also holds true for males and females. Males, less likely to have planned to get a job

slightly related to their courses than were females (19 percent vs. 34 percent). Conversely, more males (24 percent) said they would get a job unrelated to their course work than did females (6 percent).

VOCATIONAL COURSES AND CONFIRMATION OF JOB CHOICE. Blacks and males were less likely to report that the vocational courses they took confirmed their job choices (22 percent of the males and 23 percent of the blacks) compared to 32 percent of the total group. Females were most likely to perceive this effect of vocational education.

IMPORTANCE OF SEVERAL FACTORS IN POST-HIGH SCHOOL PLANS.

Blacks (43 percent) were more likely to rate parents and relatives as very important in their post-high school plans compared to whites (32 percent). No difference was noted for sex.

Blacks (66 percent) and females (58 percent) were more likely to rate their friends as not important than were whites (51 percent) or males (47 percent).

Males (22 percent) were more likely than females (14 percent) to rate their Co-op teacher or employer as very important. No difference was found for race.

More females (60 percent) than males (49 percent) said their high school counselor or teachers were not important to their post-high school plans. Race was not significant.

Sex was unrelated to ratings of importance of work experience (not necessarily WEP). Blacks (33 percent) were more likely to rate it as very important than were whites (25 percent); and also more likely to rate work experience as not important (38 percent) compared to whites (30 percent).

Whites (78 percent) and females (67 percent) were most likely to rate their NEOVEC teacher or counselor as not important compared to males (55 percent) and blacks (44 percent).

Blacks were over twice as likely as whites (48 percent vs. 21 percent) to rate their school subjects as being important while whites (28 percent) were more likely to rate subjects as not important. Males were also more likely than females to rate school subjects as not important (32 percent vs. 20 percent).

UNOFFERED COURSES WANTED IN HIGH SCHOOL. No differences were found in response to this question. Over six-in-ten of all groups thought these were unavailable courses they wanted in high school.

HIGH SCHOOL EMPLOYMENT. Seven-in-ten (72 percent) reported they had worked during high school for one month or longer. More males (88 percent) reported working than did females (61 percent). No difference was found between blacks and whites.

POST-HIGH SCHOOL EMPLOYMENT. Nearly all (96 percent) said they had been employed since graduation; all males (100 percent), 94 percent of the females, 97 percent of the whites, and 92 percent of the blacks.

TIME BETWEEN GRADUATION AND FIRST JOB. Nearly three-fourths (74 percent) had their first job within two months after graduation; this was not as true for blacks (58 percent) compared to whites (80 percent). No difference was found for sex.

PARENT, RELATIVE, OR FRIEND IN SAME LINE OF WORK. One-third (33 percent) of the males had a parent or relative in the same field compared to 17 percent of the females. Whites were more likely to have parents, relatives, or friends, in the same line of work (75 percent of blacks did not compared to 55 percent of whites).

INCOME ON FIRST JOB. Males were more likely to be in the upper half ($2.00 and over) of the income distribution on their first job (72 percent males, 41 percent for females). Interestingly, blacks (64 percent) were more likely to be in the upper half than were whites (53 percent).

HELP GETTING FIRST JOB. The largest group (47 percent) reported they got their first job on their own (slightly fewer blacks 41 percent, than whites, 48 percent). Fewer blacks (22 percent) got help from parents, relatives, or friends than did whites (37 percent). One-fourth (24 percent) of the blacks received help through the co-op program compared to ten percent of the whites; blacks were more likely to report getting first job help from a school source. No difference was found for sex.

AVERAGE HOURS WORKED PER WEEK. No major difference was found by race, although more blacks reported working over forty hours. Females, however, were more likely to work less

than forty hours per week on their job (39 percent) than were males (15 percent).

INCOME ON CURRENT OR MOST RECENT JOB. Males and whites tended to be associated with higher income than females and blacks. Twice as many males (72 percent) as females (36 percent) were found in the upper half of the income distribution; whites more than blacks (55 percent vs. 45 percent). Overall, there is no relationship between race and perception of adequacy of wages. Males did tend to rate their wages as better than did females; 27 percent of the males said their earnings were "enough to have extras and save some", but only 9 percent of the females said this. One-half of the blacks rated their chances for wage increases as "fair" compared to only 28 percent of the whites; whites were slightly lesss optimistic rating their chances as "poor" or "none at all" more often. Males were more optomistic then females; 16 percent of the males rated their chances as "excellent" and 30 percent said they were "good".

JOB SATISFACTION. Females and whites were more satisfied with their current or most recent job than were males and blacks. While more males said they were very satisfied (26 percent), more also said they were dissatisfied (17 percent). More females reported they were satisfied with their job (47 percent) than males (30 percent). Three times more whites then blacks reported they were very satisfied with their job (25 percent vs. 8 percent). About the same number of blacks and whites said they were satisfied at work.

When job satisfaction is probed more extensively, males continued to report themselves as very satisfied more than did females on seven of eleven items. Females registered stronger dissatisfaction than males with wages, fringe benefits, and promotion possibilities. Whites were more often satisfied than were blacks on each of the eleven items.

SECURITY OF CURRENT JOB. There were no major response differences in general for sex or race. Blacks did indicate more than whites that their current job was secure and was theirs for as long as they wanted it (48 percent vs. 37 percent).

RESPONDENTS' PRESENT SITUATION. Males and whites were slightly more likely than females and blacks to be working full-time. Males were also slightly more likely to be going to school full-time or to be in the military service. Females were more likely to report that they were working part-time (10 percent), or they they were either looking (14 percent) or not looking for work (13 percent).

MARITAL AND PARENTHOOD STATUS. More blacks (78 percent) and males (78 percent) were still single (never married) then whites (64 percent) and females (62 percent). Less than one percent had been divorced or widowed. Three-in-ten (30 percent) of the graduates were parents. Females (37 percent) and blacks (37 percent) were more often parents than males (19 percent) and whites (27 percent). Most of the parents had only one child.

In summary, Pontiac high school students are extensively involved in vocational education courses and work experiences. They enroll in a wide variety of vocational courses for reasons that indicate an early orientation toward "going to work". Work experienced graduates plan to get jobs after high school related to their vocational courses. Their career/job choices are remarkably stable from tenth grade through graduation with few indicating that vocational programs "changed" their work choice. Parents and relatives, school subjects, and work itself are the most important influences on their post school plans

Most students work at some job during high school that lasts one month or longer and have worked full-time since graduation. High school jobs, which are school sponsored, are most likely the only jobs held by those with work experience. Those with work experience start their jobs very soon after graduation but do not earn significantly more or less than other graduates -- starting pay is universally low. Work-experienced graduates are likely to be earning more than others on their current or most recent job and to rate their pay as "enough" or better.

Our overall conclusion is that graduates with work experience are not dramatically different from other graduates and certainly not on any "negative indicators". Graduates with both vocational course work and work experience consistently "do better" than those with only work experience and certainly as well as those with no Job Preparation. Work experienced graduates are work-oriented, able to get jobs they like without extreme difficulty and a minimum of assistance, earn an adequate income, and have secure jobs.

CHAPTER III

DESCRIPTION OF THE 1972 GRADUATES AND THEIR VOCATIONAL BACKGROUNDS

GENERAL DESCRIPTION

The 1972 graduating class from Pontiac's two high schools numbered 1,023. They were a diverse group as might be expected in so large a population. Over half (52.7 percent were males and 47.3 percent were females; 60.9 percent were white, 34.8 percent were black, 4.0 percent were Latino, and 0.3 percent were identified as American Indian, Oriental or members of other groups. Three-fourths (74 percent) took at least one vocational class during high school, and one-third (32 percent) participated in the Work Experience Program.

Certain background data were gathered on each survey respondent from school district records as well as from the questionnaire. Based on these background data, we can create a general description of the 1972 graduates as they are two and one-half years after high school.

More females responded to this survey than did males (58.0 percent vs. 41.2 percent), and more of the respondents were from Northern High School (57.9 percent) than from Central High (42.1 percent). Racially, 67.3 percent

were white, 23.7 percent were black, 1.6 percent were Latino, and less than one percent were Oriental; none were American Indian. We were unable to determine accurately the racial identification of 6.7 percent of the respondents. Some respondents removed or obliterated the code number on their questionnaire thereby obscuring their identity. Few discrepancies in the district's data on sex and race were encountered; those which could not be resolved were recorded as missing data. Future research instruments should provide for the gathering of these data directly from respondents. As can be seen from previously presented data, our respondents are slightly over-represented by females and whites. This is noted at those points in the report where these biases might be significant.

The respondents ranged in age from as young as 19 to as old as 24. The majority (72.2 percent) were born in 1954; thus, they were at least twenty years of age at the time of the survey (December 1974 through January 1975). One-fifth (20.7 percent) were born in 1955 with the remaining 7.1 percent born as early as 1951 and as late as 1955.

Nearly one-third (31 percent) of the respondents were married, while the majority were still single (68.5 percent). Less than one percent (0.5 percent) were divorced and none were widowed. Thirty percent (30.3 percent) said they were parents, and most of these graduates (87.2 percent) reported that they had only one child; 7.8 percent of the

parent-graduates reported they had two children; equal numbers (2.5 percent) reported they had three or four children. While these data do not seem out-of-line for this age group, we may have a slight over-representation of married graduates who are parents in light of the number of female respondents.

The respondents' grade point averages (from district records) ranged, on a four-point scale, from a low of 1.2 to a high of 3.9. The mean and median GPA were both 2.48 (the mode was 2.2, N=65). Their individual "rank" in their graduating classes ranged from one to 521.

In addition to the above data, we obtained the percentile scores for each respondent on the eight areas of the Differential Aptitude Test. The DAT is generally administered to all Pontiac students in the ninth grade for use by high school student services staff in academic and vocational counseling. The range of DAT scores received by the respondents was from the first percentile to the ninety-ninth on four of the nine scores, and it was nearly as wide for the other five scores (see Table 1). In general, the respondents' mean and median DAT scores are below the test norms (50th percentile) except for the Clerical Speed and Accuracy Test (mean=54.6; median=54.8). The lowest mean/median percentile scores were on the two Language Usage Tests, Spelling and Grammer (means=37.7 and 33.8 respectively; medians 30.6 and 34.0 respectively). As measured by DAT scores, Pontiac's 1972 graduates scored below the national norms on seven of the eight test areas,

especially in Language Usage (Spelling/Grammer). These generally low DAT scores, may be an indicator of potential employment difficulties, especially on jobs involving substantial reading and writing skill.

TABLE 1

DIFFERENTIAL APTITUDE TEST SCORES FOR RESPONDENTS BY TEST AREA (PERCENTILES)

Test Area	Range Lo	Range Hi	Mean	Median	Weighted Base
Verbal Reasoning (VR)	1	95	42.1	39.4	645
Numerical Ability (NA)	1	97	42.4	40.5	645
Verbal Reasoning/Numerical Ability (Total)	1	97	41.3	40.2	645
Abstract Reasoning (AR) ...	3	99	46.5	40.2	645
Clerical Speed and Accuracy (CSA)	1	99	54.6	54.8	642
Mechanical Reasoning (MR)	1	99	41.7	40.8	645
Space Relations (SP)	1	99	46.8	45.3	645
Spelling (LU-I)	1	97	37.7	30.6	645
Grammar (LU-II)	1	97	33.8	34.0	645

Additional background data were obtained from district records on the respondents' attendance in the tenth, eleventh, and twelfth grades and their parent's educational levels. We had hoped to develop an indicator of socio-economic status (SES) from these data to test certain assumptions about vocational graduates, such as their ability to obtain and hold employment. These data are not reported here, however, because we are not confident of their accuracy. Because of subjective attendance procedures, and the difficulty of verifying any parent data found in student records, we cannot use these data. Future studies that require a SES measure will necessitate the development of an indicator that does not rely on school district records associated with individual students.

VOCATIONAL COURSE CREDITS

In 1972, the vocational education program in Pontiac was well established. Students in the regular high school program were able to elect courses in areas ranging from general office practices to wood shop and welding. Indeed, these courses were popular with high school students. In addition, many other courses in the two local comprehensive high schools were identified as "vocational". If all of these courses are considered part of vocational education, more than three-fourths of the graduates had participated in vocational education courses. Many, however, had enrolled in only one class for one semester. It is our belief that this definition of a vocational student is too

inclusive. For the purpose of this study, only credits earned in courses specifically labeled as vocational and eligible for reimbursement from the state were defined as vocational. These criteria eliminated such classes as Beginning Typing, Boy's Foods, and Child Development from our list of vocational courses, a slight restriction of our definition.

Moreover, we see vocational education as an ordered course of training to develop a specific set of skills and attitudes related to an occupational area. Consequently, we decided to restrict further our definition by including only those students who had earned at least one full credit in vocational courses.* Using this definition, nearly six-in-ten (59.1 percent) of the respondents had earned at least one full credit in a reimbursed vocational course (see Table 2). Specifically, over one-fourth (26.6 percent) of the respondents had one or more credits in the trade and industrial area. An approximately equal number had one or more credits in business (16.7), distributive education (14.3 percent), and home economics and health (14.2 percent). The combined percentage of these four areas (71.8 percent) exceeds the above reported level of those with one or more vocational credits (59.1 percent) because there were many cross-area enrollments. That is, some students earned one or more

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*A student earns one-half credit by completing a course which meets one hour per day, five days a week, for one semester.

credits in two or more of the four vocational areas. Thus, we can see that vocational course work was an important part of the curriculum for the high school graduate of 1972.

TABLE 2

RESPONDENTS WITH ONE OR MORE VOCATIONAL COURSE CREDITS BY AREA

Vocational Course Credit		59.1%
Business	16.7%	
Distributive Education	14.3	
Home Economics - Health	14.2	
Trade and Industrial	26.6	
No Vocational Course Credit		40.9%
	Total	100.0%
	Weighted Base	(738)

WORK EXPERIENCE PROGRAM

In addition to vocational courses, one-third of the 1972 graduates participated in the Work Experience Program (often termed Co-op).* This high school credit program provides on-the-job training related to the students' vocational course experience. According to the Pontiac School District, this field experience is a highly desirable aspect of vocational education. The Cooperative Education

> ...approach to learning draws upon community resources to expand educational programs beyond the walls of the classroom or laboratory. Students benefit from cooperative education programs by receiving a supervised experience to allow for a smooth transition from school to work. (School District of the City of Pontiac, 1974:1)

Not all students are eligible to participate in the Work Experience Program. Those students selected for this program (1) were 16 years of age or older, (2) were pursuing a vocational objective, (3) had a good attendance record, and (4) completed or were taking a preparatory program of instruction prior to entering the program and had passed a set of performance objectives for the level of employment which the student was entering. Other guidelines provide for the selection of the training station, the work of the coordinator, the related instruction, the training agreement/plan, student evaluation, and the responsibilities for the student and the employer.

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*As mentioned earlier, the terms "work experience" and "Co-op" are used synonomously in this report, since all of the 1972 WEP participants were Co-ops. Other types of field experiences are now part of the Work Experience Program.

The sequence of events for a typical Work Experience Program graduate in 1972 was as follows:

1. Complete introductory and advanced course work during sophomore or junior year in a chosen vocational area
2. Meet with coordinator during junior year to develop plan for work experience
3. Secure parental, teacher, and school approvals to participate and then complete application for program
4. Interview for job(s) and complete approved training agreement/plan with coordinator and employer
5. Complete school courses and work experience program
6. Graduate from high school and obtain job placement

Almost one-third (32 percent) of the 1972 graduating class had participated successfully in one of the programs from these areas: business, distributive education, home economics-health, and trade and industrial (see Table 3). Work Experience Program placements in the areas of business (10.8 percent), distributive education (9.0 percent), and trade and industrial (7.9 percent) involved about equal number of students. Home economics-health placements (4.2 percent) involved fewer students.

TABLE 3

PARTICIPATION OF 1972 GRADUATES IN WORK EXPERIENCE PROGRAM BY AREA

Work Experience Graduates		32%
Business	10.8%	
Distributive Education	9.0	
Home Economics-Health	4.2	
Trade and Industrial	7.9	
Non-Work Experience Graduates		68%
Total		100%
Weighted Base		(1023)

Typical business and distributive education placements were secretarial and clerical work in offices, sales and cashier work in retail stores, and stock room work in a variety of businesses. Typical home economics and/or health placements were as cooks or waiters/waitresses in restaurants, child care assistants in day care centers, and nursing assistants in hospitals and nursing homes. Trade and industrial placements were highly varied for each area of course work and included sales, repair-maintenance, and production in such fields as auto body repair, drafting, electricity, welding, and auto mechanics.

A majority of vocational educators would likely see it as ideal if most vocational students, with sufficient credits and preparation, participated in the Work Experience Program. As the data above shows (Tables 2 and 3), substantial numbers of graduates did have sufficient credits to participate in the Work Experience Program, but did not. Over one-sixth (16.7 percent) of the respondents had one or more credits in business, but only one-tenth (10.8 percent) had a WEP placement in this area. Equal numbers of respondents had one or more credits in distributive education or home economics-health (14.3 percent and 14.2 percent respectively); but only 4.2 percent of the respondents had a placement in the home economics-health field, while 9 percent had a distributive education WEP placement. Finally, over one-fourth (26.6 percent) of the respondents had one or more credits in trade and industrial courses, but a mere 7.6 had WEP placements in this area.

There are several possible reasons for this. Historically, there has been a limit to the number of available placement stations either because of the local economy or employer reluctance to become involved in the program (see Slawski and Packard, 1976:28-32), as well as a limited number of school district coordinators to supervise students out-on-the-job. Furthermore, students without adequate related instruction (in the estimation of the instructor), or lacking transportation or parental permission cannot be placed. Finally, some students who enroll in vocational courses are not interested in working while in school.

Regardless of the validity of these possible explanations for non-participation, it is obvious that substantial numbers of credit-qualified vocational students did not participate in the Work Experience Program while in high school.

JOB PREPARATION CONCEPT*

As mentioned above, all vocational course credits were grouped into one of four areas: business, distributive education, health and home economics, and trade and industrial. For the purpose of our analysis of the Job Preparation of the graduates, specific vocational areas have been ignored in favor of a dichotomous treatment. Therefore, a respondent is considered to have vocational credit, only if he has one or more credits from any combination of four areas. As Table 3 indicates, there was substantial cross-area enrollment in vocational courses. Therefore, we thought it would be most beneficial to examine these data according to a level of vocational course credits (one or more) rather than by course area. It was not the primary intention of this project to investigate the effects of course credits or course areas. Rather, our interest was the Work Experience Program and its effect on vocational students.

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*I am indebted to Edward Slawski, of this department, for the suggestion of this analytical concept. His assistance in the development of the presentation of these data is greatly appreciated by the author.

Students with only course credits are a part of this analysis for comparative purposes, since course work with or without a field work experience is a form of Job Preparation.

Likewise, we chose to dichotomize work experience into participation or non-participation. This was done so that we could create a summary concept which would indicate the nature of a respondent's Job Preparation. While analysis of these data by specific areas of work experience would be of interest, it is our view that the primary analytic concern was the effect of <u>any</u> participation in the Work Experience Program.

By combining our measures of vocational course credits and Work Experience Program participation, we constructed our indicator of Job Preparation background. From Table 4, we can see that about one-third (31.4 percent) of the graduates had participated in the Work Experience Program, and nearly six-in-ten (59.1 percent) had one or more vocational credits. Over four-in-ten (41.4 percent) had one or more vocational credits but no work experience, since many students take vocational classes without ever participating in the Work Experience Program. Far fewer of the graduates (13.7 percent) had work experience credit without having one or more vocational credits; this group fulfilled only the related vocational course requirement (one-half credit) before they had their work experience. Almost one-sixth (17.7 percent) had both vocational credits (one or more) and work experience as part of their Job Preparation background.

TABLE 4

JOB PREPARATION BACKGROUND OF RESPONDENTS

WORK EXPERIENCE BY VOCATIONAL COURSE CREDITS

Work Experience Program Participation	Vocational Course Credits*		
	No	Yes	Total
Yes	13.7%	17.7%	31.4%
No	27.1%	41.4%	68.5%
Total	40.8%	59.1%	99.9%
Weighted Base			(738)

*One or more credits.

Job Preparation, therefore, is a summary of the nature of a graduates vocational education background. One group had no Job Preparation (No Prep) in terms of vocational courses or supervised work experience. A second group, those with only vocational courses (VC Prep), and a third with only work experience (WE Prep), had an intermediate level of Job Preparation. The fourth group, those with both vocational courses and work experience (VC-WE Prep), had the broadest form of school-sponsored Job Preparation.

Our primary interest in this project were those graduates with work experience. In Chapter V, we will examine the outcomes of this survey in greater detail utilizing the Job Preparation concept to identify some of the effects of participation in the Work Experience Program.

CHAPTER IV

OUTCOMES FOR 1972 GRADUATES

WORK HISTORY AND EXPERIENCES

This description of the 1972 graduates begins with a presentation of their work history and work experience before and after graduation. Most of the graduates had worked during school. When they were asked if they had been "employed in any job during high school which lasted one month or longer", 72.3 percent said "yes" (Q.10).

HIGH SCHOOL JOB HISTORY. Those who said they had worked at least one month while in high school were asked to complete a chart describing their high school job history (Q.11). Table 5 indicates a fairly even distribution of their jobs when they are categorized into the four Work Experience areas and miscellaneous. Nearly seven-in-ten respondents (69.5 percent) indicated they had held at least one job verifying our data from Question 10 above; one-fourth (25.3 percent) indicated two or more jobs (data not presented).

The balanced grouping of jobs among the five categories seems to indicate that the existing employment opportunities and the organization of the vocational education programs

TABLE 5

AREAS OF JOB(S) REPORTED BY RESPONDENTS WHILE IN HIGH SCHOOL

Q.11 (1) Name, title, or description of job held.

Business	17.3%
Distributive Ed.	22.9
Health-Home Economics	23.6
Trade and Industrial	20.1
Other, Miscellaneous	16.1
Total	100.0%
Weighted Base*	(700)

*Combined total of all jobs reported.

have a compatible and functional relationship.

Question 11 also asked them to indicate whether the job was Work Study, Co-op, or neither of these. Co-op (Work Experience Program) accounted for 38 percent of the jobs held, and Work Study accounted for 11.2 percent. The largest group (47.8 percent) said they had held a job which was neither Work Study nor Co-op. A few (3 percent) said they did not know enough about their jobs to categorize them. The next part of Question 11 asked the graduates to state the year(s) they held their

TABLE 6

TYPE OF JOB(S) HELD BY RESPONDENTS DURING HIGH SCHOOL

Q.11 (2)	Was job Work Study, Co-op, neither, or don't know?	
	Work Study	11.2%
	Co-op (Work Experience)	38.0
	Neither	47.8
	Don't Know	3.0
	Total	100.0%
	Weighted Base*	(663)

*Combined total of all jobs categorized.

high school job(s). As Table 7 shows, nearly one-half (47.5 percent) held their job or jobs during 1972, their senior year. Three-in-ten (30.1 percent) had jobs during their junior year (1971). Approximately one-sixth (16.1 percent) held their first job during their sophomore year in high school (1970). For the majority of our respondents, work began during their junior and senior years of high school.

TABLE 7

YEAR RESPONDENT HELD FIRST AND SECOND JOB WHILE IN HIGH SCHOOL

Q.11 (3) Year held.			
	First Job	Second Job	Total
1972 (Senior)	44.9%	54.8%	47.5%
1971 (Junior)	28.9	33.8	30.1
1970 (Soph.)	16.1	6.4	13.6
1969 (Fresh.).....	8.9	1.9	7.1
1968	0.0	0.0	0.0
1967	1.0	3.1	1.5
Total	99.8%	100.0%	99.8%
Weighted Base	(492)	(169)	(661)

The last section of Question 11 asked the respondents about the relationship of their jobs to their school courses of study. Over one-fifth (21.6 percent) of the jobs held were thought by the respondents to be "directly related" to their courses of study, while another fifth (19 percent) thought their jobs were "slightly related" (see Table 8). Almost six-in-ten (57.4 percent) said their jobs were not related to their high school courses of study. Table 8 also shows that for those who had a second job, a higher number (27.4 percent) said this job was "directly related",

TABLE 8

RELATIONSHIP OF FIRST AND SECOND HIGH SCHOOL JOB(S) TO RESPONDENTS COURSE OF STUDY

Q.11 (4) Was job directly related, slightly related, not related or don't know to your school course of study?

Relationship	First Job	Second Job	Total
Directly related	19.6%	27.4%	21.6%
Slightly related	21.1	13.2	19.0
Not related	56.8	59.4	57.4
Don't Know	2.6	0.0	1.8
Total	100.1%	100.0%	99.8%
Weighted Base	(495)	(172)	(667)

than said their first job was "directly related" (19.6 percent).

In summary, a majority of respondents had held jobs for one month or longer while they were in high school. These jobs were fairly evenly distributed in regard to vocational areas; a majority of them, however, were neither Work Study nor Co-op jobs. Most respondents began to work during their junior and senior years of high school at jobs that were not related to their high school courses of study.

FIRST POST HIGH SCHOOL JOB. In addition to the respondents' high school work histories, information was requested about how they obtained their first post high school jobs and about the quality of their work experience since graduation. In response to Question 12, nearly all of the respondents (93.4 percent) indicated that they had been employed full-time or part-time since high school graduation. Very few (3.7 percent) said they had not been employed; 2.9 percent did not answer the question.

Those who said they had been employed since graduation were asked how soon after graduation they obtained their first jobs (Q.13). Over one-third (36 percent) said they had continued jobs they already held; 18.1 percent said they had started to work immediately after graduation; and one-fifth (20.2 percent) said they had begun employment from one to two months after graduation (see Table 9). Thus, of those who had been employed, almost three-fourths (74.3 percent) began their first jobs within two months of graduation. The remaining one-fourth got their jobs three to six months after graduation (13.2 percent) or after seven months (12.6 percent).

In anticipation of the large percentage of graduates who had worked since graduation, the questionnaire sought additional information about how the respondents obtained their first jobs and about their rates of pay. Our next question (Q.14) asked whether or not respondents had parents, relatives, or friends employed in the same lines

TABLE 9

TIME BETWEEN GRADUATION AND RESPONDENTS' FIRST JOB

Q.13 How soon after graduation did you get your first job?

I continued a job I already had	36.0%
I started immediately after graduation	18.1
I started between 1 and 2 months after graduation	20.2
I started between 2 and 6 months after graduation	13.2
I started more than 7 months after graduation	12.6
Total	100.0%
Weighted Base	(690)

of work which the graduates had entered (see Table 10). Almost six-in-ten (58.1 percent) replies were negative; about one-fourth (24.2 percent) indicated parents or relatives, and 17.7 percent indicated friends in the same lines of work. A majority, apparently, did not get their first jobs primarily because of the influence or help of relatives or friends.

TABLE 10

RESPONDENTS WITH PARENTS, RELATIVES, OR FRIENDS IN SAME LINE OF WORK

Q.14 Did you have a parent, relative, or friend in the same line of work that you entered?

No	58.1%
Yes, Parent or Relative..	24.2
Yes, Friend	17.7
Total	100.0%
Weighted Base	(688)

A third question (Q.18) provided additional information on how graduates obtained their first jobs. The largest group (44.5 percent) reported they located their jobs on their own (see Table 11). Slightly less than one-third (31.3 percent) indicated help from parents, relatives or friends. Thus, while approximately 42 percent cited parents, relatives or friends in the same line of work (see discussion above), about ten percent fewer reported help from these sources. Slightly more than one-seventh (12.9 percent) listed help from the Co-op Program, 2.7 percent received help from the vocational school (few respondents attended NEOVEC),

TABLE 11

HELP RESPONDENT RECEIVED IN OBTAINING FIRST JOB

Q.18 How did you get your first job?

I got the job on my own	44.5%
I got help from parents, relative or friend	31.3
I got help through the Co-op program	12.9
I got help through Vocational School	2.7
I got help through high school teacher or counselor	3.6
Other sources	5.0
Total	100.0%
Weighted Base	(690)

3.6 percent were helped by high school teachers or counselors, and 5 percent cited other sources. Graduates probably received help from a combination of these sources. We view their responses to this question as their perception of the "most important" sources of assistance in obtaining their first employment.

It is important to note the high percentage (44.5 percent) who stated that they obtained their first jobs

"on my own". This response may be interpreted in several ways:

1. A reluctance to ask for help
2. A desire to be independent ("on one's own")
3. A lack of confidence in assistance from others or, more optimistically
4. An indication that schools are preparing many students to locate their own jobs

Any of these conclusions would be speculative, at this point. Clearly, however, a majority of respondents reported that they located their first post high school jobs without assistance of the school.

We asked our respondents to state the names or titles of their first jobs (Q.15). Nearly all reported their jobs in sufficient detail to categorize them in one of five areas related to high school vocational education (see Table 12). Over one-fourth (27.8 percent) of these first jobs were trade or industrial in nature, while one-fifth (21 percent) were jobs related to distributive education and health-home economics. The business area, primarily secretarial and clerical, accounted for 18.7 percent of these jobs, while "other" jobs were held by 10.7 percent of our respondents. Our next question (Q.16) asked for the name of the employer or company of the graduates' first jobs. These data were coded by the type of business and the number of employees; the additional information

TABLE 12

AREA OF RESPONDENTS' FIRST JOBS

Q.15 What was the name or title of your first job?

Business	18.7%
Distributive Education	21.0
Health-Home Economics	21.9
Trade and Industrial	27.8
Other	10.7
Total	100.1%
Weighted Base	(691)

necessary to do this was gathered through telephone calls or interviews. Table 13 summarizes the types of businesses where the graduates obtained their first jobs.

While the largest group was employed by distributive/retailing/sales companies (21.3 percent), the trade and industrial companies combined to account for over one-third of the first jobs (33.6 percent). Nearly one-sixth (15.9 percent) held their first jobs at a home economics related concern, such as a restaurant, a clothing repair facility, or a day care center. Nearly one-tenth (9.7 percent) were employed by health services

TABLE 13

NATURE OF BUSINESS OF RESPONDENTS' FIRST EMPLOYMENT

Q.16 What was the name of the company or name of the employer of your first job?

Type of Business*	
General Business	7.6%
Distributive/Retailing/Sales	21.3
Health Services	9.7
Home/Foods	15.9
Trade and Industries (Building Trades/Machine Repair)	11.2
Trade and Industries (Auto)	17.6
Trade and Industries (Tool & Die)	4.8
Service	10.9
Other	1.0
Total	100.0%
Weighted Base	(675)

*Actual responses recoded.

establishments as were those in service occupations (10.9 percent). The smallest group (7.6 percent) were employed in general businesses, primarily small shops.

These businesses also were categorized according to number of employees (see Table 14). Approximately one-third (33.9 percent) of the first jobs were at companies that employed 11 to 49 people. Almost three-in-ten respondents (29.6 percent), however, worked for large businesses employing 100 or more. About an equal number worked for concerns employing 1 to 10 people (16.8 percent) or 50 to 99 (14.9 percent). Few of the respondents (4.8 percent) were self-employed on their first jobs.

TABLE 14

NUMBER OF EMPLOYEES AT RESPONDENTS' FIRST JOB LOCATIONS

1 to 10	16.8%
11 to 49	33.9
50 to 99	14.9
100 or more	29.6
Other (self-employed)	4.8
Total	100.0%
Weighted Base	(670)

Respondents also were asked to state how much they earned per hour on their first jobs (Q.17). The range of income reported began at a low of fifty cents per hour and reached as high as $7.10 per hour; the median was slightly in excess of two dollars per hour (the minimum wage in 1972). Table 15 shows the distribution of first job earnings per hour in brackets of fifty

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TABLE 15

RESPONDENTS' EARNINGS PER HOUR ON THEIR FIRST JOBS (in brackets of fifty cents)

Q.17 About how much did you earn on your first job? (Please write in).

Under $1.50	7.4%
$1.50 to 1.99	38.6
$2.00 to 2.49	19.9
$2.50 to 2.99	12.2
$3.00 to 3.49	5.1
$3.50 to 3.99	2.5
$4.00 to 4.49	4.5
$4.50 to 4.99	4.8
$5.00 and over	5.1
Total	100.0%
Weighted Base	(674)

cents. Although well over one-half (54 percent) of the graduates were earning at least the minimum wage with about one-third (32.1 percent) earning $2.00 to $2.99 per hour, the largest group (38.6 percent) were found in the $1.50 to $1.99 bracket. While a majority of graduates were making more than the minimum wage on their first jobs, few (21.9 percent) were earning over three dollars per hour. These first job wages are an indication that Pontiac graduates began their adult work experience at the lower end of the wage scale.

The next question (Q. 19) asked the graduates to list all their post high school jobs and to indicate certain descriptive characteristics for each. They reported jobs in each of the four vocational areas, with over three-in-ten (30.4 percent) in the trade and industrial area (see Table 16). Almost equal members were reported in health-home economics (20.2 percent), distributive education (19.1 percent), and business related jobs (18.7 percent). Over one-tenth (11.5 percent) were categorized as "other" (e.g., teacher aide, police cadet). This distribution indicates that there are definitely jobs in the local areas, available to Pontiac graduates, that are related to the vocational programs offered in the schools. The industrial nature of the local economy as well as high school course enrollment in reflected in the preponderance of trade and industrial jobs.

TABLE 16

AREAS OF POST HIGH SCHOOL JOBS HELD BY GRADUATES

Q.19 Name, title or job description.

Business	18.7%
Distributive Education	19.1
Health-Home Economics	20.2
Trade and Industrial	30.4
Other	11.5
Total	99.9%
Weighted Base	(1078)

*Combined total of post high school jobs reported.

• Question 19 also asked the respondents to state the relationship of their post high school jobs to their high school courses of study (see Table 17). Nearly six-in-ten (57 percent) of the jobs were identified by our respondents as "not related" to their course of study. Nearly one-fourth (23 percent) however, were thought to be "slightly related" and 19 percent were reported as "directly related"; only one percent of the jobs were not categorized. Data presented above would indicate that most of the jobs

TABLE 17

RELATIONSHIP OF RESPONDENTS' POST HIGH SCHOOL JOBS TO THEIR COURSE OF STUDY

Directly related...	19.0%
Slightly related...	23.0
Not related...	57.0
Don't Know...	1.0
Total	100.0%
Weighted Base	(1046)

graduates have held, as well as the companies employing them, are related to the high school vocational program. However, responses to Question 19 seem to indicate that a large number of graduates do not move from specific courses of study into jobs directly related to their studies. Further study of the relationship between school vocational programs and the subsequent employment of graduates is needed.

The last section of Question 19 asked the respondents to state their reasons for leaving any of the jobs they have held since graduation (see Table 18). Their verbatim responses were coded into approximately fifty categories

and then recoded into the final categories listed in Table 18. These "reasons" were grouped into four areas which were of interest to this project.

The reader is cautioned in interpreting these data. Some of the reasons given for leaving were impossible to understand or code (e.g., "just because", "it's my business"). In addition, the authors believe that there is a tendency to offer self-serving responses when discussing changes of employment. For example, not one graduate was "fired" from any job. Finally, we must interpret these responses as the respondents' current perceptions of their reasons for leaving jobs. For many, there were probably multiple and/or vague reasons that motivated the decision to leave. As we can see from the table, 41.7 percent of the reasons graduates gave for leaving their jobs indicated a desire to change their life styles; over one-half of the reasons in this area specifically mentioned going to school (24.5 percent). The second largest grouping were those reasons that indicated a Voluntary Change of Jobs. Over one-third (34.9 percent) of the reasons cited fall in this area, particularly getting a "better paying" job (15.7 percent) and "getting a better job" (9.8 percent). Some of these reasons could be interpreted as negative reasons for leaving a job. For example, 3.8 percent of the reasons given were simple "dissatisfaction with the job", and 1.5 percent were "I quit".

TABLE 18

REASONS CITED BY RESPONDENTS FOR LEAVING JOBS HELD SINCE GRADUATION (Some recoding of responses).

Q.19 Reason you left.

Voluntary Change of Job		34.9%
Better pay	15.7%	
Get a better job...	9.8	
Dissatisfied with job...	3.8	
Promoted/Transferred...	2.0	
Returned to previous job...	1.7	
Quit...	1.5	
Become self-employed...	0.5	
Involuntary Loss of Job		17.1%
Laid Off/Bumped	11.8%	
Business closed...	4.5	
Job ended...	0.8	
Change in Life Style		41.7%
Go to school	24.5%	
Moved away...	8.2	
Take a vacation...	5.3	
Seek other training...	1.7	
Marriage...	1.7	
Join military...	0.5	
Personal Reasons		6.3%
Pregnancy	3.2%	
Health...	2.4	
Transportation...	0.8	
	Total	100.0%
	Weighted Base	(662)

The remaining two areas of Table 18 are Involuntary Loss of Job and Personal Reasons. The respondents said, that of the jobs they left, 17.1 percent of their departures were involuntary. The largest number of these job losses were "lay-offs" (11.8 percent). Interestingly, not one graduate reported losing a job by being "fired". Only 6.3 percent of the reasons given were categorized as Personal. While this is the smallest area of reasons given, some of the reasons categorized under other areas may actually conceal personal situations which may have contributed to leaving a job (e.g., quit, moved away, vacation, and join the military).

The latter part of the survey asked several questions about the graduates' current or most recent jobs. Their working hours and wages, their evaluation of their wages, and their chances for increased earnings were explored. Two additional questions asked for descriptions of their present situations (working, school, military) and, for those who were employed, the security of their current job.

PRESENT EMPLOYMENT SITUATION. Nearly one-half of the respondents (49.6 percent) described their present situations as "working full-time" (Q.27). Another 6.3 percent reported that they were "working part-time" (see Table 19). Over one-tenth (11.6 percent), however, reported that they were "unemployed, and looking for work",

TABLE 19

RESPONDENTS DESCRIPTION OF PRESENT SITUATION

Q.27 Which of the following best describes your present situation?

a.	Working full-time (more than 30 hrs. per week)	49.6%
b.	Working part-time (less than 30 hrs. per week)	6.3
c.	Not working - going to school full-time	11.3
d.	Not working - going to school part-time	0.0
e.	Working and going to school	11.0
f.	The military service	2.8
g.	Unemployed, looking for employment	11.6
h.	Unemployed, not looking for employment	7.5
	Total	100.1%
	Weighted Base	(675)

while 7.5 percent also said they were "unemployed but were not looking for employment". Eleven percent said they were "unemployed and were going to school", and about an equal number (11.3 percent) said they were "not working and going to school full-time". Only 2.8 percent said they were "in the military service." If all the

items that indicate the respondent is employed are combined, we find that nearly seven-in-ten (69.7 percent) are working.

PRESENT OR MOST RECENT JOB DESCRIPTION. The respondents also reported their hours and wages on their current or most recent jobs. Nearly seven-in-ten (69.3 percent) reported they were employed forty or more hours per week on their current or most recent job, (Q.20), (see Table 20). The actual range of hours reported per week was from a low of eight to a high of seventy-five hours; the largest response category was forty hours per week, with over

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TABLE 20

AVERAGE HOURS WORKED PER WEEK ON PRESENT OR MOST RECENT JOB

Q.20 On the average, how many hours do (did) you work per week on your present or most recent job? (Please write in.)

19 hours or less...	5.7%
20 to 29 hours...	10.1
30 to 39 hours...	15.0
40 to 49 hours...	63.5
50 hours or more...	5.8
Total	100.1%
Weighted Base	(685)

one-half (52.5 percent) citing these hours (the complete distribution is not presented here). We can definitely conclude that while some graduates are employed part-time, the majority of the graduates have had full-time employment since graduation.

In regard to earnings, respondents were asked (Q.21) to state how much they were earning per hour on their current jobs (see Table 21). Compared to their incomes on their first jobs (see again Table 15), where 46 percent earned $1.99 or less per hour, only 7.1 percent currently earned less than $1.99 per hour. Progress was also indicated at the upper end of the wage scale; only 5.1 percent earned $5.00 or more per hour on their first job, while nearly one-fifth (19.1 percent) currently earned this amount. The actual distribution of current earnings per hour was from 60 cents to $8.50, with a median of $3.00 per hour (complete data not presented here. This is an increase in the median of about $1.00 per hour from the first job earnings.

We asked the respondents to rate their current wages (Q.22) on a continuum from low ("impossible to live on") to high ("enough to have extra and save some") (see Table 22). One-tenth (10.3 percent) said their wages were "impossible to live on", and over one-fourth (27.3 percent) said their wages were "barely enough to meet needs". The majority (62.4 percent), however, reported their income was "enough to live comfortable", or even better. One-in-six (16.6

TABLE 21

EARNINGS PER HOUR ON PRESENT OR MOST RECENT JOB

Q.21 Approximately how much do (did) you earn per hour on your present or most recent job? (Please write in.)

Under $1.50...	1.4%
$1.50 to 1.99...	5.7
$2.00 to 2.49...	21.4
$2.50 to 2.99...	12.9
$3.00 to 3.49...	13.3
$3.50 to 3.99...	14.1
$4.00 to 4.49...	8.8
$4.50 to 4.99...	3.3
$5.00 to 5.49	9.3
$5.50 to 5.99...	3.0
$6.00 or more...	6.8
Total	100.0%
Weighted Base	(645)

percent) rated their wages as "good enough to have extras and save some". While a substantial minority indicate they are not earning enough, most feel they have an adequate income.

TABLE 22

RATING OF WAGES ON PRESENT OR LAST JOB

Q.22 On your present (or last job held) how would you rate your wages?

Impossible to live on...	10.3%
Barely enough to meet needs...	27.3
Enough to live comfortable...	30.8
Enough to be able to have some extras...	15.0
Enough to have extras, and save some...	16.6
Total	100.0%
Weighted Base	(689)

In response to the question (Q.23) asking them to rate their chances for increased wages (other than cost of living increases) on the current or most recent job (see Table 23), almost one-third (32.8 percent) said their chances were "fair", and one-fourth (24.2 percent) said "good", while one-tenth (9.7 percent) rated their chances as "excellent". That is, two-thirds (66.7 percent) rated their chances for increased wages as "fair" or better. One-fifth (19.5 percent) rated their wage increase chances as "poor" and 13.7 percent said their chances were "none at all". Although a substantial

TABLE 23

RATING OF CHANCES FOR INCREASED WAGES OTHER THAN COST OF LIVING INCREASES

Q.23 How are (were) the chances for increased wages, other than normal or cost of living increases?

None at all...	13.7%
Poor...	19.5
Fair...	32.9
Good...	24.2
Excellent...	9.7
Total	100.0%
Weighted Base	(673)

number of respondents (one-third) did not feel that they had much of an opportunity to get better pay, the majority (two-thirds) felt that they had a fair chance or better.

Our last question in this series (Q.26) asked the respondents to rate the security of their current jobs (see Table 24). Their responses indicated that a majority of them thought their current jobs were fairly secure. Almost four-in-ten (39.2 percent) said their jobs would be theirs for as long as they want them, and one-fourth (24.6 percent) said they could depend

TABLE 24

RATING OF SECURITY OF CURRENT JOB

Q.26	If you are now employed, how would you rate the security of your current job?	
	It will end soon, forcing me to change positions...	0.1%
	It is one I can depend on for several years...	24.6
	It will be mine for as long as I want it...	39.2
	The job is uncertain, I am unsure about the future...	29.0
	I never thought about it...	6.9
	Total	100.1%
	Weighted Base	(472)

on their jobs for several years. However, 29 percent did rate the future of their jobs as uncertain; few said that their jobs would definitely "end soon". Interestingly, 6.9 percent said they had "never thought about it". These responses are probably based on the graduates' perceptions of their job security. If there is a basis, in fact, for their ratings, we can conclude that most of their job futures are secure.

VOCATIONAL DECISIONS AND WORK ATTITUDES

This series of questions was included to provide some general information about the vocational decisions made by high school students and their work attitudes.

The first question asked whether the respondents had taken "any vocational, co-op, or industrial arts courses in high school?" Since this data was available for each respondent from school district student records, this question served primarily to determine whether the respondent should answer the next four questions which applied only to vocational students. Slightly over two-thirds (67.6 percent) indicated that they had taken at least some vocational courses; this percentage is consistent with data available to us from district records (see Chapter III for a description of respondents' course work background).

SELECTION OF VOCATIONAL COURSES. The next question (Q.2) asked the vocational students why they selected the courses they took (see Table 25). Nearly eight-in-ten (79.7 percent) selected one of the first three responses, indicating that they took the vocational courses for reasons that we characterize as "job oriented". The largest group (39.8 percent) wanted to learn more about the subject because of interests or hobbies, and 31.7 percent wanted to do the type of work for which the course offered training. Another 8.2 percent selected

TABLE 25

REASONS VOCATIONAL GRADUATES SELECTED VOCATIONAL COURSES IN SCHOOL

Q.2 If you took vocational, co-op, or industrial arts courses, why did you select the courses you did?

I wanted to learn more about it because of my interest or hobbies...	39.8%
I wanted to do that type of work...	31.7
Jobs in that field offered good pay and working conditions...	8.2
My parents advised me to take them...	0.0
My counselor or teacher suggested I take them...	2.6
I took vocational courses because my friends took them...	0.6
I preferred vocational courses to other available courses...	9.7
Other reasons...	7.4
Total	100.0%
Weighted Base	(516)

their courses because "jobs in that field offered good pay and working conditions". The remaining 20.7 percent indicated they took the classes for several reasons unrelated to jobs.

To follow-up on the above answer choices, graduates were asked about their post high school plans at the time they selected their vocational courses (Q.3). As Table 26 reveals, approximately one-fifth (18.9 percent) said "Yes, I definitely planned to go to work in that field after high school". More of the respondents (29.6 percent) said "Yes", but they were "not really certain" of this. In combined form, these two choices do represent at least a tentative vocational choice by nearly one-half (48.5 percent) of the respondents.

TABLE 26

RELATIONSHIP BETWEEN VOCATIONAL GRADUATES, VOCATIONAL COURSE SELECTION, AND POST HIGH SCHOOL WORK PLANS

Q.3 At the time you selected your high school vocational courses, did you plan to go to work in that field after high school?

Yes, I definitely planned to work in that field...	18.9%
Yes, but I was not really certain...	29.6
No, but I was not really certain...	24.3
No, I definitely did not plan to work in that field...	12.1
I really did not know what I was going to do after graduation...	15.1
Total	100.0%
Weighted Base	(513)

Several questions were designed to help clarify the post high school plans of vocational graduates. They were asked whether they planned to get a full-time job after graduation, and if so, how it was related to their vocational course work. They were also asked to evaluate the importance of their high school vocational experiences in their career choice. Finally, they were asked to rate the importance of several factors or people on their post graduation plans.

The first question in this series (Q.4) asked the vocational graduates about the kinds of jobs they wanted

TABLE 27

POST HIGH SCHOOL JOB PLANS OF VOCATIONAL GRADUATES

Q.4 If you planned to get a full-time job after your high school graduation, what kind of job did you want?

I planned to get a job:

Directly related to the vocational courses I studied in school...	33.4%
Slightly related to the vocational courses I studied in school...	27.9
Not related to the vocational courses I studied in school...	13.6
I did not plan to get a job after graduation...	25.0
Total	99.9%
Weighted Base	(485)

after graduation, if they planned to go to work (see Table 27). Their response to this question indicated that while the vocational graduates had a strong desire to get full-time jobs after graduation, one-fourth (25 percent) reported that they had not planned to do so. Almost two-thirds (61.3 percent) said they had planned to get full-time jobs related (directly or slightly) to the vocational courses studied in school. Fewer (13.6 percent) planned to get a full-time, non-related job.

Our data further indicate that "vocational, co-op, or industrial arts courses in high school", (Q.5), were moderately important factors in the vocational respondents' career choices (see Table 28). Over half (57.5 percent) reported that their vocational courses "had no effect" on their job choice. Almost one-third (32.1 percent) thought their vocational courses had "confirmed" their job choices, while only one-tenth (10.3 percent) indicated that courses had "changed" their job choices. For most vocational graduates, course work did not have an important effect on their job choices; however, it did confirm the job choices of one-third of this group.

TENTH GRADE AND GRADUATION CAREER DESIRES. In the hope of learning more about the students' career-job decision-making process, they were asked to state what careers or jobs they wanted when they began tenth grade and when they graduated from high school (Q.6 and Q.7).

TABLE 28

EFFECT OF HIGH SCHOOL VOCATIONAL COURSES ON RESPONDENTS JOB CHOICE

Q.5 How important were your vocational, co-op or industrial arts courses in high school for your career choice?

Did these courses confirm your job choice, change your job choice, or have no effect on your job choice?

Vocational Education Courses:	
Confirmed my job choice...	32.1%
Changed my job choice...	10.3
Had no effect on my job choice...	57.5
Total	99.9%
Weighted Base	(410)

Over one hundred specific jobs were indicated for both questions. These responses were coded into approximately fifty categories. Table 29 shows these data further collapsed into several categories. The reader should be cautioned in interpreting these data, in that this type of question requires the respondent to attempt to recall career aspirations from five years in the past. This task is difficult for many respondents. Our data, therefore, should be viewed as the respondents' "best recollection" of their tenth grade and graduation job choices.

TABLE 29

SELECTED JOB CHOICE AREAS OF RESPONDENTS IN TENTH GRADE AND AT HIGH SCHOOL GRADUATION

Q.6 At the time you entered the tenth grade, what career or job did you want? (Please write in.)

Q.7 When you graduated from high school, what kind of job did you want? (Please write in.)

Job Area	Tenth Grade	Graduation	Change
Business	14.9%	20.7%	+ 5.8%
Health	14.4	10.2	- 4.2
Home Economics	3.3	3.5	+ 0.2
Trade and Industrial	9.6	15.4	+ 5.8
Other, professional	14.5	10.9	- 3.6
Other, miscellaneous	10.2	15.8	+ 5.6
Don't Know	25.5	15.4	-10.1
Missing Data (no answer)	7.6	8.1	+ 0.5
Total	100.0%	100.0%	
Weighted Base	(738)	(738)	

The largest job choice area of the respondents at both times was business (14.9 percent in tenth, 20.7 percent at graduation), and the smallest area of job choice in tenth grade and at graduation was home economics (3.3 percent and 3.5 percent respectively). Over one-fourth (25.5 percent) of the respondents did

not know what jobs they wanted when they were in tenth grade. Only 15.4 percent did not know at graduation, indicating that many of them had made job choices by their graduation.

IMPORTANT FACTORS IN GRADUATES' POST HIGH SCHOOL PLANS. The next question in this series (Q.8), asked all respondents to rate the importance of several factors or people in their choices of what to do after graduation. Those who indicated that the factor "did not apply" to them have been removed from the data presented in Table 30.

More than one-half of the respondents felt that four of the factors were "not important" influences in their post high school planning (friends, co-op teacher or or employer, high school counselor or teacher, and/or NEOVEC teacher or counselor). Three factors, however, were reported to be very or somewhat important by over half of the respondents (parents or relatives, work experience in high school, and school subjects). The most important factor for all respondents was "parents or relatives" with over one-third (35.5 percent) rating them as "very important". "School subjects" was rated as "very important" by 29 percent of the respondents, and 26.8 percent rated their work experience in high school as "very important" in their choice of what to do after graduation. Clearly, to our respondents,

TABLE 30

IMPORTANCE OF SEVERAL FACTORS IN RESPONDENTS POST HIGH SCHOOL PLANS (Percentage)

Q.8 How important was each of the following in your choice of what to do after high school graduation?

	VERY IMPORTANT*	SOMEWHAT IMPORTANT	NOT IMPORTANT	Wt. Base
A. Parents or relatives	35.3%	42.4%	22.1%	644
G. School subjects	29.0	45.9	25.1	638
E. Work experience in high school	26.8	38.7	34.6	531
C. Co-op teacher or employer	16.5	31.0	52.5	496
D. High school counselor or teacher	11.3	33.4	55.3	574
B. Friends	10.4	35.3	54.2	566
F. NEOVEC teacher or counselor	9.0	28.0	62.9	247

*Factors are arranged in decending order of "very important" response level.

parents and relatives, school subjects, and work experience are important factors in their post high school plans.

The last question concerning the decisions of high school students (Q.9), simply asked the graduates, whether there were areas or courses that they wanted to take in high school which were not offered. Almost two-

thirds (62.8 percent) said "yes", indicating a substantial desire for unavailable courses. More than one-third (35.1 percent) of the courses listed by the graduates were specifically vocational in nature; i.e., business communications, medical technology, data processing, and cosmetology (total responses are not reported here, but are available). We can conclude, therefore, that there was a general interest among graduates in curriculum offerings which they felt were not available, and that a substantial portion of this interest was in vocational courses.

JOB SATISFACTION. Later in the survey, the respondents were asked to answer some questions about their satisfaction with their jobs. For most people, job satisfaction is an important aspect of work. Since this concept is not easy to measure, information on job satisfaction was obtained through several questions on factors that might affect job satisfaction.

To begin, the graduates were asked to rate their satisfaction with their current or most recent jobs (Q.24). As Table 31 shows, over one-fifth (21.5 percent) rated themselves as "very satisfied" with their most recent job, and almost two-fifths (39.4 percent) said they were "satisfied". Few said they were "dissatisfied" (8.7 percent) or "very dissatisfied" (1.3 percent). Three-in-ten (29.1 percent) said they were "neither satisfied or dissatisfied with their job. The majority,

TABLE 31

RESPONDENTS SATISFACTION WITH MOST RECENT JOB

Q.24 How satisfied are (were) you with this job?	
Very satisfied...	21.5%
Satisfied...	39.4
Neither satisfied nor dissatisfied...	29.1
Dissatisfied...	8.7
Very dissatisfied...	1.3
Total	100.0%
Weighted Base	(678)

therefore, (60.9 percent) rate themselves as at least satisfied with their jobs, while a small group (10 percent) indicated dissatisfaction.

In general, the 1972 graduates are satisfied with their current or most recent jobs. To better understand the nature of their job satisfaction, they were asked to indicate their level of satisfaction with several job-related items (Q.25). As Table 32 shows, our respondents were "very satisfied" with the people they work with (42.1 percent), the distance they travel to work (40.8 percent), and the training they are getting (35.7 percent). They were "dissatisfied" with their

TABLE 32

SATISFACTION OF RESPONDENTS WITH SEVERAL ITEMS CONCERNING THEIR MOST RECENT JOBS

Q.25 How satisfied are (were) you with the following things on your present or most recent job?

ITEM	VERY SATISFIED	SATISFIED	DIS-SATISFIED	Wt. Base
A. Things I do	30.9%	60.7%	8.5%	674
B. Things I work with	32.0	57.3	10.7	662
C. People I work with	42.1	49.9	8.0	672
D. People I work for	27.1	54.1	18.7	667
E. Wages	16.0	49.9	34.1	669
F. Hours	22.7	62.4	14.9	678
G. Fringe Benefits	24.8	43.1	32.1	585
H. Working conditions ..	26.4	60.3	13.3	662
I. Distance to work	40.8	49.7	9.5	660
J. Promotion Possibilities	19.2	37.0	43.6	578
K. Training I am getting	35.7	42.6	21.5	568

promotion possibilities (43.6 percent), wages (34.1 percent), and fringe benefits (32.1 percent). They were least "dissatisfied" with the people they work with (8 percent), the things they do at work (8.5 percent), and the distance they travel to work (9.5 percent).

This dissatisfaction is probably attributable to the levels of jobs they are holding and the fact that they are beginning employees. The promotion possibilities, wages, and fringe benefits would probably be lower on low level jobs for new employees. It is interesting to note that while over one-fifth (21.5 percent) were dissatisfied with the training they were receiving, over one-third (35.7 percent) were very satisfied with their training. Obviously, there is a discrepancy between the training offered and the training expected for many graduates on their initial post high school jobs. Further, fourteen percent of the respondents (data not shown) said that this item did not apply to them; that is, that they weren't getting training and didn't expect it.

CHAPTER V

SELECTED OUTCOMES BY JOB PREPARATION BACKGROUND

In this chapter, we will again inspect the responses of the 1972 graduates. This presentation, however, will more specifically investigate the relationship of the various responses considering the vocational course work and work experience background of the respondents. To facilitate our analysis we developed a summary concept we have termed Job Preparation. As presented in Chapter III, this concept is an indicator of the nature of the vocational education background of each respondent (see again Table 3).

The following definitions and abreviations of Job Preparation background should be kept in mind as the reader interprets the tables and data in this chapter.

1. No Preparation (No Prep). These respondents did not participate in the Work Experience Program nor earn more than one-half vocational course credits (one course).

2. Vocational Course Preparation (VC Prep). These respondents earned one or more vocational course credits but did not participate in the Work Experience Program.

3. Work Experience Preparation (WE Prep). These respondents did participate in the Work Experience Program but did not earn more than one-half vocational course credits.

4. Vocational Course and Work Experience Preparation (VC-WE Prep). These respondents earned one or more vocational course credits and participated in the Work Experience Program.

These definitions will be used throughout this chapter without further explanation.

WORK HISTORY AND EXPERIENCES

Over seven-in-ten (72.3 percent) respondents indicated they had been employed at a job during high school which lasted one month or longer (Q.10).
As Table 33 shows, all of the work experience (WE Prep) respondents (100 percent) and nine-in-ten (89.8 percent) of those with both work experience and vocational course credits (VC-WE Prep) had held a job during high school for one month or longer. Less than two-thirds of those with no Preparation (63.2 percent) or only vocational course credits (VC Prep) (61.1 percent) had worked a month or more during school. We can conclude, that while a majority of the graduates had worked while in high school, those who had participated in the Work Experience Program were more likely to have held a job for one month or longer.

TABLE 33

PERCENTAGE OF RESPONDENTS EMPLOYED ONE MONTH OR LONGER DURING HIGH SCHOOL BY JOB PREPARATION

	NO Prep	VC Prep	WE Prep	VC-WE Prep	Total
Yes	63.2%	61.1%	100.0%	89.8%	72.3%
No	36.8	38.9	0.0	10.2	27.7
Total	100.0%	100.0%	100.0%	100.0%	100.0%
Weighted Base	(200)	(285)	(101)	(128)	(714)

HIGH SCHOOL JOB HISTORY

Those who had worked one month or longer during high school were asked to complete a chart describing their high school work history (Q. 11). Table 34 indicates a fairly even distribution of jobs held among the four job area categories. There is, however, a substantial difference in the Job Preparation background of these respondents when they are categorized by job area. While only one-fifth (20.3 percent) of the total jobs held were in the trade and industrial area, nearly one-third (32.1 percent) of those with both vocational credits and work experience had jobs in this area. Trade and industrial jobs are more likely to be held by those with the most Job Preparation. Business area jobs accounted for (18.7 percent) of the total jobs held, but over one-third (36.9 percent) of those with only Work Experience

Program participation (WE Prep) held jobs in this area. One-fourth (25.8 percent) of those with no Job Preparation also held business area jobs. The proportion of jobs held in the four Job Preparation categories was fairly constant for the distributive education and health-home economics job areas.

TABLE 34

AREAS OF JOB(S) REPORTED BY RESPONDENTS WHILE IN HIGH SCHOOL BY JOB PREPARATION

Responses*	NO Prep	VC Prep	WE Prep	VC-WE Prep	Total
Business	25.8%	8.5%	36.9%	13.7%	18.7%
Distributive Ed ..	19.0	23.6	23.0	28.6	23.6
Health-Home Econ..	26.4	25.2	23.8	19.6	24.0
Trade and Industrial	12.9	25.6	2.5	32.1	20.3
Other	16.0	17.1	13.9	6.0	13.4
Total	100.1%	100.0%	100.1%	100.0%	100.0%
Weighted Base	(163)	(246)	(122)	(168)	(700)

* Actual responses were recoded into these five categories.

It would seem that Job Preparation background is most deterministic for trade and industrial jobs and least important for business area jobs. That is, business jobs are easier to obtain without substantial Job Preparation, while trade and industrial jobs are more sensitive to the level of Job Preparation. Miscellaneous (other) jobs appear to be unrelated to the Job Preparation background of the student, although those with substantial preparation tend to not have this type of job (6 percent).

Table 35 presents information about the types of jobs held by respondents while in high school. None of these data are surprising. Thirty-eight percent of the total jobs reported were identified as Co-op (Work Experience); most of those with both vocational credits and work experience held these job (65.7 percent) as did those which only work experience (69.2 percent). Those with no Job Preparation were most likely to have jobs which were neither work study nor Co-op (69 percent).

TABLE 35

TYPE OF JOB(S) HELD BY RESPONDENTS DURING HIGH SCHOOL BY JOB PREPARATION

	NO Prep	VC Prep	WE Prep	VC-WE Prep	Total
Work Study	17.9%	11.3%	11.7%	4.5%	11.2%
Co-op (Work Exp.).	11.0	20.2	69.2	65.7	38.0
Neither	69.0	57.6	15.8	27.0	47.8
Don't Know	2.1	10.9	2.4	2.5	3.0
Total	100.0%	100.0%	100.1%	99.8%	100.0%
Weighted Base	(145)	(238)	(120)	(160)	(663)

These data show that most of the jobs held by those who have participated in the Work Experience Program are Work Experience jobs; they do not have a large number of non-Work Experience jobs while in high school.

No difference was noted by Job Preparation for the year the respondents held their jobs (Q. 11.3). Most (77.6 percent) worked during their junior and senior years of high school.

Slight differences were noted in the respondents indications of the relationship of their jobs to their high school courses of study (see Table 36). About one-fifth (21.6 percent)

TABLE 36

RELATIONSHIP OF RESPONDENTS HIGH SCHOOL JOBS TO COURSES OF STUDY BY JOB PREPARATION

	NO Prep	VC Prep	WE Prep	VC-WE Prep	Total
Directly related..	17.7%	22.4%	29.1%	18.8%	21.6%
Slightly related..	14.3	15.6	27.4	22.4	19.0
Not related.....	64.6	62.0	43.6	54.5	57.4
Don't Know.....	3.4	0.0	0.0	4.2	1.8
Total	100.0%	100.0%	100.1%	99.9%	99.8%
Weighted Base	(147)	(238)	(117)	(165)	(667)

of the jobs reported held during high school were thought to be "directly related"; almost one-fifth (19 percent) of the jobs were identified as "slightly related." No major differences are found for those with varying degrees of Job Preparation, although those with only work experience had the highest number (29.1 percent) of "directly related" jobs and "slightly related" jobs (27.4 percent). Respondents with no preparation or only vocational courses reported slightly higher levels of jobs that were "not related" to their high school courses of study (64.6 percent and 62 percent respectively).

FIRST POST HIGH SCHOOL JOB

Question 12 asked if the graduates had been employed since graduation and nearly all (93.4 percent) reported that they had. No significant difference was found in response to this item according to Job Preparation background since nearly all respondents had been employed.

We asked those who had been employed, when they had started their first job after graduation (Q. 13). Over one-half (54.1 percent) reported they continued a job they already had or started a job immediately after graduation (see Table 37). One-fifth (20.2 percent) said they started between one and two months after graduation. Thus, the majority (74.3 percent) were working very soon after finishing high school.

As Table 37 reveals there are differences when Job Preparation background is considered. Over eight-in-ten of the work experienced graduates (85 percent) and those with both work experience and vocational credit (83 percent) obtained their first job within two months of graduation, compared to 71 percent of the no preparation group and 69 percent of the vocational credit only group.

TABLE 37

TIME BETWEEN GRADUATION AND RESPONDENTS FIRST JOB
BY JOB PREPARATION

	NO Prep	VC Prep	WE Prep	VC-WE Prep	Total
Continued job I already had ...	35.1%	21.2%	54.3%	55.8%	36.0%
Started immediately after graduation	18.9	21.2	20.5	8.1	18.1
Started between 1 and 2 months after graduation	16.2	26.9	10.2	19.1	20.2
Started between 2 and 6 months after graduation	10.8	17.3	11.6	9.3	13.2
Started more than 7 months after graduation	18.9	13.5	5.4	7.7	12.6
Total	99.9%	100.1%	100.0%	100.0%	100.1%
Weighted Base	(195)	(274)	(96)	(125)	(69)

We can conclude, that while most graduates had full-or part-time jobs within two months of graduation, there is a relationship between Job Preparation and how soon graduates begin to work. Those with work experience are more likely than those without this background to be working soon after graduation. This group is also the least likely to wait as long as seven months after high school before starting to work.

Our next question (Q. 14) gave us an indication of the number of graduates who had parents, relatives, or friends in the same line of work they entered. Most respondents (58.1 percent) said they did not have a parent, relative, or friend in the same line of work; one-fourth (24.2 percent) said they had a parent or relative, and 17.7 percent said they had a friend.

Our analysis of these data, by Job Preparation background, produced some interesting statistics (see Table 38). When we look at respondents who said they did have a parent, relative, or friend in the same line of work, some difference is found by Job Preparation. Work experience only graduates had a very low percentage (18.8 percent) who answered "Yes" to this question. Only 7.9 percent of this group and 18.9 percent of the No Prep group said they had parents or relatives compared to over thirty percent for the other two categories of Job Preparation. The No Prep group, however, was the most likely to report they had a friend in the same line of work they entered (24.3 percent). Job Preparation, therefore, seems mildly related to the responses to this item. The major finding here is that those graduates with only work experience are significantly less likely to have a parent, relative, or friend in the same line of work they entered.

TABLE 38

PERCENTAGE OF RESPONDENTS WITH PARENTS, RELATIVES, OR FRIENDS IN THE SAME LINE OF WORK BY JOB PREPARATION

	NO PREP	VC PREP	WE PREP	VC-WE PREP	Total
No	56.8%	51.9%	81.2%	56.2%	58.1%
Yes, parent or relative	18.9	30.8	7.9	30.4	24.2
Yes, friend	24.3	17.3	10.8	13.4	17.7
Total	100.0%	100.0%	99.9%	100.0%	100.0%
Weighted Base	(195)	(274)	(94)	(125)	(688)

Another question (Q. 18) provided additional data on how graduates obtained their first jobs. The largest group said they found their job on their own (46.8 percent) and one-third (33 percent) reported help from parents, relatives or friends (see Table 39).

TABLE 39

HELP RESPONDENT RECEIVED IN OBTAINING FIRST JOB BY JOB PREPARATION

Responses*	NO PREP	VC PREP	NE PREP	VC-NE PREP	TOTAL
Got the job on my own	41.2%	52.0%	50.3%	41.1%	46.8%
Got help from parents, relative, or friend	41.2	34.0	7.3	37.2	33.0
Got help through Co-op Program..	8.8	8.0	35.7	16.4	13.6
Got help through Vocational School	2.9	4.0	3.0	0.0	2.8
Got help through high school teacher or counselor	5.9	2.0	3.7	4.8	3.8
Total	100.0%	100.0%	100.0%	100.0%	100.0%
Weighted Base	(179)	(263)	(89)	(124)	(656)

*Data for "other sources" is not included in Table 39.

Our particular interest in asking this question, was obtaining some information about the use of school-related assistance by graduates in getting their first job. Table 39 shows that overall, one-fifth (20 percent) of our respondents said they got their first job through help from a school-related source. Job Preparation background is not highly related to the

use of school sources except for one group, work experienced only; over two-fifths (42.4 percent) report that they obtained their first post high school job from a school-related source.

TABLE 40

VOCATIONAL AREA OF RESPONDENTS' FIRST JOBS BY JOB PREPARATION

Responses*	NO PREP	VC PREP	WE PREP	VC-WE PREP	TOTAL
Business	18.9%	13.3%	34.8%	19.5%	18.7%
Distributive Education	16.4	28.3	11.2	18.8	21.0
Health-Home Economics	27.2	17.2	30.3	18.0	21.9
Trade and Industrial	26.7	31.9	4.5	35.9	27.8
Other	10.8	9.3	19.1	7.8	10.7
Total	100.0%	100.0%	99.9%	100.0%	100.1%
Weighted Base	(195)	(279)	(89)	(128)	(691)

*Actual responses were recoded into these five categories.

Table 40 presents the data gathered from Question 15 about the area of the respondents' first job. While the distribution is fairly even for the four areas, there are marked differences in the Job Preparation background and the likelihood of obtaining work in one of

the areas.

Business jobs are most likely to be obtained by respondents with only work experience (34.8 percent). These are more likely secretarial-clerical jobs that are related to the actual work experience setting the respondent had while in school. Distributive education related jobs were most likely to be held by those with only vocational credits (28.3 percent) and seem unrelated to the presence of work experience in a respondent's background. Health and home economics related employment was more often obtained by those with work experience only (30.3 percent) or no Job Preparation (27.2 percent). Trade and industrial jobs were most sensitive to work experience and vocational credit Job Preparation (35.9 percent). The largest group who obtained work in "other" areas (service, education, unskilled labor) were those with only work experience (19.1 percent).

While these data do not reveal a dramatic relationship between the Job Preparation background of the respondents and the areas of their first jobs, those with the greatest preparation are more likely to obtain trade and industrial jobs than in other areas. These jobs, apparently, require and attract those with substantial vocational backgrounds. Respondents who have only a work experience preparation seem most likely to locate work in a business or health and home economics related job, possibly in offices, day care center, or

restaurants.

Table 41 presents data gathered concerning the nature of the business the respondents worked at on their first job (Q. 16). This data was obtained to further describe their employment situation by where they worked as compared with what they did there.

TABLE 41

NATURE OF BUSINESS OF RESPONDENTS FIRST JOB LOCATION BY JOB PREPARATION

Responses*	NO PREP	VC PREP	WE PREP	VC-WE PREP	TOTAL
General Business .	2.9%	7.8%	22.8%	2.6%	7.6%
Distributive/Retail Sales	17.1	25.5	20.0	19.7	21.3
Health Services ..	14.3	5.9	16.2	6.3	9.7
Home Ec/Foods	22.9	13.7	12.2	12.9	15.9
Trade and Industrial (Bld.Trads./ Mach.Rep.) ...	8.6	17.6	1.5	8.7	11.2
Trade and Industrial (Auto) ..	20.0	15.7	6.3	26.7	17.6
Trade and Industrial (Tool & Die)	5.7	3.9	2.9	6.5	4.8
Service	8.6	9.8	16.5	12.4	10.9
Other	0.0	0.0	1.5	4.3	1.0
Total	100.0%	99.9%	99.9%	100.1%	100.0%
Weighted Base	(184)	(269)	(96)	(127)	(675)

*Actual responses were recoded.

As this table indicates, over one-fifth (21.3 percent) of the respondents had jobs in a retail business involving primarily the distribution or sales of products. However, one-third (33.6 percent) had jobs at trade and industrial concerns if the three categories are combined.

Inspection of the Job Preparation categories in Table 41 does not reveal major differences in the nature of the businesses and the proportion of respondents who are so employed. Three major exceptions to this observation are noted: (1) The number of work experience only respondents who were employed in the general business category (22.8 percent) was nearly three times that for all respondents (7.6 percent). (2) The proportion of graduates with no Job Preparation employed in home economics and food related businesses (22.9 percent) was higher than the overall proportion (15.9 percent). (3) The percentage of respondents with vocational credits and work experience who work for trade and industrial businesses (41.9 percent, three categories combined) exceeded the overall proportion of respondents (33.6 percent) in this area.

The reasons for these exceptions must be speculative. However, in light of data presented above (see Table 37), we might conclude that those work experienced only graduates who were employed by general businesses have been able to continue or obtain employment related to their work experience in high school. The large group

of respondents in the home economics/food businesses with no Job Preparation may possibly occupy several positions requiring substantial training; in fact, jobs in this business area may be some of the only ones available to these graduates without additional training. And finally, additional training may have a better "pay-off" in the trade and industrial area, especially in the automobile industry. This vast area can offer many different types of jobs to graduates with major differences in Job Preparation background. Therefore, while many graduates without Job Preparation could work for these businesses, those with both work experience and vocational credits seemed even more able to secure work with these companies.

By using the information gathered in Q. 16, we were able to locate additional data about the number of employees who work at the various businesses reported. Table 42 summarizes this data.

TABLE 42

NUMBER OF EMPLOYEES AT RESPONDENTS' FIRST JOB LOCATIONS BY JOB PREPARATION

Responses*	NO PREP	VC PREP	WE PREP	VC-WE PREP	TOTAL
1 to 10	8.6%	16.0%	21.4%	27.1%	16.8%
11 to 49	42.9	30.0	30.4	31.5	33.9
50 to 99	17.1	20.0	11.7	3.3	14.9
100 or more	28.6	28.0	30.7	33.7	29.6
Other (self-employed)	2.9	6.0	5.7	4.4	4.8
Total	100.1%	100.0%	99.9%	100.0%	100.0%
Weighted Base	(184)	(263)	(96)	(127)	(670)

*Data gathered from information supplied in Q. 16.

The greatest proportion of our respondents are employed at locations that have eleven to forty-nine employees (33.9 percent) or one hundred or more employees (29.6 percent). Very few (4.8 percent) are self-employed. No major differences are evident in the proportion of respondents for each Job Preparation category if the respondents were self-employed or work where there were one hundred or more employees. Those respondents who had a substantial Job Preparation background (vocational credits and work-experience) had a larger proportion

(27.1 percent) employed at locations with one to ten employees than did the total of all respondents (16.8 percent). The No Prep group had the lowest percentage (8.6 percent) at this level, but also had the highest number (42.9 percent) of those employed. Businesses with fifty to ninty-nine employees employed 14.9 percent of the respondents but only 3.3 percent of those with both vocational credit and work experience.

Our last question (Q. 17) dealing with the respondents first post high school job asked them to indicate their earnings per hour on this job. The range of income was from fifty cents to $7.10 per hour. These responses were categorized into approximately four equal quarters for this presentation (see Table 43). The two middle groups did not equal 25 percent each because of the distribution of actual earnings immediately above and below $2.00 per hour (many of the actual responses cited

TABLE 43

RESPONDENTS' EARNINGS PER HOUR ON THEIR FIRST JOBS BY JOB PREPARATION

Responses*	NO PREP	VC PREP	WE PREP	VC-WE PREP	TOTAL
Lowest Quarter (50¢-$1.60)....	22.9%	20.8%	29.3%	33.6%	24.8%
Second Lowest ($1.60-$1.99)..	17.1	20.8	31.5	17.7	20.5
Second Highest ($2.00-$2.70)..	31.4	32.1	28.5	19.1	29.1
Highest Quarter ($2.71-$7.10)..	28.6	26.4	10.7	29.6	25.6
Total	100.0%	100.1%	100.0%	100.0%	100.0%
Weighted Base	(184)	(279)	(83)	(123)	(669)

*Actual responses recoded into four categories.

were concentrated at exactly $2.00; see Table 15 for a more specific breakdown of the distribution). Job Preparation does appear to be related to the respondents earnings per hour on their first jobs. Those with only work experience were more likely to be found in the two lowest quarters (60.8 percent) than all respondents (45.3 percent); those with both work experience and vocational credits, however, were almost as likely to be located in the two highest groups (48.7 percent) as were all respondents (54.7 percent). Respondents with no Job

Preparation or only vocational credits earn more per hour on their first jobs than did the other two job preparation categories.

POST HIGH SCHOOL JOB HISTORY

We asked the respondents to complete a post high school job history chart to learn more about all their employment experiences since graduation (Q. 19). Table 44 presents a compilation of their responses to the first section of this question. Over one thousand jobs were reported with the largest grouping in the trade and industrial.

TABLE 44

VOCATIONAL AREAS OF POST HIGH SCHOOL JOBS HELD BY GRADUATES BY JOB PREPARATION

Responses*	NO PREP	VC PREP	WE PREP	VC-WE PREP	TOTAL
Business	17.0%	17.3%	25.7%	18.0%	18.7%
Distributive Ed ..	12.1	22.3	25.7	17.5	19.1
Health-Home Ec ...	31.5	17.3	20.4	10.0	20.2
Trade & Industrial	23.9	31.4	23.0	43.5	30.4
Other	15.4	11.6	5.3	10.0	11.5
Total	99.9%	99.9%	100.1%	100.0%	99.9%
Weighted Base	(305)	(421)	(152)	(200)	(1078)

*Actual responses recoded.

area (30.4 percent). Job Preparation background is significant for the VC-WE Prep group in two areas. Well over two-fifths (43.5 percent) of this group have had trade and industrial jobs, while only 10 percent have had health-home economics related employment compared to one-fifth (20.2 percent) of all the respondents. The No Prep respondents have had 31.5 percent of their jobs in the health-home economics area, substantially higher than the total group. Clearly, Job Preparation is related to two of the job areas for our graduates. Those with no Preparation had a high concentration of employment in health-home economics related jobs, while those with substantial Job Preparation (VC-WE) had a low concentration in this area but a high proportion of the trade and industrial jobs.

Most of these jobs were identified as full-time (73.2 percent) as opposed to part-time (26.8 percent). There was a definite relationship between Job Preparation background and full-time employment (see Table 45). Those with the most Job Preparation (VC-WE) were most likely to be employed full-time (84 percent) while those with no Job Preparation were least likely to be employed full-time (65.1 percent).

TABLE 45

PERCENTAGE OF RESPONDENTS WITH FULL-TIME AND PART-TIME EMPLOYMENT BY JOB PREPARATION

	NO PREP	VC PREP	WE PREP	VC-WE PREP	TOTAL
Full-time	65.1%	74.5%	72.5%	84.0%	73.2%
Part-time	34.9	25.5	27.5	16.0	26.8
Total	100.0%	100.0%	100.0%	100.0%	100.0%
Weighted Base	(284)	(411)	(149)	(194)	(1038)

Another way to categorize the types of jobs the respondents have obtained since graduation is their relationship to the respondents' course of study while in school (see Table 46). A majority (57 percent) of the jobs held were identified as "not related" by respondents. However, only 43.4 percent of the VC-WE respondents held related jobs while over two-thirds (68.3 percent) of the No Prep respondents held unrelated jobs. Correspondingly, over one-fourth (26.5 percent) of the VC-WE respondents had worked at jobs directly related to their high school courses of study. Job Preparation background is associated with the relationship of jobs held to high school course of study; those with no Job Preparation background were not likely to have related jobs and those with both vocational credits and work experience were most likely to have course related employment.

TABLE 46

RELATIONSHIP OF RESPONDENT' POST HIGH SCHOOL JOBS TO THEIR COURSE OF STUDY BY JOB PREPARATION

	NO PREP	VC PREP	WE PREP	VC-WE PREP	TOTAL
Directly related..	16.0%	19.8%	13.3%	26.5%	19.0%
Slightly related..	14.0	25.0	26.7	30.1	23.0
Not related	68.3	54.0	60.0	43.4	57.0
Don't know	1.7	1.3	0.0	0.0	1.0
Total	100.0%	100.1%	100.0%	100.0%	100.0%
Weighted Base	(300)	(400)	(150)	(196)	(1046)

TABLE 47

REASONS CITED BY RESPONDENTS FOR LEAVING JOBS HELD SINCE GRADUATION BY JOB PREPARATION

Responses*	NO PREP	VC PREP	WE PREP	VC-WE PREP	TOTAL
Voluntary Change of Job	19.6%	49.2%	23.7%	37.1%	34.9%
Involuntary Loss of Job	16.4	18.4	0.0	28.2	17.1
Change in Life Style	61.4	20.3	73.1	32.3	41.7
Personal Reasons..	2.6	12.1	3.2	2.4	6.3
Total	100.0%	100.0%	100.0%	100.0%	100.0%
Weighted Base	(189)	(256)	(93)	(124)	(662)

*Actual responses were recoded into these four categories.

Table 47 summarizes a difficult set of data to interpret. The four categories are collapsed from numerous open-ended statements reported by the respondents (see Table 18 for typical individual responses included under each category of "reason for leaving"). These four categories were chosen by the authors because of the general concern that young employees are often the first victims of a poor economy. As can be seen in Table 47, Involuntary Loss of Job was only cited for 17.1 percent of the jobs left. While some respondents, who actually "lost" their jobs, may have preferred to indicate a different type of reason (i.e., went to school, quit, took a vacation) to avoid any possible stigma attached to losing a job, clearly the majority left their jobs by choice. In reality, many respondents may have left jobs for a variety of reasons that overlap our four categories. However, we are forced to accept the information they supplied at face value.

There is a strong relationship between the reasons cited for leaving a job and Job Preparation background. Specifically, those respondents with no Job Preparation or only work experience were far more likely to cite reasons we have categorized under Change in Life Style (61.4 percent and 73.1 percent respectively). Analysis of this is difficult; the preponderance of responses for these two Job Preparation categories under this

category were "going to school, take a vacation, and moved" (data not presented here). Interestingly, one-fourth (24.5 percent) of all reasons cited for leaving a job were school-oriented.

Almost one-half (49.2 percent) of respondents with only a vocational course credit background cited voluntary reasons for changing jobs (i.e., "better pay, better job, job dissatisfaction"), while only one-fifth (19.6 percent) of those with no Job Preparation gave reasons of this type. The respondents with the broadest Job Preparation background (VC-WE) reported the highest proportion (28.2 percent) of the reasons in the Involuntary Loss of Job area.

PRESENT EMPLOYMENT SITUATION

Question 27 asked the respondents to describe their present situation as to their employment, school, or military status. One-half (49.6 percent) of all respondents stated they were working full-time, yet only one-third (34.3 percent) of the no Preparation respondents had full-time jobs (see Table 48). They were more likely to be working part-time (11.4 percent) and going to school full-time (20 percent). Those with both work experience and vocational credits had no major response differences from the total group. Almost one-fifth (19.1 percent) of the respondents were unemployed; those with only vocational credits had the highest rate of unemployment (17.6 percent).

TABLE 48

RESPONDENTS DESCRIPTION OF PRESENT SITUTAION BY JOB PREPARATION

	NO PREP	VC PREP	WE PREP	VC-WE PREP	TOTAL
Working full-time.	34.3%	56.9%	52.8%	53.8%	49.6%
Working part-time.	11.4	3.9	4.8	4.8	6.3
Not working-going to school full time	20.0	5.9	15.9	6.6	11.3
Not working-going to school part time	0.0	0.0	0.0	0.0	0.0
Working and going to school	17.1	7.8	9.6	9.9	11.0
In military service	2.9	0.0	5.7	6.6	2.8
Unemployed, looking for employment.	8.6	17.6	3.4	9.3	11.6
Unemployed, not looking for employment	5.7	7.8	7.7	9.0	7.5
Total	100.0%	99.9%	99.9%	100.0%	100.1%
Weighted Base	(184)	(269)	(97)	(125)	(675)

PRESENT OR MOST RECENT JOB DESCRIPTION

Question 20 examined the number of hours worked per week on the respondents' present or most recent job (see Table 49). While the figures are not dramatically different for the four Job Preparation categories, 81.2 percent of the work experience-vocational course respondents were employed full-time (40 or more hours per week), whereas only 67.3 percent of the vocational credit respondents were employed full-time. Among those who worked more than forty hours a week, one in three (33.7 percent) were work experience and vocational credit respondents compared to only one-fifth of the no preparation, vocational credit only, and work experience only groups.

TABLE 49

AVERAGE HOURS WORKED PER WEEK ON PRESENT OR MOST RECENT JOB BY JOB PREPARATION

Responses*	NO PREP	VC PREP	WE PREP	VC-WE PREP	TOTAL
39 or less hours...	28.9%	32.8%	27.6%	18.9%	28.5%
40 hours.....	50.0	46.6	54.2	47.5	48.7
Over 40 hours.....	21.1	20.7	18.2	33.7	22.7
Total	100.0%	100.1%	100.0%	100.1%	99.9%
Weighted Base	(200)	(306)	(101)	(131)	(738)

*Actual responses recorded.

Question 21 asked what the hourly wage was on the respondents' present or most recent job. For our analysis we split the distribution into equal halves. The most striking difference can be seen between those with only work experience preparation and those with both work experience and vocational credit (see Table 50).

TABLE 50

EARNINGS PER HOUR ON PRESENT OR MOST RECENT JOB BY JOB PREPARATION

Responses*	NO PREP	VC PREP	WE PREP	VC-WE PREP	TOTAL
Upper half	52.9%	50.0%	29.6%	64.8%	50.7%
Lower half	47.1	50.0	70.4	35.2	49.3
Total	100.0%	100.0%	100.0%	100.0%	100.0%
Weighted Base	(179)	(263)	(88)	(114)	(645)

*Actual earnings reported were recoded into upper and lower halves.

More (64.8 percent) of those with the greatest Job Preparation (VC-WE) earned significantly more per hour on their present or most recent job than did any of the other groups, especially those with only work experience. In fact, seven-in-ten (70.4 percent) of those with a work experience only Job Preparation background are in the lower half of the earnings distribution. This result is even more striking if we consider that the no Job Preparation and vocational credit only groups were evenly divided in the wage distribution. Therefore, having substantial Job Preparation (VC-WE) apparently gave the respondents a chance for a position offering higher earnings; in this study, almost twice as many of this group (64.8 percent) had high income than low income (35.2 percent).

In addition to asking how much they earned per hour, we also asked them to evaluate how well they could live on their wages (Q. 22). As Table 51 shows, over three-fifths (62.4 percent) considered their wages as "comfortable" or better. Respondents with both vocational credit and work experience (VC-WE) were most likely to rate their wages as sufficient; over seven-in-ten (72.5 percent) said their wages were "comfortable" or better. Those with no preparation or only work experience were most likely to rate their wages as barely enough to meet their needs or "impossible to live on". In summary, those respondents who had taken vocational courses (VC or VC-WE) were more likely to rate their current wages as

TABLE 51

RESPONDENTS RATING OF WAGES ON THEIR PRESENT OR LAST JOB BY JOB PREPARATION

	NO PREP	VC PREP	WE PREP	VC-WE PREP	TOTAL
Impossible to live on	10.8%	9.6%	14.2%	8.2%	10.3%
Barely enough to meet needs	37.8	21.2	32.2	19.3	27.3
Enough to live comfortable ...	24.3	34.6	32.0	31.6	30.8
Enough to be able to have some extras	10.8	17.3	7.3	22.1	15.0
Enough to have extras and save some	16.2	17.3	12.2	18.8	16.6
Total	99.9%	100.0%	99.9%	100.0%	100.0%
Weighted Base	(195)	(274)	(95)	(125)	(689)

"comfortable" or better than were those with no Job Preparation or only work experience preparation.

The last question in this series describing the present jobs held by the respondents asked them to rate the security of their current jobs (Q. 26). As can be seen in Table 52, the majority said their job would be theirs "for as long as I want it" (39.2 percent), or that it was "one I can depend on for several years" (24.6 percent). Less than three-in-ten (29 percent) felt their job futures were "uncertain" with almost none (0.3 percent) saying their jobs "will end soon." A small number (6.9 percent) said they had "never thought about it."

TABLE 52

RESPONDENTS' RATING OF SECURITY OF CURRENT JOB BY JOB PREPARATION

	NO Prep	VC Prep	WE Prep	VC-WE Prep	Total
It will end soon, forcing me to change positions	0.0%	0.0%	0.0%	1.4%	0.3%
It is one I can depend on for several years ..	36.4	17.1	23.9	25.1	24.6
It will be mine for as long as I want it ...	31.8	48.6	39.3	30.4	39.2
The job is uncertain; I am unsure about the future	31.8	22.9	32.2	34.8	29.0
I never thought about it	0.0	11.4	4.5	8.3	6.9
Total	100.0%	100.0%	99.9%	100.0%	100.0%
Weighted Base	(116)	(134)	(72)	(99)	(472)

The largest group who thought they could depend on their jobs for several years were those with no Preparation, over one-third (36.4 percent) of whom felt secure. Those with only vocational credits constituted the smallest percentage (17.1 percent) in this category, yet this group had the most agreement with the response (48.6 percent) that the job was theirs for as long as they wanted it. Those with only vocational credits also had the highest rate of

response that they had never thought about the security of their current job (11.4 percent).

By combining the two "secure" responses ("depend on for several years" and "mine for as long as I want it"), we find that those with no Job Preparation background had the highest level of "security" (68.2 percent), and those with substantial Job Preparation (VC-WE) had the lowest number with secure jobs (55.5 percent). The meaning of this difference is not clear to us. Since the respondents had only recently entered the labor force, job security may be associated with those types of jobs requiring minimum Job Preparation but with limited chance for advancement. Those respondents with both course and work experience preparation may be able to secure positions requiring substantial Job Preparation but with more potential advancement. These jobs may be more sensitive to economic pressures and job performance evaluations; thus, they are more "insecure." In general, however, a majority of all Job Preparation categories report having secure jobs.

One additional question concerning wages asked the respondent to rate their chances for increased wages on their present job, other than normal or cost of living increases (Q. 23). It is important to notice (see Table 53), that well over one-fourth of the respondents in each Job Preparation group considered their chances for higher wages as "poor" or "none at

all." Roughly one-third of each group perceived their chances for increased wages as "good" or "excellent." The most noticeable difference are found at the extremes of the responses. Of those who had participated in only the Work Experience Program, less than one-tenth (8.4 percent) felt there was no chance for increased wages compared to almost one-fifth (18.9 percent) of those with no Preparation. Interestingly, only 6.6 percent of the VC-WE preparation respondents rated their chances as "excellent," while 13.5 percent of the No Prep group thought their chances for a wage increase were "excellent."

TABLE 53

RATING OF CHANCES FOR INCREASED WAGES OTHER THAN COST OF LIVING INCREASES BY JOB PREPARATION

	NO PREP	VC PREP	WE PREP	VC-WE PREP	TOTAL
None at all	18.9%	12.2%	8.4%	12.6%	13.7%
Poor	18.9	18.4	20.0	22.2	19.5
Fair	29.7	34.7	40.5	28.4	32.9
Good	18.9	26.5	20.8	30.3	24.2
Excellent	13.5	8.2	10.3	6.6	9.7
Total	99.9%	100.0%	100.0%	100.1%	100.0%
Weighted Base	(195)	(258)	(95)	(125)	(673)

Few differences, therefore, are noted in response for the four Job Preparation groups other than those mentioned above. Perceptions of wage increase possibilities may vary from day to day according to several factors including the state of economy, interpersonal relations at work, and receiving of past increases. In additon, those who rate their chances as "fair" or "better" may be those who are earning the least and have the most to gain. Our understanding of their responses to this question is limited. We simply note that those respondents with no Job Preparation report the highest perceptions of both "excellent" or no chances for wage increases, while those with the greatest level of Job Preparation (VC-WE) have more evenly distributed responses which approximate those given by all respondents.

VOCATIONAL DECISIONS AND WORK ATTITUDES

SELECTION OF VOCATIONAL COURSES. Question 2 asked the respondents to indicate why they selected the vocational courses they took in high school. Table 54 presents their responses by Job Preparation background, the differences are easily seen. Four-in-ten (39.8 percent) of the respondents selected their vocational courses because they "wanted to learn more about it" because

TABLE 54

REASONS VOCATIONAL GRADUATES SELECTED VOCATIONAL COURSES IN SCHOOL BY JOB PREPARATION

	NO Prep	VC Prep	WE Prep	VC-WE Prep	Total
I wanted to learn more about it because of my interest or hobbies	70.0%	34.9%	16.9%	42.3%	39.8%
I wanted to do that type of work ...	5.9	41.9	39.3	26.2	31.7
Jobs in that field offered good pay and working conditions	5.9	7.0	20.2	3.6	8.2
My parents advised me to take them.	0.0	0.0	0.0	0.0	0.0
My counselor or teacher suggested I take them.	0.0	4.7	3.3	0.0	2.6
I took vocational courses because my friends took them	0.0	0.0	0.0	2.8	0.6
I preferred vocational courses to other available courses ...	5.9	9.3	7.7	14.9	9.7
Other reasons	11.8	2.3	12.6	10.1	7.4
Total	100.1%	100.1%	100.0%	99.9%	100.0%
Weighted Base	(90)	(227)	(85)	(115)	(516)

of their "interests or hobbies." Seven-in-ten (70.6 percent) respondents with no Job Preparation selected their vocational courses because of interests or hobbies, while only 16.9 percent of those with only work experience indicate this reason. The work experience only respondents were more likely to select their vocational courses because they "wanted to do that type of work" (39.3 percent). Work experience only respondents were also far more likely than any other respondents to report they selected their vocational courses because "jobs in that field offered good pay and working conditions" (20.2 percent). Those respondents with some type of Job Preparation were more likely to say they selected courses because they "wanted to do that type of work" than were those with no Job Preparation.

In conclusion, respondents with no Job Preparation most likely selected their vocational courses because of "interests or hobbies," while those with some job preparation were most influenced by the "type of work" the course may have represented. Those with only work experience also were substantially influenced by "good pay and working conditions." Those with both work experience and vocational credits appeared to have been most influenced in their selection of vocational courses by "interest or hobbies" and the "type of work."

In addition to asking the respondents why they selected their vocational courses, we also asked if they had planned "to go to work in that field after high school" (Q. 3). Nearly one-fifth (18.9 percent) said they "definitely planned to work" in the field of their vocational course work (see Table 55). Almost three-in-ten (29.6 percent) also said "yes," but that they were "not really certain." Those with both vocational credits and work experience and those with only work experience were the most definite (24.6 percent and 26 percent respectively) about their work plans. Three-in-ten (30.5 percent) of the VC-WE Prep respondents also said "yes," but they were "not really certain" as did 34.9 percent of the vocational credit only respondents.

Interestingly, one-fifth (21 percent) of those respondents with the greatest Job Preparation (VC-WE Prep) reported they did not know what they were going to do after graduation when they selected their vocational courses. It is clear, however, that those with a work experience Job Preparation background (WE Prep or VC-WE Prep) were the most definite in their post high school work plans when they began their vocational course work.

TABLE 55

RELATIONSHIP BETWEEN VOCATIONAL GRADUATES' VOCATIONAL COURSE SELECTION AND POST HIGH SCHOOL WORK PLANS BY JOB PREPARATION

	NO Prep	VC Prep	WE Prep	VC-WE Prep	Total
Yes, I definitely planned to work in that field...	17.6%	14.0%	26.0%	24.6%	18.9%
Yes, but I was not really certain..	17.6	34.9	26.6	30.5	29.6
No, but I was not really certain..	35.3	27.9	18.1	13.2	24.3
No, I definitely did not plan to work in that field	17.6	7.0	22.1	10.8	12.1
I really did not know what I was going to do after graduation	11.8	16.3	7.2	21.0	15.1
Total	99.9%	100.1%	100.0%	100.1%	100.0%
Weighted Base	(90)	(227)	(82)	(115)	(513)

Job Preparation background is also related to a respondents job plans after graduation (Q. 4). One-fourth (25 percent) of the respondents did not plan "to get a job after graduation" (see Table 56). Forty-four percent of the No Prep respondents did not plan to work, while substantial majorities of respondents in the three other

Job Preparation categories did plan to work after graduation. Three-in-ten (30.8 percent) of the VC Prep group, 42 percent of the WE Prep group, and 37.5 percent of the VC-WE Prep group all planned to get jobs "directly related" to their high school vocational courses.

TABLE 56

POST HIGH SCHOOL JOB PLANS OF VOCATIONAL GRADUATES BY JOB PREPARATION

	NO Prep	VC Prep	WE Prep	VC-WE Prep	Total
I did not plan to get a job after graduation	44.4%	17.9%	28.1%	19.3%	25.0%
I planned to get a job directly related to the vocational courses I studied in school	27.8	30.8	42.0	37.5	33.4
I planned to get a job slightly related to the vocational courses I studied in school	22.2	33.3	17.1	30.3	27.9
I planned to get a job not related to the vocational courses I studied in school	5.6	17.9	12.8	12.9	13.6
Total	100.0%	99.9%	100.0%	100.0%	100.0%
Weighted Base	(95)	(206)	(76)	(108)	(485)

Question 5 asked the respondents to evaluate the effect of taking vocational courses on their career or job choices (see Table 57). One-third (32.1 percent) said that taking vocational courses "confirmed" their job schoice, but 57.5 percent said the courses "had no effect" on their job choice. Only one-in-ten (10.3 percent) felt it had "changed" their job choice. Very few (3 percent) of the respondents with both vocational courses and work experience thought their courses had "changed" their job choice. The VC-WE Prep group's largest response rate (64.8 percent) indicated that taking vocational classes had "no effect" on their job choice, while the No Prep groups highest response rate indicated that vocational course work "confirmed" their job choice.

We might conclude that the VC-WE Prep group had more definite job plans before they took vocational courses when compared to No Prep respondents. The No Prep respondents not only had the highest incidence of job choice "change" because of vocational courses, but they also had the highest level of confirmation. This would indicate that they were less "sure" of their job plans when they began vocational course work and dropped out of the vocational program rather soon (by definition, they had one-half or no vocational credits).

TABLE 57

EFFECT OF VOCATIONAL COURSES ON RESPONDENTS JOB CHOICE BY JOB PREPARATION

	NO Prep	VC Prep	WE Prep	VC-WE Prep	Total
Vocational education courses confirmed my job choice ..	41.7%	27.8%	35.4%	32.2%	32.1%
Vocational education courses changed my job choice ..	16.7	13.9	4.0	3.0	10.3
Vocational education courses had no effect on my job choice	41.7	58.3	60.5	64.8	57.5
Total	100.1%	100.0%	99.9%	100.0%	99.9%
Weighted Base	(63)	(190)	(67)	(90)	(410)

TENTH GRADE AND GRADUATION CAREER CHOICES. Questions 6 and 7 asked the respondents to recall what careers they had wanted when they were in tenth grade and then when they graduated from high school (see Tables 58 and 59). The "don't know" responses are included because we thought the level of the response was important to note for these two questions.

The tenth grade, over one-fourth (25.5 percent) did not know what career they wanted. The next largest group of responses (24.1 percent) indicated a job that are coded as "other" (e.g., teacher, lawyer, artist). Approximately equal numbers

TABLE 58

TENTH GRADE CAREER CHOICE BY JOB PREPARATION

Job Area*	NO Prep	VC Prep	WE Prep	VC-WE Prep	Total
Business	2.5%	19.0%	22.0%	19.1%	14.9%
Health	18.4	12.1	29.9	1.1	14.4
Home Economics	2.6	5.2	1.4	4.7	3.9
Trade & Industrial	2.5	8.8	3.0	27.5	9.6
Other	34.5	23.9	25.9	7.3	24.1
Don't Know	31.6	20.7	11.9	38.2	25.5
Missing Data	7.9	10.3	5.9	2.1	7.6
Total	100.0%	100.0%	100.0%	100.0%	100.0%
Weighted Base	(200)	(306)	(101)	(131)	(738)

*Actual responses recoded.

wanted business or health area jobs (14.9 percent and 14.4 percent respectively). Major differences are found within the four Job Preparation areas. Those with VC-WE Prep were most likely to not know what job they wanted in tenth grade (38.2 percent) or to want a trade and industrial job (19.1 percent). Those with no preparation were also very unsure of their job choice in tenth grade; 31.6 percent did not know while 34.5 percent wanted a job categorized by us as "other"

and 18.4 percent wanted a health related job. Those with work experience or vocational courses had more mixed responses. The WE Prep group listed 29.9 percent of their tenth grade job choice in the health field, 22 percent in business, and one-fourth in "other" (25.9 percent); one-tenth (11.9 percent) did not know. Those with only vocational credits were most likely to list "other" (23.9 percent), business (19 percent), health (12.1 percent) or to not know (20.7 percent). There is a clear relationship between Job Preparation background and tenth grade job choice. There is some difficulty in interpreting these responses because the question asks the respondents to recall their aspirations some years in the past. This question may actually indicate the careers they have entered since there is a strong relationship between the relative levels of response for tenth grade and at graduation (see Table 59). Or it could indicate that tenth grade students who know what career they want tend to have fairly stable career aspirations.

Our inspection of Table 59 indicates a lower overall response rate of "don't know" (15.4 percent). This should not be surprising since those nearing graduation would be likely to have a more definite career choice. It could also mean that they could more easily remember their aspirations at that time because it was more recent or they were already employed. The actual levels of response for each job area and Job Preparation category are different than the tenth grade

TABLE 59

CAREER CHOICE AT GRADUATION BY JOB PREPARATION

Job Area*	NO Prep	VC Prep	WE Prep	VC-WE Prep	Total
Business.	13.0%	24.2%	30.0%	18.3%	20.8
Health.	21.1	3.4	15.2	5.7	10.7
Home Economics. . . .	2.6	5.2	6.0	5.5	4.7
Trade & Industrial. .	5.0	15.4	8.0	35.9	15.4
Other	39.9	24.2	19.7	11.5	25.4
Don't Know.	15.8	13.8	12.0	21.0	15.4
Missing Data. . . .	2.6	13.8	9.1	2.1	8.1
Total	100.0%	100.0%	100.0%	100.0%	100.0%
Weighted Base	(200)	(306)	(101)	(131)	(738)

*Actual responses recoded.

responses. However, the relative levels among the Job Preparation categories remains fairly consistant. If these responses can be believed at their face value, we might conclude that career aspirations, regardless of Job Preparation background, are fairly stable from tenth grade through high school graduation.

The most dramatic changes noted are for those with no preparation and UC-WE Prep who didn't know what career they wanted in tenth grade. The most increase in job area choice was found for trade and industrial (+5.8 percent) and business (+5.9 percent) careers.

IMPORTANCE OF SEVERAL FACTORS IN GRADUATES' POST HIGH SCHOOL PLANS. Since many people and experiences have differing levels of influence on students, we asked the respondents to rate the importance of several factors as they made their post high school plans (Q. 8). Our discussion here focuses on those respondents who rated these various factors as "very important" (see Table 60). Parents or relatives were rated as "very important" by over one-third (35.5 percent) of the respondents, the highest proportion of all the factors. School subjects were rated as "very important" factors in post high school plans by nearly three-in-ten (29 percent) respondents,

and 26.8 percent rated their work experiences in high school were "very important."

Overall, major differences in response are not noted by Job Preparation background; all four categories definitely rated parents or relatives, school subjects, or work experience as "very important" factors. The No Prep respondents were the most likely to say that their parents or relatives were "very important" in their plans (40 percent). Those respondents with both vocational credit and work experience were least likely to rate their school subjects as "very important" (20.8 percent), while one-third (32.4 percent) of the No Prep group thought their school subjects were "very important" to their post school plans. Possibly, the respondents with no Job Preparation rated their parents or relatives and school subjects as so important because they were the least prepared for specific jobs. Perhaps the low percentage (compared to the other categories) of VC-WE Prep respondents who rated school subjects as "very important" indicates the worth of this type of Job Preparation background a combination of both work experience and vocational courses.

TABLE 60

PERCENTAGE OF RESPONDENTS RATING SEVERAL FACTORS AS "VERY IMPORTANT" IN POST HIGH SCHOOL PLANS BY JOB PREPARATION

Factors*	NO Prep	VC Prep	WE Prep	VC-WE Prep	Total
Parents and realtives	40.0% (184)	31.2% (253)	34.5% (97)	38.8% (109)	35.5% (643)
School subjects ...	32.4 (179)	30.6 (258)	27.6 (89)	20.8 (111)	29.0 (638)
Work experience in high school	25.0 (126)	29.3 (216)	26.4 (77)	24.1 (111)	26.8 (531)
Co-op teacher or employer	18.2 (116)	15.4 (206)	11.4 (77)	20.8 (98)	16.5 (496)
High school counselor or teacher	12.1 (174)	14.3 (221)	10.6 (87)	3.0 (92)	11.3 (574)
Friends	12.5 (169)	11.9 (221)	6.7 (82)	6.4 (94)	10.4 (566)
NEOVEC teacher or counselor	0.0 (58)	14.3 (111)	9.4 (35)	7.5 (44)	9.0 (247)

*Factors are listed in decending order of "very important" responses; "other" not reported.

The four other factors listed in Table 60 were not rated as "very important" by many respondents. One-sixth (16.5 percent) thought their Co-op teacher or employer was " very important" in their post high school plans; those with substantial Job Preparation (VC-WE) were most likely to report this (20.8 percent), but those with only work experience were least likely to rate Co-op teachers or employers as "very important" (11.4 percent). Interestingly, high school counselors, teachers, or friends were rated as "very important" influences by only one-tenth of the respondents. Friends, however, were perceived as "very important" by more of the No Prep and VC Prep respondents (12.5 percent and 11.9 percent respectively) than by those respondents with work experience (less than seven percent). The response rates concerning the NEOVEC teachers or counselor are not clear since so few of the respondents attended this school, and therefore, they could not account for a substantial proportion of the total response.

JOB SATISFACTION. The data in Table 61 reveals, that in general, the respondents were satisfied with their current or most recent job. One-third (32.2 percent) of the VC-WE Prep respondents rated themselves as "very satisfied", and 29.7 percent of the No Prep group also said they were "very satisfied" with their jobs. Only 11.8 percent of the VC Prep group were "very satisfied." The WE Prep group had the lowest proportion of respondents if "very satisfied" and "satisfied" are combined (47.7 percent). Far more of the respondents in the three other Job Preparation categories

felt "satisfied" or "very satisfied" with their jobs. Approximately an equal number in each category were "dissatisfied" or "very dissatisfied" with their jobs.

TABLE 61

RESPONDENTS' SATISFACTION WITH MOST RECENT JOB BY JOB PREPARATION

	NO Prep	VC Prep	WE Prep	VC-WE Prep	Total
Very satisfied	29.7%	11.8%	18.6%	32.2%	21.5%
Satisfied	27.0	56.9	29.1	28.4	39.4
Neither satisfied or dissatisfied.	29.7	23.5	41.6	30.2	29.0
Dissatisfied	10.8	7.8	10.7	5.7	8.7
Very dissatisfied..	2.7	0.0	0.0	3.5	1.4
Total	99.9%	100.0%	100.0%	100.0%	100.0%
Weighted Base	(195)	(269)	(95)	(119)	(678)

Satisfaction with a job, while measurable as overall perception of a workers experience, is a composite of many factors. To better understand the relationship between Job Preparation and job satisfaction, we asked the respondents to rate their satisfaction with eleven job-related items (Q. 25). The respondents in this study who were "very satisfied" with each of the items are presented in Table 62. They were most satisfied with the people they work with (42.1

percent), the distance they travel to work (40.8 percent), and the training they were getting at work (35.8 percent). The lowest numbers reported they were "very satisfied" with their wages (16 percent), promotion possibilities (19.3 percent), and hours (22.7 percent). Although there are certainly differences in the responses to each item, it should be noted that there are less then eight percentage points spread among the middle five items.

The responses by the respondents with vocational course preparation (VC Prep) tended to reflect the ratings of the total respondents except for one item, fringe benefits. The work experience only respondents were much less likely to say they were "very satisfied" with their distance to work (23.7 percent) or the training they were getting (15.5 percent). The major response differences by Job Preparation background are found at the extremes. Those with no preparation are most likely to rate themselves as "very satisfied" with the distance they travel to work (48.6 percent), the training they get at work (51.9 percent), their working conditions (30.6 percent), and their promotion possibilities (27.6 percent). In fact, their rate of "very satisfied" responses exceeds that of the total group on all eleven items indicating a high level of job satisfaction for those with no Job Preparation. Respondents with both vocational credits and work experience (VC-WE Prep) were most likely to be "very satisfied" with the things they do at work (39.9 percent) and their "fringe benefits" (34.9 percent), but they were

much less satisfied with their "working conditions" (18.7 percent).

In summary, Job Preparation background is mildly related to high levels of satisfaction with several job-related items. Respondents were "very satisfied" with such factors as the people they work with, distance to work, and on-the-job training. They were least satisfied with their wages, chances for promotion, and their hours and fringe benefits. Those with no Job Preparation were generally more satisfied then were other respondents, paricularly those with only a work experience background. The responses of the VC-WE Prep group are mixed; three response levels for this group the highest and five were the lowest.

TABLE 62

PERCENTAGE OF RESPONDENTS "VERY SATISFIED" WITH SEVERAL JOB-RELATED ITEMS BY JOB PREPARATION

Item*	NO Prep	VC Prep	WE Prep	VC-WE Prep	Total
People I work with.	42.9% (184)	42.3% (274)	50.4% (89)	34.6% (125)	42.1% (672)
Distance to work ..	48.6 (184)	41.2 (269)	23.7 (85)	39.9 (122)	40.8 (660)
Training I am getting	51.9 (142)	34.8 (242)	15.5 (75)	30.9 (107)	35.8 (567)
Things I work with.	33.3 (190)	34.0 (263)	26.7 (86)	29.5 (123)	32.0 (662)
Things I do	33.3 (190)	26.9 (274)	24.6 (86)	39.9 (125)	30.9 (674)
People I work for..	28.6 (184)	27.5 (269)	33.1 (89)	20.3 (125)	27.2 (667)
Working conditions.	30.6 (190)	26.0 (263)	29.4 (89)	18.7 (119)	26.5 (661)
Fringe benefits ...	25.8 (163)	18.2 (232)	28.4 (79)	34.9 (110)	24.8 (585)
Hours	25.0 (190)	23.1 (274)	22.1 (89)	19.0 (125)	22.7 (677)
Promotion possibilities ..	27.6 (153)	18.2 (232)	15.2 (80)	13.1 (114)	19.3 (578)
Wages	16.7 (190)	13.7 (269)	15.9 (86)	20.1 (125)	16.0 (669)

*Responses presented in decending order of level of "very satisfied" response.

CHAPTER VI

SELECTED OUTCOMES BY SEXUAL AND RACIAL STATUS

Any current study of the role of work in the lives of a segment of the population is incomplete, if it does not consider the influence of sex and race. Student record information enabled the DOES staff to identify accurately the sex and race of all 1972 graduates who responded to the Follow-up Survey. Specific items on the survey instrument were selected to determine any significant differences in the responses from male and female students and from black and white students.*

It is often assumed that merely knowing someone's sex and/or race is sufficient to make generalizations about the individual's background vocational background and work experiences. The findings of this study show that this generalization is not always true, especially for race.

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*To better determine the association of sex and/or race with survey items, we computed Pearson product-moment correlations between sex (male=0, female=1) and race (white=0, black=1) and each variable. Some re-coding of item responses was required; this is noted in the text or in Appendix C. All probabilities were .05 or greater; these are not specified since we were not testing specific hypotheses related to sex or race.

SELECTION OF VOCATIONAL COURSES. Table 63 reveals that forty percent of the respondents took vocational courses because of their interests or hobbies, while one-third (32 percent) took them because they wanted to do the type of work presented in the course. No major dif-

TABLE 63

REASONS VOCATIONAL GRADUATES SELECTED VOCATIONAL COURSES IN SCHOOL BY SEX AND RACE

(M=male, F=female, W=white, B=black, T=total)

	M	F	W	B	T
I wanted to learn more about it because of my interest or hobbies	55%	28%	37%	41%	40%
I wanted to do that type of work	25	37	31	36	32
Jobs in that field offered good pay and working conditions	1	14	9	4	8
My parents advised me to take them	0	0	0	0	0
My counselor or teacher suggested I take them	1	4	4	0	3
I took vocational courses because my friends took them	0	1	1	0	1
I preferred vocational courses to other available courses	10	10	10	12	10
Other reasons	7	7	8	6	7
Total	99%	101%	100%	99%	101%
Weighted Base	(216)	(295)	(331)	(134)	(516)

ference in response is noted for blacks and whites; however, there are significant differences in the responses of males and females. More males (55 percent) said they took vocational courses because of their interests or hobbies; only 28 percent of the females selected this response.

However, fourteen percent of the females, in contrast to one percent of the males, said that the good pay and working conditions in their vocational field attracted them.

POST HIGH SCHOOL WORK PLANS. There are substantial differences in the responses of both males and females and blacks and whites about their post-high school work plans (see Table 64). Only one-fifth (19 percent) of the vocational respondents said they definitely planned to work in their vocational field after graduation, but one-fourth (25 percent) of the females and 26 percent of the black respondents chose this reply. More blacks and males (34 percent) said they were not planning to work in the field of training after high school, although they qualified their replies by saying they were not really certain.

TABLE 64

RELATIONSHIP BETWEEN VOCATIONAL GRADUATES VOCATIONAL COURSE SELECTION AND POST HIGH SCHOOL WORK PLANS BY SEX AND RACE

	M	F	W	B	T
Yes, I definitely planned to work in that field	11%	25%	16%	26%	19%
Yes, but I was not really certain	29	31	35	20	30
No, but I was not really certain.	34	16	22	34	24
No, I definitely did not plan to work in that field	10	14	11	10	12
I really did not know what I was going to do after graduation	17	14	16	10	15
Total	101%	100%	100%	100%	100%
Weighted Base	(213)	(295)	(328)	(134)	(513)

KIND OF JOB WANTED AFTER GRADUATION. As Table 65 shows no important differences can be found between blacks and whites in regard to the kinds of post-high school jobs they want. Approximately one-fourth (25 percent) did not plan to get a job after graduation. About one-third (33 percent), however, did plan to get a job directly related to the vocational courses they studied in school. This pattern also holds true for males and females. Males, however, were much less likely to say they planned to get a job slightly related to their courses than were females (19 percent vs. 34 percent respectively). Conversely, many males (24 percent) said they would get a job unrelated

to their course work, while very few females (6 percent) chose this response. This difference is statistically significant (r=.20); females who say they plan to work are more likely than males to plan to get a job directly or slightly related to their high school vocational course work.

TABLE 65

POST HIGH SCHOOL JOB PLANS OF VOCATIONAL GRADUATES BY SEX AND RACE

	M	F	W	B	T
I did not plan to get a job after graduation	27%	24%	25%	27%	25%
I planned to get a job directly related to the vocational courses I studied	31	36	36	34	33
I planned to get a job slightly related to the vocational courses I studied	19	34	26	27	28
I planned to get job not related to the vocational courses I studied	24	6	14	12	14
Total	101%	100%	101%	100%	100%
Weighted Base	(188)	(291)	(316)	(121)	(485)

VOCATIONAL COURSES AND CONFIRMATION OF JOB CHOICE. Blacks and males were less likely to report that the vocational courses they took confirmed their job choices; only 22 percent of the males and 23 percent of the blacks saw vocational courses as confirming their job choice compared to 32 percent of the total group (see Table 66). Females were most likely to perceive this effect of vocational education; this difference was slightly significant for females compared to males on this item (r=.18).

TABLE 66

EFFECT OF HIGH SCHOOL VOCATIONAL COURSES ON RESPONDENTS JOB CHOICE BY SEX AND RACE

	M	F	W	B	T
Vocational education courses confirmed my job choice	22%	40%	33%	23%	32%
Vocational education courses changed my job choice	13	9	11	12	10
Vocational education courses had no effect on my job choice ..	65	52	56	65	58
Total	100%	101%	100%	100%	100%
Weighted Base	(161)	(243)	(265)	(107)	(410)

IMPORTANCE OF PARENTS OR RELATIVES IN POST-HIGH SCHOOL PLANS. No significant differences were found in the ratings of the importance of parents or relatives to our respondents' plans after graduation. Approximately the same number (22 percent) said their relatives and parents were not important in making post high school plans. More blacks (43 percent) than whites (32 percent), however, did say their parents and relatives were very important to them, concerning their post high school plans.

TABLE 67

IMPORTANCE OF PARENTS OR RELATIVES IN RESPONDENTS' POST HIGH SCHOOL PLANS BY SEX AND RACE

	M	F	W	B	T
Very Important	36%	36%	32%	43%	36%
Slightly Important	42	43	45	35	42
Not Important	22	21	23	22	22
Total	100%	100%	100%	100%	100%
Weighted Base	(263)	(375)	(414)	(164)	(643)

IMPORTANCE OF FRIENDS IN POST-HIGH SCHOOL PLANS. Nearly two-thirds (66 percent) of the black respondents, compared to one-half (51 percent) of the whites, said their friends were not an important factor in their post-high school plans. More females (58 percent) than males (47 percent)

said their friends were not an important influence on them. About an equal number said their friends were a very important factor (see Table 68). There was a significant correlation (r=.10) between sex and response to this item with males more likely to rate their friends as important and females more likely to rate their friends as not important.

TABLE 68

IMPORTANCE OF FRIENDS IN RESPONDENTS POST HIGH SCHOOL PLANS BY SEX AND RACE

	M	F	W	B	T
Very Important	12%	10%	11%	9%	10%
Slightly Important	41	32	38	25	35
Not Important	47	58	51	66	54
Total	100%	100%	100%	100%	100%
Weighted Base	(225)	(335)	(365)	(150)	(566)

IMPORTANCE OF CO-OP TEACHER OR EMPLOYER IN POST-HIGH SCHOOL PLANS. No significant difference existed in the response to this item for blacks and whites (see Table 69). However, there was a significant difference between males and females. Males were more likely than females to rate their co-op teachers or employers as important to their

post-high school plans. The difference between males and females is significant (r=.15).

TABLE 69

IMPORTANCE OF CO-OP TEACHER OR EMPLOYER IN RESPONDENTS POST HIGH SCHOOL PLANS BY SEX AND RACE

	M	F	W	B	T
Very Important	22%	14%	17%	13%	17%
Slightly Important	35	27	28	32	31
Not Important	44	59	55	55	53
Total	101%	100%	100%	100%	101%
Weighted Base	(193)	(298)	(315)	(127)	(496)

IMPORTANCE OF HIGH SCHOOL COUNSELORS AND TEACHERS IN POST-HIGH SCHOOL PLANS. Once again, race was not related to the responses to this item, but sex was related. Males were significantly (r=.10) more likely to rate their high school counselors or teachers as important factors in their post-high school plans were females. Slightly more blacks (61 percent) than whites (56 percent) saw their counselors and teachers as unimportant factors.

TABLE 70

IMPORTANCE OF HIGH SCHOOL COUNSELORS OR TEACHERS IN RESPONDENTS' POST HIGH SCHOOL PLANS BY SEX AND RACE

	M	F	W	B	T
Very Important	12%	9%	9%	11%	11%
Slightly Important	39	31	35	28	33
Not Important	49	60	56	61	55
Total	100%	100%	100%	100%	99%
Weighted Base	(218)	(351)	(365)	(151)	(574)

IMPORTANCE OF WORK EXPERIENCE IN POST-HIGH SCHOOL PLANS. Sex was not related to the respondents' ratings of the importance of work experience for post-high school plans. Race is slightly related since blacks were more likely than whites to view work experience as either very important or not important while whites are more likely to see it as slightly important.

TABLE 71

IMPORTANCE OF WORK EXPERIENCE IN RESPONDENTS' POST HIGH SCHOOL PLANS BY SEX AND RACE

	M	F	W	B	T
Very Important	28%	26%	25%	33%	27%
Slightly Important	40	39	45	29	39
Not Important	32	35	30	38	35
Total	100%	100%	100%	100%	101%
Weighted Base	(197)	(329)	(325)	(139)	(531)

IMPORTANCE OF NEOVEC TEACHER OR COUNSELOR. While the utility of this item is restricted to those graduates who had attended the Northeast Oakland Vocational Education Center, there is a strong relationship between sex, race, and response to this item. Females and whites were much more likely to say NEOVEC teachers and counselors were not important factors in their post-high school plans; more males and blacks rated them as important factors. Sex and race are significantly correlated with importance ($r = .11$ and $r = .25$ respectively).

TABLE 72

IMPORTANCE OF NEOVEC TEACHER OR COUNSELOR IN RESPONDENTS' POST HIGH SCHOOL PLANS BY SEX AND RACE

	M	F	W	B	T
Very Important	14%	7%	12%	8%	9%
Slightly Important	32	27	11	48	28
Not Important	55	67	78	44	63
Total	101%	101%	101%	100%	100%
Weighted Base	(76)	(171)	(148)	(69)	(247)

IMPORTANCE OF SCHOOL SUBJECTS IN POST-HIGH SCHOOL PLANS. Substantially more whites (28 percent) and males (32 percent) did not perceive their school subjects to have been important factors on their choice of what to do after high school graduation. The difference is most visible between blacks and whites. Nearly one-half (48 percent) of the blacks rated school subjects as very important while only one-fifth (21 percent) of the whites felt this way. More females also rated school subjects as very or slightly important compared to males. This is a significant correlation (r=.13).

TABLE 73

IMPORTANCE OF SCHOOL SUBJECTS IN RESPONDENTS POST HIGH SCHOOL PLANS BY SEX AND RACE

	M	F	W	B	T
Very Important	26%	31%	21%	48%	29%
Slightly Important	42	49	50	37	46
Not Important	32	20	28	16	25
Total	100%	100%	99%	101%	100%
Weighted Base	(243)	(389)	(407)	(164)	(638)

UNOFFERED COURSES WANTED IN HIGH SCHOOL. No differences were found in response to this question (Question 9). Sixty-three percent of the males, sixty-four percent of the females, sixty-six percent of the whites, and sixty-two percent of the blacks answered yes, there were courses they wanted in school that were not offered.

HIGH SCHOOL EMPLOYMENT. Seven-in-ten (72 percent) of our respondents reported they had worked during high school for one month or longer; significantly (r=.29) more males (88 percent) reported working during high school than did females (61 percent). No difference was found between blacks and whites.

TABLE 74

LEVEL OF EMPLOYMENT DURING HIGH SCHOOL
FOR RESPONDENTS BY SEX AND RACE

	M	F	W	B	T
Yes	88%	61%	72%	73%	72%
No	12	39	28	27	28
Total	100%	100%	100%	100%	100%
Weighted Base	(286)	(423)	(483)	(164)	(714)

POST HIGH SCHOOL EMPLOYMENT. Nearly all of the respondents (96 percent) said they had been employed since graduation. All males (100 percent) ninety-four percent of the females, ninety-seven percent of the whites, and ninety-two percent of the blacks reported employment since graduation.

TABLE 75

PERCENTAGE OF RESPONDENTS EMPLOYED SINCE
HIGH SCHOOL GRADUATION BY SEX AND RACE

	M	F	W	B	T
Yes	100%	94%	97%	92%	96%
No	0	6	3	8	4
Total	100%	100%	100%	100%	100%
Weighted Base	(289)	(423)	(480)	(170)	(716)

TIME BETWEEN GRADUATION AND FIRST JOB. While Table 76 indicates nearly three-fourths (74 percent) of our respondents had their first job within two months after graduation, this time interval was not as true for blacks. The length of time between graduation and the first job was significantly longer (r=.11) for blacks. No difference was found in length of time to the first job for males and females.

TABLE 76

LENGTH OF TIME BETWEEN GRADUATION AND RESPONDENTS FIRST JOB BY SEX AND RACE

	M	F	W	B	T
I continued a job I already had..	37%	36%	40%	31%	36%
I started immediately after graduation	19	18	18	14	18
I started between 1 and 2 months after graduation	19	22	22	13	20
I started between 3 and 6 months after graduation	14	13	10	21	13
I started more than 7 months after graduation	12	12	9	21	13
Total	101%	101%	99%	100%	100%
Weighted Base	(286)	(399)	(472)	(151)	(690)

PARENT, RELATIVE, OR FRIEND IN SAME LINE OF WORK. Nearly six-in-ten (58 percent) of our respondents reported that they did not have a parent, relative, or friend in the same line of work they entered. One-third (33 percent) of the males, however, did have a parent or relative in the same field, compared to only 17 percent of the females. Whites, also were more likely to have parents, relatives, or friends, in the same line of work; 75 percent of the blacks responded no compared to 55 percent of the whites. Both sex and race were significantly correlated with having parents, relatives, or friends in the same line of work (sex, r=.16; race, r=.13).

TABLE 77

PERCENTAGE OF RESPONDENTS WITH PARENT, RALATIVE, OR FRIEND IN SAME LINE OF WORK ENTERED, BY SEX AND RACE

	M	F	W	B	T
No	49%	66%	55%	75%	58%
Yes, parent or relative	33	17	27	15	24
Yes, friend	18	18	19	10	18
Total	100%	101%	101%	100%	100%
Weighted Base	(289)	(394)	(468)	(154)	(688)

INCOME ON FIRST JOB. As Table 78 shows, males were much more likely to be in the upper half ($2.00 and over) of the income distribution on their first job (72 percent males, 41 percent for females). Interestingly, the black respondents were more likely to be in the upper half than were the whites. The relationship between males and the first job income was significantly correlated (r=.36).

TABLE 78

RESPONDENTS' LEVEL OF INCOME ON FIRST JOB
BY SEX AND RACE (WAGES PER HOUR)

	M	F	W	B	T
Upper Half	72%	41%	53%	64%	47%
Lower Half	27	58	47	35	53
Total	99%	99%	100%	99%	100%
Weighted Base	(275)	(389)	(450)	(152)	(669)

HELP GETTING FIRST JOB. The largest group of respondents (47 percent) reported they got their first job on their own (see Table 79). Slightly fewer blacks (41 percent) than whites (48 percent) gave this response. Far fewer blacks (22 percent) reported they got help from parents, relatives, or friends than did whites (37 percent). Nearly one-fourth (24 percent) of the blacks said they received

help through the co-op program compared to ten percent of the whites. When the three school-associated responses were combined, we found a significant correlation (r=.13) between race and school help; that is, blacks were more likely to report getting first job help from a school source. No significant difference was noted in any of the responses for sex.

TABLE 79

SOURCE OF HELP TO RESPONDENT IN GETTING FIRST JOB, BY SEX AND RACE

	M	F	W	B	T
I got the job on my own	47%	48%	48%	41%	47%
I got help from parents, relative or friend	37	31	37	22	33
I got help through the CO-OP program	11	15	10	24	14
I got help through the Vocational School	4	2	2	6	3
I got help through high school teacher or counselor	1	4	2	8	4
Total	100%	100%	99%	99%	101%
Weighted Base	(262)	(388)	(457)	(143)	(656)

AVERAGE HOURS WORKED PER WEEK. Table 80 shows no major difference in hours worked per week for blacks and whites, although more blacks reported working over forty hours per week. For males and females however, the differences are large. Females were far more likely to work less than forty hours per week on their job (39 percent) than were males (15 percent); males were more likely to work forty or more hours per week. The number of hours worked is significantly correlated with sex (r=.27).

TABLE 80

AVERAGE NUMBER OF HOURS WORKED PER WEEK BY RESPONDENTS ON CURRENT OR MOST RECENT JOB BY SEX AND RACE

	M	F	W	B	T
39 or less hours	15%	39%	29%	29%	29%
40 hours	53	45	49	43	49
41 or more hours	32	17	23	28	23
Total	100%	101%	101%	100%	101%
Weighted Base	(302)	(431)	(497)	(175)	(738)

INCOME ON CURRENT OR MOST RECENT JOB. The three tables follwing this narrative all relate to the respondents income on their current or most recent job. Table 81 shows that males and whites tended to be associated with higher income than females and blacks. Twice as many

males (72 percent) as females (36 percent) were found in the uppper half of the income distribution for their most recent job. Whites were more often in the upper half than blacks (55 percent vs. 45 percent). These findings are statistically significant; higher income is associated with males (r=.35) and whites r=.09).

Table 82 indicates how the graduates rated their wages. Overall, there is no significant relationship between race and perception of adequacy of wages. There is a slight relationship between sex and ratings; males tended to perceive their wages as better than did females. Over one-fourth (27 percent) of the males said their earnings were "enough to have extras and save some", but only nine percent of the females said this. This significant relationship (r=.19) is not surprising in light of the generally higher earnings of males in our study.

Our third table, Table 83, reveals some interesting responses concerning the graduates' perceptions of their chances for increased wages. One-half (50 percent) of the blacks rated their chances as "fair" compared to only 28 percent of the whites. Whites were slightly less optimistic and rated their chances as "poor" or "none at all" more often than blacks. Males were more positive than females about their chances for increased wages. Approximately one-sixth (16 percent) of the males rated their chances as "excellent" and another 30 percent said they were "good". These more optimistic ratings are significantly related with sex (r=.20); males were more

likely then females to believe they had a chance for increased wages.

TABLE 81

LEVEL OF RESPONDENTS CURRENT INCOME
BY SEX AND RACE

	M	F	W	B	T
Upper	72%	36%	55%	45%	50%
Lower	28	64	45	55	50
Total	100%	100%	100%	100%	100%
Weighted Base	(261)	(379)	(431)	(147)	(645)

TABLE 82

RESPONDENTS' PERCEPTIONS OF ADEQUACY OF WAGES
BY SEX AND RACE

	M	F	W	B	T
Impossible to live on	6%	14%	10%	13%	10%
Barely enough to meet needs	26	28	26	24	27
Enough to live comfortable	30	32	31	34	31
Enough to be able to have some extras	12	18	14	16	15
Enough to have extras and save some	27	9	19	14	17
Total	101%	101%	100%	101%	100%
Weighted Base	(291)	(392)	(469)	(153)	(689)

TABLE 83

RESPONDENTS' PERCEPTION OF CHANCE FOR INCREASED WAGES BY SEX AND RACE

	M	F	W	B	T
None at all	5%	19%	16%	6%	14%
Poor	20	19	22	9	20
Fair	30	36	28	50	33
Good	30	20	23	27	24
Excellent	16	5	12	8	10
Total	101%	99%	101%	100%	101%
Weighted Base	(286)	(382)	(464)	(148)	(673)

JOB SATISFACTION. Females and whites were more satisfied with their current or most recrnt job than were males and blacks. Although more males said they were very satisfied (26 percent), more also said they were dissatisfied (15 percent). More females reported they were satisfied with their job (47 percent) than males (30 percent). Combining the two satisfaction responses and the two dissatisfaction responses the relationship between satisfaction and females becomes significant (r=.19). Three times more whites than blacks reported they were very satisfied with their job (25 percent vs. 8 percent). About the same number of blacks and whites said they were satisfied at work.

Interestingly, however, when job satisfaction is probed more extensively, males continued to report themselves as very satisfied at a higher rate than do females on seven of the eleven items (data not presented her). Females registered stronger dissatisfaction than males with three items: wages, fringe benefits, and promotion possibilities. Their dissatisfaction significantly correlates with these three areas (wages, r=.06; fringe benefits, r=.29; and promotion possibilities, r=.23). The relationship of blacks and whites to job satisfaction holds for each of the eleven satisfaction iems, in that whites were more often satisfied.

TABLE 84

RESPONDENTS SATISFACTION WITH MOST RECENT JOB
BY SEX AND RACE

	M	F	W	B	T
Very satisfied	26%	18%	25%	8%	22%
Satisfied	30	47	40	41	39
Neither satisfied nor dissatisfied	28	29	26	38	29
Dissatisfied	15	4	8	13	9
Very dissatisfied	1	2	2	0	1
Total	100%	100%	101%	100%	100%
Weighted Base	(289)	(384)	(461)	(150)	(678)

SECURITY OF CURRENT JOB. As the figures in Table 85 indicate, there were no major response differences in general for sex or race. Blacks indicated to a greater extent that their current job was secure and was theirs for as long as they wanted it (48 percent vs. 37 percent for whites). Although not significant, fewer females (4 percent) than males (10 percent) said they had never thought about the security of their job.

TABLE 85

SECURITY OF CURRENT JOB BY SEX AND RACE

	M	F	W	B	T
It will end soon, forcing me to change positions	1%	0%	1%	0%	0%
It's one I can depend on for several years	22	26	24	23	25
It will be mine for as long as I want it	41	39	37	48	39
The job is uncertain, I am unsure about the future	27	31	30	25	29
I never thought about it	10	4	8	5	7
Total	101%	100%	100%	101%	100%
Weighted Base	(220)	(247)	(324)	(112)	(472)

RESPONDENTS' PRESENT SITUATION. Males and whites were slightly more likely than females and blacks to be working full-time (see Table 86). Males were also slightly more likely to be going to school full-time, or to be in the military service. Females were more likely to report that they were working part-time or were unemployed. Greater number of females also reported that they were either looking (14 percent) or not looking for work (13 percent). When the items indicating employment (a, b, e and f) are combined and compared to those indicating unemployment (g and h) the relationship between sex and employment becomes significant (r=.24); males are most likely to be working.

TABLE 86

RESPONDENTS' PRESENT SITUATION REGARDING WORK AND SCHOOL BY SEX AND RACE

	M	F	W	B	T
Working full time (more than 30 hours per week)	54%	45%	51%	44%	50%
Working part-time (less than 30 hours per week)	2	10	6	9	6
Not working-going to school full time	15	9	10	14	11
Not working-going to school part-time	0	0	0	0	0
Working and going to school	15	9	10	14	11
In military service (no civilian job)	7	0	3	4	3
Unemployed, looking for work	8	14	11	10	12
Unemployed, not looking for work.	0	13	9	6	8
Total	101%	100%	100%	101%	101%
Weighted Base	(282)	(391)	(464)	(158)	(675)

MARITAL AND PARENTHOOD STATUS. More blacks (78 percent) and males (78 percent) were still single (never married) than were whites and females (see Table 87). Very few of the respondents had been divorced and none were widowed. These data are not surprising in light of the traditional tendency for females to marry at a younger age than males. Females in this study married significantly sooner than males (r=.16).

TABLE 87

PRESENT MARITAL STATUS OF RESPONDENTS
BY SEX AND RACE

	M	F	W	B	T
Single, never married	78%	62%	64%	78%	69%
Married	21	36	34	22	31
Divorced	0	1	1	0	1
Widowed	0	0	0	0	0
Total	99%	99%	99%	100%	101%
Weighted Base	(286)	(431)	(491)	(170)	(714)

As Table 88 shows, three-in-ten (30 percent) of the 1972 graduates were already parents. Females and blacks were more often parents than males and whites; almost twice as many females were parents as were males (37 percent vs. 19 percent). The correlation between sex and parenthood is statistically significant (r=.19).

TABLE 88

PARENTHOOD STATUS OF RESPONDENTS BY SEX AND RACE

	M	F	W	B	T
Yes [parent]	19%	37%	27%	37%	30%
No [not a parent]	81	63	73	63	70
Total	100%	100%	100%	100%	100%
Weighted Base	(276)	(428)	(476)	(170)	(709)

DIFFERENTIAL APTITUDE TEST SCORES. No significant difference was found for three of the nine scores on this test when examined by sex (see Table 89). Three scores were slightly related to sex; males had higher scores than females on three tests: Mechanical Reasoning (r=.07); Space Relations (r=.08); and Grammar (r=.10). All percentile scores were significantly correlated with race; blacks tended to have significantly lower scores than whites.

TABLE 89

SIGNIFICANCE OF DAT PERCENTILE SCORES BY SEX AND RACE

	Sex*	Race**
Verbal Reasoning	n.s.	-.28
Numerical Ability	n.s.	-.23
VR and NA (total)	n.s.	-.26
Abstract Reasoning	n.s.	-.29
Clerical Speed and Accuracy	n.s.	-.28
Mechanical Reasoning	.07	-.29
Space Relations	.08	-.23
Spelling	n.s.	-.12
Grammar	.10	-.22

*Males; **Blacks

GRADE POINT AVERAGE AND RANK IN CLASS. Females had significantly higher grade point averages than males (r=.24), and also ranked significantly higher in their graduating classes (r=.19). There was a very slight correlation between race and grade point average (r=.07) with blacks tending to have slightly lower g.p.a.'s than whites. The relationship between race and rank in class was more pronounced; blacks were ranked significantly lower (r=.17) than whites.

APPENDIX A

DESCRIPTION OF 1972 GRADUATE POPULATION AND SAMPLE SELECTION PROCESS

TABLE 90

DESCRIPTION OF 1972 GRADUATE POPULATION AND SURVEY SAMPLE BY WORK EXPERIENCE AREA

	Population		Sample	
Work Experienced	32.0%	(327)	49.0%	(127)
Business	(10.8%)		(13.1%)	
Distributive Education.	(9.0%)		(12.7%)	
Health-Home Economics .	(4.2%)		(11.6%)	
Trade and Industrial ..	(7.9%)		(11.6%)	
Non-Work Experienced	68.0%	(696)	51.0%	(132)
Total	100.0%		100.0%	
Base	(1023)		(259)	

TABLE 91

SAMPLING FRACTIONS FOR STRATA IN (WORK EXPERIENCE AREA) IN SAMPLE

STRATUM		SAMPLING FRACTION	BASE
Work Experienced		.3884	327
Business.....	(.3063)		
Distributive Education.	(.3587)		
Health-Home Economics..	(.6977)		
Trade and Industrial...	(.3704)		
Non-Work Experienced.....		.1897	696
TOTAL POPULATION		.2532	1023

TABLE 92

PERCENT OF RESPONDENTS (WEIGHTED AND UNWEIGHTED)
BY WORK EXPERIENCE AREA

	Unweighted Respondents	Weighted Respondents	Assigned Weights
Work Experience.....	44.9%	31.5%	
Business.....	(12.6%)	(11.0%)	3.26
Distributive Education....	(12.1%)	(9.1%)	2.79
Health-Home Education.....	(10.6%)	(7.7%)	2.70
Trade and Industrial.....	(9.6%)	(3.7%)	1.43
Non-Work Experienced.....	48.5%	68.5%	5.27
Missing Data.....	6.6%	0.0%	0.00
Total	100.0%	100.0%	
Base	(198)	(738)	

APPENDIX B

DATA COLLECTION INSTRUMENTS

Pontiac Northern Senior High School

1051 ARLENE STREET, PONTIAC, MICHIGAN 48055 Phone 338-4505

DANA P. WHITMER, SUPERINTENDENT

Dear Graduate:

As a former student of Pontiac Northern High School you are an important person to us here at Northern. We like to know where our students are and how they are getting along. Perhaps you have been contacted before with questions about your activities since leaving high school. Once again we are asking your help.

The Research and Evaluation Department of the Pontiac Schools is conducting a study of co-operative work experience, vocational training, and academic programs to find out how well they help students to become better and more satisfied workers in their employment after high school. In such a study we need to know the reactions of students who did and did not participate in co-operative, vocational, general, and academic programs while they were in high school

You will be receiving a questionnaire and a stamped, self-addressed return envelope. Your help in completing and returning the questionnaire would be very much appreciated.

We thought the enclosed Northern athletic schedule and Polaris might be of interest to you.

Sincerely yours,

Edward G. Dauw

Edward Dauw
Principal

Pontiac Central Senior High School

300 West Huron Street, Pontiac, Michigan 48053 Phone 857-8400

DANA P. WHITMER, SUPERINTENDENT

Dear Graduate:

As a former student of Pontiac Central High School you are an important person to us here at Central. We like to know where our students are and how they are getting along. Perhaps you have been contacted before with questions about your activities since leaving high school. Once again we are asking your help.

The Research and Evaluation Department of the Pontiac Schools is conducting a study of co-operative work experience, vocational training, and academic programs to find out how well they help students to become better and more satisfied workers in their employment after high school. In such a study we need to know the reactions of students who did and did not participate in co-operative, vocational, general and academic programs while they were in high school.

You will be receiving a questionnaire and a stamped, self-addressed return envelope. Your help in completing and returning the questionnaire would be very much appreciated.

We thought the enclosed Central athletic schedule might be of interest to you.

Sincerely yours,

Donald McMillen

Donald McMillen
Principal

SCHOOL DISTRICT CITY OF PONTIAC

DEPARTMENT OF RESEARCH & EVALUATION

44 STATE STREET PONTIAC, MICHIGAN 48053 Phone: 857-8328

DANA P. WHITMER, SUPERINTENDENT

December 19, 1974

FOLLOW-UP SURVEY OF 1972 GRADUATES

Dear 1972 Pontiac Graduate:

As you were informed by a letter from your high school principal, the Research and Evaluation Department of the Pontiac Schools is conducting a follow-up survey of 1972 Pontiac graduates. Approximately one-third of the 1972 Pontiac graduating class was selected to participate in the follow-up survey. Student names were randomly selected from the 1972 Commencement and 1972 Cooperative Education lists of both Pontiac high schools.

The general purposes of the Follow-Up Survey are to:

1. Determine what Pontiac graduates have been doing in terms of employment.

2. Determine their satisfactions with employment and high school programs.

3. Determine views of Pontiac graduates on possible improvements of school programs.

4. Determine the relationship of high school program costs and their benefits to Pontiac graduates.

Enclosed are the Questionnaire, a pencil, and a stamped, self-addressed envelope for your convenience in returning the survey. Please return the completed questionnaire as soon as possible. Your help and cooperation with this survey will be appreciated. The information will be used for educational purposes only, and the privacy of information you provide will be maintained.

If you have any questions or comments regarding the Follow-Up Survey or the Questionnaire, please contact Stu Packard, Jean Rosenthal, or Tom Shara at 857-8328.

Sincerely yours,

Stuart Packard

Stuart Packard
Project Director

DEPARTMENT OF RESEARCH AND EVALUATION

QUESTIONNAIRE FOR FOLLOW-UP OF 1972 PONTIAC GRADUATES

INFORMATION IS FOR EDUCATIONAL RESEARCH ONLY - ALL INFORMATION IS CONFIDENTIAL

PLEASE ANSWER ALL QUESTIONS WHICH APPLY TO YOU - READ ALL ALTERNATIVES BEFORE ANSWERING

RITE IN ANSWERS WHEN APPROPRIATE or CIRCLE ANSWERS WHEN APPROPRIATE

TABULATION ONLY Begin Deck 1

EXAMPLES FOR ANSWERING

1. Are you currently employed full time or part-time? (PLEASE CIRCLE)

   Yes . . . . . (1)

   No 2

2. What is the name or title of your job? (PLEASE WRITE IN)

   Waitress

   (PLEASE WRITE IN)

1-3/

. D you take any vocational, Co-Op, or industrial arts courses in high school?(EXAMPLES:automotives, business, retailing)

(PLEASE CIRCLE)

Yes, I took many courses in vocational education, Co-Op, or industrial arts.(GO TO QUESTION 2). . . . 1

Yes, I took some vocational, Co-Op, or industrial arts courses even though my program was General or College Prep.(GO TO QUESTION 2). 2

, I did not take any vocational education, Co-Op, or industrial arts courses.(GO TO QUESTION 6) . . . 3

4/

. you took vocational, Co-Op, or industrial arts courses, why did you select the courses you did? (CIRCLE ALL THAT APPLY)

wanted to learn more about it because of my interest or hobbies 1

I wanted to do that type of work 2

bs in that field offered good pay and working conditions 3

My parents advised me to take them 4

5/

counselor or teacher suggested I take them . . . 5

took vocational courses because my friends took them 6

preferred vocational courses to other available courses 7

Other reasons(PLEASE WRITE IN)_____ 8

. At the time you selected your high school vocational courses, did you plan to go to work in that field after high school?

s, I definitely planned to work in that field . . 1

Yes, but I was not really certain 2

, but I was not really certain 3

6/

, I definitely did not plan to work in that field.4

I really did not know what I was going to do after graduation. 5

. If you planned to get a full time job after your high school graduation, what kind of job did you want?

did not plan to get a job after graduation. . . . 1 (PLEASE GO TO QUESTION 6)

I planned to get a job directly related to the vocational courses I studied in school. 2

7/

planned to get a job slightly related to the vocational courses I studied in school. 3

I planned to get a job not related to the vocational courses I studied in school 4

5. How important were your vocational, Co-Op, or industrial arts courses in high school for your career choice? Did these courses confirm your job choice, change your job choice or have no effect on your job choice?

   Vocational education courses confirmed my job choice 1

   Vocational education courses changed my job choice 2

   Vocational education courses had no effect on my job choice 3

8/

6. At the time you entered the 10th grade, what career or job did you want? (PLEASE WRITE IN)

   _____

9-10/

7. When you graduated from high school, what kind of job did you want? (PLEASE WRITE IN)

   _____

11-12/

8. How important was each of the following in your choice of what to do after high school graduation. (CIRCLE ONE ANSWER FOR EACH ITEM)

ITEM	VERY IMPORTANT	SOMEWHAT IMPORTANT	NOT IMPORTANT	DOES NOT APPLY	
a. Parents or relatives	1	2	3	4	13/
b. Friends	1	2	3	4	14/
c. CO-OP teacher or employer	1	2	3	4	13/
d. High school counselor or teacher	1	2	3	4	16/
e. Work experience in high school	1	2	3	4	17/
f. NEOVEC teacher or counselor	1	2	3	4	18/
g. School subjects	1	2	3	4	19/
h. Other (PLEASE WRITE IN) _____	1	2	3	4	20/

9. Were there areas or courses that you wanted in high school which were not offered by the school?

   No 1

   Yes 2

   IF YES, what were they. (PLEASE WRITE IN)

   _____ 22-23/

   _____ 24-25/

   _____ 26-27/

21/

10. Were you employed in any job(s) during high school which lasted one month or long?

    Yes . . . . . (GO TO QUESTION 11) 1

    No . . . . . (GO TO QUESTION 12) 2

28/

12. Please complete the following High School Job History Chart for all your high school jobs which lasted one month or longer. (PLEASE WRITE IN ANSWER FOR EACH JOB HELD. ANSWERS FOR COLUMNS APPEAR IN THE BOX AT THE TOP OF THE COLUMN.)

TABULATION ONLY

HIGH SCHOOL JOB HISTORY CHART

1 Name, title or description of job held.	2 Was job Work Study, CO-OP, neither, or don't know?	3 Year Held	4 Was job directly related, slightly related, not related or don't know to your school course of study
EXAMPLE Ato Mechanic	work study	9th	directly
1.			
2.			
3.			
4.			
5.			
6.			

13. Have you been employed either full-time or part-time since high school graduation?

Yes . . . .(IF YES, ANSWER QUESTIONS 13 TO 31). . 1

No . . . .(IF NO, GO TO QUESTION 28) 2 29/

14. How soon after graduation did you get your first job?

I continued a job I already had 1

I started immediately after graduation 2

I started between 1 and 2 months after graduation 3 30/

I started between 3 and 6 months after graduation 4

I started more than 7 months after graduation . . 5

16. Did you have a parent, relative, or friend in the same line of work that you entered?

No 1

Yes, parent or relative 2 31/

Yes, friend 3

15. What was the name or title of your first job? (PLEASE WRITE IN)

_____ 32-33/

(Name of Job or Title of Job)

16. What was the name of the company or name of the employer of your first job? (PLEASE WRITE IN)

_____ 34-35/

(Name of Company or Employer)

17. About how much money did you earn per hour on your first job? (PLEASE WRITE IN)

_____ 36-38/

(Wages per hour)

18. How did you get your first job?(CIRCLE ALL THAT APPLY)

TABULATION ONLY

I got the job on my own 1

I got help from parents, relative, or friend . . 2

I got help through the CO-OP program 3 39/

I got help through the Vocational School 4

I got help through high school teacher or counselor 5

Other sources(PLEASE WRITE IN)_____

POST-HIGH SCHOOL JOB HISTORY CHART

19. PLEASE COMPLETE THE FOLLOWING INFORMATION FOR ALL JOBS HELD SINCE GRADUATION.(START WITH PRESENT OR MOST RECENT JOB)

Name, Title, or Job Description	Dates Held (from__ to___)	Part-Time Full-Time	Was job directly related, slightly related, not related or don't know to your high school courses of study?	Reason you left
EXAMPLE: Exp. teaching	4th-4th	Part	slightly	better job offered

20. On the average, how many hours do(did) you work per week on your present or most recent job?(PLEASE WRITE IN)

_____ 40-41/

(Hours per week)

21. Approximately how much do(did) you earn per hour on your present or most recent job?(PLEASE WRITE IN)

_____ 42-43/

(Wages per hour)

22. On your present(or last job held) how would you rate your wages?

Impossible to live on 1

Barely enough to meet needs 2

Enough to live comfortable 3 44/

Enough to be able to have some extras 4

Enough to have extras and save some 5

23. How are(were) the chances for increased wages, other than normal or cost of living increases?

None at all 1

Poor 2

Fair 3 45/

Good 4

Excellent 5

24. How satisfied are(were) you with this job?

TABULATION ONLY

Very satisfied 1

Satisfied 2

Neither satisfied nor dissatisfied 3 46/

Dissatisfied 4

Very Dissatisfied 5

25. How satisfied are(were) you with the following things on your present or most recent job? (CIRCLE ONE ANSWER FOR EACH ITEM)

	Very Satisfied	Satisfied	Dissatisfied	Does Not Apply	
a. Things I do	1	2	3	4	47/
b. Things I work with	1	2	3	4	48/
c. People I work with	1	2	3	4	49/
d. People I work for	1	2	3	4	50/
e. Wages	1	2	3	4	51/
f. Hours	1	2	3	4	52/
g. Fringe Benefits	1	2	3	4	53/
h. Working Conditions	1	2	3	4	54/
i. Distance to work	1	2	3	4	55/
j. Promotion Possibilities	1	2	3	4	56/
k. Training I am getting	1	2	3	4	57/
l. Others (WRITE IN)	1	2	3	4	58/
m.	1	2	3	4	59/

26. If you are now employed, how would you rate the security of your current job?

It will end soon, forcing me to change positions 1

It is one I can depend on for several years 2

It will be mine for as long as I want it . . 3 60/

The job is uncertain, I am unsure about the future 4

I never thought about it 5

27. Which of the following best describes your present situation? (PLEASE CIRCLE ALL WHICH APPLY)

a. Working full time(more than 30 hrs. per week) 1

b. Working part-time(less than 30 hrs. per week) 2

c. Not working-going to school full time . . 3

d. Not working-going to school part-time . . 4 61-62/

e. Working and going to school 5

f. In military service(no civilian job). . . 6

g. Unemployed, looking for employment. . . . 7

h. Unemployed, not looking for employment. . 8

28. What is your present marital status?

TABULATION ONLY

Single, never married 1

Married 2

Divorced 3 63/

Widowed 4

29. Do you have any children?

Yes 1

No 2 64/

30. How many children do you have? (PLEASE WRITE IN)

_____ No. of children 65-66/

31. COMMENTS

END DECK I

THANK YOU VERY MUCH FOR COMPLETING THIS QUESTIONNAIRE!

PLEASE RETURN QUESTIONNAIRE AS SOON AS POSSIBLE!

If there are questions, please contact:

Stu Packard
Jean Rosenthal
Tom Shara
at 857-8328

APPENDIX C

DATA REDUCTION CODEBOOKS FOR SELECTED ITEMS

JOB CODES

All jobs reported are to be coded with a two-digit number using the following lists.

1. The first digit coded is the job area number.
2. The second digit coded is the specific job number within the job area.

Codes for Questions 6, 7, 11, 15, and 19.

0 - BUSINESS EDUCATION

0 - Stenographic
1 - Secretarial
2 - Bookkeeping/Filing
3 - Clerking
4 - Management
5 - Reception
6 - General
7 - Special
8 - Other
9 - blank

1 - DISTRIBUTIVE EDUCATION

0 - Retail Management
1 - Merchandise-Handling/Stocking
2 - Sales, General
3 - Sales, Special
4 - Retail, Dry Goods
5 - Retail, Grocery/Drug
6 - Retail, Cashier
7 - blank
8 - Other
9 - blank

2 - HEALTH RELATED

0 - Medical, Technical
1 - Medical, General
2 - Dental, Technical
3 - Dental, General
4 - Personal Care
5 - Health Administrator
6 - Animal Care
7 - blank
8 - Other
9 - blank

3 - HOME ECONOMICS RELATED

0 - Child Care/Development
1 - Domestic Service
2 - Food, Preparation
3 - Food, Service
4 - Food, Management
5 - Cosmetology/Beauty/Personal Care
6 - Clothing
7 - blank
8 - Other
9 - blank

4 - TRADE & INDUSTRIAL

0 - Auto/Truck, Mechanics
1 - Auto/Truck, Body
2 - Auto/Truck, Assembly
3 - Auto/Truck, Service
4 - Building/Construction
5 - Appliance/ Machine Repair
6 - Engineering/Drafting/Design
7 - Building/Home Maintainence
8 - Graphics Arts/Printing
9 - blank

5 - TRADE & INDUSTRIAL (cont.)

0 - Electronics/Electrical
1 - Metalwork/Welding
2 - Production/Processing
3 - Tool & Die/Machine Operator
4 - Heating/ Air Conditioning
5 - Skilled work
6 - Transportation/Communication
7 - Shop-Factory
8 - Other
9 - blank

6 - SERVICE

0 - Recreation/Leisure/Entertainment
1 - Security
2 - Municipal/Government
3 - Personal
4 - Military
5 - Education, Professional
6 - Education, General
7 - blank
8 - Other
9 - blank

7 - ACCOUNTING/COMPUTING

0 - Data Processing/Computer
1 - Actuary
2 - Banking/Savings/Loan
3 - Insurance
4 - Stock/Bonds
5 - Finance, Personal/Business
6 - blank
7 - blank
8 - Other
9 - blank

8 - OTHER ANSWERS

0 - Professional
1 - Communication
2 - Good Paying
3 - Photography
4 - Unskilled
5 - Law
6 - School
7 - Other, mics.
8 - Don't know, Anything, uncertain
9 - blank

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CE 008 924

ACCESSION NUMBER: VT103257

TITLE: DO SCHOOLS PREPARE GOOD WORKERS? VIEWS OF EMPLOYERS.

PERSONAL AUTHOR: SLAWSKI, EDWARD; PACKARD, STUART

DESCRIPTOR: *EMPLOYER ATTITUDES; *SURVEYS; *SCHOOL INDUSTRY RELATIONSHIP; *WORK EXPERIENCE PROGRAMS; COOPERATIVE PROGRAMS; VOCATIONAL EDUCATION; PROGRAM DESCRIPTIONS; PROGRAM EVALUATION; TABLES (DATA)

IDENTIFIER: PONTIAC; MICHIGAN

EDRS PRICE: MF AND HC AVAILABILITY WILL BE ANNOUNCED IN VOL. 10, NO. 2.

DESCRIPTIVE NOTE: 121P.; RELATED DOCUMENTS VT 103 203 AND VT 103 204 AND VT 103 255 THROUGH VT 103 258 IN THIS ISSUE.

ABSTRACT: EMPLOYERS IN THE AREA OF PONTIAC, MICHIGAN WERE SURVEYED TO DETERMINE THEIR ATTITUDES TOWARD THE VOCATIONAL AND WORK EXPERIENCE PROGRAMS IN THE PONTIAC SCHOOLS. DATA WERE COLLECTED BY MAILED QUESTIONNAIRES SUPPLEMENTED BY PERSONAL INTERVIEWS. CHAPTER I DESCRIBES THE RESEARCH METHODOLOGY AND THE CHARACTERISTICS OF THE 101 RESPONDING EMPLOYERS. CHAPTER II PRESENTS EMPLOYER RATINGS OF PONTIAC GRADUATES ON INTERPERSONAL SKILLS, COMMUNICATION SKILLS, WORK HABITS, WORK ATTITUDES, DECISIONMAKING, THE THREE R'S, AND SPECIFIC JOB SKILLS. ALTHOUGH MOST EMPLOYERS SAW FORMER STUDENTS AS ABOUT AVERAGE IN PERFORMANCE AND WERE FAVORABLE OVERALL TO THE GRADUATES, FEW WERE WILLING TO OFFER STRONG ENDORSEMENTS. CHAPTER III OUTLINES EVALUATIONS OF SPECIFIC PROGRAMS BY THE EMPLOYERS INVOLVED. IN CHAPTER IV EMPLOYER INTERVIEWS PROVIDE INFORMATION PERTAINING TO WHAT EMPLOYERS PERCEIVED AS IMPORTANT WORKER QUALITIES, THE SCHOOL'S ROLE IN DEVELOPING THESE QUALITIES, AND SUGGESTIONS ABOUT METHODS THE SCHOOLS MIGHT USE. RESPONSES INDICATED STRONG SUPPORT FOR COOPERATIVE PROGRAMS AND A WILLINGNESS TO TAKE PART IN PROGRAM PLANNING AND DEVELOPMENT. APPENDIXES (52 PAGES) CONTAIN PROJECT-RELATED CORRESPONDENCE, SURVEY INSTRUMENTS, AND TABLES DISPLAYING EMPLOYERS' RESPONSES. (NJ)

INSTITUTION NAME: PONTIAC CITY SCHOOL DISTRICT, MICH.

SPONSORING AGENCY NAME: OFFICE OF EDUCATION (DHEW), WASHINGTON, D.C.

VT 103 257

DO SCHOOLS PREPARE GOOD WORKERS?

views of employers

The Decision-Oriented Evaluation System

THE CENTER FOR RESEARCH EVALUATION AND INFORMATION SERVICES

SCHOOL DISTRICT CITY OF PONTIAC

Project report of the Decision-Oriented Evaluation System, (DOES), funded by USOE, Department of Health, Education and Welfare, Vocational Education, Part C, "Research and Training in Vocational Education".

Velma S. Brawner, Project Officer, Washington, D.C.

**

DOES Project Report Titles:

The Young Worker and the Law: a guide for 14-18 year olds.

Youth Employment Laws: a handbook for supervisors of young workers.

Did School Help Me Go to Work? Experiences of '72 Graduates.

Do Schools Prepare Good Workers? Views of Employers.

A Cost-Effective View of Vocational Education Programs.

**

DOES Project conducted and reported by the Research and Evaluation Department, School District of the City of Pontiac

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Do Schools Prepare Good Workers?
Views of Employers.

prepared by:

Edward Slawski
and
Stuart Packard

through special arrangement
with the Department of Research
and Evaluation of the School
District of the City of Pontiac

THE SCHOOL DISTRICT OF THE CITY OF PONTIAC
350 WIDE TRACK DRIVE EAST
PONTIAC, MICHIGAN 48058

Board of Education: Francis Webster, President; Elsie Mihalek, Vice-President; Gloria Hardiman, Secretary; Guy Blackburn; Stephanie Clanagan; John Irwin; Archibald Mosley.

CE 008 925

ACKNOWLEDGMENTS

The Research and Evaluation Department and the staff of the Decision-Oriented Evaluation System of the Pontiac Schools, express deep appreciation for the assistance received from many sources in the conduct of the study reported in this publication. The graduates of Pontiac Central and Northern High Schools and Pontiac area employers who responded to questionnaires and interviews were very cooperative and supportive of the study. The vocational and cooperative education staff members and the business management staff of the Pontiac School District who provided consultant service, made generous contributions of time and information. Special thanks to Mr. M.C. Prottengeier, Director of Vocational Education, and Mr. Donald Kaiser, Placement Consultant.

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SCHOOL DISTRICT CITY OF PONTIAC

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DANA P. WHITMER, SUPERINTENDENT

FOREWORD

The preparation of students to become skilled, productive, and self-fulfilled workers is one of the schools' major functions. There is widespread concern among employers, labor organizations, and governmental agencies about the effectiveness of the schools' contribution to the skill preparation and work attitudes of young people. Such concern is not misplaced, for studies of the American work force indicate the strong presence of dissatisfaction, uncertainty, and hostility toward their jobs among American workers. In response to these evidences of unease about the role of work in the life of the nation, educational planners have given increasing attention to school programs which contribute to the work-readiness of youth.

The School District of the City of Pontiac, located in an industrial center and serving a working population, is very conscious of its responsibility to assist Pontiac students in making a successful transition from school to work. Recent years have seen substantial progress in our programs in career development, career education, and vocational education. We are proud of our progress, but we are aware that many of our students are not prepared sufficiently to cope with their uncertain vocational futures. The Decision-Oriented Evaluation System (DOES), a project funded under Part C, Vocational Education Act, and reported in part in this publication, has afforded the Pontiac schools an excellent opportunity to examine and evaluate portions of the district's programs in vocational education and work experience. The findings from the study will provide valuable information for school district planners and decision makers in determining future program directions. It is our sincere hope that the DOES report will be of assistance to other educators, as they examine their programs in vocational education.

Dana P. Whitmer

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CHAPTER I

EMPLOYERS AND THE SCHOOLS

INTRODUCTION:

The study of Pontiac area employers reported in this publication is part of a larger examination of the effects of work experience programs, funded under the provisions of Public Law 90576, Vocational Education, Part C, "Research and Training in Vocational Education". The project from which this report is derived was entitled Decision Oriented Evaluation System for Alternative Work Experience Program (DOES) and was conducted by the Research and Evaluation Department of the Pontiac Schools, Pontiac, Michigan.

The Pontiac Schools submitted its proposal for funding and conducted the DOES project in response to two major concerns which are prevalent in vocational education: the need to examine the effectiveness of vocational programs, and the apparent difficulty experienced by many young people in making a successful transition from school to work. The two Pontiac high schools have long-established, well equipped and staffed vocational education programs, and a cooperative education program in which nearly one-third of 12th grade students participate.

To combine the concerns for program evaluation and successful transition of youth from school to work, the DOES project was designed to address the following goals:

1. To determine methods for improving student and employer satisfaction in work experience programs.
2. To use evaluation evidence to make decisions on standards for alternative work experience programs.
3. To clarify legal and other barriers to work experience programs.
4. To determine program costs on a per student basis and compare program costs in terms of student outcomes.

Goals one, three, and four implied particular tasks for the DOES project staff. Two populations of 1972 Pontiac high school graduates, one of participants in the cooperative education program, and another of non-participants, were surveyed to determine their occupational placement and their evaluation of their educational preparation for work. A substantial number of employers who provide cooperative education work placements for high school students were surveyed and interviewed to obtain their views on the schools' preparation of young people for work.

An attorney was engaged to examine and clarify the legal and quasi-legal barriers which affect the employment of school-age youth. A detailed analysis of Pontiac's vocational education programs was conducted to determine their costs per academic credit for facilities, equipment,

and instruction and to compare them to the per credit costs of non-vocational programs. During the conduct of the project, goal two (decision making based on evaluation evidence) has been addressed through continued consultation with vocational education administrators and instructors about project activities and products and their potential value in the modification of vocational education programs.

PONTIAC-AREA EMPLOYERS AS SCHOOL CLIENTS AND PATRONS.

Employers are in a dual relationship to high school vocational education programs. On the one hand, they look to the schools to provide individuals with sufficient abilities to get and maintain jobs in their companies. By providing training to students, schools feed the local labor pool. In this sense employers are clients of the schools. On the other hand, in order to prepare adequately their students for entry into adulthood, schools must rely on support from employers. This support may be indirect to the extent that employers ultimately hire students after their graduation. However, there are also direct ways in which employers participate in the educational process. By involvement with students while they are still in school through such programs as student work experience, the employer becomes a patron of the school. Both aspects of this dual relationship are important in assessing the success of general school programs and particular vocationally-directed courses. Our research addressed both aspects of the employer-school relationship.

Pontiac, as its name suggest, is largely an auto town. By far the largest employers in the area are the large automobile manufacturing plants. General Motors Truck and Coach, Pontiac Motors, Fisher Body, and Ford Motor Companies all employ hundreds of former Pontiac students. There are, however, other large employers. In the retail

trade, Sears Roebuck, Montgomery Ward, J.L. Hudson, and K-Mart have major stores in the immediate area. Pontiac General, St. Joseph Mercy, and Pontiac Osteopathic Hospitals provide jobs in the health areas. In addition to the large companies, many moderate and small companies exist and thrive in the Pontiac area. Several nursing homes, construction companies, and supermarkets employ between fifty and one-hundred Pontiac area residents. Various still smaller local businesses include floral shops, gas stations, drug stores, and small manufacturing shops. Therefore, although the auto industry is dominant, employment opportunities are diverse and not exclusively in the manufacturing sector.

The Public Schools endeavor to meet the challenge of this diversity by offering a wide range of programs designed to aid the student's entry into the world of work.

The Pontiac Schools, located in a major center of the automobile industry and serving a working population, have recognized the continuing need among their students for occupational preparation. In the total Pontiac high school curriculum, vocational education has held for many years a strong and respected position. Both Pontiac high schools offer a full range of vocational classes in well designed and equipped shops and classrooms. General skills in such areas as, business and office procedures, metal and wood working, drafting, retailing, electronics, and home economics and health services form

the basis for instruction in the high school vocational curriculum. Well-established cooperative education programs in business, retailing, trade & industrial, and home-economics/health, enable many students to attend school and gain supervised work experience simultaneously.

In 1971 the Northeast Oakland Vocational Education Center (NEOVEC), a vocational center which serves eight high schools including the two Pontiac high schools, opened to provide job-specific training in sixteen occupational programs. NEOVEC's courses greatly increased the options of Pontiac students in selecting training for work.

The Pontiac Schools have provided leadership in the growing educational emphasis upon career development for youth. A variety of programs at all grade levels has influenced the general curriculum to address student needs for career awareness, self-awareness, and interpersonal and decision-making skills. Prominent among these has been the Pontiac Adult-Student Learning System (PALS), a program for high school students which trains students in the skills of career exploration, planning, and selection, and places them in a work internship in the community.

The success of these programs depends ultimately upon the acceptance of their graduates by the range of employers in the city. Our data were developed to guage employer reaction to these programs.

METHODOLOGY.

Since one of our primary goals was to collect employer evaluations of school programs, we began by listing employers who had in the past cooperated with the Pontiac School programs. We first developed a list of all employers who had participated in the Cooperative Education Program during the 1971-72 school year. Our primary sources for these employers were those listed on the program for the annual COOP banquet and those employers who had participated in the Pontiac-Adult Student Learning System. A third source of employer names was the responses of 1972 graduates of Pontiac Schools to a mailed questionnaire which was part of another segment of our research. Finally, these lists were augmented selectively by using Polk's Business Listing and identifying those employers with Pontiac mailing addresses.

Our listing process yielded three hundred employers who had in the past or who were known currently to be employing graduates of the Pontiac Public Schools. All listed employers were sent a questionnaire by mail. About one-third, one-hundred and one (101), employers returned the questionnaire.

We must note some caveats in interpreting our data. First, our lists did not represent necessarily the entire universe of Pontiac-area employers. Our list is biased toward employers who have had opportunity to employ Pontiac graduates. However, our list does not include

the many employers who are located beyond the immediate Pontiac area. These firms are within easy reach of Pontiac residents. Whether, and to what extent, they constitute a different population of employers from our respondents cannot be tested in our data.

Second, we contacted everyone on our list. Only one-in-three responded. Limited resources prevented any follow-up activities for employers who failed to respond. We cannot estimate the extent of the bias of our respondents. We are unable to determine, for example, if non-response means disapproval or lack of interest.

These two points, the potential bias in selection and the potential bias in returns, are merely specific ways of saying that our list of businesses does not constitute a scientific sample from a known universe and, therefore, will not support inferences to the total employer population. However, we present these results as evaluative statements of this particular group of employers and suggest more systematic attempts be made in the future to gauge employer opinion.

In addition to the mailed questionnaire to employers, fourteen employers agreed to personal interviews. These employers were chosen according to various criteria. First, we selected employers in firms of different sizes. Three employers were interviewed from very small companies with ten or fewer employees; four, from moderately small businesses with from eleven to forty-nine employees;

three from moderately large employers with between fifty and one-hundred employees; and, finally, four employers who employ more than one-hundred people. Second, we chose employers representing a variety of major work activities. Our interviewers contacted a small privately-owned real estate company, a building contractor, the City Department of Public Works, and two of the General Motors Divisions, among others. Third, all four of the cooperative education areas were represented: trade and industrial, retailing, health service and child development, and business. Finally, we tried to balance our interviews with employers among those with experience in conducting work experience programs and those without it. Of the fourteen interviewed, five had worked only with coop students; two, only with PALS students; four with students in both programs; and three, with students in neither program. A description of the results of these interviews appears in Chapter IV of this report.

CHARACTERISTICS OF RESPONDING EMPLOYERS.

Employers who completed and returned the mailed questionnaire represented firms of varying sizes. One-fifth (21 percent) of responding employers represented very small firms employing ten or fewer people. About one-fourth (24 percent), came from moderately small business employing more than ten but less than fifty employees. Fewer than one-in-ten (7 percent) of our respondents worked for moderately large firms, and

fifteen percent represented very large firms. Over one-third (34 percent) did not specify the number of employees in their business (See Table 1).[1] Our respondents, then, represent the range of sizes of employers.

Individuals at various levels in the organizational hierarchy completed the questionnaires. Table 2 shows that the majority of respondents who identified themselves by title are in positions of some responsibility within the company. Ten percent were proprietors; twenty-three percent were company executives, such as presidents or vice-presidents; and, twenty-seven percent were managers. About one-in-ten (9 percent) were in the personnel department. Only about one-in twenty (6 percent) identified themselves as lower level employees. One-fourth (25 percent) did not answer this question. However, the relatively high positions of our respondents indicate that in general their responses represent authoritative information about policy in their firms.

SUMMARY.

This report deals with data about Pontiac-area employers collected by a mailed questionnaire and supplemented by personal interviews. Although the respondents do not constitute a representative sample of all local employers, they are drawn from a range of companies and positions. The high organizational

[1]All tables referred to, in this report, appear in Appendix II.

positions of the respondents lend credence to the policy implications of their responses. Chapter II will describe the responses of the total group of employers to questions about high school programs in general and Pontiac School programs in particular. Chapter III will outline the evaluations of specific programs by the employers involved with these programs. We will conclude with Chapter IV which presents some more detailed information drawn from the personal interviewers with employers.

CHAPTER II

PONTIAC EMPLOYERS RATE HIGH SCHOOL VOCATIONAL EDUCATION

INTRODUCTION:

Ultimately any vocational educational program must be tested in the real world of employment. If a program is effective, its graduates will be accepted by employers. In this chapter we will describe the beliefs of employers about the general characteristics of employees and their ratings of Pontiac graduates in particular. Although we separated those local employers who participate in work experience programs from those who do not, examination of the data revealed no instances of significant difference between these groups. Therefore, in the text, we will only comment on the total group of employers. In Appendix II, however, we do present the distributions of responses for both groups, as well as the total sample. We will begin by describing employers' reactions to the local labor market.

PONTIAC AS A POOL OF EMPLOYEES.

As soon as a student graduates from high school and begins looking for a job, he is immediately in competition with all other job seekers. Some are more capable than others in this competition. We asked Pontiac employers to describe the employment market in Pontiac. We wanted to know if they thought there were enough competent people

to fill jobs in their companies (Table 3). Only about a third (34 percent) replied that there were "too few" competent people; another third (33 percent) claimed there were "just about enough"; and a final third (33 percent) told us that there were "more than enough" competent people to meet their employment needs. When employers who participate in Work Experience Programs were compared with those who do not participate, an interesting difference emerged. Non-participating employers (53 percent) were about twice as likely as participating employers (26 percent) to see a surfeit of employees. Fewer than one-in-five (16 percent) of non-participating employers thought there were "just enough" competent people for their jobs. About equal proportions of participating (35 percent) and non-participating (32 percent) employers thought there were "too few" competent people. In general, it seems that employers who participate in work experience programs are more demanding in terms of the level of competence they expect from employees. We find these participating employers experience more difficulty in finding enough competent people to meet their employment needs. However, this difference is not reflected in any systematic way in their evaluations of the schools. We next discuss the beliefs which employers have about their workers.

Occupational Beliefs of Pontiac Employers.

Hiring practices in a company or business reflect a set of beliefs which the employers hold about the firm and

the kind of individuals needed to do the work. A successful high school program takes these values into account as well as attempting to provide job-specific skills. To the extent that school programs coincide with employer expectations, the employability of graduates of the program is increased. Part of our research was directed at ascertaining the expectations of employers. A series of value items were administered to Pontiac area employers. These items touched on such issues as responsibility for training and the value of vocational education. In the following sections we describe their responses in two clusters; employer perceptions of a general orientation to work and specific ratings of job skill training. The level of agreement of employers participating in work experience programs and those not participating will not be treated separately, since the case basis for these sub-groups is too small for stable estimates. The specific evaluations of cooperating employers will be detailed in the next chapter. However, in no instance was there a significant difference between them on issues of occupational belief.

General Work Orientations of Employers.

When the total list of occupational belief items was examined, certain statements received unanimous support by Pontiac area employers. These statements seem to reflect a broad framework in which employment decisions are made. We isolate these items and others that seem related for description because they represent an

irreducible minimum which employers expected from potential employees. Any specific skills that workers have must appear in conjunction with these general orientations to work. The fact that all the employers who responded agreed to their importance underlines the necessity for vocational education programs, teaching students general as well as job specific work skills.

Virtually every employer (99 percent of respondents) agreed that "it is pretty important for an employee to be able to get straight what his boss is talking about", (See Table 6). Hardly any businessman who responded to this question seemed to think that he could accept a situation where the worker could not listen to and understand directions. It is interesting to note that only about a third (32 percent) of the employers saw the inability to understand adults as endemic to young people. Over two-thirds disagreed that "young people today don't know how to talk to adults and learn from them", (See Table 18). Therefore, it seems among this group of employers that a "generation gap" is not used to explain employer-employee communication problems. Youthful workers, as well as older employees, are expected to take directions from their bosses. Employers, in general, did not seem biased against young people in terms of their ability to become part of a work team. Not only must employees be able to communicate with their bosses, but they must also be able to deal effectively with other workers in the work situation. The importance

of interpersonal relations among workers on a job site is underlined by all employers. Ninety-nine percent of our respondents agreed that anyone they hired "must be able to get along with other workers", (See Table 15). Clearly these employers saw the necessity of interpersonal skills for an employee on the job. One skill which good employees are expected to have, no matter where they work, is the ability to find a place among their fellow workers.

Employers stress the need for employees to be able to understand their bosses and to get along with fellow workers as parts of a general orientation to a job. Repeatedly we will see the importance of employee attitudes toward work in general and a job in particular. At this point, we note that employers saw the schools being responsible for developing proper attitudes among students. Ninety-seven percent of the employers answering the questions agreed that the "schools should teach students that it's important to have a good job and do it well", (See Table 19). As employers saw it, school should help students develop these basic values. Below we describe other areas where employers saw schools playing a socializing role, but there is not the same level of agreement on these specific issues. In terms, however, of a general orientation to the value of work, employers were willing to assign responsibility to the schools. Specifically, employers saw schools as training students in the value of regular attendance at work. Over four-fifths of the employers (84 percent) agreed that "unless kids learn to

come to school every day they will miss work whenever they feel like it", (See Table 21). As far as most employers are concerned, school attendance is an indicator of attendance at work. If schools can develop good attendance habits among the students, employers seemed to think they would have fewer absentee problems. In the particular area of absenteeism, then, employers saw schools having a very important preventative role to play.

Employers, in general, reported experiencing increasing difficulty finding "good" employees. Nine of ten (90 percent) agreed that "it is getting harder to find new employees who are willing to work hard and do a good job", (See Table 20). This comment seemed to refer both to work attitudes and work performance. Although most employers thought there was a relatively large labor pool from which to choose, they expressed some reservations about the quality of these potential employees.

One characteristic which impressed many employers, was an apparent lack of concern by the applicant for the hirer's impression of him. Two-thirds (67 percent) stated that "young people today don't try to make a good impression when they look for a job", (See Table 12). Employers might well view this lack of concern as an indicator of the applicant's failure to appreciate the value of a job, specifically the one being applied for. If school programs addressed the issue of training students in the skills of presenting themselves well, this negative reaction of employers might be lessened.

Finally, one additional item is included in this section which indicates the importance of employee values in employment decisions. We stated the relationship between work attitudes and work performance in negative terms and asked employers if they agreed that it did not matter "how a person feels about work as long as he does his job", (See Table 7). Only one employer in twenty (5 percent) supported this statement. Overwhelmingly (95 percent disagreed) employers rejected a position that implies attitudes are not relevant for good employees.

In summary, items measuring a general orientation to the world of work received almost unanimous support from employers in the Pontiac area. Included in this general orientation are interpersonal and communication skills which do not seem job specific. The ability to "get along" was seen as a critical employment skill in any work setting. The implication for school programs seems to be that these more general skills should be part of any training package. In addition, employers seemed to expect schools to address the more fundamental issue of the value of work at a job. Good employees are those who understand that work is important and appreciate having a "good job" and who show their appreciation by their behavior. We suspect that employers believe that employees having these attitudes demonstrate better performance on the job. We will see in a following section that businessmen are willing to train in specific skills; however, they look to the schools to

provide applicants with a foundation in more general work values.

SPECIFIC WORK SKILLS AND TRAINING.

In the preceding section, we saw that Pontiac area employers thought the schools had responsibility for imparting certain general work orientations to students. However, successful performance in a job situation requires specific skills as well as general ones. There is real work to be done which involves particular "know-how". We asked employers questions about the importance of these specific kinds of skills for employment and the effectiveness of school programs in teaching such skills. This section discusses employer responses to these items.

There was a general endorsement of vocational education from the employers. Over half (57 percent) agreed that "high school vocational education does a good job in preparing people to work for their firm". (See Table 8). Moreover, fewer than one-in-five employers (17 percent) affirmed the suggestion that "schools should concentrate on the three R's and leave work skills to the employers", (See Table 10). Most employers saw the school as being significantly involved in training which was not strictly academic. There does not seem to be much support for a "head-in-the-sand" attitude on the part of the high schools. Vocational education programs have a definite place in the pre-employment training of employees. Responses to additional questions suggest that the exact nature of the contribution of vocational

education programs in the high schools is in doubt. Although there is a belief that such courses provide effective training in generalized, non-specific skills, there is some doubt about their ability to do actual job preparation in any specific case. Almost two-thirds (65 percent) expressed the opinion that "schools don't do much in the way of teaching kids about the real world of work", (See Table 9). Also, three-in-five employers (62 percent) agreed that "high schools aren't really able to teach people to do most jobs", (See Table 17). Therefore, the majority of Pontiac-area employers expressed reservations about the extent to which high school vocational education can prepare students to do most jobs in a real work environment.

Whatever reservations employers have seem to be less operative with regard to one specific aspect of vocational preparation in the schools. Almost three-quarters of the employers (70 percent) endorsed the work experience component, (See Table 13). A large majority thought it a good idea that "all students should be required to have some actual work experience before they graduate from high school." Work experience programs involve the actual placement of students in a real job situation. Through this placement they acquire actual "hands-on" experience in that particular job. If the employer cooperates, and the experience is coordinated with the classroom training, these experiences can provide the student with direct, job related skills as well as an awareness of the realities of working. We

shall review the responses of employers to these particular programs in a later chapter of this report. At this point, we note that the endorsement of work experience programs probably reflects a basic distrust of simple classroom instruction. Since actual, on-the-job experience involves much more of the actual job conditions, it perhaps is not surprising that employers preferred it.

Graduates of vocational courses in high school are in an inferior competitive position in the employment market when compared to experienced workers as far as several employers are concerned. However, large numbers of employers saw high school vocational education training as being as good as previous experience on the job. Almost half (49 percent) of the employers agreed with the statement that "a good training course in high school is as good as previous experience in preparing people for jobs", (See Table 11). On the other hand, only about two-in-five (39 percent) agreed that "a person who has worked at a job before is a better employee than someone who has just finished school", (See Table 5). Although the latter question does not specify what kind of training the individual received, in three of five cases their newness in the labor market will not be penalized, presumably, if they have the proper training. From what our respondents said, it seems that vocational education eases entry into the labor market.

Prior experience, in any case, does not seem sufficient in itself for employment. Our respondents

indicated a concern for the particular kind of experience workers had and how well they had performed in that experience. The standard practice of checking references was endorsed by most of the employers. Almost three-quarters (70 percent) said they were "hesitant to hire new employees" unless they had "good references", (See Table 16).

Finally, we attempted to determine the willingness of employers to provide the training needed for jobs in their businesses. A large majority (76 percent) accepted "responsibility to train employees to do the jobs they are hired for", (See Table 4). Only about one-quarter (26 percent) said that "it's too costly to train new employees for their jobs", (See Table 14). Therefore, employers in general, seemed willing to provide additional training opportunities for employees to enable them to perform adequately in their jobs.

With regard to the provision of training, we suspect that there are differences among the various types of businesses and sizes of firms. Such differences probably also appear in considerations of the value of high school vocational education programs. Our data base is too small to support meaningful comparisons by type of business and size of firm. For a more detailed reading of these differences, additional data on representative businesses should be collected. Our conclusions from our somewhat limited data are that local employers support vocational education, particularly work experience

programs, and that these programs, from employer reports, ease the entry of graduates into the job market. In the next section, we will report the specific evaluation of employers of the graduates of Pontiac high schools.

EMPLOYER RATINGS OF PONTIAC HIGH SCHOOL GRADUATES.

We created a list of the characteristics of "good" employees and asked employers to compare graduates of the Pontiac schools to the average worker on these characteristics. Our intention was to have employers tell us how our graduates measured up when they entered the job market. We included as many areas as possible in our list of characteristics. Not all areas are or could be addressed in school programs. However, by examining employer responses on these dimensions, we can isolate areas where programs are successful or need improvement. We present the results in the order of favorableness of employers.

INTERPERSONAL SKILLS

Pontiac graduates receive the best comparative ratings from employers on their ability to "get along with supervisors and other workers", (See Table 26). Almost one-in-ten (9 percent) said that Pontiac graduates were better than the average worker at getting along, and over three-quarters (77 percent) said they were at least as good as the average worker. Only 14 percent said Pontiac graduates were not quite as good as the average worker in interpersonal skills on the job. The majority of local employers saw Pontiac graduates as

being able to deal with other workers in a work setting.

COMMUNICATIONS SKILLS

Most Pontiac employers thought that former students "make sense in what they say", (See Table 25). Four-in-five of all employers (80 percent) said graduates are about average in their use of language; only two percent saw them as better than average; about one-fifth (19 percent) rated students as not quite as good as the average worker. Local employers rated the communication skills of our graduates at least as good as those of their average workers.

THE THREE R's

Basic reading and math are essential for most jobs in today's society. We asked employers how well graduates did in these very basic skills. Three-quarters (75 percent) of all employers stated that Pontiac graduates "can read, write and do the math necessary for the job", about as well as the average worker, (See Table 22). Only three percent thought students were better than average. However, almost a quarter (22 percent) said Pontiac graduates were "not quite as good as the average worker" in these skills. Therefore, although a majority of Pontiac employers affirmed the ability of Pontiac graduates to handle basic reading and math, a sizeable minority raised questions about basic skills.

WORK HABITS

Being present and prompt on the job is important in any business enterprise. In general, employers thought

that Pontiac graduates whom they employed were at least as good as an average worker in these qualities. Three-fifths (61 percent) stated they were average in attendance and promptness, (See Table 29). A sizeable number (14 percent) rated graduates as better than average, however, and one-fourth (25 percent) rated them worse than other workers. Fairly frequently, then, local businessmen found our graduates not to be displaying good work habits. We saw in the previous section the importance attached to these skills by employers. If the graduates develop the reputation among a number of local businesses for absenteeism and tardiness, placement problems may become more difficult.

DECISION-MAKING ON THE JOB

Only the most menial tasks do not require some thinking from the workers, and all "better" jobs are open only to individuals who can use good judgement, (See Table 23). How well are graduates of the Pontiac schools trained to use "good sense in making decisions on the job?" Again, among all employers, the large majority (70 percent) thought that graduates were at least as good as the average worker. Only three percent thought them better than average. More than one-fourth (27 percent), however, saw Pontiac graduates "using good sense" less often than the average worker.

In the use of decision-making skills, a sizeable number of local employers question the good sense of our graduates. The extent of this questioning should

be determined better, since making good decisions is a prerequisite for job advancement in most areas.

WORK ATTITUDE

Many employers stress the importance of effort in good employees. We asked employers to rate how often our graduates tried "to do a good job at work", (See Table 28). About one-in-five (5 percent) employers responded that our graduates were better than average; two-thirds (66 percent) rated graduates as average; but, three-in-ten (30 percent) said they did not try as hard as the average worker. From our description of the general occupational values of employers, we suggest the importance of graduates displaying good work attitudes. Since employers saw the schools as responsible for fostering these attitudes, they may look unfavorably at programs which do not produce them.

PERSONAL APPEARANCE

In many employment situations, how a person dresses is important, since the business image of the firm is involved. Wearing clothes which are "right for the job" is a consideration for many employers. About half (55 percent) of all employers rated Pontiac graduates about average in appearance; more than one-tenth (12 percent) gave former Pontiac students a better than average rating; however, almost a third (33 percent) said these students were not quite as good as the average worker, (See Table 24). Again, in the area of appearance, we find a large minority of local employers who are critical of Pontiac graduates. Appearance and dress are

fundamental in managing impressions. Perhaps more attention can be given to sensitizing graduates, so that the number of unfavorable employers can be reduced.

SPECIFIC JOB SKILLS

How do Pontiac high school graduates measure up to average workers in terms of what they can do when hired? We saw above that most employers accept some responsibility for the training of new employees. However, some employees "already knew how to do the job they were being hired for", (See Table 27). About half (51 percent) of all employers said Pontiac graduates were about as good as the average worker in knowing the jobs they are hired for. Relatively few (4 percent) saw them as better than average. A substantial minority (45 percent) thought graduates were not quite as good as average workers. These responses cannot be interpreted simply as a negative evaluation of high school programs. Not all potential employees have been exposed to specific job training, and actual work experience on a job is generally considered superior to classroom instruction. Therefore, we are surprised that so many employers are favorably disposed toward Pontiac graduates. Data on specific jobs are not available for comparison among various kind of jobs. In any case, it seems that many Pontiac area employers see the products of the high school to be deficient in job skills. To the extent that possession of these skills is a criterion for employment, Pontiac graduates are at a disadvantage.

In summary, most local employers view favorably the products of Pontiac schools. In no area measured did a majority rate the graduates worse than average. Ratings of interpersonal skills and communication abilities were highest. Graduates did slightly less well in cognitive skills, work attitudes, and decision-making abilities. The least favorable scores occurred on personal appearance and specific job skills. However, by and large, the employers saw Pontiac producing graduates about at the average level. We cannot determine with these data whether "average" translates into being hired. In a tight labor market, perhaps graduates must strive to be "better than average." In the next section we will examine the relationship between the employers' occupational values and their ratings of Pontiac graduates.

General Work Orientations and Ratings of Graduates.

An overreaching goal in this research was to generate data which could serve as input to decision-makers in the vocational education program for the Pontiac schools. In earlier sections of this chapter, we have described the perceptions of local employers of the general work orientations of their employees. Subsequently, we explored their specific ratings of graduates of Pontiac schools. Each of these data sets sheds some light on the state of vocational education in the Pontiac area. Employer perceptions, we argue, set a context in which hiring decisions are made. By understanding better this context, program decisions can be made which maximize

the strengths of the program in an employment situation. For example, employers complained of a lack of concern for impressions. Awareness of this complaint can be translated into attempts by placement officers to sensitize applicants to avoid seeming unconcerned. Possibly, aspects may be added to the vocational education program which train students in these skills more systematically. Our data merely have isolated a potential need.

More specifically, we have collected employer ratings on certain characteristics of Pontiac graduates. Here again, our data reveal possible directions for program modification or development. Although employers appeared generally favorable to our graduates, a fairly large minority claimed that former students from Pontiac paid less attention to their personal appearance than the average worker. Lessons on grooming and dress can be expanded and made available to more students. This finding may have programmatic implications in and of itself.

There is, however, another level of concern which we can address in our data. The examples presented above illustrate a possible relationship between the general assessments of employees and the specific ratings of graduates. In this instance, personal appearance is an important component of a good impression. If an applicant arrives for a job interview looking unkempt and disheveled, the employer may infer understandably

that the individual is not really interested in gaining employment. More seriously, if the employer happens to believe that most "young people" really do not want to work hard, his opinion of the entire program may be damaged because the schools have not imparted a basic value for work. The correspondence between his prejudice and the evidence of the encounter with a Pontiac graduate may make him reluctant to have further dealings with our graduates. This reluctance may reduce placement opportunities for our graduates. We were concerned with the tendency of employers to judge former students in terms of their more general appraisals of the labor force. In order to estimate the correspondence between the specific ratings of graduates' and employers' orientations, we computed Pearson product moment correlations between the two sets of employer responses. By coding agreement with the value statements as "1" and disagreement as "0", we were able to determine the association of specific ratings with more general work orientations. We shall discuss these relationships in this section. Four of the eight items discussed under the general orientations to work section will not be included here. These items are: understanding what the employer says; getting along with other workers as a hiring criterion; schools' teaching of the basic value of work; and, work attitude and performance. For each of these items, there is so little disagreement among respondents that calculation of a correlation statistic

is meaningless. No matter what other ratings employers make, they are likely to agree on these four items. At a general level, they are part of any employer context.

Employers who view youth as usually unresponsive, tend to rate Pontiac graduates negatively on six of the eight possible areas. First, if an employer thinks "young people today don't know how to talk to adults and learn from them", he also tends to think that graduates do not always try "to do a good job at work" (r=-.46, P .001).[1] Second, this employer also is critical of the personal appearance of graduates (r=-.41, P .001). Third, we see Pontiac graduates less prepared for the jobs they are hired for (r=-.27, P .03). Fourth, he is more likely to be critical of the promptness and attendance of former Pontiac students (r=-.24, P .04). Fifth, he does not think graduates get along well with supervisors and other workers (r=-.24, P .04). And, finally, an employer who thinks that graduates do not "make sense" in what they say (r=-.17, P .10). Consequently, it seems that negative ratings of Pontiac graduates on almost every dimension are related to a general distrust for young people. Almost regardless of the individual graduate and his/her performance, negative ratings seem to result. A possible implication from this pattern is

[1] The negative sign indicates that the relationship between the items is reversed, that is, when an individual is "high: on one, he is "low" on the other. In this case, agreement is "high" for the value statement; "better than average" is "high" for the ratings of graduates. For these correlations, a probability value less than .1 will be considered reportable since our interest is to point up possible patterns and not to test hypotheses.

that the program may have to endeavor to change this employer perception before more positive responses can be obtained. Also, if change is not likely, placement of students with such employers may yield a self-fulfilling prophecy to the detriment of the vocational education program and to the individuals placed. These speculations go beyond the data we have available, but the data do suggest benefit from a closer scrutiny of the occupational beliefs of employers.

Another occupational belief item which associates with graduate ratings is the belief that school attendance predicts work attendance. Employers who see this relationship are more likely to criticize the dress habits of Pontiac graduates (r=-.30, P .01), to find fault with their attendance at work (r=-.28, P .02), and to question their commitment to doing "a good job at work" (r=-.24, P .04). Attendance seems to be an indicator of a commitment to the job. As we saw above, employers attach considerable importance to a basic work ethic. For those who see the connection between school performance and job performance, graduates seem to rate rather poorly in comparison to average workers.

The two final belief items can be discussed more briefly. Employers who believe it is getting harder to find good employees are slightly more likely to rate Pontiac graduates negatively on their trying to do a "good job of work" (r=-.17, P .10). None of the ratings is associated with the belief that young people do not

strive to make a good impression.

We find some suggestive evidence that employers seem to base judgements of individuals and programs on occupational beliefs. Further exploration of particular ratings of particular individuals is necessary to document the systematic exercise of prejudice on the part of any employer. Moreover, the pattern of association should serve as an indicator of potential danger. The long-term success of vocational education programs depends upon a good reputation among the clients for its products, potential employers. What our data suggest is the possibility that certain beliefs preclude establishing a good reputation.

SPECIFIC TRAINING AND RATINGS OF GRADUATES.

Several items outlining the beliefs of employers about specific training experiences were described. In this section we describe the relationships between these belief items and ratings of graduates of Pontiac schools. Our intention is to explore patterns between the beliefs of employers and ratings of graduates.

Most unfavorable ratings of Pontiac graduates are associated with the employer belief that "high schools aren't really able to teach people to do most jobs". Those employers who suspect the efficiency of high school training rate graduates lower on their interest in doing a "good job at work" (r=-.41, P .002). They are less likely to think that graduates "make sense" in what they say (r=-.35, P .007) or use "good sense in

making decisions on the job" (r=-.27, P .03). Finally, questioning employers are critical of graduates' ability to "read, write and do the math necessary for the job" (r=-.23, P .05) and find former students less well prepared for jobs than average workers (r=-.22, P .07). It seems that employers who doubt the applicability of high school training to real life job practice find substantial justification for their doubts among graduates of Pontiac schools.

A similar pattern appears among employers who seem unfavorable to high school vocational education programs on belief items. Employers who think schools do not teach students about "the real world of work" are more likely to rate Pontiac graduates negatively in terms of entry level job skills (r=-.32, P .02) and work commitment (r=.19, P .09). Businessmen who believe schools should concentrate on basics and leave work skills to the employer also are critical of the work commitment of graduates (r=-.20, P .06). Finally, preference for experienced workers over recent graduates is associated under negative ratings of personal appearance (r=-.21, P .07). Not all employer beliefs are negative, however. Several of the belief items reflect positive attitudes toward the ability of school programs to prepare students for the world of work. Endorsing compulsory work experience programs for all students is associated under negative ratings of graduates on three items: personal appearance (r=-.29, P .01);

job skills at time of entry (r=-.30, P .02); and, commitment to doing a good job (r=-.27, P .02). We suggest that these associations reflect the advantages of "hands-on" experience discussed above. Students who have benefited from actual placement are exposed to situations where these criteria are demonstrated. Their exposure may develop in them behaviors which meet employer expectations. We would expect employers who favor work experience programs for all students to rate graduates having work experience higher than those without it. Our data do not allow us to test this hypothesis.

Employers who endorse positively the value of vocational education programs for training people to work in their firms, are more likely to view graduates of Pontiac positively. If an employer believes vocational education graduates are prepared to work for him, he is more likely to rate positively the entry level skill of former students (r=-.48, P .001) and to find their basic skills at an acceptable level for the required work (r=.37, P .006). Likewise, employers who believe that vocational education graduates are competitive with experienced applicants also rate the reading, writing and math abilities of former students as acceptable (r=.24, P .04). For those employers who are favorably disposed toward high school vocational education programs, Pontiac graduates do not seem to be a disappointment.

Finally, the position which employers take in regard

to training new employees is reflected in their ratings of the skills of graduates. Those hirers who are willing to train new employees are more likely to rate the entry level skills of graduates positively (r=.22, P .07). This positive rating may result from the experience of successful training of graduates or lower expectations of the skills w ich new employees should possess. We cannot address this issue with our data. However, we note that even those employers who say training is too costly rate the basic skills of Pontiac graduates as better than average (r=.9, P .08) while criticizing their personal appearance (r=-.29, P .01). We suggest the possibility that those who actually train new employees may be in a unique position to evaluate Pontiac graduates. Further research is needed with this employer group to specify whether new employees with vocational education are more trainable than those without such training.

Overall Ratings of Pontiac Vocational Education:

Toward the middle of the questionnaire, after employers had rated Pontiac graduates on the list of specific skills, we asked for an overall rating of effectiveness of Pontiac school programs "in preparing people for work", (See Table 30). Local employers had a generally favorable response to the work of the schools. Almost one-in-ten (8 percent) of all employers rated the job the schools do as "very good". Over three-quarters (79 percent) stated they did a "fair job" and twelve percent rated the job as "poor". Employers involved in work experience

programs were likely to be both more favorable and less favorable than non-cooperating businessmen. However, these differences are not large enough to rule out chance with the small numbers. Generally, it seems that, although local employers rate schools as doing an acceptable job, relatively few offer high praise.

CONCLUSION.

In this chapter we began by noting that most employers saw Pontiac as providing them with a sufficient number of competent workers. We pursued the occupational beliefs of local employers, so that we would be able to determine the schools' role in preparing competent workers for the labor force. Employers seem to be agreed on what constitutes a desirable general orientation toward work among their employees. Workers should appreciate the value of their jobs and demonstrate their appreciation by getting along with their bosses and co-workers, and by avoiding absenteeism and tardiness. In regard to training experiences, employers indicated their support for vocational education. These programs are based in real world skills which are of direct value to the employer. When rating the specific skills of Pontiac graduates, most employers saw former students as about average in levels of performance. We found some evidence that the beliefs of employers in different areas may influence their ratings of graduates. Overall, however, employers appeared to be favorable toward Pontiac graduates.

The implications of these data involve considerations of the level of support for school programs and techniques for increasing employer cooperation. Very few employers seemed willing to offer strong endorsements for Pontiac graduates. Program planners must evaluate the moderate level of support as it relates to the maintenance and development of field placements and job placements after graduation. If attempts are to be made for increasing employer cooperation, attention must be paid to the importance of employer beliefs in worker evaluations and hiring decisions. Aspects of vocational programs, which address these beliefs, may be highlighted or added. Program strengths in important areas must be stressed in approaches to employers. Specific evaluations by cooperating employers will be described in the next chapter.

CHAPTER III

WORK EXPERIENCE EMPLOYERS: EVALUATIONS OF HIGH SCHOOL PROGRAMS

INTRODUCTION.

The Pontiac School District offers a variety of vocational education programs. The last section of the questionnaire was designed specifically for employers whose companies participated in work experience programs through the Pontiac Schools. This chapter will present the responses of cooperating employers to specific evaluations of work education programs. We will begin by presenting the extent of involvement which all employers report with vocational programs in the Pontiac Schools.

PLACEMENT SERVICES.

The schools provide an organized placement service which attempt to locate jobs for interested students. This service is the official representative of the school system with the employer community.

A fair number of employers report using "the placement services of the Pontiac Schools to locate new employees", (See Table 31). Almost a third (32 percent) reported using the placement services; two-fifths (41 percent) said they had not used the Schools to find new employees; and more than one-fourth (28 percent) did not answer the question. Generally, one employer in

three of our respondents looked to the school as a source for needed manpower. Those who had used the placement services were then asked how "helpful" these services were. Over two-fifths (44 percent) stated they were "very helpful"; fully one-half (50 percent) said placement services were at least "somewhat helpful"; and only about one-in-twenty (6 percent) said the services were "not helpful at all", (See Table 32). The overwhelming majority of the clients of the services seemed satisfied with the results.

This pattern suggests that more exploration is needed into the function and visibility of placement services among the employer community. Since those who did use the services were generally pleased but constituted only a third of employers, perhaps increasing the amount of usage would produce more jobs for graduates. At this point, the suggestion is only tentative because we are unable to trace in any detail the reasons why most employers did not report using placement services, the exact nature of the employer uses, and the relationship between using the services and actual hiring. These questions may constitute areas for further investigation.

Employer Cooperation with Vocational Programs in the Pontiac Schools.

In this section we will report on employers' participation in the various vocationally related programs sponsored by the Pontiac Schools. Three-fifths (60 percent) of our respondents reported participating in at least

one of the activities listed below, (See Table 33).

COOPERATIVE EDUCATION (Co-op)

Students in Cooperative Education (Co-op) programs divide their school day between school attendance and work at a job. This job placement is supervised both by their employer and a school employed Co-op coordinator. Students are required to be enrolled in classroom courses which are related to on-the-job placements, and they receive school credit for the work experience. Over half of the responding employers (53 percent) stated that they had participated in the Co-op program. Their specific evaluations of various aspects of Co-op programs will be presented below. Here we note that most of our respondents are Co-op employers.

PONTIAC ADULT-STUDENT LEARNING SYSTEMS (PALS)

Students in the Pontiac Adult-Student Learning System (PALS) receive ten weeks of training in the employability skills of career awareness and exploration, career planning and decision-making, and interpersonal relations. After this training, they are placed in work internships without pay for ten additional weeks. Participating employers provide the opportunity for these interns to develop an orientation to a real work environment, to test out in a practical setting their classroom skills, and to reexamine their career options on the basis of experience before leaving school. The fact that PALS is a newer program than Co-op, is reflected in the fact that fewer than one employer in ten (9 percent) reported participating

in PALS.

NORTHEAST OAKLAND VOCATIONAL EDUCATION CENTER (NEOVEC)

Students in the Pontiac Schools may attend the nearby county vocational education center, the Northeast Oakland Vocational Education Center (NEOVEC). Students spend one-half of each school day for two years receiving instruction in the skills of a specific occupation, and, whenever possible, are placed in a community work setting during the latter part of the two-year training period. About one-fifth (19 percent) of our respondents reported cooperating with NEOVEC.

PROJECT GROWTH

Project Growth accepts high school drop-outs or adults needing job training. These students attend NEOVEC during the late afternoon and evening hours for instruction in job skills. In addition, they receive job placement assistance from Project Growth's own placement service. Fewer than one employer in twenty (4 percent) reported any experience with Project Growth.

VOCATIONAL ADJUSTMENT PROGRAM

Students who have physical, emotional or mental handicaps may attend NEOVEC through the Vocational Adjustment Program. There they receive instruction in job skills tailored to their abilities. Assistance is available to them in obtaining employment after training is completed. Only seven percent of employers report participation in the Vocational Adjustment Program.

MISCELLANEOUS EMPLOYER ACTIVITIES

Ten percent of our respondents reported participation in other work education experiences. These experiences would include employer services to the schools, such as career education field trips and role modeling, service on occupational advisory committees, and community awareness experiences for teachers and counselors.

Any employer who participated in at least one of the activities described above was asked to complete a series of questions which specifically addressed components of work experience programs. Their evaluations are presented below.

RATINGS OF SPECIFIC ASPECTS OF WORK EXPERIENCE PROGRAMS.

As our descriptions above indicate, the success of any work experience program depends upon employer support for and cooperation with the school personnel. Cooperating employers were asked to rate their satisfaction with particular aspects of the work experience programs. We present their evaluations in order of employer satisfaction, (See Tables 34 to 41).

AMOUNT OF STUDENT TIME AVAILABLE

Almost all (96 percent) of employers expressing an opinion said they were satisfied with the "amount of time students are available". Only four percent stated they were dissatisfied. As far as most employers are concerned, the availability of students is not a problem.

MATCHING OF STUDENTS WITH JOBS

Four-fifths (81 percent) of the employers said that work education programs did a satisfactory job of placing students in jobs that were right for them. About one-in-twenty (6 percent) found the matching process unsatisfactory. Slightly more than one-in-ten (12 percent) had no opinion. A clear majority of employers, then, rate favorably the schools' selection of students for placement.

STUDENT PRODUCTIVITY

Most students live up to employer expectations of how much they should do at work. Four-fifths (81 percent) were satisfied with student productivity. Almost three-in-twenty (13 percent) expressed dissatisfaction, and six percent had no opinion.

GRADING SYSTEM FOR STUDENTS

A majority of employers found the evaluation procedures for students acceptable. Over three-fourths (77 percent) said the grading system was satisfactory. Almost one-fifth (17 percent) were dissatisfied with grades. Six percent did not know enough about the grading system to give an opinion.

STUDENT WORK HABITS

In the important area of student work habits, the majority (74 percent) of employers thought work experience programs were doing a satisfactory job of training students in appropriate work habits. One-fifth (20 percent) found student work habits unsatisfactory, and six percent had no opinion.

SUPPORT FROM SCHOOL COORDINATORS

The crucial liaison function between the employer and the school is served by the Coordinator. This person is the school's official representative to the employer. A large majority (72 percent) of employers found these coordinators doing an acceptable job. Barely one-in-ten (11 percent) stated they were dissatisfied with coordinators. Reflecting perhaps a variety of the employer relationships that do not require coordinators, almost one-fifth (17 percent) stated that they had no opinion.

ON-SITE VISITS BY COORDINATORS

A major responsibility of the school coordinator is to visit the work site where the student is placed to determine the quality of the work situation and to get

direct response from the employer about student performance. Slightly more than half (54 percent) of the employers expressed satisfaction about on-site visits. However, only about one-fifth (22 percent) stated they were dissatisfied. Almost one quarter (24 percent) expressed no opinion. We suspect this relatively high proportion of "don't knows" reflects the fact that on-site visits are not appropriate for many kinds of employer contact with the schools.

EMPLOYER-COORDINATOR PLANNING

Mutual feedback between school and employers is desirable in developing meaningful placement experiences for youth. Only about half (52 percent) of cooperating employers were satisfied with the extent of planning with the coordinator. However, again we found a relatively high proportion of employers who expressed no opinion (26 percent) and only one-fifth (21 percent) who were actually dissatisfied.

In summary, employers in companies which have participated in work experience programs were quite satisfied with particular aspects of these programs. On every item rated, at least half of the employers stated their satisfaction and on all but two issues, on-site visits and employer-coordinator planning, three-fourths or more expressed approval. Before we attempt to interpret the relatively lower levels of satisfaction of employers on items dealing with coordinators, we note that many employers simply have no opinion about the

activity of coordinators. This absence of opinion is reasonable, since not all kinds of employer participation require contact with a coordinator. However, we would still suggest that coordinators play a valuable dissemination and public relations role for the schools in the community. It may be a matter of interest to determine in more detail the sources of dissatisfaction with coordinators. Such information may be useful in increasing the effectiveness of coordinators. Nonetheless, when employers were asked to give a global satisfaction rating of work experience programs, the overwhelming majority were satisfied. Two-fifths (40 percent) stated they were very satisfied and almost three-fifths (58 percent) were at least somewhat satisfied, (See Table 42). Hardly anyone (2 percent) stated they were dissatisfied with these programs. In short, the community of local employers expressed a strong wave of support based upon their experience with work education programs.

General Ratings of Work Experience Programs.

Employers who cooperate with work experience programs in the schools, are in a unique position in the community. They have direct knowledge of school programs, while having their feet firmly anchored in the real world for which schools must prepare students. Therefore, not only are their ratings of specific aspects of programs illuminating, but their perspective on the more general

issue of the relationship between employers and schools through work experience programs is also valuable. In the final section of the questionnaire, we posed a series of belief items addressed directly to our cooperating employers. The patterns of their beliefs about the role and importance of work experience in easing entry into the world of work for high school students are described below.

Most employers agreed that there are direct pay-offs to the students from participating in high school work experience programs. Almost all (92 percent) employers stated that "work education experience helps when students look for jobs", (See Table 50). No employer actually disagreed with the utility of work experience in job hunting, and only eight percent expressed no opinion. Additionally, many employers said that the way in which these work experience placements function, to assist in job seeking, is to enable the student to be directly incorporated into the job where he is placed. Four-fifths (81 percent) claimed that in their firms "many work education students are kept on for full-time jobs", (See Table 51). Again we found almost no disagreement (2 percent), but almost one-fifth (17 percent) declined to state an opinion. From their responses, we suspect that work experience placement functions to enable students to get their feet in doors that otherwise would remain shut. Through a mechanism which makes employing students acceptable to employers, students get both specific experience in a particular job which yields subsequent

full-time employment and more general job sensitization, which can be demonstrated in future employment seeking. Most employers who have experience with students in work experience programs, will point out the benefits to students.

All the benefits of these programs are not reserved for the students, however. Employers see both minimal acts and observable rewards to them for participating in work experience programs with the schools. Only ten percent of the employers believe "it costs employers too much to participate in Co-op programs", (See Table 46). Almost three-quarters (73 percent) dismiss the cost agrument. Almost one-fifth (17 percent) avoid answering. Moreover, relatively few employers (14 percent) thought that "being a work education employer doesn't help (the) business at all", (See Table 52). A large majority (69 percent) disagreed, apparently because hiring co-op students was helpful to their firms. More positively, over half (56 percent) stated that "hiring work education students helps a business's public image", (See Table 48). About one-fifth (21 percent) did not see any public image impact, and about one-quarter (23 percent) expressed no opinion. Moreover, many employers (58 percent) believed that "graduates of work education programs are better prepared than are other new employees", (See Table 44). About three-in-twenty (15 percent) disagreed and a quarter (27 percent) had too little information. Therefore, at acceptable cost levels,

employers can generate a more capable pool of employees while garnering good public relations in the community. Employers are aware of the importance of their input into the design and implementation of effective work experience programs. Over half (52 percent) of employers would like "more say in planning and teaching work education courses in the schools", (See Table 47). Although almost a third (31 percent) did not want more direct participation and about a fifth (17 percent) had no opinion, a fairly large proportion of cooperating employers expressed the desire for more direct impact. This response may be related to the relatively low levels of satisfaction with the employer-school relationship aspects of specific programs described above. Program planners may do well to attempt to determine in more detail the cause of employer discontent. Increased efforts to incorporate employer input may yield even higher rates of cooperation, more work placements, and, ultimately, more and better jobs for students.

Businessmen who have participated in work experience programs generally expressed high levels of support for the programs. Evidence of this support can be seen in the final three items to be described. Employers endorsed more work education programs. Three-quarters (77 percent) agreed there should be more programs; only about one-in-ten (8 percent) disagreed; fifteen percent had no opinion, (See Table 43). Not only should there be more work experience programs, but they believe that

"more Pontiac employers should hire co-op students", (See Table 45). Four-fifths (79 percent) of the respondents recommended that other employers hire co-op students. Very few (6 percent) disagreed with the suggestion, and fifteen percent chose not to respond. It seems, then, that employers see the need for more students trained through work experience and believe that students so trained should be absorbed into additional companies.

If there is such strong support, we might ask why co-op programs continue to experience difficulty in generating work placements, and placement programs experience problems in locating jobs for graduates? Employers suggested that part of the problem may be related to a failure to make the programs well known. Three-fifths (60 percent) of employers said that "most people around here don't know about work education programs", (See Table 49). Only about one-fifth (17 percent) did not think there was a lack of information, and about a quarter (23 percent) gave no opinion. Generally, though, employers seemed to think that there was not enough information available about work experience programs. Planners in the vocational area may want to address the issue of better publicity for work experience programs to meet this need.

SUMMARY AND CONCLUSIONS.

In this chapter, we have described the reactions of employers who participate in work experience programs to

particular aspects of Pontiac work experience programs and to the general notion of work experience in high schools. There are very high levels of endorsement for the amount of students' time available, student productivity, work habits, grading systems, and coordinator support. Less strong endorsement appeared for coordinators' on-site visits and planning with coordinators. More generally, these employers saw direct payoffs to both employers and students from participation in work experience programs. Students get increased opportunities for actual hiring into current placements or for better job hunting skills. At low costs, employers get better trained employees and the benefit of a good public image. Employers, however, expressed a desire for more direct impact in providing training to students. Nonetheless, cooperating businessmen recommended expanding programs and thought more of their colleagues should hire the products of these programs. More attention could be directed toward disseminating information about these programs so that the number of placements might be increased.

CHAPTER IV

EMPLOYER INTERVIEWS

In order to supplement the structured form of the mailed survey, the DOES "Survey of Employers" questionnaire was followed by personal interviews of a selected group of employers. Rather than to interview a large number of employers, the intent was to reach a small number and offer them the opportunity to respond spontaneously. This section will report information gained during these interviews.

Each employer who was to be interviewed, was notified in advance and asked to consider these four areas: the academic skills necessary to work effectively, job performance skills which students might acquire in school, attitudes of young workers, and recommendations for school programs, including cooperative education which seeks to increase the work preparedness of students. Emphasis was placed on the fact that interviews need not be limited to the specified areas. To encourage employers to be spontaneous, no formal interview format was used. Generally, those persons interviewed held administrative positions and were at least partially responsible for hiring and supervision. Fourteen employers were interviewed; ten of them had been involved in cooperative education programs. Large, medium, and small businesses were represented.

Cooperative Education and PALS as Preparation for Work

A major goal of the interview process was to obtain employer evaluations of the basic concepts of the Cooperative Education Program and the Pontiac Adult-Student Learning System (PALS). Although DOES staff interviewers avoided a structured question-and-answer approach, they did ask employers to react to a description of the basic goals of the two programs.

The Pontiac Adult-Student Learning System (PALS), is a complement to the cooperative education program, in that its goals are to provide a student with career development experiences and to enable him to make appropriate career choices. The co-op student receives related classroom instruction and on-the-job training to prepare for entry into a particular job or occupation and may continue in a co-op job assignment for as many as four school semesters. The PALS students participate in a ten week program of instruction and exploration, followed by a ten week internship in a local work setting. PALS' distinguishing training features are: training in the skills of human relations, self and career exploration, decision making, and planning of individual programs leading to action. The internship is an exploration of a work setting supervised by an employee in that setting and is intended, not to train a student in a particular job, but to provide a broad knowledge of needs and characteristics of the location.

Employers who had experience with the two programs

generally rated Co-op students and PALS interns as good workers who were interested in learning and becoming productive. All employers who had had contact with cooperative education, regarded it as an important contributor to the work readiness of youth. One out of every two employers considered the Co-op student as a potential employee. Critical comments were qualified as intended to improve a basically strong program.

Work Values of Young Employees

Employer comments had a tendency to extend beyond the Cooperative Education Programs and encompass youth in general as they enter the work force. Of the fourteen employers interviewed, three were completely positive regarding the values and attitudes of new young employees. Only one was totally negative. The remaining expressed a variety of concerns relating to attitudes which hinder the performance of the youthful worker. Strong emphasis was placed upon interest in the job. Workers must have some interest in their assigned jobs, and derive satisfaction from "a job well done". Dissatisfied employers felt the jobs were viewed with a "what can I get?" rather than a "what can I give?" attitude. Four employers felt that students held unrealistic expectations relating to economic and material gains, wanting high wages and expensive goods immediately. Honesty, integrity, and company loyalty were cited by several employers as weak qualities in new employees. Some employers felt that young people

are unable to accept criticism or cope with obstacles and failures. Those employers who were dissatisfied made several suggestions. They felt that students should be encouraged to believe that all jobs are important. Additionally, they cited a need for increased valuing among young workers of courtesy, interpersonal relations, and to dress appropriate to the work place.

The Role of the Schools in Preparing Students for Work

Responses to inquiries regarding the school's role in work preparation were divided. Four of the fourteen interviewees saw their new employees as well prepared and felt the school had provided adequate preparation. Those remaining expressed concerns relating to basic skills. Reading, mathematics and communication skills (written and spoken) were viewed as areas of deficiency. Employers felt that academic skills ought to be taught in an applied manner, particularly as the skills relate to work performance. Divisions of General Motors specifically recommended reviving and strengthening engineering drafting programs, which have waned in popularity in recent years. Two major inadequacies of the youth population, as perceived by some employers, are the apparent lack of incentive to seek employment and ignorance of their own skills and job interests. Several employers felt the school should and can prepare students in the skills of self-knowledge, job awareness, and work activities. Frequent employer

suggestions were: provide work experience for all students, use business and industry representatives as role models in the classroom as well as on the job, involve teachers and counselors in work observation and experience in local industry and business, introduce career education at early grade levels, and involve employers in school program planning.

Representative Responses of Individual Employers

The remaining portion of this section presents in vignette form several of the actual interviews. An attempt is made to describe the employment site without disclosing the actual business. Pseudonyms are used in place of the interviewees' real name.

Al Kowalski is owner/manager of a real estate company. Al is a graduate of the Pontiac School System. He employs a secretary and a sales staff which includes recent high school graduates. Mr. Kowalski regards cooperative education as one of the best forms of work training for youth. Although he is not at this time involved with school programs, he has had extensive exposure to them in the past. He supported strongly the PALS program when it was presented to him. In particular, he felt the decision-making component was especially important. He strongly criticized Pontiac Schools' preparation of youth for work, and the work values and attitudes of the youthful worker. Concern was voiced that graduates are weak in reading, spelling, and general academic skills.

They lack basic skills in mathematics and are unable to figure even simple interest rates. English classes are isolated units, and the written and spoken English competencies do not carry over to other classes. He suggested that the schools get back to basic skills of "reading, writing, and plain figuring". Emphasis was placed on improving communication and problem solving skills. He perceived the schools as being inconsistent in programs from one school to another, citing the students' need for consistent and sequenced programs. He strongly urged the school to maintain high standards, providing weak students with special help rather than lowering expectations. He viewed the youthful worker as having unrealistic expectations, wanting to "take", not "give", and being concerned with "driving that big car". He insisted that teachers make learning interesting. This employer would appear to view the road to employability as being paved by cooperative efforts, notably, student change in attitudes, and up-grading of school curriculum.

Sally Yonex is one of the persons involved with co-op students in a health care setting. Students are involved in a non-skilled care type unit and most frequently do clerical work. Although the co-op student or PALS intern is not usually involved in patient care, many opportunities exist for observational learning. She felt that any student could acquire sufficient skills and knowledge to be a potential full-time employee.

Ms. Yonex stressed these qualities as characteristics of a good worker: a good record of attendance and promptness, apparent interest in the job, the ability to follow directions, the ability to project a positive self image, willingness to "look" for work to do, and good interpersonal skills. Considering those students with whom she had been involved, she found most possessed adequate clerical skills, were interested in their work, and in general were productive workers. Attendance and promptness were good. General office routine was well handled, although many were weak in telephone communication skills. A definite handicap existed in their abilities to project a positive self image. The student who was excessively shy was often perceived to be disinterested. As a final comment she strongly supported the PALS concept and viewed it as a good approach to helping students make vocational decisions. Sally apparently had rather positive experiences with cooperative education students, but like many others, she voiced concern regarding their lack of important basic skills.

Jim Barkley is co-owner and personnel manager of a small plastics supply company. The company employs approximately twenty people. Jim stressed the importance of first impressions, stating that many employers took great notice of personal appearance and would not hire unkempt unclean persons in spite of their qualifications. This employer felt the ability to get along with co-workers was as a prerequisite. He cited the need for a "give" as

well as a "take" attitude and the willingness to give "a little extra". He felt that most employers want two-way communication. Employees must be able to communicate with their employers, but they must realize that decisions rest with management. He described good employees as being able to: express themselves verbally, show respect for management, have emotional control, get along with fellow workers, have a good attitude toward the job, and "give a day's work for a day's pay". He suggested that schools encourage development of: communication skills, both speaking and writing; employability skills, in interviewing and job seeking and skills in goal setting and achievement; and, appropriate work attitudes and basic skills. Jim holds strong views on what an employer looks for in an employee. He takes the personal approach as exemplified by his statement, "fit the person to the job, not the job to the person." Equally strong is his feeling that schools can encourage the development of many of the necessary skills.

Sam Altman is personnel director for a large engineering firm, and is responsible for interviewing all new employees. He felt that schools and employers must work together, and that neither had been cooperative in the past. He advocated employers as role models, resource people and employers of work education students. Mr. Altman voiced strong support for the PALS philosophy and program, and felt that the program could benefit any person entering any field. He urged that work experience

be provided for all students. He encouraged schools to develop mini-courses in the areas of math, English, and communication geared to specific job fields, and felt that employers could be of great help in setting up these kinds of programs. In the manner of other employers, Mr. Altman expressed concern for unrealistic expectations of youthful employees. He perceived them as unable to accept failures, or surmount obstacles in their paths. He viewed the young worker as unable to set goals and develop plans to achieve them. He had found most young job applicants difficult to interview. They frequently lacked knowledge of the job for which they were applying. In addition, they appeared to lack interest in any particular area. Although most of his company's hirees are "specialists" which must be "imported", a training program does exist. An applicant with a strong interest in learning and good attitudes toward work in general would certainly be considered, even though he lacked specific skills. Sam would institute career classes which give students practical information such as how and where to get job information. This gentleman voiced strong support for cooperative efforts between education and business personnel. In addition, he echoed other employers in their concern for increased student responsibility and a reorientation of job expectations.

John Walsh manages a retail food store. In addition, he hires and fires employees, interviews job applicants, and supervises co-op students. He perceived the school

as being able to teach many skills, but felt that job skills could be provided only by company or trade schools. Mr. Walsh stated, "The co-op program is a ready made employment agency," but urged careful screening, since most employers do not want to bother with the student whose sole interest is money. John would support strongly a school-run retail store which involves students in all aspects of the business. He would include overall management operations, ordering, selling, inventorying, stocking, customer relations, profit and loss, and bookkeeping. He looked upon small businesses and companies as needing to operate as a "family" of versatile members rather than a group of specialists. This employer, like many others, emphasized the importance of first impressions, seeking in new employees cleanliness, neatness, and interest in getting a job. Perseverance, on this employer's list of admirable qualities, ranked high. Average intelligence, strong basic skills, and the ability to talk with customers were equally important. He was concerned that schools are giving students adequate training in math, communication, and grammar. He would like to see applicants be more aware of jobs available, and, in particular, to have some prior knowledge of the jobs they seek. John viewed the acquiring of work skills as a process which should occur on the job. His feelings about the schools are somewhat negative, as indicated by his concern for basic skill deficiencies.

Summary

Employer interviews provided information pertaining to what employers perceive as important qualities of new employees, the school's role in developing these qualities, and suggestions about methods the schools might use. Most employers supported the concepts of cooperative education and PALS. Many were willing to be active participants. Criticism was offered in a constructive manner, designed to strengthen a basically sound program. Comments relating to youth were generalized to include all young workers and not leveled at specific individuals. Employers want employees with strong basic skills. They must be able to read, figure, and communicate well in writing and speech. Concern was voiced for youths' lack of incentive, and self-knowledge, as well as for their apparent unrealistic expectations for high pay, promotion, and material possessions. Employers viewed the schools as the appropriate place to gain skills in all of these areas. They offered suggestions, and expressed a willingness to involve themselves in program planning. Implications from the consolidation of employer responses indicate strong support for cooperative education programs. In addition, we perceive an obvious willingness on the part of employers to be a part of the planning and development of these programs, suggesting a veritable weaith of talent as well as manpower which might be utilized by the schools.

Appendix A

SCHOOL DISTRICT CITY OF PONTIAC

DEPARTMENT OF RESEARCH & EVALUATION

44 STATE STREET PONTIAC, MICHIGAN 48053 Phone: 857-8328

DANA P. WHITMER, SUPERINTENDENT

May 8, 1975

Dear Pontiac Area Employer:

The Pontiac School District is evaluating its vocational education program to determine how well it serves the needs of its students and local area employers and to find out ways of improving our service. As part of this evaluation we are contacting employers who have hired former students of Pontiac Schools. Your company was selected from lists of such employers.

We are asking you to tell us some things about Pontiac students in general and, if you have participated in any work experience programs sponsored by the Pontiac Schools, to share your opinions about those programs.

You need not identify yourself by name. However, so that we will be able to maintain a record of completed and returned forms, we ask that you fill out the enclosed postcard. Drop the card in the mail separately from your questionnaire. In that way we will know that your company has been able to answer our questionnaire without attaching your name to the response.

If you have questions regarding the questionnaire, please contact any member of the staff. Thank you for the courteous and prompt response to our request. Your cooperation will aid in the success of this project.

Sincerely yours,

Jean Rosenthal

Jean Rosenthal

Stuart Packard

Stuart Packard

Tom Shara

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Sincerely yours,

Jean Rosenthal

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Tom Shara

Tom Shara

SURVEY OF EMPLOYERS
SCHOOL DISTRICT CITY OF PONTIAC

SECTION I: FOR ALL EMPLOYERS

BEGIN DECK I

1. What is the name of your business or company?

_____ 1-3/
(WRITE NAME OF BUSINESS)

2. What is your job title with this company?

_____ 4-5/
(WRITE YOUR JOB TITLE)

3. Please describe briefly the product(s) or service(s) which your company provides.

_____ 6-7/

_____ 8-9/

_____ 10-11/

4. How many persons does your company currently employ?

_____ 12-14/
(NUMBER OF EMPLOYEES)

5. In general, how would you describe the employment market in Pontiac-would you say there are more than enough competent people to meet your employment needs, just about enough people who are competent, or too few people who are able to do the work you need done?

More than enough 1 15/

Just about enough 2

Too few 3

I'm not sure 4

6. Here are some comments which employers make about people they hire. Please indicate whether you agree or disagree with these statements.

	I'd agree with that	I'd disagree with that	I'm not sure	
A. It is the company's responsibility to train employees to do the jobs they are hired for.	1	2	3	16/
B. A person who has worked at a job before is a better employee that someone who has just finished school.	1	2	3	17/
C. It is pretty important for an employee to be able to get straight what his boss is talking about.	1	2	3	18/
D. I don't care how a person feels about work as long as he does his job.	1	2	3	19/
E. High school vocational education does a good job in preparing people to work for my firm.	1	2	3	20/
F. Schools don't do much in the way of teaching kids about the real world of work.	1	2	3	21/
G. Schools should concentrate on the three R's and leave work skills to the employer.	1	2	3	22/
H. A good training course in high school is as good as previous experience in preparing people for jobs.	1	2	3	23/
I. Young people today don't try to make a good impression when they look for jobs.	1	2	3	24/
J. All students should be required to have some actual work experience before they graduate from high school.	1	2	3	25/
K. It is too costly to train new employees for their jobs.	1	2	3	26/
L. Anybody I hire must be able to get along with other workers.	1	2	3	27/
M. Without good references employers are hesitant to hire new employees.	1	2	3	28/
N. High schools aren't really able to teach people how to do most jobs.	1	2	3	29/
O. Young people today don't know how to talk to adults and learn from them.	1	2	3	30/
P. The schools should teach students that it's important to have a good job and do it well.	1	2	3	31/
Q. It's getting harder to find new employees who are willing to work hard and do a good job.	1	2	3	32/
R. Unless kids learn to come to school everyday they will miss work whenever they feel like it.	1	2	3	33/

7. Below we have listed some characteristics which a good employee has. Please rate graduates of Pontiac schools on each of these characteristics. Would you say Pontiac graduates are better than your average worker, about as good as your average worker, or not quite as good as your average worker in each area?

	Better than average worker	About as good as average worker	Not quite as good as the average worker	I'm not sure	
A. can read, write and do the math necessary for the job.	1	2	3	4	34/
B. uses good sense in making decisions on the job.	1	2	3	4	35/
C. wears clothes which are right for the job.	1	2	3	4	36/
D. makes sense in what he says.	1	2	3	4	37/
E. gets along with supervisors and other workers.	1	2	3	4	38/
F. already knows how to do the job they are being hired for.	1	2	3	4	39/
G. always tries to do a good job at work.	1	2	3	4	40/
H. comes to work on time and is rarely absent.	1	2	3	4	41/

8. In general, how would you rate the job which the Pontiac Schools do in preparing people for work - would you say they do a very good job, a fair job or a poor job of training students?

Very good job 1 42/

Fair job. 2

Poor job. 3

9. Have you ever used the placement services of the Pontiac Schools to locate new employees?

Yes 1 43/

No 2

IF YES:

A. How would you rate those placement services-would you say they were very helpful to you, somewhat helpful, or not helpful at all?

Very helpful. 1 44/

Somewhat helpful. 2

Not helpful at all 3

10. While you were in school, did you take any vocational education courses?

Yes, I took many courses in vocational education, Co-Op, or industrial arts.	1	45/
Yes, I took some vocational, Co-Op, or industrial arts courses even though my program was General or College Prep.	2	
No, I did not take any vocational education, Co-Op, or industrial arts courses	3	

11. While you were in school, did you participate in any work education programs?

A. Cooperative Education (Co-Op)	1	46/
B. Work-Study Programs	2	
C. Apprenticeship.	3	
D. Other	4	

12. Has your company ever participated in any of the following work education programs?

	Yes	No	
A. Cooperative Education (Co-Op)	1	2	47/
B. Pontiac Adult-Student Learning System (PALS)	1	2	48/
C. North-East Oakland Vocational Center (NEOVEC)	1	2	49/
D. Project Growth	1	2	50/
E. Vocational Adjustment Program	1	2	51/
F. Other	1	2	52/

IF YES TO ANY OF THE ABOVE PROGRAMS:

Please complete the remainder of this questionnaire.

IF NO TO ALL OF THE ABOVE PROGRAMS:

Stop here. Do NOT complete the remainder of the questionnaire.
THANK YOU FOR YOUR COOPERATION.

SECTION II: FOR PAST AND PRESENT EMPLOYERS OF CO-OP AND WORK EDUCATION STUDENTS

13. The success of Co-Op or work education programs depends on these factors. How satisfied are you with each of these:

	Satisfied	Dis-satisfied	Do not know	
A. On site visits by coordinators	1	2	3	53/
B. Employer-coordinator planning	1	2	3	54/
C. Support from coordinators	1	2	3	55/
D. Amount of time students are available	1	2	3	56/
E. Grading system for students	1	2	3	57/
F. Matching of students with jobs	1	2	3	58/
G. Work habits of students	1	2	3	59/
H. Student productivity	1	2	3	60/

14. Please list below any advantages/disadvantages you feel work education programs have for employers.

Advantages		Disadvantages	
_____	61/	_____	64/
_____	62/	_____	65/
_____	63/	_____	66/

15. In general, how would you rate your company's experience with work education programs- would you say you were very satisfied, somewhat satisfied, or not at all satisfied with work education programs?

Very satisfied 1 67/

Somewhat satisfied 2

Not satisfied at all 3

16. Here are some statements about work education programs in the schools. Please indicate whether you agree or disagree with each comment.

	I'd agree with that	I'd disagree with that	I'm not sure	
A. There ought to be more work education programs.	1	2	3	68/
B. Graduates of work education programs are better workers than other new employees.	1	2	3	69/
C. More Pontiac employers should hire Co-Op students.	1	2	3	70/
D. It costs employers too much to participate in Co-Op programs.	1	2	3	71/
E. Employers should have more say in planning and teaching work education courses in the schools.	1	2	3	72/
F. Hiring work education students helps a business' public image.	1	2	3	73/
G. Most people around here don't know about work education programs.	1	2	3	74/
H. Work education experience helps when students look for jobs.	1	2	3	75/
I. Many work education students are kept on for full-time jobs.	1	2	3	76/
J. Being a work education employer doesn't help my business at all.	1	2	3	77/

78-80 Blk.
END
DECK I

THANK YOU FOR YOUR COOPERATION

COMMENTS: _____

_____

_____

_____

SCHOOL DISTRICT CITY OF PONTIAC

DEPARTMENT OF RESEARCH & EVALUATION

44 STATE STREET PONTIAC, MICHIGAN 48053 Phone: 857-8328

DANA P. WHITMER, SUPERINTENDENT

June 3, 1975

Dear Pontiac Area Employer:

Recently we sent you a "Survey of Employers" questionnaire. Many Pontiac area employers have returned the questionnaire, but we have not received a response from you.

You could provide information that will be useful in the improvement of the vocational-cooperative education program (co-op). We need to know your ideas to better the relations between employers and the high schools.

Please return the enclosed questionnaire. It will take about fifteen minutes.

We are depending upon your participation. Thank you for cooperating.

Sincerely,

Stuart Packard

Stuart Packard

Jean Rosenthal

Jean Rosenthal

Tom Shara

Tom Shara

SCHOOL DISTRICT CITY OF PONTIAC

DEPARTMENT OF RESEARCH & EVALUATION

44 STATE STREET PONTIAC, MICHIGAN 48053 Phone 857-8328

DANA P. WHITMER, SUPERINTENDENT

June 6, 1975

Dear

May I personally and professionally extend my appreciation for the opportunity to have talked with you about work education programs, employee characteristics, and our school performance.

Not only was the interview enjoyable but your opinions will add much needed information to our evaluation summary. We are currently in the process of combining questionnaire results and interview information.

Again, thank you for your assistance. I look forward to further opportunities to work with you.

Sincerely,

Tom Shara

Tom Shara

PONTIAC MOTOR DIVISION GENERAL MOTORS CORPORATION PONTIAC MICHIGAN 48053

July 1, 1975

Mr. Stuart Packard
Department of Research and Evaluation
City of Pontiac School District
44 State Street
Pontiac, MI 48053

Dear Mr. Packard:

Thank you for your letter advising us of the status of the evaluation of student work experiences which you are conducting. We are very interested in you sharing your findings with us upon completion of your report.

Please contact us at 857-0761 when your evaluation is completed.

Sincerely,

James P. Morrison

James P. Morrison
Supervisor
Cooperative Education Programs

JPM/taf

Appendix B

TABLE 1

Number of Employees in Businesses Responding To Mail Survey of Employers

0 - 10	21%
11 - 49	24%
50 - 100	7%
101 and over	15%
No Answer	24%
TOTAL PERCENT	101%
BASE	101

* * * *

TABLE 2

Job Titles of Respondents To Mail Survey of Employers

Proprietor	10%
Executives	23%
Managers	27%
Personnel	9%
Employee	6%
Other	1%
No Answer	25%
TOTAL PERCENT	101%
BASE	101

TABLE 3

Q.5 In general, how would you describe the employment market in Pontiac.....would you say there are more than enough competent people to meet your employment needs, just about enough people who are competent, or too few people who are able to do the work you need done?

Responses	Work Experience Employers	Other Employers	Total
More than enough...	26%	53%	33%
Just about enough...	39%	16%	33%
Too few...	35%	32%	34%
TOTAL PERCENT	100%	101%	100%
Don't Know	3%	1%	4%
INAPPLICABLE	-	-	-
(BASE)	57	20	77

TABLE 4

Q.6 A. It is the company's responsibility to train employees to do the jobs they are hired for.

Responses	Work Experience Employers	Other Employers	Total
I'd agree with that...	78%	71%	76%
I'd disagree with that...	22%	29%	24%
TOTAL PERCENT	100%	100%	100%
Not sure	8%	1%	9%
INAPPLICABLE	-	-	-
(BASE)	58	22	80

TABLE 5

Q.6 B. A person who has worked at a job before is a better employee than someone who has just finished school.

Responses	Work Experience Employers	Other Employers	Total
I'd agree with that...	33%	56%	39%
I'd disagree with that...	67%	44%	61%
TOTAL PERCENT	100%	100%	100%
Not sure	14%	6%	20%
INAPPLICABLE	-	-	-
(BASE)	59	22	81

TABLE 6

Q.6 C. It is pretty important for an employee to be able to get straight what his boss is talking about.

Responses	Work Experience Employers	Other Employers	Total
I'd agree with that...	98%	100%	99%
I'd disagree with that...	2%	0%	1%
TOTAL PERCENT	100%	100%	100%
Not sure	2%	0%	2%
INAPPLICABLE	-	-	-
(BASE)	59	21	80

TABLE 7

Q.6 D. I don't care how a person feels about work as long as he does his job.

Responses	Work Experience Employers	Other Employers	Total
I'd agree with that...	4%	10%	5%
I'd disagree with that...	96%	90%	95%
TOTAL PERCENT	100%	100%	100%
Not sure	3%	1%	4%
INAPPLICABLE	-	-	-
(BASE)	59	21	80

TABLE 8

Q.6 E. High School vocational education does a good job in preparing people to work for my firm.

Responses	Work Experience Employers	Other Employers	Total
I'd agree with that...	58%	54%	57%
I'd disagree with that...	42%	46%	43%
TOTAL PERCENT	100%	100%	100%
Not sure	18%	11%	29%
INAPPLICABLE	-	-	-
(BASE)	58	22	80

TABLE 9

Q.6 F. Schools don't do much in the way of teaching kids about the real world of work.

Responses	Work Experience Employers	Other Employers	Total
I'd agree with that...	65%	65%	65%
I'd disagree with that...	35%	35%	35%
TOTAL PERCENT	100%	100%	100%
Not sure	12%	5%	17%
INAPPLICABLE	-	-	-
(BASE)	58	22	80

TABLE 10

Q.6 G. Schools should concentrate on the three R's and leave work skills to the employer.

Responses	Work Experience Employers	Other Employers	Total
I'd agree with that...	16%	21%	17%
I'd disagree with that...	84%	79%	83%
TOTAL PERCENT	100%	100%	100%
Not sure	2%	3%	5%
INAPPLICABLE	-	-	-
(BASE)	59	22	81

TABLE 11

Q.6 H. A good training course in high school is as good as previous experience in preparing people to work for my firm.

Responses	Work Experience Employers	Other Employers	Total
I'd agree with that...	48%	53%	49%
I'd disagree with that...	52%	47%	51%
TOTAL PERCENT	100%	100%	100%
Not sure	12%	5%	17%
INAPPLICABLE	-	-	-
(BASE)	58	22	80

TABLE 12

Q.6 I. Young people today don't try to make a good impression when they look for jobs.

Responses	Work Experience Employers	Other Employers	Total
I'd agree with that...	64%	74%	67%
I'd disagree with that...	36%	26%	33%
TOTAL PERCENT	100%	100%	100%
Not sure	8%	2%	10%
INAPPLICABLE	-	-	-
(BASE)	58	21	79

TABLE 13

Q.6 J. All students should be required to have some actual work experience before they graduate from high school.

Responses	Work Experience Employers	Other Employers	Total
I'd agree with that...	72%	63%	70%
I'd disagree with that...	28%	37%	30%
TOTAL PERCENT	100%	100%	100%
Not sure	5%	2%	7%
INAPPLICABLE	-	-	-
(BASE)	59	21	80

TABLE 14

Q.6 K. It is too costly to train new employees for their jobs.

Responses	Work Experience Employers	Other Employers	Total
I'd agree with that...	22%	35%	26%
I'd disagree with that...	78%	65%	74%
TOTAL PERCENT	100%	100%	100%
Not sure	9%	2%	11%
INAPPLICABLE	-	-	-
(BASE)	58	22	80

TABLE 15

Q.6 L. Anybody I hire must be able to get along with other workers.

Responses	Work Experience Employers	Other Employers	Total
I'd agree with that...	98%	95%	98%
I'd disagree with that...	2%	5%	2%
TOTAL PERCENT	100%	100%	100%
Not sure	1%	0%	1%
INAPPLICABLE	-	-	-
(BASE)	59	22	81

TABLE 16

Q.6 M. Without good references, employers are hesitant to hire new employees.

Responses	Work Experience Employers	Other Employers	Total
I'd agree with that...	73%	63%	70%
I'd disagree with that...	27%	37%	30%
TOTAL PERCENT	100%	100%	100%
Not sure	4%	3%	7%
INAPPLICABLE	-	-	-
(BASE)	59	22	81

TABLE 17

Q.6 N. High schools aren't really able to teach people how to do most jobs.

Responses	Work Experience Employers	Other Employers	Total
I'd agree with that...	59%	71%	62%
I'd disagree with that...	41%	29%	38%
TOTAL PERCENT	100%	100%	100%
Not sure	15%	5%	20%
INAPPLICABLE	-	-	-
(BASE)	59	22	81

TABLE 18

Q.6 O. Young people today don't know how to talk to adults and learn from them.

Responses	Work Experience Employers	Other Employers	Total
I'd agree with that...	31%	37%	32%
I'd disagree with that...	69%	63%	68%
TOTAL PERCENT	100%	100%	100%
Not sure	7%	2%	9%
INAPPLICABLE	-	-	-
(BASE)	59	22	81

TABLE 19

Q.6 P. The schools should teach students that it's important to have a good job and do it well.

Responses	Work Experience Employers	Other Employers	Total
I'd agree with that...	98%	95%	97%
I'd disagree with that...	2%	5%	3%
TOTAL PERCENT	100%	100%	100%
Not sure	2%	2%	4%
INAPPLICABLE	-	-	-
(BASE)	59	22	81

TABLE 20

Q.6 Q. It's getting harder to find new employees who are willing to work hard and do a good job.

Responses	Work Experience Employers	Other Employers	Total
I'd agree with that...	91%	84%	90%
I'd disagree with that...	9%	16%	10%
TOTAL PERCENT	100%	100%	100%
Not sure	2%	3%	5%
INAPPLICABLE	-	-	-
(BASE)	59	22	81

TABLE 21

Q.6 R. Unless kids learn to come to school everyday they will miss work whenever they feel like it.

Responses	Work Experience Employers	Other Employers	Total
I'd agree with that...	84%	82%	84%
I'd disagree with that...	16%	18%	16%
TOTAL PERCENT	100%	100%	100%
Not sure	9%	5%	14%
INAPPLICABLE	-	-	-
(BASE)	59	22	81

TABLE 22

Q.7 A. Rating of Pontiac graduates: can read, write and do the math necessary for the job.

Responses	Work Experience Employers	Other Employers	Total
Better than average...	2%	7%	3%
About as good as average...	70%	93%	75%
Not quite as good as average...	28%	0%	22%
TOTAL PERCENT	100%	100%	100%
Not sure	2%	4%	6%
INAPPLICABLE	-	-	-
(BASE)	55	18	73

TABLE 23

Q.7 B. Rating of Pontiac graduates: uses good sense in making decisions on the job.

Responses	Work Experience Employers	Other Employers	Total
Better than average...	2%	0%	3%
About as good as average...	67%	86%	70%
Not quite as good as average...	31%	14%	27%
TOTAL PERCENT	100%	100%	100%
Not sure	2%	4%	6%
INAPPLICABLE	-	-	-
(BASE)	55	18	73

TABLE 24

Q.7 C. Rating of Pontiac graduates: wears clothes which are right for the job.

Responses	Work Experience Employers	Other Employers	Total
Better than average...	15%	0%	12%
About as good as average...	50%	77%	55%
Not quite as good as average...	35%	23%	33%
TOTAL PERCENT	100%	100%	100%
Not sure	1%	4%	5%
INAPPLICABLE	-	-	-
(BASE)	55	17	72

TABLE 25

Q.7 D. Rating of Pontiac graduates: makes sense in what he says.

Responses	Work Experience Employers	Other Employers	Total
Better than average...	2%	0%	2%
About as good as average,..	81%	73%	80%
Not quite as good as average...	17%	27%	19%
TOTAL PERCENT	100%	100%	101%
Not sure	1%	6%	7%
INAPPLICABLE	-	-	-
(BASE)	54	17	71

TABLE 26

Q.7 E. Rating of Pontiac graduates: gets along with supervisors and other workers.

Responses	Work Experience Employers	Other Employers	Total
Better than average...	11%	0%	9%
About as good as average...	76%	85%	77%
Not quite as good as average...	13%	15%	14%
TOTAL PERCENT	100%	100%	100%
Not sure	2%	4%	6%
INAPPLICABLE	-	-	-
(BASE)	55	17	72

TABLE 27

Q.7 F. Rating of Pontiac graduates: already knows how to do the job they are being hired for.

Responses	Work Experience Employers	Other Employers	Total
Better than average...	4%	0%	4%
About as good as average...	44%	80%	51%
Not quite as good as average...	51%	20%	45%
TOTAL PERCENT	99%	100%	100%
Not sure	9%	7%	16%
INAPPLICABLE	-	-	-
(BASE)	54	17	71

TABLE 28

Q.7 G. Rating of Pontiac graduates: always tries to do a good job at work.

Responses	Work Experience Employers	Other Employers	Total
Better than average...	6%	0%	5%
About as good as average...	63%	77%	66%
Not quite as good as average...	31%	23%	30%
TOTAL PERCENT	100%	100%	101%
Not sure	4%	4%	8%
INAPPLICABLE	-	-	-
(BASE)	55	17	72

TABLE 29

Q.7 H. Rating of Pontiac graduates: comes to work on time and is rarely absent.

Responses	Work Experience Employers	Other Employers	Total
Better than average...	16%	8%	14%
About as good as average...	53%	92%	61%
Not quite as good as average...	31%	0%	25%
TOTAL PERCENT	100%	100%	100%
Not sure	4%	4%	8%
INAPPLICABLE	-	-	-
(BASE)	55	17	72

TABLE 30

Q.8 In general, how would you rate the job which the Pontiac Schools do in preparing people for work - would you say they do a very good job, a fair job or a poor job of training students?

Responses	Work Experience Employers	Other Employers	Total
Very good job...	9%	6%	8%
Fair job...	76%	88%	79%
Poor job...	15%	6%	13%
TOTAL PERCENT	100%	100%	100%
INAPPLICABLE	-	-	-
(BASE)	54	17	71

TABLE 31

Q.9 Have you ever used the placement services of the Pontiac Schools to locate new employees?

Responses	Work Experience Employers	Other Employers	Total
Yes...	49%	28%	44%
No...	51%	72%	56%
TOTAL PERCENT	100%	100%	100%
NO RESPONSE	5%	23%	28%
(BASE)	60	41	101

TABLE 32

Q.9 If Yes:

A. How would you rate those placement services - would you say they were very helpful to you, somewhat helpful, or not helpful at all?

Responses	Work Experience Employers	Other Employers	Total
Very helpful...	39%	67%	44%
Somewhat helpful...	54%	33%	50%
Not helpful at all...	8%	0%	6%
TOTAL PERCENT	101%	100%	100%
INAPPLICABLE	34	35	69
(BASE)	60	41	101

TABLE 33

Q.12 Has your company ever participated in any of the following work education programs? (Respondents indicating yes).

Participants in Work Experience -		60%
Co-op	53%	
PALS	9%	
NEOVEC	19%	
Project Growth	4%	
Vocational Adjustment	4%	
Other	10%	
TOTAL PERCENT	99%	
Non-participants in Work Experience -		41%
TOTAL PERCENT		101%
BASE		101

TABLE 34

THE SUCCESS OF CO-OP OR WORK EDUCATION PROGRAMS DEPEND ON THESE FACTORS. HOW SATISFIED ARE YOU WITH EACH OF THESE:

Q.13 A. Employer-How satisfied with on-site visits by Coordinators?

Satisfied	54%
Dissatisfied	22
Don't know	24
TOTAL PERCENT	100%
No answer	14
INAPPLICABLE	41
BASE	101

TABLE 35

Q.13 B. Employer-How satisfied with employer-coordinator planning?

Satisfied	52%
Dissatisfied	21
Don't know	26
TOTAL PERCENT	99%
No answer	18
INAPPLICABLE	41
BASE	101

TABLE 36

Q.13 C. Employer-How satisfied with support from coordinators?

Satisfied	72%
Dissatisfied	11
Don't know	17
TOTAL PERCENT	100%
No answer	14
INAPPLICABLE	41
BASE	101

TABLE 37

Q.13 D. Employer-How satisfied with amount of time students are available?

Satisfied	96%
Dissatisfied	4
Don't Know	-
TOTAL PERCENT	100%
No answer	12
INAPPLICABLE	41
BASE	101

TABLE 38

Q.13 E. Employer-How satisfied with grading system for students?

Satisfied	77%
Dissatisfied	17
Don't know	6
TOTAL PERCENT	100%
No answer	13
INAPPLICABLE	41
BASE	101

TABLE 39

Q.13 F. Employer-How satisfied with matching of students with jobs?

Satisfied	81%
Dissatisfied	6
Don't know	12
TOTAL PERCENT	99%
No Answer	12
INAPPLICABLE	41
BASE	101

TABLE 40

Q.13 G. Employer-How satisfied with work habits of students?

Satisfied	74%
Dissatisfied	20
Don't know	6
TOTAL PERCENT	100%
No answer	11
INAPPLICABLE	41
BASE	101

TABLE 41

Q.13 H. Employer-How satisfied with student productivity?

Satisfied	81%
Dissatisfied	13
Don't know	6
TOTAL PERCENT	100%
No answer	13
INAPPLICABLE	41
BASE	101

TABLE 42

Q.15 EMPLOYER EVALUATION OF WORK EDUCATION PROGRAMS.

Very Satisfied	40%
Somewhat Satisfied	58
Dissatisfied	2
TOTAL PERCENT	100%
No answer	10
INAPPLICABLE	41
BASE	101

TABLE 43

STATEMENTS ABOUT WORK EDUCATION PROGRAMS IN THE SCHOOLS.

Q.16 A. Employer-ought to be more work education programs.

Agree	77%
Disagree	8
Not sure	15
TOTAL PERCENT	100%
No answer	7
INAPPLICABLE	41
BASE	101

TABLE 44

Q.16 B. Employer-graduates of work education program are better than other new employees.

Agree	58%
Disagree	15
Not sure	27
TOTAL PERCENT	100%
No answer	8
INAPPLICABLE	41
BASE	101

TABLE 45

Q.16 C. Employer-more Pontiac employers should hire Co-op students.

Agree	79%
Disagree	6
Not sure	15
TOTAL PERCENT	100%
No answer	7
INAPPLICABLE	41
BASE	101

TABLE 46

Q.16 D. Employer-costs employers too much to participate in Co-op programs.

Agree	10%
Disagree	73
Not sure	17
TOTAL PERCENT	100%
No answer	8
INAPPLICABLE	41
BASE	101

TABLE 47

Q.16 E. Employers should have more say in planning-teaching work education programs.

Agree	52%
Disagree	31
Not sure	17
TOTAL PERCENT	100%
No answer	8
INAPPLICABLE	41
BASE	101

TABLE 48

Q.16 F. Hiring work education students helps a business' public image.

Agree	56%
Disagree	21
Not sure	23
TOTAL PERCENT	100%
No answer	8
INAPPLICABLE	41
BASE	101

TABLE 49

Q.16 G. Most people around don't know about work education programs.

Agree	60%
Disagree	17
Not sure	23
TOTAL PERCENT	100%
No answer	8
INAPPLICABLE	41
BASE	101

TABLE 50

Q.16 H. Work education experience helps when students look for jobs.

Agree	92%
Disagree	-
Not sure	8
TOTAL PERCENT	100%
No answer	8
INAPPLICABLE	41
BASE	101

TABLE 51

Q.16 I. Many work education students are kept on for full-time jobs.

Agree	81%
Disagree	2
Not sure	17
TOTAL PERCENT	100%
No answer	8
INAPPLICABLE	41
BASE	101

TABLE 52

Q.16 J. Being a work education employer doesn't help my business at all.

Agree	14%
Disagree	69
Not sure	17
TOTAL PERCENT	100%
No answer	8
INAPPLICABLE	41
BASE	101

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ACCESSION NUMBER: VT103258

TITLE: A COST-EFFECTIVE VIEW OF VOCATIONAL EDUCATIONAL PROGRAMS.

PERSONAL AUTHOR: ROSENTHAL, JEAN; JOYCE, RONALD

DESCRIPTOR: *COST EFFECTIVENESS; *VOCATIONAL EDUCATION; *PROGRAM COSTS; *PROGRAM EVALUATION

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ABSTRACT: THIS COST EFFECTIVENESS STUDY WAS PART OF A PROJECT TO EVALUATE VOCATIONAL EDUCATION PROGRAMS IN THE PONTIAC, MICHIGAN SCHOOLS. IT WAS DESIGNED TO DETERMINE PROGRAM COSTS PER STUDENT AND TO COMPARE THESE COSTS BY FUNCTION ANALYSIS. THE STUDY DETERMINED THE COST PER ACADEMIC CREDIT FOR FACILITIES, EQUIPMENT, AND INSTRUCTION AND COMPARED THEM TO THE PER CREDIT COSTS OF NONVOCATIONAL PROGRAMS. THE GENERALIZED INFORMATION SYSTEM PROCEDURE, ALONG WITH RECORDS MAINTAINED BY DIRECTORS OF VOCATIONAL EDUCATION, SECONDARY EDUCATION, PERSONNEL, AND FINANCE, PROVIDED THE COST AND ENROLLMENT DATA FOR THIS REPORT. COSTS WERE COLLECTED BY FUNCTION CATEGORY, STUDENT ENROLLMENTS PER CLASS PROGRAM WERE IDENTIFIED, AND COMPUTATIONS WERE COMPLETED ON THE BASIS OF ANNUAL COSTS OF ONE-HALF CREDIT PER ENROLLEE. EDUCATIONAL COSTS ARE PRESENTED FOR THE FOLLOWING SIX FUNCTIONS: BUILDING COST OF THE ROOM, UTILITIES, MAINTENANCE, EQUIPMENT AND FURNISHINGS, CONSUMABLE SUPPLIES, AND SALARY. TABLES FOR ALL OF THESE DATA FOR THE TWO SCHOOLS IN THE DISTRICT PROVIDE DETAILED PROGRAM ANALYSIS COSTS. (NJ)

INSTITUTION NAME: PONTIAC CITY SCHOOL DISTRICT, MICH.

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A COST-EFFECTIVE VIEW of VOCATIONAL EDUCATION PROGRAMS

The Decision-Oriented Evaluation System

THE CENTER FOR RESEARCH EVALUATION AND INFORMATION SERVICES

SCHOOL DISTRICT CITY OF PONTIAC

VT 103 258

Project report of the Decision-Oriented Evaluation System, (DOES), funded by USOE, Department of Health, Education and Welfare, Vocational Education, Part C, "Research and Training in Vocational Education".

Velma S. Brawner, Project Officer, Washington, D.C.

**

DOES Project Report Titles:

The Young Worker and the Law: a guide for 14-18 year olds.

Youth Employment Laws: a handbook for supervisors of young workers.

Did School Help Me Go to Work? Experiences of '72 Graduates.

Do Schools Prepare Good Workers? Views of Employers.

A Cost-Effective View of Vocational Education Programs.

**

DOES Project conducted and reported by the Research and Evaluation Department, School District of the City of Pontiac

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District of the City of Pontiac

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CE 009 226

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DANA P. WHITMER, SUPERINTENDENT

FOREWORD

The preparation of students to become skilled, productive, and self-fulfilled workers is one of the schools' major functions. There is widespread concern among employers, labor organizations, and governmental agencies about the effectiveness of the schools' contribution to the skill preparation and work attitudes of young people. Such concern is not misplaced, for studies of the American work force indicate the strong presence of dissatisfaction, uncertainty, and hostility toward their jobs among American workers. In response to these evidences of unease about the role of work in the life of the nation, educational planners have given increasing attention to school programs which contribute to the work-readiness of youth.

The School District of the City of Pontiac, located in an industrial center and serving a working population, is very conscious of its responsibility to assist Pontiac students in making a successful transition from school to work. Recent years have seen substantial progress in our programs in career development, career education, and vocational education. We are proud of our progress, but we are aware that many of our students are not prepared sufficiently to cope with their uncertain vocational futures. The Decision-Oriented Evaluation System (DOES), a project funded under Part C, Vocational Education Act, and reported in part in this publication, has afforded the Pontiac schools an excellent opportunity to examine and evaluate portions of the district's programs in vocational education and work experience. The findings from the study will provide valuable information for school district planners and decision makers in determining future program directions. It is our sincere hope that the DOES report will be of assistance to other educators, as they examine their programs in vocational education.

Dana P. Whitmer

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A Cost Effective View

of

Vocational Education Programs

Introduction

The project from which this report is derived is entitled Decision Oriented Evaluation System for Alternative Work Experience Program (DOES) and was conducted by the Research and Evaluation Department of the Pontiac Schools, Pontiac, Michigan.

This component of the project was designed to determine program costs on a per student basis and compare program costs by function analysis. A detailed analysis of Pontiac's vocational education program was conducted to determine the cost per academic credit for facilities, equipment, and instruction and to compare them to the per credit costs of non-vocational programs.

Four major objectives formed the basis for this study of cost effectiveness of vocational education programs in the Pontiac Schools:

1. To determine the costs per unit of student credit of vocational education programs and compare them to the costs of non-vocational education programs.
2. To determine and compare the initial costs of constructing and equipping instructional facilities for the twenty-six vocational education programs and a non-laboratory example of a non-vocational education program.

3. To determine the cost per year of operating each of the twenty-six vocational education programs and a non-vocational education program.

4. To determine the existence and extent of difference in costs between high school vocational programs and the programs at the Northeast Oakland Vocational Education Center (NEOVEC).

The function system of cost analysis was used in completing the study, since it is compatible with a new accounting system to be installed in the Pontiac Schools in 1976-77 and provides cost data at the instructional program or course level. This particular system of cost analysis made it possible to measure the cost of resources for learning and to compute the costs necessary to deliver one-half credit per semester per enrollee on an annual basis. (Certain costs such as district administration, physical education, music, and many other costs normally associated with a comprehensive high schools are not included.)

Although it was anticipated that the cost of vocational programs would be higher than the costs of non-vocational programs, the variables producing these differences had not been measured and compared previously.

DATA COLLECTION PROCEDURES

Data Collection Procedures

In order to collect cost and enrollment data needed to conduct this study, the following procedures were used:

1. The Generalized Information System computerized program was printed in ledger format displaying all expenditures and encumberances for each high school in the school year 1974/75, as reported by the various departments and offices. It should be noted that many costs are not keyed to programs directly and therefore estimates were made.
2. The school district's inventory of property prepared by Manufacturers' Appraisal Company in 1975 was used for cost of reproduction values.
3. Student enrollment figures were obtained from records maintained by the secondary education and vocational education departments.
4. Salaries and paid benefits were made available from the directors of vocational education, personnel, and finance.

These procedures, with further explanation, are described in Appendix

The method used to describe and compare cost effectiveness data was as follows:

Costs were collected by function category; student enrollments per class program were identified; and com-

putations were completed on the basis of annual cost to deliver one-half credit per semester hour per enrollee in PCHS as well as NEOVEC.

This study did not endeavor to associate cost-effectiveness in any way with student performance or with quality of the educational process. Costs to provide resources for learning and educational services have been measured; educational benefits to students have not been measured. That is, the cost per unit of instruction was made known, not the amount of personal or societal benefits per dollar spent.

Educational costs were gathered and categorized by six functions to determine costs in vocational and non-vocational programs at PCHS.

1. Building cost of the room
2. Utilities
3. Maintenance
4. Equipment and furnishings
5. Consumable supplies
6. Salary (including fringe benefits and cost of living adjustments)

Administrative costs outside the building level were excluded from this study because the identification of their relationship to vocational education was extremely difficult.

The six functions were applied to each instructional program within the three vocational education areas of business, home economics, and in-

dustrial education, and to cooperative education and a typical non-laboratory, non-vocational education program. Further, an average annual cost of 20 percent for depreciation of facilities and equipment was computed.

ENROLLMENT DATA

Total Enrollments for Vocational Education and Non-Vocational Education

This table illustrates the total enrollment, non-vocational education enrollment, and vocational education enrollment for 1974-75. The total enrollment for business education courses equaled 43 percent of the vocational education enrollment. Home economics enrollment represented 17 percent, industrial education comprised 35 percent, and cooperative education had 5 percent.

CLASS ENROLLMENTS AND PERCENTAGES OF VOCATIONAL EDUCATION PROGRAMS AS COMPARED TO CLASS AND PERCENTAGE ENROLLMENTS OF NON-VOCATIONAL EDUCATION PROGRAMS FOR THE SCHOOL YEAR 1974-75 IN FCHS AND PNHS

TOTAL	46,615	100%
NON-VOCATIONAL	36,793	80%
VOCATIONAL EDUCATION	9,822	20%
BUSINESS EDUCATION	4,217	43%
HOME ECONOMICS	1,634	17%
INDUSTRIAL EDUCATION	3,456	35%
COOPERATIVE EDUCATION	515	5%

Business education sections accounted for 35 percent of the total vocational education sections. Home economics education sections represented 16 percent, industrial education sections comprised 38 percent, and cooperative education sections equaled 11 percent. This table illustrates enrollment and sections data.

VOCATIONAL EDUCATION PROGRAM ENROLLMENTS AND CLASS SECTIONS AS COMPARED TO NON-VOCATIONAL EDUCATION ENROLLMENTS AND CLASS SECTIONS IN PCHS AND PNHS DURING SCHOOL YEAR 1974-1975

ENROLLMENT	TOTAL	PCHS	PNHS
NON-VOCATIONAL EDUCATION ENROLLMENT	36,793	19,816	16,977
VOCATIONAL EDUCATION ENROLLMENT	9,822	5,500	4,322
BUSINESS EDUCATION	4,217	2,619	1,598
HOME ECONOMICS EDUCATION	1,634	968	666
INDUSTRIAL EDUCATION	3,456	1,669	1,787
COOPERATIVE EDUCATION	515	244	271
SECTIONS			
NON-VOCATIONAL EDUCATION CLASS SECTIONS	1,487	794	693
VOCATIONAL EDUCATION SECTIONS	463	255	208
BUSINESS EDUCATION	160	100	60
HOME ECONOMICS EDUCATION	73	43	30
INDUSTRIAL EDUCATION	177	89	88
COOPERATIVE EDUCATION	53	23	30

SITE SELECTION

Site Selection

The new Pontiac Central High School was used as the site for study of vocational education cost.

Although the Pontiac School District includes two comprehensive high schools which offer vocational training classes and the services of an area vocational center, Pontiac Central High School was selected as the site for this study for the following reasons:

1. Cost comparisons in this study focused upon vocational education and non-vocational education and the differences between the three vocational education program areas within the Pontiac School District as a whole rather than differentiating between the two high school plants for unique costs.
2. It was determined that costs could be accepted as alike since each building conforms to space requirements and serves similar school enrollments by curriculum, racial balance, and student count.
3. Pontiac Central High School is the newer high school building in Pontiac, opened for instruction in October 1973. Cost of construction would be more indicative of current construction costs than the Northern High School, which was completed seventeen years prior.
4. Records for the construction costs of PCHS were easier to obtain and were more complete.

COST ANALYSIS PROCEDURES

Selection of a Cost Analysis Procedure

In Michigan, it is still difficult to determine the allocation of funds at different grade levels because of limitations in the current procedures of budgeting and accounting. According to School Finance in Michigan, allocation determination is impossible for the researcher, on the basis of data reported to the state. In general, the costs for administration, attendance, health, operations and maintenance of plant, and fixed charges have been allocated to elementary and secondary levels on an equal basis. In terms of decision-making, an analysis of expenditures by educational level is essential. If policy-makers are to relate expenditure policy to objectives, they must know how much is spent for the education of students at the primary, intermediate, junior high, and senior high levels. Therefore, for the purpose of this study it was determined that "economics of scale" can only be used in terms of specific programs and services and not in terms of the entire program mix of a school district.

Excluded Costs

Studies of cost effectiveness may vary in the types of cost data collected and the mathematical techniques used to identify and compute cost. For the purposes of this study it was necessary to exclude certain costs which are described below: (This costing procedure does not include administration costs outside of the building level for these reasons)

1. These school district costs are unique in kind and method of payment.
2. The level of support services is unknown.
3. The level of service requirement in a given subject area is difficult to prorate.
4. State approved indirect rates are available to any school district.

According to "Report R0415" issued by the Michigan Department of Education's Department Services School Finance, indirect costs use the following account descriptions in their computation, and are calculated as that portion of data processing equipment, insurance expenses, total plant expenses, total plant operation expenses, and the salaries and administrative costs of the superintendent and assistant superintendents, business function, personnel function, centralized research, and other centralized administration and clerical personnel.

The total costs for the areas listed above are then taken as a percentage of total district costs as defined below and that percentage is

defined as an indirect cost rate--either on a "restricted" or "unrestricted" basis.

As cited in the article "Indirect Cost-Part Two" in the School Business Affairs periodical of November, 1974, indirect cost allocations are needed to approximate the true costs of courses and programs and to determine the impact of curriculum and teaching decision.

An indirect cost percentage can be used to approximate the true costs of a program by the allocation of administrative expenses to the activity. This is an approximation verified and approved by the Michigan State Department of Education. However, a single percentage, or rate, is used for all programs. In applying the same rate to vocational and non-vocational areas it is impossible to determine actual costs. However, current accounting systems lack the capability for multiple indirect cost rate computation. Conversion to an improved state accounting system in the school year for 1976-77 will change this situation and improve methods of calculating and using indirect cost rates. Other costs not accounted for include transportation and school lunch.

Cost Analysis by Function

The major advantage of using function cost analysis lies in the area of management based decisions. In order to measure or compare specific programs and/or services, it is more accurate and reliable to use the concept of function cost analysis because of the spectrum of both vocational and non-vocational programs. Function cost analysis also makes it possible to measure the effect of program variations such as class size, teacher salaries, space allocations and equipment expense, replacement and depreciation.

FUNCTION I
BUILDING AND SITE
(PCHS)

Cost Components Used for Computation in Each of the Six Functions for Pontiac Central High School

Function I: Cost per Room (PCHS)

The site cost of PCHS was $650,000. To retain architectural services and complete the construction of the building, a cost of $15,479,000 was incurred. A total of 400,070 square feet was completed for $16,129,000. Per square foot, the average cost was $40.32. Each room's value was determined by multiplying the actual square footage by the cost per square foot. No allowance was considered for depreciation based upon the building's expected useful life, although a method showing an annual depreciation of building and equipment at three and eight percent, respectively, is later included. Also, annual straight line depreciation of equipment and loss of dollar buying power is shown later in this study.

PCHS site cost	$ 650,000.
PCHS building cost	15,479,000.
	16,129,000.
PCHS total square footage	400,070
PCHS square footage for vocational education	39,495 (11%)
PCHS square footage for non-vocational education	131,390 (33%)
PCHS square footage for common area	229,215 (56%)
PCHS cost per square foot	$40.32

PCHS

VOC. ED. ROOM:

BUSINESS EDUCATION FUNCTION I COST:

BUILDING AND SITE*

Program	Number of Square Feet Per Room	Cost For Classroom Facility	Cost Per Classroom Per Year	Cost Per Enrollee Per Semester
Accounting	750	$30,240	$1008.00	4.38
Bus. Eng./Law, Filing	875	35,280	1176.00	5.11
Cler. Mech. Occup.	1,280	51,610	1720.00	7.48
Data Processing	750	30,240	1008.00	4.38
Office Machines	1,280	51,610	1720.00	7.48
Office Occupation	875	35,280	1176.00	5.11
Retail/Sales	1,200	48,384	1612.80	7.00
Shorthand	875	35,280	1176.00	5.11
Typing	2,160	87,091	2903.00	12.62

* Data assumes a cost of $40.32 per square foot. Annual cost per enrollee is based on 230 students per room and a 30 year life expectancy.

PCHS

VOC. ED. POOM:

HOME EC. EDUCATION FUNCTION I COST:

BUILDING AND SITE*

Program	Number of Square Feet Per Room	Cost For Classroom Facility	Cost Per Classroom Per Year	Cost Per Enrollee Per Semester
Clothing	1,800	$72,576	$2419.20	10.51
Child Development	1,980	79,834	2661.13	11.57
Fam. Liv., Home Management	780	31,449	1048.30	4.56
Foods	1,240	49,997	1666.57	7.25
Food Service	4,288	172,892	5763.07	25.06

*Data assumes a cost of $40.32 per square foot. Annual Cost per enrollee is based on 230 students per room and 30 year life expectancy.

PCHS

VOC. ED. PROM:

INDUSTRIAL EDUCATION FUNCTION I COST:

BUILDING AND SITE*

Program	Number of Square Feet Per Room	Cost For Classroom Facility	Cost Per Classroom Per Year	Cost Per Enrollee Per Semester
Auto	4,500	$181,440	$6,048.00	$26.29
Electronics	2,100	84,672	2,822.40	12.53
Graphics	3,050	122,976	4,099.20	17.82
Mech. Drawing	1,500	60,480	2,016.00	8.76
Metal	2,660	107,251	3,575.03	15.54
Power	2,100	84,672	2,822.40	12.53
Wood	5,600	225,792	7,526.40	32.72

*Data assumes a cost of $40.32 per square foot. Annual cost per enrollee is based on 230 students per room and 30 year life expectancy.

FUNCTION II
UTILITIES
(PCHS)

Function II: Utilities (PCHS)

The utilities consumed within PCHS amounted to $127,554 of electricity, $80,221 of gas, $5,252 of telephone, and $21,234 of water and sewer for a total of $234,261 for SY 1974-75. Per square foot, the average cost was $0.59. Each program's utility cost was determined by multiplying the actual square footage by the cost per square foot.

Electricity	$127,554
Gas	80,221
Telephone	5,252
Water and Sewer	21,234
	$234,261

PCHS cost per square foot------- $0.59

PCHS

VOC. ED. ROOM:

BUSINESS EDUCATION FUNCTION II COST:

UTILITIES*

Program	Number of Square Feet Per Room	Annual Cost for Classroom Facility	Cost Per Enrollee Receiving 1/2 Credit Each
Accounting	750	$ 443	$1.93
Bus. Eng./Law Filing.	875	516	2.24
Cler. Mach. Occup.	1,280	755	3.28
Data Processing	750	443	1.92
Office Machines	1,280	755	3.28
Office Occup.	875	516	2.24
Retailing/Sales	1,200	708	3.08
Shorthand	875	516	2.24
Typing	2,160	1,274	5.54

*Data assumes a cost of $.59 per square foot. Annual Cost per enrollee is based on 230 students per room.

PCHS

VOC. ED. ROOM:

INDUSTRIAL EDUCATION FUNCTION II COST:

UTILITIES*

Program	Number of Square Feet Per Room	Annual Cost For Classroom Facility	Annual Cost Per Enrollee Receiving 1/2 Credit Each
Auto	4,500	$2,655	$11.54
Electronics	2,100	1,239	5.39
Graphics	3,050	1,800	7.82
Mech. Drawing	1,500	885	3.85
Metal	2,660	1,569	6.82
Power	2,100	1,239	5.39
Wood	5,600	3,304	14.37

*Data assumes a cost of $.59 per square foot. Anuual Cost per enrollee is based on 230 students per room.

PCHS

VOC. ED. ROOM:

HOME ECONOMICS EDUCATION FUNCTION II COST:

UTILITIES*

Program	Number of Square Feet Per Room	Annual Cost For Classroom Facility	Annual Cost Per Enrollee Receiving 1/2 Credit Each
Clothing	1,800	$1,062	$4.61
Child Development	1,980	1,168	5.08
Fam. Liv./Home Mgt.	780	460	2.00
Foods	1,240	732	3.18
Food Service	4,288	253	11.00

*Data assumes a cost of $.59 per square foot. Annual Cost per enrollee is based on 230 students per room.

FUNCTION III
MAINTENANCE AND OPERATIONS
(PCHS)

Function III: Maintenance and operations (PCHS)

The maintenance and operations costs for PCHS included $200,737 for labor, $32,374 for specific supply charges and $134,135 for apportioned supply charges totaling $367,246. Per square foot, the average cost was $0.92. Labor accounted for the total salaries and fringe benefits for engineer and custodial personnel of PCHS. Specific supply charges were those costs designated for maintenance and operations. Apportioned supply charges were obtained by computing the percent of square feet in PCHS as compared to the square feet of the total buildings maintained by the school district. These proportions were used for those funds held in a control or overall account unallocated specifically to any one building or area. Unallocated funds are used for labor, supplies, contracted services, and replacement of equipment.

Labor----------	$200,737
Specific Supply Charges--------	32,374
Apportioned Supply Charges-----	134,135
	$367,246

PCHS cost per square foot---------- $0.92

PCHS

VOC. ED. ROOM:

BUSINESS EDUCATION FUNCTION III COST:

MAINTENANCE AND OPERATIONS*

Program	Number of Square Feet Per Room	Annual Cost For Classroom Facility	Annual Cost Per Enrollee Receiving 1/2 Credit Each
Accounting	750	$ 690	$3.00
Bus. Eng./Law, Filing	875	805	3.50
Cler. Mach. Occup.	1,280	1,178	5.12
Data Processing	750	690	3.00
Office Machines	1,280	1,178	5.12
Office Occup.	875	805	3.50
Retailing/Sales	1,200	1,104	4.80
Shorthand	875	805	3.50
Typing	2,160	1,987	8.64

*Data assumes a cost of $.92 per square foot. Annual Cost per enrollee is based on 230 students per room.

PCHS

Voc. Ed. Room:

Industrial Education Function III Cost:

MAINTENANCE AND OPERATIONS*

Program	Number of Square Feet Per Room	Annual Cost For Classroom Facility	Annual Cost Per Enrollee Receiving 1/2 Credit Each
Auto	4,500	$4,140	$18.00
Electronics	2,100	1,932	8.40
Graphics	3,050	2,806	12.20
Mech. Drawing	1,500	1,380	6.00
Metal	2,660	2,447	10.64
Power	2,100	1,932	8.40
Wood	5,600	5,152	22.40

*Data assumes a cost of $.92 per square foot. Annual Cost per enrollee is based on 230 students per room.

PCHS

Voc. Ed. Room:

Home Economics Education Function III Cost:

MAINTENANCE AND OPERATIONS*

Program	Number of Square Feet Per Room	Annual Cost for Classroom Facility	Annual Cost Per Enrollee Receiving 1/2 Credit Each
Clothing	1,800	$1,656	$7.20
Child Development.	1,980	1,822	7.92
Fam. Liv./Home Mgt.	780	718	3.12
Foods	1,240	1,141	4.96
Food Service	4,288	3,944	17.15

*Data assumes a cost of $.92 per square foot. Annual Cost per enrollee is based on 250 students per room.

FUNCTION IV
EQUIPMENT AND FURNISHINGS
(PCHS)

Function IV: Equipment and Furnishings (PCHS)

The current cost of reproduction value assigned to the equipment and furnishings of PCHS was $165,951 for business education programs, $73,483 for home economics education programs, and $295,420 for industrial education programs for a total of $534,854. The cost of reproduction value assigned to the equipment and furnishings of PCHS used in non-vocational education programs was $327,256. These values were determined by the Manufacturer's Appraisal Company. Per program capital outlay assessments are itemized within the Appendix section.

VOCATIONAL EDUCATION		$ 534,854
Business Education	$165,951	
Home Economics Education	73,483	
Industrial Education	295,420	
NON-VOCATIONAL EDUCATION		327,256
COMMON		6,604,886
TOTAL		$7,466,996

Annual Depreciation of Equipment and Effects of Inflation

A value for depreciation of equipment for each vocational education program offered was calculated on a straight line basis. These calculations were done to present an approximation of the annual costs per year per program involved in equipment.

Certain assumptions were made in developing these approximations, namely:

1. The value of equipment items is reasonably accurate. (As cited in the Manufacturers' Appraisal Inventory of 1975)
2. Cost increases in equipment would follow or maintain a relatively constant rate of increase.
3. Straight line depreciation would be used to develop an annual value or cost rather than to apply total replacement costs at time of repurchase or replacement after normal life span.
4. An inflation rate of 7% represents an approximation of future inflationary trends.
5. Each piece of equipment would operate over its expected normal life and would be replaced at the end of its normal life.

In this study the figures listed as " cost of reproduction" do not include any accrued depreciation, and are simply defined as the actual value at this point in time. Therefore, these figures are not necessarily the values that might be established for worth for insurance purposes in event of catastrophe. They are used solely as a benchmark to establish a starting point for comparitive purposes.

As equipment items "wear out" or reach the end of their defined "normal

life," the purchase price and/or normal life of the item replacing them may differ as a result of the costs of raw materials, labor, technology, etc. in effect at the time of replacement.

Since some degree of inflation, or loss of buying power might be expected to continue in the future, an effort was made to account for the future inflationary effects—annual decrease in dollar buying power—by using "present worth" values cited in Managerial Finance (Weston, 1962:644). In these calculations, the time-value of money is considered. In essence, the value of the dollar is discounted at a 7% rate per year over the normal life span of the equipment.

Equity funding is not currently allowed or defined in the accounting practices of school districts. Business and industries exercise capital funding decisions based on considerations of depreciation, earnings, rate of return on investment, etc. Industries may consider capital spending decisions and funding in, or by, various methods of payback, average rate of return, internal rate, present worth, or combinations of these methods and others. The accounting treatment of these methods may also vary. School districts are not able to "write-off" or depreciate equipment by definition. Nor can a school district set aside or essentially "save" monies on a long term basis for replacement of equipment -- and profit from the coincidental interest or return from savings or investments of such funds. School districts must either budget for replacement on a simple annual basis taking a year's needs as they arise, or seek capital funds through the issuance of bonds. Future returns on investments and savings are not defined for schools.

The following exercise was developed to indicate the order of magnitude of annual costs necessary to cover equipment that is "wearing out." To put this calculated figure in perspective, it is presented in terms of discounted dollars, or the amount actually necessary in future years to cover expenditures--somewhat like an annuity. However, no effort has been made to reduce the annual dollar amount for the effects of the return or interest that could be made, were accumulations to be saved in some type of interest bearing manner. The figures developed are primarily intended as benchmarks to allow the reader to develop a perspective of the amounts that should possibly be considered when contemplating on-going programs.

PCHS

Voc. Ed. Room:

Industrial Education Function IV Cost:

EQUIPMENT AND FURNISHINGS*

Program	Cost of Reproduction	Replacement Costs per year	Annual Cost Per Enrollee Receiving 1/2 Credit Each
Auto	$34,998	$ 6,848	$29.77
Electronics	29,846	5,748	24.99
Graphics	96,428	19,038	82.77
Mech. Drawing	26,006	4,855	21.11
Metal	44,429	8,792	28.26
Power	19,378	4,455	19.37
Wood	44,335	9,025	29.24
		58,761	

*Annual cost per enrollee is based on 230 students per room.

The annual cost per enrollee receiving one-half credit is based on a procedure that take into account the normal life expectancy of an article and an inflation rate of 7%. See Appendix A for chart of actual calculation)

PCHS

Voc. Ed. Room:

Home Economics Education Function IV Cost:

EQUIPMENT AND FURNISHINGS*

Program	Cost of Reproduction	Replacement Costs Per Year	Annual Cost Per Enrollee Receiving 1/2 Credit Each
Clothing	$12,827	$2,395	$10.41
Child Development.	3,236	605	2.63
Fam. Liv./Home Mgt.	3,826	697	3.03
Foods	10,809	2,094	9.10
Food Service	35,579	6,664	28.97
		12,455	

*Annual cost per enrollee is based on 230 students per room.

PCHS

Voc. Ed. Room:

Business Education Function IV Cost:

EQUIPMENT AND FURNISHINGS*

Program	Cost of Reproduction	Replacement Cost Per Year	Annual Cost Per Enrollee Receiving 1/2 Credit Each
Accounting	$ 6,767	$ 1,340	$ 1.48
Bus. Eng./Law, Filing.	4,257	819	3.56
Cler. Mach. Occup.	77,269	15,130	65.78
Data Process-ing.	24,362	7,690	33.43
Office Mach.	13,992	2,660	11.56
Offic Occup.	26,085	5,042	21.92
Retailing/ Sales	6,572	1,193	5.19
Shorthand	14,987	2,930	12.74
Typing	18,327	2,429	10.56
		38,061	

*Annual Cost per enrollee is based on 230 students per room.

FUNCTION V

CONSUMABLE SUPPLIES

(PCHS)

Function V: Consumable Supplies (PCHS)

Consumable supplies are classified two ways. General consumable supplies include paper, pencils, notebooks, chalk, rulers, staples, tape, etc. These supplies are used in all classes. In addition, money for specific consumable supplies are budgeted for the business education, home economics education, and industrial education programs. The average encumbrance for general supplies is $93 per classroom teacher for ten class sections annually. Textbooks and library materials were valued at $177,012 and $202,886 respectively. These costs were not included in this function's computation, but rather were considered as a common commodity and difficult to prorate fairly.

VOCATIONAL EDUCATION		$ 18,328
Business Education	$ 4,537	
Home Economics Education	4,240	
Industrial Education	9,551	
NON-VOCATIONAL EDUCATION		$ 6,696
COMMON (restricted to):		379,898
Classroom Textbooks	$177,012	
Library Books	202,886	
TOTAL		$404,922

PCHS

VOC. ED. ROOM:

BUSINESS EDUCATION FUNCTION V COST:

CONSUMABLE SUPPLIES*

Program	Annual Budget Allocation For 10 Class Sections	Annual Cost Per Enrollee Receiving 1/2 Credit Each
Accounting	$482.40	$2.09
Bus. Eng./Law, Filing	482.40	2.09
Cler. Mach. Occup.	482.40	2.09
Data Processing	482.40	2.09
Office Machines	482.40	2.09
Office Occup.	482.40	2.09
Retailing/Sales	482.40	2.09
Shorthand	482.40	2.09
Typing	482.40	2.09

*Annual Cost per enrollee is based on 230 students per room.

PCHS

VOC. ED. ROOM:

INDUSTRIAL EDUCATION FUNCTION V COST:

CONSUMABLE SUPPLIES*

Program	Annual Budget Allocation For 10 Class Sections	Annual Cost Per Enrollee Receiving 1/2 Credit Each
Auto	$983	$4.27
Electronics	983	4.27
Graphics	983	4.27
Mech. Drawing	983	4.27
Metal	983	4.27
Power	983	4.27
Wood	983	4.27

*Annual Cost per enrollee is based on 230 students per room.

PCHS

VOC. ED. ROOM:

HOME ECONOMICS EDUCATION FUNCTION V COST:

CONSUMABLE SUPPLIES*

Program	Annual Budget Allocation For 10 Class Sections	Annual Cost Per Enrollee Receiving 1/2 Credit Each
Clothing	$1,107	$4.81
Child Development.	1,107	4.81
Fam. Liv., Home Mgt.	1,107	4.81
Foods	1,107	4.81
Food Service	1,333	5.79

*Annual Cost per enrollee is based on 230 students per room.

FUNCTION VI
SALARY AND COST OF LIVING
FOR
TEACHERS, ADMINISTRATORS
AND
THEIR SECRETARIES

(PCHS)

Function VI: Salary, Fringes and Cost of Living for Teachers, Administrators, and Their Secretaries (PCHS):

The expenditures for salary, fringe benefits and cost of living adjustment for the 95 teachers ($1,410,815), four administrators ($124,675), and their four secretaries ($75,164) amounted to $1,610,654. The 95 teachers included 72 for non-vocational education, 10½ for business education, four for home economics education, and eight and one-half for industrial education classes.

The average annual teaching salary per vocational education area and non-vocational education was computed. The average annual business education teaching salary was $15,346, home economics education was $15,298, and industrial education was $13,394. The average annual salary for the 95 teachers in PCHS was $14,850. The fringe benefits and cost of living adjustment was an additional 13.6 percent per average annual salary.

The cost of ten annual class sections for administrative and secretarial salary was determined by dividing the total teachers (95) into the amount paid to the administrators and their secretaries ($199,839) for an average of $8.00 using the actual enrollment of 25,316 semester students.

The non-vocational salary cost was determined by considering the total cost for instruction ($1,410,815) and dividing that by the total number of teachers (95). This procedure was used instead of the pure cost for non-vocational education which can be calculated simply by subtracting the vocational education salaries from the total. The result is that the non-vocational education costs are inflated since the special services

such as librarians, counselors and other non-load bearing teachers are absorbed totally by these non-vocational education enrollees.

Total salary cost of $1,410,815 for 95 teachers yields an average of $14,850 per teacher. The records show an annual average of 250 enrollees per teacher, resulting in a cost of $59 per enrollee per one-half credit a semester. The added $8 for administration results in a total cost of $67 per enrollee.

Column Description for the Function VI Table

Area

This describes the two major divisions, vocational education and non-vocational education plus an average for the total building. Enrollments are based on actual counts within classes.

Average Teacher Salary

The actual salary paid to teachers within each area. An average of 13.6 percent of the salary is included in these figures for fringe benefits.

Number Teachers

The number of teachers per year assigned to each area.

Total Salary

This column is determined by multiplying the salary per teacher times the number of teachers.

Number of Class Sections

The number of semester sections operated during the school year 1974-75.

Number Students

Grade reporting records were used to gather the actual number of students in the classes at the end of the fourth Friday each semester.

Average Class Size

The arithmetic mean of the class size arrived at by simply dividing the number of students by the number of sections.

Cost Per Enrollees

The salary costs for that area divided by the actual number of students enrolled in that area.

Administrative Salaries

The administrative average cost per student based on administrators, secretaries, and the salary total of $199,839 and an enrollment of 25,316 students.

Total Cost

The sum of the average cost per enrollee plus the associated administrators.

PCHS

FUNCTION VI COST

Salary and Fringes of Teachers, Administrators and Secretaries

Area	Average Teacher Salary	Number Teachers	Total Salary	Number Enrolled	No. Class Sections	Ave. Class Size	Cost/ Enrollee	Admin. Salary	Total Cost Per Enrollee Per 1/2 Cr.
Business Education	$17,433	10½	$ 183,000	2,739	100	27	$67	$8	$75
Home Economics Education	17,379	4	69,500	1,043	43	24	66	8	74
Industrial Education	15,216	8½	129,300	1,718	89	19	75	8	83
Total Vocational Education	16,604	23	381,894	5,500	255	22	69	8	77
Non-Vocational Education	14,290	72	$1,028,916	19,816	794	25	52	8	60
Total School	14,850	95	$1,410,815	25,316	1,049	24	56	8	64

PCHS

VOCATIONAL EDUCATION ROOM

COOPERATIVE VOCATIONAL EDUCATION

COSTS BY FUNCTION*

Function Number	Description	Cost Per Square Foot	Cost For 10 Class Sections For One (1) Year	Cost Per Enrollee Receiving 1/2 Credit Each
I.	Bldg. & Site	$40.32	$3,871 @30 years-129.00	$0.56
II.	Utilities	0.59	57	0.25
III.	Maint. & Oper.	0.92	88	0.38
		Cost of Reproduction	Annual Cost For 10** Class Sections For One (1) Year	Annual Cost Per Enrollee Receiving 1/2 Credit Each
IV.	Equip & Furniture	407	$93	0.40
		Annual Budget Allocation For 10 Class Sections		Annual Cost Per Enrollee Receiving 1/2 Credit Each
V.	Consum. Sup.	$ 93		$ 0.40
VI.	Salary & Fringes	16,584		72

*Data assumes an area of 96 square feet. Annual Cost per enrollee is based on 230 students per teacher-coordinator.

*Replacement costs based on a 22% of cost of reproduction per year.

COSTS BY FUNCTION
FOR
NON-VOCATIONAL CLASS ROOMS
(PCHS)

PCHS

NON-VOCATIONAL EDUCATION ROOM
(A non-Lab Room)

COSTS BY FUNCTION*

Function I - Building and Site

The average classroom size for PCHS is 780 square feet. At a cost of $40.32 per square foot, the construction cost is $31,450. Prorating this over thirty years, with 250 students per year yields an average cost per student per semester of $4.20.

Function II - Utilities

Using the same utility cost figures as used for the vocational rooms the annual utility cost is $460 per year, ($0.59 X 780 = $460) or as a per student basis this results in a cost of $1.90 per student per semester.

Function III - Maintenance and Operation

Once again, using the vocational education figure of $0.92 per square foot produces a $2.90 cost per student per semester. ($2.90 X 780 = $718, $718/250 = $2.90)

Function IV - Equipment and Furnishings

The average cost of equipment a classroom is $3,500. Using the same classroom depreciation and inflation adjustment procedure developed for the replacement cost in the vocational program, the average cost per student per semester is $800/230 = $3.20. The present equipment

worth required per year is approximately $800. This is on a 10-15 year normal expectancy for the furnishings.

Function V - Consumable Supplies

The average supply budget per teacher is $93. This yields a ratio of $0.37 per student per semester.

Function IV - Salary and Fringe Benefits

The average allocation required to operate a non-vocational teaching station is $14,850. This is based on the annual salary cost of $1,410,815 for 95 teachers. This averages $60 per student per semester.

SUMMARY TABLE

Function:

I	Building and Site	$ 4.20
II	Utilities	2.00
III	Maintenance - Operation	3.00
IV	Equipment and Furnishings	3.20
V	Consumables and Supplies	.37
VI	Salary and Fringe	60.00
	Total	$72.77

The average cost to reserve a slot for a semester for a student for a student in a non-lab type course is $72.77.

PCHS

Non-Vocational Education Room
(A NON-LAB ROOM)

COSTS BY FUNCTION*

Function Number	Description	Cost Per Square Foot	Annual Cost for 10 Class Sections For One (1) Year	Annual Cost Per Enrollee Receiving 1/2 Credit Each
I.	Bld. & Site	$40.32	$31,450 @30 years-1,048.00	$4.19
II.	Utilities	0.59	460	1.90
III.	Maint. & Oper.	0.92	718	2.90

		Cost of Reproduction	Annual Cost For 10 Class Sections For One (1) Year	Annual Cost Per Enrollee Receiving 1/2 Credit Each
IV.	Equip. & Furn.	$3,509	$800	$3.20

		Annual Budget Allocation For 10 Class Sections	Annual Cost Per Enrollee Receiving 1/2 Credit Each
V.	Consum. Sup.	$ 93	$0.37

*Data assumes an area of 780 square feet. Annual Cost per enrollee is based on 250 students per room.

SUMMARY OF COSTS
AT
(PCHS)

These data reflect the cost within each function based upon one-half credit per semester.

Cost Description

I.A. Building and site costs based on area of installation. Does not include ancillary space such as hall, administrative office, etc. ($40.32 per sq. ft.)

I.B. Same as I.A. amortized over 30 years. The average life of a building is generally consider to be 50 years. The 30 year figure is used to reflect renovation, inflation, and obsolescence.

II. Utility costs based on area ($0.59 per sq. ft.)

III. Maintenance and operation based on area of facility. (o.92 per sq. ft.)

IV. Equipment and furnishing. This reflects the reproduction value of the equipment and furnishing adjusted to reflect normal life expectancy and inflation (7%).

V. Consumable Supplies - These costs do not include text books, or library facilities. The cost is based on department records and averages used. Not included in these costs are the recaptured monies acquired through production and personal jobs performed by the various shops including auto tune-ups, graphics, production, etc.

VI. Salary - This includes direct cost of instruction along with other administrative facilities. Since many teachers have classes in several areas within a program or department, the costs per program was based on average salary of teacher within the department.

VII. Total cost per one-half credit per semester credit excluding building and site (Function I).

VIII. Total cost per one-half credit per semester credit including the amortized building and site fund.

IX. Salary to total ratio include the fractional part of the total cost that the salary function contributes, excluding building and site costs.

X. Salary Index - The factor which when multiplied by the average salary will produce reasonable estimates of the program cost.

PCHS SUMMARY COSTS BY PROGRAM BY FUNCTION

	I A	I B	II	III	IV	V	VI	VII	VIII	Salary Ratio	Salary Index
Business Education											
Accounting	$30,240	4.38	$ 1.93	$ 3.00	$ 1.48	$ 2.09	$75.00	$83.50	$ 87.88	.90	1.11
Bus. Eng./Law,Filing	35,280	5.10	2.24	3.50	3.56	2.09	75.00	86.39	91.49	.87	1.15
Cler. Mach. Occup.	51,610	7.48	3.28	5.12	65.78	2.09	75.00	151.27	158.75	.49	2.01
Data Processing	30,240	4.38	1.92	3.00	33.43	2.09	75.00	115.44	119.82	.65	1.53
Office Machines	51,610	7.48	3.28	5.12	11.56	2.09	75.00	97.05	104.53	.77	1.29
Office Occupations	35,280	5.11	2.24	3.50	12.74	2.09	75.00	104.75	109.86	.71	1.40
Retail/Sales	48,384	7.00	3.08	4.80	5.19	2.09	75.00	90.16	97.16	.83	1.20
Shorthand	35,280	5.11	2.24	3.50	12.74	2.09	75.00	95.57	100.68	.78	1.27
Typing	87,091	12.62	5.54	8.64	10.56	2.09	75.00	101.83	114.45	.74	1.35
Home Economics Ed.											
Clothing	72,576	10.51	4.61	7.20	10.41	4.81	75.00	101.82	112.33	.73	1.36
Child Development	79,834	11.57	5.08	7.92	2.63	4.81	75.00	95.23	106.80	.78	1.27
Family Living	31,449	4.56	2.00	3.12	3.03	4.81	75.00	87.75	92.31	.85	1.17
Foods	49,997	7.25	3.18	4.96	9.10	4.81	75.00	96.84	104.09	.77	1.29
Food Service	172,892	25.06	11.00	17.15	28.97	5.79	75.00	137.70	162.75	.54	1.84
Industrial Education											
Auto	181,440	26.29	11.54	18.00	29.77	4.27	83.00	146.58	172.87	.57	1.76
Electronics	84,672	12.53	5.39	8.40	24.99	4.27	83.00	126.04	138.57	.66	1.52
Graphics	122,976	17.82	7.82	12.20	82.77	4.27	83.00	190.06	207.88	.44	2.29
Mech. Drawing	60,480	8.76	3.85	6.00	21.11	4.27	83.00	118.23	118.99	.76	1.33
Metal	107,251	15.54	6.82	10.64	28.26	4.27	83.00	132.99	198.53	.62	1.60
Power	84,672	12.53	5.39	8.40	19.37	4.27	83.00	120.43	132.96	.69	1.44
Wood	225,792	32.72	14.37	22.40	39.24	4.27	83.00	162.49	195.21	.51	1.95
Cooperative Education											
Distributive Ed. Office	17	0.5	.25	.50	2.00	.50	72.00	75.00	76.00	.96	1.04
NON-VOCATIONAL ED. An average, non-lab class	126	4.2	2.00	3.00	3.20	.37	60.00	68.57	72.77	.88	1.14

GENERAL DEPRECIATION SCHEDULE
(PCHS)

General Depreciation Schedule

Annual Depreciation of Building and Equipment at Three and Eight Percent, Respectively

The following is a description of an alternative procedure for determining annual depreciation of buildings and equipment.

As a general rule, the Michigan State Department of Education computes an annual depreciation rate for school buildings at three percent and the equipment and furnishings at eight percent (Thomas, 1968:165).

Assuming that PCHS values are representative of an average high school, the following calculations would represent valid cost depreciation per year.

Function I: Bldg. cost

TOTAL VOC ED		$1,720,172
Bus Ed.	$405,014	
Home Ec.Ed.	447,875	
Ind. Ed.	867,283	

Expected Life of Bldg: 50 years
Depreciation rate per year: 3 percent

TOTAL VOC ED ANNUAL COST		$ 51,604
Bus. Ed	$ 12,150	
Home Ec. Ed.	13,436	
Ind. Ed.	26,018	

Function IV: Equipment and Furnishings

TOTAL VOC ED		$ 534,858
Bus Ed.	$165,953	
Home Ec. Ed.	73,485	
Ind. Ed.	295,420	

Depreciation rate per year: 8 percent

TOTAL VOC. ED. ANNUAL COST		$ 42,789
Bus Ed.	$ 13,276	
Home Ec. Ed.	5,879	
Ind. Ed.	23,634	

FUNCTION I
BUILDING AND SITE
(NEOVEC)

Cost Components Included in Each of the Six Functions for NEOVEC

Function I: Cost per room

The costs of the architectural services and construction for NEOVEC amounted to $1,821,300. A total of 55,107 square feet was completed. Per square foot, the average cost was $33.05. Each room's value was determined by multiplying the actual square footage by the cost per square foot. No allowance was considered for depreciation based upon the building's expected useful life.

NEOVEC building cost----------$1,821,300

NEOVEC total square footage----------$55,107

NEOVEC square footage for vocational education-----$41,767

NEOVEC square footage for common area----------$13,340

NEOVEC cost per square foot----------$33.05

Function I - Building And Site : NEOVEC

Program	Number of Square Feet Per Room	Cost For Classroom Facility	Cost Per Classroom Per Year	Cost Per Enrollee Per Semester
Appliance Repair	2,176	$ 65,379	$ 311	$10
Auto Body 1 ½	3,808	114,413	422	15
Auto Mech.	3,400	102,155	486	16
Bldg. Const. 1½	5,168	155,275	573	19
Child Care	2,352	70,667	337	11
Clothing	1,024	30,767	147	5
Cosmotology 1½	2,076	62,374	230	8
Display	2,340	70,306	335	11
Dist. Ed.	1,131	33,981	162	5
Food Ser. 1½ / Food Mgt. 1½	4,896	147,103	271	9
Heat & A/C	4,964	149,146	710	3
Ind. Elect.	3,128	93,982	448	15
Marine & Small Eng.	2,584	77,637	370	12
Welding	2,720	81,724	389	13

FUNCTION II
UTILITIES
(NEOVEC)

Function II: Utilities

The utilities consumed within NEOVEC amounted to $64,170 of electricity, gas, telephone, and water and sewer during SY 1974-75. Per square foot, the average cost was $1.16. Each program's utility cost was determined by multiplying the actual square footage by the cost per square foot.

Function II - Utilities : NEOVEC

Program	Number of Square Feet Per Room	Cost For Classroom Facility	Cost Per Enrollee Per Semester
Appliance Repair	2,176	$2,304	$10.97
Auto Body 1½	3,808	4,031	14.88
Auto Mechs.	3,400	3,599	17.14
Bldg. Const. 1½	5,168	5,472	26.05
Child Care	2,352	2,490	11.86
Clothing	1,024	1,084	5.16
Cosmotology	2,076	2,198	7.66
Display	2,340	2,477	11.80
Dist. Ed.	1,131	1,197	5.70
Food Serv. 1½ / Food Mgt. 1½	4,896	5,183	9.56
Heat & A/C	4,964	5,255	25.02
Ind. Elect.	3,128	3,310	15.76
Marine & Small Eng.	2,584	2,735	13.02
Welding	2,720	2,879	13.71

FUNCTION III
MAINTENANCE AND OPERATIONS
(NEOVEC)

Function III: Maintenance and Operations

The maintenance and operations costs for NEOVEC included $57,558 for labor and supply charges for an average cost of $1.05. Labor accounted for the total salaries and fringe benefits for engineer and custodial personnel. Specific supply costs were those costs designated for use at NEOVEC. Apportioned supply charges were obtained by computing the percent of square feet in NEOVEC as compared to the square feet of the total buildings maintained by the school district.

Function III - Maintenance And Operations : NEOVEC

Program	Number of Square Feet Per Room	Annual Cost of Class/ Sec. Per Year	Annual Cost Enrollee Per 1½ Credit
Appliance Repair	2,176	$2,066	$ 9.84
Auto Body 1½	3,808	3,616	13.34
Auto Mechs.	3,400	3,228	15.37
Bldg. Const. 1½	5,168	4,907	23.37
Child Care	2,352	2,233	10.63
Clothing	1,024	972	4.63
Cosmotology 1½	2,076	1,971	7.27
Display	2,340	2,222	10.58
Dist. Ed.	1,131	1,074	5.11
Food Serv. 1½ / Food Mgt. 1½	4,896	2,324	8.58
Heat & A/C	4,964	4,714	22.45
Ind. Elect.	3,128	2,970	14.14
Marine & Small Eng.	2,584	2,454	11.69
Welding	2,720	2,583	12.30

FUNCTION IV
EQUIPMENT AND FURNISHINGS
(NEOVEC)

Function IV: Equipment and Furnishings

The current cost of reproduction value assigned to the vocational education equipment and furnishings of NEOVEC was $292,933. Per program costs of reproduction are listed in the Function IV table. These values were determined by the Manufacturers' Appraisal Company. The annual replacement budget amount for NEOVEC was based on the data student for PCHS. A rate of 20% was used as an average. The range is 18 - 22%.

Function IV - Equipment And Furnishings : NEOVEC

Program	Annual Cost	Cost/Repro/ Annual Cost/ 10 Sec./Yr.	Annual Cost/ Enrollee/ 1/2 Credit
Appliance Repair	$30,225	$143.93	$29
Auto Body 1½	16,920	64.76	13
Auto Mechs.	11,810	56.73	11
Bldg. Const. 1½	10,440	39.96	8
Child Care	3,903	15.59	4
Clothing	30,766	146.50	29
Cosmotology 1½	11,497	44.00	9
Display	8,900	42.38	8
Dist. Ed.	20,880	99.42	20
Food Serv. 1½ Food Mgt. 1½	58,630	226.39	22
Heat & A/C	18,697	89.03	18
Ind. Elect.	32,308	153.85	31
Marine & Small Eng.	47,522	226.30	45
Welding	20,342	96.87	19

FUNCTION V
EQUIPMENT AND FURNISHINGS
(NEOVEC)

Function V: Consumable Supplies

The consumable supplies for NEOVEC include paper, pencils, chalk, etc. as well as shared charges used in the instruction of each program. Per program allotments are determined by combining the appropriate figure in the Function V, Part A and Part B, tables. The total of Function V was $53,194.

Function V (Part A) - Consumable Supplies : NEOVEC

Program	Annual Supplies	Annual Supplies/ 10 Sections	Annual Cost/ Enrollee Rec. 1/2 credit
Appliance Repair	$ 700	$ 636	$ 303
Auto Body 1½	890	809	328
Auto Mechs.	1,035	941	448
Bldg. Const. 1½	2,620	2,382	879
Child Care	1,010	918	437
Clothing	885	805	383
Cosmotology	550	500	184
Display	825	750	357
Dist. Ed.	775	705	336
Food Serv. 1½ Food Mgt. 1½	1,112	1,011	373
Heat & A/C	965	877	417
Ind. Elect.	1,380	1,255	598
Marine & Small Eng.	600	545	260
Welding	2,735	2,486	1,184

Function V (Part B) - Shared Charges : NEOVEC

Program	Annual Cost	Annual Cost 10 Sec./ Year	Annual Cost Enrollee/ 1/2 Credit
Appliance Repair	$2,600	$2,182	$1,039
Auto Body 1½			805
Auto Mechs.			1,039
Bldg. Const.			805
Child Care			1,039
Clothing			1,039
Cosmotology 1½			805
Display			1,039
Dist. Ed.			1,039
Food Serv. 1½ Food Mgt. 1½			1,610
Heat & A/C			1,039
Ind. Elect.			1,039
Marine & Small Eng.			1,039
Welding			1,039

FUNCTION VI
SALARY AND COST OF LIVING
FOR
TEACHERS, ADMINISTRATORS
AND
THEIR SECRETARIES
(NEOVEC)

Function VI: Salaries and Fringes

The expenditure for salary, fringe benefits and cost of living adjustment for 15 NEOVEC teachers, their aides, the principal and his secretary amounted to $392,055. The average annual cost per program was $26,137.

Function VI - Salaries And Fringes : NEOVEC

Program	Average Annual Salary	Average Annual Sal./ 10 Sections	Annual Cost/ Enrollee/ 1/2 credit
Appliance Repair	$26,137	$23,761	$113.15
Auto Body 1½	↓	↓	87.69
Auto Mechs	↓	↓	113.15
Bldg Const. 1½	↓	↓	87.69
Child Care	↓	↓	113.15
Clothing	↓	↓	113.15
Cosmotology	↓	↓	87.69
Display	↓	↓	113.15
Dist. Ed.	↓	↓	113.15
Food Serv. 1½ Food Mgt. 1½	52,274	47,522	175.38
Heat & A/C	26,137	23,761	113.15
Ind. Elect.	↓	↓	113.15
Marine & Small Eng.	↓	↓	113.15
Welding	↓	↓	113.15

These data reflect the cost within each function based upon one-half credit per semester.

Cost Description

I.A. Building and site costs based on area of installation. Does not include ancillary space such as hall, administrative office, etc. ($40.32 per sq. ft.)

I.B. Same as I.A. amortized over 30 years. The average life of a building is generally consider to be 50 years. The 30 year figure is used to reflect renovation, inflation, and obsolescence.

II. Utility costs based on area ($0.59 per sq. ft.)

III. Maintenance and operation based on area of facility. (o.92 per sq. ft.)

IV. Equipment and furnishing. This reflects the reproduction value of the equipment and furnishing adjusted to reflect normal life expectancy and inflation (7%).

V. Consumable Supplies - These costs do not include text books, or library facilities. The cost is based on department records and averages used. Not included in these costs are the recaptured monies acquired through production and personal jobs performed by the various shops including auto tune-ups, graphics, production, etc.

VI. Salary - This includes direct cost of instruction along with other administrative facilities. Since many teachers have classes in several areas within a program or department, the costs per program was based on average salary of teacher within the department.

VII. Total cost per one-half credit per semester credit excluding building and site (Function I).

VIII. Total cost per one-half credit per semester credit including the amortized building and site fund.

IX. Salary to total ratio include the fractional part of the total cost that the salary function contributes, excluding building and site costs.

X. Salary Index - The factor which when multiplied by the average salary will produce reasonable estimates of the program cost.

NEOVEC Summary Costs By Program By Function

	I A	I B	II	III	IV A	IV B	V	VI	VII	VIII	Program Total	Fraction Sal./Ops. Budget	Sal. Index/ Ops. Budget
Appliance Repair	311	10	11	10	144	29	13	113	176	186	602	.64	1.56
Auto Body 1½	442	15	15	13	65	13	11	88	140	155	634	.63	1.59
Auto Mechs.	486	16	17	15	56	11	14	113	170	186	701	.66	1.50
Bldg. Const. 1½	573	19	26	23	40	8	17	88	162	181	767	.54	1.84
Child Care	337	11	12	11	10	4	14	113	154	165	506	.73	1.36
Clothing	147	5	5	5	147	29	14	113	166	171	431	.68	1.47
Cosmotology	230	8	8	7	44	9	10	88	122	130	387	.72	1.39
Display	335	11	12	11	42	8	14	113	158	169	527	.71	1.40
Dist. Ed.	162	5	6	5	99	20	13	113	157	162	398	.72	1.39
Food Serv. 1½	271	9	10	9	112	22	10	88	139	148	500	.63	1.58
Food Mgt. 1½	271	9	10	9	112	22	10	88	139	148	500	.63	1.59
Heat & A/C	710	24	25	22	89	18	14	113	192	216	973	.59	1.70
Ind. Elect.	448	15	16	14	154	31	16	113	190	205	761	.59	1.70
Marine & Small Eng.	370	12	13	12	226	45	13	113	196	208	747	.58	1.73
Welding	389	13	14	12	92	19	22	113	180	193	647	.63	1.59

OPERATING BUDGET AT PCHS AND NEOVEC COMPARED

A Comparison of Operating Budgets at PCHS and NEOVEC for the 1974-75 School Year

Twenty-nine vocational training programs were offered at PCHS and NEOVEC during the 1974-75 school year. Of this total, only seven of the same program areas were taught at both PCHS and NEOVEC. When compared by salary and operating expenses several programs were found to cost more at NEOVEC than at PCHS while several were found to be less expensive. Since the title of the program does not necessarily reflect actual course content, the author found it impossible to make cost judgment. Fourteen more programs were offered at PCHS than at NEOVEC. The following pages identify those programs by area and school.

PROGRAMS AT PCHS AND NEOVEC COMPARED

Vocational Education Programs Offered at PCHS and NEOVEC, Grades 1-12, During School Year 1974-75

BUSINESS EDUCATION PROGRAMS

	PCHS	NEOVEC
ACCOUNTING		
1. Business Accounting, 52,62	*	
2. Data Accounting	*	
3. Accounting 72		
FILING, BUSINESS ENGLISH, BUSINESS LAW		
1. Filing 52	*	
2. Business English 52	*	
3. Business Law 72	*	
4. Business 12	*	
5. Modern Business	*	
CLERICAL/OFFICE MACHINE OCCUPATIONS		
1. Business Machines	*	
2. Store	*	
3. Stenographer Pool	*	
DATA PROCESSING		
1. Data Processing	*	
OFFICE MACHINES		
1. Office Machines	8	

RETAIL AND SALESMANSHIP	PCHS	NEOVEC
1. Retail 62	*	
2. Salesmanship	*	
3. General Merchandising		*
4. Display		8
SHORTHAND		
1. Shorthand 52,62	*	
TYPING		
1. Typing 12,22,32,33,72	*	
2. Typing 42,52	*	
3. Personal Typing	*	
COOPERATIVE EDUCATION:	*	*

HOME ECONOMICS EDUCATION PROGRAMS:

	PCHS	NEOVEC
FOODS		
1. Food Management		*
2. Food Service	*	*
3. Advanced Foods	*	
4. Foods for Men	*	
5. Home Economics 12	*	
CLOTHING		
1. Clothing Management Services		*
2. Advanced Clothing	*	
3. Home Economics 22	*	
CHILD CARE		
1. Child Care		*
2. Child Development	*	
FAMILY LIVING		
1. Family Living	*	
2. Home Management	*	
COOPERATIVE EDUCATION	*	*

INDUSTRIAL EDUCATION PROGRAMS:

	PCHS	NEOVEC
AUTOMOTIVES		
1. Auto Body		*
2. Auto Mechanics		*
3. Advanced Auto	*	
4. Auto Power 32	*	
5. Automotives 42	*	
WOODS		
1. Advanced Woodshop		
2. Woodshop 32,42,I	*	
3. Advanced Woodwork	*	
4. Woodwork 32,42	*	
BUILDING TRADES		
1. Building Trades		*
2. Advanced Building Trades		*
MECHANICAL DRAWING		
1. Advanced Drafting	*	
2. Engineering Drafting		
3. Drafting 52,62	*	
4. Drafting 32,42,I	*	

	PCHS	NEOVEC
GRAPHIC ARTS		
1. Advanced Graphic Arts	*	
2. Graphic Arts 32,42	*	
ELECTRICITY		
1. Industrial Electricity		*
2. Appliance Repair		*
3. Radio TV Repair		
4. Electronics 32,42		
5. Electricity 32	*	
METALS		
1. Advanced Welding	*	*
2. Welding 32,42	*	
3. General Metals 32		*
POWER MECHANICS		
1. Power Mechanics 12		
2. Small Engines	*	
3. Marine and Small Engines		*
HEATING-AIR-REFRIGERATION		
1. Heat-Air-Refrigeration		*
COSMETOLOGY		
1. Cosmetology		*
COOPERATIVE EDUCATION	*	*

SUMMARY

Summary

The Generalized Information System (GIS) procedure, along with records maintained by the directors of vocational education, secondary education, and personnel and finance provided the cost and enrollment data necessary for this report.

To facilitate retrieval of costs by function per high school in Pontiac, the GIS computerized procedure was programmed with the cooperation of consultants of Oakland Intermediate School District (See Appendix B). Recording and computing costs by function is a method advocated by the Michigan State Department of Education in the Financial Accounting Bulletin 1022.

Four objectives were investigated with data describing vocational education and non-vocational education enrollees and expenditures by six costing functions.

The categories of functions included the following:

I Building cost of the room

II Utilities

III Maintenance

IV Equipment and Furnishings

V Consumable Supplies

VI Salary, Fringes, and Cost of Living

Conclusions:

Findings that resulted from the collection and categorization of data

were useful in drawing conclusions. Based on the findings of this study and assuming equivalent data in other school districts, the following conclusions are warranted:

Objective 1: To determine the costs per unit of student credit of vocational education programs and compare them to the costs of non-vocational education programs.

1. With the exception of cooperative education programs, each vocational education program costs more per one-half unit of student credit than a non-laboratory, non-vocational education program when compared by the salary index/operational budget formula.

Objective 2: To determine the initial costs of constructing and equipping instructional facilities for the 26 vocational education programs and compare them to the costs of non-vocational education facilities.

2. Constructing and equipping an area for a non-laboratory, non-vocational program was less expensive than for a vocational educational education program.

3. Based on annual cost per enrollee receiving one-half credit, the greatest expenditure occurred in industrial education followed in descending order by business education, home economics education, non-vocational education, and cooperative education.

Objective 3: To determine the cost per semester of operating each

of the 26 vocational education programs and a non-laboratory, non-vocational education program.

4. Based on annual cost per enrollee receiving one-half credit, the greatest expenditure occurred in industrial education, followed by home economics education, business education, non-vocational education, and cooperative education.

5. The greatest expenditure per program in each of three areas amounted to $421 in business education, $264 in home economics education, and $510 in industrial education.

6. The lowest expenditure per program in each of three areas amounted to $101 in business education, $102 in home economics education, and $169 in industrial education.

Objective 4: To determine the existence and extent of difference in costs between high school vocational programs and programs at the Northeast Oakland Vocational Education Center (NEOVEC).

7. Three out of seven programs (distributive education, clothing services, and child care) were more costly in NEOVEC than in Pontiac Central High School.

8. Four out of seven programs (food services, auto mechanics, electronics, and metal) were less costly in NEOVEC than in Pontiac Central High School.

9. Twenty-nine vocational education programs were offered in PCHS and NEOVEC.

APPENDIXES

APPENDIX A

ANNUAL DEPRECIATION PROCEDURES

Annual Straight Line Depreciation Procedures

The following procedure is an example for developing the annual straight line depreciation value (present worth required per year per program) in a school district, used in computing function 4.

Example: (figures used are PCHS Auto Program costs)

(1) A. Normal Life: (10 Years)
B. Cost of Reproduction: ($32,729)
(This amount is the total cost for all items in a program with the same expected normal life span)

(2) Depreciation per Year: ($3,273)

$$\frac{\text{Cost of Reproduction } (\$32,729)}{\text{Normal Life } (10)}$$

(3) Fraction of Program Total: (0.96)

$$\frac{\text{Depreciation Per Year } (\$3,273)}{\text{Total Depreciation for the Total Program per Year } (\$34,998)}$$

(4) Present Worth Index: (0.508)
A figure taken from "Table A-2: Present Worth of $1" (Weston, 1962:644)

(5) Weighted Present Worth: (0.49)
Fraction of Program Total (0.96) x Present Worth Index (0.508)

(6) Present Worth Required Per Year Per Program: ($6,848)

$$\frac{\text{Depreciation Per Year } (\$3,424)}{\text{Weighted Present Worth } (0.50)}$$

$6,848 represents the amount of capital needed annually to cover the cost of replacing all equipment upon expiration of normal life spans.

ANNUAL EQUIPMENT DEPRECIATION

	Normal Life	Cost of Reproduction	Depreciation Per Year	Fraction of Total Program Cost	Present Worth Index	Weighted Present Worth	Present Worth Required Per Yr. Per program
PCHS Bus. Ed.							
Accounting	08 yrs	$ 4,275	$ 534	0.75	0.582	0.437	$ 1,340
	10	295	30	0.04	0.508	0.020	
	15	2,197	146	0.20	0.362	0.072	
		6,767	710			0.53	
Bus.Eng./Law, Filing	10	3,050	305	0.79	0.508	0.401	$ 819
	15	1,207	80	0.20	0.362	0.072	
		4,257	385			0.47	
Cler. Machine Occup.	10	71,762	7,176	0.85	0.508	0.432	$15,130
	15	4,511	301	0.04	0.362	0.014	
	rental	996	996	0.12	0.935	0.112	
		77,269	8,473			0.560	
Data Process.	08	210	26	0.004	0.582	0.002	$ 7,690
	10	12,825	1,283	0.21	0.508	0.107	
	15	6,947	463	0.08	0.362	0.029	
	rental	4,380	4,380	0.71	0.935	0.664	
		24,362	6,152			.80	
Off. Machines	10	10,330	1,033	0.81	0.508	0.411	$ 2,660
	15	3,662	244	0.19	0.362	0.069	
		13,992	1,277			0.48	
Off. Occup.	08	210	26	0.01	0.582	0.006	$ 5,042
	10	23,100	2,310	0.92	0.508	0.467	
	15	2,775	185	0.07	0.362	0.025	
		26,085	2,521			0.50	
Retail./Sales	10	1,875	188	0.38	0.508	0.193	$ 1,193
	15	4,697	313	0.62	0.362	0.224	
		6,572	501			0.42	

(continued on following page)

ANNUAL EQUIPMENT DEPRECIATION (continued)

	Normal Life	Cost of Reproduction	Depreciation Per Year	Fraction of Total Program Cost	Present Worth Index	Weighted Present Worth	Present Worth Required Per Yr. Per program
Shorthand	10	13,990	1,399	0.95	0.508	0.483	2,930
	15	997	66	0.04	0.362	0.014	
		14,987	1,465			0.50	
Typing (beg.)	10	11,170	1,117	0.93	0.508	0.472	2,429
	15	1,097	73	0.06	0.362	0.022	
		12,267	1,190			0.49	
Typing (inter & adv.)	10	17,230	1,723	0.95	0.508	0.483	3,592
	15	1,097	73	0.04	0.362	0.014	
		18,327	1,796			0.50	
							$38,061

ANNUAL EQUIPMENT DEPRECIATION

	Normal Life	Cost of Reproduction	Depreciation Per Year	Fraction of Total Program Cost	Present Worth Index	Weighted Present Worth	Present Worth Required Per Yr. Per program
PCHS Home Economics							
Child Care	10 yrs.	$ 1,135	$ 114	0.44	0.508	0.224	$ 605
	15	2,101	140	0.55	0.362	0.199	
		3,236	254			0.42	
Clothing	10	1,635	164	0.18	0.508	0.091	$ 2,395
	15	11,192	746	0.81	0.362	0.293	
		12,827	910			0.38	
Food	08	3,428	429	0.40	0.582	0.233	$ 2,094
	10	4,325	433	0.40	0.508	0.203	
	15	3,066	206	0.19	0.362	0.069	
		10,809	1,068			0.51	
Food Service	08	955	119	0.04	0.582	0.023	$ 6,664
	10	5,150	515	0.19	0.508	0.097	
	15	29,474	1,965	0.75	0.362	0.272	
		35,579	2,599			0.39	
Home Mgt./Fam. Liv.	10	295	30	0.11	0.508	0.056	$ 697
	15	3,531	235	0.88	0.362	0.319	
		3,826	265			0.38	
							$12,455

ANNUAL EQUIPMENT DEPRECIATION

	Normal Life	Cost of Reproduction	Depreciation Per Year	Fraction of Total Program Cost	Present Worth Index	Weighted Present Worth	Present Worth Required Per Yr. Per program
PCHS Industrial Ed.							
Auto	10 yrs	$32,729	$3,273	0.96	0.508	0.49	$ 6,848
	15	2,269	151	0.04	0.362	0.01	
		34,998	3,424			0.50	
Electronics	05	3,000	600	0.20	0.713	0.143	$ 5,748
	10	17,956	1,796	0.601	0.508	0.305	
	15	8,890	593	0.198	0.362	0.072	
		29,846	2,989			0.59	
Graphic Arts	10	92,705	9,271	0.97	0.508	0.49	19,038
	15	3,723	248	0.03	0.362	0.01	
		96,428	9,519			0.50	
Mechanical Drawing	10	3,350	335	0.18	0.508	0.09	$ 4,855
	15	22,656	1,510	0.81	0.362	0.29	
		26,006	1,845			0.38	
Metal Shop	10	37,726	3,773	0.89	0.508	0.45	$ 8,792
	15	6,703	447	0.10	0.362	0.03	
		44,429	4,[illegible]			0.48	
Power Shop	05	4,000	800	0.30	0.713	0.214	$ 4,455
	08	11,339	1,417	0.54	0.582	0.314	
	15	3,951	363	0.14	0.362	0.051	
	20	88	4	0.0015	0.258	0.0003	
		19,378	2,584			0.58	
Wood Shop	05	9,750	1,950	0.38	0.713	0.27	$ 9,025
	10	23,973	2,397	0.47	0.508	0.239	
	15	10,612	707	0.13	0.362	0.047	
		44,335	5,054			0.56	
							$58,761

APPENDIX B

GENERALIZED INFORMATION SYSTEM (GIS)

MANUFACTURERS' APPRAISAL COMPANY

PROCEDURES FOR THE COLLECTION OF COST AND ENROLLMENT DATA

GIS

To facilitate convenient access to the financial records of PCHS AND PNHS, a computerized procedure known as Generalized Information System (GIS) was effected. Consultant expertise from the Oakland Intermediate School District designed the logical sequence of the GIS procedure and facilitated its run. The output from this procedure was printed in ledger format with the information organized in columns entitled the following:

(1) Responsibility Code - a two or three digit symbol indicating the responsible person and his/her immediate supervisor;

(2) Account Number - a four part series numbering. The first five digits designated the function and object, the second three digits indicated the building, the third three digits cited the activity, and the last three digits identified the course;

(3) Account Description - listed the purpose for which the funds were allocated;

(4) Fund Code - a single alphabetical symbol that represented the appropriate fund;

(5) Budget Allocation - the amount allowed for expenditure;

(6) Expenditures and Encumberances Year to Date - the amount subtracted in actual fund transactions and accounts contracted for payment;

(6) Available - the amount of funds remaining for expenditure in the school year.

In utilizing the GIS printout, data were grouped according to appropriate functions. The function cost data categories included building construc-

tion and site acquisition, utilities, maintenance and operations, equipment and furnishings, consummable supplies, and salary and fringe benefits.

MANUFACTURERS' APPRAISAL

During the SY1974-75, the Manufacturers' Appraisal Company, Philadelphia, Pennsylvania, was contracted to provide the school district with a complete inventory of property. The August 21, 1975, report submitted information for insurance and property control purposed, and set forth the cost of reproduction and the cost of reproduction less depreciation for the building, building fixtures, fixed equipment and movable furniture, fixtures and equipment. The report did not include land, supplies, automotive equipment or walks, paving, fences and playground equipment not covered by property insurance. Costs itemized in the inventory were categorized according to a building cost or a contents cost.

Each contents item was described by a sequence number, quantity, equipment code, item description (complete with serial number, where applicable), cost of reproduction by unit and by total, percentage of depreciation (for insurance purposes), and expected life based on year of purchase, normal life and remaining life.

ENROLLMENT AND COST DATA SOURCES

The enrollments of students per class section per program were transcribed from information compiled by the director of secondary education and by the director of vocational education.

Information on salaries, fringes, and fixed charges was obtained from the directors of personnel, finance and vocational education.

To measure the reported educational costs used to provide a unit of learn-

ing (a one-half semester credit), total costs per program were compared to (a) the total class sections per program and (b) the total students enrolled per program.

The costs incurred by NEOVEC were available on regularly issued print-outs categorized by vocation program. Enrollment data were furnished by the NEOVEC counseling staff.

APPENDIX C

GLOSSARY

GLOSSARY

1. Accountability - a relatively new concept that is virtually certain to receive increased emphasis in the years ahead. Accountability may be defined as "evidence of fulfilling a measurable responsibility assigned under certain conditions and constraints."

2. Bonded Money - money procured for school support through a general election process to be repaid to the holder of the bond until the bond matures. Money used for site, building (architect fees and construction), and original capital outlay.

3. Building Use Cost - The building use cost or building operating cost for a year is determined by dividing the original cost by its life expectancy.

4. Capital Outlay - An expenditure which results in the acquisition of fixed assest or additions to fixed assets which are presumed to have benefits for more than one year. It is an expenditure for land or existing buildings, improvements of grounds, construction of buildings, additions to buildings, remodeling of buildings, or initial, additional, and replacement of equipment.

5. Contracted Services- services rendered by people who are not on the payroll of the LEA and related expense covered by the contract.

6. Cost Accounting - that method of accounting which provides for the assembling and recording of all the elements of cost incurred to accomplish a purpose, to carry on an activity or operation, or to complete a unit of work or a specific job.

7. Cost Benefit - analyses which provide the means for comparing the resources to be allocated to a specific program with the results likely to be obtained from it; or, analyses which provide the means for comparing the results likely to be obtained from the allocation of certain resources toward the achievement of alternate or competing objectives.

8. Cost Effectiveness - analyses designed to measure the extent to which resources allocated to a specific objective under each of several alternatives actually contribute to accomplishing that objective, so that different ways of gaining the objective may be compared.

9. Depreciation - buildings and equipment should be depreciated on a straight line basis for a period of time corresponding to their life expectancy.

10. Decision-Making - with finances sometimes in short supply, school managers, boards of education and interested citizens are faced with setting priorities in programs and facilities. Decisions regarding facilities include their utility and aesthetic value; the number of square feet needed for an educational activity, and the size, utility, and landscape value of the site.

11. Direct Costs/In direct Costs - those elements of cost which can be easily, obviously, and conveniently identified with specific activities or programs, as distinguished from those costs incurred for several different activities or programs and whose elements are not readily identifiable with specific activities.

12. Employee Benefits/ Fringe Benefits - compensation, in addition to regular salary, provided to an employee. This may include such benefits as health insurance, life insurance, annual leave, sick leave, retirement, and social security.

13. Encumbrances - purchase orders, contracts, and salary or other commitments which are chargeable to an appropriation and for which a part of the appropriation is reserved. They cease to be encumbrances when paid or when actual liability is set up.

14. Equipment Use Cost - this is the cost of using a piece of equipment for a fiscal year.

15. Fixed Charges - charges of a generally recurrent nature which are not readily allocated to other expenditure categories. They consist of such charges as: school board contributions to employee retirement, insurance and judgments, rental of land and buildings, and interest on current loans. they do not include payments to public school-housing authorities or similar agencies.

16. GIS - Generalized Information System Computer program

17. LEA - local educational agency; synonymous with the terms school district, public school, intermediate education agency, and school system.

18. NEOVEC - Northeast Oakland Vocational Education Center

19.	Non-Vocational Education	-	all instructional programs not included within the areas of business education, home economics education, and industrial education.
20.	Operating Cost	-	means the total cost (direct cost, indirect cost, and the use cost of buildings and equipment) of all programs or activities for the current school fiscal year.
21.	PCHS	-	Pontiac Central High School
22.	PNHS	-	Pontiac Northern High School

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TITLE: A FEASIBILITY STUDY FOR VOCATIONAL-TECHNICAL EDUCATION FOR THE CONCHO VALLEY AREA OF TEXAS.

DESCRIPTOR: *FEASIBILITY STUDIES; *VOCATIONAL EDUCATION; *POST SECONDARY EDUCATION; *NEEDS ASSESSMENT; PROGRAM DESCRIPTIONS; SURVEYS; EDUCATIONAL NEEDS; MANPOWER NEEDS; *ADULT VOCATIONAL EDUCATION

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ABSTRACT: THE PURPOSE OF THIS STUDY WAS TO PROVIDE ANGELO STATE UNIVERSITY WITH INFORMATION CONCERNING THE POSTSECONDARY, VOCATIONAL-TECHNICAL EDUCATION NEEDS, RESOURCES, AND POTENTIALS OF THE CONCHO VALLEY REGION OF WEST TEXAS AND TO ASSESS THE FEASIBILITY OF COOPERATIVELY SERVICING THESE NEEDS. A LITERATURE REVIEW, PROJECT OVERVIEW, AND PROGRAM GOALS AND OBJECTIVES ARE PRESENTED AS AN INTRODUCTION. IN DESCRIBING PROCEDURES AND METHODOLOGY, THE ACTIVITIES ARE DETAILED UNDER THE ORGANIZATIONAL HEADINGS OF (1) ORGANIZATION, (2) SURVEY PROCEDURES AND INSTRUMENT DEVELOPMENT, AND (3) DATA PROCESSING AND ANALYSIS. THE FINDINGS ARE ORGANIZED INTO THE THREE DIVISIONS OF EDUCATIONAL NEEDS AND INTERESTS, OCCUPATIONAL NEEDS, AND EDUCATIONAL RESOURCES. EACH REPORT DIVISION CORRESPONDS WITH A MAJOR AREA OF INVESTIGATION AND CONTAINS A SUMMARY OF THE PRIMARY FINDINGS IN THAT SURVEY AREA. THE REPORT SUMMARIZES INTEREST EXPRESSED BY ADULTS REGARDING THE INDIVIDUAL CATEGORIES OF POSTSECONDARY EDUCATION, VOCATIONAL-TECHNICAL TRAINING AND EDUCATION, COLLEGE CREDIT PROGRAMS, AND INFORMAL ADULT AND CONTINUING EDUCATION. MAJOR CONCLUSIONS ARE REPORTED IN THE ORDER OF THEIR GENERAL IMPORTANCE TO THE PURPOSE OF THE STUDY. APPENDIXES (56 PAGES) PROVIDE INFORMATION PERTAINING TO THE THREE SURVEYS--THE EDUCATIONAL NEEDS AND INTEREST SURVEYS FOR SAN ANGELO AND FOR THE COUNTIES AND THE OCCUPATIONAL NEEDS SURVEY--AND ADDITIONAL DETAILS OF THE FINDINGS. (NJ)

INSTITUTION NAME: ANGELO STATE COLL., SAN ANGELO, TEX.

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A FEASIBILTY STUDY FOR VOCATIONAL-TECHNICAL EDUCATION FOR THE CONCHO VALLEY AREA OF TEXAS

A Report Submitted to the Division of Occupational Research and Development, Department of Occupational Education and Technology, Texas Education Agency

Conducted by
Angelo State
University

JUNE 30, 1975

VT 103 262

2

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A Report Submitted to the Division of Occupational Research and Development, Department of Occupational Education and Technology, Texas Education Agency

Conducted by
Angelo State University

Project Directed by
Dr. J. Noland Harvey

Project Report by
Dr. J. Noland Harvey
Dr. Fred L. Mahler

June 30, 1975

CE 008 930

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Important contributions were made by members of the Committee for a Feasibility Study of Vocational-Technical Education in both the initiation and execution of the study. Members of the committee and a working subcommittee were Dr. Fred Mahler, Dean of the College of Professional Studies, Angelo State University, Chairman; Dr. J. Noland Harvey, Associate

Professor of Education, Angelo State University; Dr. Raymond Sifrit, Jr., Assistant Professor of Distributive Education, Angelo State University; Dr. James Nevins, Superintendent of Schools, San Angelo Independent School District; Mr. Rex Lowe, Assistant Superintendent, San Angelo Independent School District; Mr. C.D. Henry, Director of Special Projects, San Angelo Independent School District; Mr. Charles Bitters, Executive Director, Region XV Education Service Center; Mr. Clyde Warren, Director of Instructional Services, Region XV Education Service Center; Mr. Larry Lusby, Coordinator of Guidance Services, Region XV Education Service Center; Mr. James Hinds, Concho Valley Council of Governments; Mr. Rocky Brookmole, Career Education Coordinator, Region XV Education Service Center; Mr. Horace Bargley, Administrative Consultant, San Angelo Independent School District, and Mr. Don Hale, Director, Adult and Continuing Education, Angelo State University. Very special thanks go to Mr. Horace Bargley for his extensive contribution to the survey activities of the project.

The study would not have been possible without the cooperation and contributions of a number of regional institutions and agencies. These organizations were: San Angelo Independent School District, San Angelo Board of City Development and Chamber of Commerce, and the Texas Employment Commission. Also, we are very grateful to the following school districts for assistance in the survey phase of the study: Bangs ISD, Blanket RHSD, Zephyr RISD, Santa Anna ISD, Eden ISD, Eola RHSD, Paint Rock RHSD, Rocksprings ISD, Irion County ISD, Junction ISD, Brady ISD, Lohn RISD, Miles ISD, Cherokee ISD, Sonora ISD, Grape Creek-Pulliam CSD, San Angelo ISD, and Wall ISD.

We also acknowledge the contributions of thousands of persons in the Concho Valley Area of Texas who participated in the surveys associated with

the project. We hope their contributions will be repaid by the continuing improvement of educational services in the area to which this study is dedicated.

CHAPTER I

INTRODUCTION

Orientation to the Study

This is the final report of a project titled "Feasibility Study for Vocational-Technical Education for the Concho Valley Area," funded and authorized by the Division of Occupational Research and Development, Department of Occupational Education and Technology, Texas Education Agency. The project was conducted by Dr. J. Noland Harvey, Associate Professor of Education. Administrative assistance to the project was provided by Dr. Fred L. Mahler, Dean of the College of Professional Studies. This report was written by Doctors Harvey and Mahler.

The study reported here was initiated out of the mutual concerns of the leaders of the educational institutions charged with the primary responsibilities of delivering the educational programs needed by the citizens of the area. These educational leaders were Dr. James Nevins, Superintendent, San Angelo Public Schools; Mr. Charles Bitters, Executive Director, Region XV Education Service Center; and Dr. Lloyd D. Vincent, President, Angelo State University. From its early planning stages the study has been a cooperative effort of the educational institutions within the Concho Valley area. Each of these institutions is strongly committed to the goal of improving the educational and occupational opportunity of the citizens of the Concho Valley area. This study was seen as a first and necessary step toward this goal.

Statement of the Problem

Purpose of the Study. The study was conducted to determine the need for vocational-technical education at the post-secondary level in a multi-county region of West Texas. The purpose of the project was to provide the prime sponsor, Angelo State University, with accurate, reliable information concerning regional post-secondary vocational-technical education needs, resources, and potentials and, based upon these findings, to assess carefully the feasibility of cooperatively servicing these needs. Such a needs assessment and feasibility study is necessary to the systematic development of program objectives and priorities that are relevant to both the educational needs of regional residents and the employment needs of regional business and industry. The study was also necessary to avoid unnecessary duplications of expensive programs in the development of new vocational-technical programs which will meet regional needs not presently served.

Review of Related Literature. The Vocational Education Act of 1963 and the Vocational Amendments of 1968 directed the attention of the nation to the critical need for technically skilled manpower in practically every field of commerce, industry, and business. The Vocational Amendments of 1968 (Public Law 90-576), established priorities for post-secondary programs, work study programs for needy students, adult programs, and programs and services for persons with special needs. (1) This keystone legislation stresses that occupational education planning be based on need and opportunity for trained manpower. (10)

Today, the critical need for technically skilled manpower is readily apparent. "It is estimated that within the next decade, approximately 50%

of the work force will be in technical, semi-professional and service-oriented jobs." (5) The Commissioner of the Bureau of Labor Statistics, Shiskin, in a prefatory note for the 1974-75 Occupational Outlook Handbook (U.S. Department of Labor), contends that accompanying a projected increase of as much as 20 million jobs in the next decade will be "a significant shift from goods-producing industries...toward service-producing industries." (12)

These current national projections are in keeping with the Texas Employment Commission 1971 statement of Texas employment outlook to 1975 which forecasted that the service industries in Texas would show a substantial growth (over 23%) in job opportunities during the first half of the 1970's. The report goes on to state that "the wholesale and retail trade industries will employ one out of four people working in Texas by 1975." (16) This projection is especially significant for educational and vocational planning. "To assure that young people will have the necessary skills to meet future job requirements will require flexibility in our educational systems and necessitates a continuing appraisal of career opportunities in the years ahead." (12)

Schaefer and Law, in their 1973 review of research on teaching vocational skills, stated that "the matching of vocational programs with appropriate manpower needs always has been a major challenge. Such a system, if properly functioning, reflects the delivery of youth and adults ready and willing to take existing jobs." (10) Venn concludes that the assessment of manpower demand is fundamental to "the successful utilization of a trained manpower supply,...(and) that this information is necessary for planning at secondary, post-secondary, college, and adult levels of education." (13)

However, it is not sufficient to determine the national employment projections in career areas. According to Crum and others, national employment projections provide little insight into regional needs. (4) This may be an especially valid contention when applied to a region such as the West Texas region. Wallace, in an article for the American Vocational Journal (1970), considered an assessment of the local employment community a major step in the development of any training program. (15) Voelker, in an article from the same journal (1972), said job availability must be known prior to launching any new programs. (14) Reviewing these and other sources, it seems appropriate to conclude that "an analysis of a specific region is necessary to provide relevant and realistic programs for present and future employment needs in that region." (4)

Today, there is a clear need for a feasible plan which will point to needs not presently served and will avoid unnecessary duplication of expensive programs. (16) A number of studies have been conducted to determine the manpower needs of a geographic region, including many in Texas, sponsored by the Division of Occupational Research and Development. The reports of these projects have been a major source of ideas and information concerning methodology.

Schaefer and Kautman, in a statewide evaluation of occupational education, reached the conclusion that "the potential of vocational education has not been and cannot be reached fully under the prevailing pattern." (9) Recently, the Dallas Morning News, in reporting education trends (August 11, 1974), stated that "occupational training and liberal arts study, once two divergent courses of post-secondary education, have merged on many state college and university campuses in the growing trend toward career

education programs incompatible with the broader perspectives and humanities emphasis of their liberal arts programs. On the contrary, administrators in state colleges and universities believe that the liberal arts atmosphere is a necessary benefit for career education students." (5) More precise evidence of this trend can be found in a study conducted by the American Association of State Colleges and Universities (AASCU) which found that approximately 50% of its 313 members offered less than baccalaureate level programs, including two-year associate degrees and some one-year certificate programs. (5) In summary, the literature clearly supports the current and continuing necessity for the assessment of regional occupational needs and demands with a trend toward four-year colleges and universities contributing to occupational and career education programs.

Initial Activities. Preliminary discussions between Dr. James Nevins, Superintendent, San Angelo Public Schools; Mr. Charles Bitters, Executive Director, Region XV Education Service Center; and Dr. Lloyd D. Vincent, President, Angelo State University, indicated that a feasibility study concerning post-secondary Vocational-Technical Education was needed for the Concho Valley region. Dr. James Nevins contacted Dr. John R. Guemple, Associate Commissioner for Occupational Education and Technology, Texas Education Agency, concerning a feasibility study for this region. Dr. Guemple arranged a meeting with Dr. Bevington Reed, Commissioner, Coordinating Board, Texas College and University System, for this purpose. Individuals in attendance at this meeting were: Dr. Bevington Reed, Dr. David T. Kelly, Division Head, Division of Program Development, and Dr. Raymond Hawkins, Director of Community College Programs, Coordinating Board, Texas College and University System; Dr. James Nevins, Superintendent, San Angelo

Independent School District; Dr. John R. Guemple, Associate Commissioner for Occupational Education and Technology, Texas Education Agency; Mr. Joe Godsey, Coordinator, Vocational and Technical Education, Texas Education Agency; and Dr. Fred Mahler, Dean, College of Professional Studies, Angelo State University.

After much discussion, it was the feeling of the group that a study to assess the need for post-secondary programs was needed. Dr. David Kelly discussed this situation informally with the Program Development Committee of the Coordinating Board on July 11, 1974. This committee gave its endorsement for the group to pursue a joint project to assess the needs and feasibility of post-secondary vocational-technical program development.

The following steps were taken to facilitate the initial planning of the project:

1. Angelo State University received approval from the Board of Regents, State Senior Colleges, to participate in the feasibility study on August 16, 1974.
2. Dr. James Nevins, Superintendent, San Angelo Independent School District, received approval from the San Angelo Independent School District Board of Education to participate in the feasibility study on August 20, 1974.
3. Mr. Charles Bitters indicated that Region XV Education Service Center would work closely with Angelo State University and the San Angelo Independent School District to assist in the project.
4. The Concho Valley Council of Governments agreed to assist with the project.

5. A joint committee was established on September 10, 1974, by Angelo State University and San Angelo Independent School District to facilitate the planning and execution of a feasibility study for vocational-technical education. The committee met and organized a sub-committee to proceed with the initial planning of the project.

Objectives of the Study

The purpose of the project was to provide the prime sponsor and other regional cooperating organizations with accurate, reliable information concerning regional post-secondary vocational-technical education needs, resources, and potentials and, based upon these findings, to assess the feasibility of cooperatively servicing these educational needs. Such a needs assessment and feasibility study are necessary to the systematic development of program objectives and priorities that are relevant to both the educational needs of regional residents and the employment needs of regional business and industry.

Within the purpose stated above, two broad goals were readily identified for the project. The first goal was to determine the categories and magnitude of need for post-secondary vocational-technical programs in the region. The second goal was to determine the resources available and required to develop programs to meet the needs. The objectives of the investigation follow.

Objectives associated with the first goal:

- To determine the categories and magnitude of need for post-secondary vocational-technical programs in the region.
- To obtain basic data concerning the financial and social

status of residents needing post-secondary vocational-technical programs.

- To determine the geographic location and distribution of residents needing post-secondary vocational-technical education.
- To determine the employment needs of business, industry, and government in the region.

Objectives associated with the second goal:

- To determine the existing and potential resources of regional public institutions and agencies applicable to servicing these needs.
- To determine the existing and potential resources of regional business and industry applicable to servicing these needs.
- To assess the feasibility of planning, organizing, administering, and operating needed post-secondary vocational-technical programs.

Overview of the Report

The findings of the research are found in Chapter III of this project report, and the conclusions of the study are organized in Chapter IV. Chapter II contains a description of the procedures and methodology employed in the study. Copies of the documents and instruments developed and used in the research are located in the appendix section of the report.

CHAPTER II

PROCEDURES AND METHODOLOGY

The activities of the project are detailed under the following organizational headings: (1) organization, (2) survey procedures and instrument development, (3) data processing and analysis.

Organization

An unusually high degree of inter-organizational cooperation and assistance was essential to the effective execution of the project and to the achievement of the ultimate purpose. To obtain the necessary assistance and to accomplish the desired purpose, the cooperation of the following organizations was enlisted: San Angelo Independent School District, Region XV Education Service Center, Texas Employment Commission, San Angelo Board of City Development and Chamber of Commerce, and Concho Valley Council of Governments. Major sources of information are listed below.

- Survey information concerning educational programs needed by business and industry as identified by the Concho Valley Council of Governments.*
- Needs of business and industry as identified by the San Angelo Board of City Development Industrial Committee.
- Employment needs as identified by the Texas Employment Commission of San Angelo.
- Information available from various departments at Angelo State University concerning new associate degree programs that may be needed in the future.

*It was later determined that the Concho Valley Council of Governments did not have these data as had been indicated during the planning phase of the study. Additional survey procedures were necessary to develop these data.

- Information supplied to the project by the Division of Occupational Research and Development, Department of Occupation and Technology, Texas Education Agency, Austin, Texas.
- Information available from the staff of the Coordinating Board, Texas College and University System.

The logistics of conducting a comprehensive survey of the post-secondary educational needs of the multi-county region would have been an overwhelming task for the prime sponsor to attempt without substantial cooperation and assistance from other regional institutions and agencies. The San Angelo Independent School District, Region XV Education Service Center, and the San Angelo Board of City Development and Chamber of Commerce made substantial contributions to the survey phases of the project. The remaining organizations listed above provided expertise in the areas of study planning and final evaluation.

One of the unexpected surprises of the study was the discovery, well into the project, that the employment needs data expected from area agencies involved in manpower development and employment were not available. This belated discovery necessitated the development by the prime sponsor of additional instrument and survey procedures. This unexpected surveying, however, provided area agencies with the most comprehensive and current data available on area employment needs.

To facilitate the necessary coordination and cooperation of organizations concerned with the proposed study, the Committee for a Feasibility Study of Vocational-Technical Education was established September 10, 1974, by joint action of the institutions involved. The purpose of this committee was to oversee the initiation and execution of the needs assessment and

feasibility study. The committee is listed below:

Dr. Fred Mahler, Chairman
Dean, College of Professional Studies
Angelo State University
San Angelo, Texas 76901

Dr. J. Noland Harvey
Associate Professor of Education
Angelo State University
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Mr. C. D. Henry
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Dr. Raymond Sifrit, Jr.
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Mr. Rex Lowe
Assistant Superintendent
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P. O. Box 5199
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Mr. Clyde Warren
Director of Instructional Services
Region XV Education Service Center
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San Angelo, Texas 76901

On September 12, 1974, the committee established a sub-committee that developed or suggested many of the cooperative survey procedures described

in this section. The committee is listed below:

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Angelo State University
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Survey Procedures and Instrument Development

Survey procedures for the project were necessarily varied and complicated because of the range of objectives to be met and because of the number of organizations contributing survey data to the study. It was planned that only selected areas of specialized follow-up and in-depth surveying would be executed by the prime sponsor alone. Substantial portions of the required data were obtained from surveys carried out by the regional agencies and

*Served as a member of the committee until January, 1975.

organizations assisting in the study. In other instances the prime sponsor developed survey items, specifically related to the project objectives, designed to "ride piggy-back" with these regional surveys. The primary example of this procedure was to have been the utilization of the School Census Survey as the vehicle for initial contact with residents in the region. However, when the Texas Legislature passed legislation no longer requiring the school districts to conduct the School Census Survey, alternative survey procedures were developed. Region XV Education Service Center personnel assumed some of the responsibility of working with area public school superintendents in their region to obtain the necessary data. In summary, the survey procedures of the project were designed to use effectively the survey efforts and assistance of supporting regional organizations.

Essentially, there were three areas which outlined the development of survey procedures. These three areas are outlined below along with a breakdown of the survey phases associated with each area.

- Educational needs and interests survey

  Phase 1: Initial resident interview

  Phase 2: Questionnaire follow-up (when necessary)

- Employment needs survey

  Phase 1: Initial survey of area business and industry employment needs survey

  Phase 2: Employment needs survey follow-up

- Training and educational resources survey

  Phase 1: Initial survey of training and educational resources

  Phase 2: Training and educational resources follow-up

<u>Educational Needs and Interests Survey</u>. The purpose of this major survey activity was to determine the educational interests and needs of

adults (persons 16 years of age and older) living in the Concho Valley area. The area was defined to include the counties of Brown, Coke, Coleman, Concho, Crockett, Edwards, Irion, Kimble, Mason, McCulloch, Menard, Runnels, San Saba, Schleicher, Sterling, Sutton, Tom Green and Val Verde. Counties of primary interest were the counties included in the Education Service Center, Region XV (see map in Appendix B). The survey of educational needs and interest activities were subdivided into two survey areas: (1) the survey of the San Angelo area persons and (2) the survey of persons in the remaining county areas.

San Angelo Survey: Because approximately 47% of the total population of interest was within the San Angelo area, this area received a large portion of the investigative time and resources. Also, the support and cooperation of the San Angelo Independent School District made it feasible to use an interview survey in the city for a more systematic and comprehensive collection of data. Because the San Angelo Independent School District was committed to undertake extensive door-to-door interviewing as a part of an Adult Basic Education research project, it was possible to coordinate the two survey activities to the advantage of both projects. The two project directors, with the advice of the Feasibility Study Committee, the Survey Procedures Sub-Committee, and the staff of the Division of Occupational Research and Development developed satisfactory survey instruments and procedures to service the data needs of both projects.

The key events flowchart on page outlines the survey activities in this area in relation to the overall project. The Feasibility Study Committee was informed of the survey development activities and approved the final survey instruments and procedures. Appendix A contains reproductions of the San Angelo survey instruments and related materials.

A corps of 55 interviewers was recruited and trained during the months of January and February. Interviewing took place in the city of San Angelo during February and March. Communications were maintained with the interviewers by a supervisory system, weekly program reports, and a newsletter. (Appendix A)

The city was organized into survey tracts corresponding to elementary school districts. Generally, two interviewers were assigned to each tract with additional interviewers assigned to the more populous tracts. Interviewers attempted to contact every household in their tract. One "call-back" was allowed for each household, providing a second attempt to complete an interview. The interviewer turned in the data sheets for completed interviews and contacts each week at one of two collection stations. Progress reports were also received from interviewers at this time. Two interviewer supervisors helped the interviewers with special problems and made new assignments and reassignments as needed.

The San Angelo survey of educational interests and needs ended on April 10, 1975. By this date approximately 30% of the San Angelo population had been contacted by the interviewers. This sample appeared to be representative of the total population of San Angelo (63,884) as indicated by comparisons of sex, age, and race variables.

County Surveys: Procedures for surveying persons living in the counties outside of the city of San Angelo had to be developed differently than procedures for the relatively densely populated areas of the city. The county areas comprised some 20,743 square miles with an estimated total population of 126,558 (excluding the 63,884 population of the city of San Angelo) and population densities ranging from one person per square mile (Edwards County) to 11 persons per square mile (Runnels County). Interview

surveying was judged impractical so questionnaire survey procedures were devised. The independent school districts in the various counties were the vehicles for disseminating and collecting the interest questionnaire in the counties. Region XV Education Service Center supported and coordinated these activities. All 19 counties in the area were oriented to the survey and invited to take part. Eleven counties participated in the survey.

Those participating school districts received sufficient copies of the questionnaire to provide each school child with a copy to take home to parents. Thus, it can be assumed that an extremely large proportion of the adult population of these counties was contacted. (See Appendix B to examine a reproduction of the survey questionnaire and related materials used in the county surveys.)

The county surveys were conducted in March and April, and at the end of the survey period 11 had reported some type of educational interest.

Employment Needs Survey. The purpose of this area of the survey was to determine the employment needs or occupational needs of the area, projected over the next several years. Initially, it had been anticipated that these data would be provided by area agencies regularly involved in manpower development and employment. It was later determined that these data were not available for the area from any source, so survey procedures had to be developed to secure this information directly from area business and industry. The Texas Employment Commission was, however, able to supply useful data of statewide, short-term employment needs.

Survey efforts in this area were greatly supported by the San Angelo Board of City Development and Chamber of Commerce. The BCD provided an address list of area manufacturers and included the employment needs

questionnaire in a mailing to area firms. The project staff developed an address list of government employees, businesses, and industries not represented on the BCD list. These organizations were contacted by direct mailing from the project office. A follow-up contact was made by the project office in early June, 1975. In total, some 235 employers were contacted. Of this number 110 participated in the survey by returning the questionnaire. (See Appendix C for reproductions of the occupational needs questionnaire and related material.)

Training and Educational Resources Survey. The continuing dialogue among the cooperating and interested regional educational institutions, which existed from the early planning and instrument development phases of the project, constituted an effective form of survey of the educational resources available. It was decided that no additional data collection would be undertaken in this area, but rather that the concerned educational institutions would react to the educational needs and occupational needs data by identifying the contributions each could make to service the educational needs.

Data Processing and Analysis

Both the interview data sheet used in the San Angelo survey and the questionnaire used in the counties survey were designed to be key punched (Appendices A and B). Computer programs were developed to organize the survey data and to produce the desired reports. The Computer Data Processing Center of the City of San Angelo and the San Angelo Independent School District provided the key punching and computer services. Because of the relatively small number of units surveyed, the response to the employment needs survey were tabulated by hand.

Traditional applications of descriptive statistics were used in the examination and analysis of the data. Where appropriate, graphic and tabular displays were used to help organize and summarize the findings. Chi square tests were used to test the representativeness of the sample.

Summary. A wide range of instrument development and survey procedures was used in acquiring the information needed in the study. In most cases the project staff became more directly involved in the initial data gathering procedures than had been planned. In each case, however, the involvement appeared desirable to secure more complete information than would have otherwise been forthcoming.

CHAPTER III

SUMMARY OF THE FINDINGS

Introduction

The findings of the study are organized into three divisions: (1) educational needs and interests, (2) occupational (employment) needs, and (3) educational resources. Each report division corresponds with a major area of investigation and contains a summary of the primary findings in that survey area. Some additional details of the findings have been organized in the Appendices and will be referenced when appropriate.

Educational Needs and Interests

Survey Sample. Although the survey plans were to attempt to reach the total population of adults (persons 16 years of age or older) in the Concho Valley area, it was understood from the beginning that only a proportion of this total would be reached. It was also anticipated that there would be survey procedure differences and, therefore, participation differences between the San Angelo survey and the counties survey.

Understandably, the suitability of the sample actually surveyed in terms of adequate size and representativeness was essential to allow the generalization of the sample findings to the total population. The San Angelo survey provided the best setting in which to examine the survey sample in relation to the population. In the San Angelo survey an interview contact was made at 6,229 residences representing an estimated 30% (from projected 1970 U.S. Census data) of the residences in the city. Survey data were collected on 19,105 persons representing approximately

30% (29.9%) of the 63,884 city population. Comparisons of the sample proportions with known population proportions on variables such as age, ethnic background, sex, and other characteristics strongly support the assumption that the survey sample is representative of the larger population. Projections of the sample findings developed in this report are based on this assumption.

It was not possible to examine the appropriateness of the survey sample in the counties survey with much assurance. Several factors contributed to the difficulty. First, because only 11 of the 18 counties participated, only selected clusters were surveyed. The 11 counties that did participate appear to represent more closely the rural population of the area than the urban-suburban populations of area cities such as Brownwood and Del Rio. Second, the exact proportion of the populations in the counties surveyed that had an opportunity to respond is not known. However, it does seem reasonable to assume, based upon the method of distribution of the questionnaire, that a very large proportion of the adult population (estimated above 80%) did have an opportunity to participate. Third, probably older adults over fifty years old are not proportionally represented in the sample because of the method of distribution of the survey questionnaire since the questionnaire was taken home by the school children.

In summary, the San Angelo survey sample appears to be representative of the San Angelo population and lends itself to appropriate generalization. The survey sample of the counties is likely to contain a number of distortions that limit the generalization that can be made from the sample findings. Considerable caution should be used when generalizing the counties survey findings. It is interesting to note that in both surveys approximately 30%

of each respective total population was contacted.

Findings: San Angelo Survey. Approximately 20% of persons interviewed, 2,520 of an estimated 12,485, 16 years of age or older, indicated an interest in some type of additional adult education. Projecting the sample statistic to the entire population of San Angelo, 63,884, an estimated 8,428 adults could be expected to identify some area of adult educational interest. Table 1 details the sex, ethnic background, and age distribution of adults interested in additional education.

TABLE 1

SELECTED CHARACTERISTICS OF SAMPLED ADULTS
INTERESTED IN ADDITIONAL EDUCATION
(San Angelo Survey)

Sex	Percent Of Sample	Ethnic Background	Percent Of Sample	Age	Percent Of Sample
Male	38.6	Black	5.5	16-25	34.5
Female	61.4	Mexican American	16.9	26-30	14.0
		Indian	0.1	31-40	25.3
		Oriental	-	41-50	15.2
		Anglo	72.4	51-60	7.3
		No Designation	5.2	61-Up	3.8

Of the adults interviewed (persons 16 years of age or older), 17% (2,151) identified some area of post-secondary education interest. Projecting this sample statistic to the San Angelo population would produce an estimate of 7,194 adults in the population that could be expected to indicate an interest in additional post-secondary education or training.

Of the 483 persons interviewed, approximately 4% of the adults sampled identified a vocational-technical education or training interest. The proportion suggests that there should be 1,615 adults in the population who would have identified an interest in the vocational-technical education or training area.

More adults surveyed indicated an interest in some type of college credit program than in any other single area of educational interest. The 984 persons indicating such an interest comprised about 8% of the adults contacted. Projected to the population, we could expect 3,291 persons to have indicated an interest in the area. It should be pointed out that this major category of educational interest included a very wide range of college credit programs and was not limited to the more traditional four-year degree programs.

The second most frequently identified area of educational interest was informal adult and continuing education. Roughly 6% of the adult sample, 684 persons, indicated such interest. This would project to approximately 2,288 adults in the San Angelo population. Again, this major category is inclusive of an extremely wide range of types of courses and content areas. Table 2 summarizes the sample findings and projections for the four major categories of education interest.

Tables 3-6 display the subcategory sample statistics and projections for each of the major categories of educational interest. Additional detail of the specific educational interests indicated by the adults interviewed is found in Appendix A under the title "Subcategory of Educational Interest."

TABLE 2

SUMMARY OF EDUCATIONAL INTEREST BY MAJOR CATEGORIES
(San Angelo Survey)

Major Categories of Interest	Number of Adults Indicating Interest	% of All Adults Sampled (N=12,485)	% of Total Interest (N=2,520)	Population Proportion
Basic Education	283	2.3	11.2	947
Post-secondary Vocational-Technical Education	483	3.9	19.2	1,615
Pre-college and College Credit Education	984	7.9	39.0	3,291
Informal Adult and Continuing Education	684	5.5	27.1	2,288

TABLE 3

BASIC EDUCATION: SUBCATEGORIES OF INTEREST
(San Angelo Survey)

Category Code	Subcategory of Educational Interest	Adults Indicating Interest	% of All Adults Sampled (N=12,485)	% of Total Interest (N=2,520)	Population Proportion
1.1	Adult Basic Education (Basic Skills Through 8th Grade)	23	.2	.9	77
1.2	Completing Credits for High School Graduation	36	.3	1.4	120
1.3	Achieving G.E.D.	178	1.4	7.1	595
1.4	English as Second Language	44	.4	1.8	147

TABLE 4

VOCATIONAL-TECHNICAL: SUBCATEGORIES OF INTEREST[1]
(San Angelo Survey)

Category Code	Subcategory of Educational Interest	Adults Indicating Interest	% of All Adults Sampled (N=12,483)	% of Total Interest (N=2,520)	Population Proportion
2.0	Vocational-Technical Education[2]	12	.1	.5	40
2.1	Automotive Technology	59	.5	2.3	197
2.2	Agriculture Technology	19	.2	.8	64
2.3	Retail and Marketing	33	.3	1.3	110
2.4	Electrical/Electronic Technology	59	.5	2.3	197
2.5	Law Enforcement Technology	14	.1	.6	47
2.6	Allied Health Services	44	.4	1.8	147
2.7	Industrial Technology	13	.1	.5	43
2.8	Drafting and Design Technology	38	.3	1.5	127
2.9	Other[3]	159	1.3	6.3	532
3.0	Short Courses or Workshops	33	.2	1.2	110

[1]Respondents were told that these interest subcategories <u>might</u> involve college credit courses or programs.

[2]This subcategory was used when the respondent indicated an interest in vocational-technical education or training but could not identify a more specific subcategory of interest.

[3]Details of 2.9 and other subcategories are in Appendix A.

TABLE 5

PRE-COLLEGE AND COLLEGE CREDIT PROGRAMS:
SUBCATEGORIES OF INTEREST
(San Angelo Survey)

Category Code	Subcategory of Educational Interest	Adults Indicating Interest	% of All Adults Sampled (N=12,485)	% of Total Interest (N=2,520)	Population Proportion
4.0	Pre-college Remedial Work	4	*	.2	13
4.1	College One-year Certificate Program[1]	5	*	.2	17
4.2	Medical Receptionist Certificate Program	22	.2	.9	74
4.3	Other	11	.1	.4	37
5.0	College Two-year Certificate Program[1]	11	.1	.4	37
5.1	Data Processing	31	.3	1.2	104
5.2	Secretarial Science	38	.3	1.5	127
5.3	Legal Secretary	10	.1	.4	33
5.4	Medical Secretary	16	.1	.6	54
5.5	Nursing	71	.6	2.8	237
5.6	Radiology	2	*	.1	7
5.7	Commercial Art	12	.1	.5	40
5.8	Electronics	14	.1	.6	47
5.9	Other	41	.3	1.6	137
6.0	College Four-year Program	358	2.9	14.2	1,197
6.1	Selected College Courses in Interest Areas	161	1.3	6.4	538
6.2	Graduate Study	174	1.4	6.9	582

*Less than .1%

[1]This subcategory was used when the respondent indicated an interest in a one-year or two-year certificate program but did not identify a more specific subcategory of interest.

TABLE 6

INFORMAL ADULT AND CONTINUING EDUCATION:
SUBCATEGORIES OF INTEREST
(San Angelo Survey)

Category Code	Subcategory of Educational Interest	Adults Indicating Interest	% of All Adults Sampled (N=12,483)	% of Total Interest (N=2,520)	Population Proportion
7.0	Courses in Vocational Interest Area	73	.6	2.8	244
7.1	Courses in Avocational, Recreational, or Hobby Area	592	4.7	23.5	1,980
7.2	College Credit by Independent Study and Credit-by-Examination	19	.2	.8	64

Approximately 87% of the interest expressed for informal adult and continuing education was classified as related to the avocational, recreational, or hobby area subcategory (see Table 6). The detailing of this subcategory in Appendix A indicates that the topics most frequently named by adults were art, crafts, gardening, interior decorating, painting, sewing, typing, and woodwork. An examination of this detailing of adult interest clearly reveals the tremendous scope and variety of educational interest expressed by adults of the area.

Selected basic descriptive information was collected in ten areas by the interviewers from each of the 2,520 persons interested in additional education. A summary of the results of this interviewing follows below and the detailed report is located in Appendix A.

1. STARTING ESTIMATE

   Of persons interested in continuing their education (N=2,520), 76% indicated they could begin a program within 6 months to 2 years, whereas, about 24% were uncertain as to the date they could begin or did not respond.

2. EDUCATIONAL BACKGROUND

   Approximately 73% of the persons interviewed had completed high school, while 23% reported attaining less than a high school diploma or G.E.D. About 27% had between one and three years of college experience, 14.1% had completed a four-year degree, and 5.2% had completed one or more years of graduate level work. Approximately 4% did not respond.

3. CURRENT EDUCATIONAL ACTIVITY

   Of those interviewed, about 81% were not enrolled in any type of additional training or educational program, 2% were currently actively enrolled in some type of vocational-technical program, and 6% were enrolled in a two- to four-year college program. Roughly 11% did not respond.

4. EMPLOYMENT STATUS

   About 50% of those interviewed were employed full-time. Unemployment totals were approximately 27% (this figure most certainly includes many housewives), and 9.2% were employed part-time. About 14% did

not answer this question.

5. EMPLOYMENT BACKGROUND

Classifications among interview subjects were as follows: 5% laborers, 21% semi-skilled and skilled, 31% technical and professional and 12% none (25% were classified as "other"). Approximately 6% did not respond.

6. FINANCIAL PROBLEMS

Of the persons surveyed, 74% would have no problems with books, tuition, or transportation costs, while 18% felt that these costs would present a major problem. Roughly 8% did not respond.

7. FINANCIAL ASSISTANCE

Approximately 80% are not currently eligible for financial assistance through military service, veterans benefits, vocational-rehabilitation or company assistance programs, whereas, 20% indicated that they were eligible for financial assistance from one of the above sources.

8. TRANSPORTATION

Transportation was viewed as no problem by 92% of the San Angeloans interviewed. Problems in transportation were indicated by 8% of interviewees, however.

9. CLASS TIME

Weekday classes after 6:00 p.m. were popular with 48% of those interviewed. Of the persons interviewed, 24% would prefer morning classes during the week. About 28% were uncertain as to the times they could attend classes or did not respond.

10. ESTIMATE OF FAMILY INCOME LEVEL

About 75% of the persons interviewed were estimated as having

incomes above the poverty level of $4,500 annually, while approximately 11% were identified with incomes below this figure. (In about 14% of the cases the interviewer could not make an estimate.)

Findings: Counties Survey. Because the survey instrument and procedures were of necessity different in the counties, and because the exact number of persons who had an opportunity to respond to the questionnaire is unknown, a separate reporting of the counties results was judged appropriate. The qualities of the data from the counties restrict greatly the inferences that can be drawn with reasonable safety about the full population of adults in the counties.

The procedures and sampling method of the counties survey are discussed in some detail in Chapter II. Summarizing from this discussion, 11 of the 18 counties included in the Concho Valley area participated. Approximately 1,200 returning the questionnaire indicated an interest in some type of additional education. Considering the total population in the "cluster" of counties actually participating in the survey in proportion to the total population of 18 counties of interest, it would appear roughly 30% of this total population had been contacted by the survey. In this respect the sample was similar to that of the city survey, but, as suggested earlier, this 30% does not represent what can be assumed to be a balanced sample. Appendix B contains details of county population data.

Eden in Concho County had recently conducted its own survey of educational interest and did not participate in the project survey. The report of the Eden survey is included in Appendix B. These findings were not included in the project survey statistics reported below.

In reporting these data no attempt has been made here to estimate the population proportions. Table 7 details the sex and age distribution of adults in the counties participating in the survey. Ethnic background information was not collected. Table 8 summarizes the educational interest of the 1,201 respondents by major categories of educational interest.

TABLE 7

SELECTED CHARACTERISTICS OF SAMPLED ADULTS
INTERESTED IN ADDITIONAL EDUCATION
(County Survey)

Sex	Percent of Sample	Age	Percent of Sample
Male	36.3	16-25	16.6
Female	63.7	26-30	20.3
		31-40	44.4
		41-50	16.1
		51-60	2.3
		61-Up	.3

TABLE 8

SUMMARY OF EDUCATIONAL INTEREST BY MAJOR CATEGORIES
(County Survey)

Major Categories of Interest	Number of Adults Indicating Interest	% of Total Interest (N=1,201)
Basic Education	193	16.2
Post-secondary Vocational-Technical Education	358	29.8
Pre-college and College Credit Education	450	37.5
Informal Adult and Continuing Education	198	16.5

Although these proportions closely parallel those of the city survey, considerably larger percentages of interest were reported in the areas of adult basic education and vocational-technical education and training. Much less interest (16.5% of the total) was expressed in informal adult and continuing education. Interest in college credit programs was about the same as that reported in the San Angelo survey. Tables 9 through 12 display the subcategory sample statistics for each of the four major categories of interest.

TABLE 9

BASIC EDUCATION: SUBCATEGORIES OF INTEREST
(County Survey)

Category Code	Subcategory of Educational Interest	Adults Indicating Interest	% of Total Interest (N=1,201)
1.1	Adult Basic Education (Basic Skills Through 8th Grade)	19	1.6
1.2	Completing Credits for High School Graduation	58	4.8
1.3	Achieving G.E.D.	79	6.6
1.4	English as Second Language	37	3.1

TABLE 10

VOCATIONAL-TECHNICAL: SUBCATEGORIES OF INTEREST[1]
(County Survey)

Category Code	Subcategory of Educational Interest	Adults Indicating Interest	% of Total Interest (N=1,201)
2.0	Vocational-Technical[2] Education	5	.4
2.1	Automotive Technology	69	5.8
2.2	Agriculture Technology	42	3.5
2.3	Retail and Marketing	31	2.6
2.4	Electrical/Electronic Technology	51	4.3
2.5	Law Enforcement Technology	21	1.8
2.6	Allied Health Services	23	1.9
2.7	Industrial Technology	17	1.4
2.8	Drafting and Design Technology	25	2.1
2.9	Other[3]	13	1.1
3.0	Short Courses or Workshops	61	5.1

[1]Respondents were told that these interest subcategories <u>might</u> involve college credit courses or programs.

[2]This subcategory was used when the respondent indicated an interest in vocational-technical education or training but could not identify a more specific subcategory of interest.

[3]Details of 2.9 and other subcategories are in Appendix A.

TABLE 11

PRE-COLLEGE AND COLLEGE CREDIT PROGRAMS:
SUBCATEGORIES OF INTEREST
(County Survey)

Category Code	Subcategory of Educational Interest	Adults Indicating Interest	% of Total Interest (N=1,201)
4.0	Pre-college Remedial Work	13	1.1
4.1	College One-year Certificate Program	9	.8
4.2	Medical Receptionist Certificate Program	51	4.3
4.3	Other	4	.3
5.0	College Two-year Certificate Program	7	.6
5.1	Data Processing	35	2.9
5.2	Secretarial Science	39	3.3
5.3	Legal Secretary	25	2.1
5.4	Medical Secretary	41	3.4
5.5	Nursing	52	4.3
5.6	Radiology	15	1.3
5.7	Commercial Art	19	1.6
5.8	Electronics	16	1.3
5.9	Other	10	.8
6.0	College Four-year Program	39	3.3
6.1	Selected College Courses in Interest Areas	50	4.2
6.2	Graduate Study	25	2.1

TABLE 12

INFORMAL ADULT AND CONTINUING EDUCATION:
SUBCATEGORIES OF INTEREST
(County Survey)

Category Code	Subcategory of Educational Interest	Adults Indicating Interest	% of Total Interest (N-1.201)
7.0	Courses in Vocational Interest Area	51	4.3
7.1	Courses in Avocational, Recreational, or Hobby Area	95	7.9
7.2	College Credit by Independent Study and Credit-by-Examination	52	4.3

Occupational (employment) Needs

Survey Sample. A master list of 235 area businesses and industries including government agencies was developed as a representative sample of employers within the region. It is not known what proportion of all employers in the area this sample represents, but available data suggest the sample represents a substantial proportion of area firms employing seven or more persons. Part of the initial questionnaire survey was mailed by the project office and part by the San Angelo Board of City Development and the Chamber of Commerce. (See Appendix C for reproductions of the questionnaire and cover letter.) A follow-up inquiry by the project office was made to all firms not having responded. Table 13 summarizes the results of the mailings. Counting a few returns received some time after the close of the survey, approximately 50% of the businesses contacted responded and 86% of these indicated that some additional employees might be needed.

TABLE 13

OCCUPATIONAL NEEDS SURVEY:
REPORT OF RETURNS

	ASU	BCD	TOTAL
Questionnaires Mailed	123	112	235
Questionnaires Received	72	38	110
Percent Received	58.5%	33.9%	45.8%
Received from 1st Request	52	12	64 (58.2%)
Received from 2nd Request	20	26	46 (41.8%)

Findings: Occupational Needs Survey. The responding employers made both "conservative" and "optimistic" estimates of their additional employment needs over the next 18 to 24 months. The "optimistic" estimate, 1,902, was 70% larger than the "conservative" estimate, 1,124. A summary of these occupational needs by the five major categories of occupations is found in Table 14.

TABLE 14

SUMMARY OF OCCUPATIONAL NEEDS BY
MAJOR CATEGORIES OF OCCUPATIONS

Occupational Categories	Conservative	(%)	Optimistic	(%)
I. Professional, Technical, and Managerial	73	6.5	137	7.2
II. Clerical and Sales	319	28.4	519	27.3
III. Services	188	16.7	291	15.3
IV. Processing, Machine Trades Bench Work, Structural Work, and Miscellaneous	439	39.1	766	40.3
V. Health and Social Services	105	9.3	189	9.9
	1,124		1,902	

Table 15 reports the occupational needs most frequently identified by the employers responding. Appendix C contains the detail tallies of occupational needs as reported by employees.

TABLE 15

MOST FREQUENTLY REPORTED OCCUPATIONAL NEEDS
(Specific Job Areas by Major Divisions)

Occupation	Original Data		Overall Percent		Major Divisions Percent	
	Cons.	Optm.	% Cons.	% Optm.	% Cons.	% Optm.
I. Law Enforcement	11	27	1.0	1.4	15.1	19.7
Manager	23	28	2.1	1.5	31.5	20.4
Supervisor	11	18	1.0	1.0	15.0	13.1
II. Clerk, Typist	47	80	4.2	4.2	14.7	15.4
Clerk, Gen. Off.	35	53	3.1	2.8	11.0	10.2
Bookkeeper	32	50	2.9	2.6	10.0	9.6
Salesman	29	65	2.9	3.4	9.1	12.5
Grocery Checker	23	33	2.1	1.7	7.2	6.4
Secretary	22	29	2.0	1.5	6.9	5.6
III. Orderly	47	92	4.2	4.8	25.0	31.6
Janitor	41	55	3.7	2.9	21.8	18.9
Kitchen Helper	21	30	1.9	1.6	11.1	10.3
Cook	17	24	1.5	1.3	9.0	8.3
Maintenance Man	15	24	1.3	1.3	7.9	8.3
Nursemaid	15	20	1.3	1.1	7.9	6.9
IV. Laborers	132	262	11.8	13.8	30.1	34.2
Const. Workers	32	58	2.9	3.1	7.2	7.6
Truck Driver (Light)	24	36	2.1	1.9	5.5	4.7
Tractor, Trailer Truck Driver	23	24	2.1	1.3	5.2	3.1
Grounds Keeper	21	42	1.9	2.2	4.8	5.5
Welder	15	32	1.3	1.7	3.4	4.2
V. Nurse, Licensed Practical	38	67	3.4	3.5	36.2	35.5
Nurse, General Duty	31	48	2.7	2.5	29.5	25.4

A summary of the occupational shortages within the San Angelo area as identified by the Texas Department of Community Affairs, Manpower Services Division, is included in Appendix C supplemented by the survey report of the regional office of the Texas Employment Commission.

The survey findings reported here represent the most complete and current information available at the time of this report on the occupational needs of the area. The data should prove useful in identifying trends and some specific areas of shortage to be subsequently examined more systematically. As would be expected, estimates of employment needs are quite sensitive to both current economic conditions and the employers' expectations of future conditions.

Educational Resources

As was indicated earlier in the report, it was decided that no extensive surveying of educational resources would be necessary, but rather that area educational institutions should be given the opportunity to study the findings of educational and employment needs surveys, and from this perspective identify the resources available to meet these needs.

CHAPTER IV

SUMMARY AND CONCLUSIONS

Introduction

It is very important to clearly understand what has been measured in attempting to interpret the findings of this study. The survey attempted to measure the educational interest of adults in the region beyond their current educational attainment or involvement. In addition, the educational interest reported here represents those interests that the adults interviewed said they would want to satisfy by enrolling in programs offered within the area, if such programs were available. The figures reported here do not represent the number of adults whose educational needs cannot be satisfied by the educational offerings currently available in the area. These figures represent a measure of total adult educational interest. Lastly, expressions of interest should not be interpreted as assurances of enrollment. Enrollment figures are commonly in the range of 25% to 40% of interest figures.

Summary and Interpretation of Major Findings

Overview of Major Findings. The research clearly demonstrates beyond reasonable doubt that in San Angelo and the surrounding counties of the Concho Valley Area there are substantial numbers of adults (persons 16 years of age and older) interested in pursuing some type of additional education. The data developed by this study suggest that in San Angelo approximately one adult in five currently has such an interest. The extent of educational interest existing in the counties is more difficult to estimate from the research just completed, but the sample findings appear

to support rough estimates in the vicinity of one in every ten to fifteen adults in the population. This would mean that in San Angelo alone there are eight to nine thousand adults with such educational interest, and, furthermore, one could expect another eight to ten thousand such adults in the counties. Even if one were to assume that only 40% of these adults would ever translate their expression of interest into action, the figures are impressive.

The findings of this study suggest that a larger number of females than males in the adult population are interested in additional education. These differences were found in both the San Angelo and counties surveys and were also noted in each of the major categories of educational interest with the exception of the vocational-technical training and education category. Many of the sub-divisions of this area are apparently still viewed as primarily or exclusively masculine.

The important generalization seen here is that a majority of the interest, approximately 61%, in additional education was expressed by women. This trend may be in part accounted for by the changing role of women in the United States and by current economic conditions which might tend to encourage women to seek additional education for vocational, avocational, or recreational reasons.

Certainly, as one would expect, a large proportion of these adults are in the immediate post-secondary years, ages 16-25. Roughly 30% of the interest expressed is accounted for by this age group. But this means that roughly 70% of the interest expressed came from adults 26 years old and older. Adults in the age category 31 to 40 years accounted for over 25% of the interest expressed, with adults 41 to 50 years accounting for another

15%. It appears certain that a substantial portion of the adults in the Concho Valley Area no longer view education as a pursuit of the very young. These findings and projections suggest that adult education in this region will involve adults of all ages.

An interesting finding of the study is that in terms of the overall interest expressed, ethnic groups are represented in proportion to their numbers in the total population. However, as we examine the individual categories of educational interest this proportional relationship collapses. The ethnic minorities are represented far beyond their proportion in the population in the adult basic education area and, to a somewhat lesser degree, in the vocational-technical area. Furthermore, they are under-represented in the informal adult and continuing education area and, to a lesser degree, in the college credit program area.

Post-Secondary Education Interest

Although roughly 13% of the interest expressed was in the category of adult basic education, approximately 87% of the interest was in some type of post-secondary education, including vocational-technical education (24%), college credit programs (39%), and informal adult and continuing education (24%). There should be about 7,000 adults with post-secondary educational interest in San Angelo and possibly an additional 7,000 in the counties. Again, ultraconservative interpretations of estimates of this magnitude support optimism with regard to the continuation, expansion, and development of a number of programs in those areas.

Vocational-Technical Education and Training. The vocational-technical education and training category was the third most frequently identified area of interest in the San Angelo survey and the second in the counties

survey. Approximately 24% of the total educational interest indicated was in this category: 19% in San Angelo survey and 30% in the counties survey. The data suggest that there should be about 1,700 persons in San Angelo interested in this area of education and at least that number in the counties. Of the specific subcategories within this area, automotive technology, electrical/electronic technology, allied health services, and drafting and design technology generated the greatest interest. Because there are so many possibilities within this broad area, the general subcategory "other" was by far the most frequently selected. (See Appendix A for specific interests classified into this category.)

Additional study of the survey findings and further follow-up appears needed in this category. For example, it seems likely that the allied health services subcategory would have program similarities with the nursing subcategory. In some interest areas the suggested follow-up would need to assess more precisely the educational preparations of those persons interested. Also, there is the need to determine if the interest expressed is directed toward vocational, avocational, or recreational applications.

The interest recorded in short courses or workshops needs to be explored and may be served in part by an adult and continuing education program. Some of the other subcategory areas, especially where the interest is more avocational in nature, may also be served by such a program.

College Credit Programs. The college credit and college credit programs category was by far the most frequently identified. Approximately 39% of the interest expressed was associated with this category. The findings suggest that there should be in excess of 3,500 adults in the San Angelo population interested in some kind of college credit, and perhaps in excess

of 5,000 additional adults in the counties. Although much of this interest, about 37%, is in the more traditional four-year college program, the adults surveyed expressed interest in some areas of the one- and two-year certificate programs. The medical receptionist one-year certificate program was especially popular with adults living in the counties.

Interest in the two-year certificate programs was predominately in nursing followed by secretarial science with its specializations, legal secretary and medical secretary, and then by data processing. Opportunities for continued program expansion and development appear to exist in these areas.

The adults surveyed expressed substantial interest in taking "selected college courses in interest areas." Much of this interest may be served by offerings of the traditional college program. This includes a large number of adults who expressed interest in graduate school study.

Informal Adult and Continuing Education. Second only to college credit programs in adult popularity, this category was identified by 27% of the San Angelo sample and by 17% of the counties sample. Approximately 2,300 adults in San Angelo and roughly as many in the counties can be expected to currently hold an interest in additional education in this area. Of the interest expressed in this category 86% was associated with interest in courses in avocational, recreational, or hobby areas, while less than 10% was identified with courses in vocational interest areas. Nonetheless, the study findings in some of the other interest areas suggest that the adult and continuing education program may offer the most appropriate vehicle for courses of this nature.

Occupational Needs

The findings of the occupational needs survey suggest that there is substantial need in the area for nurses, managers, typists, clerks, bookkeepers, salesmen, and secretaries. Moderate employment need is indicated in numerous other areas. It is interesting to note that relatively high adult educational interest was expressed in most of the areas of highest occupational need.

Conclusions

The major conclusions of the study reported here are organized in order of their general importance to the purposes of the study.

1. The findings and the interpretation of these findings by the primary parties involved does not demonstrate the necessity at this time for the cooperative development of associate degree programs by the San Angelo Independent School District and Angelo State University. The present adult interest can best be served by less formal coordination and selective expansion of offerings in the post-secondary vocational-technical education area. It is the consensus of the Feasibility Study Committee that the magnitude and direction of adult participation and need for such programs be monitored to determine if a cooperative associate degree program will be needed in the future.
2. The survey findings do not support the need for the development of a separate two-year junior college program within the area. The selective development of a few college credit courses by Angelo State University and the selective expansion

of offerings by the University's Division of Adult and Continuing Education should meet several of the needs expressed for areas of vocational-technical education. Expansion of some of the post-secondary vocational-technical programs currently offered by the San Angelo Independent School District should service much of the need expressed in this area. As was planned, this research has developed the resources for examination of the adult interest and occupational need for vocational-technical programs in the area. These resources include (1) a complete data file, (2) specialized name and address listings, and (3) computer-printed address labels.

3. The popularity and interest in informal adult and continuing education is beyond question. Although most of the expressed interest in this category was associated with avocational and recreational applications, its potential for developing other adult education courses and programs is firmly established by the research.
4. The need for the continued development of the Angelo State University program in nursing is dramatically supported by the findings of both the adult education interest survey and the area occupational needs survey. The findings appear to support the very intensive and active development and expansion of this general area and its related specializations.
5. The findings of the study support the need for the continuation of the licensed vocational nursing program sponsored by the San Angelo Independent School District.
6. An examination of the interest survey findings indicates that

there is moderate interest in secretarial science and several of its specializations, such as legal secretary, medical secretary, medical receptionist, etc. A logical conclusion is that perhaps a core curriculum in secretarial science with additional specialization courses could effectively and efficiently serve all of these needs for specialization within the broad field of secretarial science. Selected courses from the nursing and business programs could provide support for this area. Another important finding in considering the program needs in this area is that the regional occupational needs survey, as well as Texas employment needs data, clearly supports the development of this area.

7. Survey findings of adult interest in graduate study identify a continuing healthy interest in graduate programs.
8. A relatively large proportion of adults expressed an interest in taking selected college courses in their areas of interest. This finding suggests that a closer examination of this expressed interest may be appropriate.

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REFERENCES

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APPENDICES

<u>Appendix A</u>

Educational Needs and Interest Survey: San Angelo Survey

<u>Appendix B</u>

Educational Needs and Interest Survey: Counties Survey

<u>Appendix C</u>

Occupational (Employment) Needs Survey

APPENDIX A

EDUCATIONAL NEEDS AND INTEREST SURVEY: SAN ANGELO SURVEY

Items Included:

- Survey Interviewers' Training Session Agenda
- Interviewers' Guide
- Interview Schedule
- Subcategory of Educational Interest Sheet
- A.B.E. Interest Survey Data Sheet
- Interview and Record Keeping Procedures
- A.B.E. Needs Assessment Time Sheet
- Interviewers' Newsletter (Sample)
- Interviewers' Meeting Questionnaire: A Progress Report
- Interviewers' Identification and Information Card
- San Angelo 1970 Census of Population Figures
- Detail Report of Educational Interest as Recorded in Written Comments of the Interviewers
- Detail Report of Responses to Interview Questions 5-14

SURVEY INTERVIEWERS' TRAINING SESSION
February 10, 11

AGENDA

MONDAY, FEBRUARY 10
(4:15 - 5:45)

- REGISTRATION (Annabelle Jones - Geraldine VanEvery)
- INTRODUCTION (Horace Bargley - Noland Harvey)
- EMPLOYMENT AND PAYROLL (Horace Bargley)
- TRACT ASSIGNMENT AND INTERVIEW TEAM ASSIGNMENTS (Horace Bargley)
- TEAM PLANNING (Horace Bargley - Noland Harvey)
- INTERVIEW PROCEDURES ORIENTATION (Noland Harvey)

TUESDAY, FEBRUARY 11
(4:15 - 6:30)

- INTERVIEWER TRAINING (Noland Harvey)
- INTERVIEW DEMONSTRATION AND PRACTICE (Annabelle Jones - Geraldine VanEvery)
- TIME SHEET (Horace Bargley)
- COLLECTION AND DISTRIBUTION PROCEDURES (Horace Bargley - Noland Harvey)
- GENERAL QUESTIONS (Horace Bargley - Noland Harvey)
- INTERVIEW MATERIAL DISTRIBUTION (Annabelle Jones - Geraldine VanEvery)

INTERVIEWER'S GUIDE

As an Interviewer for this project, you are a representative of the school district. Respondents' impression of you will have a bearing on the co-operation you receive and their impression of the school district and program that you represent. In all of your contacts, be courteous and avoid overly aggressive actions.

There is no obligation on the part of area residents to answer any questions. If a resident refuses to respond to any or all questions, this is his right, respect it.

General Instructions

1. Ask only one question at a time.
2. Repeat question if necessary.
3. Make sure the subject understands the question.
4. Listen carefully to subject's answer.
5. Allow the subject sufficient time to answer the question; but do not let interview drag.
6. Avoid suggesting answers to questions. (Guide but don't push)
7. Do not show signs of surprise, shock, anger, or other emotions if unexpected responses are given.
8. Maintain a neutral attitude with respect to controversial issues during the interview.
9. Use tact and skill in getting the subject back to our area of inquiry when he has strayed too far from the original question.

Introduction

The following is information you may want to convey to the respondent at the beginning of the interview to gain his or her cooperation and confidence. It is not necessary that the introduction be given verbatim. The best approach is for you to develop your own personal "get-in-door" introduction.

- This survey is sponsored by the San Angelo Independent School District.
- The school district is being assisted in this effort by Angelo State University, the Concho Valley Council of Governments, and the Region 15 Educational Service Center.

- The purpose of the survey is to find out what the educational and vocational needs of adults are in our region so that programs can be developed to meet these needs.

- The purpose of this interview is to find out what the educational interests and needs are for persons in this household.

Specific Instructions for Survey Questions

The interview form is divided into three parts: the Heading, Part I and Part II. The Heading and Part I should be completed for all respondents. Part II will be completed only if a positive response is given to any section of Part I, Item 2.

Heading:

1. Index No., Leave blank

2. County-District No., Tract, Interviewer, City, ZIP Code and Area Code should be completed before going out to begin interviews. Information for these items will be provided each interviewer.

3. Address - Leave a space between each word in the street name and the house number.

4. Telephone Number - Enter telephone number.

5. Ethnic Group - In most instances the ethnic group, of which a respondent is a member, can be determined by observation. In this space enter one of the following code numbers:

   1 _____ Black

   2 _____ Mexican American

   3 _____ Indian

   4 _____ Oriental

   5 _____ Anglo

   6 _____ Other

Part I - General

Items 1.0 - Enter the total number of persons living in the household

1.1 - Enter the number of persons under 18 years of age

1.2 - Enter the number of children who are 3 years old on or before 1 September, 1975 and have some type of handicap (physical or mental)

1.3 - Enter the number of children 4 years old on or before 1 September, 1975 and have some type of handicap

1.4 - Enter the number of children 5 years old on or before 1 September, 1975

1.5 - Enter the number of children 6 years old on or before 1 September, 1975 who are not attending a public kindergarten

1.6 - Enter the number of persons over 16 years of age, no longer attending school, and haven't completed high school

1.7 - Enter the number of persons age 18 to 65 years of age

1.8 - Enter the number of persons over 65 years of age

Item 2 - In completing each part of Item 2, enter the number of persons interested in each educational area (2.0, 2.1, 2.2) in the box to the far right. If no persons are interested in an educational area record a "0" in the appropriate box on the far right.

If there are any positive answers to any part of Item 2, complete Part II of the survey form for each individual identified as having an educational interest. If all responses to Item 2 are negative ("0's" recorded in the three boxes), then the interview is completed and should be terminated.

Part II - Educational Employment Data

Part II should be completed on all members of the household who have indicated an interest in additional education or training.

Use the interview schedule to guide you in completing this part of the interview sheet.

The name should be entered in the left hand column; enter the last name first.

Items 1. Enter the sex of each respondent using the number "1" for males and the number "2" for females

2. Enter age (right justify age entries)

3. There are three major categories of interest. These categories are numbered 1 through 3. Enter one of these numbers in column 3 as the code for category of interest.

4. Subcategory. The subcategories are listed on page 2. Each interviewer will be provided with an additional listing of these categories that are to be used by the respondent as an aid to determine a specific area of interest. Each category is preceded by a code number. Enter the code number for the category selected by respondent in column four.

If the respondent indicates an educational interest classified in categories 2.9, 3.9, 4.3, or 5.9 an additional explanatory note should be entered on the line at the bottom of the survey form headed "Detail for Item 4". This should be done by: (1) recording the number to the left of the subjects name on the data sheet, (2) recording the number of the subcategory the subject has identified (example: 2.9) and, (3) recording a brief explanatory note pinpointing the subject's educational interest. An example of the recording procedure would be: 1 - 2.9 Commercial Photography.

Necessary additional notes detailing any of the other subcategories in this section may be recorded using a similar procedure. For example: 2 - 2.3 Small Business Management. This detailing is very important to the success of the survey because you, as an interviewer, will capture information that would otherwise be lost.

5. The possible answers to Item 5 are coded 0 through 5. Enter the code number, for the answer given, on column 5. If the answer to this question is NO, record a "0" and <u>do not go on to additional questions for this person</u>.

6 through 13. Items 6 through 13 are self explanatory. The possible answers are preceded by a code number. Enter one of these code numbers in the applicable column.

14. Item 14 is a personal question. Some respondents may resent your asking the question. If you can estimate the income, then do not ask the question. <u>Use your judgment for making an estimate</u>.

Each interviewer will be provided with survey information cards. One of these cards should be left at each household. You will also be provided with brochures describing the Continuing Education Program at ASU. One of these should be left at each household.

INTERVIEW SCHEDULE

1. Sex (Male-1, Female-2)

2. Age

3. Major category of interest:

   1. Continuing formal education
   2. Vocational or technical training or re-training
   3. Informal non-credit courses

4. Sub-category of interest -- See Page 2 ▷ ▷ ▷

5. Assuming a good program was offered in this region in _____'s area of interest, would _____ consider enrolling in such a program? (If NO, record a "0" and do not go on to additional questions for this person. If YES, determine when the person would most likely be able to start)

   0. No --Not interested in program offered in this region.
   1. Yes --Immediately
   2. Yes --Within 6 months
   3. Yes --Within 1 year
   4. Yes --Within 2 years
   5. Yes --Not certain about starting time

6. How much formal education has _____ _____ completed?

   1. Completed less than high school or GED
   2. Completed high school or GED
   3. Completed one, two, or three years of college
   4. Completed two year Associate Degree Program
   5. Completed four year college degree program
   6. Completed one or more years of Graduate level work

7. Is _____ presently enrolled in any type of education or training program?

   0. No -- Not enrolled
   1. Adult Basic Education Program
   2. Regular high school program
   3. Vocational-Technical Program (beyond high school)
   4. Vocational-Rehabilitation Program
   5. Two or four year college program
   6. Graduate Program
   7. Other

4. SUBCATEGORY OF EDUCATIONAL INTEREST

BASIC EDUCATION

(1.1) Adult Basic Education (basic skills through 8th grade)

(1.2) Completing credits for high school graduation

(1.3) Achieving G.E.D.

(1.4) English as a second language

VOCATIONAL - TECHNICAL TRAINING

(2.0) Vocational - technical skill

(2.1) Automotive technology
(2.2) Agriculture technology
(2.3) Retail and Marketing
(2.4) Electrical/Electronic technology
(2.5) Law enforcement technology
(2.6) Allied health services
(2.7) Industrial technology
(2.8) Drafting and Design technology
(2.9) Other _____ (Identify other interest)

(3.0) Short courses or workshops in a vocational interest area
(Use sub. cat. 1-9 from 2: Example: 3.3)

COLLEGE CREDIT PROGRAMS

(4.0) Pre-college remedial work (preparation for college)

(4.1) College one-year certificate program

(4.2) Medical receptionist certificate program
(4.3) Other _____ (Identify other interest)

(5.0) College two-year certificate program in fields such as ...

(5.1) Data Processing
(5.2) Secretarial science
(5.3) Legal secretary
(5.4) Medical secretary
(5.5) Nursing
(5.6) Radiology
(5.7) Commercial Art
(5.8) Electronics
(5.9) Other _____
(Identify other interest)

(6.0) College four-year program
(6.1) Selected college courses in interest areas
(6.2) Graduate study

INFORMAL ADULT AND CONTINUING EDUCATION

(7.0) Adult continuing education courses in new vocational interest area
(7.1) Adult continuing education in avocational, recreational, or hobby area
(7.2) College credit by independent study and credit-by-examination

8. Employment Status:

   1. Full-time employment
   2. Part-time employment
   3. Full-time student
   4. Seasonal employment
   5. Retired
   6. Unemployed

9. Employment background:

   1. Laborer
   2. Semi-skilled
   3. Skilled
   4. Technical
   5. Professional
   6. Other
   7. None

10. Would the cost of books, tuition, transportation be a major problem?

    0. No
    1. Yes
    2. Don't know

11. Would_____be eligible to receive financial assistance for additional education because of:

    0. No
    1. Current military service
    2. Veteran benefits
    3. Handicap (vocational-rehabilitation)
    4. Company educational assistance program
    5. Other

12. Would transportation be a major problem in getting to the classes?

    0. No
    1. Yes
    2. Not sure

13. When would be the most convenient time for _____ to attend classes?

    0. Not sure or no opinion
    1. Weekday mornings
    2. Weekday afternoons
    3. Late afternoon after 4:00 p.m.
    4. Saturday
    5. Evenings after 6:00 p.m.

14. Estimate of present income:

    0. Could not make estimate
    1. Below $4,500
    2. Above $4,500

SUBCATEGORY OF EDUCATIONAL INTEREST

BASIC EDUCATION

(1.1) Adult Basic Education (basic skills through 8th grade)

(1.2) Completing credits for high school graduation

(1.3) Achieving G.E.D.

(1.4) English as a second language

POST-SECONDARY AND ADULT EDUCATION PROGRAMS (ALL PROGRAMS MAY INVOLVE COLLEGE CREDIT)

(2.0) Vocational - technical education

(2.1) Automotive technology
(2.2) Agriculture technology
(2.3) Retail and Marketing
(2.4) Electrical/Electronic technology
(2.5) Law enforcement technology
(2.6) Allied health services
(2.7) Industrial technology
(2.8) Drafting and Design technology
(2.9) Other _____ (Identify other interest)

(3.0) Short courses or workshops in a vocational interest area

(4.0) Pre-college remedial work (preparation for college)

(4.1) College one-year certificate program

(4.2) Medical receptionist certificate program
(4.3) Other _____ (Identify other interest)

(5.0) College two-year certificate program in fields such as ...

(5.1) Data Processing
(5.2) Secretarial Science
(5.3) Legal Secretary
(5.4) Medical Secretary
(5.5) Nursing
(5.6) Radiology
(5.7) Commercial Art
(5.8) Electronics
(5.9) Other _____ (Identify other interest)

(6.0) College four-year program
(6.1) Selected college courses in interest areas
(6.2) Graduate study

INFORMAL ADULT AND CONTINUING EDUCATION

(7.0) Adult continuing education courses in new vocational interest area
(7.1) Adult continuing education in avocational, recreational, or hobby area
(7.2) College credit by independent study and credit-by-examination

A. B. E. INTERESTS SURVEY*

INDEX NO. _____ (1-5)

COUNTY-DISTRICT NO. [ ][ ][ ] (6 7 8) [ ][ ][ ] (9 10 11) TRACT [ ][ ][ ] (12 13 14) INTERVIEWER [ ][ ] (15 16)

ADDRESS [ ] (17 – 44)
Street or P.O. Box No.

City [ ][ ] (45 46) Zip Code [ ][ ][ ][ ][ ] (47 – 51) Area Code [ ][ ][ ] (52 – 54) Telephone [ ][ ][ ] (55 – 57) Number [ ][ ][ ][ ] (58 – 61) Ethnic Group [ ] (62)

PART I - GENERAL

1.0.) How many persons live in this household? [ ][ ] (63 64)

1.1.) Under 18 [ ][ ] (65 66)

1.2.) 3 yrs. old (Handicapped) [ ][ ] (67 68)

1.3.) 4 yrs. old (Handicapped) [ ][ ] (69 70)

1.4.) 5 yrs. old [ ][ ] (71 72)

1.5.) 6 yrs. old not in public kindergarten [ ][ ] (73 74)

1.6.) Persons over 16, no longer in school, and haven't completed high school [ ][ ] (75 76)

1.7.) 18 to 65 [ ][ ] (77 78)

1.8.) Persons 65 and over [ ][ ] (79 80)

2. Is any member of the household interested in: Additional education or training beyond what the person is currently receiving, such as:

2.0.) Some type of formal education or formal training(completing high school or G. E. D.; beginning a one-two-, or four-year college certificate or degree program, special college course, graduate program.) [ ] (81)

2.1.) Some type of vocational or technical training, or training for another vocation (specialized skill development programs) [ ] (82)

2.2.) Some type of informal, non-credit adult education courses in areas of avocational, recreational, and hobby interests [ ] (83)

PART II-EDUCATIONAL AND EMPLOYMENT DATA

If the response is "Yes" to any choice in Part I, Item 2, record the name (s), age, and sex of each of these persons. Then proceed with the additional items on the interview schedule recording the responses in the appropriate cells of the data table. If there were no "Yes" answers for any of the above items, the interview is terminated at this point.

CC 2 / 96

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INDEX NO. _____
1-5

PART II
EDUCATIONAL AND EMPLOYMENT DATA *

(Print) NAME Last	First	Sex	Age	Major category of interest	Sub-category of interest	Availability	Formal Education	Current Educational Activities	Employment Status	Employment Background	Fees	Financial Assistance	Transportation	Schedule	Income	
		1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	
1.																
2.																
3.																
4.																
5.																
6.																
7.																
8.																
9.																
10.																
11.																
6-26	27-46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62

Detail for Item 4: _____

CC X/46

*This copy has been reduced from its original size.

INTERVIEW AND RECORD KEEPING PROCEDURES

1. RECORD OF CONTACTS

The interviewer is to start an ABE Interests Survey Data Sheet for each and every household contacted. This is to be done even when the contact does not result in a completed interview. The interviewer is to complete the following Data Sheet items: county-district number, tract number, interviewer number, address, city, ZIP code, and area code. (Of course these items can be completed without interviewing)

2. SECOND TRY

The interviewer is to make a second contact when necessary in an attempt to complete an interview. This second attempt should be indicated on the original Interests Survey Data Sheet by recording a "2" in the upper right hand corner of the front side of the Data Sheet. If the interview is not completed on this second try, the Data Sheet should be turned-in with the other Data Sheets of completed interviews at the end of each reporting period.

3. REFUSALS

Should a contact at a household refuse an interview the preliminary part of the Interests Survey Data Sheet should be completed as described above and the interviewer should write the word "refused" in the upper right hand corner of the front page of the Data Sheet. These refusals should be submitted at the next regular reporting time.

4. INTERVIEWER TIME SHEET AND RECORDS

Each week, at the end of the reporting period (Thursdays), the interviewer should turn in a fully completed Time Sheet for the work period and all Interests Survey Data Sheets including those fully completed, those refused, and those where a second try has been attempted.

It is very important that these Time Sheets and Data Sheets be turned in promptly when due.

5. CONTACT-DISTRIBUTION POINTS

There will be two (2) contact and distribution points at which interviewers are to turn in materials and receive additional interview materials. These contact points will be Room 312 at the San Angelo Independent School District's Administrative Offices, 100 North Magdalen, and the Adult and Continuing Education Office, Room 110 at the University Center, Angelo State University. The ASU Office will be open from 8:00 a.m. to 8:00 p.m., Monday through Thursday and until 5:00 p.m. on Friday.

ABE NEEDS ASSESSMENT

TIME SHEET

INTERVIEWER _____ [ ][ ] TRACT [ ][ ][ ]

Date	Start Time	Stop Time	Total Time		Number of Contacts	Number of Interviews	Number of Misses	Number of Refusals
			Hr.	Min.				
		TOTAL						

Signature: _____ Date _____

Approved By: _____ Date _____

INTERVIEWERS' NEWSLETTER

ADULT BASIC EDUCATION SURVEY PROJECT
VOCATIONAL-TECHNICAL FEASIBILITY STUDY

No. 4 March 13, 1975

SAN ANGELO SURVEY EXTENDS TO APRIL 10 - It was announced Tuesday at the special interviewers' meeting that the San Angelo Survey will continue to April 10. The interviewers present at the meeting responded favorably to this announcement. Many had called in suggestions and requests to extend the deadline for the Survey. We feel that our interviewing is now reaching its maximum effectiveness and efficiency and that the time extension will allow us to greatly improve both our coverage and the quality of results. This extension will make it necessary that two checks be issued to interviewers working through the entire run of the Survey. The hours for the first check have already been turned in to T.E.A.

SOME INTERVIEWERS ARE COMING BACK FOR MORE - Some of you will soon be completing all interviewing in your originally assigned district. Several persons have already indicated that they would like to continue interviewing in other survey districts. This is great news for the Project. It means that those of you who need some extra help in your district can get it and that we will have highly experienced interviewers to provide that help.

If you are interested in continuing your work after your district has been completed, please notify Mr. Bargely, Dr. Harvey or Ms. Annabelle Jones (655-5741 and 942-2164)

SURVEY GOES TO THE REGION - Our Adult Education Survey will soon be going out to the entire Concho Valley Region. Included in this region are approximately 18 counties surrounding San Angelo. The survey in these counties will be handled by questionnaire rather than interview. The questionnaire will be distributed to each household by as many as 40 different school districts participating in the survey. It is interesting to note that the geographic area our Adult Education Survey includes is greater than many states.

VOCATIONAL-TECHNICAL EDUCATION - Of all the educational interests on the list the Vocational-Technical Interests seem to be the ones that are the least known and understood by the public. Yet for many people these programs represent the best opportunity for them to improve their level of living. Please take the extra time when necessary to help people explore the possibilities in these program areas.

INTERVIEWERS' NEWSLETTER

ADULT BASIC EDUCATION SURVEY PROJECT
VOCATIONAL-TECHNICAL FEASIBILITY STUDY

No. 5 March 20, 1975

PROJECT OFFICES TO BE CLOSED FOR HOLIDAYS - Both the ASU Project Office and the SAISD Project office will be closed Thursday, March 27, of the Spring Break. If you plan to interview during the holidays you may wish to pick up additional materials this week. The next date for turning in interview data sheets will be Thursday, April 3.

SURVEY TIME EXTENDED - Our survey will continue until April 10, at which time we will have completed San Angelo interviews. If you are having any problems in your area, or are needing help, please call --

Mr. Bargley 655-5741	or	Dr. Harvey 942-2164	or	Annabelle Jones 942-2083

If you would like to work in other districts when yours is complete, please indicate this also. There is still survey work to finish, and your help and enthusiasm are the most valuable assets in interviewing.

VOCATIONAL-TECHNICAL INTERESTS - We are getting more positive response to our survey questions about vocational-technical education. This is encouraging as it may indicate a definite need for this type of training in our city. Many people do not know about this kind of education, and will express a definite interest when informed about it during the interview. You as the interviewer are an integral part of an important effort to inform the public. Keep up the good work!

COUNTY SURVEY BEGUN - Work has begun surveying the 18 counties surrounding San Angelo. Response to the survey has been very gratifying thus far with 80% of the counties answering 'yes' to participation in the survey. There is an interest and enthusiasm in our survey, not only in San Angelo, but in all the Concho Valley Area. This can mean the possible development of more educational programs for all the people in our region.

VOCATIONAL-TECHNICAL FEASIBILITY STUDY

Interviewers' Meeting
March 11, 1975

NAME_____ No.____ School Dist._____

Tract No. _____

Please answer the following questions as completely as possible.

1. Estimate the percentage of your district which has been completed:

   _____

2. Estimate the percentage of interviews which have been misses or refusals.

   _____

3. Estimate the percentage of interviews that involve the identification of some type of education interest:

   _____

4. When do you estimate your district will be complete? By what date?

   _____

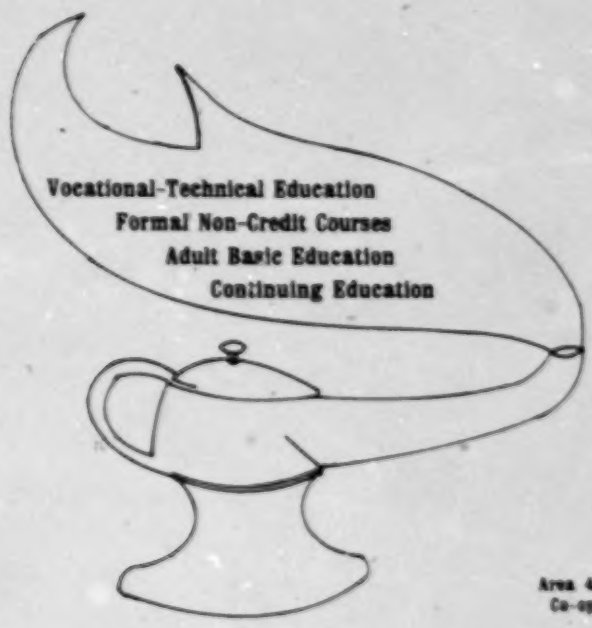
5. Are you having any special problems?

6. Do you feel any additional personnel are needed in your area?

   _____

INTERVIEWERS' IDENTIFICATION AND INFORMATION CARD
(Reproduction)

EDUCATIONAL NEEDS AND INTERESTS



Area 42
Co-op

FOR INFORMATION CONTACT:

DIVISION OF ADULT AND CONTINUING EDUCATION
Angelo State University
P.O. Box 11022, ASU Station
San Angelo, Texas 76901
(915) 942-2339 or 942-2183

OFFICE OF THE REGISTRAR
Angelo State University
San Angelo, Texas 76901
(915) 942-2042

MR. HORACE BARGLEY
COORDINATOR OF ABE NEEDS ASSESSMENT
100 North Magdalen
San Angelo,Texas 76901
(915) 655-5741

MR. LARRY LUSBY
GUIDANCE PROGRAM COORDINATOR
Education Center Region XV
P.O. Box 5199 100 N. Magdalen
San Angelo, Texas 76901
(915) 655-3045

SAN ANGELO

1970 Census of Population Figures

I.	Total Males	-	22,844	-	35.8%
	Total Females	-	24,691	-	38.7%
	Total Males (Black)	-	1,474	-	2.3%
	Total Females (Black) (Spanish excluded)	-	1,583	-	2.4%
	Spanish Surname				
	Total Metropolitan Area	-	13,151	-	20.6%
	San Angelo	-	12,441	-	19.5%
II.	San Angelo Population	-	63,884		
	Male	-	31,094	-	48.7%
	Female	-	32,790	-	51.3%
	Male (White)	-	29,423	-	46.1%
	Female (White)	-	30,999	-	48.5%
	Male (Black)	-	1,474	-	2.3%
	Female (Black)	-	1,583	-	2.5%
	Japanese	-	69	-	0.1%
	All Other	-	238	-	0.4%
III.	65 and older (San Angelo)	-	6,792	-	10.6%
	Under 18 years (San Angelo)	-	21,183	-	33.1%

CONCHO VALLEY AREA ADULT EDUCATION INTEREST SURVEY*

SUBCATEGORY OF EDUCATIONAL INTEREST
(San Angelo Survey)

BASIC EDUCATION	Number Responding
(1.1) Adult Basic Education (basic skills through 8th grade)	0
(1.2) Completing credits for high school graduation	9
(1.3) Achieving G.E.D.	23
(1.4) English as a second language	2

POST-SECONDARY AND ADULT EDUCATION PROGRAMS
(All programs may involve college credit.)

(2.0) Vocational-technical education	1
(2.1) Automotive technology	8
(2.1) Deisel Mechanic	1
(2.1) Motorcycle Mechanic	1
(2.2) Agriculture technology	0
(2.2) Livestock	2
(2.2) Soil & Game Conservation	3
(2.2) Forestry	1
(2.3) Retail & Marketing	3
(2.3) Management	1
(2.4) Electrical/Electronic technology	9
(2.4) Heating & Air Conditioning technology	2
(2.5) Law Enforcement technology	4
(2.6) Allied Health Services	6
(2.6) Dental Hygiene	2
(2.6) Lab Technician	2
(2.6) Certified Dietitian	1
(2.7) Industrial technology	1
(2.7) Carpentry	2
(2.8) Drafting and Design technology	7
(2.9) Other	
Accounting	2
Architecture	1
Art	9
Aircraft Mechanic	1
Aviation	2
Beautician	3
Bible	1
Binder	1
Blood Technician	1
Body Repair	1

(2.9) Other (con't)

	Number Responding
Broadcast Journalism	1
Building Engineer	1
Business	4
Computer Processing	1
Cooking	1
Crafts	1
Dental Technician	2
Drivers Ed	1
Education	1
Engineering	1
Fashion Designer	1
Fire Training	1
Home Repair	1
Human Relations	1
Interior Decorating	1
Interior Design	2
Law	1
Machines	1
Machinist	2
Management	2
Medical Field	2
Military Service	1
Music Theory	1
Nursing	1
Parent Activity	1
Personal Training	1
Photography	2
Plants and Decorating	1
Pottery	1
Real Estate	1
Refrigeration	3
Science	1
Secretarial Science	3
Sewing	5
Sheet Metal	1
Small Appliance Repair	1
Speech	2
Speedwriting	1
Supervision	1
Tax Courses	1
Training for Seeing Eye Dogs	1
Welding	14
Welfare	1
Woodwork	4
Wood Sculpture	1

(3.0) Short courses or workshops in a vocational interest area.

Barbering	2
Cardiovascular Fitness	1
Electrical Tech	1
German	1

		Number Responding
(3.0)	Short courses or workshops (con't)	
	Government	1
	Home Improvement	1
	Sewing	1
	Shorthand	1
	Upholstering	5
(4.0)	Pre-college remedial work (preparation for college)	1
(4.1)	College one-year certificate program	
(4.2)	Medical receptionist certificate program	3
(4.3)	Other	
	Dental Laboratory Technician	1
	Dental Receptionist	1
	Emergency Service	1
	First Aid	1
	Math	1
	Medical	1
	Medical Technician	2
	Music	1
	Paramedic	1
	Taxes	1
(5.0)	College two-year certificate program in fields such as..	
(5.1)	Data Processing	3
(5.2)	Secretarial Science	15
(5.2)	Shorthand	1
(5.3)	Legal Secretary	1
(5.4)	Medical Secretary	5
(5.5)	Nursing	13
(5.5)	LVN	1
(5.5)	Enrich	1
(5.5)	Nurses Aide	1
(5.5)	Advanced Nursing	1
(5.6)	Radiology	1
(5.7)	Commercial Art	1
(5.8)	Electronics	0
(5.9)	Other..	
	Accounting	4
	Appraising	1
	Art	1
	Banking courses	1
	Business	1
	Business Machines	1
	Business Management	4
	Conversational Spanish	5
	Chemical Engineering	1
	Cosmotology	1
	Dental Technician	1
	Dietitian	2

(5.9) Other (con't)

	Number Responding
Health	1
Journalism	1
LVN Training	1
Linguistics	1
Music	1
Music Recording	1
Physical Education	1
Physical Therapist	2
Pre-Med	2
Psychology	1
Real Estate	2
Spanish	1
Speech Therapy	1
Veterinarian	1

(6.0) College four-year program

Accounting	2
Agriculture	1
Architecture	1
Art	6
Bakery	1
Business	3
C.P.A.	1
College	1
Commercial Arts	1
Crafts-college level	1
Data Processing	1
Drafting & Design	1
Drama	1
Economics	2
Elementary Education	1
Engineering	1
English	2
Electronics	1
Gymnastics Specialist	1
History	4
Home Decorating	1
Homemaking	1
Journalism	1
Law Enforcement	1
LLD	1
Math	1
Medical Secretary	1
Mortuary Science	2
Music	2
Nursing	4
Photography	1
Physical Education	2
Physics	1
Political Science	1
Pre-Law	1

(6.0) College four-year program (con't)

	Number Responding
Pre-School Teaching	1
Psychology	3
Race Relationships	1
Real Estate	1
Secretarial Science	1
Social Security	1
Spanish	12
Veterinarian	1
Vocational Teacher	1
X-ray Technician	1

(6.1) Selected College Courses in Interest Areas

Agriculture	1
Algebra	1
Art	5
Bible Study	3
Bookkeeping	2
Creative Writing	1
English	1
Library Science	1
Literary Lectures	1
Math	2
Music	1
Physical Education	1
Psychology	2
Science	1
Sociology	3
Spanish	2
Theology	1
Women's History	1

(6.2) Graduate Study

Agriculture	1
Art	1
Bilingual Education	1
Biology	2
Business	1
Business Management	6
Chemistry	1
Childhood Education	2
Corrective Reading	1
Education	2
Gardening	1
Geology	1
Health & Physical Education	1
Interior Decorating	1
Law Enforcement	1
Math	3
Nursing	2
Photography	1

(6.2) Graduate Study (con't)

	Number Responding
Political Science	1
Psychology	5
Reading	1
Real Estate	1
Spanish	4
Special Education	2
Speech Correction	1

INFORMAL ADULT AND CONTINUING EDUCATION

(7.0) Adult continuing education courses in new vocational interest area

Art	1
Bakery or Restaurant	2
Bookkeeping	1
Business Manager	1
L.V.N.	1
Real Estate	1
Secretarial Science	2
Typing	1
X-ray Technician	1

(7.1) Adult continuing education in avocational, recreational, or hobby areas

Accounting	2
Adult Education	1
Animal Husbandry	1
Art	51
Auto Repair	4
Banking	1
Batik Art	2
Belly Dancing	2
Bible Study	2
Bookkeeping	2
Bowling	1
Bridge	1
Business	1
C.P.A.	1
Cake Decorating	1
Car Mechanics	1
Ceramics	6
China & Tole Painting	3
Comparative Religions	1
Cooking	3
Crafts	22
Crewel Embroidery	1
Crochet	4
Dancing	1
Drama	3
Dress Design	1
Electronics	1
English	1
English Literature	1

(7.1) Avocational, recreational, hobby (con't)

	Number Responding
Exercise	1
Family Living & Management	1
Fashion Design	1
Films	1
Finance	1
Foreign Languages	2
Furniture Repair	1
G.E.D.	1
Gardening	9
German	1
Golf	5
Group Therapy	1
Guitar	1
Handball	1
Health	1
Hobbies	5
Home Economics	2
Home Improvement	1
Home Repair	1
House Painting	1
Interior Decorating	24
Investment	1
Jewelry	2
Knitting	1
Landscaping	1
Language courses	1
Lip Reading	1
Math	1
Mechanics	1
Medical Terms	1
Memory	1
Metric System	1
Modern Math	1
Motivation	1
Music	6
Needlework	2
Nursing	1
Organ	1
Painting	19
Parental Guidance	1
Photography	5
Physical Conditioning	2
Pictures	1
Plants	1
Poetry	1
Pottery	2
Psychology	2
Public Speaking	2
Real Estate	4
Salesmanship	1

(7.1) Avocational, recreational, hobby (con't)

	Number Responding
Scuba Diving	1
Sculpture	1
Secretarial Training	1
Sewing	59
Shorthand	2
Sociology	1
Spanish	11
Speech	1
Speed Reading	2
Sports	3
Stock Analysis	2
Swimming	1
Tailoring	1
Taxes	1
Television (Children's Programs)	1
Tennis	2
Transactional Analysis	1
Typing	11
Upholstery	6
Vocational	2
Wall Coverings	2
Weaving	2
Weight Lifting	1
Woodwork	11
Writing	2

(7.2) College credit by independent study and credit-by-examination.1

*This is a listing and tabulation of the interviewers' written comments of the subjects description of his or her interest. It is not a full report.

PERCENTAGE RESPONSES TO INTERVIEW QUESTIONS 5-14:
EDUCATIONAL NEEDS AND INTEREST SURVEY
(San Angelo Survey)

5. Assuming a good program was offered in this region in _____'s area of interest. would _____consider enrolling in such a program? (If NO, record a "0" and do not go on to additional questions for this person. If YES, determine when the person would most likely be able to start)

0. No --Not interested in program offered in this region	5%
1. Yes --Immediately	32%
2. Yes --Within 6 months	28%
3. Yes --Within 1 year	11%
4. Yes --Within 2 years	5%
5. Yes --Not certain about starting time	19%

6. How much formal education has _____completed?

1. Completed less than high school or GED	23%
2. Completed high school or GED	24%
3. Completed one, two, or three years of college	27%
4. Completed two year Associate Degree Program	2%
5. Completed four year college degree program	14%
6. Completed one or more years of Graduate level work	5%
Not determined	4%

7. Is _____presently enrolled in any type of education or training program?

0. No --Not enrolled	81%
1. Adult Basic Education Program	2%
2. Regular high school program	5%
3. Vocational-Technical Program (beyond high school)	2%
4. Vocational-Rehabilitation Program	1%
5. Two or four year college program	6%
6. Graduate Program	1%
7. Other	2%

8. Employment Status:

1. Full-time employment	50%
2. Part-time employment	9%
3. Full-time student	2%
4. Seasonal employment	1%
5. Retired	2%
6. Unemployed	27%

Percentage Responses to Interview Questions 5-14

9. Employment background:

1. Laborer	6%
2. Semi-skilled	11%
3. Skilled	11%
4. Technical	24%
5. Professional	9%
6. Other	26%
7. None	12%

10. Would the cost of books, tuition, transportation be a major problem?

0. No	74%
1. Yes	18%
2. Don't know	8%

11. Would _____ be eligible to receive financial assistance for additional education because of:

0. No	80%
1. Current military service	4%
2. Veteran benefits	8%
3. Handicap (vocational-rehabilitation)	2%
4. Company educational assistance program	4%
5. Other	2%

12. Would transportation be a major problem in getting to the classes?

0. No	93%
1. Yes	6%
2. Not sure	1%

13. When would be the most convenient time for _____ to attend classes?

0. Not sure or no opinion	14%
1. Weekday mornings	24%
2. Weekday afternoons	6%
3. Late afternoon after 4:00 p.m.	5%
4. Saturday	3%
5. Evenings after 6:00 p.m.	48%

14. Estimate of present income:

0. Could not make estimate	12%
1. Below $4,500	11%
2. Above $4,500	77%

APPENDIX B

EDUCATIONAL NEEDS AND INTEREST SURVEY: COUNTIES SURVEY

Items Included:

Region XV Counties Map

County Population Data

Participation Response Sheet

Concho Valley Area Adult Education Interest Survey Questionnaire

County Participation Report; Adult Basic Education Survey: School Districts Contacted by Counties

Eden Independent School District: Community Education Interest Survey

SERVING BROWN, COKE, COLEMAN, CONCHO, CROCKETT, EDWARDS, IRION, KIMBLE, MASON, McCULLOCH, MENARD, RUNNELS, SAN SABA, SCHLEICHER, SUTTON, TOM GREEN, AND VAL VERDE COUNTIES.

COUNTY POPULATION DATA

COUNTIES	(Sq. Miles) LAND AREA	DENSITY	POPULATION	PERCENT[3]
*Coke	91	3.4	3,087	2.3
Coleman	1,280	8.0	10,288	7.5
Concho[1]	1,004	2.9	2,937	2.1
*Crockett	2,794	1.4	3,885	2.8
Edwards	2,076	1.0	2,107	1.5
Irion	1,073	1.0	1,070	0.8
Kimble	1,274	3.1	3,904	2.9
*Mason	935	3.6	3,356	2.5
*Menard	914	2.9	2,646	1.9
McCullough	1,066	8.0	8,571	6.3
Runnels	1,058	11.4	12,108	8.8
San Saba	1,120	4.9	5,540	4.0
*Schleicher	1,331	1.7	2,277	1.7
*Sterling	914	1.2	1,056	.8
Sutton	1,493	2.1	3,175	2.3
Tom Green	1,500	47.4	71,047	51.8
(Excluding San Angelo)	---	---	(7,163)	(5.2)
Brown[2]	938	27.6	25,877	---
*Val Verde	3,241	8.5	27,471	---
Totals	24,922	140.1	190,402	
Total	(Excluding San Angelo)		126,558	100.0%
Total	(Excluding Val Verde)		162,931	

*Counties not participating in survey
1. The city of Eden in Concho County conducted its own survey.
2. The city of Brownwood did not participate.
3. Excluding Brown and Val Verde (N=137,054).

PARTICIPATION RESPONSE SHEET

Adult Education Survey

Adult Basic Education

Post Secondary Education

Vocational Technical Education

Informal Adult and Continuing Education

SUPERINTENDENT _____

SCHOOL DISTRICT _____

STUDENT ENROLLMENT _____

Check Appropriate Box:

- ☐ Yes I would like to participate
- ☐ Yes I would like to participate, but I would like more information
- ☐ Undecided, would like more information
- ☐ No I would not like to participate at this time

Please indicate the week most convenient for your district to participate in the survey:

- ☐ March 16 through 22
- ☐ March 23 through 29
- ☐ March 30 through April 5
- ☐ April 6 through April 12

All necessary materials will be provided in ample time for the survey to be conducted in the week that you select.

For any additional information, write or call

Horace Bargley
100 N. Magdalen St.
San Angelo, Texas 76901
Phone: 655-5741

COUNTIES SURVEY QUESTIONNAIRE*

CONCHO VALLEY AREA
ADULT EDUCATION INTEREST SURVEY

WHAT IS ADULT EDUCATION?

Adult education includes a very wide range of formal and informal educational programs for adults. These programs are designed for persons who have a high school diploma or G.E.D. (High School Equivalency) or who are 16 years or older and have not been in school for one year or longer. They include basic education programs for adults wishing to complete high school or earn the G.E.D., Post-secondary Vocational-Technical Programs of all kinds, one-year to four-year college certificate or degree programs, and informal adult and continuing education courses (including independent study and credit-by-examination). There are programs for many purposes -- (1) to develop or improve vocational skills, (2) to develop a second vocation, (3) to enrich, (4) to develop avocation, recreation, or hobby interest, and not the least, (5) to better enjoy life. The programs are designed for adults of all ages from young adults to senior citizens.

WHY AN ADULT EDUCATION SURVEY?

The interest survey is to help identify the programs that are needed and where they are needed by determining the wants, needs, and interests in education of adults in our region. It will give each of us a voice in identifying the adult education we need. Once these needs are identified efforts can begin on offering needed programs when and where they are most needed and to the persons who need them. By having your suggestions it is possible to achieve more and better service from the educational institutions in our region.

HOW CAN YOU HELP?

Just fill out this survey to the best of your ability and return it to school promptly. We would like to survey all persons 16 years or older in your household. It will take only a few minutes of your time and in no way obligates you to take part in these programs should they be developed. We simply want to know what programs you feel you would be interested in if such programs were offered in our region.

If there are several youngsters attending school in your household each one may bring home a copy of this questionnaire. Please use more than one copy if needed and return all copies of the questionnaire to the school. So that we may know that the members of your household have had the opportunity to participate, please check one of the following:

☐ Yes. We have participated.

☐ No thanks. No one in the household is interested at this time.

*The original questionnaire was printed in a four page booklet form.

CATEGORIES OF EDUCATIONAL INTEREST

▶ BASIC EDUCATION

(1.1) Adult Basic Education (basic skills through 8th grade)

(1.2) Completing credits for high school graduation

(1.3) Achieving G.E.D.

(1.4) English as a second language

▶ POST-SECONDARY AND ADULT EDUCATION PROGRAMS
(ALL PROGRAMS MAY INVOLVE COLLEGE CREDIT)

(2.0) Vocational - technical education

- (2.1) Automotive technology
- (2.2) Agriculture technology
- (2.3) Retail and Marketing
- (2.4) Electrical/Electronic technology
- (2.5) Law enforcement technology
- (2.6) Allied health services
- (2.7) Industrial technology
- (2.8) Drafting and Design technology
- (2.9) Other _____ (Identify)

(3.0) Short courses or workshops in a vocational interest area

(4.0) Pre-college remedial work (preparation for college)

(4.1) College one-year certificate program

- (4.2) Medical receptionist certificate program
- (4.3) Other _____ (Identify)

(5.0) College two-year certificate program in fields such as ..

- (5.1) Data Processing
- (5.2) Secretarial Science
- (5.3) Legal Secretary
- (5.4) Medical Secretary
- (5.5) Nursing
- (5.6) Radiology
- (5.7) Commercial Art
- (5.8) Electronics
- (5.9) Other _____ (Identify)

(6.0) College four-year program
(6.1) Selected college courses in interest areas
(6.2) Graduate study

▶ INFORMAL ADULT AND CONTINUING EDUCATION

(7.0) Adult continuing education courses in new vocational interest area
(7.1) Adult continuing education in avocational, recreational, or hobby area
(7.2) College credit by independent study and credit-by-examination

✱ RECORD OF YOUR EDUCATIONAL INTEREST ✱

After looking over the list of educational programs displayed on the opposite page, select the program or programs of interest to you. Record the code number of each of the programs in which you are interested in the space provided. For example if one of your educational interests is 2.1 Automotive Technology record [2][1] in the appropriate spaces. Write in additional interests or information if necessary in the space provided. Please provide the other information requested on this page (Name, etc.) then turn to the back page and complete the address.

PLEASE PRINT

NAME _____ SEX: M F AGE [ ][ ]
(Last) 6-26 (First) 27-46 47 48 49

INTEREST 1# [ ][ ] 51 52 2# [ ][ ] 3# [ ][ ]

ADDITIONAL INFORMATION:

NAME _____ SEX: M F AGE [ ][ ]
(Last) 6-26 (First) 27-46 47 48 49

INTEREST 1# [ ][ ] 51 52 2# [ ][ ] 3# [ ][ ]

ADDITIONAL INFORMATION:

NAME _____ SEX: M F AGE [ ][ ]
(Last) 6-26 (First) 27-46 47 48 49

INTEREST 1# [ ][ ] 51 52 2# [ ][ ] 3# [ ][ ]

ADDITIONAL INFORMATION:

ADDRESS INFORMATION*

COUNTY _____ 6-8

MAILING ADDRESS: (PLEASE PRINT)

_____
17 Street, Route, or Box No. 44

_____ _____
City (45-46) Zip Code 47-51

52 54 55 61

Area Code Telephone No.

*We would like to be able to contact you as these programs are planned and developed.

FOR MORE INFORMATION

If you would like more information on any of the program areas check the appropriate box. If you have questions or suggestions write or call Mr. Larry Lusby, Guidance Program Coordinator, Education Center Region XV, P.O. Box 5199, 100 North Magdalen, San Angelo, Texas, 76901, (915) 655-3045.

Check

- ☐ Please send more information on basic education
- ☐ Please send more information on vocational-technical education
- ☐ Please send more information on college programs
- ☐ Please send more information on graduate study
- ☐ Please send more information on informal adult and continuing education
- ☐ Please send more information on independent study and credit by examination

Adult Basic Education Survey
School Districts Contacted by Counties.

COUNTY & SCHOOL DISTRICT	#INSTRUMENTS PROVIDED	#INSTRUMENTS RETURNED	#INDICATING INTEREST
BROWN COUNTY - 025			
21-Bangs ISD	535	37	21
02-Blanket RHSD	205	11	6
Brookesmith RISD	NP		
Brownwood ISD	NP		
Early ISD	NP		
May RHSD	NP		
03-Zephyr RISD	85	16	11
COKE COUNTY - 041			
Bronte ISD	NP		
Robert Lee ISD	NP		
COLEMAN COUNTY - 042			
Coleman ISD	NP		
Mozelle ISD	NP		
Novice ISD	NP		
04-Santa Anna ISD	319	15	15
Talpa ISD	NP		
CONCHO COUNTY - 048			
05-Eden ISD	Did not use instrument. Had just completed a similar survey. Provided data from that survey.		
06-Eola RHSD	128	5	2
07-Paint Rock RHSD	151	4	2
CROCKETT COUNTY - 053			
Crockett County Consolidated CSD	NP		
EDWARDS COUNTY - 069			
Carta Valley CSD	NP		
Nueces Canyon ISD	NP		
08-Rocksprings ISD	480	31	13
IRION COUNTY - 118			
09-Irion County ISD	270	8	8

COUNTY & SCHOOL DISTRICT	#INSTRUMENTS PROVIDED	#INSTRUMENTS RETURNED	#INDICATING INTEREST
KIMBLE COUNTY - 134			
10-Junction ISD	863	160	35
MASON COUNTY - 157			
Mason ISD	NP		
McCULLOCH COUNTY - 160			
11-Brady ISD	1544	254	86
12-Lohn RISD	81	6	6
Rochelle ISD	NP		
MENARD COUNTY - 164			
13-Menard ISD	550	0	0
RUNNELS COUNTY - 200			
Ballinger ISD	NP		
14-Miles ISD	360	20	20
Olfen CSD	NP		
Wingate ISD	NP		
15-Winters ESD	875	123	81
SAN SABA COUNTY- 206			
16-Cherokee ISD	152	9	9
Richland Springs ISD	NP		
17-San Saba ISD	244	0	0
SCHLEICHER COUNTY - 207			
18-Schleicher County ISD	625	0	0
STERLING COUNTY - 216			
Sterling City ISD	NP		
SUTTON COUNTY -218			
22-Sonora ISD	1057	142	51
TOM GREEN COUNTY - 226			
Christoval ISD	NP		
19-Grape Creek-Pullian CSD	290	10	8
01-San Angelo ISD			
Veribest-Byrd ESD	NP		
20-Wall ISD	593	30	30
Water Valley ISD	NP		

COUNTY & SCHOOL DISTRICT	#INSTRUMENTS PROVIDED	#INSTRUMENTS RETURNED	#INDICATING INTEREST
VAL VERDE COUNTY			
Comstock ISD	NP		
San Felipe - Del Rio Consolidated ISD	NP		
Juno CSD	NP		

EDEN INDEPENDENT SCHOOL DISTRICT
COMMUNITY EDUCATION INTEREST SURVEY

RECREATION AND SPORTS ACTIVITIES

11 Beginning Bridge
3 Intermediate Bridge
0 Advanced Bridge
27 Square Dancing
9 Men's Recreation-day or night-golf, tennis, volleyball, basketball softball, etc.
11 Women's Recreation-day or night
11 Men's Physical Fitness
29 Women's Physical Fitness
4 Jogging
5 Weight Lifting
11 Karate/Judo
9 Beginning Chess
2 Intermediate Chess
1 Advanced Chess
1 Mexican Folkdancing
2 Golf Instruction
2 Baton Twirling
12 Beginning Tennis
14 Guitar
18 Piano
0 Roller-skating
1 Horse Care
1 Fishing

CRAFTS AND HOBBIES

15 Flower Arranging
16 Needle Point
7 Decoupage
8 Macrame
11 Ceramic Pottery
6 Quilting
9 Photography
8 Gift Wrapping and Decorating
8 Crewel
14 Oil Painting
3 Lettering-pen and brush
8 Basic Drawing
4 Advanced Art
10 Beginning Sewing
4 Lost Wax Jewelry Casting
5 Lapidary Workshop
2 Leathercrafting
0 Brading Leather and Rawhide
4 Gun Club-Firearm Safety
6 Candlemaking
4 Mexican Paper Flowers

Eden Independent School District-Community Education Interest Survey

23 Crochet

SPECIAL VOCATIONAL SKILLS

3 Home Mechanics (Women)

13 Upholstering

13 Cake Decorating

9 Welding

12 Interior Decorating

13 Furniture Refinishing

1 Woodworking

3 Supermarket Cashier Training

1 Meat Packaging and Display

13 Self Protection for Women

18 Hair Care

7 Wig Styling

1 Setting up a Home Business

0 Retail Selling

13 Income Tax Preparation

2 Drafting

12 Office Skills (typing, bookkeeping, etc.)

2 Library Training

DOMESTIC SKILLS

4 Tailoring Slip Covers & Draperies

3 Cooking for Two

4 Meal Planning

6 Foreign Cooking

3 Family budgeting

6 Home Repairs

4 Home Nursing

3 Child Care

8 Gardening

5 Candy Making

20 Knitting

1 Advanced Knitting

4 Embroidery

EDUCATIONAL IMPROVEMENT

7 English as a Second Language

4 Spanish Improvement for Spanish Speakers

2 Public Speaking

20 Conversational Spanish

7 Comparative Religions

1 Helping Your Child with Learning Disabilities

8 Correspondence Courses for Credit

7 Reading

14 Bible

2 German

0 Salesmanship

4 Geology

ADULT BASIC EDUCATION

8 Reading Improvement

9 Writing Improvement

Eden Independent School District-Community Education Interest Survey

4 Communication Skills

9 Math Improvement

0 Preparation for Citizenship

2 Driver's Education

18 Advanced Studies for GED

1 How to Get a Job

SPECIAL PROGRAMS

1 Senior Citizen Organization

3 Family Activities

1 Teen Center

1 Dental Hygiene

0 Planned Parenthood

7 Drug Abuse/Education

5 Day Care Center

2 Community Health Services

5 Mother/Daughter Activities

0 Father/Son Activities

APPENDIX C

OCCUPATIONAL (EMPLOYMENT) NEEDS SURVEY

Items Included:

Survey Cover Letter

Survey Follow-Up Cover Letter

Survey Questionnaire Form

Detail Report of Occupational Needs

Occupational Shortages Summary

Occupational Needs Survey Report from Regional Texas Employment Commission

ANGELO STATE UNIVERSITY
SAN ANGELO, TEXAS 76901

VOCATIONAL-TECHNICAL EDUCATION
FEASIBILITY STUDY

May 15, 1975

Dear Sir:

A study of the occupational needs and adult education needs within the Concho Valley Area is currently being made. The research is being conducted by Angelo State University for the Division of Occupational Research and Development, Texas Education Agency to determine the occupational needs of employers and the occupational interest of adults in the area.

With the support and good participation we have come to expect from business and the citizens of our area, we will be able to provide the best description of occupational needs and interests currently available. This current information on occupational needs will be used to identify what kinds of vocational-technical education and other occupational education programs are needed within our area. Once we have a good idea of the specific occupational needs of our area, we can begin to plan the best way to meet these needs.

We need your help now in a very specific way. We need your estimates of your business' employment needs for the next 18 to 24 months. Isn't this a terrible time to be asking for these kinds of projections! Yes, and we understand the difficulty of this task at this time, but please keep in mind that these are estimates <u>not</u> commitments or pledges. We are asking for a conservative and an optimistic estimate.

Please complete the enclosed survey and return it to us by May 23. Even if you do not identify any additional employments needs, please return the survey so that we will know you have participated. Thank you for your participation.

Sincerely,

J. Noland Harvey, Director
Vocational-Technical Education
Feasibility Study

JNH:hs
encl.

ANGELO STATE UNIVERSITY
SAN ANGELO, TEXAS 76901

VOCATIONAL-TECHNICAL EDUCATION
FEASIBILITY STUDY

June 2, 1975

Dear Sir:

A study of the occupational needs and adult education needs within the Concho Valley Area is currently being made. The research is being conducted by Angelo State University for the Division of Occupational Research and Development, Texas Education Agency to determine the occupational needs of employers and the occupational interest of adults in the area.

With the support and good participation we have come to expect from business and the citizens of our area, we will be able to provide the best description of occupational needs and interests currently available. This current information on occupational needs will be used to identify what kinds of vocational-technical education and other occupational education programs are needed within our area. Once we have a good idea of the specific occupational needs of our area, we can begin to plan the best way to meet these needs.

We need your help now in a very specific way. We need your estimates of your business' employment needs for the next 18 to 24 months. Isn't this a terrible time to be asking for these kinds of projections! Yes, and we understand the difficulty of this task at this time, but please keep in mind that these are estimates <u>not</u> commitments or pledges. We are asking for a conservative and an optimistic estimate.

Please complete the enclosed survey and return it to us by June 11. Even if you do not identify any additional employments needs, please return the survey so that we will know you have participated. Thank you for your participation.

Sincerely,

J. Noland Harvey, Director
Vocational-Technical Education
Feasibility Study

JNH:hs
encl.

P.S. This is a follow-up to an earlier request. We would very much like to have your estimates included in the survey.

OCCUPATIONAL NEEDS SURVEY

Instructions

Please complete the Occupational Needs Survey attached by indicating your estimate of the number of additional employees you anticipate needing within the next 18 to 24 months. These are estimates only and do not in any way obligate your company.

Because of current economic uncertainties, we are asking you to offer a conservative estimate (assuming no dramatic recovery of the economy within the period) and an optimistic estimate (assuming a rather dramatic business upturn within the period). These estimates will help us develop long-range plans.

If an occupational category of importance to your firm is not included please write in the occupation under the appropriate heading.

OCCUPATIONAL NEEDS SURVEY

Conservative Estimate	Optimistic Estimate	
		I. PROFESSIONAL, TECHNICAL, AND MANAGERIAL
		Counselor
		Draftsman
		Educational Specialist
		Electronics Technician
		Engineer
		Law Enforcement Officer
		Manager
		Supervisor
		Systems Analyist
		Trust Officer
		_____
		_____
		_____
		II. CLERICAL AND SALES
		Accountant
		Auditor
		Billing Clerk
		Bookkeeping Mach. Operator
		Bookkeeper
		Clerk, General Office
		Clerk, Typist
		Computer Operator
		Computer Programmer
		Cashier
		Claim Adjustor
		Grocery Checker
		Inventory Clerk
		Key Punch Operator
		Legal Secretary
		Invoice Clerk

Conservative Estimate	Optimistic Estimate	
		CLERICAL AND SALES (Cont)
		Medical Secretary
		Medical Receptionist
		PBX Operator
		Payroll Clerk
		Salesman
		Secretary
		Stenographer
		Stock Clerk
		Timekeeper
		Traffic Rate Clerk
		Receptionist
		_____
		_____
		_____
		III. SERVICES
		Cook (all kinds)
		Dietitian
		Domestic Help
		Handyman
		Janitor
		Kitchen Helper
		Maintenance Man
		Nursemaid
		Orderly
		Security Guard
		Waitress-Waiter
		_____
		_____
		_____
		_____

Occupational Needs Survey

Conservative Estimate	Optimistic Estimate	IV. PROCESSING, MACHINE TRADES BENCH WORK, STRUCTURAL WORK AND MISCELLANEOUS
		Aircraft & Engine Mechanic
		Auto Mechanic
		Auto Service Sta. Attendant
		Bricklayer
		Bulldozer Operator
		Cabinet Maker
		Carpenter
		Construction Worker
		Crane Operator
		Cutter, Machine
		Diesel Mechanic
		Dragline Operator
		Duct Installer
		Electrician
		Electrician, Apprentice
		Electrician, Journeyman
		Electronics Mechanic
		Engineering Eqpt. Mechanic
		Engine Lathe Set-up Opr.
		Farm Equipment Mechanic
		Foreman
		Grounds Keeper
		Laborers (all types)
		Lathe Operator
		Lineman
		Machine Set-up Operator
		Machine-Shop Foreman
		Maintenance Man

Conservative Estimate	Optimistic Estimate	PROCESSING, MACHINE TRADES BENCH WORK, STRUCTURAL WORK AND MISCELLANEOUS (Cont)
		Metal Fabricator
		Millwright
		Motor Grader Operator
		Pipe Fitter
		Plumber
		Plumber, Journeyman
		Repairman
		Refrigeration Mechanic
		Sandblaster
		Seamstress
		Sewing Machine Operator
		Sheet Metal Worker
		Tool & Die Maker
		Tractor Mechanic
		Tractor-Trailer-Truck Driver
		Transmission Mechanic
		Truck Driver, Light
		Truck Mechanic
		Welder
		_____
		_____
		_____
		_____
		_____
		_____

Occupational Needs Survey

Conservative Estimate	Optimistic Estimate	V. HEALTH SERVICES AND SOCIAL SERVICES	Conservative Estimate	Optimistic Estimate	HEALTH SERVICES AND SOCIAL SERVICES (Cont)
		Social Services Personnel			Medical Services Personnel
		Caseworker			Occupational Therapist
		Group Worker			Physical Therapist
		Recreational Director			Radiologic Technologist
		Medical Services Personnel			Records Librarian
		Analyst-Programmer			Surgical Technician
		Anesthesiologist			X-Ray Technician
		Electroencephalograph Tech.			_____
		Inhalation Therapist			_____
		Medical Technologist			_____
		Nurse, General Duty			_____
		Nurse, Lic. Practical			_____

FIRM NAME: _____

ADDRESS: _____

_____

Name and title of person completing the survey:

_____

_____

Thank you very much. Please return the survey to the B.C.D. Offices.

OCCUPATIONAL NEEDS SURVEY: DETAILED REPORT OF FINDINGS

	Conservative Estimate	Optimistic Estimate	I. PROFESSIONAL TECHNICAL, AND MANAGERIAL
	2	7	Counselor
	5	15	Draftsman
	2	5	Educational Specialist
	2	9	Electronics Technician
	5	13	Engineer
	11	27	Law Enforcement Officer
	23	28	Manager
	11	18	Supervisor
	1	4	Systems Analyst
*	0	1	Trust Officer
	1	1	Loan Officer
	1	0	Assistant Manager
	1	1	Accounting Executive
	1	1	Commercial Artist
	1	1	Newscaster-Sportscaster
	1	1	Continuity Writer
	1	1	Cameraman
	1	1	Projectionist
	1	1	Producer
	1	1	Director
	1	1	Photographer
	73	137	TOTALS
			II. CLERICAL AND SALES
	8	13	Accountant
	1	1	Auditor
	7	11	Billing Clerk
	4	9	Bookkeeping Mach. Operator
	32	50	Bookkeeper

Conservative Estimate	Optimistic Estimate	II. CLERICAL AND SALES (Cont'd)
35	53	Clerk, General Office
47	80	Clerk, Typist
2	5	Computer Operator
0	5	Computer Programmer
10	13	Cashier
0	0	Claim Adjustor
23	33	Grocery Checker
2	4	Inventory Clerk
5	9	Key Punch Operator
1	2	Legal Secretary
5	8	Invoice Clerk
6	10	Medical Secretary
0	0	Medical Receptionist
3	11	PBX Operator
6	7	Payroll Clerk
29	65	Salesman
22	29	Secretary
5	9	Stenographer
15	25	Stock Clerk
0	0	Timekeeper
5	2	Traffic Rate Clerk
6	11	Receptionist
1	1	Parts Expeditor
1	3	Eng. Clerk (Blueprints)
2	0	Dispatcher
2	6	Oral Reporter
25	25	Store Clerks
2	4	Postal Clerk
2	4	Postal Carrier

*Occupations listed below heavy line were added by the employers interviewed

Occupational Needs Survey: Detail Report of Findings

Conservative Estimate	Optimistic Estimate	
		CLERICAL AND SALES (Cont'd)
1	4	Teller
2	4	Collector
2	5	Aircraft Salesman
319	519	TOTALS
		III. SERVICES
17	24	Cook (all kinds)
5	9	Dietician
9	14	Domestic Help
3	3	Handyman
41	55	Janitor
21	30	Kitchen Helper
15	24	Maintenance Man
15	20	Nursemaid
47	92	Orderly
5	9	Security Guard
5	8	Waitress-Waiter
1	0	Food Service Supervisor
1	0	Insurance Woman
1	1	Baker
1	2	Baker's Helper
188	291	TOTALS
		IV. PROCESSING, MACHINE TRADES BENCH WORK, STRUCTURAL WORK AND MISCELLANEOUS
6	11	Aircraft & Engine Mechanic
11	18	Auto Mechanic
5	9	Auto Service Sta. Attendant
0	0	Bricklayer
8	10	Bulldozer Operator

Conservative Estimate	Optimistic Estimate	
		IV. PROCESSING, MACHINE TRADES, BENCH WORK, STRUCTURAL WORK AND MISCELLANEOUS (Cont'd)
2	6	Cabinet Maker
6	11	Carpenter
32	58	Construction Worker
5	8	Crane Operator
1	0	Cutter, Machine
8	12	Diesel Mechanic
3	1	Dragline Operator
3	6	Duct Installer
7	9	Electrician
7	11	Electrician, Apprentice
14	20	Electrician, Journeyman
1	2	Electronics Mechanic
3	4	Engineering Eqpt, Mechanic
2	1	Engine Lathe Set-Up Opr.
2	3	Farm Equipment Mechanic
10	13	Foreman
21	42	Grounds Keeper
132	262	Laborers (all types)
5	7	Lathe Operator
1	0	Lineman
7	21	Machine Set-Up Operator
1	1	Machine-Shop Foreman
12	19	Maintenance Man
0	3	Metal Fabricator
0	0	Millwright
10	21	Motor Grader Operator
5	12	Pipe Fitter
2	2	Plumber
1	1	Plumber, Journeyman

Occupational Needs Survey: Detail Report of Findings

Conservative Estimate	Optimistic Estimate	IV. PROCESSING, MACHINE TRADES, BENCH WORK, STRUCTURAL WORK AND MISCELLANEOUS (Cont'd)
1	4	Repairman
3	8	Refrigeration Mechanic
0	0	Sandblaster
0	0	Seamstress
3	5	Sewing Machine Operator
7	15	Sheet Metal Worker
4	1	Tool & Die Maker
1	4	Tractor Mechanic
23	24	Tractor-Trailer-Truck Driver
0	3	Transmission Mechanic
24	35	Truck Driver, Light
4	5	Truck Mechanic
15	32	Welder
2	6	Spray Painter
2	3	Painter
0	1	Ser. Eng.Data Processing Equip.
1	1	Parts Room Attendant
1	1	Air Cond.-Ref. Service Man
4	5	Bootmaker
4	9	Woodworker (trusses & doors)
4	8	Roofing Foreman
3	-	Tower worker
439	766	TOTALS

Conservative Estimate	Optimistic Estimate	V. HEALTH SERVICES AND SOCIAL SERVICES
		Social Services Personnel
2	5	Caseworker
0	0	Group Worker
2	11	Recreational Director
5	5	Alcoholism Worker
0	1	Speech Therapist
		Medical Services Personnel
0	0	Analyst-Programmer
1	1	Anesthesiologist
2	4	Electroencephalograph Tech.
4	9	Inhalation Therapist
4	8	Medical Technologist
31	48	Nurse, Lic. Practical
2	2	Occupational Therapist
2	3	Physical Therapist
1	4	Radiologic Technologist
1	1	Records Librarian
3	6	Surgical Technician
5	9	X-Ray Technician
1	1	Registered Nurse
1	2	Manager Trainee
0	2	Aides (Part-time)
105	189	TOTALS
1,124	1,902	OVER-ALL TOTALS

SAN ANGELO OCCUPATIONAL SHORTAGES*

OCCUPATION	1974 December	1975 January	1975 February
Professional, Technical & Managerial			
Commercial Draftsman	X	X	X
General Duty Nurse	X	X	X
Clerical & Sales			
Bookkeeping Machine Operator	X	X	X
Auto Parts Clerk	X	X	X
Grocery Checker	X	X	X
Secretary	X	X	X
Stenographer	X	X	X
Route Salesman		X	X
Services			
Orderly	X	X	X
Waitress or Waiter	X	X	X
Processing, Machine Trades, Bench Work, Structural Work, & Miscellaneous			
Auto Mechanic	X	X	X
Diesel Mechanic	X	X	X
Electronics Mechanic	X	X	X
Maintenance Man	X	X	X
Production Machine Operator	X	X	X
Household Appliance Repairman	X	X	X
Tool and Die Maker	X	X	X
Combination Welder	X	X	X

*Texas Department of Community Affairs
Manpower Services Division
Austin, Texas

OCCUPATIONAL NEEDS SURVEY REPORT
Regional Office of the Texas Employment Commission*

Conservative Estimate	Optimistic Estimate	I. PROFESSIONAL, TECHNICAL, AND MANAGERIAL
0	3	Counselor
2	4	Draftsman
0	0	Educational Specialist
0	5	Electronics Technician
0	0	Engineer
25	50	Law Enforcement Officer
0	10	Manager
0	10	Supervisor
0	1	Systems Analyist
0	2	Trust Officer

Conservative Estimate	Optimistic Estimate	II. CLERICAL AND SALES
1	5	Accountant
1	5	Auditor
4	6	Billing Clerk
2	7	Bookkeeping Mach. Operator
7	10	Bookkeeper
5	10	Clerk, General Office
5	10	Clerk, Typist
0	3	Computer Operator
0	0	Computer Programmer
5	15	Cashier
2	6	Claim Adjustor
5	10	Grocery Checker
1	3	Inventory Clerk
3	7	Key Punch Operator
2	5	Legal Secretary
1	3	Invoice Clerk

Conservative Estimate	Optimistic Estimate	CLERICAL AND SALES (Cont)
2	5	Medical Secretary
2	5	Medical Receptionist
5	10	PBX Operator
4	6	Payroll Clerk
7	11	Salesman
5	15	Secretary
5	15	Stenographer
4	7	Stock Clerk
0	3	Timekeeper
1	4	Traffic Rate Clerk
5	10	Receptionist

Conservative Estimate	Optimistic Estimate	III. SERVICES
10	20	Cook (all kinds)
5	7	Dietitian
30	50	Domestic Help
5	9	Handyman
10	15	Janitor
15	30	Kitchen Helper
5	10	Maintenance Man
30	50	Nursemaid
10	25	Orderly
5	10	Security Guard
50	30	Waitress-Waiter

*These estimates were provided by the staff of the Texas Employment Commission

Occupational Needs Survey - Texas Employment Commission

Conservative Estimate	Optimistic Estimate	IV. PROCESSING, MACHINE TRADES BENCH WORK, STRUCTURAL WORK AND MISCELLANEOUS
1	3	Aircraft & Engine Mechanic
10	15	Auto Mechanic
10	20	Auto Service Sta. Attendant
0	0	Bricklayer
1	3	Bulldozer Operator
1	2	Cabinet Maker
5	10	Carpenter
15	25	Construction Worker
1	1	Crane Operator
0	0	Cutter, Machine
5	10	Diesel Mechanic
2	4	Dragline Operator
5	10	Duct Installer
3	8	Electrician
5	10	Electrician, Apprentice
0	0	Electrician, Journeyman
1	3	Electronics Mechanic
2	4	Engineering Eqpt. Mechanic
8	15	Engine Lathe Set-up Opr.
3	7	Farm Equipment Mechanic
1	4	Foreman
5	10	Grounds Keeper
50	100	Laborers (all types)
1	10	Lathe Operator
3	5	Lineman
6	12	Machine Set-up Operator
2	5	Machine-Shop Foreman
3	8	Maintenance Man

Conservative Estimate	Optimistic Estimate	PROCESSING, MACHINE TRADES BENCH WORK, STRUCTURAL WORK AND MISCELLANEOUS (Cont)
1	3	Metal Fabricator
1	3	Millwright
2	5	Motor Grader Operator
0	1	Pipe Fitter
2	5	Plumber
2	5	Plumber, Journeyman
4	6	Repairman
3	5	Refrigeration Mechanic
1	3	Sandblaster
3	7	Seamstress
50	150	Sewing Machine Operator
5	15	Sheet Metal Worker
4	9	Tool & Die Maker
2	5	Tractor Mechanic
5	10	Tractor-Trailer-Truck Driver
2	5	Transmission Mechanic
5	10	Truck Driver, Light
3	15	Truck Mechanic
10	25	Welder

Occupational Needs Survey - Texas Tmployment Commission

Conservative Estimate	Optimistic Estimate	V. HEALTH SERVICES AND SOCIAL SERVICES
		Social Services Personnel
5	15	Caseworker
5	15	Group Worker
3	10	Recreational Director
		Medical Services Personnel
0	0	Analyst-Programmer
0	0	Anesthesiologist
1	3	Electroencephalograph Tech.
1	3	Inhalation Therapist
3	5	Medical Technologist
5	12	Nurse, General Duty
10	25	Nurse, Lic. Practical

Conservative Estimate	Optimistic Estimate	HEALTH SERVICES AND SOCIAL SERVICES (Cont)
		Medical Services Personnel
3	5	Occupational Therapist
3	5	Physical Therapist
1	3	Radiologic Technologist
0	3	Records Librarian
2	5	Surgical Technician
3	5	X-Ray Technician

FIRM NAME: Texas Employment Commission

ADDRESS: 122 South Oakes Street

San Angelo, Texas 76901

Name and title of person completing the survey:

J.V. Owens,

Manager

Thank you very much. Please return the survey to the B.C.D. Offices.

CE 008 930

ACCESSION NUMBER: VT103267

PUBLICATION DATE: 30SEP74

TITLE: KIMBALL OCCUPATIONAL EDUCATION PROJECT. FINAL REPORT.

DESCRIPTOR: *RURAL SCHOOL SYSTEMS; *CAREER EDUCATION; ELEMENTARY SECONDARY EDUCATION; DEVELOPMENTAL PROGRAMS; *PROGRAM DESCRIPTIONS; PROGRAM EVALUATION; INTEGRATED CURRICULUM; CAREER AWARENESS; CAREER EXPLORATION; COOPERATIVE EDUCATION; JOB PLACEMENT; *OCCUPATIONAL GUIDANCE; INSERVICE TEACHER EDUCATION

IDENTIFIER: *NEBRASKA

EDRS PRICE: MF AND HC AVAILABILITY WILL BE ANNOUNCED IN VOL. 10, NO. 2.

DESCRIPTIVE NOTE: 85P.

ABSTRACT: THE REPORT DESCRIBES A SCHOOL-BASED CAREER EDUCATION MODEL FOR THE TYPICAL RURAL SCHOOL SYSTEM IN THE STATE OF NEBRASKA, AS IMPLEMENTED IN THE KIMBALL PUBLIC SCHOOLS FROM JUNE 4, 1973 TO SEPTEMBER 30, 1974. THE ELEMENTARY COMPONENT STRUCTURED THE K-6 CURRICULUM AROUND THE THEME OF CAREER OPPORTUNITIES AND REQUIREMENTS WITH INTEGRATED CURRICULUM MATERIALS. THE EXPLORATION COMPONENT PROVIDED STUDENTS IN GRADES 7-9 WITH OCCUPATIONAL EXPLORATION LEARNING MATERIALS. IN GRADES 11-12 THE COOPERATIVE EDUCATION PROGRAM WAS EXPANDED TO PLACE ALL STUDENTS DESIRING WORK ON JOBS AND TO ASSIST DROPOUTS WITH JOB PLACEMENT. AN INTENSIVE JOB TRAINING COMPONENT WAS PROVIDED FOR GRADE 10-ADULT TO PRODUCE ENTRY-LEVEL JOB SKILLS, AND THE GUIDANCE AND COUNSELING COMPONENT PROVIDED OCCUPATIONAL SERVICES FOR GRADES K-ADULT AND CITIZENS OF THE COMMUNITY. INSERVICE WORKSHOPS GAVE TEACHERS INFORMATION ABOUT INTEGRATING CAREER EDUCATION INSTRUCTION INTO THE CURRICULUM. MOST OF THE REPORT CONSISTS OF APPENDED MATERIALS DEVELOPED IN OR FOR THE PROJECT, INCLUDING SOME WORKSHOP PAGES, PRETEST QUESTIONNAIRE FORMS FOR ALL GRADES, AND THE THIRD-PARTY EVALUATION. THE EVALUATION RATED THE GUIDANCE AND COUNSELING PROGRAM HIGHLY, AND THE ELEMENTARY AND JUNIOR HIGH COMPONENTS HIGHER THAN THE SENIOR PROGRAM. THE POSSIBILITY OF ANY POSTSECONDARY AREA IN THE PROJECT WAS CONSIDERED QUITE LOW. (MF)

CONTRACT NUMBER: OEG-0-73-2977

INSTITUTION NAME: NEBRASKA STATE DEPT. OF EDUCATION, LINCOLN.

SPONSORING AGENCY NAME: BUREAU OF OCCUPATIONAL AND ADULT EDUCATION (DHEW/OE), WASHINGTON, D.C.

VT 103 267

FINAL REPORT

Project No. V361028

Grant No. OEG-0-73-2977

Kimball Occupational Education Project

Conducted Under

Part C of Public Law 90-576

Nebraska State Department of Education
233 South 10th Street
Lincoln, Nebraska 68508

September 30, 1974

VT 103 267

2

FINAL REPORT

Project No. V3610286

Grant No. OEG-0-73-2977

Kimball Occupational Education Project

Conducted Under

Part C of Public Law 90-576

The project reported herein was performed pursuant to a grant from the Bureau of Occupational and Adult Education, Office of Education, U.S. Department of Health, Education and Welfare. Grantees undertaking such projects under Government sponsorship are encouraged to express freely their professional judgment in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent official Office of Education position or policy.

Nebraska State Department of Education
233 South 10th Street
Lincoln, Nebraska 68508

September 30, 1974

CE 008 935

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SUMMARY OF REPORT

FROM JUNE 4, 1973 TO SEPTEMBER 30, 1974

GOALS AND OBJECTIVES OF THE PROJECT

As written in the original proposal the Kimball Schools proposed to implement a school based career education model for the typical rural school system in the state of Nebraska.

The career education model was to be implemented through the following components:

A. ELEMENTARY COMPONENT

Structure the elementary school curriculum K-6 around the theme of career opportunities and requirements in the World of Work, developing integrated curriculum materials.

B. EXPLORATION COMPONENT

Provide all students, grades 7-9, with hands-on occupational exploration learning experiences; using the World of Construction materials when feasible.

C. COOPERATIVE EDUCATION COMPONENT

Expand the present modified cooperative education program, grades 11-12, so it will place on jobs all in-service students who desire work, and follow-up and assist all student drop-outs with job placements.

D. INTENSIVE JOB TRAINING COMPONENT

Develop a continuous progress multi-sensory instructional model for students, grades 10-adult which will produce marketable entry-level job skills, or retain and/or upgrade job skills. The areas of emphasis will be the following disciplines: English, Math, Science, Social Studies, Fine Arts, and the Special Education Program.

E. GUIDANCE AND COUNSELING COMPONENT

Develop a comprehensive occupational guidance, counseling, and placement service grades K-adult, for all "in-and-out" of school citizens of the community. Making use of various occupational inventories such as O.V.I.S. and G.A.T.B. as an integral part of the regular testing program.

PROCEDURES USED IN CARRYING OUT OBJECTIVES

A. ELEMENTARY SCHOOL COMPONENT

The elementary school staff was involved in identification of learning activities which relate to the concept of career awareness through inservice programs with college credit given through Chadron State College. Units were written to include these activities in the curriculum in different areas. The units have been field tested and revised to be used for the second year.

B. EXPLORATION EXPERIENCES COMPONENT

Kimball Public Schools District #1 and #3 identified and evaluated other exploratory programs which have been implemented by other school systems throughout the United States.

Curriculum development emphasized "hands-on" experiences for students in grades 7-9. The learning activities used the concept of multi-media in the instructional units. The "hands-on" occupational exploration was carried out through the regular program by the individual teachers or as a team approach. The World of Construction which was developed under a U.S. Office of Education grant at Ohio State University was implemented as one component of this objective.

C. COOPERATIVE EDUCATION COMPONENT

The inter-disciplinary modified cooperative education program was expanded to include both in-school students and drop-outs (handicapped and disadvantaged) so that they were engaged in saleable skill training programs in local rural business and industrial firms. Emphasis was placed on (1) providing part-time and summer jobs related to the occupation for which the student was preparing, and (2) placing highly drop-out prone students on career related jobs. The counselors worked directly with the teacher-coordinator throughout the full calendar year to assist in identifying and placing students year around. The J.E.T. program is still operated in a modified stage although the program has been expanded.

D. INTENSIVE JOB TRAINING COMPONENT

The intensive job entry skill training portion of the career education model was organized around (1) economically feasible and realistic "in-house" occupational clusters for a rural school system. The "in-house" facet of the program was organized on a continuous progress multi-sensory instructional model based on actual job-proficiency and delivered to the learner in a hierarchy of training which permits "spin-off" at any level with marketable skills. The intensive job entry skill training portion of the career education model is available to youths and adults during the regular school hours, after school and evening, and during the summer months. A program is available for training, retraining and/or upgrading of those youths who have left the public school system due to drop-out (economic condition) and who have completed their high school graduation requirements but desire to have additional training or training in a new area of interest.

E. GUIDANCE AND COUNSELING COMPONENT

The three counselors involved with Kimball Occupational Education Program (KOEP) became familiar with career development theory, explored the world of work, and gained an appreciation for the dignity of all work whatever level of endeavor.

During the school year 1973-74, the counselors carried on a complete and articulated model program of guidance and counseling at all levels, K - Adult. The model program had the following characters: (1) It was based on systems concepts, particularly those presently associated with evaluation and change process models in education, (2) It defined guidance criteria in terms of behavioral objectives, (3) it stressed program objectives which were realistic possibilities within the resources of the participating schools, (4) it provided corrective feedback based on evaluation of the achievements of the program. At the end of the school year, the results were analyzed and recommendations were made for the revisions and refinements of the program next year.

As an extension to the guidance and counseling component, a placement service was established in the community for in-school students and adults. The guidance person worked in cooperation with the cooperative education coordinator, the vocational teachers, and the Nebraska Job Service. Canvasses were made of potential employers for students who wished to work part-time while continuing in school, for students who wish to drop out of school and work full-time, for students graduating from the 12th grade and adults. Assistance was provided during the summer through the Chamber of Commerce secretary to high school students desiring work during the vacation period. Throughout the 1973-74 school year, the placement service refined its procedures on the basis of accumulating experience.

RESULTS AND ACCOMPLISHMENTS

The in-service workshops, four times during the year, provided the teachers with information concerning the theory of career education and instruction in writing units to incorporate career education into the curriculum. The teachers became aware that a different emphasis had to be placed on the units that already existed and that career education wasn't just another subject to add to the already busy day. The K-8 teachers in particular became enthusiastic about when and where this type of instruction could best be included. Many more field trips and special visitors are being scheduled by the teachers than in past years.

In the middle school the home economics teacher whose work had been somewhat career education oriented began to work up many more individualized units including "hands-on" experiences related to occupations. The World of Construction was partially incorporated in the eighth grade industrial arts classes. More activities relating to the health field were included in science and health classes to allow the students to experience this type of occupation.

The modified cooperative education program Job Experience Training (JET) grades 11-12 was expanded to place all in-service students who desired work. It also includes follow-up of each student enrolled in the program as well as assistance to all drop-outs with job placement.

The intensive job training component places a student on a job for a half day as well as providing skills related to the career in classes. Following the intensive training the students are most often hired for a full time position.

The counselors involved in the program continue to seek out and evaluate materials to be used in working with students individually and in groups with classroom teachers. The testing program includes tests related to interests and occupational choice. Counseling at all levels involves the student becoming more aware of himself and his feelings toward other people and activities.

The placement service has been very effective in placing many students during the year. During the summer the secretary of the Chamber of Commerce operated the placement service for the school system.

EVALUATION

KOEP has been in operation for a year and the students in the Kimball schools have been involved in many new and exciting experiences. Activities that they had experienced before took on a new emphasis, that of career education. More field trips were scheduled and more speakers were invited to the classrooms. Many of them now see the reason to learn how to add fractions, write letters in correct form, and study the human body's circulatory system.

Many teachers have discovered that including some career education activities in the already established curriculum adds "spice" to the somewhat "tasteless" lesson. They realize that career education can be included any place at any time for a few minutes or an hour, in a discussion, or as a field trip, and/or through a classroom visitor. Of course, there are some faculty members who still find it difficult to include career education in their classroom because they fail to see how their subject area relates to any occupation.

At the beginning KOEP experienced some administrative problems concerning time involvement of the staff and communication with other school personnel, but once these were resolved the program began to run smoothly. The cooperation of the schools administration concerning field trips and arrangements for speakers has been excellent.

The community has become a very important resource to the Kimball school system. Businessmen and other community people willingly visit the classrooms and guide the students through their places of business.

The results of the pre and post tests show that students are being exposed to careers involving varying amounts of training, education and interests. The post test results listed many more occupations not requiring a college education than did the pre-test.

CONCLUSIONS AND RECOMMENDATIONS

Career Education is an integral part of the Kimball School Districts #1 and #3. At some levels it is being experienced more intensive than at others, but each faculty member is more acutely aware of his/her subjects' relationship to the world of work and how it may influence students. The cooperation received from the community makes the work of the program staff and the instructors much easier.

Teachers who are not currently including career education in their classrooms need added encouragement and assistance from fellow faculty members and program staff. There is a need for information to be filed on field trip evaluation, etc., to be used for future reference by the teachers. An over-all organization plan should be developed K-Adult so that there is very little repetition and units can be revised and up-dated. More frequent personal communication between faculty groups and the program director may help to improve the attitude of some of the teachers.

KIMBALL OCCUPATIONAL EDUCATION PROJECT

FROM JUNE 4, 1973 TO SEPTEMBER 30, 1974

The Kimball School Districts #1 and #3 have, for a number of years, offered strong programs in grades 9 through 12, designed to provide job preparation in agriculture and agri-business occupational areas.

In more recent years job preparation programs in a variety of other occupational areas were developed. Interwoven with this effort was the emergence of a modified cooperative education program. Just prior to the fall of 1972 considerable progress had been made in providing career education experiences for elementary students and some progress had been made in providing exploratory experiences at the middle school level. There was a need for a concentrated effort to expand the program to a K-Adult career education program exemplifying what could be a reality for the typical rural school system in the State of Nebraska.

The original proposal listed five components and the goals and objectives of each:

A. ELEMENTARY COMPONENT

Structure the elementary school curriculum K-6 around the theme of career opportunities and requirements in the World of Work.

B. EXPLORATION COMPONENT

Provide all students, grades 7-9, with hands-on occupational exploration learning experiences.

C. COOPERATIVE EDUCATION COMPONENT

Expand the modified cooperative education program, grades 11-12, so it will place on jobs all in-service students who desire work, and follow-up and assist all student drop-outs with job placements.

D. INTENSIVE JOB TRAINING COMPONENT

Develop a continuous progress multi-sensory instructional model for students, grade 10-adult which will produce marketable entry-level job skills, or retain and/or upgrade job skills. The areas of emphasis will be the following disciplines: English, Math, Science, Social Studies, Fine Arts, and the Special Education Program.

E. GUIDANCE AND COUNSELING COMPONENT

Develop a comprehensive occupational guidance, counseling, and placement service grades K-Adult, for all "in-and-out" of school citizens of the community. Making use of various occupational inventories such as the O.V.I.S. and G.A.T.B. as an integral part of the testing program.

Kimball is a rural town in western Nebraska with a population of about 3500. Kimball has a substantial proportion of middle income families; however, about 13 percent of the families have incomes below the poverty level. The city's economy is dependent mainly on agriculture and supplemented with a very small amount of oil activity.

The local school districts in Kimball enroll approximately 1115 pupils in grades K-12.

TABLE #1 ENROLLMENT

LEVEL	NO. OF SCHOOLS	NO. OF TEACHERS	NO. OF COUNSELORS	NO. OF PUPILS
Elementary K-5	2	28	1	440
Middle School (6-7-8)	1	23	1	325
Senior High School (9-12)	1	25	1	350
Total	4	76	3	1115

To introduce all Kimball Schools faculty to the idea of career education a pre-service workshop was held in August 1973. The workshop was conducted by Dr. Maurice Ward, Program Specialist for Career Development, Department of Vocational Education, University of Northern Colorado, Greeley, Colorado. The over-all purposes of the workshop were to acquaint teachers with career education theory and to provide opportunities for preparation of a total plan as well as an initial unit for each teacher.

A second workshop was held in February 1974. There were two main objectives of this workshop; one was to give the teachers an opportunity to select a common K-12 format for writing their career education units; the other was to provide teachers with an opportunity to meet in grade level or departmental groups and actually write some of their units in the format selected by them earlier in the day. Consultants for the workshop were Mr. Larry Willis, director of the Milford, Nebraska career education project and several Milford teachers. The 90 units which were completed at this workshop were then typed, printed, and distributed to all Kimball teachers.

The third and final workshop was held in May 1974. The workshop was administered by the KDEP personnel without the aid of outside consultants. Teachers attending devoted their time to writing the units taught between February 1974 and May 1974. Approximately 125 units were completed by teachers, grades K-12 and these were typed and printed for distribution to other staff members.

It is the opinion of those given the responsibility of administering the (KDEP) project that the "meat" of success was "selling" the staff and

this was accomplished through the inservice workshops involving the entire staff and the fact that college credit was granted by Chadron State College.

When these workshops were conducted outside of the regular school day, teachers were re-imbursed a nominal wage for attendance.

An evaluation instrument was developed for each grade level K-12 by the original program director and was administered to all KOEP and control school students during the school year 1973-74, and again in September 1974.

This instrument was compiled after exhaustive investigations failed to find an instrument particularly suited to the goals and objectives of the Kimball project. Each level features a distinct overlap from the previous level as well as some questions specifically identified with that level.

The results were tabulated and printed in the publications Kimball Schools Career Education Pre-Test Evaluation 1973-74, and Kimball Schools Career Education Post-Test Evaluation 1973-74. A comparison is currently being made of the results of the two tests.

"What is Your Career Education Quotient?" was the instrument approved as the means of evaluating change in teacher attitude. This was administered during the pre-service workshop.

Prior to the beginning of school in August 1973 an examination was made of a random sample of elementary textbooks to make possible a determination of the degree to which career education concepts were included in the present curriculum. It was found that all of the books either discussed certain occupations very specifically or offered many opportunities for the discussion of the same. During the workshop, teachers at all levels, K-12 commented on the fact that they had for sometime included career education, under a different name and through different methods, in their regular classroom curriculum. Units were developed during the inservice workshops to enhance the materials provided in the textbooks. After experiencing the writing of these units the teachers were able to work up other units for their classrooms.

The elementary units contained many awareness activities and a few "hands-on experiences" at the middle school level THE WORLD OF CONSTRUCTION was partially incorporated in the eighth grade industrial arts classes. More "hands-on" experiences were included in the home-ec, health, science, and math class to show the relationship of these academic disciplines to the WORLD OF WORK.

On the high school level several instructors provided activities in the subject area which simulated job experiences. The cooperative education program and intensive job training program became available to more students enabling them to receive on the job training.

Specific career education materials were few in number at the beginning of the project. The WORLD OF WORK series by Edu-Craft of Detroit was being used by the elementary teachers to expand their social studies curriculum. The same series on a higher level was being used by the middle school counselor in sixth grade guidance classes. Some career education material was used by the high school counselor in the modified co-op classes. Several examples of

commercially prepared career ed materials were ordered. Free materials were requested for each of the four libraries and the counselors developed sets of "on-site" slides of various occupations to be used in conjunction with field trips or as a substitute for them in instances when a field trip is not possible.

Career education centers were formed in the library of each school. All free materials, pamphlets, slides, books, tapes, etc., were placed in this section for the use of faculty and students.

To assist the teacher in scheduling field trips, resource people and other career education activities the Community Resource Questionnaire was developed and sent to all Kimball businesses registered with the City Clerk's Office. Each teacher received a copy of the results of this questionnaire.

The Monthly Report Form was developed to acquire information on the career education activities being provided in each of the classes. Record keeping by the KOEP staff was made much easier by this instrument.

Throughout the year the KOEP staff worked with individual teachers in developing activities and securing speakers which would fit into the existing curriculum.

The results of the comparison between the results of the pre-test and the post-test show that the attitude of the students toward the traditionally low status occupations changed. Whenever the KOEP students were to list occupations of their choice there was a larger number listing three jobs on the post-test than on the pre-test. Many of the questions requiring the job to be identified from its description were answered, with more logical answers on the second test. The topic of careers in day to day conversation is much more prevalent among all students K-12 now than prior to the beginning of KOEP. Observation of the library activities shows many students checking out tapes, filmstrips and reading material related to careers to be used during their study halls and free time.

Not only have the students in the Kimball Schools become more aware of occupations in relation to school subjects and the reasons for studying and learning particular facts, the teachers have learned a great deal about the community and its resources, which has proven very beneficial and improved public relations between school and community. The staff has experienced some dynamic learning. Our community furnished many programs and speakers that the staff hadn't realized were available until they began to "think" career education and search for the resources. The Board of Directors of the Banner-Kimball County Chamber of Commerce and their component (the retail merchants) cooperated 100% with the schools in J.E.T. program as resource consultants and general support in the career education project. This group also acted as an advisory group to the Boards of Education, Administration and teachers in the school systems.

The mere fact that over 40 former students (dropouts) and adults completed the G.E.D. course of study and obtained their General Educational Development Equivalency Certificate speaks well for that component of the project.

The counselors have been instrumental in broadening the high school

curriculum after a study of the results of various tests (I.T.E.D. - S.A.T. - A.C.T. - D.A.T. - O.V.I.S. - G.A.T.B.) which explained a need for different courses which were of interest by the student body, the courses were added.

The Kimball Occupational Education Program has been a reality for one school year and in that time has become an integral part of the curriculum. At some levels and in some classrooms it is being experienced more intensely than at others, but each child has been influenced by it and each faculty member is more acutely aware, even if to a small degree, of his/her subjects' relationship to the WORLD OF WORK.

The revision of units, the obtaining and filing of the information concerning the evaluation of field trips and speakers, the encouragement of teachers to include more career related activities in their classrooms, the assistance given to those faculty members who do not feel secure with a new program and more personal communication between faculty and project are activities which need to be organized and carried out to make an even better program.

APPENDIX

INSTRUMENTS AND MATERIALS DEVELOPED

	PAGE
WHAT IS YOUR CAREER EDUCATION QUOTIENT?	1
KIMBALL OCCUPATIONAL EDUCATION WORKSHOP	2
EVALUATION: KIMBALL OCCUPATIONAL EDUCATION WORKSHOP	3
PRE-TEST QUESTIONNAIRE	4
RESOURCE RECORD	5
CAREER EDUCATION ACTIVITIES MONTHLY REPORTING FORM	6
THIRD PARTY EVALUATION	7

WHAT IS YOUR CAREER EDUCATION QUOTIENT?

With education, business, labor, government, and the community being encouraged to become involved in the career education thrust, it is important to become aware of your own knowledge of the movement. Here are some statements about career education. Read each statement carefully and then circle the answer of your choice.

SA if you strongly agree with the statement
A if you agree but not strongly so
N if you are neutral or undecided
D if you disagree but not strongly so
SD if you strongly disagree with the statement

1. Separate courses on career education, with differentiated staff with differentiated salaries, would be better than integrating into existing courses..... SA A N D SD

2. Career education is synonymous of vocational education..... SA A N D SD

3. Career development theory should provide implications for career education..... SA A N D SD

4. Most people in business, industry, and labor would help with career education in the schools..... SA A N D SD

5. The junior high or middle school are the ideal levels for beginning career education..... SA A N D SD

6. Learning environments in career education can be extended beyond the classroom into the home, the community, business, industry, and government..... SA A N D SD

7. A key objective of all education should be preparation for a successful working career..... SA A N D SD

8. Guidance counselors are more competent in guiding persons toward college attendance than toward career possibilities for students..... SA A N D SD

9. Federal and state governments should provide full funding of career education..... SA A N D SD

10. Career education is a basic and viable approach to all education..... SA A N D SD

11. Career education should be available to all students from K through 14..... SA A N D SD

12. The disadvantaged and minority students are groups which could benefit the most from career education..... SA A N D SD

13. Career education should assist students in making appropriate decisions..... SA A N D SD

14. Career education should include assisting students in acquiring entry level job skills..... SA A N D SD

15. A comprehensive career education system would involve the active cooperation and participation of all school personnel and all segments of the community..... SA A N D SD

16. A college degree is the best and surest route to career success..... SA A N D SD

17. In scope, the Comprehensive Career Education Model--school based--consists of three phases: career awareness, career exploration, and career preparation..... SA A N D SD

18. Career education should provide students with an opportunity to become aware of and develop their life career identity..... SA A N D SD

19. Early in the elementary level is the most reasonable place to begin examining the career development process..... SA A N D SD

20. Career education would not change vocational education programs..... SA A N D SD

UNIVERSITY OF NORTHERN COLORADO
DEPARTMENT OF VOCATIONAL EDUCATION
CAREER DEVELOPMENT CENTER
GREELEY, COLORADO 80639

6/73 MBW

Kimball Occupational Education Workshop
Kimball, Nebraska
August 21-23, 1973

Purpose

The purpose of the workshop is to:

(1) Acquaint faculty with the philosophy and overview of the career education concept;

(2) Assist the faculty in initiating a process of modifying, refining, adopting, and/or developing of curricular materials integrating career development concepts which will aid in delivering career education; and

(3) Identify the subcomponents of a comprehensive occupational guidance system and initiate process to intensify the career guidance services of the school districts and the community.

Goal Areas

I. Personnel Development

II. Curriculum (Content and learning experiences for faculty and learners)

III. Guidance (Comprehensive career guidance service for supporting teaching/learning processes)

GOAL AREA I PERSONNEL DEVELOPMENT

Goal/s:

A. To design a three-day in-service workshop which will initiate the development of faculty competencies necessary to implement career education.

Objectives:

A1. To acquaint faculty with the philosophy and overview of the career education concept.

A2. To orientate faculty as to the district's mission as related to career development and education.

A3. To gain commitments from the faculty necessary for designing, implementing, maintaining, and improving a career education system.

A4. To involve faculty in curriculum development activities which will facilitate the transition to a career education system.

GOAL AREA II CURRICULUM (CONTENT AND LEARNING EXPERIENCES FOR FACULTY AND LEARNERS)

Goal/s:

A. To assist faculty in providing for the utilization of learning resources, both human and material, to achieve districts' identified learners, outcomes (Kimball Occupational Education Project-- Goals and Objectives).

Objectives:

A1. To assist the faculty in initiating a process of modifying, refining, adopting, and/or developing curricular materials integrating career development concepts which will aid in delivering career education.

A2. To assist the faculty in planning strategies for implementing learning experiences based upon selected learner outcomes.

A3. To assist the faculty in designing explicit career guidance sub-components to compliment instructional activities.

GOAL AREA III GUIDANCE (COMPREHENSIVE CAREER GUIDANCE SERVICE FOR SUPPORTING TEACHING/LEARNING PROCESSES)

Goal/s:

A. To assist guidance personnel in providing for the intensification of career guidance services of the school districts and the community.

Objectives:

A1. To assist the guidance personnel in identifying the sub-components of a comprehensive occupational guidance system.

A2. To assist the guidance personnel and project staff in defining the guidante functions, i.e., roles of counselors, teachers, and other personnel.

A3. To assist the guidance personnel in identifying resources for the groups in A2.

A4. To assist the guidance personnel in the conceptualization of a simplified occupational information and exploration cluster system which will be further examined and refined.

A5. To familiarize guidance personnel as to techniques of organizing professional development programs for all persons involved in the career guidance function.

To fulfill the purpose and to attain the forestated goals and objectives, the workshop program of activities and leadership are herein submitted.

Department of Vocational Education
University of Northern Colorado
Greeley, Colorado 80639

EVALUATION--KIMBALL OCCUPATIONAL EDUCATION WORKSHOP

1) Rate the consultants:

	Hi						Lo
Ward	___	___	___	___	___	___	___
Dyer	___	___	___	___	___	___	___
Nick	___	___	___	___	___	___	___
Renzelman	___	___	___	___	___	___	___

2) Did the consultants aid in the achievement of stated objectives?

Completely ___ ___ ___ ___ ___ ___ ___ Not at all

3) Rate this workshop with an X:

1)	Good	___	___	___	___	___	___	___	Bad
2)	Easy	___	___	___	___	___	___	___	Hard
3)	Worthless	___	___	___	___	___	___	___	Valuable
4)	Simple	___	___	___	___	___	___	___	Complex
5)	Unpleasant	___	___	___	___	___	___	___	Pleasant

4) What were the significant strengths of this workshop?

5) What content was least useful to you?

6) What should have been covered that was omitted?

August 23, 1973

KIMBALL OCCUPATIONAL EDUCATION PROJECT
Pre-Test Questionnaire

Administrative Instructions

ALL GRADES:
1. Completed questionnaires should be returned to the school counselor.
2. Make-ups will be the responsibility of the counselor.
3. Identifying information is very important. Be sure it is complete on each of the pages.
4. All students, and teachers, should be aware of the fact that there are no "right or wrong" answers. Every question should, however, be responded to in some manner.
5. Pre-test summary information will be available to teachers after the first of the year.

GRADES K-2:
1. Each questionnaire should be administered individually by aides.
2. Question and response alternatives should be used as many times as necessary in order to enable each child to respond to an item.
3. Check the response made by the child. Be careful to avoid verbal or non-verbal clues which might point to a desired answer.

GRADES 3-4:
1. These questionnaires should be administered in a whole class situation by the teacher.
2. Identifying information can be completed as a group.
3. Questionnaires should be read to students prior to their marking individual responses.
4. Each student should individually mark his questionnaire; the teacher can help with different words.

GRADES 5-6:
1. These questionnaires should be administered in a whole class situation by the teacher.
2. Identifying information can be completed as a group.
3. Each student should individually mark his questionnaire; the teacher can help with different words.
4. Other- a. question 8... "those jobs" refers to occupations listed in Item 7.

GRADES 7-8:
1. These questionnaires should be administered in a whole class situation by the teacher.
2. Identifying information can be completed as a group.
3. Each student should individually mark his questionnaire; the teacher can help with different words.
4. Students should be encouraged to give VERY CAREFUL consideration to all possible answers before marking responses.

5. Other:
   a. Question 6 - "kinds of training required" refers to jobs listed in Item 5.
   b. Question 7 - "these jobs" refers to occupations listed in Item 5.

GRADES 9-12: 1. These questionnaires should be administered in a whole class situation by the teacher.
2. Identifying information should be completed individually.
3. Each student should mark his own questionnaire without help from the teacher or other students.
4. Students should be encouraged to give VERY CAREFUL consideration to all possible answers before marking responses.
5. Other:
   a. Question 2 - "Kinds of training required" refers to jobs listed in Item 1.
   b. Question 4 - "these jobs" refers to occupations listed in Item 1.
   c. Questions 6-9 - all students will not give three responses but they should be encouraged to do so.

KOEP - PRE-EVALUATION TEST

KINDERGARTEN

NAME _____

DATE _____

TEACHER _____

1. What kind of work does your mother do?

_____nothing

_____works just at home

_____works away from home as a _____

_____don't know

2. What kind of work does your father do?

_____nothing

_____works just at home

_____works away from home as a _____

_____don't know

3. What would you like to be when you grow up?

_____ _____ _____

KOEP - PRE-EVALUATION TEST FIRST GRADE

NAME_____ DATE_____

TEACHER_____

1. What kind of work does your mother do?

_____nothing

_____works just at home

_____works away from home as a _____

_____don't know

2. What kind of work does your father do?

_____nothing

_____works just at home

_____works away from home as a _____

_____don't know

3. Which one of these do you think a policeman especially likes to do?

_____work with numbers

_____help lots of different people

_____work with children

_____don't know

4. Which one of these do you think a teacher especially likes to do?

_____work with numbers

_____help lots of different people

_____work with children

_____don't know

FIRST GRADE

NAME_____

TEACHER_____ DATE_____

5. How does the grocer help you and your family?

_____has candy

_____sells us food

_____stays open late sometimes

_____don't know

6. Pretend you live in the country. If you were home alone with Mommy and she got real sick, what should you do?

_____cry real loud

_____go to a neighbor and ask for help

_____call the telephone operator and ask for help

_____don't know

7. What would you like to be when you grow up?

_____ _____

KOEP - PRE-EVALUATION TEST SECOND GRADE

NAME_____ DATE_____

TEACHER_____

1. What kind of work does your mother do?

_____nothing

_____works just at home

_____works away from home as a _____

_____don't know

2. What are some of her duties?

_____

_____

3. What kind of work does your father do?

_____nothing

_____works just at home

_____works away from home as a _____

_____don't know

4. What are some of his duties?

_____

_____

5. What would you like to be when you grow up?

_____ _____

_____ _____

6. Which one of these do you think a policeman especially likes to do?

_____work with numbers

NAME_____ SECOND GRADE

TEACHER_____ DATE_____

_____help lots of different people

_____work with children

_____don't know

7. Which one of these do you think a teacher especially likes

_____work with numbers

_____help lots of different people

_____work with children

_____don't know

8. How does the grocer help you and your family?

_____has candy

_____sells us food

_____stays open late sometimes

_____don't know

9. Pretend you live in the country. If you were home alone w
got real sick, what should you do?

_____cry real loud

_____go to a neighbor and ask for help

_____call the telephone operator and ask for help

_____don't know

KOEP - PRE-EVALUATION TEST THIRD GRADE

NAME_____ DATE_____

TEACHER_____

1. What is your mother's occupation?

_____nothing

_____works just at home

_____works away from home as a _____

_____don't know

2. What are some of the duties of her job?

_____

_____

_____

3. How did she learn to do her work?

_____just learned

_____learned from her mother

_____went to high school

_____went to school after she finished high school

_____don't know

4. What is your father's occupation?

_____nothing

_____works just at home

_____works away from home as a _____

_____don't know

5. What are some of the duties of his job?

_____

NAME_____ DATE_____

TEACHER_____ THIRD GRADE

_____

_____

6. How did he learn to do his work?

_____just learned

_____learned from his father

_____went to high school

_____went to school after he finished high school

_____don't know

7. What would you like to be when you grow up? List some duties of each job.

Job 1:_____ Duties:_____

Job 2:_____ Duties:_____

Job 3:_____ Duties:_____

8. Why do people work?

_____

_____

_____

9. If you were home and the lights went out, which worker could help you most?

_____policeman

_____power company

_____electric lineman

_____fireman

10. If your pet got hurt, which worker could help you most?

NAME_____ DATE_____

TEACHER_____ THIRD GRADE

_____policeman

_____doctor

_____veterinarian

_____nurse

11. If you got a toothache, which worker could help you most?

_____nurse

_____dentist

_____doctor

_____pharmacist

12. Your mother wants to make a cake, but neither she nor your neighbor have any sugar. What should she do?

_____go to a store

_____buy some from the grocer

_____fix something else

_____don't know

13. Something's wrong with your father's car, and he doesn't know how to fix it. What should he do?

_____try to fix it anyway

_____call a mechanic

_____call a policeman

_____don't know

14. Your teacher needs some paper clips. The teacher next to your room doesn't

NAME_____ DATE_____

TEACHER_____ THIRD GRADE

have any. What should your teacher do?

_____get some from the janitor

_____tape the things together

_____get some from the secretary

_____get some from the principal

KDEP - PRE-EVALUATION TEST

NAME_____ DATE_____

TEACHER_____ FOURTH GRADE

1. What is your mother's occupation?

_____nothing

_____works just at home

_____works away from home as a _____

_____don't know

2. What are some of the duties of her job?

_____

_____

_____

3. How did she learn to do her work?

_____just learned

_____learned from her mother

_____went to high school

_____went to school after she finished high school

_____don't know

4. What is your father's occupation?

_____nothing

_____works just at home

_____works away from home as a _____

_____don't know

5. What are some of the duties of his job?

_____

_____

NAME_____ DATE_____

TEACHER_____ FOURTH GRADE

_____

6. How did he learn to do his work?

_____just learned

_____learned from his father

_____went to high school

_____went to school after he finished high school

_____don't know

7. What would you like to be when you grow up? List some duties of each job.

Job 1:_____ Duties:_____

_____

Job 2:_____ Duties:_____

_____

Job 3:_____ Duties:_____

_____

8. Why do people work?

_____

_____

_____

9. If your pet got hurt, which worker could help you the most?

_____policeman

_____doctor

_____veterinarian

_____nurse

NAME_____ DATE_____

TEACHER_____ FOURTH GRADE

10. If you got a toothache, which worker could help you most?

_____nurse

_____dentist

_____doctor

_____pharmacist

11. Your mother wants to make a cake, but neither she nor your neighbors have any sugar. What should she do?

_____go to a store

_____get some from the grocer

_____fix something else

_____don't know

12. Something's wrong with your father's car, and he doesn't know how to fix it. What should he do?

_____try to fix it anyway

_____call a mechanic

_____call a policeman

_____don't know

13. Answer true (T) or false (F) to the following questions:

_____If you don't go to college, you can't get a good job.

_____A person can like any job as long as he makes enough money.

_____Garbagemen are just as important as doctors.

_____A person needs to know what job he wants before he finishes high school.

_____If a person wants to be a scientist, he doesn't need to worry about math.

NAME_____ DATE_____

TEACHER_____ FOURTH GRADE

14. Math is important to which of the following workers?

_____mechanics

_____doctors

_____salesladies

_____teachers

_____all of the above

_____none of the above

15. Social studies is most important to which of the following workers?

_____politicians

_____garbagemen

_____nurses

_____teachers

_____all of the above

_____none of the above

L

KOEP - PRE-EVALUATION TEST

NAME_____ DATE_____

TEACHER_____ FIFTH AND SIXTH GRADES

1. What is your mother's occupation?

_____nothing

_____works just at home

_____works away from home as a _____

_____don't know

2. What are some of the duties of her job?

_____

_____

_____

3. How did she learn to do her work?

_____just learned

_____learned from her mother

_____went to school after she finished high school

_____went to high school

_____don't know

4. What is your father's occupation?

_____nothing

_____works just at home

_____works away from home as a _____

_____don't know

5. What are some of the duties of his job?

NAME_____ DATE_____

TEACHER_____ FIFTH AND SIXTH GRADES

_____

_____

_____

6. How did he learn to do his work?

_____just learned

_____learned from his father

_____went to high school

_____went to school after high school

_____don't know

7. What might you like to be when you grow up? List some duties of each job.

Job 1:_____ Duties:_____

_____

_____

Job 2:_____ Duties:_____

_____

_____

Job 3:_____ Duties:_____

_____

_____

8. What might you do to get more information about these jobs?

_____

_____

NAME_____ DATE_____

TEACHER_____ FIFTH AND SIXTH GRADES

9. Why do people work?

_____

_____

_____

10. Answer true (T) or false (F) to the following questions:

_____If you don't go to college, you can't get a good job.

_____A person can like any job as long as he makes enough money.

_____Garbagemen are just as important as doctors.

_____A person needs to know what job he wants before he finishes high school.

_____If a person wants to be a scientist, he doesn't have to worry about math.

11. Math is important to which of the following workers?

_____mechanics

_____doctors

_____salesladies

_____teachers

_____all of the above

_____none of the above

12. Social studies is most important to which of the following workers?

_____politicians

_____garbagemen

_____nurses

_____teachers

_____all of the above

_____none of the above

NAME_____ DATE_____

TEACHER_____ FIFTH AND SIXTH GRADES

13. Why do you study English?

_____

_____

_____

14. Why do you study Science?

_____

_____

_____

15. A high school football player you know works after school. The coach calls an unexpected practice. What should the boy do?

_____Pretend he didn't know about the practice

_____Call his employer and say he's sick

_____Tell the coach why he can't come and go to work

_____Call his employer, explain the situation and ask him what to do

16. A TV repairman is coming to your house on Saturday morning. You're the only one who can be at home, but you'd like to go swimming. What should you do?

_____Go swimming anyway

_____Tell the TV man not to come and go swimming

_____Put up a fuss about having to stay home

_____Wait until the TV man comes and fixes the TV then go swimming

17. You've had a toothache for several days. Your mother calls the dentist, but

NAME_____ DATE_____

TEACHER_____ FIFTH AND SIXTH GRADES

he's all booked up. What should the dentist do?

_____Let you come right in because it really hurts

_____Tell you not to come until he can give you an appointment

_____None of these answers

_____Tell you to come, but explain that you will have to wait until he can work you into the schedule

18. She sometimes wears a white uniform. It is often very hot where she works. Other workers bring orders to her. Who is she?

_____a nurse

_____a doctor

_____a cook

_____a beautician

19. He has very uneven hours. He had to go to school several years after high school and college to learn to do his job. Sometimes people come to him for help; sometimes he goes to them. He often has other people helping him. Who is he?

_____a TV repairman

_____a dentist

_____a dental assistant

_____some other worker

20. She's still in school, but she has a job. She works with only a few people at a time. People call her to come to their house to work. She generally makes about a dollar an hour. Who is she?

_____a waitress

_____a baby-sitter

_____a librarian

_____a cleaning lady

KOEP - PRE-EVALUATION TEST

NAME_____ DATE_____

TEACHER_____ SEVENTH AND EIGHTH GRADE

1. What is your mother's occupation?

_____

2. How did she learn to do her work?

_____just learned

_____learned from her mother

_____went to high school

_____went to school after high school

_____don't know

3. What is your father's occupation?

_____

4. How did he learn to do his job?

_____just learned

_____learned from his father

_____went to high school

_____went to school after high school

_____don't know

5. What would you like to do when you grow-up? List some duties of each job?

Job 1:_____ Duties:_____

_____

_____

NAME_____ DATE_____

TEACHER_____ SEVENTH AND EIGHTH GRADE

Job 2:_____ Duties:_____

_____

_____

Job 3:_____ Duties:_____

_____

_____

6. What kind of training is required for each job? Check only one.

Job 1: _____less than high school _____college

_____high school _____more than college

_____technical school _____don't know

Job 2: _____less than high school _____college

_____high school _____more than college

_____technical school _____don't know

Job 3: _____less than high school _____college

_____high school _____more than college

_____technical school _____don't know

7. What might you do to get more information about these jobs?

_____

_____

_____

8. Why do people work?

_____

NAME_____ DATE_____

TEACHER_____ SEVENTH AND EIGHTH GRADES

_____

_____

9. Answer true (T) or false (F) to the following questions?

_____Framers are workers who have nothing to do with constructing buildings.

_____Anybody can be an engineer if he tries hard enough and really wants to be one.

_____All nurses study the same things.

_____The school counselor can help a student find information about jobs.

_____The amount of money earned is the number one measure of job success.

10. Name a worker for whom physical skills are very important. List some reason why this is so.

Worker:_____

Reasons:_____

_____

_____

11. Name a worker for whom English skills are very important. List some reason why this is so. Try to make this answer different than the above one.

Worker:_____

Reasons:_____

_____

_____

12 Name a worker for whom math skills are very important. List some reason why this

NAME_____ DATE_____

TEACHER_____ SEVENTH AND EIGHTH GRADES

is so. Try to make this answer different than the above ones.

Worker:_____

Reasons:_____

_____

_____

13. Name a worker for whom science skills are very important. List some reasons why this is so. Try to make this answer different from the above ones.

Worker:_____

Reasons:_____

_____

_____

14. A high school football player you know works after school. The coach calls an unexpected practice. What should he do?

_____Pretend he didn't know about practice

_____Call his employer and say he's sick

_____Tell the coach why he can't come and go to work

_____Call his employer, explain the situation and ask him what he should do

15. A TV repairman is coming to your house on Saturday morning. You are the only one who can be at home, but you'd like to go swimming. What should you do?

_____Go swimming anyway

_____Call the TV man and tell him not to come

_____Put up a fuss about having to stay home

_____Wait until the TV man comes and goes then go swimming

NAME_____ DATE_____

TEACHER_____ SEVENTH AND EIGHTH GRADES

16. You've had a toothache for several days. Your mother calls the dentist, but he's all booked up. What should the dentist do?

_____Let you come right in because it really hurts

_____Tell you not to come until he can give you an appointment

_____Tell you to come, but explain that you will have to wait until he can work you into the schedule

_____None of the above

17. She sometimes wears a white uniform. It's often very hot where she works. Other workers bring orders to her. Who is she?

_____a nurse

_____a doctor

_____a cook

_____a beautician

18. He has very uneven hours. He had to go to school several years after college to learn to do his job. Sometimes people come to him for help; sometimes he goes to them. He often has other people helping him. Who is he?

_____a TV repairman

_____a dentist

_____a nurse

_____some other worker

19. She's still in school, but she has a job. She works with only a few people at a time. People call her to come to their house to work. She generally makes about a dollar an hour. Who is she?

_____a waitress

_____a baby-sitter

NAME_____ DATE_____

TEACHER_____ SEVENTH AND EIGHTH GRADES

_____a librarian

_____a cleaning lady

20. Tim would like to work in a hospital, but he doesn't want to spend the majority of his time working with people. What career might he choose?

_____orderly

_____x-ray technician

_____medical records librarian

_____hospital administrator

21. Frank likes to travel, but he really can't afford it on his own. He doesn't want to join the armed forces, and he doesn't care much for flying. What career might he choose?

_____a chauffeur

_____a mechanic

_____a bus driver

_____an airplane pilot

22. Julie will get her driver's license soon. She fixed up an old car her uncle gave her, and now it runs like a top. According to Julie, she "loved every second of it!" What career might she choose?

_____a secretary

_____auto mechanic

_____appliance repair

_____none of these

23. Liz got a really neat book from the library about airline stewardesses. It was

NAME_____ DATE_____

TEACHER_____ SEVENTH AND EIGHTH GRADES

all about how a stewardess saved a lot of people during an airplane crash. Liz has decided to become an airline stewardess. What do you think of her decision?

_____great

_____O.K.

_____not very good

_____don't know

24. Phil's father is a doctor. From the time he was a little kid, Phil has wanted to do the same kind of work. He's not too good in math and he failed chemistry. Phil has decided to take pre-med in college. What do you think of his decision?

_____great

_____O.K.

_____not very good

_____don't know

25. Beth likes working with people. She thinks she might like to make nursing a career, but she's not sure. Beth has decided to apply for a hospital volunteer job after school and on weekends. What do you think of her decision?

_____great

_____O.K.

_____not very good

_____don't know

KOEP - PRE-EVALUATION TEST

NAME_____ DATE_____

TEACHER_____ NINTH - TENTH - ELEVENTH - TWELFTH GRADES

1. What would you like to do when you finish school? Name some of the duties of each job.

   Job 1:_____ Duties:_____

   _____

   _____

   Job 2:_____ Duties:_____

   _____

   _____

   Job 3:_____ Duties:_____

   _____

   _____

2. What kind of training is required for these jobs?

   Job 1:_____less than high school _____college

   _____high school _____more than college

   _____technical school _____don't know

   Job 2:_____less than high school _____college

   _____high school _____more than college

   _____technical school _____don't know

   Job 3:_____less than high school _____college

   _____high school _____more than college

   _____technical school _____don't know

NAME_____ DATE_____

TEACHER_____ NINTH - TENTH - ELEVENTH - TWELFTH GRADES

3. What have you done to prepare yourself to make a career decision?

_____

_____

_____

4. What might you do to get more information about these jobs?

_____

_____

_____

5. Answer true (T) or false (F) to the following questions:

_____Framers are workers who have nothing to do with building buildings.

_____Anyone can be an engineer if he tries hard enough and really wants to be one.

_____All nurses study the same things.

_____The amount of money earned is the number one measure of job success.

_____Training as a tailor or a dressmaker is usually acquired through the performance of lower level tasks performed under the supervision of an experienced worker.

_____It is not necessary for workers in applied technology to be good in math.

_____Photography is not considered an artistic career.

_____All workers in the medical field must go to college.

_____College programs do not include agricultural occupations.

_____A good school record is important in manual work occupations.

6. Name three workers for whom English skills are very important. List some reasons why this is so.

NAME_____ DATE_____

TEACHER_____ NINTH - TENTH - ELEVENTH - TWELFTH GRADES

Workers:_____

_____

_____

Reasons:_____

_____

_____

7. Name three workers for whom math skills are very important. List some reasons why this is so. Try to make this answer different than number 6.

Workers:_____

_____

_____

Reasons:_____

_____

_____

8. Name three workers for whom science skills are very important. List some reasons why this is so. Try to make this answer different than number 6 or 7.

Workers:_____

_____

_____

Reasons:_____

_____

_____

NAME_____ DATE_____

TEACHER_____ NINTH - TENTH - ELEVENTH - TWELFTH GRADES

9. Name three workers for whom physical skills are very important. List some reasons why this is so. Try to make this answer different than number 6, 7, or 8.

Workers:_____

_____

_____

Reasons:_____

_____

_____

10. Chris enjoys sports. He just made the varsity football squad. He doesn't plan to go to college night because he sees no point in it. After all, he just wants to play professional football. What do you think of his attitude?

_____He has a good reason for not going to college night.

_____He doesn't really understand what it takes to be a pro-ball player.

_____He should go to college night because everyone else is going.

_____It's really too soon to be concerned about his career choice so it doesn't matter what he does.

_____Don't know

11. Marcia wants to be a beautician. She's read about it in the D.O.T., and she's talked with her counselor and some beauticians about this decision. The nearest beauty school is farther from home than Marcia wants to go so she's just about given up the whole idea. What do you think of her attitude?

_____She should check technical schools and special training programs before giving up

_____She should just make herself go to the nearest beauty school.

_____She's right in giving up the idea.

_____She should try to become a beautician without any post-high school training

_____Don't know

NAME_____ DATE_____

TEACHER_____ NINTH - TENTH - ELEVENTH - TWELFTH GRADES

12. Joe likes to work on cars, and he seems to be very mechanically minded. He's just fair in math and science, but he does have some artistic talent. Joe's thinking about taking engineering in college and becoming an automotive design engineer. What do you think of his attitude?

_____If he wants to study engineering, he should.

_____He should give up the idea of college since he is obviously not college material.

_____He should go to junior college, and if he can make the grade there, then he should go on to regular college.

_____He should talk to the school counselor about the situation and ask him to suggest technical schools or other sources of possible training.

_____Don't know

13. Phyllis likes working with children, and she thinks she might like to make teaching a career. She especially likes the wide range of employment possibilities of the teaching field and the increasingly attractive salaries. Phyllis had the opportunity to work part-time as a teacher aide, but she turned it down since that job would interfere with cheerleading practice. Besides, since she's only going to be a college freshman next year, she still has plenty of time to change her mind if she decides that teaching isn't right for her. What do you think of her attitude?

_____She sounds unsure and probably should have taken the teacher aide job to help her decide.

_____She's right about having plenty of time to decide, so there is nothing wrong with her decision.

_____Her reasoning is good because it shows that she recognizes the importance of participation in high school activities.

_____If she doesn't need the money from the teacher aide job, it doesn't matter if she works or not.

_____Don't know

14. It's rugged, hot work, and it requires a great deal of driving skill. A worker doing this job, doesn't have to have gone to college, but he does need to have some basic skills, individual instruction and practice, and sometimes a special

NAME_____ DATE_____

TEACHER_____ NINTH - TENTH - ELEVENTH - TWELFTH GRADES

training program. With this background, a worker in this field can do the kinds of jobs that could probably never be done by one person working alone. This work is outdoors and seasonal. What kind of work is it?

_____street cleaner

_____house painter

_____heavy equipment operator

_____tree trimmer

_____don't know

15. This worker has to like being with people. The occupation is suitable for men and women, though it is generally more associated with women. This particular kind of work involves a great deal of standing, but not much paper work. A technical school or special training background is needed to do this work. The worker in this field generally wears a uniform, but this is not absolutely necessary. What kind of work is it?

_____nurse

_____beautician

_____veterinary assistant

_____cook

_____don't know

16. This worker has his own office. Patients generally come to him. Preparation for this occupation involves college and post-college schooling and is very expensive. In addition to that expense, this worker must be prepared to hire at least three co-workers, an assistant, a secretary and a cleaning lady. What kind of work is it?

_____medical assistant

_____nurse

_____opthalmologist

_____optomitrist

_____don't know

NAME_____ DATE_____

TEACHER_____ NINTH - TENTH - ELEVENTH - TWELFTH GRADES

17. If someone wants to be a manual laborer, what level of training is necessary?

_____no formal level of training, though experience is helpful

_____high school

_____technical school

_____college

_____post-college

_____don't know

18. If someone is interested in a career within the broad field of radio and television transmitting, what level of training is necessary?

_____no formal level of training, though experience is helpful

_____high school

_____technical school

_____college

_____post-college

_____don't know

19. If someone is interested in a career in publicity work, what level of training is necessary?

_____no formal level of training, though experience is helpful

_____high school

_____technical school

_____college

_____post-college

_____don't know

NAME_____ DATE_____

TEACHER_____ NINTH - TENTH - ELEVENTH - TWELFTH GRADES

20. If someone is interested in a career in college teaching, what level of training is necessary?

_____no formal level of training, though experience is helpful

_____high school

_____technical school

_____college

_____post-college

_____don't know

21. Jane really enjoys her home ec class, especially the sewing. She won state honors with a school outfit which she designed and made for her 4-H project, and she made the dress she wore in her sister's wedding. She'd like to do something with these interests in college. What career might be best for her?

_____home ec teaching

_____seamstress

_____clothing design

_____home economist

_____don't know

22. Bob really likes his high school agriculture class. He's been an FFA club officer for two years, and next year, he's thinking of running for state office. Attending college would be difficult for Bob because his family can't afford to help, and his grades are only so-so. What career might be best for him?

_____soil scientist

_____high school ag teacher

_____farmer

_____experimental farmer

_____don't know

NAME_____ DATE_____

TEACHER_____ NINTH - TENTH - ELEVENTH - TWELFTH GRADES

23. Jack has been active in his church since he was little. He was camp chaplain last year, and he delivered the sermon for Youth Sunday at his church. He also enjoys working with young children in Sunday School. What career might be best for him?

_____camp director

_____minister

_____Sunday School teacher

_____elementary teacher

_____don't know

24. Sarah is a freshman in high school. She plays on the volleyball team, but she isn't too excited about the rest of her physical education class. She worked at a playground last summer, but she was sort of glad when that was over. She's not sure whether or not she wants to go to college. What career might be best for her?

_____volleyball player

_____teacher

_____recreation director

_____housewife

_____don't know

25. Lizzy's a sophomore. She wants to be a nurse. What is the first thing she should do?

_____talk to the high school counselor about schools offering this kind of training

_____write to a nursing school recommended by her girlfriend

_____apply to hospitals and check out available employment in the nursing field

_____don't know

NAME_____ DATE_____

TEACHER_____ NINTH - TENTH - ELEVENTH - TWELFTH GRADES

26. Greg is a junior who would like to make electronics a career. His grades are average or a little below in academic subjects. He can't afford post-high school training. What is the first thing he should do?

_____apply to technical schools for scholarships

_____be sure to get all of the high school experience he can relating to this field

_____drop out of school and join the armed forces

_____try to get a part-time job with an electronics firm

_____don't know

27. Sally is a senior. She wants to be a waitress. What is the first thing she should do?

_____check out technical schools for food service training programs

_____talk to the school counselor

_____apply for a part-time waitress job

_____begin to prepare to become a dietician

_____don't know

28. Bill is a junior, and he thinks he would like to make banking a career. What is the first thing he should do?

_____Talk to the counselor about getting into the co-op program so he can work in a bank

_____Visit a local bank and talk to one of the officers about careers in this field

_____Apply to college or technical schools that have financial training programs

_____Open a savings account so he can observe banking procedures

_____don't know

NAME_____ DATE_____

TEACHER_____ NINTH - TENTH - ELEVENTH - TWELFTH GRADES

29. Janie likes working with animals, but she has neither the money nor the academic ability to be a veterinarian. What would be the best thing for her to do?

_____Be a vet anyway, relying on scholarships to help out

_____Try to find a related career in the broad field of veterinary medicine

_____Look into college financial aid programs

_____Study harder

_____Don't know

30. Chet would like to get a job writing for television. He has talent, but no experience. What would be the best thing for him to do?

_____Apply for part-time, general work at a TV studio

_____Apply for a job as a TV writer since that's the only way he can get the needed experience

_____Investigate colleges offering programs of preparation for careers in the television industry

_____Talk to the counselor about places to look for a job

_____Don't know

31. Joe has always wanted to be a professional athlete, but he broke his leg skiin last winter. Now the doctor says that athletics as a career is definitely o... What would be the best thing for him to do?

_____Forget about a sports related career

_____Plan on being a professional athlete anyway since doctors can be wrong

_____See if he can get a job as a team manager

_____Investigate other sports related occupations such as reporting or broadcasting

_____Don't know

NAME_____ DATE_____

TEACHER_____ NINTH - TENTH - ELEVENTH - TWELFTH GRADES

32. Alice would like to be a secretary, but she wasn't satisfied with salaries offered on the basis of high school training alone. What would be the best thing for her to do?

_____Keep looking for a job until she finds one that pays more

_____Forget about being a secretary and get married

_____Look for a business or technical school where she can get more training

_____Take a low paying job and hope for advancement

_____Don't know

RESOURCE RECORD

Community resource _____

Person who will participate _____

Most convenient time for participant to appear. _____A.M. _____P.M. Evening_____

Level he or she prefers. Elementary____ Junior High____ High School_____

High School Class he or she prefers to speak with. _____

Speaking interest area _____

Background of training which prepared you for your present position. (Optional)

Would individual students or a class be welcome to visit your place of business on a scheduled basis?

If students are welcome, what would be a preferred time for such a visitation? If after-business hours are more convenient, this usually can be arranged with the students.

Would you allow interested High School students more observation time at your place of business than just a class visitation?

Do you have a formal application blank you use when employing people?

If so, would you share a copy of it with the teacher?

Would you allow your class presentation to be video taped or just taped?

Thank you very much for your cooperation in this career education resource survey.

_____
Teacher

CAREER EDUCATION ACTIVITIES
MONTHLY REPORTING FORM

DATE_____ GRADE LEVEL_____ TEACHER_____
J.H. OR H.S. Dept. _____
Major Units Taught_____

_____

_____

Activities which required "hands on" experiences _____

_____

_____

Audio-Visual equipment and materials used _____

_____

_____

Teaching techniques used (example: role playing) _____

_____

_____

Activities shared with other teachers and classrooms _____

_____

_____

Guidance Materials used (SRA, etc.) _____

_____

_____

Field Trips Where Purpose

_____

_____

Resource people _____

_____

Kinds of evaluative techniques used _____

_____

_____

If extra space needed use back of page.

KIMBALL SCHOOLS

CAREER EDUCATION

PROJECT

THIRD PART EVALUATION

1973 - 1974

By

Nebraska Research Coordinating Unit

Evaluation Team

The activities of the evaluation team have identified basic information available for the project direction. However, the committee was not designed to make comprehensive analysis of the raw data reported in this evaluation.

Recommendations concerning future evaluation design and resources are contained within.

Team Members

Merle Rudebusch	State Department of Education, Division of Vocational Education
Roger Hudson	State Department of Education, Counseling and Guidance Services
Merlyn Gramberg	Chadron State College, Industrial Education
Julie Boettcher	Research Coordinating Unit
Elton Mendenhall	Research Coordinating Unit

KIMBALL SCHOOLS
CAREER EDUCATION
EVALUATION

Introduction

The Kimball, Nebraska Public Schools enrolled approximately 1320 students and consisted of an elementary, middle and senior high school at the beginning of this project. Kimball is a rural town of some 3680 persons, located in Western Nebraska. The city's economy is dependent upon agriculture with a small amount of oil activity in the area.

Evalution Plan

The original evaluation plan was to involve a team of educators in periodic visitations to the project. This evaluation team would observe the on site activities and make recommendations toward project improvement.

The evaluation plan called for consideration of four types of decision making relating to program delivery. These decisions are:

1. Planning decisions which pertain to selection of objectives.
2. Structuring decisions which are those decisions involved in the design of the program to achieve stated objectives.
3. Implementing decisions which are those required for putting the program into operation and carrying it out.
4. Recycling decisions refer to whether the program actually reaches its objectives, and the implications of its success or failure.

Each of the following goals of the project, referred to as Activity Areas, are listed in a later part of this report with corresponding treatments and participants.

Activity Areas:

1. Structure the elementary school curriculum, grades K-6, around the theme of career opportunities and requirements in the world of work.
2. Provide all students, grades 7-9, with hands-on occupational exploration learning experience.
3. Expand the modified cooperative education program, grades 11-12, so it will place on jobs all in school students who desire work and follow-up and assist all dropouts with job placements.
4. Develop a continuous progress multi-sensory instructional model for students, grades 10-adult, which will produce a marketable entry-level job skills, or retrain and/or upgrade job skills.
5. Develop a comprehensive occupational guidance, counseling, and placement service, grade K-adult, for all "in-and-out of school" citizens of the community.
6. Carry on a continuous inservice education program for school staff and people of the community to increase their understanding and upgrade their skills with the career education concept.
7. Evalute in terms of planning, structuring, implementing and recycling.

Evaluation Procedure

Activities surrounding the evaluation plan of the Kimball Project have been hampered by a number of circumstances. During the period of project activity the national scene was threatened by the possibility of gasoline rationing. Kimball, Nebraska being some 376 miles from Lincoln, Nebraska made frequent trips for evaluation impractical. During this same period of time, staff re-assignment and change within the State Department of Education caused the loss of continuity within the plan for an evaluation team.

This evaluation has been carried out through the activities of an alternate committee. Representation was as follows:

1 member -State Department of Education, Division of Vocational Education, Curriculum and Evaluation
1 member -State Department of Education, Counseling and Guidance Services
1 member -Chadron State College, Industrial Education
2 members-Research Coordinating Unit for Vocational Education, Curriculum and Evaluation

Each team member was involved in visitations to the project site and was asked to react to items concerning project implementation and involvement (Appendix A). In addition to the team evaluation, project personnel conducted surveys of student awareness, in the experimental and control schools and identified pre and post test scores of the student body in the Kimball schools in several standard tests (Appendix B). An additional effort of the project evaluation was the tabulation of project activities in relation to activity areas outlined in the original project. (Appendix C).

Conclusions and Recommendations

1. Time constraints of present evaluation team members do not contribute to effective and comprehensive evaluation efforts.
   Recommendation - Project evaluation should be provided through personnel with time and resources available to provide comprehensive evaluative information.

2. The evaluation team thus far has not been able to devote time to a comprehensive evaluation.
   Recommendation - That personnel be assigned to evaluation activity for purposes of:
   1. Continuing evaluation design begun through project proposal and team effort.
   2. Statistical treatment of data collected from student pre and post tests and teacher assessments.

3. The evaluation team reactions to the project indicate strong agreement that the counseling, career awareness, and exploration activities of the project are effective.
   Recommendation - That project direction design activities to concentrate in other areas of project concern such as student placement and comprehensive occupational preparation.

4. The activity list of project accomplishment indicate many activities in areas 1, 2, 5, 6, and 7 (Appendix C).

   Recommendation - Activity area #3

   The project should concentrate upon expansion of the cooperative education and placement aspects of the career education activity.

   Activity area #4

   The project should develop a specific plan of extending the multi-sensory instructional model for levels tenth grade through adult.

5. Although the project budget has not provided for time and resources to conduct an extensive analysis of the data compiled, it is the judgement of this evaluation, that the Kimball Career Education Project has met the requirements of implementation outlined in the original proposal. The evidence of student change documented by pre and post tests, the documentation of teacher and community attitude change are provided by letters of the administrators and by pre and post testing of teachers. The degree of significance is all that remains to be identified from the evaluation effort.

   Recommendation - That the significance of the findings to be identified and analyzed during the final project year in order to provide information supportive to decisions regarding project continuation.

APPENDIX A

A summary of the team evaluation effort is listed below. Each item reacted to by the evaluation team has possible scores of low 0 - high 16.

ITEM	SCORE
1. Extent to which the project is providing for a strong guidance and counseling emphasis.	14
2. Extent to which the project is providing for increasing the self awareness of each student.	12
3. Extent to which the project is providing (elementary students) career awareness options in the world of work.	13
4. Extent to which the project is providing (junior high students) career exploration experiences.	11
5. Extent to which the project is providing (grades 10-14) for job preparation in a wide variety of occupational areas.	10
6. The project is providing for the placement of exiting students.	11
7. The objectives of the project are being implemented according to the stated time schedule.	12
8. The procedures for achieving the objectives are appropriate.	11
9. Extent to which the objectives are being accomplished.	
(a) Elementary occupational awareness	12
(b) Secondary occupational awareness	12
(c) Exploration in junior high levels	9
(d) Senior high career preparation	9
(e) Guidance and counseling activities	12
(f) Placement activities (Senior High)	10
(g) Placement activities (Post Secondary)	7
(h) Articulation with Post Secondary institutions	9
10. Project personnel efforts to coordinate with other similar projects.	11
11. The project staff understand their project duties.	12
12. The project staff effectively perform their duties.	13
13. The project has used appropriate outside consultants or specialists.	13
14. Facilities and equipment for carrying out the program adequate.	16
15. Project personnel see the program as being a K-14 sequence.	9
16. Staff and Administrative inservice	
(a) Elementary level	14
(b) Junior high level	13
(c) Senior high level	9
(d) Post secondary	6
17. Teachers have been able to infuse career development concepts into regular programs.	
(a) Elementary level	13
(b) Junior high level	12
(c) Senior high level	9
(d) Post secondary	3

18.	Curriculum materials have been developed.	
	(a) Elementary level	16
	(b) Junior high level	14
	(c) Senior high level	11
	(d) Post secondary level	4
19.	A system to assure exposure of each student to career clusters has been developed.	11
20.	All students are considered to be in the career education program.	14
21.	The school administrative structure is aware of and supports the program components.	15
22.	The project is affecting the programs of other educational institutions in the state.	9

The following comments are provided in summary of the evaluation team reactions.

1. There is a high regard for the guidance and counseling program in the Kimball Schools supporting the project.
2. The elementary and junior high components of awareness and exploration received ratings higher than the senior program of variety of occupational preparation.
3. Staff inservice activities ranked high in the elementary categories and somewhat lower in the junior high and senior high areas.
4. The indications of the project encompassing the post secondary area are quite low.

APPENDIX B

Kimball County High School

BOARD MEMBERS
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ALDON SOBIESZCZYK, SECRETARY
LES REEMTS, TREASURER

MAX L. HENSLEY, SUPERINTENDENT
JERRY D. WILLIAMS, PRINCIPAL
901 SOUTH NADINE

BOARD MEMBERS
A. L. BOURLIER, MEMBER
LARRY STAHLA, MEMBER
JACK VENCILL, MEMBER

August 1, 1973

Mr. Elton Mendenhall, Director
RCU - Henzlik Hall
City Campus
University of Nebraska - Lincoln
Lincoln, Nebraska 68508

Dear Mr. Mendenhall:

As a counselor in the Kimball Schools for the past 10 years, I've noticed a definite need for certain changes in the philosophy and attitude of not only the staff, but the community of Kimball as well.

Kimball has been a community with 2 school systems for a number of years (K-8: 9-12) and due to this organization each school system was more or less "geared" to a traditional course offering which is typical in a conservative rural setting.

The students were "geared" to the college bound" in grades 9 - 12 with no consideration or study being made as to why certain students "drop out" of high school and more important why our graduates were leaving the Kimball community.

The only vocational courses being offered were Vocational Agriculture and Vocational Homemaking. This pattern was present when I arrived 10 years ago.

The need for a "change" is present and everyone hopes that the Career Education project will be the "shot in the arm" or catalyst to bring about this change not only in grades 9 - 12 but from K - 12 and adults.

Sincerely yours,

Charles

Charles O. Morehouse, P.D.Ed.
Director Guidance and Counseling

COM:mc

Kimball County High School

BOARD MEMBERS
VIC EBEL, PRESIDENT
ALDON SOBIESZCZYK, SECRETARY
LEE REEMTS, TREASURER

MAX L. HENSLEY, SUPERINTENDENT
JERRY D. WILLIAMS, PRINCIPAL
901 SOUTH NADINE

BOARD MEMBERS
A. L. BOURLIER, MEMBER
LARRY STAHLA, MEMBER
JACK VENCILL, MEMBER

August 5, 1973

Mr. Elton Mendenhall
Box 33, Henzlik Hall
University of Nebraska - Lincoln
Lincoln, Nebraska 68508

Dear Mr. Mendenhall:

When I arrived on the scene some 9 years ago as superintendent of the Kimball Schools, I was surprised not only to find 2 separate school districts, but also 2 separate philosophies of education.

The elementary offering was one of "traditional" subject matter areas, and every student was required to remain in his grade until he had mastered the subject matter. The teachers were teaching in the traditional manner; that is, every teacher followed the text and manual to the letter. In the high school, our curriculum was "geared" to the college bound. At this time approximately 55% of our senior graduating class was entering college, with a dropout rate of 40% at the end of the freshman year.

The enrollment in both of the vocational offerings (agriculture and homemaking) was declining.

After a 5 year study of dropouts, our vocational offering was expanded on the secondary level to include machine shop, auto mechanics, and special vocational needs. There appeared to be a student attitudinal change and the Kimball administration became interested in developing a career education after Commissioner Sidney Marland's thrust upon the nation.

I realize this project is not the utopia and will help solve all the problems, however, I'm looking forward with enthusiasm that there will be a noticeable change in attitudes of both the teachers and students toward the World of Work.

Sincerely yours,

Max L. Hensley

Max L. Hensley
Superintendent

MLH:mc

Kimball County High School

BOARD MEMBERS
VIC EBEL, PRESIDENT
ALDON SOBIESZCZYK, SECRETARY
LES REEMTS, TREASURER

MAX L. HENSLEY, SUPERINTENDENT
JERRY D. WILLIAMS, PRINCIPAL
901 SOUTH NADINE

BOARD MEMBERS
A. L. BOURLIER, MEMBER
LARRY STAHLA, MEMBER
JACK VENCILL, MEMBER

October 15, 1974

Mr. Elton Mendenhall
Box 33, Henzlik Hall
University of Nebraska - Lincoln
Lincoln, Nebraska 68508

Dear Mr. Mendenhall:

I find that the time has arrived when we must evaluate our project and I will take this means of expressing my views, based upon observations and participation by the students, teachers and community in our recent project, The Implementation of a Comprehensive, K-Adult Career Education Program in a Rural Setting.

The attitude of students and teachers alike has changed and this change has been due, in no small degree, to our project.

In grades K-6, the awareness concept has been developed and we now notice students and teachers looking forward to more structured field trips with a definite plan of having each participant to become more aware of the different clusters of work. Class sessions are freely devoted to discussions of types of work, stressing the idea that there is dignity in Work. The teachers have developed curriculum units dealing with plans of implementation for the world of work in the various academic areas.

In the middle school, stress has been to correlate activities in greater depth with the elementary grades and more use is made of trips and community speakers in an effort to provide hands-on experiences to the individual.

On our secondard level the counselor has attempted to further develop better use and understanding of the various tests (I.T.E.D., O.V.I.S., G.A.T.B.) and others. Students are instructed in the use of the Dictionary of Occupations.

The vocational courses (agriculture, homemaking, business, T & I, machine shop and auto mechanics) are not the only places of achieving goals but the "main goal" throughout our school system now appears to be one of the teachers and students discussing the world of work and how to be a happy and successful participant, not only in our jobs but recreational living.

Students are receiving a better opportunity to participate in activities by expansion of the work-study program, even though Kimball's is a modified version of the Co-op "G" program.

Teachers have become oriented to the fact that it is not necessary to receive career education as another entity or an extra factor to be added to their curriculum but a means to achieve many of the "goals" in their regular load by

means of enrichment.

If any component is slower than the others in adoption is the one of "Placement." An effort has been made to encompass this part of our project within the scope of Kimball and although placement not only of students, but of former graduates is encouraging, much remains to be achieved in this area. The delivery of instruction to learners on a continuous progress multi-sensory model is being developed and training, re-training and/or upgrading of those youths and adults who have left the public school system is making progress.

In an endeavor to keep my remarks short, I am going to request that Mr. Morehouse, our high school counselor, go into more detail in attempting to provide student information.

I will close stating again that I feel we have the beginning of an attitudinal change in both teachers and students, also the community in achieving our goal of recognizing diginity in the World of Work.

Sincerely yours,

Max L. Hensley

Max L. Hensley
Superintendent

MLH:mc

Kimball County High School

BOARD MEMBERS
VIC EBEL, PRESIDENT
ALDON SOBIESZCZYK, SECRETARY
LES REEMTS, TREASURER

MAX L. HENSLEY, SUPERINTENDENT
JERRY D. WILLIAMS, PRINCIPAL
901 SOUTH NADINE

BOARD MEMBERS
A. L. BOURLIER, MEMBER
LARRY STAHLA, MEMBER
JACK VENCILL, MEMBER

January 28, 1975

Mr. Elton Mendenhall, Director
RCU - Henzlik Hall
City Campus
University of Nebraska - Lincoln
Lincoln, Nebraska 68508

Dear Mr. Mendenhall:

I am happy to present to you some changes in student attitude and also teacher attitude, which I am of the opinion has developed from our Career Education project which was completed October 1, 1974.

Enclosed are some results of achievement tests in K - 8 and I.T.E.D. in 9 - 12. SAT, ACT, Dropout, G.E.D. graduation and placement.

Hopefully we will have OVIS and Dailey Vocational test results for next year's evaluation.

I am mailing a copy of these materials to the other two members of the evaluation team and if you need additional information, please feel free to contact me.

This delay has been due to my illness and also the "flu" in the schools (Max), we are running slightly behind schedule.

Thanking you for your cooperation, I remain,

Sincerely yours,

Charles O. Morehouse, P.D.Ed.
Director Guidance and Counseling

COM:mc

enc.

75

NOTED IMPROVEMENTS

Establishment of a Career Center in each of the 4 libraries.

Establishment of Vertical career files in each library.

Development of a Career Unit explaining the use of the GATB test results to the individual student (9th grade) as an aid in the selection of a career.

PLACEMENT:

Establish in a minute way, placement bureau for students (summer and after school).

Definitely placed 4 students in local businesses.

COMPARISON SCORES

SENIORS

SAT TESTS.

Year	Scores	Rank of Participants National Norms	Percentage Total Class Participated
1973	Verbal $\bar{X}$ 460	57%	45%
	Math $\bar{X}$ 525	63%	45%
1974	Verbal $\bar{X}$ 480	58%	40%
	Math $\bar{X}$ 530	65%	40%
	Reading $\bar{X}$ 44	51%	40%
	Voc. $\bar{X}$ 44	50%	40%
	Written Essay $\bar{X}$ 44	33%	40%

ACT TESTS

1973	English $\bar{X}$	45.5%	45%
	Math. $\bar{X}$	54.2%	45%
	Comp. X	50.6%	40%
1974	English $\bar{X}$	53%	50%
	Math. $\bar{X}$	59%	50%
	Comp. $\bar{X}$	58%	50%

DROPOUTS

Year	Number	Enrollment	Percentage of Enrollment 9-12
1972	32	365	8.76%
1973	18	411	4.38%

G.E.D.

Year	Number	Percentage of Dropouts
1972	3	9.37%
1973	7	38.9%
1974	14	Not available at this time

APPENDIX C

ctivity Area	Treatments	Participants
Structure the mentary school rriculum, grades 6, around the me of career portunities and quirements in the rld of work.	Administration Pre-Test (Occupational Awareness)	All K-6 students
	Materials Acquisition	Elementary Library
	Career Education classroom units (200 taught)	Students
	Resource persons (36)	Students
	Career Ed. units developed 89	Teachers
	Review of CE classroom units (125)	Teachers

TREATMENT GROUPS	NO. OF STUDENTS
1. Administration Pre-Test	675
2. Materials Acquisition	543 studen 1 libra
3. Career Education classroom units	675
4. Resource Persons	675
5. Career Education units developed	40
6. Review of Career Education classroom units	42

Activity Area	Treatments	Participants
. Provide all tudents, grades -9, with hands-on ccupational ex- loration learning xperiences.	Self Understanding Through Occupation al Exploration	Students
	Field trip activities	Students
	Career Education classroom units taught (200)	Students
	Resource Persons (36)	Students
	Revision of CE classroom units (125)	Teachers

TREATMENT GROUPS	NO. OF STUDENTS
1. Self Understanding through Occupational Exploration	352
2. Field Trip Activities	352
3. Career education classroom units taught	352
4. Resource Persons	352
5. Revisions of CE classroom units	28
6.	

Activity Area	Treatments	Participants
Expand the modified cooperative education program, grades 11-12, so it will place on jobs all in school students who desire work and follow-up and assist all dropouts with job placements.	Identification of specific goals for Coop (JET)	Counselor
	(Job Experience Training)	Students

TREATMENT GROUPS	NO. OF STUDENTS
1. Identification of specific goals for Coop	counselor
2. Job Experience Training	35
3.	
4.	
5.	
6.	

Activity Area	Treatments	Participants
Develop a continuous progress multi-sensory instructional model for students, grades 10-adults, which will produce marketable entry-level job skills, retrain and/or upgrade job skills.		

TREATMENT GROUPS	NO. OF STUDENTS
1.	
2.	
3.	
4.	
5.	
6.	

ctivity Area	Treatments	Participants
Develop a comhensive occupnal guidance, nseling, and cement service, de K-adult, for "in-and-out of ool" citizens the community.	Occupational Awareness Testing	All students
	Community Resource Identification	Counselors, teachers
	Established placement bureau for students	Students
	Established career center in each of four libraries	Students
	Developed Career Unit for aiding students selecting careers	Students
	Placed students on jobs in local businesses	Students

TREATMENT GROUPS	NO. OF STUDENTS
.Occupational Awareness Testing	1381
.Community Resource Identification	43 teachers
Established placement bureau for students	1 counselor 5
.Established career center in each of four libraries	teachers 1381 stu
.Developed Career Units for aiding students selecting careers	1381
.Placed students on jobs in local businesses	35

ctivity Area	Treatments	Participants
Carry on a con-i nuous inservice ucation program r school staff d people of the mmunity to in-ease their under-anding and up-ade their skills th the career ucation concept.	Pre-service workshop all teachers and special personnel	Teachers and special personnel
	Pre-inventory "What is Your Career Education Quotient?"	Workshop Participants
	Assignment of Career Education contact person in each school	Each counselor
	Establish Career Ed. resource centers	Each School library
	Coordination of field trips	Principal's office
	Career Ed. conference Kansas City	Project Staff
	Career Ed. Presentations (PR)	Community & Project Director Rotary Club Chamber of Commerce Lions Club
	Career Ed. Presentations (PR) CONT.	CAW Business and Prof. Women

TREATMENT GROUPS	NO. OF STUDENTS
1. Pre-Service workshop all teachers and special personnel	83
2. Pre-Inventory "What is Your Career Education Quotient?"	83
3. Assignment of Career Education contact person in each school	3
4. Establish Career Education Resource centers - each library	3 librarians 3 counselors
5. Coordination of field trips	3 principals 3 counselors
6. Career Education Conference - Kansas City	3 counselors
Career Education Presentation	3 counselors

Activity Area	Treatments	Participants
CONT.	Career Education Workshop	All Teachers & staff
	Counselor Visitation to ongoing Career Ed. Project	Counselors
	Teacher Visitation	Industrial Arts Teacher
	Teacher and Staff Workshop	Teachers and staff

TREATMENT GROUPS	NO. OF STUDENTS
1. Career Education Workshop	83
2. Counselor Visitation to ongoing Career Education project	3 counselors
3. Teacher Visitation	1
4. Teacher and staff workshop	83
5.	
6.	

Activity Area	Treatments	Participants
. Evaluation . Planning decisions which pertain to selection of objectives. . Structuring decisions involved in design of program to achieve objectives. . Implementing decisions required to put program into operation. . Recycling decisions refer to teaching program objectives.	Proposal development and selection of objectives.	LEA & SDE staff
	Personnel acquistion & assignment	LEA
	Project evaluation (Process monitoring and recommendations)	Evaluation team
	Staff Pre & Post Assessment of CE Concepts	Administrative & Teaching staff
	Student awareness testing	Students
	Control school testing	Control school students
	SAT, ACT, Dropouts, GED Comparison of past student records to CE student records	Variable student sample
	Comparison of administrative opinion	Administrators

TREATMENT GROUPS	NO. OF STUDENTS
1. Proposal development and selection of objectives	2
2. Personnel acquisition and assignment	2
3. Project evaluation	5
4. Staff Pre & Post Assessment of Career Education Concepts	80
5. Student Awareness testing	138
6. Control School Testing	820

Activity Area	Treatments	Participants
CONT.	Evaluation team opinion	Evaluation team members

TREATMENT GROUPS	NO. OF STUDENTS
1. SAT, ACT, Dropouts, GED, Comparision of administrative opinion	3 admin
2.	
3.	
4.	
5.	
6.	

CE008 935

ACCESSION NUMBER: VT103268

PUBLICATION DATE: DEC75

TITLE: CAREER EDUCATION NEEDS AND INTEREST STUDY OF MERGED AREA 16.

DESCRIPTOR: *CAREER EDUCATION; *EDUCATIONAL NEEDS; *VOCATIONAL INTERESTS; SCHOOL SURVEYS; COMMUNITY SURVEYS; WORK ATTITUDES; CAREER CHOICE; MANPOWER NEEDS; SCHOOL DISTRICTS; ELEMENTARY SECONDARY EDUCATION; TABLES (DATA)

IDENTIFIER: IOWA MERGED AREA 16

EDRS PRICE: MF AND HC AVAILABILITY WILL BE ANNOUNCED IN VOL. 10, NO. 2.

DESCRIPTIVE NOTE: 147P.

ABSTRACT: A STUDY TO DETERMINE THE CAREER EDUCATION NEEDS AND INTERESTS IN IOWA MERGED AREA 16 IS REPORTED FOR THE CALENDAR YEAR 1975. CAREER INTERESTS WERE SAMPLED IN 17 SCHOOL DISTRICTS INVOLVING STUDENTS, TEACHERS, ADMINISTRATORS, AND PARENTS. CAREER NEEDS WERE DETERMINED FROM INTERVIEWS AND QUESTIONNAIRES WITH INDUSTRY, FAMILIES, SCHOOL ADMINISTRATORS, AND TEACHERS. RESULTS INDICATE THAT STUDENT INTERESTS GENERALLY REFLECTED A FAVORABLE ATTITUDE TOWARD WORK AND CAREERS. HOWEVER, CAREER INTERESTS WERE FREQUENTLY EXPRESSED IN AREAS FOR WHICH THERE WERE NO EMPLOYMENT NEEDS (FOR EXAMPLE, CONSERVATION AND AGRICULTURE). DETAILED RESULTS OF THE STUDY ARE PRESENTED FIRST FOR THE ENTIRE AREA AND THEN BY EACH SCHOOL DISTRICT. THE LAST SECTION OF THE REPORT PRESENTS SOME INFORMATION ON MANPOWER RESOURCES IN AREA 16, MOSTLY FROM STATE AND FEDERAL LABOR STATISTICS. DATA FROM THE SPRING 1975 CAREER EDUCATION NEEDS SURVEY GATHERED BY THE IOWA STATE DEPARTMENT OF PUBLIC INSTRUCTION ARE INCLUDED IN THE APPENDIX. A STRONG PRIORITY RESEMBLANCE TO THE CAREER INTERESTS EXPRESSED IN AREA 16 WAS NOTED IN THE STATE SURVEY, WHICH WOULD TEND TO SUPPORT THE USE OF SMALLER SAMPLES. (MF)

INSTITUTION NAME: SOUTHEASTERN COMMUNITY COLL., WEST BURLINGTON, IOWA. ADMINISTRATIVE CENTER.

SPONSORING AGENCY NAME: OFFICE OF EDUCATION (DHEW), WASHINGTON, D.C.; IOWA STATE DEPT. OF PUBLIC INSTRUCTION, DES MOINES.

VT 103 26

CAREER EDUCATION NEEDS
AND INTEREST STUDY
OF MERGED AREA 16

December - 1975

SOUTHEASTERN COMMUNITY COLLEGE

Ft. Madison Keokuk Mt. Pleasant

Administrative Center
Drawer F
West Burlington, Ia. 52655
319-752-2731

VT 103 268

2

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Hugh D. Ferguson, Coordinator
Research & Development

CE 008 936

MERGED AREA XVI
GEOGRAPHIC AREA

COUNTY AND LOCAL SCHOOL DISTRICTS
(PUBLIC AND NON-PUBLIC)

DES MOINES COUNTY

Burlington Community
Danville Community
Mediapolis Community
Notre Dame High School, Burlington
West Burlington Community

HENRY COUNTY

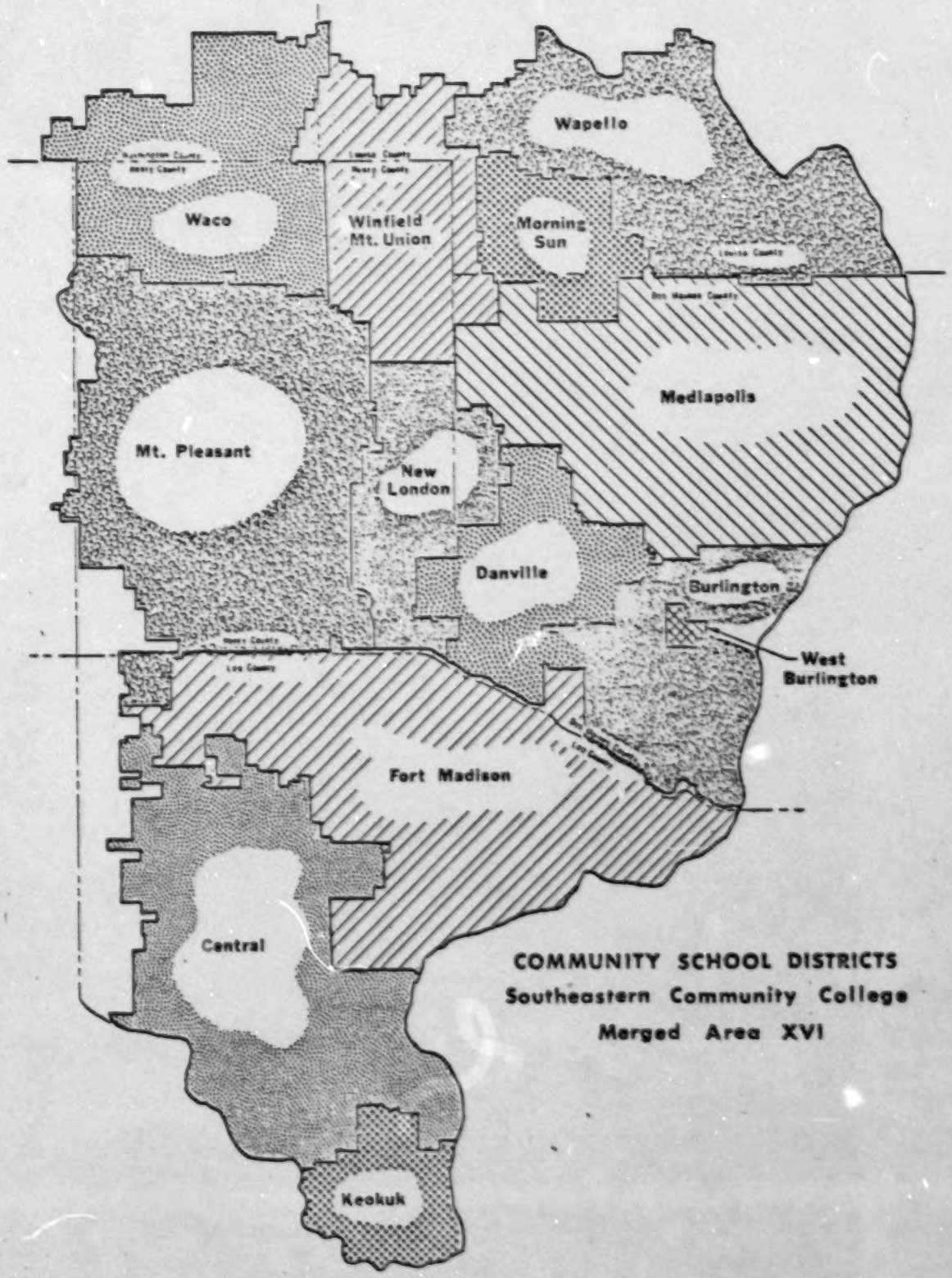
Mt. Pleasant Community
New London Community
Waco Community
Winfield-Mt. Union Community

LEE COUNTY

Aquinas High School, Ft. Madison
Cardinal Stritch High School, Keokuk
Central Community
Fort Madison Community
Keokuk Community
Marquette High School, West Point

LOUISA COUNTY

Morning Sun Community
Wapello Community



COMMUNITY SCHOOL DISTRICTS
Southeastern Community College
Merged Area XVI

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PREFACE

That which follows is the culmination of twelve (12) months effort (January 1975 to December 1975) to ascertain the career education needs and interests for Merged Area 16. This study was made possible through the support of Federal monies allocated through the Iowa State Department of Public Instruction. Those who participated in the project are:

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Career interests were gleaned from thirteen (13) public school systems and four (4) parochial systems in Area 16. Those population samples involved in the Needs Interests Assessment were students in grade 6 through 12, teachers and administrators K-12, and K-12 parents.

Career needs were ascertained as a result of interviews and questionnaires involving over one hundred ten (110) industries, six hundred eighty-seven (687) parent families, eighty-four (84) school administrators and eight hundred seventy-six (876) elementary secondary teachers.

Total usable student samples numbered nine thousand eight hundred eighty-seven (9,887) which is approximately 70% participation.

CHAPTER I

Career Needs and Interests of Area 16

A General Perspective

Section 1.- Area 16 Career Interests

The results of the student interest reflections in Area 16 tend to reveal a favorable attitude on the part of our youth in terms of general attitude towards work, career choices, etc. The career choices vary widely in priorities from grade six level to grade twelve level among males. As could be expected, the lower grade samples reflect higher interest in the more adventurous type career areas, i. e., sports, truck driving, etc. To illustrate sports and truck driving rank very high in grade six among males in general and we find these career choices nearly non-existent in the top ten career priorities for grade twelve male. Female counterpart career choices tend to be more realistic and consistent throughout the grade levels.

The reference is made in entries four and five to a list of career choices which "appear below" in the original instrument. That list is as follows:

CAREER EDUCATION AREAS:

1. Agriculture
2. Air Conditioning & Heating
3. Architecture
4. Auto Body Repair
5. Auto Mechanics
6. Carpentry
7. Conservation
8. Diesel Mechanics
9. Electronics
10. Heavy Equip. Operator
11. Home Economics
12. Machine Shop
13. Mechanical Drafting
14. Mechanical Technology
15. Medical Assistant
16. Nursing
17. Plumbing
18. Retail Marketing
19. Secretarial-Clerical
20. Truck Driver
21. Welding
22. Construction
23. Marine Science
24. Recreation

Needless to say, this list was not offered to imply that there are no other career areas to consider, rather merely as a suggested sampling of career areas. Opportunity was provided

for the student to reveal with greater specificity career areas of interest.

It should be noted that the Burlington Community students were not surveyed with the same instrument as were the other schools in Area 16. Another survey result conducted by the Boy Scouts of America was employed. The scout survey results were not tabulated by sex and therefore do not appear in this chapter. See Chapter II in which is found the Burlington Community School District.

Generally, around 20% of the youth hold the high school diploma as the highest degree of interest. The college degree appears more coveted at grade 6 (60%) than at grade 12 (35%) which possibly could address itself to a number of factors, not the least important of which is the general disillusionment of formal/traditional education stimulated by the fact that there are presently many degree people who are unable to find work in the area of expertise for which they were trained.

Regarding entrie 4., "Are you now studying career areas as a part of your course work?", as could be predicted the lower grades reflect an indication that career areas are not emphasized, at least, not as much as the upper grades. The interest in studying career areas is rather high (80%) for grades 6-10 with a slight drop for grade 11 (69%).

As to the opportunity provided for exploring career areas in grade 6-11, a 27% indicate yes as a low in grade 6 and grade 10 indicates a high of 65% yes. That is, 27% and 65%, respectively indicate that there is opportunity to explore career areas in their curriculum.

As has been indicated, a high percent (84%) of all grades reflect the attitude of "looking forward to the working world".

Most students (75%) in grades 6-11 recognize the worthwhile purpose of the courses taken now in preparation for future career choices.

Close to 90% of all students interviewed suggest that they enjoy working now. In many instances, however, conditions were placed on the type of work involved.

As inferred by the chapter heading, the foregoing remarks are general and apply to Area 16 in total. For local observations, please refer to Chapter 2

Area 16 Career Interests Grade 6

1. Usable Samples: Female 619 Male 664 Total 1,283

2. Desire a career in:

Female:	No.		Male:	No.	
Education	152	25%	Sports	101	15%
Nursing	112	18	Truck Driver	85	13
Sec./Clerical	58	9	Agriculture	75	11
Vet. Medicine	52	8	Mechanics	72	11
Undecided	51	8	Undecided	36	5
Animals	20	3	Correction	27	4
Med. Doctor	20	3	Electronics	24	4
Beautician	19	3	Racing	23	3
Stewardess	17	3	Med. Doctor	22	3
Agriculture	13	2	Conservation	19	3
Sports	13	2			

3. Highest Degree Desired:

H.S.	266	-	21%
Trade or Technical	211	-	16
College	775	-	60
Undecided	31	-	2

	Yes	No
4. Are you now studying any of the areas listed below as part of your course work?	150-12%	1133-88%
5. Would you be interested in studying in any of the areas listed below before graduating from high school?	1125-88	158-12
6. Do you have opportunity available now in your school to explore areas of work?	385-27	935-73
7. Do you look forward to the adult working world?	1166-91	117- 9
8. Generally do you see a worthwhile purpose of classes you are taking now in future career choices?	973-76	310-24
9. Do you generally enjoy working now?	1108-86	175-14

Area 16 Career Interests Grade 7

1. Usable Samples: Female 620 Male 693 Total 1,313

2. Desire a career in:

Female:	No.		Male:	No.	
Education	89	14%	Truck Driver	88	13%
Undecided	77	12	Undecided	77	11
Nurse	73	12	Sports	69	10
Sec./Cler.	58	9	Agriculture	66	10
Vet. Med.	51	8	Mechanic	64	9
Stewardess	23	4	Electronics	34	5
Housewife	20	3	Conservation	26	4
Med. Doctor	20	3	Carpentry	25	4
Art	18	3	Architect	21	3
Law	14	2	Aviation	21	3
Sports	14	2	Med. Doctor	21	3
			Vet. Med.	21	3

3. Highest Degree Desired:

High School----------	248	- 19%
Trade or Technical-----	234	- 18
College----------	761	- 58
Undecided----------	70	- 5

	Yes	No
4. Are you now studying any of the areas listed below as part of your course work?	638-19%	669-51%
5. Would you be interested in studying in any of the areas listed below before graduating from high school?	1049-80	258-20
6. Do you have opportunity available now in your school to explore areas of work?	668-51	639-49
7. Do you look forward to the adult working world?	1120-86	187-14
8. Generally do you see a worthwile purpose of classes you are taking now in future career choices?	1011-77	296-23
9. Do you generally enjoy working now?	1043-80	264-20

Area 16 Career Interests Grade 8

1. Usable Samples: Female 668 Male 705 Total 1,373

2. Desire a career in:

Female:	No.			No.	
Undecided	134	20%	Undecided	104	15%
Sec/Clerical	106	16	Mechanics	90	13
Education	86	13	Agriculture	84	12
Nursing	72	11	Truck Driver	65	9
Vet. Med.	39	6	Sports	53	8
Art	20	3	Conservation	41	6
Music	17	3	Electronics	37	5
Housewife	16	2	Carpentry	28	4
Beautician	15	2	Architect	18	3
Conservation	15	2	Law	14	2
Home Ec.	15	2			

3. Highest Degree Desired:

High School---------- 355 - 24%
Trade or Technical---- 293 - 21
College---------- 662 - 48
Undecided---------- 83 - 6

	Yes	No
4. Are you now studying any of the areas listed below as part of your course work?	735-54%	638-46%
5. Would you be interested in studying in any of the areas listed below before graduating from high school?	1198-87	175-13
6. Do you have opportunity available now in your school to explore areas of work?	657-48	716-52
7. Do you look forward to the adult working world?	1193-87	180-13
8. Generally do you see a worthwhile purpose of classes you are taking now in future career choices?	1024-75	349-25
9. Do you generally enjoy working now?	1225-89	148-11

Area 16 Career Interests Grade 9

1. Usable Samples: Female 610 Male 642 Total 1,252

2. Desire a career in:

Female:	No.		Male:	No.	
Undecided	130	21%	Undecided	110	17%
Education	87	14	Mechanics	90	14
Sec./Cler.	69	11	Agriculture	58	9
Nursing	66	11	Truck Driver	53	8
Art	27	4	Conservation	38	6
Vet. Med.	23	4	Sports	38	6
Soc. Worker	22	4	Electronics	28	4
Home Ec.	19	3	Carpentry	25	4
Med. Doctor	15	2	Education	25	4
Conservation	13	2	Drafting	17	3
Housewife	13	2			
Music	13	2			

3. Highest Degree Desired:

High School---------- 246 - 20%
Trade or Technical---- 307 - 25
College---------- 582 - 46
Undecided---------- 117 - 9

	Yes	No
4. Are you now studying any of the areas listed below as part of your course work?	624-50%	628-50%
5. Would you be interested in studying in any of the areas listed below before graduating from high school?	1031-82	221-18
6. Do you have opportunity available now in your school to explore areas of work?	719-57	533-43
7. Do you look forward to the adult working world?	1092-87	160-13
8. Generally do you see a worthwhile purpose of classes you are taking now in future career selections?	889-71	363-29
9. Do you generally enjoy working now?	1102-88	150-12

Area 16 Career Interests Grade 10

1. Usable Samples: Female 574 Male 669 Total 1,243

2. Desire a career in:

Female:	No.		Male:	No.	
Undecided	122	21%	Undecided	110	16%
Sec./Cler.	72	13	Mechanics	97	14
Education	70	12	Agriculture	85	13
Nursing	44	8	Conservation	43	6
Beautician	24	4	Truck Driver	40	6
Art	23	4	Electronics	39	6
Music	19	3	Education	31	5
Soc. Work	19	3	Sports	26	4
Home Ec.	16	3	Auto Body	22	3
Vet. Med.	15	3	Carpentry	19	3

3. Highest Degree Desired:

High School---------- 240 - 19%
Trade or Technical---- 370 - 30
College---------- 564 - 45
Undecided---------- 69 - 6

		Yes	No
4.	Are you now studying any of the areas listed below as part of your course work?	563-45%	680-55%
5.	Would you be interested in studying in any of the areas listed below before graduating from high school?	999-80	244-20
6.	Do you have opportunity available now in your school to explore areas of work?	803-65	440-35
7.	Do you look forward to the adult working world?	1048-84	195-16
8.	Generally do you see a worthwhile purpose of classes you are taking now in future career choices?	848-68	395-32
9.	Do you generally enjoy working now?	1108-89	135-11

Area 16 Career Interests Grade 11

1. Usable Samples: Female 493 Male 499 Total 992

2. Desire a career in:

Female:	No.		Male:	No.	
Undecided	102	21%	Undecided	107	21%
Education	54	11	Mechanics	80	16
Sec./Clerical	53	11	Agriculture	60	12
Nursing	33	7	Electronics	25	5
Soc. Work	23	5	Conservation	18	4
Art	22	4	Engineering	15	3
Med. Doctor	20	4	Sports	15	3
Music	14	3	Drafting	13	3
Beautician	13	3	Carpentry	11	2
Business	13	3	Education	11	2
Home Ec.	13	3			

3. Highest Degree Desired:

High School---------- 159 - 16%
Trade or Technical---- 289 - 29
College---------- 488 - 49
Undecided---------- 56 - 6

	Yes	No
4. Are you now studying any of the areas listed below as part of your course work?	511-52%	481-48%
5. Would you be interested in studying in any of the areas listed below before graduating from high school?	680-69	312-31
6. Do you have opportunity available now in your school to explore areas of work?	561-57	431-43
7. Do you look forward to the adult working world?	808-81	184-19
8. Generally do you see a worthwhile purpose of classes you are taking now in future career choices?	726-73	266-27
9. Do you generally enjoy working now?	887-89	105-11

Area 16 Career Interests Grade 12

1. Usable Samples: Female 610 Male 557 Total 1,167

2. Desire a career in:

Female:	No.		Male:	No.	
Undecided	114	19%	Undecided	125	22%
Sec./Cler.	66	11	Agriculture	59	11
Education	58	10	Mechanics	58	10
Nursing	56	9	Business	39	7
Business	41	7	Electronics	24	4
Soc. Work	34	6	Machine Shop	19	3
Art	30	5	Drafting	17	3
Med. Doctor	28	5	Welding	17	3
Accounting	18	3	Conservation	16	3
Fashion	16	3	Accounting	14	3

3. Highest Degree Desired:

High School----------162 - 14%
Trade or Technical-----328 - 28
College----------413 - 35
Undecided----------264 - 23

4. Do you feel adequately prepared for the world of work?

	Yes	No
Female:	348 - 57%	262 - 43%
Male:	355 - 64%	202 - 36%
Total -	703 - 60%	464 - 40%

Area 16 Career Interests Grade 6 - 12

1. Usable Samples: Female 4,194 Male 4,429 Total 8,623

2. Desire a career in:

Female:	No.		Male:	No.	
Undecided	754	18%	Undecided	672	15%
Education	572	14	Mechanics	532	12
Sec./Cler.	474	11	Agriculture	435	10
Nurse	426	10	Truck Driver	338	8
Vet. Med.	193	5	Sports	297	7
Art	147	4	Conservation	215	5
Med.Doc.	126	3	Electronics	162	4
Soc. Work	121	3	Carpentry	135	3
Beautician	89	2	Education	116	3
Music	88	2	Architect	99	2

3. Highest Degree Desired:

High School----------1656 - 19%
Trade or Technical-----2032 - 24
College----------4245 - 49
Undecided---------- 690 - 8

4. Do you look forward to the adult working world?

Yes	No
7130 - 83%	1493 - 17%

Section 2 - CENIS Results

The ongoing efforts of the Iowa State Department of Public Instruction to ascertain career interest in Iowa is of considerable importance. The most recent data of the Career Education Needs Information System (CENIS) study was gathered last spring (1975). The results include a sampling of 6,119 (6.27%) 11th and 12th grade students of a total of 97,485 in the state. It is interesting to note the strong priority resemblance to the career interests expressed in the Area 16 survey conducted for this study. This would tend to lend more credence to the use of smaller samples. The students were expected to indicate the career choice anticipated after completing their schooling. (See Appendix)

The twenty most frequent occupation choices are represented as follows:

	Freq.		Freq.
Farmer, General	3575 - 58%	Artist	1351 - 22%
Reg. Prof. Nurse	2820 - 46	Vet. Med.	1254 - 20
Gen. Secretary	2729 - 45	Factory Worker	1217 - 20
Sec. School Teacher	2478 - 40	Carpenter	1159 - 19
Auto Garage Mech.	2130 - 35	Prof. Music	1150 - 19
Elem.School Teach.	1850 - 30	Soc. Worker	1142 - 19
C.P.A.	1514 - 25	Construction	1123 - 18
Lawyer/Atty/Judge	1447 - 24	Bookkeeper	1062 - 17
MD/Physician/Surg.	1446 - 24	Cosmet/Beautician	1051 - 17
Receptionist	1436 - 23	Conservation	982 - 16

Note that the Area 16 local survey having a sample of 2159 (70%) 11th and 12th grade students provides the following rank order:

Mechanics	138- 6%
Agriculture	119- 6
Sec./Cler.	119- 6
Education	112- 5
Nursing	89- 4

The same career areas ranked in the top five order in the (CENIS) study. The order is not the same undoubtedly due to the different means used to label career area inclusions. The CENIS study labels career areas with a much greater degree of specificity whereas the local labels are more of a general classification.

Section 3 - Area 16 Career Needs - School Administrators

1. Usable samples: 84

2. Career program needs are reflected by eighty-four Area 16 school administrators.

		Freq.
1.	Mechanics	43 - 51%
2.	Nursing	35 - 42
3.	Sec./Clerical	33 - 39
4.	Agriculture	31 - 37
5.	Carpentry	30 - 36
6.	Electronics	30 - 36
7.	Machine Shop	28 - 33
8.	Auto Body	26 - 31
9.	Recreation	26 - 31
10.	Welding	26 - 31

Hence, over half of the administrators suggest a need for career training in mechanics. As will be noted from the teacher career need priorities their is a close kinship to those priorities for administrators which further validates the findings.

The felt needs from the administrators standpoint agree remarkably with the expressed career interests as reflected by the student samples.

Section 4 - Area 16 Career Needs - Teachers K-12

1. Usable Samples: 876

2. Career program needs:

		Freq.
1.	Mechanics	765 - 87%
2.	Agriculture	536 - 61
3.	Sec./Cler.	523 - 60
4.	Carpentry	522 - 60
5.	Auto Body	518 - 59
6.	Nursing	442 - 50
7.	Construction	434 - 50
8.	Welding	417 - 48
9.	Home Ec.	414 - 47
10.	Med.Asst.	413 - 47
11.	Plumbing	408 - 47
12.	Conservation	407 - 46
13.	Mach.Shop	403 - 46
14.	Electronics	347 - 40
15.	Truck Driver	344 - 39
16.	Recreation	337 - 38
17.	Retail Mktg.	299 - 34
18.	Wildlife Game Worker	279 - 32
19.	Air Cond.	272 - 31
20.	Mech.Drafting	236 - 27

The needs as observed by teachers colaborate remarkably the needs as seen by school administrators. Mechanics, agriculture, sec./cler. and carpentry are in the top five of each list. It would be well to note, as to interpretation, of the 876 teachers sample pool, 765 indicate that there is a need for mechanics training in that particular geographic region. The label "mechanics" includes auto mechanics as well as diesel mechanics.

The teacher responses not only reflect their point of view as to career needs for their particular school area but also the interests as reflected by their students. Too, it might be safe to presume that a majority of the interests reflected by students are stimulated by some of the needs which they recognize from observing their associations with their immediate world, i.e. parents, counselors, etc. Needless to say,

however, the influence of television, movies, etc. tend to exercise a degree of stimulus to promote desire in career areas for which there is no bona fide need. As will be noted from the data the upper grade levels begin to sift from their career choices those areas of adventure which do not afford a justifiable employment need.

Section 5 - Area 16 Career Needs - Industry

As a result of 112 contacts with industries in Area 16, some useful need indicators are realized. The frequencies of needs are as follows:

		Freq.		
1.	Maintenance Mechanics	39	-	35%
2.	Electricians	35	-	31
3.	Welders	33	-	29
4.	Machinists	30	-	27
5.	Safety Standards	29	-	26
6.	Plumbers	21	-	19
7.	Air - Conditioning	18	-	16
8.	Drafting/Blue Print Reading	17	-	15
9.	Instrumentation	17	-	15
10.	Pneumatics	15	-	13

The industrial sample includes corporations whose average size is 160 employees ranging in number from 14 to 1000. A great deal of interest has been stimulated in the area of maintenance type skills. In contacting several industries regarding this apparent need there is indicated that due to the use of more intricate, more elaborate industrial equipment there is a great need for skilled maintenance personnel. The dust mop, window washing custodian is rapidly being forced to gain a versatile expertise in a wide range of mechanical/technical areas for which there is a limited training potential in Area 16.

Regarding the health services needs for Area 16, there apparently is still a dearth in the supply of Registered Nurses and Licensed Practical Nurses in spite of the national thrust in sustaining support for training for health services. The Area 16 hospitals and clinics report a continual need for these health service areas. The Mental Health Clinic at Mt. Pleasant, Iowa, indicates constant need for mental health workers. This type position requires little in degree qualifications or special training. Other health services having a less intense need in Area 16 is the Nurse Aide Orderly.

Naturally, there continues to be a shortage of medical doctors.

Close touch with the Iowa State Employment Commission has revealed periodic needs in the areas of commission sales, cooks, waitresses, truck drivers, T.V. repairmen, welders, auto body, mechanics, draftsmen and engineers. One interesting issue relating to the unemployment situation is the lack of motivation on the part of individuals to seek employment when the benefits of remaining unemployed are so lucrative. The commission reports there are many low paying jobs available for which the pool of applicants are few.

A recent interview with the personnel at the Iowa State Employment Commission Office at Keokuk, Iowa, indicates a relative dearth in the two jobs of opposite levels of skills. That is to say that there is a shortage of highly trained professionals such as health services, psychiatrists, engineers, draftsmen, etc. and on the other end of the spectrum, a shortage of lower paying relatively unskilled type persons such as cooks and waitresses. There are relatively few jobs available for the middle workers and construction workers. Also, there appears no shortage of clerical and office type personnel.

An indication was made that there is an apparent shortage of appliance repairmen.

A frequent retort in regard to the employment picture is, "What we need more of is people who take pride in doing honest work, show up to work on time, and look for something in work besides a paycheck."

Section 6 - Area 16 Career Needs - General Recommendations

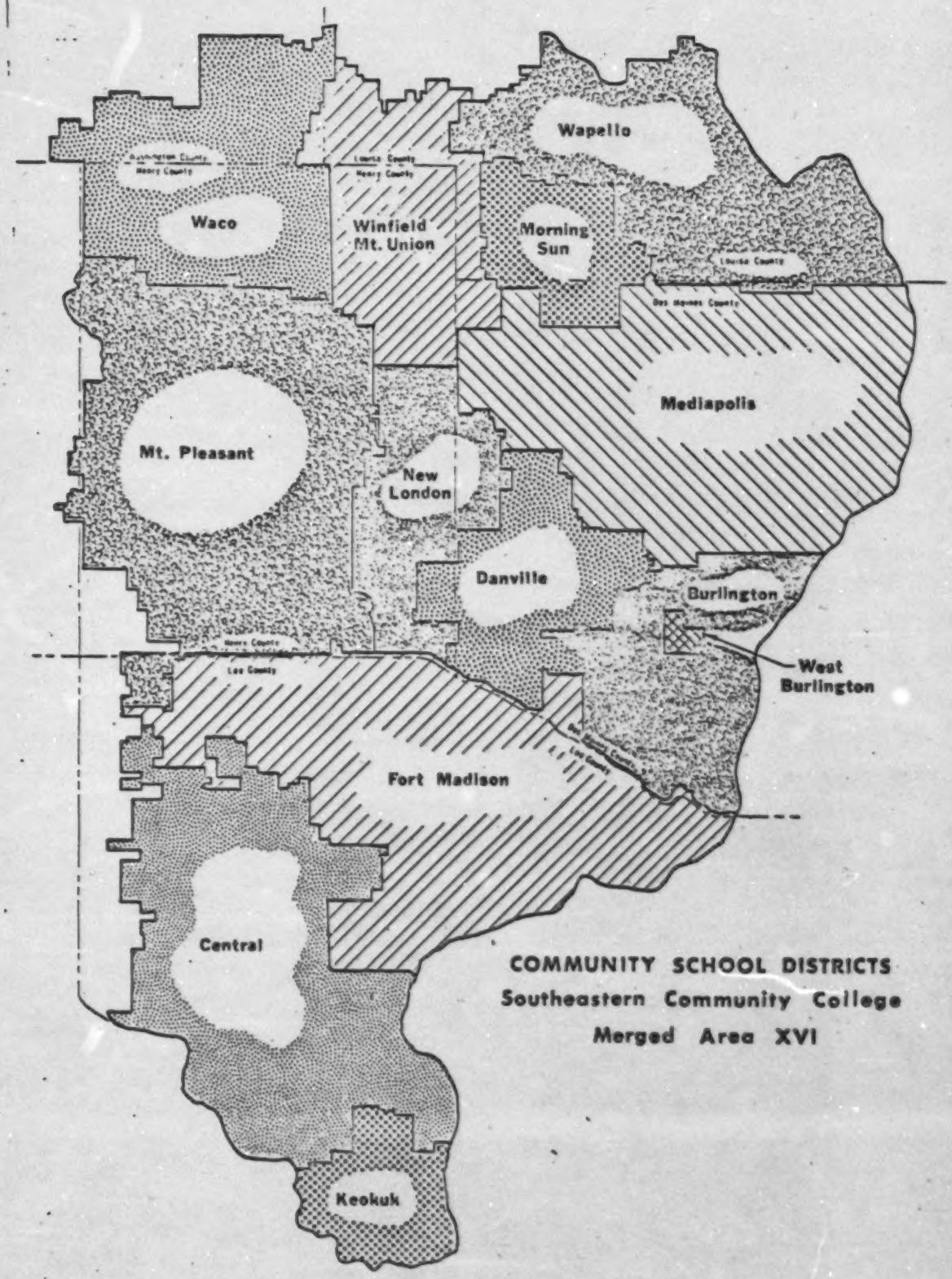
It would be a simple matter to record those career areas of mutual need and interest as reflected by the returns. Such a priority ranking might appear as follows:

1. Mechanics
2. Agriculture
3. Education
4. Sec./Clerical
5. Health Occupations
6. Electronics
7. Machine Shop
8. Carpentry
9. Auto Body
10. Welding
11. Conservation
12. Home Economics

A caveat is in order, however. A good deal of caution needs to be exercised in establishing exactly which career areas are marketable. Presently, for example, it would appear that those having training and experience in maintenance mechanics, executive secretary, health occupations, machine shop, welding and carpentry fields would be employable in Area 16. On the other hand, based on current employment manpower data, those having training and background in such career areas as agriculture, conservation, home economics, general secretary and education might experience relative difficulty in gaining employment in Area 16. Continual rememberance of the foregoing remarks should be exercised throughout the course of this presentation.

CHAPTER II

Area 16 Needs and Interests By School Districts



COMMUNITY SCHOOL DISTRICTS
Southeastern Community College
Merged Area XVI

The following section is a district by district analysis of career needs and interests as observed by school administrators, teachers, students and parents of students. The parent sample in each district offers an interesting response pool in as much as this group would presumably represent a cross section of the district employment involvements. Of considerable statistical interest is the frequency of the occurance of certain priority patterns in expressed career needs and career interests. Many of the career needs which are expressed may appear deceptive from an employment needs point of view. To illustrate, conservation and agriculture are two career areas in which a need is expressed in most of the school districts, where in fact there are no prevalent employment needs in these career areas. On the other hand a need expressed for nurses would subsequently be a fertile employment need.

Regarding student responses, it has been suggested earlier that the lower grade students tend to lean to the career areas having what might appear to be more adventure stimulated, perhaps, by the entertainment media. Consequently, the upper grade level results would tend to reflect a more realistic picture of career choices.

Burlington Parochial School District Needs and Interests

A sample population of 497 from the Burlington Catholic Community provides input in the establishment of needs and interests priorities for career areas. This sample includes administrators, teachers and students. As to needs, the priorities together with the frequency of response is given as follows:

		Freq.	
1.	Nursing	16	41%
2.	Mechanics	15	38
3.	Carpentry	15	38
4.	Home Economics	13	33
5.	Agriculture	12	31
6.	Auto Body	12	31
7.	Electronics	11	28
8.	Medical Assistant	11	28
9.	Plumbing	11	28
10.	Sec./Clerical	11	28

As an interpretive note, the frequency column indicates the number of those indicating a felt need for the particular career area and adjacently the percent of the sample expressing this need.

The career interests are reflected by student responses from grades 6 through 12. They are as follows:

Female (240)	Freq.	%	Male (218)	Freq.	%
1. Education	39	16%	1. Sports	21	10%
2. Art	13	5	2. Mechanics	16	7
3. Vet. Medicine	12	5	3. Architecture	11	5
4. Sec./Clerical	10	4	4. Corrections	9	4
5. Nurse	9	4	5. Electronics	9	4
6. Interior Design	9	4	6. Science	8	4
7. Stewardess	7	3	7. Conservation	7	3
8. Psychology	6	3	8. Engineering	7	3
9. Business	5	2	9. Education	6	3
10. Home Economics	5	2	10. Law	5	2

It is of interest to note that the areas of commonality regarding career needs and career interests in the priorities represented are Nursing, Secretarial/Clerical, Mechanics, Home Economics and Electronics.

Subsequently, these career areas would appear to be valid areas in which to focus attention in development of career programs.

Burlington Public School District Needs and Interests

Career needs and interests priorities for the Burlington Public School System are provided from a sample pool including parents, school administrators, teachers and students in grades 8 through 12.

The career needs priorities with the corresponding frequency of the felt need and percentage are as follows:

1.	Mechanics	249 - 53%
2.	Agriculture	223 - 47
3.	Sec./Clerical	210 - 45
4.	Conservation	200 - 42
5.	Auto Body	196 - 42
6.	Medical Assistant	191 - 41
7.	Carpentry	190 - 40
8.	Construction	173 - 37
9.	Welding	171 - 36
10.	Home Economics	168 - 36

The career need sample includes 215 teachers, 16 school administrators and 240 parent families which places the total sample in the neighborhood of 700.[1]

Career interests are ascertained from a total student sample of 1548 from grades 8 through 12. The priorities with frequency of reflected interest are as follows:

1.	Conservation	245 - 16%
2.	Sec./Clerical	223 - 14
3.	Music	160 - 10
4.	Agriculture	144 - 9
5.	Sports/Coach	137 - 9
6.	Home Economics	126 - 8
7.	Education	119 - 8
8.	Nurse	109 - 7
9.	Accounting	105 - 7
10.	Model	96 - 6

This priority listing has been obtained from a recent Boy Scouts Career Assessment Research Project. Note that the career needs and the career interests which exist in common to the listings are Conservation, Sec./Clerical, Agriculture and Home Economics. Also note that two career areas of apparent high need and high interest in Area 16 do not appear in common.

i.e. mechanics and nursing. The lack of appearance of these two popular career areas in the need listing certainly stimulate speculation regarding survey results validity for this particular sample group.

In some cases a career need is strongly suggested but not to indicate that a person so trained is employable. For example, there appears to be a need in Conservation training. However, a well trained person in this career area will in fact have difficulty in obtaining employment.[2] Another career area sustaining a similar role in this respect is Home Economics. Career program development, however, should not be based solely on employability prospects upon completion of the training.

1. The actual figure of 471 was utilized to establish that percents appearing above. The apparent discrepancy appears because of the fact that one survey instrument was used per family which in most cases represents at least two individuals.

2. Iowa State Employment Commission data. June, 1975.

Central Community School District Needs and Interests

A sample of 765 from the Central School Community was obtained from school administration, teachers and parent/ families to ascertain career needs and interests.

The needs are given in a priority listing with the frequency of the felt need from the 108 samples as follows:

		Freq.	
1.	Mechanics	89	82%
2.	Agriculture	69	64
3.	Carpentry	62	57
4.	Sec./Clerical	60	56
5.	Auto Body	53	49
6.	Conservation	53	49
7.	Home Economics	50	46
8.	Nursing	49	45
9.	Machine Shop	45	42
10.	Plumbing	40	37

Of the 108 samples, 61 are teachers, 6 school administrators and 41 parent families.

Being a largely agricultural school district, it is not surprising that there exists a reflection of training need in this career area. Again, it should be recognized that a reflected need in this career area does not mean, necessarily, that such a well-trained person would be immediately employable. It is very probable that the career training is needed for existing personnel in this career area for this geographic region.

Career interests are felt in a priority listing of career interests taken from 657 students in grades 6 through 12 in the Central School System. They are as follows:

Female (308)	Freq.	%	Male (349)	Freq.	%
1. Sec./Cler.	40	13%	1. Mechanics	67	19%
2. Education	32	10	2. Truck Driver	60	17
3. Nurse	31	10	3. Agriculture	56	16
4. Vet.Medicine	27	9	4. Sports	30	9
5. Home Economics	20	6	5. Conservation	24	7
6. Housewife	12	4	6. Carpentry	21	6
7. Social Work	11	4	7. Auto Body	18	5
8. Animals	10	3	8. Electronics	13	4
9. Corrections	9	3	9. Construction	10	3
10. Agriculture	8	3	10. Architecture	8	2

Again, a commonality exists in regard to career needs and career interests; we find them in mechanics, agriculture, carpentry, sec./clerical, nursery, home economics, conservation, and auto body. This strongly suggests that these career areas are worthy of attention in regard to career program development for the Central School District. Too, in regard to these career needs, particular attention ought to be drawn to the fact that reference is made to the training need for such career areas without regard to employability in some cases.

Danville Community School District Needs and Interests

Career needs and interests in the Danville School District are gleaned from a sample of 369. Those participating include school administrators, teachers, parent families and students in grades 6 through 12. The priorities are represented together with the frequencies of the felt career need as follows:

		Freq.	
1.	Agriculture	37	66%
2.	Mechanics	35	63
3.	Sec./Clerical	34	61
4.	Auto Body	30	54
5.	Carpentry	28	50
6.	Welding	27	48
7.	Conservation	24	43
8.	Electronics	22	39
9.	Home Economics	21	38
10.	Machine Shop	21	38

Again, as in many school districts in Area 16, there is a predominance of agriculturally oriented need reflections. Too, there are no assured inferences that those skilled in the above career areas are necessarily employable in this district.

Priorities in career areas as to interest is represented by 315 students in grades 6 through 12. The career interest priorities are as follows:

Female (144)	Freq.	%	Male (171)	Freq.	%
1. Education	24	17%	1. Sports	19	11%
2. Sec./Clerical	23	16	2. Mechanics	18	11
3. Nursing	16	11	3. Agriculture	13	8
4. Stewardess	12	8	4. Conservation	11	6
5. Vet. Medicine	8	6	5. Vet. Medicine	10	6
6. Conservation	7	5	6. Truck Driver	9	5
7. M.D.	7	5	7. Corrections	8	5
8. Beautician	6	4	8. Education	8	5
9. Housewife	6	4	9. Science	7	4
10. Agriculture	3	2	10. Auto Body	6	4

Common priorities existing between career needs and career interests are agriculture, mechanics, sec./clerical, conservation and auto body. These career areas would seem to be fertile areas to focus upon in consideration for expansion in career program development since both need and interest is inferred. Again, it is well worth keeping in mind that a career training area such as in agriculture might not imply employability subsequent to the training since the inference may be the need to train existing agricultural personnel.

Fort Madison Parochial School Districts Needs and Interests

The Ft.Madison Parochial school system is represented by 332 samples consisting of school administrators, teachers and students in grades 6 through 12 in the establishment of career needs and interests.

Those priorities in career needs together with the corresponding frequencies of felt needs are as follows:

		Freq.	
1.	Mechanics	12	75%
2.	Agriculture	11	69
3.	Sec./Clerical	9	56
4.	Carpentry	8	50
5.	Conservation	8	50
6.	Construction	8	50
7.	Electronics	8	50
8.	Machine Shop	8	50
9.	Medical Assistant	8	50
10.	Retail Marketing	8	50

The need reflections are made on the basis of a 16 sample pool. Even though the sample pool is relatively small, it is interesting to note the priority similarity with the needs reflected in other school districts represented by a much larger sampling.

Career interests in the Parochial Community are provided from a sampling of 316 students in grades 6 through 12. The priorities which exist together with the felt need frequencies are as follows:

Female (170)	Freq.	%	Male (146)	Freq.	%
1. Education	28	16%	1. Agriculture	14	10%
2. Medicine	13	8	2. Sports	12	8
3. Nursing	13	8	3. Electronics	11	8
4. Sec./Cler.	12	7	4. Education	8	5
5. Child Care	8	5	5. Conservation	7	5
6. Soc. Work	5	3	6. M.D.	6	4
7. Vet. Medicine	5	3	7. Mechanics	6	4
8. Biology	4	2	8. Music	6	4
9. Home Economics	4	2	9. Construction	5	3
10. Animals	3	2	10. Science	5	3

Regarding common career tendencies in career needs and career interests there are agriculture, mechanics, sec./clerical, conservation and construction. It is interesting that the career area of nursing apparently is not felt among the adult sample. In all probability a larger need sampling would have surfaced a stronger reflection of nursing needs.

It is interesting to note that in spite of the seeming abundance of teachers which are reported to be in the employment field, there is still a strong interest in choosing education as a career choice in nearly all districts in Area 16.

Fort Madison Public School District Needs and Interests

Career needs and interests are taken from a sampling of 1,709 in the Fort Madison School District consisting of school administrators, teachers, parent families and students.

The career needs are taken from a sample of 151 adults in the district and are represented in a priority listing as follows:

		Freq.	
1.	Mechanics	125	83%
2.	Agriculture	103	68
3.	Carpentry	86	57
4.	Auto Body	85	56
5.	Sec./Clerical	83	55
6.	Home Economics	78	52
7.	Construction	76	50
8.	Conservation	73	48
9.	Medical Assistant	72	48
10.	Plumbing	72	48

Again, the frequency column above reveals the number out of the sample pool (151) who indicate there is the respective need as indicated. Too, this is not to be interpreted for example, that 125 mechanics are needed in the Ft. Madison District.

Career interests are gleaned from a sample pool of 1558 students in grades 6 through 12. The priorities are given as follows with the frequencies of the felt interest:

Female (660)	Freq.	%	Male (898)	Freq.	%
1. Sec./Clerical	118	18%	1. Mechanics	84	9%
2. Education	99	15	2. Truck Driver	57	6
3. Nurse	64	10	3. Sports	56	6
4. Vet. Medicine	32	5	4. Electronics	47	5
5. Art	27	4	5. Agriculture	46	5
6. Social Work	20	3	6. Conservation	30	3
7. Housewife	19	3	7. Corrections	28	3
8. M.D.	19	3	8. Carpentry	23	3
9. Beautician	15	2	9 Education	23	3
10. Music	15	2	10. Engineering	16	2

A close look at the career needs which appear as career interests reveals that mechanics, agriculture, carpentry, sec./clerical, and conservation are common career choices. These particular career areas might be serious considerations for attention in program development since both need and interest appears to exist in strong measure. As was true in the Ft. Madison Parochial needs inferrence, there is evidenced a similar lack of need for nurses in the public school district which would at least give rise to the possibility that there is not a great shortage of nurses in the Ft. Madison area.

The career needs and interests in both the parochial and public sectors bear a remarkable resemblance to each other in the Ft. Madison community.

Keokuk Parochial School District Needs and Interests

A population sample of 169 in the parochial community of Keokuk consisting of school administrators, teachers and students provide input in establishment of career needs and interests priorities. The career need priority listing appears as follows:

		Freq.	
1.	Sec./Clerical	12	57%
2.	Nursing	10	48
3.	Mechanics	9	43
4.	Auto Body	8	38
5.	Agriculture	6	29
6.	Carpentry	6	29
7.	Conservation	6	29
8.	Construction	6	29
9.	Electronics	6	29
10.	Machine Shop	6	29

In spite of the relatively small sampling there bears a strong resemblance to other need expressions in Area 16. Here, for example, 12 of the 21 sample pool indicate a need for Sec./Clerical emphasis in the Keokuk area.

The career interests for the Parochial community are obtained from 148 students in grades 6 through 12. The priority of interests together with the frequency of desired interest is as follows:

Female (72)	Freq.	%	Male (76)	Freq.	%
1. Sec./Clerical	10	14%	1. Mechanics	9	12%
2. Nursing	9	13	2. Truck Driver	8	11
3. Education	7	10	3. Architecture	5	7
4. Medicine	5	7	4. Electronics	5	7
5. Architecture	3	4	5. Education	4	5
6. Law	3	4	6. Engineering	4	5
7. Music	3	4	7. M.D.	4	5
8. Soc. Work	3	4	8. Science	4	5
9. Vet. Medicine	3	4	9. Marine Sci.	3	4
10. Accounting	2	3	10. Sports	3	4

The female interest choices appear more congruent with the area findings than do the male counterparts. Again it is interesting to note that the career area of truck driving ranks high in nearly all school districts in the lower grade levels and is scarcely represented in the 12th grade interest entries.

The career needs and career interests which appear to be shared mutually are sec./clerical, nursing, mechanics, and electronics. This obviously suggests program areas which might have potential in future career development in the school systems.

Keokuk Public School District Needs and Interests

The sample pool for the Keokuk Community School District included 1381 involving 92 teachers, 11 administrators, 117 parent families and 1161 students ranging from grades 6 to 12.

The career needs as felt by the adult sector are listed in a priority fashion as follows:

		Freq.	%
1.	Mechanics	167	76%
2.	Nursing	114	52
3.	Medical Assist.	103	47
4.	Electronics	101	46
5.	Auto Body	94	43
6.	Carpentry	94	43
7.	Agriculture	92	42
8.	Sec./Clerical	92	42
9.	Welding	89	40
10.	Machine Shop	87	40

The need for sec./clerical emphasis appears to be less typically represented in the public system than in the private. This lower priority rating is more reflective of the type experiences college students are sustaining in job finding patterns for the Keokuk area.[1]

The nursing need reflected above is consistent with the needs as indicated by interviews with Keokuk health services personnel. (See page 19)

The career interests for the Keokuk School District youth are gleaned from students in grades 6 through 12.

The priority listing with corresponding frequencies are as follows:

1. SCC Follow-up Study of 1974 graduates in Sec./Clerical programs.

Female (569)	Freq.	%	Male (592)	Freq.	%
1. Education	82	14%	1. Mechanics	82	14%
2. Nursing	59	10	2. Truck Drivers	59	10
3. Sec./Cler.	39	7	3. Sports	49	8
4. Music	21	4	4. Conservation	23	4
5. Vet. Medicine	21	4	5. Electronics	23	4
6. Art	20	4	6. Music	17	3
7. Soc. Work	17	3	7. Carpentry	14	2
8. Home Ec.	15	3	8. Agriculture	13	2
9. Housewife	14	2	9. Auto Body	13	2
10. Animals	11	2	10. Construction	13	2

The career areas which mutually appear in high priority in both the career needs and career interest listings are mechanics, nursing, electronics, agriculture, sec./clerical, carpentry, and auto body. These career areas would seemingly be fruitful areas upon which to focus attention in the development/expansion of future career programs in Keokuk. This mutual listing is identical to the Keokuk Parochial mutual listing with the exceptions of carpentry, agriculture and auto body.

Marquette Parochial School District Needs and Interests

A sample population of 403 from the West Point community is utilized to establish career needs and interests priorities. Of the 403, 25 are teachers, 2 administrators, and 33 parent families. The career needs as felt by this sector are:

		Freq.	
1.	Agriculture	38	63%
2.	Mechanics	31	52
3.	Machine Shop	30	50
4.	Carpentry	29	48
5.	Sec./Clerical	29	48
6.	Conservation	23	38
7.	Welding	21	35
8.	Medical Assist.	19	32
9.	Auto Body	18	30
10.	Construction	17	28

The strongly felt need for emphasis in agriculture is no surprise considering the local economic activity. However, as mentioned earlier, the career area of agriculture should not be regarded as a highly employable area even though the inference is suggested.

As to career interests for the West Point Community, indicators are provided from interest reflection of students in grades 6 through 12. They are as follows:

Female (151)	Freq.	%	Male (192)	Freq.	%
1. Nurse	21	14%	1. Agriculture	60	31%
2. Education	20	13	2. Mechanic	30	16
3. Sec./Clerical	12	8	3. Electronics	12	6
4. Business	9	6	4. Conservation	6	3
5. Beautician	8	5	5. Auto Body	5	3
6. Music	8	5	6. Carpentry	5	3
7. Art	6	4	7. Business	4	2
8. Home Ec.	6	4	8. Law	4	2
9. Med. Asst.	4	3	9. Truck Driver	4	2
10. Vet. Medicine	3	2	10. Construction	3	2

As is noted, the mutual career areas shared by both needs and interests are agriculture, mechanics, carpentry, sec./clerical, conservation, auto body and construction. These career areas should be considered in the development of future career programs. Particular attention might be focused on the relatively high interest directed towards agriculture among males. It should continue to be kept in mind that the need emphasis suggested does not necessarily reflect employability in the emphasis areas.

Mediapolis School District Needs and Interests

The career needs and interests of the sample of the Mediapolis School District is gleaned from 654 people consisting of school administrators, teachers,students and parents.

The priority listing of needs which are inferred are given (together with frequencies) as follows:

		Freq.	
1.	Mechanics	71	87%
2.	Agriculture	51	62
3.	Sec./Clerical	43	52
4.	Nursing	39	48
5.	Carpentry	37	45
6.	Auto Body	36	44
7.	Machine Shop	34	41
8.	Plumbing	34	41
9.	Electronics	33	40
10.	Home Economics	32	39

As is true of the majority of the school districts, the predominant livelihood is agriculturally related. Mediapolis being no exception yields a reflection of strong need in mechanics and agriculture.

The career interests are inferred on the basis of responses given by 572 students in grades 6 through 12. The priority listings with corresponding frequencies are as follows:

Female (285)	Freq.	%	Male (287)	Freq.	%
1. Nursing	39	14%	1. Agriculture	69	24%
2. Sec./Clerical	31	11	2. Mechanics	28	10
3. Education	28	10	3. Truck Driver	18	6
4. Art	14	5	4. Conservation	10	3
5. Home Ec.	12	4	5. Electronics	10	3
6. Housewife	11	4	6. Sports	8	3
7. Vet. Medicine	9	3	7. Engineering	7	2
8. Social Work	8	3	8. Carpentry	6	2
9. Int. Decor.	7	2	9. Music	5	2
10. Music	7	2	10. Art	4	1

In noting the career areas which mutually appear as an expression of both need and interest, there is found mechanics, agriculture, sec./clerical, nursing, carpentry, electronics, and home economics. Again we note, that this mutual listing appears to be the rule for the communities in Area 16.

Morning Sun Community School District Needs and Interests

A population sample of 192 in the Morning Sun District provides a basis for a career needs and interest assessment. Concerning needs, a sample of 38 adults indicate the following priorities:

	Freq.	
1. Mechanics	27	71%
2. Agriculture	22	58
3. Carpentry	19	50
4. Auto Body	14	37
5. Home Economics	10	26
6. Machine Shop	10	26
7. Sec./Clerical	10	26
8. Construction	9	24
9. Conservation	8	21
10. Medical Assist.	8	21

This priority listing is a typical need inference given by a community which has a large agricultural makeup. Note the exlusion of nursing and the low priority of Sec./Clerical career areas typically at the forefront in priority.

The interest reflection is gleaned from 154 students in grades 6 through 12 in the Morning Sun School System. The priority ranking suggested by the responses is as follows:

Female (66)	Freq.	%	Male (95)	Freq.	%
1. Sec./Clerical	13	20%	1. Agriculture	13	14%
2. Education	10	15	2. Mechanics	13	14
3. Nurse	7	11	3. Truck Driver	8	8
4. Beautician	5	8	4. Electronics	8	8
5. Business	4	6	5. Auto Body	7	7
6. Home Economics	2	3	6. Conservation	6	6
7. Music	2	3	7. Construction	5	5
8. Psych.	2	3	8. Vet. Medicine	3	3
9. Vet. Medicine	2	3	9. Heavy Eq.Op.	2	2
10. Agriculture	2	3	10. M.D.	2	2

The mutual career areas which are reflected in both the career need and career interest areas are mechanics, agriculture, home economics, auto body, sec./clerical, conservation, and construction.

Note that nursing is excluded from the female choice. It might be safe to presume that there is no nursing shortage in the Morning Sun District since this need is not inferred from the need listing. Career program development decisions could presumably be enhanced by considering those mutually well represented career areas.

Mt. Pleasant Community School District Needs and Interests

Mt. Pleasant career needs and interests are ascertained on the basis of responses given by a 1172 sample pool. Those involved include school administrators, teachers, students and parents.

The priority ranking of the need expressions with the frequencies are as follows:

		Freq.	
1.	Mechanics	111	85%
2.	Agriculture	87	67
3.	Carpentry	81	62
4.	Sec./Clerical	73	56
5.	Auto Body	71	55
6.	Electronics	64	49
7.	Construction	63	48
8.	Nursing	62	48
9.	Plumbing	62	48
10.	Medical Assist.	61	47

The needs are derived from a pool of 130 adults in the Mt. Pleasant district. The strong resemblance to other Area 16 need rankings will be noted.

The career interests are obtained from a sample pool of 1042 students in the Mt. Pleasant school system involving grades 6 through 12. The career interests rankings are as follows:

Female (509)	Freq.	%	Male (533)	Freq.	%
1. Education	74	15%	1. Mechanics	77	14%
2. Nursing	72	14	2. Agriculture	49	9
3. Sec./Clerical	47	9	3. Truck Driver	46	9
4. Vet. Medicine	37	7	4. Sports	35	7
5. M.D.	29	6	5. Education	27	5
6. Art	23	5	6. Electronics	26	5
7. Beautician	16	3	7. Conservation	22	4
8. Music	15	3	8. Carpentry	18	3
9. Soc. Work	13	3	9. Architecture	16	3
10. Med. Assist.	12	2	10. Drafting	15	3

The career areas having mutual emphasis in both need and interest are mechanics, agriculture, sec./clerical, nursing, carpentry, electronics, and medical assistant. These mutual areas should draw attention to those interested in the development/expansion of career areas. Again, this mutual inference is prevalent throughout the districts in Area 16, particularly mechanics, agriculture, sec./clerical, and nursing.

New London Community School District Needs and Interests

Career needs and interests for the New London School District are drawn from a sample pool of 393 respondents. These respondents include school administrators, teachers, students and parents.

The need rankings together with the frequencies of the felt needs are given as follows:

		Freq.	
1.	Mechanics	35	51%
2.	Agriculture	34	50
3.	Sec./Clerical	28	41
4.	Auto Body	25	37
5.	Medical Assistant	23	34
6.	Welding	22	32
7.	Carpentry	21	31
8.	Construction	20	29
9.	Machine Shop	20	29
10.	Conservation	19	28

The New London need priorities are very typical of those throughout Area 16. It is interesting to note that those school districts having agriculture as the most prominent economic activity in nearly every case produce a first and second in mechanics and agriculture, respectfully in the needs analysis. Quite likely the mechanics need is an off-shoot of the mechanical aspects of agricultural involvements.

The career interests of the student sample pool of the New London District are provided by 325 respondents in grades 6 through 12. The ten highest rankings together with the corresponding frequencies are given as follows:

Female (166)	Freq.	%	Male (159)	Freq.	%
1. Education	31	19%	1. Mechanics	29	18%
2. Nursing	26	16	2. Agriculture	18	11
3. Sec./Clerical	24	14	3. Sports	16	10
4. Vet. Medicine	9	5	4. Truck Driver	15	9
5. Beautician	6	4	5. Aviation	7	4
6. M.D.	4	2	6. Heavy Eq. Op.	6	4
7. Home Economics	4	2	7. Art	5	3
8. Housewife	4	2	8. Education	5	3
9. Social Work	4	2	9. Electronics	5	3
10. Animals	3	2	10. M.D.	4	3

The career areas having mutually common representation in both career needs and career interests are mechanics, agriculture and sec./clerical. These mutual career areas might be serious consideration for future program development and/or expansion. The absence of nursing expressed as a career need could suggest a stable supply/demand situation among nurses in the New London District.

Waco Community School District Needs and Interests

Waco Community District needs and interests are reflected from 283 respondents involving administrators, teachers, parents,and students.

The career needs represented are gleaned from a sample pool of 22 respondents and the ten most frequently suggested are:

		Freq.	
1.	Mechanics	19	86%
2.	Agriculture	18	82
3.	Conservation	14	64
4.	Carpentry	13	59
5.	Construction	13	59
6.	Nursing	13	59
7.	Welding	12	55
8.	Auto Body	11	50
9.	Plumbing	11	50
10.	Sec./Clerical	11	50

As is true in the majority of other districts, mechanics and agriculture are ranking first and second respectively in need emphasis. Sec./Clerical need ranks substantially lower in priority in this district than in the majority of districts in Area 16.

Regarding career interests in the Waco School District, we find a sample pool of 261 respondents involving students in grades 6 through 12.

The interest priorities are represented with the corresponding frequencies as follows:

Female (120)	Freq.	%	Male (141)	Freq.	%
1. Sec./Clerical	26	22%	1. Agriculture	48	34%
2. Education	20	17	2. Mechanics	18	13
3. Nursing	18	15	3. Electronics	10	7
4. Social Work	6	5	4. Conservation	9	6
5. Child Care	4	3	5. Truck Driver	8	6
6. Beautician	4	3	6. Auto Body	5	4
7. Writer	4	3	7. Accounting	4	3
8. Medical Asst.	4	3	8. Art	3	2
9. M.D.	3	3	9. Computer	3	2
10. Stewardess	3	3	10. Law	3	2

In noting the mutually shared career areas of strength in both the need and interest expressions, there is found mechanics, agriculture, conservation, nursing, auto body, and sec./clerical. This would suggest some career areas to focus attention upon in career development and/or career expansion in the Waco School District. Again, it is worth noting that the degree of employability of some career areas is questionable. That is, producing a person with expertise in say, conservation, might be a fruitless venture if job placement afterwards is uppermost in aim notwithstanding the importance of conservation principles.

Wapello Community School District Needs and Interests

Community career needs and interests are represented by 494 respondents consisting of school administrators, teachers, and students.

The career needs are a reflection of responses by 34 teachers and 2 administrators. They are as follows:

		Freq.	
1.	Mechanics	32	89%
2.	Agriculture	27	75
3.	Carpentry	24	67
4.	Wildlife Game Wkr.	24	67
5.	Recreation	23	64
6.	Sec./Clerical	23	64
7.	Welding	23	64
8.	Auto Body	22	61
9.	Nursing	22	61
10.	Plumbing	22	61

These priorities are typical of the rural community in Area 16. It is of interest that conservation reached a popularity frequency of 19. The close kinship between wildlife game worker and conservation would indicate that there is a fairly popular need in this entire spectrum. It should be noted, however, that undoubtedly the need for such training is stressed rather than the existence of a manpower shortage. As has been suggested before the local and statewide employment data would indicate that there is no manpower shortage in conservation related occupations.

Career interests are established from 458 respondents in grades 6 through 12. The priorities with the corresponding frequencies are as follows:

Female (208)	Freq.	%	Male (250)	Freq.	%
1. Education	31	15%	1. Agriculture	38	15%
2. Sec./Clerical	28	13	2. Mechanics	35	14
3. Nurse	25	12	3. Sports	25	10
4. Interior Des.	14	7	4. Conservation	15	6
5. Art	11	5	5. Electronics	15	6
6. Vet. Medicine	9	4	6. Truck Driver	15	6
7. Animals	8	4	7. Carpentry	13	5
8. Home Economics	7	3	8. Welding	12	5
9. Sports	7	3	9. Architecture	7	3
10. Mechanics	6	3	10. Corrections	7	3

In observing those career areas which hold mutual rank in both career need and career interest expressions there are found mechanics, agriculture, carpentry, sec./clerical, welding, conservation/ wildlife, and nursing. Therefore, in career area program development, the Wapello District might give serious consideration to these areas of mutual emphasis in need and interest. Again, need expressions do not always suggest manpower shortages. To illustrate, there is a need for more honest people everywhere, this does not provide assurance that an honest person will experience ease in gaining employment. However, employability should not be the only consideration in program development.

West Burlington Community School District Needs and Interests

West Burlington district career needs and interests are established from a sample pool of 385 consisting of school administrators, teachers, students and parents.

The needs ranking with the corresponding frequencies are given as follows:

	Freq.	
1. Mechanics	36	64%
2. Sec./Clerical	30	54
3. Auto Body	28	50
4. Welding	28	50
5. Carpentry	25	45
6. Machine Shop	25	45
7. Plumbing	25	45
8. Home Economics	24	43
9. Conservation	23	41
10. Construction	22	39

Again, mechanics holds a first order priority in need assessment. Apparently, there is no reflection of need for health services in the upper ten rankings. What this implies is uncertain since other sources would indicate there is a shortage of ADN's, LPN's, M.D's, etc. throughout Area 16. It would be interesting to know the number of respondents, say in the mechanics need expression, whose stimulation to respond was the result of bad experience in having the family automobile repaired. Whether such a basis is reflective of a skill shortage or general irresponsibility is open to question.

Career interests are ascertained on the basis of responses from 329 students in grades 6 through 12.

The rank and frequencies of responses are as follows:

Female (160)	Freq.	%	Male (169)	Freq.	%
1. Sec./Clerical	26	16%	1. Conservation	19	17%
2. Education	24	15	2. Mechanics	14	8
3. Nurse	17	11	3. Sports	9	5
4. M.D.	9	6	4. Drafting	8	5
5. Psychology	7	4	5. Architect	7	4
6. Housewife	5	3	6. Education	7	4
7. Stewardess	5	3	7. Law	6	4
8. Model	4	3	8. Truck Driver	6	4
9. Social Work	4	3	9. Welding	6	4
10. Science	3	2	10. Carpentry	5	3

The career areas of mutual emphasis in need and interest appear to be mechanics, sec./clerical, welding, carpentry, and conservation. These mutual areas might deserve attention in the development and/or expansion of career programs. It is of interest that the Burlington needs indicator also ranks sec./clerical and conservation as being number one in priority for females and males respectively. Too, there is no indication of need or interest emphasis for agriculture in West Burlington even though the majority of school districts in Area 16 do bear such an indication. In noting the map on page 23, the West Burlington agricultural involvements would be naturally limited by the fact that the district is largely urban which subsequently justifies the foregoing remark.

Winfield-Mt.Union Community School District Needs and Interests.

Winfield-Mt.Union career needs and interests are revealed from a total sample pool of 317. These includes school administrators, teachers, parents and students. The need priorities are from 73 adult responses. They are:

		Freq.	
1.	Mechanics	45	62%
2.	Agriculture	43	59
3.	Sec./Clerical	36	49
4.	Carpentry	35	48
5.	Auto Body	31	42
6.	Med. Assist.	31	42
7.	Welding	29	40
8.	Construction	28	38
9.	Electronics	27	37
10.	Home Economics	27	37

Again, there is found the strong need emphasis for mechanics and agriculture which have frequently appeared in sequence in high order of rank. Nursing appears unrepresented in rank. This could suggest that there are no pressing employment needs in this health occupation locally which is contrary to the Area 16 nursing needs generally.

The career interests for this district are drawn from 244 students in grades 6 through 12. The priority listing is as follows:

Female (118)	Freq.	%	Male (126)	Freq.	%
1. Sec./Clerical	20	17%	1. Agriculture	38	30%
2. Education	17	14	2. Mechanics	18	14
3. Vet. Medicine	14	12	3. Conservation	8	6
4. Nursing	9	8	4. Electronics	7	6
5. Conservation	7	6	5. Carpentry	6	5
6. Soc. Worker	6	5	6. Auto Body	5	4
7. Home Economics	5	4	7. Aviation	5	4
8. M.D.	4	3	8. Construction	3	2
9. Animals	3	3	9. Drafting	3	2
10. Recreation	3	3	10. Law	3	2

In examining the mutual career areas having emphasis in both needs and interests there will be found mechanics, agriculture, sec./clerical, carpentry, auto body, construction, electronics and home economics. These career areas could be focused upon in the development/expansion of career programs. Too, most of the health services are in need in Area 16 even though this was not indicated in the need analysis discussed on the previous page.

Again, note that this chapter addresses itself to a District by District analysis and that Chapter I provides a general Area 16 perspective.

CHAPTER III

RESOURCES

Area 16 Resources.

This chapter deals in a general measure with those resources which are characteristic to Area 16. Specifically, the concentration is with manpower resources; however, other resources alluded to involve such economic factors as relates to geography, natural resources, and industrial characteristics. Also projections are made regarding area needs, supplies and demands.

AREA 16 RESOURCES

Section 1.

The following are the responses given by the Area 16 public and non-public school administrators which relates in part to the facilities/personnel resource status. Approximately 84 administrators are involved in the sample.

Entry	Response Yes	Response No
a. The career education concept can be implemented in our district without outside involvement.	54%	46%
b. Would it appear difficult to staff the career areas which are needed in your school?	57%	43%
c. Would it appear difficult to provide facilities to house career programs needed in your area?	63%	37%
d. Would your staff be reluctant to be heavily involved with career education?	13%	87%
e. Would your community welcome career education involvement?	97%	3%
f. Would it appear that the labor force demands in your school community would justify heavy career education emphasis?	69%	31%

The responses given in parts b.and c.would indicate that there is a slight facility and personnel shortage in the career areas of need. The facility shortage would no doubt be frustrated by the Federal government cutback in expenditures toward construction.

Section 2.

This section addresses itself to the highest ranking needs in Area 16 as relating to the immediate employment outlook. The information is obtained from the Occupational Outlook Handbook 1974-75, U.S. Department of Labor.

A. Mechanics: "Employment in maintenance and repair occupations as a whole is expected to increase rapidly through the mid-1980's. In addition to jobs created by employment growth, openings will rise as experienced workers retire, die or transfer to the other fields. Many factors are expected to contribute to the growing need for mechanics and repairmen, including increased demand for household appliances, automobiles, and other items, and repair of complex machinery in industry."[1]

National trends for mechanic needs would reflect a shortage of personnel through the mid-1980's.

B. Health Occupations: "Overall employment in the health field is expected to grow very rapidly through the mid-1980's, although the rates of growth will differ considerably among individual health occupations. Among the factors that are expected to contribute to an increase in the demand for health care are population growth coupled with increasing health consciousness and rising standards of living. Expansion of coverage under payment programs that make it easier for persons to pay for hospitalization and medical care also will cause growth in the health service occupations. Other openings will be created each year by the increasing expenditures by the Federal, State and local governments for health care and services.

1. U.S.Department of Labor Statistics

In addition to jobs created by employment growth many new workers will be needed each year to replace those who retire, die, or leave for other reasons.

Recent expansion of training programs in most of the occupations will add to the supply of trained health service personnel. The employment outlook in the various occupations ranges from excellent to possibly competitive, depending on the balance between supply of workers and expected openings."[1]

C. Secretarial/Clerical: "The growth in numbers of the Secretarial/Clerical fields is expected to result from the increasing paper work that will accompany the expansion of large and complex organizations. Employment opportunities will be best for those in areas whose jobs are not likely to be handled by machines. Particular demands will be in banks, insurance companies, manufacturing firms, government offices and professional service organizations.

Clerical workers who deal with the public who exercise initiative will not be affected by automation."[2]

D. Agriculture: "Typical farm employment will decline in the mid-1980's due to the fact that fewer and fewer farmers are producing more and more of the farm products. However, employment in agri-business related occupations is expected to increase. College graduates in agriculture will also be in demand."[3]

E. Conservation: 1. Forestry - Even though there will be an increase in the demand of foresters, it is quite likely that the college graduates in this area will exceed the demand if current trends continue.[4]

1, 2, 3, 4 - U.S. Department of Labor Statistics

2. Range Managers - Opportunities are expected to increase slowly in the 1980's. However, public concern about the environment could lead to greater opportunities for all types of conservationists. Also, increased demands for meat and other rangeland animal products could produce an increase in the need for more range managers.[1]

3. Soil Conservationists - Employment opportunities for well-trained soil conservationists are good. Opportunities will expand because government agencies, public utility companies, banks, and other organizations are becoming interested in conservation and are adding conservationists to their staffs. Also, newer openings will occur in college teaching, particularly at the undergraduate level.[2]

The foregoing U.S. Department of Labor Statistics observations do not apply specifically to Area 16 but rather are some general employment observations. Section 3 (that which follows) addresses itself to the Area 16 employment picture.

1, 2 - U.S. Department of Labor Statistics

Section 3.

Information regarding Hard-to-Fill job openings and Hard-to-Place job applicants for the Burlington area is obtained from the Iowa Employment Securities Commission, Burlington, Iowa. The information refers only to Des Moines County.

Of particular interest in regard to personnel resources is Table 3-A in which is noted the occupational areas for which there is inferred personnel surplus. The commission contacts includes an estimated 75% of those unemployed. The teacher surplus as indicated substantiates other sources which indicate such a surplus. It would be well to note that many hard-to-place applicants lack desired experience. As of August 31, 1975, there were approximately 3600 applicants registered for work with the Burlington employment office of which 1550 were actively seeking work. These applicants come from Des Moines County as well as neighboring Iowa and Illinois counties.

Some of the noteworthy changes occurring in the characteristics of the unemployed [1] from August 1974 to August 1975 are:

A. The percentage of jobless workers under age 22 has risen substantially. This indicates that permanent jobs are becoming more difficult for the unexperienced to obtain.

B. The increase in the percentage of unemployed males indicates that substantially more of the "family breadwinners" are unemployed. This causes housewives who would not have ordinarily worked to search out employment and assume this role.

C. The percentage of Vietnam Era veterans without jobs increased markedly. This indicates that many of these workers lack the seniority required to enable them to maintain their jobs in these times of mass lay offs.

1. Iowa Employment Securities Commission

TABLE 3-A

OCCUPATIONAL CLASSIFICATION OF HARD-TO-PLACE JOB APPLICANTS

AREA AND STATE Burlington, Iowa MONTH AND YEAR August 1975

Occupational Title	Comments
Teacher	Few Job Openings Available
Secretary	Most Apps. lack Experience
Audit Clerk	Few Job Openings Available
Clerk, General Off.	Excessive Amout of Apps.
Receptionist	Few Job Openings Available
Salesperson, General	Most Apps. Lack Experience
Cashier - Checker	Few Job Openings Available
Kitchen Helper	Few Job Openings Available
Nurse Aid	Most Apps. Lack Qualifications
Automobile Mechanic	Most Applicants Lack Experience
Assembler, Production	Few Job Openings Available
Welder, Arc.	Most Apps. Lack Experience
Carpenter	Few Job Openings Available
Construction Worker	Few Job Openings Available
Tractor-Trailer-Truck Dr.	Most Apps. Lack Experience
Truck Driver, Heavy	Most Apps. Lack Experience
Service Station Att.	Few Job Openings Available
Industrial Truck Oper.	Most Openings Filled by Promotion Within
Material Handler	Most Apps. Have Little Exp. or poor work history

D. The percentage of economically disadvantaged individuals has more than doubled over the past year. This coincides directly with the advanced unemployment ratio witnessed by this area.

Several variables are worthy of mention in regard to the work force personnel resource in Area 16. They are as follows:

1. Population projections for Area 16 would indicate a decline is expected. There is expected to be a decline of 9.4% from 1970 to 1985 that is from 118,774 to 107,614. Since employment is expected to decline 5.2% this indicates that a greater number of people will be engaged in the civilian labor force.
2. Commuting of workers is near saturation. There is not expected to be an increase in the number of commuters in Area 16 because of cost of travel/wage inter-relationships.
3. Because of the increased technology in agriculture, the employment demands will decrease.
4. About one-seventh of the work force will retire in the next ten year period which will require replacement employment.

Over the period 1940-1970, Iowa and Area 16 population increases fall well below the national trends as will be noted by Table 3-B . Also rural and suburban comparisons indicate migration from the former to the latter is taking place in Area 16 from 1960 to 1970 which is a reversal of that which took place at the State level from 1960-1970.[1]

Comparison trends are indicated by Table in which charactistics of the unemployed are provided for 1960 & 1970.

1. U.S.Bureau of Census and Southeast Iowa Regional Planning Commission

TABLE 3-B

Table
POPULATION OF UNITED STATES, IOWA AND REGION, 1940-1970

Year	United States	Iowa	Southeast Iowa Region
1940	131,669,275	2,538,268	107,256
1950	150,697,361	2,621,073	114,967
1960	179,233,175	2,757,537	117,289
1970	203,211,926	2,825,041	118,774
Percent Change 1940-1950	+14.5	+3.3	+7.2
Percent Change 1950-1960	+19.0	+5.2	+2.0
Percent Change 1960-1970	+13.3	+2.4	+1.3

Source: U.S. Census of Population.

Table 3-2
POPULATION BY COUNTY AND REGION, 1940-1970

County	1940	1950	1960	1970	Percent Change 1960-1970
Des Moines	36,804	42,056	44,605	46,982	+5.3%
Henry(1)	17,994	18,708	18,187	18,114	-0.4
			(17,146)	(17,889)	(+4.3)
Lee(2)	41,074	43,102	44,207	42,996	-2.7
			(42,894)	(42,119)	(-1.8)
Louisa	11,384	11,101	10,290	10,682	+3.8
Region	107,256	114,967	117,289	118,774	+1.3

(1) Data in brackets exclude Mt. Pleasant Mental Health Institute population.

(2) Data in brackets exclude Fort Madison Prison population.

Source: U.S. census of population and SEIRPC.

Appendix Table 4-9
OCCUPATIONAL CHARACTERICTICS OF UNEMPLOYED BY COUNTY--1960, 1970

	Des Moines		Henry		Lee		Louisa	
	Male	Female	Male	Female	Male	Female	Male	Female
1960								
Professional and Technical	7	4	4	-	4	-	-	-
Farmers and Farm Managers	8	-	-	-	4	-	-	-
Managers, Officials (Excluding Farmers)	4	-	4	-	11	3	-	-
Clerical and Kindred	27	52	4	17	19	36	4	4
Sales	8	20	13	4	4	12	-	-
Crafts, Foremen	125	-	29	-	101	11	28	-
Operatives	82	93	20	16	83	143	23	14
Private Household	-	12	-	4	-	-	-	-
Service (Excluding Private Household)	40	59	8	30	49	15	4	12
Farm Labor and Foremen	7	-	4	-	8	4	16	-
Laborers (Excluding Farm)	68	-	12	-	122	4	10	-
Occupation Not Reported	35	16	4	11	30	33	-	-
Total	411	256	102	82	435	261	85	30
1970(1)								
Professional, Technicians and Managers	22	28	20	19	34	26	-	-
Sales	16	15	-	9	6	28	-	6
Clerical and Kindred	4	62	-	38	25	68	-	-
Crafts and Foremen	99	-	57	-	88	-	12	-
Operatives (Including Transportation)	73	446	10	89	106	343	5	53
Laborers (Excluding Farm)	69	-	9	-	89	-	5	-
Farm Workers	10	-	11	5	7	5	10	-
Service (Excluding Private Household)	24	105	9	12	16	86	5	7
Private Household	-	-	-	-	-	21	-	5
Other Blue Collar Workers	-	16	-	28	-	4	-	-
Total	321	690	116	200	371	586	37	71

Source: U.S. Census of Population

(1) Includes persons who last worked more than 10 years ago, not shown separately.

TABLE 3-C

Goals are recognized by industry in Area 16 which are recommended as follows: (the top ten in descending order)[1]

1. Improve housing stock
2. Improve highway access
3. Reduce youth out-migration
4. Protect agricultural land
5. Conserve energy
6. Maintain natural areas
7. Venture capital
8. Up grade air facilities
9. Coordinate industrial commission
10. Develop river transportation

As will be noted all ten goals carry overtures of the need for career education development in Area 16.

1. Southeast Iowa Regional Planning Commission, "Economic Development Strategy", 1975.

TABLE 3-D

DES MOINES COUNTY UNEMPLOYMENT RATE

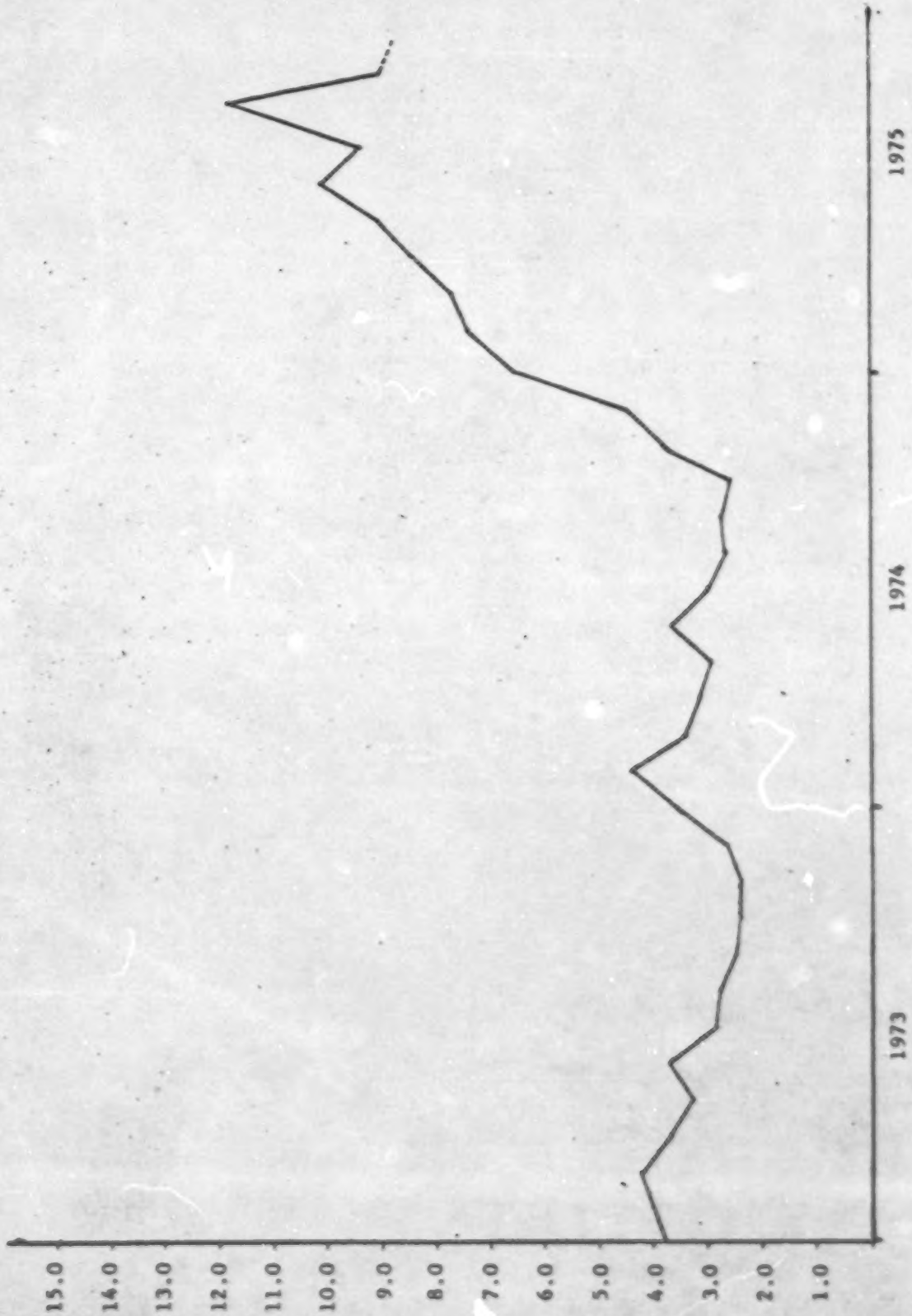


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TABLE 3-E

CHARACTERISTICS OF THE UNEMPLOYED

	% of Total (Aug. 1975)	% of Total (Aug. 1974)
Total	100.0	100.0
Age		
Under 22	62.3	55.5
22 - 44	31.2	35.4
45 & Over	6.5	9.1
Sex		
Male	57.2	46.6
Female	42.8	53.4
Ethnic Group		
White	96.5	96.5
Negro	3.0	3.1
Other	0.5	0.4
Spanish American	1.5	1.1
Veteran	12.1	9.7
Vietnam Era	10.5	6.5
Handicapped	2.0	1.4
Handicapped	6.6	7.1
Economically Disadvantaged	17.6	7.6
Minority	4.7	4.4

TABLE 3-F

OCCUPATIONAL CLASSIFICATIONS OF HARD-TO-FILL JOB OPENINGS
(Openings Unfilled 30 or more days)

AREA AND STATE Burlington, Iowa MONTH AND YEAR October, 1975

Occupational Title	Number of Openings	Comments
Inserting Machine Oper.	7	Too Low Pay
Salesperson, Insurance	3	Lack of Interested Apps.
Cocktail Waitress	2	Too Few Hours Available
Guard	5	Too Low Pay
Truck Mechanic	1	Lack of Experienced Apps.
Marine Mechanic	1	Lack of Qualified Apps.
Seamstress	1	Lack of Qualified Apps.
Painter	1	Too Low Pay
Maintenance Man	12	Too Low Pay

CHAPTER IV

A FIVE YEAR PLAN[1]

1. Adapted from "Planning Study to Determine the Career Education Needs for Merged Area V.", Iowa Central Community College, Ft. Dodge, Iowa

FIVE YEAR PLAN FOR IMPLEMENTING CAREER EDUCATION

First Year - Initial Planning

Fall Semester -(1) A close analysis needs to be made of the present curriculum, the career areas now touched upon. Next, the district needs, student needs and interests, district financial potential and staff resources need to be closely analyzed. (2) Staff and public support for career training needs to be obtained by way of an ambitious campaign to inform those who are most clearly related to the endeavor. (3) Finally, and not the least important at the outset, is the provision of support data to convince the District Board of the need for concentration on the career areas as would be evidenced by the data.

Spring Semester -(1) The staff should make a close analysis of the present curriculum as to course objectives in light of career education involvements and/or activities. An abundance of aids, models, etc. are available from the Iowa State Department of Public Instruction. These aids ought to be employed in relating to the local district endeavors to provide a comprehensive career education thrust in the District. (2) An advisory group consisting of lay citizenry having close kinship with career involvements, should be formed (maximum of 15 members) so as to obtain a community perspective on the career needs in the district.

An individual (preferably a staff member) ought to be appointed to coordinate the career efforts of the committee in the District.

(3) Advisory group should seek cooperation with adjacent districts and Southeastern Community College in obtaining means of cooperatively providing career experience in the respective Districts.

Second Year - Implementation

Fall Semester - (1) Initiate the K-3 career education program. Provision for in-service staff training in career education concepts will be essential each semester in the development. Also, general in-service training should be provided for the administration. Efforts should be coordinated by the individual appointed to maintain the entire thrust.

The career activities of the first year need to be evaluated in the Spring to ascertain strengths and weaknesses of the initial thrust on K-3 career programming so as to better prepare for the next phase in the development.

Third Year - Same as in second year for grades 4-7.

Fourth Year - Same as in second year for grades 8-9.

Fifth Year - Same as in second year for grades 10-12.

Extension of the programs developed should be employed to provide for career experiences for the adult sector. Again, the advisory committee would play an essential role in this development. Continual cognizance of district needs should be employed to better recognize the necessary career emphases.

APPENDIX

SUPPORT DATA

AREA 16 CAREER EDUCATION NEEDS AND INTERESTS ASSESSMENT REPRESENTATIVE SAMPLE POOL RESPONDENTS

	Teachers	Admin.	Parent Families	Students							TOTALS
				6	7	8	9	10	11	12	
Burlington Parochial	36	3	0	65	58	65	86	78	56	50	497
Burlington Public	215	16	240	-	-	356*	310*	294*	308*	280	2019
Central	61	6	41	102	107	107	111	91	87	52	765
Danville	29	4	23	48	53	59	42	40	37	34	369
Ft.Madison Parochial	13	3	0	0	54	59	45	68	49	41	332
Ft.Madison Public	107	8	36	277	267	259	228	191	163	173	1709
Keokuk Parochial	19	2	0	2	30	20	22	26	20	28	169
Keokuk Public	92	11	117	185	186	185	166	200	168	71	1381
West Point Parochial	25	2	33	54	52	49	49	50	49	40	403
Mediapolis	40	3	39	70	84	69	110	100	67	72	654
Morning Sun	18	3	17	21	18	21	27	22	22	23	192
Mt. Pleasant	98	9	23	176	190	194	143	150	72	117	1172
New London	28	3	37	60	51	58	42	43	41	30	393
Waco	14	3	5	46	9	67	14	45	35	45	283
Wapello	34	2	0	87	73	63	79	68	55	33	494
West Burlington	21	2	33	54	45	59	51	45	34	41	385
Winfield-Mt.Union	26	4	43	36	30	39	38	27	37	37	317
Usable Totals	876	84	687	1283	1307	1729	1563	1538	1300	1167	11,534

*Estimated participation

Total Usable Student Samples 9887

AREA XVI PUBLIC AND NON-PUBLIC SCHOOL
ENROLLMENTS K-12

SEPTEMBER

Grade	1970	1971	1972	1973	1974	1975	% Change 70 - 75
K	2014	1844	1832	1732	1683	1805	-10%
1	2287	2023	1827	1817	1723	1685	-26
2	2164	2115	1958	1738	1771	1627	-25
3	2154	2061	2068	1921	1729	1716	-20
4	2192	2125	2073	2070	1948	1740	-21
5	2187	2133	2129	2068	2049	2017	- 8
6	2111	2106	2107	2131	2059	2148	+ 2
7	2034	2008	2060	2080	2054	2190	+ 8
8	2125	1925	1981	2035	2048	2211	+ 4
9	2134	2079	2032	2071	2089	2147	+ 1
10	2116	2095	2036	1958	2009	1995	- 6
11	2037	2033	2004	1907	1825	1908	- 6
12	1981	1926	1931	1872	1745	1738	-12
Totals	25555	26473	26038	25390	24732	24927	- 3

STATISTICAL PROFILE

Population	Lee County	42,996
March 1970	Fort Madison	13,270
	Keokuk	14,631

		August 1974	Annual Average 1973
Labor Force For Lee County	1. Labor Force	19,940	19,420
	2. Unemployment	680	720
	A. % of Labor Force	3.4	3.7
	3. Total Employment	19,260	18,680

	Employers in Sample	142
Survey Data	Total Employees Included	2,803
	Occupations Covered	77

Appendix
EMPLOYMENT OPPORTUNITIES RELATED TO VOCATIONAL EDUCATION PROGRAMS
LABOR DEMAND AND SUPPLY SUMMARY 1/

State Iowa

Fiscal Year Ending June 30, 1974

CE Code	Instructional Program	Current Employment	Projected Expansion and Replacement Needs		Projected Labor Supply: Vocational Education Output 2/		Projected Labor Supply: Other Sectors Output 3/	
			1974	1978	1974	1978	1974	1978
01.000	TOTAL AGRICULTURE OCCUPATIONS	339,216	9,320	9,711	1,788	1,950		
01.0100	Agricultural Production	135,678	9,820	2,451	1,010	800		
01.0200	Agricultural Supplies/Service	196,783	5,850	6,550	584	900		
01.0301	Farm Equipment Mechanics	6,755	650	710	194	250		
04.0000	TOTAL DISTRIBUTIVE EDUCATION OCCUPATIONS	152,779	5,343	5,513	1,105	1,530	106	118
04.0800	Sales, Purchasing & Delivery	101,682	3,678	3,715	765	880	105	115
04.1900	Bus, Truck Drivers	35,950	838	922	158	225	1	3
04.9900	Others	15,147	827	876	320	575		
07.0000	TOTAL HEALTH OCCUPATIONS	40,176	2,953	3,339	1,911	3,750		
07.0200	Technicians, Medical & Dental	4,093	399	479	238	1,000		
07.0301	Nursing (Associate Degree)	11,730	860	928	392	700		
07.0302	Practical Nursing	5,848	567	670	990	1,200		
07.0303	Hospital Attendant	18,507	1,127	1,262	291	850		
09.0200	TOTAL HOME ECONOMICS OCCUPATIONS	27,462	1,685	1,938	205	550		
14.0000	TOTAL OFFICE OCCUPATIONS	185,851	9,915	10,932	1,115	1,870	852	901
14.0100	Bookkeeping, Accounting & Banking	44,105	2,559	2,866	115	170	127	139
14.0300	Filing, Office Machines, & General Office Clerical	89,744	3,305	3,635	656	1,000	336	357
14.0401	Telephone Operators	5,984	397	415	12	50	15	15
14.0503	Shipping & Receiving	3,902	87	93	20	75	15	14
14.0700	Stenographic, Secretarial & Related	43,014	3,567	3,923	312	575	359	376
16.0000	TOTAL TECHNICAL OCCUPATIONS	7,875	527	652	316	700	43	59
17.0000	TOTAL TRADE & INDUSTRIAL OCCUPATIONS	555,536	20,395	21,639	3,526	4,145	597	733
17.0302	Motor Vehicle Mechanics	16,064	470	505	681	550	217	277
17.0401	Aircraft Mechanic	330	9	11	90	50		
17.0600	Office Machine Mechanics	670	32	48	21	30		
17.1001	Carpentry	15,344	534	561	162	200		
17.1003	Heavy Equipment Operator	5,086	155	163	158	155		
17.1004	Bricklayer	2,605	84	90	20	25		
17.1005	Painter	5,786	217	222	12	15		
17.1007	Plumber	5,498	191	206	1	15		
17.1100	Custodial Services	22,832	1,679	1,931	34	40	60	80
17.1300	Drafting & Designing	3,832	170	197	230	200		
17.1402	Utility Service & Electrical	9,387	182	187	34	40	30	36
17.1503	Radio-TV Repairman	1,875	35	36	34	40		
17.1900	Graphic Arts Occupations	4,868	82	78	84	75	5	12
17.2302	Metal Work - Maching	8,789	246	258	284	260	40	45
17.2304	Metal Work - Fabrication	29,665	822	871	334	350	90	100
17.2802	Law Enforcement	6,702	305	335	46	100	40	42
17.2901	Quantity Food Occupations	58,927	2,422	2,664	45	200	45	60
17.9900	Trade & Industrial Occupations, Other	357,286	12,760	13,276	1,256	1,800	70	81

Table Source: Iowa State Plan for Administration of Career Education, Part II, 1974-1978

1/ Data from Iowa Employment Security Commission. Totals reflect only the sums of available data for specific occupations.
2/ Number trained through vocational education programs available for work to meet labor expansion and replacement needs.
3/ Number trained and available for work from MDTA programs, and from private schools as reported in the Vocational Education Directory.

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Appendix Table

PUPIL/TEACHER RATIOS, ASSESSED VALUATION, AND PER PUPIL EXPENDITURES, 1972-73

County and School	Number of Pupils	Number of Teachers	Pupil/ Teacher Ratio	Assessed Valuation Per Child In Average Daily Membership	General Fund Expenditure Per Pupil Average Daily Membership
Lee					
Central Lee	1,257	65.4	19.2	13,068	922.28
Fort Madison	3,831	191.9	19.9	16,115	984.52
Keokuk	3,472	177.6	19.5	10,290	1,045.70
Louisa					
Columbus	1,005	49.5	20.3	14,313	952.40
Louisa-Muscatine	1,026	48.6	21.1	12,860	828.34
Morning Sun	324	19.5	16.6	12,459	1,018.32
Wapello	986	52.9	18.6	14,116	1,076.40
Des Moines					
Burlington	7,364	357.0	20.6	9,587	992.95
Danville	562	32.0	17.5	12,919	995.44
Mediapolis	1,259	64.0	19.6	15,775	900.00
Burlington, West	758	41.5	18.2	12,938	888.56
Henry					
Mount Pleasant	2,278	115.3	19.7	11,924	853.84
New London	689	36.7	18.7	9,329	956.64
Waco	764	42.2	18.1	14,137	1,170.64
Winfield-Mt. Union	479	32.8	14.6	20,920	1,230.34
Iowa					
1973-74	639,800	30,159	21.2	12,413	1,059.00
United States					
1973-74	45,486,292	2,124,150	21.4	NA	1,048.00

NEA, Ranking of States for 1973-74.

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KEOKUK, IOWA LABOR FORCE SUMMARY 1/
November 1975

ITEM	Oct. 1975	Sept. 6/ 1975	Oct. 1974	Net Change to Oct. 1975 from Sept. 1975	Net Change to Oct. 1975 from Oct. 1974
PLACE OF RESIDENCE					
Resident Civilian labor force 2/	9310	9270	8770	+ 40	+540
1. Resident unemployed	760	860	350	-100	+410
A. Percent unemployed	8.2	9.3	3.9	XXX	XXX
2. Resident total employment 3/	8550	8410	8420	+140	+130
A. Nonag wage and salary 4/	7190	7080	7090	+110	+100
B. Self-employed, unpaid family, & domestic workers 5/	910	890	900	+ 20	+ 10
C. Agriculture	450	440	430	+ 10	+ 20
PLACE OF WORK					
Nonagricultural wage and salary workers (except domestics)	7690	7590	7720	+100	- 30
Manufacturing	3040	3000	3090	+ 40	- 50
Durable Goods	850	820	980	+ 30	-130
Nondurable goods	2190	2190	2110	(0)	+ 80
Nonmanufacturing	4660	4580	4630	+ 80	+ 30
Construction	320	330	290	- 10	+ 30
Transportation, communication & public util.	270	280	400	- 10	-130
Wholesale & retail trade	1430	1400	1370	+ 30	+ 60
Wholesale trade	150	150	140	(0)	+ 10
Retail trade	1280	1250	1220	+ 30	+ 60
Finance, insurance & real estate	200	200	200	(0)	(0)
Service	1370	1360	1390	+ 10	- 20
Government	1070	1020	990	+ 50	+ 80
Workers involved in labor-management disputes	130	130	0	(0)	+130

Place of Residence Concept: Method by which an individual, unemployed or employed, is counted in the area where he lives regardless of the area where he works.

Place of Work Concept: Method by which an employed individual is counted in the area where he works regardless of the area where he lives.

1/ Keokuk, Iowa is defined as South Lee County. Data based on a March 1974 benchmark. Detail may not add to total due to rounding.

2/ Includes unemployed and employed individuals. Establishment employment (place of work) data is adjusted for commuting, multiple job-holding, and unpaid absence patterns.

3/ Includes nonagricultural wage and salary; self-employed, unpaid family, and domestic workers; agriculture.

4/ Includes all full and part-time wage and salary workers (excluding domestics) who were employed or involved in a labor-management dispute during the week including the 12th of the month.

5/ Includes nonagricultural self-employed persons, unpaid family workers, and domestic workers in private households.

6/ Revised to most current information available.

MAJOR INDUSTRIAL LOCATION

BOONOMIC DEVELOPMENT STRATEGY

Figure 6-2

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STATE OF IOWA

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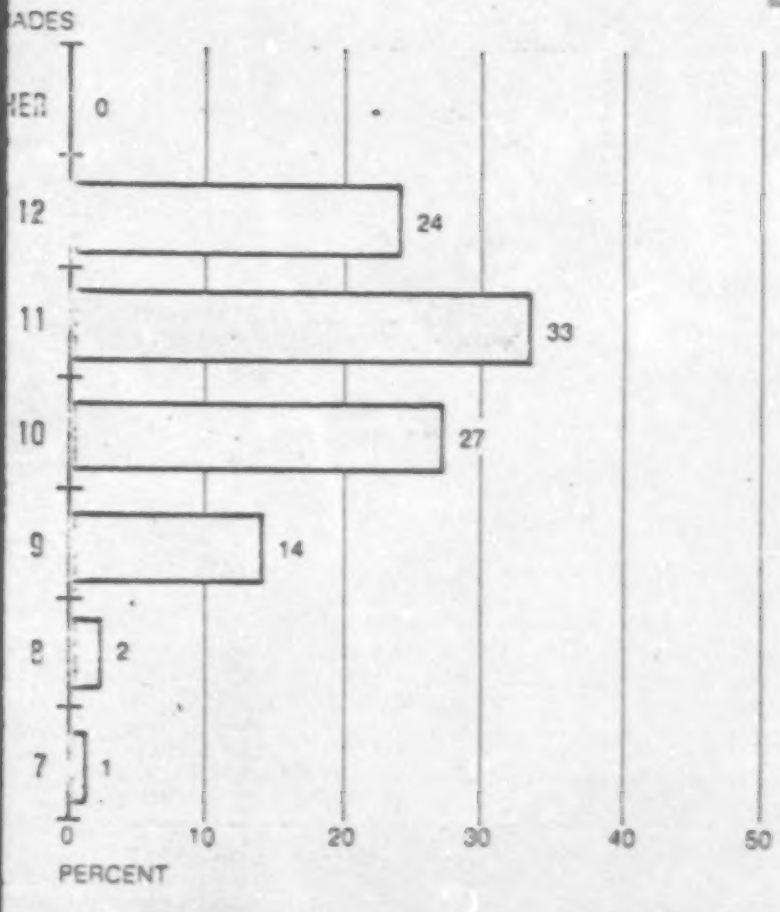
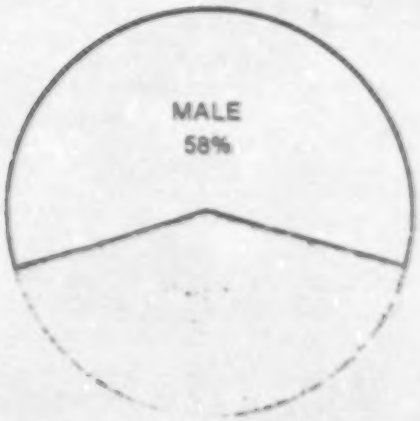


GRADE DISTRIBUTION OF DROPOUTS



DROPOUTS BY SEX

GRADE	DROPS MALE	DROPS FEMALE	TOTAL DROPOUTS	ENROLLEES	PERCENT OF DROPOUTS
7	43	35	78	54,371	.14
8	79	89	168	53,604	.31
9	730	531	1261	53,791	2.34
10	1463	1037	2501	50,417	4.96
11	1770	1259	3029	48,151	6.29
12	1314	890	2204	45,435	4.85
Other	18	15	33	4,926	.66
Total	5417	3856	9274	310,695	2.98

MERGED AREA XVI

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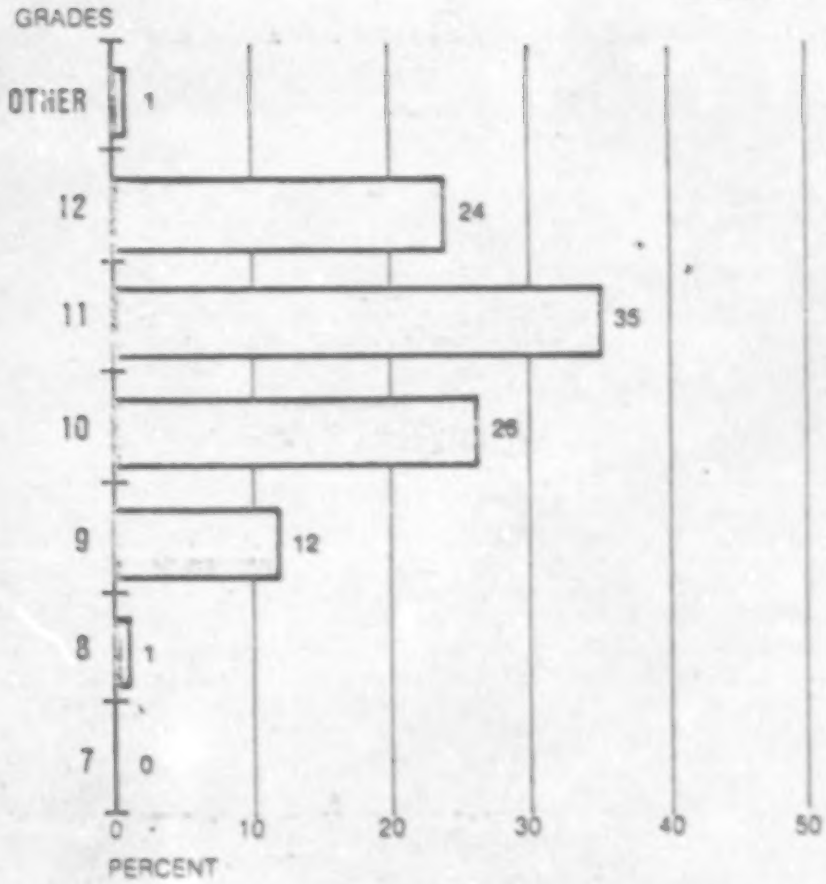
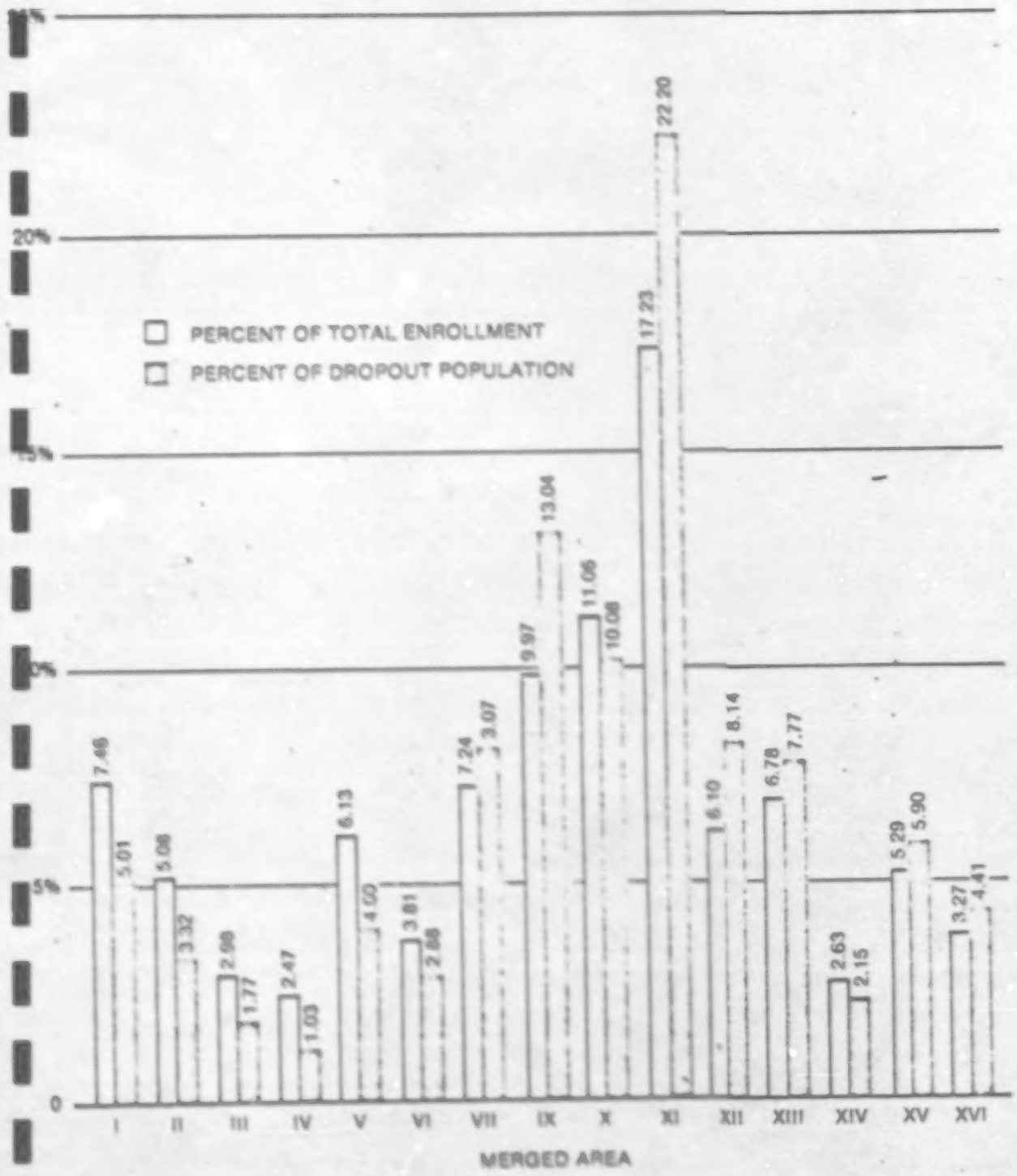


GRADE DISTRIBUTION OF DROPOUTS

DROPOUTS BY SEX

GRADE	DROPS MALE	DROPS FEMALE	TOTAL DROPOUTS	ENROLLEES	PERCENT OF DROPOUTS
7	1	1	2	2,055	.09
8	1	3	4	2,005	.19
9	27	21	48	1,884	2.54
10	57	51	108	1,895	5.69
11	79	64	143	1,797	7.95
12	64	36	100	1,819	5.49
Other	1	3	4	245	1.63
Total	230	179	409	11,700	3.49

PERCENTAGE OF TOTAL ENROLLMENT VS. PERCENTAGE OF TOTAL DROPOUT POPULATION
A Comparison By Merged Area



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DROPOUT INFORMATION BY COUNTY (Cont'd)

CO	GRADE	DROPS MALE	DROPS FEMALE	DROPS TOTAL	ENROLLEES	PERCENT OF DROPOUTS
			DES MOINES			
	7				867	.00
	8	1	1	2	865	.23
	9	16	12	28	787	3.55
	10	31	26	57	796	7.16
	11	30	25	55	748	7.35
	12	22	11	33	816	4.04
	OTHER				84	.00
29		100	75	175	4963	3.52
			HENRY			
	7				390	.00
	8				348	.00
	9	5	5	10	338	2.95
	10	4	6	10	345	2.89
	11	8	7	15	331	4.53
	12	4	4	8	301	2.65
	OTHER				53	.00
44		21	22	43	2106	2.04
			LEE			
	7				694	.00
	8				679	.00
	9	4	2	6	644	.92
	10	22	17	39	666	5.85
	11	38	28	66	616	10.71
	12	36	20	56	622	9.00
	OTHER	1	3	4	100	4.00
56		101	70	171	4023	4.25
			LOUISA			
	7	1	1	2	273	.73
	8		2	2	282	.70
	9	4	2	6	280	2.14
	10	6	4	10	224	4.46
	11	8	10	18	242	7.43
	12	3	8	11	203	5.41
	OTHER				22	.00
58		22	27	49	1526	3.21
			VAN BUREN			
	7				185	.00
	8				175	.00
	9	5	2	7	187	3.74
	10	7	5	12	169	7.10
	11	10	9	19	165	11.51
	12	1	1	2	155	1.29
	OTHER				11	.00
89		23	17	40	1047	3.82

1066 STATE DEPT OF PUBLIC INSTRUCTION

CAREER EDUCATION NEEDS

INFORMATION SYSTEM

INTERFACE SUMMARIES - 1975

AREA 16 TOTALS

TAXONOMY	CURRENT EMPLOYMENT	LABOR SUPPLY DEMAND							STUD. INTEREST	STUDENT OUTCOMES: COMPLETERS	EMPL. IN OCCUP. TRAIN.	EMPL. IN OCCUP. OTH.	EMPL. IN RELATED OCCUPS.	EMPL. IN OTHER OCCUPS.						
01.0101 TITLE ANIMAL SCIENCE	3137	0	0	0	0	0	0	15	0	0	0	0	0	0	0	0	0	0	0	0
01.0102 TITLE PLANT SCIENCE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01.0201 TITLE AGRICULTURAL CHEMICA	7	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01.0202 TITLE FEEDS	24	4	0	0	1	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0
01.0299 TITLE AGRI. SUPPLIES/SERVI	0	0	0	0	0	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0
01.0301 TITLE AGRI. POWER AND MACH	264	29	0	1	0	1	28	11	0	0	0	0	0	0	0	0	0	0	0	0
01.0401 TITLE FOOD PRODUCTS	51	22	0	0	0	0	22	0	0	0	0	0	0	0	0	0	0	0	0	0
01.0505 TITLE NURSERY OPERATION &	13	0	0	0	0	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0
01.0506 TITLE TURF MANAGEMENT	11	1	0	0	0	0	1	17	0	0	0	0	0	0	0	0	0	0	0	0
01.0603 TITLE SOILS	1	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0
01.0605 TITLE WATER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TAB 1 SUBTOTALS	3408	72	0	1	0	1	71	60	0	0	0	0	0	0	0	0	0	0	0	0
04.0100 TITLE APPRENTICING SERVICES	3	3	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0
04.0200 TITLE APPAREL AND ACCESSOR	102	56	0	0	0	0	56	23	0	0	0	0	0	0	0	0	0	0	0	0
04.0300 TITLE AUTOMOTIVE	102	35	0	0	0	0	35	0	0	0	0	0	0	0	0	0	0	0	0	

1974 STATE DEPT OF PUBLIC INSTRUCTION

CAREER EDUCATION NEEDS

INFORMATION SYSTEM

INTERFACE SUMMARIES - 1975

AREA 30 TOTALS

TAXONOMY	CURRENT LABOR EMPLOYMENT	CURRENT LABOR OPENINGS	LABOR SUPPLY: CERTIFICATES	LABOR SUPPLY: DIPLOMAS	LABOR SUPPLY: DEGREES	LABOR SUPPLY: TOTAL	STUD. INT. CENSUS	STUDENT OUTCOMES: COMPLETERS 1ST JOB	STUDENT OUTCOMES: EMPL. IN OCCUP. 1ST JOB	STUDENT OUTCOMES: EMPL. IN OCCUP. 1ST JOB, OR ADD. ASSIGNMENT	STUDENT OUTCOMES: EMPL. IN HIGHER OCCUPS.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
04.0400 TITLE FINANCE AND CREDIT	448	38	0	29	0	29	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0
04.0500 TITLE FLORISTRY	20	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0
04.0600 TITLE FOOD DISTRIBUTION	227	34	0	0	0	0	34	44	0	0	0	0	0	0	0	0	0	0	0	0	0
04.0800 TITLE GENERAL MERCHANDISE	527	96	0	10	0	10	86	60	0	0	0	0	0	0	0	0	0	0	0	0	0
04.0900 TITLE HDWE., BLDG. MTLS.	74	28	0	0	0	0	28	13	0	0	0	0	0	0	0	0	0	0	0	0	0
04.1000 TITLE HOME FURNISHINGS	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0
04.1100 TITLE OILS & LUBRICANTS	19	1	0	0	0	0	1	7	0	0	0	0	0	0	0	0	0	0	0	0	0
04.1200 TITLE INDUSTRIAL MARKETING	427	87	0	3	0	3	84	30	0	0	0	0	0	0	0	0	0	0	0	0	0
04.1300 TITLE INSURANCE	51	0	0	0	0	0	0	19	0	0	0	0	0	0	0	0	0	0	0	0	0
04.1400 TITLE PETROLEUM	89	1	0	0	0	0	1	13	0	0	0	0	0	0	0	0	0	0	0	0	0
04.1700 TITLE REAL ESTATE	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04.1800 TITLE RECREATION & TOURISM	3	1	0	0	0	0	1	17	0	0	0	0	0	0	0	0	0	0	0	0	0
04.1900 TITLE TRANSPORTATION	42	0	0	0	0	0	0	20	0	0	0	0	0	0	0	0	0	0	0	0	0
04 - SUBTOTALS	2020	293	0	42	0	42	251	309	0	0	0	0	0	0	0	0	0	0	0	0	0
07.0101 TITLE DENTAL ASSISTING	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

IOWA STATE DEPT OF PUBLIC INSTRUCTION

CAREER EDUCATION NEEDS

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INTERFACE SUMMARIES - 1975

AREA 16 TOTALS

TAXONOMY	CURRENT EMPLYMT	LABOR DEMAND	LABOR SUPPLY: CADRE.	LABOR SUPPLY: EDUCATION & TRAINING	LABOR SUPPLY: IMPORTING LABOR	LABOR SUPPLY: IMPORTING STUDENTS	LABOR SUPPLY: SCHOOL LEAVERS	LABOR SUPPLY: TOTAL	LABOR SUPPLY: NEED ADDITIONAL	STUD. INTEREST: IMPORTING STUDENTS	STUDENT OUTCOMES: AFFORDING COMPLETING	STUDENT OUTCOMES: WORKING COMPLETING	STUDENT OUTCOMES: PERCENT	STUDENT OUTCOMES: EMPL. IN OCCUP. RELATED TO CERTIFICATE NO.	STUDENT OUTCOMES: EMPL. IN OCCUP. RELATED TO CERTIFICATE %	STUDENT OUTCOMES: EMPL. IN OCCUP. RELATED TO AREA NO.	STUDENT OUTCOMES: EMPL. IN OCCUP. RELATED TO AREA %	STUDENT OUTCOMES: UNREL. OCCUP.	STUDENT OUTCOMES: PERCENT	STUDENT OUTCOMES: HIGHER EDUC.	STUDENT OUTCOMES: PERCENT
07.0102 TITLE DENTAL HYGIENE	10	0	0	0		0	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0
07.0103 TITLE DENTAL LABORATORY TE	1	3	0	0		0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0
07.0201 TITLE CYTOLOGY	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07.0202 TITLE HISTOLOGY	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07.0203 TITLE MEDICAL LABORATORY A	12	0	4	0		10	14	-14	17	5	5	100	2	40	2	40	1	20	0	0	
07.0301 TITLE NURSING (ASSOCIATE D	102	32	45	0		0	45	-13	0	6	5	83	5	100	6	100	0	0	0	0	
07.0302 TITLE PRACTICAL NURSING	23	11	17	0		0	17	-6	9	12	12	92	8	67	8	67	2	17	1	8	
07.0303 TITLE NURSING ASSISTANCE	187	437	0	0		0	0	437	10	0	0	0	0	0	0	0	0	0	0	0	
07.0305 TITLE SURGICAL TECHNICIAN	1	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
07.0307 TITLE HOME HEALTH AID	0	0	0	0		0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	
07.0401 TITLE OCCUPATIONAL THERAPY	2	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
07.0402 TITLE PHYSICAL THERAPY	13	0	0	0		0	0	0	14	0	0	0	0	0	0	0	0	0	0	0	
07.0404 TITLE ORTHOTICS	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
07.0499 TITLE REHABILITATION, OTHE	12	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
07.0501 TITLE RADIOLOGIC TECHNOLOG	5	0	0	0		2	2	-2	34	0	0	0	0	0	0	0	0	0	0	0	

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IOWA STATE DEPT OF PUBLIC INSTRUCTION

CAREER EDUCATION NEEDS

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INTERFACE SUMMARIES - 1975

AREA 16 TOTALS

TAXONOMY	CURRENT EMPLYMT	LABOR DEMAND	LABOR SUPPLY: CAREER ADVICE & GUIDANCE	LABOR SUPPLY: INPUT INTERIM DATA	LABOR SUPPLY: INVOLVING HUMANITIES	LABOR SUPPLY: SCHOOL OFFICIALS	LABOR SUPPLY: TOUCH PARENTS	LABOR SUPPLY: STUDENTS	LABOR SUPPLY: HOLDING A JOB	STUD. INTEREST: IMPROVING HUMANITIES	STUD. INTEREST: AVOIDING RISKS	STUD. INTEREST: WORKING	STUDENT OUTCOMES: COMPLETING: PERCEIVED CAREER OPTIONS	STUDENT OUTCOMES: COMPLETING: PERCEIVED HOLDING A JOB	STUDENT OUTCOMES: EMPL. IN OCCUP. OR HEL. AREA: AFFORDING A JOB	STUDENT OUTCOMES: EMPL. IN OCCUP. OR HEL. AREA: WORKING	STUDENT OUTCOMES: EMPL. IN OCCUP. OR HEL. AREA: NO.	STUDENT OUTCOMES: EMPL. IN OCCUP. OR HEL. AREA: %	STUDENT OUTCOMES: UNREL OCCUP. EDUC.: NUMBER	STUDENT OUTCOMES: UNREL OCCUP. EDUC.: %	STUDENT OUTCOMES: HIGHER EDUC.: PERCEIVING HUMANITIES	STUDENT OUTCOMES: HIGHER EDUC.: PERCEIVING SCIENCE
07.0502 TITLE RADIATION THERAPY	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07.0503 TITLE NUCLEAR MEDICAL TECH	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07.0701 TITLE ENVIRONMENTAL HEALTH	1	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07.0801 TITLE MENTAL HEALTH TECHNI	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07.0900 TITLE MISC. HEALTH OCCUPAT	10	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07.0901 TITLE ELECTROENCEPHALOGRAP	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07.0902 TITLE ELECTROCARDIAGRAPH T	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07.0903 TITLE INHALATION THERAPY	4	0	0	0		0	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0
07.0904 TITLE MEDICAL ASSISTANT	52	0	12	0		0	12	-12	0	5	5	100	4	80	4	80	0	0	0	0	0	0
07.0907 TITLE MEDICAL EMERGENCY TE	11	10	0	0		0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07.0908 TITLE FOOD SERVICE SUPERVI	2	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07.9900 TITLE HEALTH OCCUPATIONS,	0	0	0	0		0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0
TAX 7 SUBTOTALS	486	493	1062	0		12	1074	-581	118	28	27	93	19	70	20	71	3	11	1	3		
09.0201 TITLE CARE & GUIDANCE OF C	156	49	0	0		0	0	49	17	0	0	0	0	0	0	0	0	0	0	0	0	0
09.0202 TITLE CLOTHING MGMT., PROD	22	13	0	3		0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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AREA 16 TOTALS

TAXONOMY	CURRENT EMPLYMT	LABOR DEMAND	LABOR SUPPLY: CERTIFICATED	LABOR SUPPLY: IMPROVING	LABOR SUPPLY: IN-SERVICE	LABOR SUPPLY: SCHOOL	LABOR SUPPLY: TOTAL	LABOR SUPPLY: NEED	STUD. INTEREST: PRIMARY	STUD. INTEREST: SECONDARY	STUDENT OUTCOMES: COMPLETING: AVERAGE	STUDENT OUTCOMES: COMPLETING: FOLLOW-UP	STUDENT OUTCOMES: COMPLETING: WITHDRAWN	STUDENT OUTCOMES: COMPLETING: PLACED	EMPL. IN OCCUP. RELATED: CONTINUED	EMPL. IN OCCUP. RELATED: FOLLOW-UP	EMPL. IN OCCUP. RELATED: AVERAGE	UNREL OCCUP.: WITHDRAWN	UNREL OCCUP.: PLACED	HIGHER EDUC.: CONTINUED	HIGHER EDUC.: PLACED
09.0203 TITLE FOOD MGMT., PROD., A	64	12	0	2	0	2	10	17	0	0	0	0	0	0	0	0	0	0	0	0	0
09.0204 TITLE HOME FURNISHINGS, EQ	127	18	0	18	0	18	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09.0205 TITLE INSTIT. & HOME MGMT.	163	27	0	0	0	0	27	20	0	0	0	0	0	0	0	0	0	0	0	0	0
TAX 9 SUBTOTALS	532	119	0	12	0	12	107	54	0	0	0	0	0	0	0	0	0	0	0	0	0
14.0101 TITLE ACCOUNTANTS	55	4	0	0	0	0	4	14	0	0	0	0	0	0	0	0	0	0	0	0	0
14.0102 TITLE BOOKKEEPERS	2255	105	0	0	0	0	105	85	0	0	0	0	0	0	0	0	0	0	0	0	0
14.0103 TITLE CASHIERS	37	3	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14.0201 TITLE COMPUTER AND CONSOLE	45	4	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14.0202 TITLE KEY PUNCH OPERATORS	57	45	0	0	0	0	45	11	0	0	0	0	0	0	0	0	0	0	0	0	0
14.0203 TITLE PROGRAMMERS	17	4	0	0	0	0	4	47	0	0	0	0	0	0	0	0	0	0	0	0	0
14.0204 TITLE SYSTEMS ANALYSTS	12	5	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14.0303 TITLE GENERAL OFFICE CLERK	857	209	11	0	0	11	198	1	12	8	42	6	75	9	75	0	0	1	0		
14.0499 TITLE INFO. COMMUNICATIONS	17	1	0	0	0	0	1	13	0	0	0	0	0	0	0	0	0	0	0		
14.0503 TITLE SHIPPING & RECIEVING	195	30	0	0	0	0	30	0	0	0	0	0	0	0	0	0	0	0	0		
14.0601 TITLE EDUCATIONAL ASSISTAN	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0		

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TAXONOMY	CURRENT EMPLYMT	LABOR DEMAND	LABOR SUPPLY: CADUCATION	LABOR SUPPLY: IPIVNITOS	LABOR SUPPLY: IHTDIAIT	LABOR SUPPLY: IPIRIEIV	LABOR SUPPLY: SCHOIAIL	LABOR SUPPLY: TOTAL	LABOR SUPPLY: STUDENT INTERESTS	STUDENT OUTCOMES: COMPLETING	STUDENT OUTCOMES: EMPL. IN OCCUP. RELATED AREA	STUDENT OUTCOMES: EMPL. IN OCCUP. RELATED AREA %	STUDENT OUTCOMES: EMPL. IN UNRELATED AREA	STUDENT OUTCOMES: EMPL. IN UNRELATED AREA %	STUDENT OUTCOMES: EMPL. IN HIGHER EDUC.	STUDENT OUTCOMES: EMPL. IN HIGHER EDUC. %	STUDENT OUTCOMES: PEINUIHIT	STUDENT OUTCOMES: PEINUIHIT %
14.0702 TITLE SECHETARIES	556	36	8	0	0	8	28	129	8	7	88	5	71	5	63	0	0	0	0
14.0703 TITLE STENOGRAPHERS	51	2	0	0	0	0	2	29	0	0	0	0	0	0	0	0	0	0	0
14.0805 TITLE OFFICE MANAGERS	228	27	0	0	0	0	27	0	0	0	0	0	0	0	0	0	0	0	0
TAX 14 SUBTOTALS	4382	475	115	0	0	115	360	333	20	15	71	11	73	14	70	0	0	1	5
16.0105 TITLE CHEMICAL TECHNICIAN	76	7	0	2	0	2	5	0	0	0	0	0	0	0	0	0	0	0	0
16.0106 TITLE CIVIL TECHNOLOGY	39	10	0	0	0	0	10	19	0	0	0	0	0	0	0	0	0	0	0
16.0107 TITLE ELECTRICAL TECHNOLOG	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16.0108 TITLE ELECTRONIC TECHNOLOG	27	11	6	0	0	6	5	72	4	3	75	1	33	1	25	2	50	0	0
16.0109 TITLE ELECTROMECHANICAL TE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16.0110 TITLE ENVIRONMENTAL CONTRO	9	6	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0
16.0111 TITLE INDUSTRIAL TECHNOLOG	274	40	0	8	0	8	32	0	0	0	0	0	0	0	0	0	0	0	0
16.0112 TITLE INSTRUMENTATION TECH	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16.0113 TITLE MECHANICAL TECHNOLOG	158	36	42	2	0	44	-8	0	3	3	100	3	100	3	100	0	0	0	0
16.0200 TITLE AGRI.-RELATED TECH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16.0399 TITLE HEALTH-RELATED TECHN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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AREA 16 TOTALS

TAXONOMY	CURRENT EMPLYMT	LABOR DEMAND	LABOR SUPPLY: CAREER EDUCATION	LABOR SUPPLY: IMPORTS & EXPORTS	LABOR SUPPLY: IMPORTS	LABOR SUPPLY: SCHOOL LEAVERS	LABOR SUPPLY: TOTALS	LABOR SUPPLY: HOME EDUCATED	LABOR SUPPLY: OTHER	STUD. INTEREST: IMPORTS	STUD. INTEREST: AVAILABLE	STUD. INTEREST: WORKING	STUDENT OUTCOMES: COMPLETING	STUDENT OUTCOMES: EMPL. IN OCCUP. OR HEL. AREA: PLACED	STUDENT OUTCOMES: EMPL. IN OCCUP. OR HEL. AREA: %	STUDENT OUTCOMES: EMPL. IN OCCUP. OR HEL. AREA: UNREL	STUDENT OUTCOMES: EMPL. IN OCCUP. OR HEL. AREA: %	STUDENT OUTCOMES: EMPL. IN HIGHER EDUC.	STUDENT OUTCOMES: EMPL. IN HIGHER EDUC.	STUDENT OUTCOMES: EMPL. IN HIGHER EDUC.	STUDENT OUTCOMES: EMPL. IN HIGHER EDUC.
16.0599 TITLE HOME ECONOMICS RELAT	1	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16.0699 TITLE MISC. TECHNICAL EDUC	19	12	0	0		0	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0
TAX 16 SUBTOTALS	618	122	98	12		0	110	12	91	7	6	86	4	67	4	57	2	29	0	0	
17.0100 TITLE AIR CONDITIONING	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.0101 TITLE COOLING	11	2	0	1		0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
17.0102 TITLE HEATING	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.0201 TITLE ELECTRICAL APPLIANCE	7	3	0	0		0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0
17.0301 TITLE BODY AND FENDER	56	1	0	0		0	0	1	49	2	2	100	0	0	0	0	2	100	0	0	0
17.0302 TITLE MECHANICS	312	61	84	2		0	86	-25	0	1	1	100	1	100	1	100	0	0	0	0	0
17.0401 TITLE AIRCRAFT MAINTENANCE	5	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.0402 TITLE AIRCRAFT OPERATIONS	1	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.0600 TITLE BUSINESS MACHINE MAI	3	3	0	0		0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0
17.0700 TITLE COMMERCIAL ART OCCUP	5	1	0	0		0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0
17.0703 TITLE PRODUCT DESIGN	32	2	0	0		0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
17.0900 TITLE COMMERCIAL PHOTOGRAP	6	1	0	0		0	0	1	21	0	0	0	0	0	0	0	0	0	0	0	0

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TAXONOMY	CURRENT EMPLYMT	LABOR DEMAND	LABOR SUPPLY: CAREER EDUCATION	LABOR SUPPLY: IMPORTANT & IN-DEMAND	LABOR SUPPLY: HIGH DEMAND	LABOR SUPPLY: IMPORTANCE	LABOR SUPPLY: SCHOOL LEAVERS	LABOR SUPPLY: TOTAL	LABOR SUPPLY: NEEDS	STUDENT INTEREST: IMPORTANCE	STUDENT INTEREST: AVOCATIONAL	STUDENT INTEREST: WORK	STUDENT OUTCOMES: COMPLETING	STUDENT OUTCOMES: PLACEMENT	STUDENT OUTCOMES: CAREER	STUDENT OUTCOMES: EMPL. IN OCCUP. NO.	STUDENT OUTCOMES: EMPL. IN OCCUP. %	STUDENT OUTCOMES: EMPL. IN REL. AREA NO.	STUDENT OUTCOMES: EMPL. IN REL. AREA %	STUDENT OUTCOMES: UNREL OCC NO.	STUDENT OUTCOMES: UNREL OCC %	STUDENT OUTCOMES: HIGHER EDUC. NO.	STUDENT OUTCOMES: HIGHER EDUC. %
17.0901 TITLE PHOTOGRAPHIC LAB. &	5	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.1000 TITLE CONSTRUCTION & MAINT	97	15	0	0		0	0	15	74	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.1001 TITLE CARPENTRY	319	85	0	0		0	0	85	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.1002 TITLE ELECTRICITY	95	8	0	20		0	20	-12	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.1003 TITLE HEAVY EQUIPMENT (CON	103	6	0	0		0	0	6	41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.1004 TITLE MASONRY	247	107	0	0		0	0	107	17	0	0	0	0	0	0	0	0	0	0	3	0	0	0
17.1005 TITLE PAINTING AND DECORAT	55	2	0	0		0	0	2	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.1007 TITLE PLUMBING AND PIPEFIT	157	15	0	2		0	2	13	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.1008 TITLE DRY WALL INSTALLATIO	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.1009 TITLE GLAZING	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.1010 TITLE ROOFING	40	112	0	0		0	0	112	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.1099 TITLE CONST. & MAINT. TRAD	159	89	0	0		0	0	89	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.1100 TITLE CUSTODIAL SERVICES	285	61	0	1		0	1	60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.1200 TITLE DIESEL MECHANIC	45	13	0	0		0	0	13	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.1300 TITLE DRAFTING	75	8	0	0		0	0	8	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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TAXONOMY	CURRENT EMPLYMT	LABOR DEMAND	LABOR SUPPLY: CADEC.	LABOR SUPPLY: PIVIT&IBIUS	LABOR SUPPLY: INDUSTRY	LABOR SUPPLY: PRIVATE	LABOR SUPPLY: SCHOOLS	LABOR SUPPLY: TOTAL	LABOR SUPPLY: NEED	LABOR SUPPLY: DEMAND	STUD. INT-IERESTS: PRIMARY	STUD. INT-IERESTS: AVAILABLE	STUD. INT-IERESTS: FOLLOW UP	STUDENT OUTCOMES: COMPLETING	STUDENT OUTCOMES: PLACEMENT	STUDENT OUTCOMES: EMPL. IN OCCUP. RELATED	STUDENT OUTCOMES: EMPL. IN OCCUP. RELATED %	STUDENT OUTCOMES: EMPL. IN AREA UNRELATED	STUDENT OUTCOMES: EMPL. IN AREA UNRELATED %	STUDENT OUTCOMES: PLACEMENT IN HIGHER EDUC.	STUDENT OUTCOMES: EMPL. IN HIGHER EDUC.	STUDENT OUTCOMES: PLACEMENT IN HIGHER EDUC. %
17.1400 TITLE ELECTRICAL OCCUPATIO	67	10	0	0	0	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.1402 TITLE LINEMAN	175	10	0	0	0	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.1403 TITLE MOTOR REPAIR	15	7	0	0	0	0	0	7	1	0	0	0	0	0	0	0	0	0	0	0	0	0
17.1501 TITLE COMMUNICATIONS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.1503 TITLE RADIO/TELEVISION	40	9	0	10	0	10	-1	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.1599 TITLE ELECTRONICS OCCUPATI	10	0	0	0	0	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.1900 TITLE GRAPHIC ARTS OCCUPAT	6	0	0	0	0	0	-8	7	1	1	1	100	1	100	1	100	0	0	0	0	0	0
17.1901 TITLE COMPOSITION, MAKEUP,	26	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.1902 TITLE PRINTING PRESS OCCUP	35	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.1903 TITLE LITHOGRAPHY, PHOTO.,	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.1904 TITLE PHOTOENGRAVING	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.1906 TITLE BOOKBINDING	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.2101 TITLE INSTRUMENTS	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.2102 TITLE WATCHMAKING AND REPA	10	10	0	0	0	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.2301 TITLE FOUNDRY	150	49	0	0	0	0	0	49	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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TAXONOMY	CURRENT EMPLYMT	LABOR DEMAND	LABOR SUPPLY: CAREER EDUCATION NEEDS	LABOR SUPPLY: IPIVIT&IBUIS	LABOR SUPPLY: INTERNIGHTS	LABOR SUPPLY: IPIRIIIVIAITIE	LABOR SUPPLY: SCHOOLS	LABOR SUPPLY: TOUTPLAY	LABOR SUPPLY: HEADS	LABOR SUPPLY: IPIRITIMEIAIRE.IY	STUDENT INTEREST: IAVAII.IL.I	STUDENT INTEREST: FORKI	STUDENT INTEREST: WIDEI	STUDENT OUTCOMES: COMPLETING: NUMBER	COMPLETING: PERCENT	EMPL. IN OCCUP. TRD. OR REL. AREA: CEOTHERPLS NO.	EMPL. IN OCCUP. TRD. OR REL. AREA: %	EMPL. IN OCCUP. TRD. OR REL. AREA: AVORIL NO.	EMPL. IN OCCUP. TRD. OR REL. AREA: %	UNREL OCC: WORKER	UNREL OCC: %	HIGHER EDUC: PEUNIVERSITY	HIGHER EDUC: %
17.2302 TITLE MACHINE SHOP	93	19	15	1		0	16	3	-18	5	5	100	1	20	1	20	4	80	0	0
17.2303 TITLE MACHINE TOOL OPERATI	1052	146	0	2		0	2	144	0	0	0	0	0	0	0	0	0	0	0	0
17.2304 TITLE METAL TRADES, COMBIN	923	156	0	1		0	1	155	1	0	0	0	0	0	0	0	0	0	0	0
17.2305 TITLE SHEET METAL	66	2	0	0		0	0	2	4	0	0	0	0	0	0	0	0	0	0	0
17.2306 TITLE WELDING AND CUTTING	183	54	248	3		0	251	-197	28	2	2	100	2	100	2	100	0	0	0	0
17.2307 TITLE TOOL AND DIE MAKING	57	14	0	1		0	1	13	23	0	0	0	0	0	0	0	0	0	0	0
17.2601 TITLE COSMETOLOGY	93	14	0	0		0	0	14	0	0	0	0	0	0	0	0	0	0	0	0
17.2700 TITLE PLASTICS	45	24	0	0		0	0	24	7	0	0	0	0	0	0	0	0	0	0	0
17.2800 TITLE PUBLIC SERVICE OCCUP	7	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.2801 TITLE FIREMAN TRAINING	100	6	0	0		0	0	6	4	0	0	0	0	0	0	0	0	0	0	0
17.2802 TITLE LAW ENFORCEMENT TRAI	122	5	0	0		0	0	5	34	0	0	0	0	0	0	0	0	0	0	0
17.2901 TITLE BAKER	66	44	0	0		0	0	44	1	0	0	0	0	0	0	0	0	0	0	0
17.2902 TITLE COOK HELPER	367	71	0	0		0	0	71	16	0	0	0	0	0	0	0	0	0	0	0
17.2903 TITLE MEAT CUTTER	6	0	0	0		0	0	0	39	0	0	0	0	0	0	0	0	0	0	0
17.2904 TITLE WAITER/WAITRESS	239	53	0	0		0	0	53	0	0	0	0	0	0	0	0	0	0	0	0

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AREA 16 TOTALS

IA&DCODE	CURRENT EMPLYMT	LABOR DEMAND	LABOR SUPPLY: CADUCEC.	LABOR SUPPLY: IPIVITO & IBIUIS	LABOR SUPPLY: IMIDITIAIC	LABOR SUPPLY: IPIRIIIVIAITIC	LABOR SUPPLY: SCHOOLS	LABOR SUPPLY: TOTALS	NEED	STUD. INT-EREST: IPRINTIMEIARE	STUD. INT-EREST: AVOIDIAIRIL.	STUD. INT-EREST: FORWARD	COMPLET-ING: WORKING	COMPLET-ING: PREPARING	EMPL. IN OCCUP. RELATED: CORPORATE	EMPL. IN OCCUP. RELATED: AVAILABLE	EMPL. IN HIGHER EDUC. AREA: FORWARD	EMPL. IN HIGHER EDUC. AREA: NUMBER	EMPL. IN HIGHER EDUC. AREA: PERCENT	EMPL. IN HIGHER EDUC. AREA: NUMBER	EMPL. IN HIGHER EDUC. AREA: PERCENT
17.3100 TITLE SMALL ENGINE REPAIR	59	55	0	0		0	0	55	13	0	0	0	0	0	0	0	0	0	0	0	0
17.3399 TITLE TEXTILE PRODUCTION &	45	23	0	0		0	0	23	0	0	0	0	0	0	0	0	0	0	0	0	0
17.3400 TITLE LEATHERWORKING	2	0	0	0		0	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0
17.3500 TITLE UPHOLSTERING	0	0	0	0		0	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0
17.3601 TITLE MILLWORK AND CABINET	130	142	0	0		0	0	142	0	0	0	0	0	0	0	0	0	0	0	0	0
17.6001 TITLE FLUID POWER OCCUPATI	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.7001 TITLE INDUSTRIAL TRUCK OPE	259	153	0	0		0	0	153	0	0	0	0	0	0	0	0	0	0	0	0	0
17.7002 TITLE TRUCK DRIVING	554	103	0	0		0	0	103	0	0	0	0	0	0	0	0	0	0	0	0	0
17.9900 TITLE TRADE & INDUSTRIAL O	252	69	0	3		0	3	66	7	0	0	0	0	0	0	0	0	0	0	0	0
TAX 17 SUBTOTALS	7431	1846	827	47		0	874	972	549	11	11	100	5	45	5	45	6	55	0	0	
AREA 16 SUBTOTALS	19165	3520	2518	114		12	2636	884	1542	66	59	87	39	66	43	65	11	17	2	3	

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Student Interest Component
CENIS Cycle II

The student interest component of CENIS (Career Education Needs Information System) was conducted during the second semester of school year 1974-75, coordinated by the Guidance Services Section, Department of Public Instruction, and accomplished through the cooperation of high school guidance counselors or other designated contact people in both public and private schools in Iowa enrolling eleventh and twelfth grade students.

A statewide total of 6,119 usable survey responses were processed, representing 6.27% of the 97,485 11th and 12th graders in Iowa during 1974-75. Only 64 responses could not be processed. These contained either incomplete data or two choices for the same item. Of the 64 unused responses, 31 indicated plans for full-time employment after high school (combined on 22 responses with further training), while 18 had no plans and 18 respondents could not identify an occupational interest.

Students were asked to indicate occupations in which they planned or could expect to be employed after completing their schooling. A list of 319 occupations was provided to the students representing a cross section of occupations in agriculture and conservation, construction, sales, business and office, food service and lodging, maintenance and repair, manufacturing, media/art/and entertainment, health, scientific, general service, and transportation and related services.

The twenty occupations most often selected as first choice by the students sampled are listed below in rank order:

Projected Number of Students		Projected Number of Students	
3575	Farmer, General	1351	Artist
2820	Registered Professional Nurse	1254	Veterinarian
2729	General Secretary	1217	Factory Worker
2478	Secondary School Teacher	1159	Carpenter
2130	Automobile Garage Mechanic	1150	Professional Musician/ Singer
1850	Elementary School Teacher	1142	Community or Social Service Worker
1514	Certified Public Accountant	1129	Construction Worker
1447	Lawyer/Attorney or Judge	1062	Bookkeeper
1446	Medical Doctor/Physician/ Surgeon	1051	Cosmetologist/Beautician
1436	Receptionist	982	Conservation Officer

Based on the sample surveyed, indications are that 34.3% of Iowa 11th and 12th grade students plan to attend a four-year college or university, 29.2% plan full-time employment, 15.9% plan to attend a community college or area school, 10% plan to attend a private trade, technical or business school, 4.5% plan to enter military service, and 2.6% plan to attend a private junior college.

TABLE 1. Future Plans of 11th and 12th Grade Students FY 1975

Table 1 presents data for each merged area as to plans for the first year after high school by percent of respondents and projected number of 11th and 12th grade students. In addition, a statewide projected total and percent are given for plans the first year after high school.

Merged Area	Employment	Pct.	Military Service	Pct.	Community College/ Area School	Pct.	Private Trade/ Technical/ Business School	Pct.	Private Junior College	Pct.	Four-Year College/ University	Pct.	None of the Above	Pct.
I	3,044	34.6	479	5.4	1,053	12.0	861	9.8	287	3.3	2,737	31.2	325	3.7
II	1,156	23.0	149	3.0	1,239	24.6	562	11.1	165	3.3	1,586	31.5	182	3.6
III	774	23.2	143	4.3	835	25.0	305	9.1	102	3.0	1,099	32.9	81	2.4
IV	508	17.2	92	3.1	508	17.2	416	14.1	77	2.6	1,278	43.2	77	2.6
V	1,310	21.7	268	4.4	1,534	25.4	715	11.9	149	2.5	1,846	30.6	208	3.5
VI	1,055	29.7	144	4.1	623	17.6	352	9.9	96	2.7	1,055	29.7	244	6.3
VII	2,377	33.7	434	6.1	389	5.5	1,166	16.5	120	1.7	2,362	33.5	209	3.0
IX	2,981	32.4	505	5.5	1,254	13.6	749	8.2	245	2.7	3,196	34.8	260	2.8
X	2,655	26.4	418	4.2	1,477	14.7	761	7.6	283	2.8	4,057	40.4	403	4.0
XI	5,494	30.3	628	3.5	3,126	17.2	1,160	6.4	467	2.6	6,831	37.7	419	2.3
XII	1,708	25.9	293	4.4	569	8.6	1,090	16.5	98	1.5	2,570	38.9	277	4.2
XIII	2,244	36.1	360	5.8	819	13.2	534	8.4	131	2.1	1,917	30.9	213	3.4
XIV	610	25.3	94	3.9	563	23.4	203	8.4	0	0.0	813	33.8	125	5.2
XV	1,568	34.0	161	3.5	674	14.6	483	10.5	234	5.1	1,216	26.3	278	6.0
XVI	945	26.8	186	5.3	845	24.0	415	11.8	43	1.2	931	26.4	158	4.5
Statewide	28,429	29.2	4,354	4.5	15,508	15.9	9,772	10.0	2,497	2.6	33,494	34.3	3,459	3.5

TABLE 2. First Occupational Choice of Projected Number of Students for Each Merged Area

Table 2 presents the projected number of students from each merged area who selected each of the 319 occupations listed in the survey as the first occupational choice which they planned to enter or in which they could expect to be employed after completing their schooling.

Occupation	MERGED AREA 1	2	3	4	5	6	7	9	10	11	12	13	14	15	16	Total
Farmer, General	547	215	88	245	401	129	244	185	216	395	223	382	89	164	52	3,575
Agriculture Conservation Worker	69	40	10	38	37	59	16	40	31	84	24	11	19	15	7	500
Animal Husbandryman	13	18	18	8	36	29	30	44	37	19	20	2	33	28	14	349
Poultry Raiser/Dealer	0	0	0	0	4	0	24	0	0	0	26	0	0	0	1	55
Extension Agent	0	0	0	0	0	0	1	0	10	0	0	0	0	0	0	11
Manager, Farm	138	36	81	31	36	37	28	63	51	66	37	48	23	3	0	678
Pest Control	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	14
Sales, Grain and Feed Production	10	0	0	0	4	11	0	5	1	3	11	0	0	0	0	45
Feed Mill Elevator Operator	0	0	0	2	7	5	0	0	0	15	20	15	0	10	0	74
Veterinary Assistant	67	50	31	2	15	30	123	72	64	77	24	11	14	15	10	605
Sales, Farm & Garden Equipment	13	12	0	0	6	0	1	11	1	0	0	15	0	13	0	72
Farm Equipment Mechanic	52	30	26	9	54	8	9	0	22	64	26	21	9	12	4	346
Farm Machine Set-Up	27	2	20	0	6	0	4	0	0	18	5	0	0	13	7	102
Horticulturalist	0	0	0	0	2	0	2	2	3	4	2	2	0	1	3	21
Landscaper	0	1	0	0	0	0	0	0	1	1	1	1	0	0	0	5
Nursery Worker	1	1	0	0	0	0	0	1	1	1	3	0	0	1	1	10
Stock Supervisor	1	0	1	0	1	1	1	0	1	2	1	1	0	1	1	12
Conservation Officer	90	64	22	11	68	54	55	57	84	272	50	43	27	31	54	982
Forester	61	38	0	9	77	29	28	135	95	208	86	41	34	47	46	934
Conservation Aide	0	1	0	1	0	1	0	1	2	3	0	1	0	0	0	10
Wildlife Gamekeeper	4	2	1	3	6	3	6	11	10	14	6	4	1	3	1	75
Advertising Assistant	27	8	0	0	10	0	0	0	12	29	0	0	0	12	1	99
Account Executive	46	0	10	0	15	0	37	9	0	19	15	0	0	0	0	151
Public Relations Specialist	23	0	0	6	9	5	49	26	16	31	8	8	0	6	7	194
Fashion Coordinator	11	0	0	15	22	11	30	14	16	32	0	25	16	4	0	196
Clothes/Accessories Salesperson	25	13	2	22	82	22	54	49	67	118	39	49	20	32	23	617
Automobile Sales	11	0	10	0	0	0	0	14	7	13	0	0	0	13	4	72
Auto Parts Sales	19	0	0	0	15	5	1	11	16	2	11	16	0	6	4	106
Credit and Collection Manager	0	0	0	0	0	0	0	0	4	2	0	5	0	12	0	23
Loan Officer	0	0	2	0	0	5	0	0	4	0	0	11	0	1	0	23

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Occupation	MERGED AREA 1	2	3	4	5	6	7	9	10	11	12	13	14	15	16	Total
Teller	15	28	14	0	10	8	4	40	13	60	13	31	0	37	4	282
Floral Designer	25	7	6	5	7	11	0	0	10	35	16	25	0	16	6	169
Route Salesperson	0	5	10	0	0	0	21	0	0	21	8	0	0	0	0	65
Department Head, Supermarket	31	5	18	0	21	11	0	35	4	60	0	0	0	0	21	206
Cashier/Checker	42	33	10	0	7	24	45	41	72	110	59	31	5	56	23	558
Restaurant Host/Hostess	29	10	0	0	0	0	6	24	7	5	5	8	0	7	0	101
Buyer/Merchandiser	15	17	0	2	18	59	21	50	70	168	24	20	11	10	49	534
Retail Store Manager	25	51	16	9	31	51	1	37	87	184	39	57	0	38	24	650
Salesperson, Fabric & Sewing Supplies	6	0	0	12	0	5	18	0	10	29	0	5	0	10	4	99
Sales Worker, General	42	0	10	25	33	27	36	54	45	85	23	57	11	28	11	487
Auctioneer	0	0	0	0	1	0	0	0	10	0	0	0	0	0	0	11
Department Manager, Retail Store	0	5	0	5	0	5	15	14	0	24	15	2	0	21	0	106
Building Materials, Dealer	0	0	0	0	0	0	13	24	0	0	0	0	0	0	0	37
Salesperson, Hardware	6	0	0	14	0	0	0	0	1	10	5	0	5	0	13	54
Salesperson, Lawn/Garden Supplies	0	0	0	0	0	0	0	0	0	0	0	11	0	4	0	15
Home Furnishings Assistant	8	5	0	0	0	0	0	0	4	0	0	5	0	0	0	22
Salesperson, Home Furnishings	0	0	6	0	0	0	0	5	9	24	0	0	0	0	14	58
Hotel/Motel Manager	11	0	0	9	12	0	4	12	19	63	2	0	11	0	7	150
Industrial Sales Manager	0	0	0	12	12	2	0	0	4	0	11	5	0	0	0	46
Business Manager	57	2	49	22	12	37	55	93	66	182	63	51	0	35	30	754
Claims Adjuster	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	5
Insurance Salesperson	2	0	6	0	0	0	15	20	0	13	8	8	0	18	19	109
Service Station Attendant	0	0	0	0	0	0	10	14	10	29	0	13	8	0	13	97
Salesperson, Real Estate	6	0	0	0	15	0	3	0	6	16	0	15	0	0	0	61
Recreation Director	50	26	0	12	33	5	19	12	37	118	31	15	0	6	17	381
Salesperson, Sporting Goods	33	30	6	0	30	0	28	46	21	68	0	25	0	15	0	302
Airline Cabin Attendant	29	20	29	12	36	0	111	31	87	89	31	80	0	7	10	572
Tractor-Trailer Truck Driver	84	38	26	9	49	27	46	57	91	122	36	41	42	89	21	778
Light-Truck Driver	29	0	0	23	7	0	10	5	9	11	2	11	0	12	4	123
Airline Reservationist	10	8	35	22	18	13	24	8	76	42	50	16	38	18	0	378
Motor Vehicle Dispatcher	0	0	0	0	0	0	6	0	0	5	2	0	0	0	0	13
Forklift Truck Operator	11	0	14	0	0	11	0	5	12	15	2	0	0	0	0	70
Hospital/Health Worker	33	8	0	11	54	16	46	67	55	40	28	62	0	1	9	430
Dental Assistant/Technician	54	17	35	15	43	19	28	47	104	111	28	41	8	25	4	579
Dental Hygienist	11	8	12	42	1	0	81	76	34	69	76	0	0	10	13	433
Cytotechnologist	0	0	0	11	0	0	0	0	0	0	2	0	0	0	0	13

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Occupation	MERGED AREA 1	2	3	4	5	6	7	9	10	11	12	13	14	15	16	Total
Medical Lab. Technician/Assistant	75	106	20	14	68	19	12	147	70	187	116	69	25	22	17	967
Nurse, Licensed Practical	119	40	63	66	64	0	60	64	113	143	21	31	34	40	9	867
Nurse Aide/Orderly	117	40	31	15	54	45	28	63	37	69	70	26	5	40	10	650
Operating Room Technician	17	5	2	2	1	0	0	15	12	18	0	31	0	3	0	106
Homemaker/Home Health Aide	0	0	2	8	9	0	0	0	1	37	8	0	2	15	4	86
Physical Therapy Attendant	17	0	0	0	21	2	13	24	0	34	21	10	0	4	14	160
Recreation Aide	10	0	0	0	0	2	0	2	18	8	2	13	0	0	0	55
X-Ray Technician	59	59	20	14	39	0	30	60	72	21	59	48	0	19	34	534
Nuclear Med. Technician	0	5	0	0	0	0	0	0	0	5	5	0	0	0	0	15
Environmental Health Technician	0	0	0	2	0	0	0	2	1	0	0	0	0	0	0	5
Mental Health Technician	0	20	6	0	0	5	31	6	15	40	5	25	0	4	0	157
Nursing Home Administrator	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4
Electroencephalograph Technician	0	5	0	0	10	0	0	11	0	0	0	0	0	0	0	26
Electrocardiograph Technician	31	5	0	0	0	0	1	0	0	2	0	0	0	0	0	39
Inhalation Therapist	13	12	0	0	0	0	6	12	13	0	23	15	0	0	10	104
Ambulance Attendant	0	0	14	0	10	0	0	0	0	16	0	0	0	13	0	53
Physician's Assistant	10	13	12	48	18	19	9	2	12	64	24	15	14	28	3	291
Child Care Attendant	109	38	33	17	52	42	75	63	78	105	42	44	0	75	17	790
Caterer	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	5
Restaurant Manager	19	5	0	0	21	8	28	43	28	90	2	20	5	15	17	301
Food Preparation Supervisor	0	0	0	0	12	5	13	8	4	19	0	0	0	4	0	65
Home Service Representative	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
Institutional Housekeeper	2	12	14	5	4	30	19	23	16	35	0	15	8	10	20	213
Business/Office Worker	80	12	47	40	42	30	67	75	118	156	34	51	6	28	39	825
Accounting Technician	73	50	0	26	46	0	36	70	37	113	16	56	11	10	14	558
Cost Estimator	0	0	0	0	0	0	0	0	15	5	0	0	0	0	0	20
Bookkeeper	77	64	33	37	61	40	54	86	130	164	76	115	17	23	85	1,062
Cashier	59	8	0	0	0	0	43	52	4	52	24	16	0	21	0	279
Office Machine Operator	0	0	6	5	0	0	0	0	15	8	5	0	0	4	9	52
Court Reporter	0	0	0	0	13	0	0	5	0	8	0	0	0	0	4	30
Key Punch Operator	15	17	0	0	10	0	19	29	94	56	49	29	23	57	7	405
Computer Programmer	63	43	22	34	37	0	36	14	94	193	102	62	11	97	47	855
Computer Systems Analyst	42	5	0	0	0	30	13	26	21	18	5	16	0	9	0	185
Duplicating Machine Operator	0	0	0	0	0	0	1	0	0	8	0	0	0	0	10	19
General Office Clerk	40	35	2	5	0	50	34	55	28	84	29	20	0	18	1	401
Switchboard Operator	8	0	18	0	0	16	19	0	46	19	34	31	0	0	4	195
Mail Carrier/Post Office Worker	23	0	0	0	0	0	0	14	16	47	0	2	2	0	0	104

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Occupation	MERGED AREA 1	2	3	4	5	6	7	9	10	11	12	13	14	15	16	Total
Receptionist	186	46	22	46	103	86	90	104	72	282	101	118	47	81	52	1,436
Survey Worker	0	0	0	0	0	0	0	8	0	0	0	0	0	0	0	8
Interviewer	0	5	0	0	0	0	0	0	0	0	0	0	5	0	0	10
Medical Record Technician	6	2	0	15	12	2	0	5	6	13	5	0	0	7	13	86
Shipping & Receiving Clerk	0	0	0	0	0	0	18	5	0	5	0	0	0	0	0	28
School Teacher's Aide	29	18	2	0	0	0	18	0	24	52	2	18	30	0	4	197
Industrial Relations Director	0	0	0	0	4	0	0	11	7	10	5	0	0	7	0	44
Personnel Director	0	0	14	0	15	0	0	8	12	18	2	0	8	0	0	77
Legal Secretary	63	36	10	32	34	34	19	67	63	135	68	61	1[illegible]	57	20	710
Medical Secretary	38	35	24	18	60	48	24	21	28	82	72	64	25	23	10	572
General Secretary	274	59	92	54	207	160	120	260	252	586	138	183	94	151	99	2,729
Stenographer	6	0	10	0	4	0	22	50	7	34	31	0	0	25	29	218
Office Supervisor	0	0	20	0	0	0	1	2	0	2	0	0	0	0	0	25
Clerk-Typist	29	38	16	29	58	38	31	66	66	92	72	88	56	26	32	737
Airplane Pilot	42	17	0	0	33	0	16	43	46	95	24	29	2	13	4	364
Civil Engineering Technician	13	12	0	0	24	0	12	5	37	31	11	2	0	0	19	166
Electrical/Electronics Technician	63	51	20	29	61	38	33	90	90	190	23	34	20	35	72	849
Electromechanical Technician	0	0	0	0	0	0	13	0	0	8	0	0	0	10	0	31
Industrial Waste Inspector	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	7
Sanitarian Worker	0	0	0	0	0	0	0	0	0	15	0	0	8	0	0	23
Industrial Maintenance Mechanic	31	12	0	0	10	0	18	11	0	10	0	0	25	10	0	127
Quality Control Technician	0	0	0	0	0	0	0	8	0	0	0	0	0	0	0	8
Building Inspector	0	0	0	0	7	0	0	8	7	8	0	0	0	0	0	30
Building/Safety Inspector	0	0	0	0	10	0	0	0	0	0	5	0	0	0	0	15
Industrial Safety Technician	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	5
Audio-Visual Technician	0	12	0	8	0	0	15	5	7	0	0	0	0	0	0	47
Factory Worker	214	97	33	0	24	120	218	121	107	124	31	15	0	54	59	1,217
Air Condition/Refrigeration Mechanic	36	0	14	0	7	0	0	0	7	21	11	0	0	4	0	100
Elec./Gas Appliance Service	6	0	0	15	4	0	0	0	0	0	0	8	5	10	0	48
Auto Body Repair	78	2	14	29	46	18	55	31	64	111	49	11	14	16	49	587
Tire Recapper	0	0	0	0	0	0	7	0	0	0	0	0	0	7	0	14
Auto Garage Mechanic	289	83	92	9	137	59	194	187	185	398	76	161	52	136	72	2,130
Aircraft & Engine Mechanic	0	0	0	22	7	0	0	5	4	15	0	29	0	6	0	88
Ground Control Opr. Spec.	0	0	0	5	0	0	0	0	10	35	5	0	0	0	0	55
Flight Engineer/Navigator	0	5	0	0	4	5	0	0	9	11	0	0	0	7	0	41
Office Machine Servicer	0	5	0	0	0	0	0	0	0	0	8	0	0	0	0	13
Illustrator/Layout	19	73	10	14	16	19	19	28	58	66	0	26	0	13	1	312
Interior Designer/Decorator	25	55	14	26	36	16	106	28	109	110	13	34	5	16	20	613

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Occupation	MERGED AREA 1	2	3	4	5	6	7	9	10	11	12	13	14	15	16	Total
Display	10	0	0	0	0	5	9	11	0	11	0	0	0	0	0	46
Industrial Designer	6	5	0	0	0	0	0	0	0	6	0	5	0	0	0	22
Photographer	52	58	12	20	60	30	64	101	64	160	76	72	0	66	21	856
Photo. Darkroom Technician	0	0	6	5	4	0	4	3	1	5	0	0	0	15	0	43
Construction Worker	117	36	57	0	63	50	63	124	97	234	114	29	22	76	47	1,129
Maintenance/Repair Worker	11	26	0	0	16	11	12	26	13	50	7	39	19	18	27	275
Building Maintenance	0	0	0	0	0	0	0	18	0	8	15	0	0	0	0	41
Carpenter	98	106	12	22	57	10	79	145	58	256	93	131	42	16	34	1,159
Electrician/Lineman	31	23	10	23	4	14	51	76	0	197	24	28	0	22	10	513
Construction Equipment Mechanic	2	15	2	0	0	11	0	5	1	19	0	0	0	12	1	68
Earth Moving Equipment Operator	77	2	39	0	13	11	48	52	81	74	41	25	31	13	40	547
Bricklayer/Mason	34	26	12	6	10	0	0	0	0	73	13	15	0	4	17	210
Painter	2	5	0	0	10	0	15	0	4	42	0	31	16	0	4	129
Plumber/Pipefitter	23	23	6	2	0	0	19	20	19	44	23	0	0	0	14	193
Carpet & Linoleum Layer	0	0	0	0	0	0	0	0	0	26	8	0	0	0	0	34
Structural Steel Worker	0	0	0	5	0	0	10	18	0	5	0	0	5	0	0	43
Custodian	0	0	0	0	0	5	1	0	0	0	0	5	0	0	0	11
Hydraulic/Fluid Power Mechanic	0	15	0	0	0	0	1	0	0	0	0	0	0	0	0	16
Diesel Mechanic	50	2	0	15	21	0	9	12	13	76	35	16	31	0	7	288
Architectural Drafting	69	53	0	0	1	10	57	34	24	74	88	7	0	25	26	468
Mechanical Drafting	13	0	6	11	1	42	42	47	16	26	0	0	0	4	4	212
Maintenance Electrician	11	8	12	2	12	0	21	15	4	45	20	13	0	4	0	167
Electric, Motor Repairer	0	0	0	0	0	0	4	8	18	8	0	5	5	4	1	53
Radio/TV Service	2	5	18	11	0	0	27	5	1	56	5	11	0	26	11	178
Announcer, Radio/TV	149	20	55	34	28	10	99	44	55	85	44	52	27	18	13	733
Program Director, Radio/TV	13	0	0	0	0	0	0	8	0	10	16	0	6	12	0	65
Print Shop Supervisor	0	0	0	0	0	0	0	12	9	16	0	0	0	0	7	44
Typesetter	0	0	0	0	0	0	0	0	0	11	0	0	0	0	0	11
Printing Press Operator	0	12	0	8	0	0	0	9	28	27	0	0	0	26	0	110
Watch Instrument Repair	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Foundry Molding Machine Operator	0	0	0	0	0	0	34	0	0	5	0	0	0	0	0	39
General Machinist	44	40	0	0	4	13	58	14	42	29	8	23	0	25	14	314
Foundry Metal Patternmaker	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	5
Numerical Control Machine Operator	0	0	0	0	0	0	0	0	4	0	0	5	0	0	4	13
Machine Tool Set-Up Operator	0	0	0	0	0	0	4	11	15	19	0	0	0	0	0	49
Stamp/Punch Press Operator	0	0	0	0	0	0	0	0	0	5	0	0	0	0	1	6
Sheet Metal Worker	10	5	0	0	0	0	0	11	0	16	11	0	11	0	4	68

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Occupation	MERGED AREA 1	2	3	4	5	6	7	9	10	11	12	13	14	15	16	Total
Electric Arc Welder	15	5	0	2	10	0	4	58	31	32	15	20	2	19	4	217
Combination Welder	23	20	0	2	0	0	12	41	16	60	24	21	0	0	7	226
Repair Welder	48	0	0	0	4	0	18	2	15	18	13	16	5	4	4	147
Cutting Torch Operator	0	5	0	0	7	0	0	0	0	0	0	0	0	0	0	12
Construction Welder	13	0	0	5	1	0	22	14	13	15	33	38	8	0	13	175
Tool & Die Maker	33	10	0	0	0	0	43	35	10	10	5	15	0	16	23	200
Jeweler	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	5
Barber	0	0	0	0	0	0	7	5	18	0	0	0	0	0	0	30
Cosmetologist/Beautician	80	51	14	43	131	6	61	113	106	184	36	48	73	75	30	1,051
Plastics Molding Machine Operator	0	0	0	0	0	0	0	0	0	11	0	0	0	0	7	18
Firefighter	0	0	6	8	0	0	10	0	3	2	0	0	0	0	4	33
Guard/Security Officer	0	0	14	0	0	0	0	9	0	0	15	15	0	0	1	54
Police Officer/Highway Patrol	0	10	45	34	98	30	112	112	69	187	11	23	33	18	33	815
Kitchen Helper	10	15	6	8	4	8	0	24	0	10	10	11	0	7	0	113
Baker	0	0	0	0	0	0	15	0	9	19	0	5	0	0	1	49
Food Service Worker	23	15	0	0	0	0	15	11	22	5	10	0	0	0	0	101
Cook/Chef	25	0	6	0	4	0	15	35	4	60	0	21	16	15	16	217
Meat Cutter	50	17	0	0	28	0	0	0	13	0	73	8	0	0	39	228
Waiter/Waitress	25	43	26	11	15	24	58	47	28	79	72	43	8	45	0	524
Motorcycle Repair	0	20	18	0	7	0	18	9	13	52	0	3	0	15	13	168
Small Gas Engine Repair	11	0	0	0	0	0	0	5	10	0	2	0	5	0	0	33
Dressmaker/Tailor	0	0	0	2	15	24	18	20	1	24	5	0	11	4	0	124
Sewing Machine Operator	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4
Leather Worker	0	0	0	0	0	0	0	0	0	0	0	0	0	4	10	14
Upholsterer	0	8	0	0	0	11	0	0	0	0	0	15	0	9	10	53
Cabinetmaker	0	0	0	0	22	0	12	11	0	11	0	0	17	0	0	73
Woodworking Machine Operator	15	0	0	0	0	0	0	0	0	18	0	0	0	0	0	33
General Inspector	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	4
Bicycle Repair	0	0	0	0	0	0	0	0	7	0	0	0	0	0	7	14
Musical Instrument Repair	0	0	0	0	4	11	0	0	0	5	0	0	0	0	0	20
Agronomist	10	0	0	23	4	0	0	0	0	13	0	15	0	0	0	65
Veterinarian	144	50	94	29	85	19	84	138	121	243	124	39	25	40	19	1,254
Building Contractor	0	0	0	0	10	0	0	15	0	24	0	28	0	0	0	77
Architect	29	25	6	11	25	34	61	58	127	189	50	34	0	9	30	688
Designer	67	8	29	0	30	32	46	34	42	53	13	10	0	4	17	385
Author/Writer	56	28	8	0	13	21	40	50	9	160	8	16	14	35	10	550
Publisher	0	0	0	0	0	0	0	2	0	0	5	0	8	0	0	15

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Occupation	MERGED AREA 1	2	3	4	5	6	7	9	10	11	12	13	14	15	16	Total
Editor	10	0	0	0	0	2	7	9	0	10	5	2	2	0	0	47
Journalist	44	35	18	20	37	37	72	89	149	232	24	41	22	31	42	893
Radio/TV Reporter	10	0	12	9	10	0	0	15	24	11	5	38	0	0	0	134
Fashion Designer	42	13	22	12	22	30	45	70	79	134	15	11	13	16	33	557
Radio/TV Equipment Operator	25	8	0	0	0	16	19	14	6	71	16	0	0	25	1	201
Fashion/Photo. Model	25	5	0	14	34	2	43	31	31	93	8	11	0	35	17	349
Artist	63	99	55	12	95	50	78	89	222	374	67	21	22	67	37	1,351
Drama Coach/Director	6	2	0	2	9	0	6	9	9	6	0	11	0	1	0	61
Actress/Actor	17	5	31	0	7	0	18	11	40	98	16	7	0	31	0	281
Dramatic Artist	13	17	24	0	0	19	16	8	13	44	2	26	0	4	0	186
Dancer/Performer	0	8	0	0	1	0	21	0	19	39	21	10	0	0	4	123
Professional Musician/Singer	40	73	14	8	55	54	61	108	127	334	73	52	3	42	46	1,150
Professional Athlete	56	20	0	22	42	16	4	29	70	129	36	25	19	28	39	535
Business Administrator	2	0	18	26	40	29	19	58	125	161	93	56	28	60	40	755
Certified Public Accountant	157	83	81	65	88	27	90	225	185	232	127	72	33	35	14	1,514
Banker	8	5	33	9	12	14	33	21	6	56	20	5	0	0	10	232
Job/Time Study Analyst	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Psychiatrist	17	21	2	0	0	2	24	6	40	56	2	8	5	38	14	235
Psysiologist	0	0	0	5	0	11	4	5	0	2	0	0	0	0	0	27
Psychologist	78	51	0	15	60	26	67	64	95	98	55	54	8	37	6	714
Pathologist	0	0	0	0	0	0	0	0	16	23	29	0	0	0	0	68
Medical Dr./Physician/Surgeon	170	64	102	46	83	82	64	75	157	277	80	110	89	21	26	1,446
Osteopath	0	26	0	0	0	0	0	5	0	2	0	2	2	0	0	37
Dentist	2	0	6	9	4	5	1	46	40	45	39	0	0	0	0	197
Orthodontist	0	0	10	0	7	0	4	0	13	11	0	0	0	0	0	45
Regular Professional Nurse	237	144	149	92	205	69	158	180	249	574	353	102	80	132	96	2,820
Chiropractor	17	5	0	11	10	0	21	21	12	0	0	0	0	0	0	97
Physical Therapist	57	81	53	42	68	38	57	54	115	79	70	57	22	54	16	863
Dietician	6	50	0	2	31	8	0	38	9	11	3	7	5	12	10	192
Optometrist	15	5	0	0	30	13	0	0	18	6	5	5	5	10	0	112
Railroad Conductor/Assistant	0	12	6	0	4	0	0	0	0	8	28	0	0	21	0	79
Railroad Agent	0	0	0	0	0	0	0	5	4	0	0	0	0	0	13	22
Politician	0	7	0	0	1	0	18	3	31	2	0	8	14	1	21	106
Speech Clinician	13	26	14	5	13	11	7	0	19	2	8	0	0	7	10	135
Government Official	17	8	0	0	0	0	4	28	1	29	0	0	0	13	1	101
Food/Drug Inspector	0	0	0	0	0	0	0	0	0	8	0	5	0	0	0	13
Urban Planner	10	12	0	0	0	0	0	11	1	0	0	0	0	0	0	34

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Occupation	MERGED AREA 1	2	3	4	5	6	7	9	10	11	12	13	14	15	16	Total
Military Off./Career Serviceperson	6	23	0	11	63	0	18	6	12	31	18	54	25	4	10	281
Temporary Military Service	6	5	0	18	9	13	0	9	0	24	0	10	5	12	4	115
School Counselor	11	7	10	18	12	11	15	38	45	35	24	21	13	12	9	281
College Instructor	0	0	0	8	0	0	9	0	31	31	7	0	25	7	7	125
School Administrator	10	2	0	0	18	0	0	0	0	8	0	0	0	6	0	44
Secondary School Teacher	212	180	79	45	183	139	142	196	242	480	171	106	48	116	139	2,478
Elementary School Teacher	92	169	83	60	98	51	120	130	207	427	107	123	55	98	30	1,850
Special Education Teacher	40	31	24	40	40	29	24	101	72	84	63	52	9	32	36	677
Librarian	34	2	6	0	0	11	7	15	19	18	0	28	9	0	14	163
Clergy	17	5	14	14	0	0	34	57	21	48	0	2	30	1	23	266
Church/Religious Worker	34	21	39	8	15	0	1	20	58	132	21	16	22	29	30	446
Foreign Language Interpreter	19	36	6	14	9	16	19	47	28	10	0	0	11	4	32	251
Community/Social Services Worker	92	71	49	54	45	59	70	61	207	203	23	56	39	67	46	1,142
Social Services Director	21	28	0	8	7	0	36	50	30	44	0	2	0	15	1	242
Public Private Service Worker	52	28	20	0	31	11	45	41	76	53	2	31	0	7	13	410
Home Economist	10	33	12	35	0	11	27	34	25	52	23	21	11	7	7	308
Lawyer/Attorney/Judge	115	23	73	63	63	43	132	209	133	279	55	129	30	57	43	1,447
Funeral Director/Undertaker	0	0	0	0	0	0	0	2	0	11	0	0	0	4	0	17
Homemaker	19	26	6	57	45	42	36	49	69	140	83	69	56	72	16	785
Bartender	19	2	0	0	1	0	7	8	9	13	24	11	0	26	0	120
Diplomat/Foreign Service	2	23	0	0	24	0	24	31	18	23	0	5	2	0	11	163
Aeronautical Engineer	0	12	0	2	0	0	4	29	46	34	2	15	0	0	0	144
Electrical Engineer	40	10	18	54	30	18	27	73	13	106	5	25	11	13	4	447
Civil Engineer	27	12	6	8	10	8	21	0	25	37	5	2	5	4	13	183
Sanitary Engineer	0	5	0	0	0	0	0	0	0	0	0	0	0	13	0	18
Ceramic Engineer	0	0	0	0	0	0	4	0	0	0	0	0	14	0	0	18
Mechanical Engineer	36	12	2	8	37	2	25	54	31	10	31	0	0	0	21	269
Chemical Engineer	23	23	0	0	24	8	0	21	10	23	54	0	3	0	11	200
Industrial Engineer	6	0	0	2	4	0	15	23	1	19	20	0	11	0	0	101
Scientist/Engineer	15	21	12	8	18	26	37	55	37	79	36	46	0	21	30	441
Cartographer	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	5
Mathematician	21	25	24	18	4	8	12	23	98	13	20	10	0	23	16	315
Actuary	0	0	0	8	0	0	0	0	0	0	5	11	0	0	0	24
Astronomer	0	0	0	0	10	8	0	12	9	29	0	7	0	0	4	79
Chemist	8	25	0	22	15	0	0	9	21	26	0	0	0	10	7	143
Physicist	23	12	0	14	0	0	0	11	33	5	0	49	5	0	0	152
Geologist	0	5	0	11	4	0	10	9	0	2	11	0	0	4	0	56

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Occupation	MERGED AREA 1	2	3	4	5	6	7	9	10	11	12	13	14	15	16	Total
Oceanographer	10	5	18	29	21	0	0	64	39	60	23	8	5	9	0	291
Meteorologist	0	0	0	0	0	5	0	0	0	11	2	0	0	0	0	18
Bacteriologist	0	8	0	0	0	0	0	0	0	27	0	2	0	0	0	37
Biologist	31	15	18	2	9	22	9	61	78	102	42	2	2	22	9	424
Botanist	0	0	0	11	0	0	4	0	21	20	5	8	0	0	0	59
Zoologist	0	8	10	0	12	8	12	18	27	18	49	5	0	4	4	175
Anthropologist	2	0	0	5	7	0	0	8	22	8	0	10	0	0	10	72
Archaeologist	6	15	14	11	0	16	4	24	15	13	0	5	0	0	4	127
Pharmacist	13	45	41	2	21	2	0	9	52	42	20	61	20	0	14	342
Political Scientist	0	0	0	0	15	0	4	0	7	27	0	2	0	0	0	55
Research Analyst	2	0	0	0	0	0	0	0	12	24	5	0	0	0	4	47
Economist	0	0	0	5	0	0	0	8	4	8	0	0	14	0	0	39
Historian	13	2	0	12	7	5	0	0	9	16	0	13	0	15	10	102
Sociologist	0	17	0	5	1	2	0	21	33	27	2	11	0	19	14	152
Philosopher	0	17	0	0	0	8	12	17	0	6	0	0	0	7	0	67

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Employer Comments Extracted from CENIS Cycle II Labor Demand Survey

Area	Employer's Name	Address (City)	Comment
I	Central State Bank	Elkader, Iowa	"Wish we could get a secretary who takes shorthand. They don't teach it anymore."
	Jim Hickie, Dubuque Bank--a Trust Company	Dubuque, Iowa	"Would like a report of this survey."
	Dubuque Gases and Steel Company	Dubuque, Iowa	"This is a specialized industry and the people have to learn about steel, so replacements are hard to fill."
	Hospital (Name not Provided in Comments)	Unknown	"Looking for: Operating Room Technician Assistant - sets up and assists with minor work during surgery. Occupational Therapy - programs for use in nursing care centers."
	Farmers (Composite of Comments from Farm Operators throughout Iowa)	Statewide	"A course dealing with mechanics of machinery should be given so that costly breakdowns could be avoided."
	Employer not Identified	Unknown	"Recommends training offset press operators."

Employer Comments Extracted from CENIS Cycle II Labor Demand Survey

Area	Employer's Name	Address (City)	Comment
II	Peterson Electric	Mason City, Iowa	"Would give no information over phone--finally gave information on visit, but doesn't want any calls for jobs and etc."
	Farmers (Composite of Comments from Farm Operators throughout Iowa)	Statewide	"A course dealing with mechanics of machinery should be given so that costly breakdowns could be avoided."

Employer Comments Extracted from CENIS Cycle II Labor Demand Survey

Area	Employer's Name	Address (City)	Comment
III	Lakes Area Home Care Service	Emmetsburg serves Clay, Dickinson, and Palo Alto counties in Area III	Description of homemaker health aide services with telephone numbers to contact within counties served (copy attached)
	Farmers (Composite of Comments from Farm Operators throughout Iowa)	Statewide	"A course dealing with mechanics of machinery should be given so that costly breakdowns could be avoided."

LAKES AREA HOME CARE SERVICE
1307 Palmer
Emmetsburg, Iowa 50536
PH: (712) 852-4156

The Homemaker Health Aide may do these things:

Light housekeeping
Plan and prepare meals
Shopping and purposeful errands
Light laundry
Mending and household management
Care of Children - if mother is ill absent
Assist with personal care, such as bathing, shampoos, mild exercise, ambulation
Encourage and teach the infirmed and disabled in self help.

HOURS AVAILABLE

This service is available Monday through Friday, from one to eight hours daily. Each situation is individually considered and seryed. There is no weekend or holiday service except in some emergencies if there is a homemaker health aide available.

REQUESTS

Requests for service may be made by physicians, nurses, social and health agencies or individuals.

The service is paid for by the recipient of the service, and is paid to the agency. No money is exchanged between the family and the aide. In the event that the family is unable to pay, third party payment can sometimes be arranged.

Requests for this service or further information regarding it may be secured from:

BUENA VISTA COUNTY

732-1388 - Public Health Nursing Service Storm Lake
732-5409 - Social Services, Storm Lake
732-4238 - Home Health Aide Director, Storm Lake

CLAY COUNTY

262-2289 - Public Health Nursing Service Spencer
262-3586 - Social Services, Spencer
262-4899 - Home Health Aide Director Spencer

DICKINSON COUNTY

336-2682 - Public Health Nursing Service Spirit Lake
336-2555 - Social Services, Spirit Lake
338-4451 - Home Health Aide Director Milford

O'BRIEN COUNTY

757-8905 - Public Health Nursing Service Primghar

O'BRIEN (Continued)

757-5135 - Social Services, Primghar
729-3874 - Home Health Aide Director, Sanborn

OSCEOLA COUNTY

754-3622 - Social Services
729-3874 - Home Health Aide Director, Sanborn

PALO ALTO COUNTY

852-2434 - Public Health Nursing Service, Emmetsburg
852-3523 - Social Services Emmetsburg
852-4803 - Home Health Aide Director, Emmetsburg

Lakes Area Home Care Service is a non-profit voluntary agency designed to place trained, responsible women workers in homes where illness, disability or other crises threaten normal family living. These Homemaker Home Health Aides are assigned according to their ability to meet the needs of each individual family.

Employer Comments Extracted from CENIS Cycle II Labor Demand Survey

Area	Employer's Name	Address (City)	Comment
IV	Harry's Auto Repair	Sandborn, Iowa	"Teachers at the technical school should have on-the-job training before they teach students"
	Farmers (Composite of Comments from Farm Operators throughout Iowa)	Statewide	"A course dealing with mechanics of machinery should be given so that costly breakdowns could be avoided."

Employer Comments Extracted from CENIS Cycle II Labor Demand Survey

Area	Employer's Name	Address (City)	Comment
V	M & M Livestock Production Company	Eagle Grove, Iowa	"This company has 40 men on the road as field salesmen who are not salaried but on a straight commission. The 10 listed for the survey are on the payroll--straight salary. Has openings for any who will work on straight commission."
	Umthrun Trucking Company	Eagle Grove, Iowa	"Area V and XV schools do a real good job of training people. They have been good suppliers."
	Farmers (Composite of Comments from Farm Operators throughout Iowa)	Statewide	"A course dealing with mechanics of machinery should be given so that costly breakdowns could be avoided."
	Edna Rodenborn	Webster City, Iowa	"She is on Advisory Board of Area School--thought current graduates from area schools were far below expectations of qualified employee material. Number 1 reason: These schools must accept all applicants, good, bad, etc.--cannot be screened or refused entrance."
	Woodke Enterprise	Schaller, Iowa	(Manufactures grain trailers, transports, and ambulances). "This company is expanding rapidly and expects an increase in next few years. Representatives have just returned from

Area	Employer's Name	Address (City)	Comment
V (Cont.)	Woodke Enterprise	Schaller, Iowa	Russia and two other countries. Looks promising! Plan to put on trainees the last of '75."
	Van Diest Supply Company	Webster City, Iowa	"Respondent first had me put 18 people here (Farm and Garden Equipment and Supplies Sales), then changed his mind. Decided it was degree-type job. He hires men away from Dow, Monsanto, etc. He said the last man he hired on this job has a Masters and that he wouldn't hire anyone with only two years college."

Employer Comments Extracted from CENIS Cycle II Labor Demand Survey

Area	Employer's Name	Address (City)	Comment
VI	Fisher Controls Co., Inc. Bob Lahr, Employer Supervisor (firm refused to participate in survey)	Marshalltown, Iowa	"This survey does not apply to us and we would rather not do it. All vacancies are filled from within plant on bid basis and any new employees start at bottom, except draftsmen and electronic technicians, which are supplied by the area school. I meet with the school people at least twice a year on this. Also, a large part of our force is degree engineers which would not fit the survey."
	Kenn's Auto Service	Marshalltown, Iowa	"A special need for training mechanics on automatic transmission repair."
	Western Manufacturing Corporation	Marshalltown, Iowa	"Said he has tried area college kids and they don't work out. They want to teach instead of actually doing the labor."
	Farmers (composite of comments from farm operators throughout Iowa)	Statewide	"A course dealing with mechanics of machinery should be given so that costly breakdowns could be avoided."

Employer Comments Extracted from CENIS Cycle II Labor Demand Survey

Area	Employer's Name	Address (City)	Comment
VII	John Deere	Waterloo, Iowa	"We have an overabundance of welders. We must have 500 qualified welders doing other jobs, so the schools must be turning out too many of them."
	Carthel, Inc.	Waterloo, Iowa	"This firm should be listed as 'Ben Franklin Stores of Waterloo', Ridgeway at Kimball. No listing for Carthel anywhere and address given is home of the owner."
	Larry and Laverne Lampe Masonry	Sumner, Iowa	"We have hired men from the area colleges and let me tell you, they don't learn a thing."
	United Packing House Workers of America, Local 46	Waterloo, Iowa	"One of our employees is black. Aren't you interested in that? Must be a slanted survey!"
	Farmers (composite of comments from farm operators throughout Iowa)	Statewide	"A course dealing with mechanics of machinery should be given so that costly breakdowns could be avoided."

Employer Comments Extracted from CENIS II Labor Demand Survey

Area	Employer's Name	Address (City)	Comment
IX	Chemplex Company	Clinton, Iowa	"Hard to find pressure pipe welders. (ASME code welders)."
	Keene Wood Products Reid W. Keene, Owner	Lamotte, Iowa	"We are expanding now and intend to expand again by 1978. When we get around 100 people, we could use some people with supervisory training if there could be such a four week course or so at a voc-tech school."
	Midwest Publishing Company	Davenport, Iowa	"I would never hire anyone from a community college, so any information would have no bearing or interest. Any expansion would be through part-time only. Highly technical--you wouldn't understand it. Mostly graphic arts. Community colleges don't understand or offer courses of any conceivable value to me."
	Crescent Baking Company--Division of Formel Baking Company	Davenport, Iowa	"Perhaps we will have more automation by 1980. As salaries go up, employment, dollarwise, has to come down and depend more on automation."
	Merchant's Transfer and Storage	Davenport, Iowa	"Requires six months training to acquaint themselves with Federal regulations."

Area	Employer's Name	Address (City)	Comment
IX (Cont.)	Peterson Paper Company	Davenport, Iowa	"Respondent very uncooperative in beginning. Felt lists are sold and inquired how he would be repaid for time lost answering questions."
	Employer not identified	Clinton, Iowa	"Wish there were a food marketing course at Clinton Community College."
	Farmers (composite of comments from farm operators throughout Iowa)	Statewide	"A course dealing with mechanics of machinery should be given so that costly breakdowns could be avoided."
	Russellroy Foundry Co.	Durant, Iowa	"Davenport school system had a foundry training program that has been dropped...due to lack of enrollment. Only other nearby training is in Chicago area. Molder and coremaker training would be helpful.

Employer Comments Extracted from CENIS II Labor Demand Survey

Area	Employer's Name	Address (City)	Comment
X	Amana Refrigeration, Inc.	Amana, Iowa	"Refrigeration and air conditioning mechanic training badly needed and not offered in this area. Three plants in Area 10 vicinity might use people so trained. Currently, workers obtained from Omaha. Executive positions could not be trained in area schools, but are filled from within, e.g., all buyers up to the vice-president, came out of factory. Send us motivated people willing to work."
	Iowa Pipe and Supply Company	Cedar Rapids, Iowa	"There is a need for training of wholesale salespersons, in related areas, i.e., plumbing, electrical, lumber, etc. We usually train our own people from the warehouse up--any that show initiative, knowledge and ambition."
	Nelson Furniture Company	Vinton, Iowa	"My truck drivers are very good public relations people and I feel public relations courses are most important."
	The Quaker Oats Company	Cedar Rapids, Iowa	"Would like to see women/minorities in crafts jobs if serious and interested. If background in machine shop

Area	Employer's Name	Address (City)	Comment
X (Cont.)			courses, Quaker would train and bring up through craftsman process."
	Farmers (composite of comments from farm operators throughout Iowa)	Statewide	"A course dealing with mechanics of machinery should be given so that costly breakdowns could be avoided."

Employer Comments Extracted from CENIS II Labor Demand Survey

Area	Employer's Name	Address (City)	Comment
XI	Americana Nursing Center	Des Moines, Iowa	"A new law has been passed requiring RNs on duty around the clock instead of just LPNs. There is no way to estimate employment figures because it depends on when the ruling goes into effect and if they make any new stipulations."
	Capital City State Bank	Des Moines, Iowa	"Stenographer position hard to fill because of applicant's lack of shorthand."
	Fawn Engineering Corporation	Des Moines, Iowa	"We are laying people off because business is down. We had 300+ in 1973--90+ next week."
	Federal Reserve Bank of Chicago	Des Moines, Iowa	"There are no present employ--ees in these positions (system analyst, statistical clerks and stenographers) or current vacancies, but there may be need for them in the future ('76-'80)...depending on the check volume to be handled here at the Des Moines office."
	F.W. Means and Company	Des Moines, Iowa	"Industrial maintenance mechanic must have a second class engineer's license in the state of Iowa--maintains machinery--needs welding and electrical experience."

Area	Employer's Name	Address (City)	Comment
XI (Cont.)	Homesteader's Life Company	Des Moines, Iowa	"Out of 80 employees, I estimate that five years from now 10 will be remaining. The 70 that will be replaced will be distributed among the clerical positions and one-third of the supervisory positions."
	International Livestock Improvement Service	Ames, Iowa	"This firm sells a machine which provides a service for hog producers--a pregnancy testing procedure. For Field Technicians, four years of college not required, but normally hire people with four year animal science degree and some knowledge of electronics. Considered very skilled."
	Herman Kucharo	Des Moines, Iowa	"This (tailor) is a very difficult job to fill. At one time, three years ago, I went to five cities trying to find a replacement for a tailoring position."
	Newton Foundry	Newton, Iowa	"Foundry molder.. a lost art type of job. At one time, we had twelve in this position, but have recently installed a machine that takes the place of three men--mostly due to problem of keeping men on this job. They are an independent, hard, hard

Area	Employer's Name	Address (City)	Comment
XI (Cont.)			working (and drinking) type person and the turnover is tremendous. They get their pay and forget to come to work because they can go anyplace and get a job!"
	Michael's Restaurant	Des Moines, Iowa	"I wish someone would train a chef. I would gladly hire cook helpers with some training."
	Parker Brothers	Des Moines, Iowa	"Estimated employment increased based on proposed addition to the plant. If addition doesn't come about, increases won't be added."
	Refrigeration, Inc. Percival Manufacturing Company 1805 East 4th Street Boone, Iowa 50036	Boone, Iowa	"Mr. Steve Radnish (General Manager) would like a report of results of this survey, if possible.
	Rolscreen Company	Pella, Iowa	"We promote from within and any formalized training is handled by either the Des Moines area school or at Ames during winter months when business is slack."
	Employer not identified		"Major companies will supply information and equipment to train motor and marine mechanics. Check with service department at Mercury, Marine, Fon du Lac, Wisconsin."

Area	Employer's Name	Address (City)	Comment
XI (Cont.)	Farmers (composite comments from farm operators throughout Iowa)	Statewide	"A course dealing with mechanics of machinery should be given so that costly breakdowns could be avoided."

Employer Comments Extracted from CENIS II Labor Demand Survey

Area	Employer's Name	Address (City)	Comment
XII	St. Luke's Medical Center	Sioux City, Iowa	"Need more training programs for Operating Room Technicians--very difficult to get graduates from Western Iowa Tech. There is a good deal of competition for these people."
	Terra Chemicals	Sioux City, Iowa	"Welding programs at the area school do not teach the skills that we require here in the plant. We need pipe welders, high pressure pipe welders, and code vessel welders. We deal with pressure codes."
	Farmers (composite comments from farm operators throughout Iowa)	Statewide	"A course dealing with mechanics of machinery should be given so that costly breakdowns could be avoided."

Employer Comments Extracted from CENIS II Labor Demand Survey

Area	Employer's Name	Address (City)	Comment
XIII	World Publishing Company	Shenandoah, Iowa	"Many of these jobs (printing) are offered at Iowa Western in Council Bluffs, but they go to Omaha instead of in the area in Iowa. We've had some trainees, but they go to cities when trained."
	Farmers (composite comments from farm operators throughout Iowa)	Statewide	"A course dealing with mechanics of machinery should be given so that costly breakdowns could be avoided."

Employer Comments Extracted from CENIS II Labor Demand Survey

Area	Employer's Name	Address (City)	Comment
XIV	No Specific Comments from Area XIV Employers.		
	Farmers (composite comments from farm operators throughout Iowa)	Statewide	"A course dealing with mechanics of machinery should be given so that costly breakdowns could be avoided."

Employer Comments Extracted from CENIS II Labor Demand Survey

Area	Employer's Name	Address (City)	Comment
XV	Appanoose Abstract and Title Company	Centerville, Iowa	"The company president considers the two office clerks as abstractors. She feels that they needed a full year of training which she provided, but stated it would be beneficial if classes were available in this area."
	Employer not identified		"Large demand for welders especially trained in wire welding. High school-prepared arc welders have to be trained over for this work."
	Farmers (composite comments from farm operators throughout Iowa)	Statewide	"A course dealing with mechanics of machinery should be given so that costly breakdowns could be avoided."

Employer Comments Extracted from CENIS II Labor Demand Survey

Area	Employer's Name	Address (City)	Comment
XVI	No Specific Comments from Area XVI Employers		
	Farmers (composite comments from farm operators throughout Iowa)	Statewide	"A course dealing with mechanics of machinery should be given so that costly breakdowns could be avoided."

ANALYSIS OF REFUSALS

Analysis of Refusals-CENIS II Labor Demand Survey

Merged Area	No. of Refusals	Names of Firms With More Than 10 Workers	No. of Workers
01	11	Kopper-Powers Ford, Inc. (car dealer)-Dubuque	65
		Lime Rock Springs Co., Inc. (beverages)-Dubuque	41
		Henderson Mfg. Co., Inc. (farm mchry. Mfg.)-Manchester	165
		Lady of Lourdes Conv. Home (nursing home)-Dubuque (Home changing hands. Present owner would not project)	89
02	4	Allied Construction Co., Inc.-Charles City	50
03	1	(1 employee)	1
04	0		
05	2	Ellsworth Freight Lines, Inc.-Eagle Grove	162
06	3	Fisher Controls Co., Inc. (valves, controls)-Marshalltown	3,000
		Handy Mfg. Co. (small equip. Mfg.)-Marshalltown	90
07	9	Wapsie Valley Creamery, Inc. (cheese Mfg.)-Independence	61
		Thomas Updegraff, M.D. (doctor's office)	13
		Overhead Door Co. of Waterloo-Waterloo	10
		Black Hawk Med. Laboratories (clinical lab)-Waterloo	20
		Modcomp Homes, Inc. (prefab. homes)-Waterloo	23
		Tate Cadillac-Oldsmobile (car dealer)-Waterloo	46
		Trey's Dept. Store, Inc.-Parkersbury	13
		Waterloo-Fisher-Black Tent and Awning-Waterloo	15
09	9	Oscar Mayer & Co. (meat packing)-Davenport	2,120
		Gate City Steel Corp. (wh*le. distrib. of steel)-Davenport	77
		Huttig Mfg. Co. (millwork)-Muscatine	133
		Midwest Pbl. Co. (publishes telephone directory covers)-Davenport	24
		Macco, Inc. (concrete work)-Bettendorf	15
10	11	AAA Mechanical Contractors, Inc.-Iowa City	48
		Moody Blue (supper club)-Iowa City	30
		Hames Mobile Homes, Inc. (mobile homes sales & service)-Marion	15

Merged Area	No. of Refusals	Names of Firms With More Than 10 Workers	No. of Workers
10 (Cont.)		Colonial Manor of Amana (convalescent home)-Amana	47
		Stamats Publ. Co., Inc. (periodicals)-Cedar Rapids	115
		Durant Foundry & Mach. Co. (aluminum castings)-Durant	14
		Hanson Construction (highway & street constr.)-Washington	35
11	14	Oscar Mayer & Co. (meat packing)-Perry	805
		Helena Chemical Co. (pesticides)-Des Moines	200
		Tension Envelope Corp. (envelope mfg.)-Des Moines	85
		First National Bank-Perry	32
		Joe V. Burch Disposal (private garbage service)-W. Des Moines	15
		Maxie's (restaurant)-Des Moines	50
		Farmer's Cooperative-Halbur	12
		Rhiner Bros. Plumbing Co., Inc.-W. Des Moines	96
		Simpson College-Indianola	191
12	11	Midwest Region, Inc. (insurance)-Sioux City	36
		Blue Cross of Western Ia. & So. Dakota-Sioux City	144
		Westendorf Mfg. Co. (farm mchry. mfg.)-Smithland	89
		Western State Mfg. Co. (fab. rubber products)-Sioux City	47
		A. M. Equip. Corp. (farm mchry. mfg.)-Sioux City	138
		Raskin Packing Co., Inc. (meat packing)-Sioux City	124
		Mid-States Ind., Inc. (animal husbandry svcs.)-Sioux City	33
13	1	Peterson Radio Co., Inc. (electronic component mfg.)-Council Bluffs	54
14	3	Schildberg Const. Co., Inc. (stone quarries)-Greenfield	49
		Country Boy Lumber Co.-Bedford	19
15	4	Parkview Care Center, Inc. (nursing home)-Fairfield	47
		W. C. Gretter & Sons (farm products, whsle.)-Harper	25
16	2	(Very small firms - 1 & 2 workers, respectively)	

PRIVATE SCHOOL SURVEY

FY 1975 Private School Survey Summary

Area	Taxonomy No.	Taxonomy Title	Enrollment	Completions
I	07.0301	Nursing (Diploma, 30 months)	66	18
	07.0305	Operating Room Technician	6	6
	07.0501	Radiologic Technology (X-ray)	9	8
	17.2602	Cosmetology	56	50
	Total - Area I		137	82
II	01.99	Agriculture, Other	10	2
	07.0501	Radiologic Technology (X-ray)	13	7
	07.0906	Community Health Aide	57	18
	14.0101	Accountant	60	56
	14.0102	Bookkeeper	10	9
	14.0303	General Office Clerk	11	4
	14.0702	Secretarial	35	26
	14.070201	Medical Secretary	31	26
	14.070202	Legal Secretary	16	12
	17.0403	Aircraft Ground Operations	10	10
	17.2602	Cosmetology	79	78
	Total - Area II		332	248
III	07.0101	Dental Assisting	2	0
	09.0202	Clothing Mgmt., Prod. & Svcs.	18	15
	14.0101	Accountant	39	30
	14.03	Filing, Office Machines, Clerical	13	9
	14.0303	General Office Clerk	25	18
	14.0303	Medical Office Clerk	18	14

Area	Taxonomy No.	Taxonomy Title	Enrollment	Completions
III (Cont.)	14.0702	Secretarial	30	20
	14.070201	Medical Secretary	16	16
	14.070202	Legal Secretary	12	12
	17.2602	Cosmetology	23	6
	Total - Area III		186	140
IV	16.0601	Commercial Pilot Training	125	113
	17.0402	Aircraft Operations	16	16
	Total - Area IV		141	129
V	16.0601	Commercial Pilot Training	8	4
	17.2602	Cosmetology	58	47
	Total - Area V		66	51
VI	07.0301	Nursing (3 Years)	103	41
	16.0601	Commercial Pilot Training	3	1
	17.2602	Cosmetology	12	5
	Total - Area VI		118	47
VII	07.0201	Cytology	2	2
	07.0299	Med. Lab. Tech., Other (Med. Tech., A.S.C.P.)	15	11
	07.0303	Nursing Assistant	25	25
	07.0399	Nursing, Other (3 Year Program)	174	58
	07.0501	Radiologic Technology (X-ray)	17	9
	16.0601	Commercial Pilot Training	197	179
	17.2601	Barbering	10	10

Area	Taxonomy No.	Taxonomy Title	Enrollment	Completions
VII (Cont.)	17.2602	Cosmetology	25	14
	Total - Area VII		465	308
IX	07.0399	Nursing, Other (BSN)	293	74
	07.0599	Radiologic, Other	5	3
	07.99	Health Occup., Other (Physician's Assistant)	36	36
	14.0102	Bookkeeper	6	6
	14.0702	Secretarial	6	6
	14.070202	Legal Secretary	1	1
	14.0901	Clerk-Typist	2	2
	16.0108	Electronics Communic. Tech.	4	4
	16.0601	Commercial Pilot Training	12	7
	17.0402	Aircraft Operations	36	31
	17.0403	Ground Operations	20	15
	17.1599	Elect. Occup., Other (Radio Announcer)	56	40
	17.2602	Cosmetology	52	47
	Total - Area IX		529	272
X	07.0299	Med. Lab. Tech., Other	20	20
	07.0399	Nursing, Other	186	50
	07.0501	Radiologic Technology (X-ray)	43	21
	16.0601	Commercial Pilot Training	27	16
	17.2602	Cosmetology	79	54
	Total - Area X		355	161
XI	01.05	Ornamental Horticulture (Correspondence)	300	50

Area	Taxonomy No.	Taxonomy Title	Enrollment	Completions
XI (Cont.)	07.0299	Med. Lab. Tech., Other	11	11
	07.0301	Nursing	169	161
	07.0399	Nursing, Other (Diploma)	340	138
	07.0501	Radiologic Technology (X-ray)	30	16
	14.03	Filing, Office Machines, Clerical	7	6
	14.0702	Secretarial	212	96
	14.070201	Medical Secretary	32	13
	14.070202	Legal Secretary	56	41
	14.0805	Supervisory & Admin. Mgmt.	27	9
	14.0901	Typing and Related Occup.	51	35
	16.0101	Aeronautical Technology	154	110
	16.0601	Commercial Pilot Training	45	41
	17.0302	Auto Mechanic	350	112
	17.0402	Aircraft Operations	44	38
	17.1200	Diesel Mechanic	325	95
	17.2601	Barbering	23	20
	17.2602	Cosmetology	110	70
	17.7002	Truck Driving	134	127
	Total - Area XI		2,420	1,189
XII	07.0299	Med. Lab. Tech., Other	10	10
	07.0399	Nursing, Other (Diploma)	130	50
	07.0501	Radiologic Technology (X-ray)	50	29
	16.0601	Commercial Pilot Training	11	11
	17.0402	Aircraft Operations	18	14
	17.2601	Barbering	6	6

Area	Taxonomy No.	Taxonomy Title	Enrollment	Completions
XII (Cont.)	17.2602	Cosmetology	102	80
	Total - Area	XII	327	200
XIII	07.0399	Nursing, Other	87	29
	07.0501	Radiologic Technology (X-ray)	5	5
	16.0101	Commercial Pilot Training	5	5
	17.0401	Aircraft Maintenance	1	1
	17.2602	Cosmetology	91	82
	Total - Area	XIII	189	122
XIV	No Private School Data			
XV	07.0501	Radiologic Technology (X-ray)	5	5
	14.0101	Accountant	1	1
	14.0303	General Office Clerk	4	4
	14.0702	Secretarial	10	5
	14.070201	Medical Secretaries	1	1
	14.0901	Clerk-Typist	3	3
	16.0399	Health-Related Technology	34	9
	16.0601	Commercial Pilot Training	51	31
	17.2602	Cosmetology	70	55
	Total - Area	XV	179	114
XVI	07.0203	Medical Laboratory Assisting	10	10
	07.0501	Radiologic Technology (X-ray)	2	2
	16.0601	Commercial Pilot Training	36	26

Area	Taxonomy No.	Taxonomy Title	Enrollment	Completions
XVI (Cont.)	17.2602	Cosmetology	36	17
	Total - Area XVI		84	55
	Grand Total - All Areas, All Taxonomies		5,528	3,118

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TITLE: RESEARCH PROJECT ON CAREER EDUCATION IN MERGED AREA III.

DESCRIPTOR: *CAREER EDUCATION; *EDUCATIONAL NEEDS; *VOCATIONAL INTERESTS; CAREER AWARENESS; ATTITUDES; *SCHOOL SURVEYS; EDUCATIONAL ASSESSMENT; RELEVANCE (EDUCATION); ELEMENTARY SECONDARY EDUCATION; STATISTICAL DATA; *NEEDS ASSESSMENT

IDENTIFIER: IOWA MERGED AREA III

EDRS PRICE: MF AND HC AVAILABILITY WILL BE ANNOUNCED IN VOL. 10, NO. 2.

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ABSTRACT: THE REPORT DESCRIBES A RESEARCH PROJECT TO DETERMINE THE CAREER DEVELOPMENT NEEDS OF STUDENTS IN IOWA MERGED AREA III AND THE AVAILABLE AREA RESOURCES TO HELP MEET THOSE NEEDS. THE CAREER DEVELOPMENT NEEDS ASSESSMENT INCLUDED A SURVEY OF SENIOR HIGH SCHOOL STUDENTS, TEACHERS, ADMINISTRATORS, AND PARENTS IN 24 SCHOOL DISTRICTS TO MEASURE ATTITUDES TOWARD CAREER EDUCATION AND EMPLOYABILITY SKILLS; A PROFILE OF NATIONAL ATTITUDES FROM A GALLUP POLL; AND AN ASSESSMENT OF PROGRAMS AT IOWA LAKES COMMUNITY COLLEGE. RESOURCES IN AREA III WERE REPRESENTED BY DATA COMPILED BY THE IOWA STATE DEPARTMENT OF PUBLIC INSTRUCTION FOR POPULATION CHARACTERISTICS, SCHOOL CURRICULUMS AND FINANCES, STUDENT OCCUPATIONAL INTERESTS, LABOR MARKET AND DEMAND, AND STUDENT ENROLLMENT PROJECTIONS. THE DATA AND SURVEY RESULTS ARE DETAILED IN NARRATIVE AND TABULAR FORM. SUGGESTED APPLICATIONS OF THE STUDY INFORMATION INCLUDE CONSIDERATIONS OF CAREER EDUCATION CURRICULUMS FOR RELEVANCE, IN VIEW OF THE FACT THAT A LARGE MAJORITY OF SURVEY RESPONDENTS FAVORED SPECIAL VOCATIONAL TRAINING COURSES AND WORK-EXPERIENCE PROGRAMS AS ALTERNATIVES TO QUITTING SCHOOL. THE SURVEY FORMS ARE APPENDED. (MF)

INSTITUTION NAME: IOWA LAKES COMMUNITY COLL., ESTHERVILLE.

SPONSORING AGENCY NAME: OFFICE OF EDUCATION (DHEW), WASHINGTON, D.C.; IOWA STATE DEPT. OF PUBLIC INSTRUCTION, DES MOINES.

VT 03 269

UT 103269

RESEARCH PROJECT ON CAREER DEVELOPMENT

IN MERGED AREA III

IOWA LAKES COMMUNITY COLLEGE
MERGED AREA III
101½ NORTH SIXTH STREET
ESTHERVILLE, IOWA 51334

DECEMBER, 1975

CE 008 937

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I. Foreward

The need for a career development research project for Area III was expressed by the Area III Superintendents Consortium in the Spring of 1974. Through the cooperation of the Area III Superintendents and Iowa Lakes Community College, a grant was obtained from the Iowa State Department of Public Instruction to research Area III needs and available resources.

Acknowledgment is given to the Area III secondary school students and staffs for their cooperation. Appreciation is also expressed to Area III Career Development Advisory Committee.

Acknowledgment for assistance in the project is also given to Dr. Ken Wold and Mr. George Lowrey of the Iowa Department of Public Instruction; the Iowa Lakes Community College Computer Center; the Iowa Lakes Community College Machines Center; and the secretarial staff at both of the Iowa Lakes Community College attendance centers.

A special thank you is expressed to Mr. Louis Hansen of the Iowa State Extension Service for his considerable help in research and data processing methods.

This document is intended to provide educators with a sound basis for future program planning and curriculum enrichment.

James D. Van Eldik

David L. Nelson

II. Introduction

Purposes

The purpose of this research project is to determine the career development needs of all students Kindergarten through grade fourteen in Merged Area III, and the available resources in this area to help meet these needs. A specific plan for career education is not included since sufficient guidelines already exist in the "Models for Career Education in Iowa" series; the document "Career Development - Philosophy Goals, and Plans for the Public and Private Educational Units of Merged Area III" endorsed by each of the local educational agencies in Merged Area III; and in "A Comprehensive Plan for Career Development - Group I, and "A Comprehensive Plan for Career Development - Group II", two projects providing funding for career education at the secondary level for eighteen Area III local educational agencies. The methodology for providing career education is abundant within the above documents. The need lies with the identification of specific strengths and weaknesses within our current efforts, and for a realignment of educational planning in accordance with the realities of student aspirations, population characteristics, and employment profiles of this geographic area.

Career Education

This project endorses the definition of career education developed by the Iowa Model for Career Development. That definition is:

Career Education is the sequence of career development experiences, beginning in early childhood and continuing

through adult life, that prepares individuals for present and future career opportunities. These experiences are offered through various programs, services, and activities which are designed and implemented to assist youth and adults to develop occupational competencies and attitudes which facilitate employment and/or advancement in an occupation and which will result in meaningful career development.

Procedures

1. Curriculum Survey. In order to measure the various components of the career development process, sixteen questions were selected to measure appreciation and attitudes, self-awareness, decision making skill, educational awareness, career awareness, skill awareness, beginning competency, and employability skills.

   A five point scale was developed ranging from "little help" to "a great help" provided by the school's educational program.

   This survey was administered to 10th, 11th, and 12th grade students, teachers, administrators, and a sampling of parents in twenty-four of our twenty-eight school districts.

   Other components of this survey can be found in Chapter III.

2. National Attitudes: A profile on the nations' attitude toward career education was provided through a Gallup Poll survey.

ıent of the Quality and Effectiveness of
ction at Iowa Lakes Community College. The
Lakes Community College 1975 Self Study"
led an assessment of Area III community college
ams.

ation Characteristics and Trends. Current data on population within our five county area was provided by a number of agencies including the Northwest Iowa Area Extension Office, Bureau of Vital Statistics, Upper Des Moines Agency, Department of Health, and others.

5. Area II Employment. Current data on Area III employment was provided by the Northwest Iowa Area Extension Office.
6. Public School Financial Data. Current figures on public school financial data were provided by the Iowa Department of Public Instruction.
7. Public School Curriculum Analysis. Basic information on local school curricula was also provided by the Iowa Department of Public Instruction.
8. Student Occupational Interest. This data was acquired from the CENIS Student Interest Survey and our own curriculum survey.
9. Student Follow-up. Follow-up data on graduates and dropouts was provided by the Guidance Services Branch of the Iowa Department of Public Instruction. Separate data on former Iowa Lakes Community College students can be found in Chapter III.
10. Labor Demand. Primary source for this data was the CENIS Labor Demand Survey.

11. Educational Characteristics. Educational characteristics of the population of Area III was gathered from the 1970 census.

12. School Enrollment Projections. Projected enrollments through fiscal 1979 were provided by the Iowa Department of Public Instruction.

13. ILCC Curriculum Vitae. The summary of resources available at Iowa Lakes Community College was taken from the "Iowa Lakes Community College 1975 Self-Study."

14. 1975 Wage and Employment Practice Survey. This information on the specific occupations currently employed by area industry was gathered through the joint efforts of Iowa Lakes Community College and Mr. Quay - Perfex Inc., of Spirit Lake.

CURRICULUM SURVEY

Career education has been given various interpretations and definitions. When surveying the curricula of the Area III schools, it was apparent that career education to some administrators meant vocational education; to others it was a nebulous term that had something to do with those persons not intending to enroll in college; and to some, career education meant activities having to do with selection of and preparation for a person's life work

In this study, career education is defined as those experiences which foster self-awareness, exploration, and preparation for occupational roles in society. The extent to which these career education components are being integrated into the curricula of Area III schools was measured by a sixteen statement opinionnaire administered to all ten[illegible] eleventh, and twelfth graders as well as to the administrators and teachers in these schools. Similar questions were also given to the parents of all eleventh graders who participated in this survey.

The sixteen statements represent various elements of career education as they related to awareness, exploration, and preparation activities. The elements used in this study to measure career education have been developed from statements from the National Standard Career Education Model---Kindergarten through Adult and are listed below with the statements referring to those elements:

Appreciations and Attitudes

1. My school has activities that help me find out what work and jobs mean.

11. My school has activities that teach me to appreciate the dignity and value of work.

Self-Awareness

2. My school helps me see my strengths and my interests when I am thinking about choosing a job.

8. My school has activities that help me develop a positive concept of myself.

Decision Making

3. My school has activities that help me to choose a group of jobs to study.

5. My school helps me plan what courses and activities I should take in school and beyond to be prepared to do the job for which I am planning.

Educational Awareness

4. My school helps me to recognize and understand those things in my life that are important to me.

9. My school helps me see that a person's standard of living depends on the kind of job he has as a wage earner.

Career Awareness

6. My school helps me see the special skills needed by people who work in various jobs.

7. My school helps me discover my interests, my abilities, and my feelings that relate to a group of jobs in which I think I might like to work.

10. My school helps me learn the relationship between an occupation and leisure time.

Skill Awareness

13. My school helps me match my interests and abilities with the skills that are needed in groups of jobs.

Beginning Competency

12. My school provides experiences for me to use tools and equipment that

are used in various groups of jobs.

16. My school helps me get the skills that are basic to a single job for which I am planning.

Employability Skills

14. My school helps me to see that "how I act and what I am" may fit one kind of job more than another kind of job.

15. My school has activities showing why certain types of jobs require more education and training than other kinds of jobs.

The purpose of surveying the three grade levels with the same opinionnaire is to determine at what grade level the students are receiving information regarding the various components of career education.

A Five-Point attitude scale was used to measure the reaction to each of the sixteen statements in the opinionnaire. The scale ranged from no help, very little help, some help, much help, to a great help.

Other questions on the survey were designed to measure reactions to the difficult problem of lack of interest in school work as now offered in junior and senior high school with the often associated discipline and lacking motivation problem, the extent of career information given to students in various classes, where students obtained information about jobs they are considering as careers, what activities students are involved in that allow them to investigate jobs, expected mobility, student knowledge of changing job markets, how many jobs require baccalaureate degree preparation, courses needed for vocational-technical training, and future plans. This information is summarized in following tables.

The same sixteen questions were used in surveying teachers (K-12), administrators (superintendents, principals, counselors), and parents of all eleventh graders participating, to compare what the students perceived the schools were doing in terms of career education concepts, what the

students perceived the schools were doing in terms of career education concepts, what the administrators perceived the school was offering to students in career education, what the teachers perceived their courses were offering to students in terms of career education, and what the parents of eleventh graders felt the schools should be offering to students in terms of career education. Questionnaires were received from 187 parents, 79 administrators, 611 teachers, 1,212 tenth graders, 1,129 eleventh graders, and 921 twelfth graders.

GROUP RESPONSES TO QUESTIONNAIRE

Taking the weighted mean of the scores on the first sixteen questions we find that Administrators scored 3.18; Parents scored 3.06; and Students and Teachers scored 3.03 and 2.83 respectively. (See Table II, page comparing the reactions of the four groups.)

Some comparisons between the four groups can be made by looking at the information presented in Table II.

Statement number twelve on "school provides experiences for using tools and equipment used in various groups of jobs" was ranked one by parents and students. Administrators ranked this thirteen and teachers ranked it fourteen.

Statement number four on "school helps me to recognize and understand those things in my life that are important to me" was ranked two by both administrators and teachers. Parents ranked this seven and students ranked it ten.

Students and parents ranked statement number fifteen on "my school has activities showing why certain types of jobs require more education and training than other kinds of jobs" two and three respectively; administrators ranked that statement five and teachers ranked it eight.

Statement number five on "helps me plan what courses and activities I should take in school and beyond to be prepared to do the job for which I am planning" was ranked four by students, but was ranked one, two, and twelve by administrators, parents, and teachers.

Students and parents ranked statement number eight on developing a positive concept of self five, while teachers ranked this one and administrators ranked it four.

Statement number one "my school has activities that help me find out what work and jobs mean" was ranked six by administrators; teachers, on

the other hand, ranked it four, while students and parents ranked it thirteen and fifteen respectively.

Statement number seven on help in relating interests, abilities, and feelings to a group of jobs was ranked seven, eight, and nine by teachers, administrators, and parents. Students ranked this statement eleven.

Teachers ranked statement number fourteeen on "my school helps me to see that "how I act and what I am" may fit one kind of job more than another kind of job" eight, while students ranked it eleven. Both parents and administrators ranked it fourteen.

Statement number ten the relationship between an occupation and leisure time was ranked nine, ten, twelve, and thirteen by students, teachers, administrators, and parents.

Statement number two on importance of awareness of one's strengths and weaknesses when choosing a job was ranked ten by parents, while administrators ranked it three. Teachers ranked this statement six and students ranked it sixteen.

Statement number six on "my school helps me see the special skills needed by people who work in various jobs" was ranked eleven by parents, five by teachers, seven by administrators, and eight by students.

Administrators ranked statement number eleven on teaching appreciation of the dignity and value of work eleven. Teachers ranked this three, while parents and students ranked it four and seven.

Statement number nine concerning a person's standard of living depending on the kind of job he has as a wage earner was ranked two by students, six by parents, eight by administrators, and eleven by teachers.

Students ranked statement number thirteen on "my school helped me match my interests and abilities with the skills that are needed in groups of jobs" fourteen. Administrators ranked it fifteen while teachers and parents ranked it thirteen and eleven respectively.

Statement number three on choosing a group of jobs to study was ranked fifteen by both teachers and students while parents ranked it sixteen and administrators ten.

Administrators and teachers both ranked statement number sixteen "my school helps me get the skills that are basic to a single job for which I am planning" sixteen. Students ranked it five and parents ranked it seven.

The score of administrators (superintendents, principals, and counselors), 3.18 seems to indicate that "some help" is being given to students regarding career education within the curriculum. The administrators seem to feel that more is being accomplished or that more is desired to be accomplished in career education than what parents (3.06) or students (3.03) see. Teachers (2.83) perceive career education in their schools most differently from administrators.

The questionnaire can also be analyzed in terms of awareness, exploratory and preparatory activities. Statements number 1, 2, 4, 8, 9, 10, and 11 measured the degree of awareness activities present in the curricula. Statements numbered 3, 5, 6, 7, 13, 14, and 15 measured exploratory activities in the curricula. Statements number 12 and 16 measured preparatory activities in the curricula.

Administrators, Teachers, Parents, and Students were also asked to indicate their feelings concerning ways of dealing with students who are uninterested in school work. The following statement was presented to each of the four groups: "Some students have no interest in school work as now offered in junior and senior high school and they become a problem. Here are some ways that have been proposed for dealing with these students. Will you indicate in the case of each proposal whether or not you approve of it?"

The first choice was "permit these students to quit school?" Parents felt most strongly that students should not be allowed to quit school (74%), while Administrators were the least opposed to students quitting (49%). Fifty-seven percent of the teachers were against permitting students to quit while

fifty percent of the students indicated the same.

Taking the other side of this picture, forty-one percent of the administrators, eighteen percent of the parents, twenty-six percent of the teachers, and twenty-nine percent of the students indicated that they would favor permitting students uninterested in school work as now offered in junior and senior high school to quit school.

Five other alternatives to quitting school were offered as choices to meet the problem of lack of interest by some students. Each of these alternatives received a majority of yes or positive responses from all four of the responding groups. The alternative receiving the largest percentage of favorable responses from students was "special training courses" (89.2%) with the alternative "work-study" (87.1%) a close second. Teachers ranked the alternative "work-study" (91.3%) highest with "special training courses" (90.5%) a close second. Administrators also chose "work-study (93.7%) as the most favorable alternative but "special training courses" (91.1%) was also their second choice. Parents, like students, indicated that "special training courses" (88.6%) was their first choice with "work-study" (88.2%) a close second choice.

Table III shows the breakdown of response from students, teachers, administrators, and parents, both in percentage and total number of responses, to the six alternatives offered to the problem of lack of interest by some junior and senior students in school work.

TABLE I

SCHOOLS PARTICIPATING IN THE STUDENT SURVEY
AND NUMBER OF STUDENT RESPONDENTS

SCHOOL	NUMBER OF RESPONDENTS
Algona	272
Armstrong	102
Arnolds Park	57
Ayrshire	50
Clay Central	94
Emmetsburg	308
Estherville	166
Everly	97
Graettinger	122
Harris-Lake Park	96
Lincoln Central	41
LuVerne	40
Mallard	74
Milford	175
Ruthven	85
Sentral	53
Sioux Valley	101
South Clay	72
Spencer	464
Spirit Lake	246
Swea City	88
Terril	93
Titonka	108
West Bend	130

TABLE II

AREA III CAREER EDUCATION OPINIONNAIRE FINDINGS

PARENTS, ADMINISTRATORS, TEACHERS, AND STUDENTS

Questionnaire Statement	Parents		Administrators		Teachers		Students	
	Value	Rank	Value	Rank	Value	Rank	Value	Rank
1	2.80	15	3.29	6	3.06	4	2.96	13
2	2.99	10	3.42	3	2.87	6	2.80	16
3	2.74	16	3.13	10	2.40	15	2.84	15
4	3.08	7.5	3.49	2	3.48	2	3.00	10
5	3.30	2	3.65	1	2.48	12	3.16	4
6	2.98	11.5	3.22	7	2.95	5	3.02	8
7	3.01	9	3.19	8.5	2.85	7	2.99	11.5
8	3.14	5	3.40	4	3.67	1	3.09	5.5
9	3.12	6	3.19	8.5	2.54	11	3.18	2.5
10	2.90	13	3.06	12	2.79	10	3.01	9
11	3.16	4	3.08	11	3.30	3	3.07	7
12	3.58	1	2.99	13	2.42	14	3.29	1
13	2.98	11.5	2.82	15	2.47	13	2.86	14
14	2.89	14	2.96	14	2.81	8.5	2.99	11.5
15	3.23	3	3.31	5	2.81	8.5	3.18	2.5
16	3.08	7.5	2.78	16	2.38	16	3.09	5.5
Average	3.06		3.18		2.83		3.03	
				3.10				

TABLE III

TOTAL OF ALL RESPONDENT GROUPS
QUESTION 17-22

		STUDENTS			TEACHERS			ADMINISTRATION			PARENTS		
		Yes	No	D/K	Yes	No	D/K	Yes	No	D/K	Yes	No	D/K
#17 Quit	No.	944	1616	667	155	339	100	32	39	8	33	137	16
	%	29.3	50.1	20.7	26.1	57.1	16.8	40.5	49.4	10.1	17.7	73.7	8.6
#18 on-job-training	No.	2461	386	385	447	90	64	59	13	7	123	44	18
	%	76.1	11.9	11.9	74.4	15.0	10.6	74.7	16.5	8.9	66.5	23.8	9.7
#19 special training courses	No.	2880	168	181	542	25	32	72	1	6	164	9	12
	%	89.2	5.2	5.6	90.5	4.2	5.3	91.1	1.3	7.6	88.6	4.9	6.5
#20 work-study	No.	2817	178	239	549	31	21	74	3	2	164	17	5
	%	87.1	5.5	7.4	91.3	5.2	3.5	93.7	3.8	2.5	88.2	9.1	2.7
#21 Credit for vol-unteer work	No.	2118	525	590	425	87	88	63	8	8	124	44	19
	%	65.5	16.2	18.2	70.8	14.5	14.7	79.7	10.1	10.1	66.3	23.5	10.2
#22 special program for out-of-ordinary interests	No.	1980	591	649	417	56	121	52	11	16	120	32	31
	%	61.5	18.4	20.2	70.2	9.4	20.4	65.8	13.9	20.3	65.6	17.5	16.9

TABLE IV

COMPARISON OF RESPONSES TO TYPES OF HELP GIVEN IN PERCENT BY 4 TOTAL GROUPS SURVEYED - STUDENTS, TEACHERS, ADMINISTRATORS & PARENTS

Question #	Type of Help	% Students	% Teachers	% Administrators	% Parents
#1	No Help	8.7	4.7	2.5	11.6
	Very Little Help	20.5	18.2	2.5	20.3
	Some Help	49.2	52.5	60.8	49.4
	Much Help	11.7	15.9	31.6	14.0
	A Great Help	3.3	8.7	2.5	4.7
#2	No Help	10.6	8.4	1.3	5.7
	Very Little Help	21.8	23.3	5.1	20.1
	Some Help	42.0	47.5	52.6	47.7
	Much Help	16.2	14.2	32.1	21.8
	A Great Help	4.2	6.7	9.0	4.6
#3	No Help	14.2	22.0	0.0	12.2
	Very Little Help	25.2	32.9	24.4	31.1
	Some Help	36.1	30.8	50.0	32.9
	Much Help	13.6	11.4	14.1	17.7
	A Great Help	4.0	2.9	11.5	6.1
#4	No Help	10.8	1.5	0.0	7.3
	Very Little Help	20.2	8.3	1.3	16.4
	Some Help	39.2	44.6	55.7	45.5
	Much Help	18.6	31.8	35.4	22.4
	A Great Help	7.6	13.8	7.6	8.5
#5	No Help	9.6	20.6	1.3	6.1
	Very Little Help	17.1	30.2	6.4	13.8
	Some Help	34.6	34.1	29.5	39.8
	Much Help	24.6	10.5	51.3	24.3
	A Great Help	11.0	4.5	11.5	16.0
#6	No Help	9.1	7.4	0.0	8.0
	Very Little Help	21.9	23.0	16.5	21.6
	Some Help	39.0	45.3	53.2	42.0
	Much Help	19.8	15.4	22.8	21.0
	A Great Help	5.5	8.9	7.6	7.4
#7	No Help	9.9	10.5	0.0	8.1
	Very Little Help	22.5	25.2	17.7	16.8
	Some Help	37.7	40.3	46.8	47.4
	Much Help	19.4	16.3	34.2	22.0
	A Great Help	6.4	7.7	1.3	5.8
#8	No Help	11.9	1.3	0.0	7.6
	Very Little Help	19.0	6.6	10.3	20.3
	Some Help	35.1	34.9	46.2	35.4
	Much Help	19.4	37.8	37.2	24.1
	A Great Help	8.8	19.4	6.4	12.7

TABLE IV PAGE 2 of 2

Question #	Type of Help	% Students	% Teachers	% Administrators	% Parents
#9	No Help	9.5	22.3	1.4	9.6
	Very Little Help	19.8	27.4	10.8	13.4
	Some Help	33.7	30.7	58.1	43.9
	Much Help	21.4	13.5	27.0	21.7
	A Great Help	8.3	6.1	2.7	11.5
#10	No Help	12.7	13.4	0.0	14.6
	Very Little Help	20.9	25.3	19.5	19.4
	Some Help	35.0	38.2	57.1	34.7
	Much Help	18.3	14.8	2018	23.6
	A Great Help	7.2	8.3	2.6	7.6
#11	No Help	11.0	4.0	1.3	5.5
	Very Little Help	19.9	15.3	18.4	18.3
	Some Help	35.5	38.9	52.6	42.1
	Much Help	19.9	29.6	26.3	22.6
	A Great Help	8.5	12.1	1.3	11.6
#12	No Help	9.7	34.3	3.8	2.9
	Very Little Help	17.3	24.9	21.5	12.1
	Some Help	29.1	17.5	51.9	34.5
	Much Help	23.8	11.3	17.7	25.3
	A Great Help	16.2	12.1	5.1	25.3
#13	No Help	10.3	22.2	1.3	6.2
	Very Little Help	24.1	30.8	31.6	23.0
	Some Help	44.7	30.2	51.3	42.2
	Much Help	12.7	11.8	15.8	24.2
	A Great Help	3.1	5.0	0.0	4.3
#14	No Help	11.1	12.4	1.4	13.0
	Very Little Help	21.6	25.4	21.6	20.1
	Some Help	38.0	37.5	56.8	39.0
	Much Help	18.1	18.1	20.3	20.8
	A Great Help	6.4	6.6	0.0	7.1
#15	No Help	8.6	14.5	2.6	6.8
	Very Little Help	18.9	24.1	13.0	18.5
	Some Help	35.3	35.2	41.6	34.0
	Much Help	23.5	18.2	36.4	26.5
	A Great Help	8.1	8.0	6.5	14.2
#16	No Help	18.6	30.9	10.4	9.5
	Very Little Help	17.0	26.2	26.0	20.1
	Some Help	25.7	23.8	41.6	34.9
	Much Help	19.1	12.1	19.5	23.7
	A Great Help	13.7	7.1	2.6	11.8

RESPONSES OF ALL STUDENTS
TO DEGREE OF HELP GIVEN
Questions 1-16

Question #	Type of Help	No Help	Very little Help	Some Help	Much Help	A Great Help	WTD Average
#1	Frequency number	285	669	1608	382	109	2.96
	%	8.7	20.5	49.2	11.7	3.3	-
#2	Frequency number	348	714	1376	529	138	2.80
	%	10.6	21.8	42.0	16.2	4.2	-
#3	Frequency number	462	822	1177	442	131	2.84
	%	14.2	25.2	36.1	13.6	4.0	-
#4	Frequency number	354	660	1280	609	248	3.00
	%	10.8	20.2	39.2	15.6	7.6	-
#5	Frequency number	314	560	1130	803	361	3.16
	%	9.6	17.1	34.6	24.6	11.0	-
#6	Frequency number	297	714	1274	645	181	3.02
	%	9.1	21.9	39.0	19.8	5.5	-
#7	Frequency number	324	737	1233	634	211	2.99
	%	9.9	22.5	37.7	19.4	6.4	-
#8	Frequency number	388	620	1148	633	288	3.09
	%	11.9	19.0	35.1	19.4	8.8	-
#9	Frequency number	311	647	1102	698	272	3.10
	%	9.5	19.8	33.7	21.4	8.3	-
#10	Frequency number	414	680	1142	595	234	3.01
	%	12.7	20.9	35.0	18.3	7.2	-
#11	Frequency number	360	649	1160	651	276	3.07
	%	11.0	19.9	35.5	19.9	8.5	-
#12	Frequency number	317	567	952	778	530	3.29
	%	917	17.3	29.1	23.8	16.2	-
#13	Frequency number	334	780	1444	411	100	2.86
	%	10.3	24.1	44.7	12.7	3.1	-
#14	Frequency number	359	700	1230	586	209	2.99
	%	11.1	21.6	38.0	18.1	6.4	-
#15	Frequency number	276	609	1137	759	260	3.18
	%	8.6	18.9	35.3	23.5	8.1	-
#16	Frequency number	292	267	404	300	215	3.09
	%	18.6	17.0	25.7	19.1	13.7	-

TABLE VI

STUDENTS' CAREER EDUCATION OPINIONNAIRE
RESULTS BY GRADE AND TOTAL

Opinionnaire Statement	10th Grade Value	10th Grade Rank	11th Grade Value	11th Grade Rank	12th Grade Value	12th Grade Rank	Total Students (10-12) Value	Total Students (10-12) Rank
1	3.06	12	2.92	13	2.86	13	2.96	13
2	2.85	16	2.75	16	2.79	15	2.80	16
3	2.96	14	2.81	15	2.72	16	2.84	15
4	3.11	8.5	2.99	10	2.89	11.5	3.00	10
5	3.27	2	3.11	4	3.06	4	3.16	4
6	3.09	11	3.03	8	2.93	8.5	3.02	8
7	3.05	13	2.96	11	2.93	8.5	2.99	11.5
8	3.15	6	3.07	6	3.03	6	3.09	5.5
9	3.26	3.5	3.17	3	3.09	2	3.18	2.5
10	3.12	7	3.00	9	2.89	11.5	3.01	9
11	3.20	5	3.04	7	2.96	7	3.07	7
12	3.37	1	3.33	1	3.13	1	3.29	1
13	2.90	15	2.84	14	2.82	14	2.86	14
14	3.10	10	2.95	12	2.90	10	2.99	11.5
15	3.26	3.5	3.19	2	3.08	3	3.18	2.5
16	3.11	8.5	3.10	5	3.05	5	3.09	5.5
Average	3.12	-	3.02	-	2.94	-	3.03	-

3.15

TABLE VII

WEIGHTED AVERAGE OF STUDENT RESPONSES BY SCHOOL TO QUESTION REGARDING DEGREE OF HELP PROVIDED - QUESTION 1 - 16

School #	Question # 1	Question # 2	Question # 3	Question # 4	Question # 5	Question # 6	Question # 7	Question # 8
# 1	2.51	2.83	2.19	2.63	2.55	2.50	2.64	2.81
# 2	2.67	2.82	2.52	2.70	2.86	2.47	2.71	2.72
# 3	2.21	2.50	2.20	2.57	2.57	2.20	2.31	2.54
# 4	2.47	2.56	2.10	2.13	2.27	2.17	2.26	2.50
# 5	3.25	2.98	3.14	2.93	3.33	3.14	3.07	3.11
# 6	2.89	3.05	3.02	3.14	3.00	3.19	3.19	2.88
# 7	3.05	3.03	3.06	3.16	3.20	3.27	3.16	3.09
# 8	3.17	3.07	2.95	3.09	3.12	3.29	3.10	3.27
# 9	3.03	2.90	2.91	2.86	3.11	3.07	2.98	3.20
#10	3.10	3.10	3.26	3.15	2.42	3.51	3.05	3.26
#11	2.92	2.90	2.67	3.20	2.84	2.83	2.82	3.04
#12	3.31	3.07	3.24	3.13	3.34	3.16	3.18	3.20
#13	2.73	2.80	2.56	2.78	2.90	3.12	3.15	3.00
#14	2.80	2.96	2.81	3.19	3.59	3.16	3.12	3.28
#15	2.40	2.80	2.33	3.33	2.90	2.68	2.88	3.08
#16	2.60	2.98	2.83	3.09	2.91	2.91	2.94	3.00
#17	2.47	2.69	2.20	2.63	3.01	2.84	2.68	2.88
#18	2.83	3.05	2.86	3.18	3.64	3.21	3.06	3.19
#19	3.12	3.12	2.82	2.96	2.82	3.02	3.10	2.92
#20	3.16	3.07	3.06	3.27	3.31	3.23	3.23	3.25
#21	3.02	3.01	2.82	2.95	3.30	3.00	3.00	3.18
#22	2.74	2.72	2.59	2.62	3.12	2.61	2.76	2.93
#23	3.25	3.13	3.09	3.54	3.39	3.17	3.04	3.40
#24	3.22	3.09	3.00	3.27	3.38	3.24	3.26	3.30

TABLE VII

WEIGHTED AVERAGE OF STUDENT RESPONSES BY SCHOOL TO QUESTION
REGARDING DEGREEE OF HELP PROVIDED - QUESTION 1 - 16

School #	Question # 9	Question #10	Question #11	Question #12	Question #13	Question #14	Question #15	Question #16
# 1	3.06	2.81	2.89	2.93	2.54	2.66	2.77	2.96
# 2	3.00	2.91	2.94	2.91	2.56	2.67	2.73	2.72
# 3	2.72	2.56	2.66	2.76	2.16	2.52	2.44	2.14
# 4	2.36	2.13	2.01	2.40	1.97	2.14	2.50	2.46
# 5	3.08	2.94	3.17	3.63	2.95	3.06	3.36	3.27
# 6	3.23	2.82	3.07	3.28	3.07	3.33	3.26	2.79
# 7	3.40	3.20	3.19	2.89	2.88	2.94	3.20	2.98
# 8	3.23	3.17	2.26	3.79	3.09	3.09	3.39	3.13
# 9	3.26	3.07	2.98	3.35	2.92	2.98	3.28	2.85
#10	3.63	3.06	3.23	3.02	2.90	3.15	3.38	3.15
#11	3.25	3.10	2.96	3.62	2.72	2.91	3.05	2.78
#12	3.41	3.33	3.53	3.48	3.07	3.20	3.18	3.14
#13	3.10	2.95	2.76	2.73	3.05	2.90	2.90	2.94
#14	3.23	3.18	3.18	2.97	2.98	3.09	3.36	3.22
#15	3.10	2.80	2.80	2.77	2.56	2.65	2.83	2.42
#16	3.19	2.94	2.87	3.04	2.63	3.02	3.14	2.83
#17	2.79	2.80	2.64	2.73	2.63	2.76	2.78	3.21
#18	3.14	3.13	3.21	3.22	3.04	3.06	3.30	3.23
#19	3.16	2.82	3.04	3.24	2.69	2.71	2.98	3.14
#20	3.41	3.10	3.25	3.55	3.14	3.22	3.41	3.49
#21	3.20	3.03	3.11	3.18	2.84	2.90	3.14	2.90
#22	3.04	2.85	2.89	3.03	2.64	2.89	3.03	3.10
#23	3.36	3.33	3.47	3.40	3.01	3.21	3.35	3.34
#24	3.20	3.24	3.16	3.62	3.04	3.22	3.16	3.40

TABLE VIII
TEACHERS RESPONSES TO DEGREE OF HELP GIVEN
QUESTIONS 1-16

Type of Help		No Help	Very Little Help	Some Help	Much Help	A Great Help	Wtd. Average
	Frequency	28	109	314	95	52	3.06
	%	4.7	18.2	52.5	15.9	8.7	
	Frequency	48	133	271	81	38	2.87
	%	8.4	23.3	47.5	14.2	6.7	
	Frequency	127	190	178	66	17	2.40
	%	22.0	32.9	30.8	11.4	2.9	
	Frequency	9	49	262	187	81	3.48
	%	1.5	8.3	44.6	31.8	13.8	
	Frequency	118	173	195	60	26	2.48
	%	20.6	30.2	34.1	10.5	4.5	
	Frequency	44	137	270	92	53	2.95
	%	7.4	23.0	45.3	15.4	8.9	
	Frequency	62	148	237	96	45	2.85
	%	10.5	25.2	40.3	16.3	7.7	
	Frequency	8	39	207	224	115	3.67
	%	1.3	6.6	34.9	37.8	19.4	
	Frequency	127	156	175	77	35	2.54
	%	22.3	27.4	30.7	13.5	6.1	
	Frequency	78	147	222	86	48	2.79
	%	13.4	25.3	38.2	14.8	8.3	
	Frequency	24	91	231	176	72	3.30
	%	4.0	15.3	38.9	29.6	12.1	

TABLE VIII, PAGE 2

Type of Help		No Help	Very Little Help	Some Help	Much Help	A Great Help	Wtd. Average
	Frequency	204	148	104	67	72	2.42
	%	34.3	24.9	17.5	11.3	12.1	
	Frequency	128	178	174	68	29	2.47
	%	22.2	30.8	30.2	11.8	5.0	
	Frequency	70	143	211	102	37	2.81
	%	12.4	25.4	37.5	18.1	6.6	
	Frequency	85	142	207	107	47	2.81
	%	14.5	24.1	35.2	18.2	8.0	
	Frequency	174	148	134	68	40	2.38
	%	30.9	26.2	23.8	12.1	7.1	

TABLE IX
ADMINISTRATIORS RESPONSES TO DEGREE OF HELP GIVEN
QUESTIONS 1-16

Type of Help		No Help	Very Little Help	Some Help	Much Help	A Great Help	Wtd. Average
	Frequency	2	2	48	25	2	3.29
	%	2.5	2.5	60.8	31.6	2.5	
	Frequency	1	4	41	25	7	3.42
	%	1.3	5.1	52.6	32.1	9.0	
	Frequency	0	19	39	11	9	3.13
	%	0.0	24.4	50.0	14.1	11.5	
	Frequency	0	1	44	28	6	3.49
	%	0.0	1.3	55.7	35.4	7.6	
	Frequency	1	5	23	40	9	3.65
	%	1.3	6.4	29.5	51.3	11.5	
	Frequency	0	13	42	18	6	3.22
	%	0.0	16.5	53.2	22.8	7.6	
	Frequency	0	14	37	27	1	3.19
	%	0.0	17.7	46.8	34.2	1.3	
	Frequency	0	8	36	29	5	3.40
	%	0.0	10.3	46.2	37.2	6.4	
	Frequency	1	8	43	20	2	3.19
	%	1.4	10.8	58.1	27.0	2.7	
	Frequency	0	15	44	16	2	3.06
	%	0.0	19.5	57.1	20.8	2.6	

TABLE IX, PAGE 2

Type of Help		No Help	Very Little Help	Some Help	Much Help	A Great Help	Wtd. Average
	Frequency	1	14	40	20	1	3.08
	%	1.3	18.4	52.6	26.3	1.3	
	Frequency	3	17	41	14	4	2.99
	%	3.8	21.5	51.9	17.7	5.1	
	Frequency	1	24	39	12	0	2.82
	%	1.3	31.6	51.3	15.8	0.0	
	Frequency	1	16	42	15	0	2.96
	%	1.4	21.6	56.8	20.3	0.0	
	Frequency	2	10	32	28	5	3.31
	%	2.6	13.0	41.6	36.4	6.5	
	Frequency	8	20	32	15	2	2.78
	%	10.4	26.0	41.6	19.5	2.6	

TABLE X
PARENTS RESPONSES TO DEGREE OF HELP GIVEN STUDENTS
QUESTIONS 1-16

Type of Help		No Help	Very Little Help	Some Help	Much Help	A Great Help	Wtd. Average
	Frequency	20	35	85	24	8	2.80
	%	11.6	20.3	49.4	14.0	4.7	
	Frequency	10	35	83	38	8	2.99
	%	5.7	20.1	47.7	21.8	4.6	
	Frequency	20	51	54	29	10	2.74
	%	12.2	31.1	32.9	17.7	6.1	
	Frequency	12	27	75	37	14	3.08
	%	7.3	16.4	45.5	22.4	8.5	
	Frequency	11	25	72	44	29	3.30
	%	6.1	13.8	39.8	24.3	16.0	
	Frequency	13	35	68	34	12	2.98
	%	8.0	21.6	42.0	21.0	7.4	
	Frequency	14	29	82	38	10	3.01
	%	8.1	16.8	47.4	22.0	5.8	
	Frequency	12	32	56	38	20	3.14
	%	7.6	20.3	35.4	24.1	12.7	
	Frequency	15	21	69	34	18	3.12
	%	9.6	13.4	43.9	21.7	11.5	
	Frequency	21	28	50	34	11	2.90
	%	14.6	19.4	34.7	23.6	7.6	

TABLE X, PAGE 2

Type of Help		No Help	Very Little Help	Some Help	Much Help	A Great Help	Wtd. Average
	Frequency	9	30	69	37	19	3.16
	%	5.5	18.3	42.1	22.6	11.6	
	Frequency	5	21	60	44	44	3.58
	%	2.9	12.1	34.5	25.3	25.3	
	Frequency	10	37	68	39	7	2.98
	%	6.2	23.0	42.2	24.2	4.3	
	Frequency	20	31	60	32	11	2.89
	%	13.0	20.1	39.0	20.8	7.1	
	Frequency	11	30	55	43	23	3.23
	%	6.8	18.5	34.0	26.5	14.2	
	Frequency	16	34	59	40	20	3.08
	%	9.5	20.1	34.9	23.7	11.8	

STUDENTS' CAREER EDUCATION QUESTIONNAIRE RESULTS - QUESTIONS 18-38

Please incicate how well your school relates the subject matter of each course listed below to how that course will help you when you are making decisions about selecting a job and when you are working in that job.

Choices	No Help	Very Little Help	Some Help	Much Help	A Great Help	Don't Know
Number of responses	1210	1129	919	3258		

Class	Tenth		Eleventh		Twelfth		Total	
COURSE	SCORE	RANK	SCORE	RANK	SCORE	RANK	SCORE	RANK
Art	3.53	8	3.44	8	3.56	8	3.51	8
Business	3.94	3	3.93	4	3.95	3	3.98	3
English	3.56	6.5	3.57	6	3.61	6	3.61	6
Foreign Language	3.12	12	3.04	12	3.01	12	3.09	12
Homemaking	4.19	2	4.23	2	4.17	2	4.26	2
Industrial Arts	3.91	4	3.97	3	3.93	4	3.94	4
Mathematics	3.83	5	3.75	5	3.76	5	3.78	5
Music	3.28	11	3.27	11	3.26	10	3.27	11
Physical Education	3.47	9	3.30	10	3.23	11	3.34	10
Science	3.56	6.5	3.51	7	3.57	7	3.54	7
Social Studies	3.36	10	3.38	9	3.30	9	3.35	9
Vocational	4.30	1	4.42	1	4.43	1	4.39	1

36

30. If you could get a good full-time job, would you prefer to continue going to school?

	Yes	No	Don't Know
Tenth Graders	58%	19%	22%
Eleventh Graders	54%	24%	22%
Twelfth Graders	56%	27%	16%
Total Student	56.5%	23%	20.5%

31. If I want information about jobs in which I am interested as a career, I would go to:

	10th	11th	12th	Total Student
Teacher	9%	8%	11%	9%
Counselor	35%	34%	37%	35%
Parents or Relatives	21%	22%	15%	20%
Library	9%	7%	8%	8%
Workers on the job in which I am interested	26%	29%	29%	28%

STUDENTS' CAREER EDUCATION QUESTIONNAIRE RESULTS - QUESTIONS 18-38 (cont)

32. I have investigated jobs or career opportunities through:	10th	11th	12th	Total Student
Courses in school	27%	26%	32%	28%
Part-time summer work	30%	33%	31%	31%
Visiting a business, professional office, factory, farm or medical facility.	16%	18%	24%	19%
Scouting, 4-H or other youth groups	8%	8%	4%	7%
Have not investigated any career	26%	15%	9%	15%

33. When I enter the job market, I plan to stay:	10th	11th	12th	Total Student
In my hometown	9%	9%	7%	8%
In Northwest Iowa	9.5%	9%	12%	10%
In Iowa	25%	22%	23%	23%
In the Midwestern United States	21.5%	20%	24%	22%
Elsewhere	35%	40%	34%	36%

34. I expect to change jobs during my lifetime:	10th	11th	12th	Total Student
Not at all	31%	29%	25%	29%
One time	18%	17%	16%	17%
Two times	22%	22%	25%	23%
Three times	18%	17%	22%	19%
Four times	5%	6%	5%	5%
Five times	6%	10%	7%	8%

35. What percentage of jobs require a four-year college degree?	10th	11th	12th	Total Student
10%	6%	7%	8%	7%
20%	11%	11%	15%	12%
30%	26%	30%	30%	28%
40%	27%	25%	25%	26%
50%	30%	27%	21%	26%

STUDENTS' CAREER EDUCATION QUESTIONNAIRE RESULTS - QUESTIONS 18-38 (cont)

36. What are your plans after graduating from high school?	10th	11th	12th	Total Student
Homemaker	3%	4%	3%	3%
Work full-time	13%	17%	16%	15%
Enroll in a 4-year college or university	24%	21%	29%	24%
Enroll in a community college and then finish at a four-year college or university	9%	9%	9%	9%
Enroll in a community college or public vocational-technical school only	12%	13%	18%	14%
Enroll in a private barber, cosmetology, nursing, business, or trade school	7%	9%	9%	8%
Go into military service	6%	6%	4%	6%
Don't know	26%	22%	12%	21%

37. Based upon your answer to question number 36, which high school courses are most important to you?	10th	11th	12th	Total Student
Art	4%	4%	5%	4%
Business	11%	12%	13%	12%
English	12%	12%	14%	13%
Foreign Language	4%	3%	3%	3%
Homemaking	6%	7%	7%	6%
Industrial Arts	8%	9%	8%	9%
Mathematics	16%	15%	15%	15%
Music	4%	4%	5%	4%
Physical Education	10%	10%	6%	9%
Science	12%	11%	12%	12%
Social Studies	6%	7%	7%	7%
Vocational	6%	7%	7%	7%

38. What is the overall educational goal of the school you attend? (choose only one)	10th	11th	12th	Total Student
To prepare students for college	16%	17%	21%	18%
To prepare students for jobs	17%	15%	13%	15%
To develop students individually	31%	31%	28%	30%
To graduate students and get them out of school	15%	16%	20%	17%
Don't know	21%	21%	18%	20%

TABLE XI

INDIVIDUAL SCHOOL RESULTS
Student Responses Total and by School in % to the Question:
"If I want information about jobs in which I
am interested as a career, I would go to...."

	% A. Teacher	% B. Counselor	% C. Parents or Relatives	% D. Library	% E. Workers on the job of interest
All Schools	9.4	35.5	19.5	7.7	27.9
1.	5.5	29.1	22.4	15.8	27.3
2.	6.4	41.2	20.9	3.2	28.3
3.	8.9	29.6	25.1	2.[illegible]	33.5
4.	10.5	37.5	19.7	8.6	23.7
5.	10.7	30.2	21.2	8.9	29.0
6.	11.0	35.6	18.6	3.4	31.4
7.	11.4	40.6	18.3	8.0	21.7
8.	8.5	29.9	18.5	9.7	33.4
9.	7.2	36.7	16.7	12.4	27.0
10.	8.6	31.9	17.3	10.3	31.9
11.	10.3	38.2	20.6	6.4	24.5
12.	6.9	32.2	27.4	8.2	25.2
13.	14.3	40.3	16.9	5.2	23.4
14.	6.0	40.9	19.6	6.6	26.9
15.	9.3	37.3	12.0	6.7	34.7
16.	7.3	40.4	19.3	3.7	29.4
17.	9.2	37.8	16.8	3.2	33.0
18.	9.6	37.8	12.7	10.8	29.1
19.	12.2	30.0	17.8	7.8	32.2
20.	14.5	34.8	19.4	7.5	23.8
21.	5.5	38.2	17.7	5.9	32.7
22.	8.6	41.4	18.6	2.1	29.3
23.	6.7	41.0	18.5	10.7	23.0
24.	11.7	39.1	17.7	4.5	27.1

TABLE XII

INDIVIDUAL SCHOOL RESULTS

Student Responses Total and by School in % to the Question:
"I have investigated jobs or career opportunities through"

	% A. Courses in School	% B. Part-time Summer work	% C. Visiting a Business, etc.	% D. Scouting, 4-H, etc.	% E. Have not Investigated
All Schools	27.8	31.1	18.7	7.0	15.3
1.	22.6	27.4	19.4	7.3	23.4
2.	16.0	36.6	16.0	9.9	21.4
3.	13.0	39.0	17.9	9.8	20.3
4.	26.1	28.4	12.5	11.4	21.6
5.	27.7	36.7	17.0	5.1	13.5
6.	23.1	44.0	22.0	4.4	6.6
7.	34.6	27.7	23.1	3.8	10.8
8.	25.7	33.0	25.7	6.6	9.0
9.	31.3	32.7	17.0	5.1	14.0
10.	44.0	26.1	18.7	6.0	5.2
11.	35.3	29.4	14.0	7.4	14.0
12.	26.1	31.3	16.1	5.7	20.9
13.	24.2	33.9	24.2	6.5	11.3
14.	27.1	29.2	20.9	7.1	15.6
15.	27.7	36.2	17.0	2.1	17.0
16.	29.6	29.6	21.1	5.6	14.1
17.	29.2	21.5	21.5	9.2	18.5
18.	41.0	24.7	18.1	8.4	7.8
19.	18.5	38.5	13.8	10.8	18.5
20.	30.9	31.3	18.0	6.3	13.5
21.	28.4	26.5	23.5	4.9	16.7
22.	20.9	23.3	22.1	7.0	26.7
23.	20.2	22.2	22.2	8.3	27.5
24.	34.6	26.2	16.2	11.0	12.0

TABLE XIII

INDIVIDUAL SCHOOL RESULTS
Student Responses Total and by School in % to the Question:
"When I enter the job market, I plan to stay:"

	% A. Hometown	% B. Northwest Iowa	% C. Iowa	% D. Midwestern U.S.	% E. Elsewhere
All Schools	8.3	10.1	23.4	21.6	36.4
1.	4.3	16.1	26.9	14.0	38.7
2.	4.2	14.7	14.7	18.9	47.6
3.	6.2	11.3	28.9	17.5	36.1
4.	2.9	10.1	27.5	14.5	44.9
5.	10.5	7.9	16.7	23.5	41.2
6.	5.4	10.7	25.0	16.1	42.9
7.	7.8	14.4	22.2	31.1	24.4
8.	8.9	16.6	16.0	23.1	35.5
9.	7.9	7.5	16.7	22.5	45.0
10.	2.2	19.1	27.0	22.5	29.2
11.	8.2	9.2	21.4	26.5	34.7
12.	14.8	5.6	19.7	16.9	43.0
13.	7.8	5.8	29.6	21.8	35.0
14.	5.3	21.1	23.7	26.3	23.7
15.	5.3	7.9	34.2	7.9	44.7
16.	6.0	12.0	26.0	20.0	36.0
17.	6.0	4.6	20.7	31.0	35.6
18.	3.9	9.7	34.0	33.0	19.4
19.	22.9	16.7	16.7	14.6	29.2
20.	9.8	9.1	20.6	22.0	38.5
21.	4.2	16.0	31.1	22.7	26.1
22.	6.8	12.3	28.8	12.3	38.4
23.	1.2	7.4	30.9	19.8	40.7
24.	12.6	10.2	35.4	25.2	16.5

TABLE XIV

INDIVIDUAL SCHOOL RESULTS

Student Responses Total and by School in % to the Question:

"I expect to change jobs during my lifetime"

	% A. Not At All	% B. One Time	% C. Two Times	% D. Three Times	% E. Four Times	% F. Five Times
All Schools	28.5	17.3	22.8	18.6	5.1	7.7
1.	21.6	20.5	26.1	11.4	6.8	13.6
2.	22.2	20.0	25.6	17.8	6.7	7.8
3.	26.7	17.8	27.8	13.3	6.7	7.8
4.	27.1	14.3	15.7	22.9	4.3	15.7
5.	21.0	19.9	23.0	18.7	6.6	10.7
6.	30.2	9.4	17.0	18.9	5.7	18.9
7.	24.1	20.5	21.7	22.9	4.8	6.0
8.	27.7	17.6	25.2	20.8	3.8	5.0
9.	24.1	15.8	20.2	23.2	6.1	10.5
10.	20.0	15.6	18.9	31.1	7.8	6.7
11.	34.0	30.9	17.5	12.4	3.1	2.1
12.	32.1	17.2	17.9	19.4	5.2	8.2
13.	39.6	10.1	25.3	15.2	6.9	2.8
14.	27.0	18.9	32.4	10.8	2.7	8.1
15.	40.5	18.9	21.6	10.8	0.0	8.1
16.	12.0	16.0	28.0	22.0	8.0	14.0
17.	25.3	18.7	22.7	20.0	5.3	8.0
18.	27.6	12.2	33.7	17.3	5.1	4.1
19.	33.3	24.4	15.6	15.6	4.4	6.7
20.	27.3	14.2	23.8	21.6	6.0	7.1
21.	34.3	17.6	25.9	15.7	1.9	4.6
22.	34.3	14.3	27.1	17.1	1.4	5.7
23.	39.0	14.3	22.1	18.2	1.3	5.2
24.	38.5	20.5	21.3	14.8	0.8	4.1

TABLE XV

INDIVIDUAL SCHOOL RESULTS
Student Responses Total and by School in % to the Question:

"What percentage of jobs require a four-year degree?"

	A. 10%	B. 20%	C. 30%	D. 40%	E. 50%
All Schools	6.9	12.4	28.4	25.7	26.4
1.	7.9	14.6	29.2	22.5	25.8
2.	5.3	9.5	26.3	26.3	32.6
3.	15.3	4.1	31.6	28.6	20.4
4.	0.0	18.3	32.4	19.7	29.6
5.	7.1	12.4	27.4	25.5	27.4
6.	5.7	9.4	28.3	20.8	35.8
7.	11.0	9.9	24.2	36.3	18.7
8.	7.8	15.0	28.1	28.7	20.4
9.	4.7	13.6	24.7	28.5	28.5
10.	5.5	4.4	19.8	36.3	33.0
11.	5.1	17.3	33.7	17.3	26.5
12.	8.3	9.7	25.7	21.5	34.0
13.	10.4	11.6	28.5	23.3	26.1
14.	12.8	15.4	25.6	15.4	30.8
15.	10.5	15.8	23.7	21.1	28.9
16.	0.0	8.0	38.0	48.0	6.0
17.	0.0	9.5	31.0	29.8	29.8
18.	3.8	15.4	30.8	24.0	26.0
19.	18.2	13.6	45.5	6.8	15.9
20.	5.6	15.0	29.7	23.4	26.2
21.	7.1	16.8	36.3	22.1	17.7
22.	11.8	7.4	30.9	25.0	22.1
23.	7.3	15.9	29.3	29.3	18.3
24.	5.7	13.9	23.0	31.1	25.4

FUTURE PLANS OF AREA III, 10th, 11th, and 12th GRADES

	homemaking	work full-time	enroll in a 4-year college or university	enroll in a community finish at a 4-year college or university	enroll in a community college or public vocational-technical school only	enroll in a private barber, cosmetology, nursing, business, or trade school only	go into military service	don't know
	%	%	%	%	%	%	%	%
LAY COUNTY								
Spencer	3.4	14.8	35.7	4.0	9.4	7.6	5.6	19.5
South Clay	1.4	25.0	27.8	9.7	8.3	8.3	4.2	15.3
Sioux Valley	7.0	26.0	21.0	2.0	10.0	7.0	12.0	15.0
Everly	3.1	20.8	21.9	4.2	20.8	6.3	1.0	21.9
Clay Central	4.3	7.4	25.5	5.3	18.1	10.6	9.6	19.1
ICKINSON COUNTY								
Terril	1.1	27.2	20.7	4.3	17.4	7.6	4.3	17.4
Spirit Lake	2.9	15.2	27.2	8.2	6.2	7.4	11.1	21.8
Milford	2.3	17.2	16.7	6.3	16.1	7.5	6.3	27.6
Harris-Lake Park	6.5	18.3	25.8	2.2	14.0	7.5	5.4	20.4
Arnolds Park	1.8	16.1	21.4	7.1	19.6	7.1	5.4	21.4
MET COUNTY								
Lincoln Central	3.0	13.3	[illegible]	10.6	12.5	11.4	3.4	20.1
Estherville	[illegible]	[illegible]	22.1	14.9	11.0	7.8	7.1	26.0
Armstrong	7.0	14.0	19.0	8.0	20.0	11.0	4.0	17.0
OSSUTH COUNTY								
Titonka	3.7	14.0	24.3	12.1	22.4	9.3	1.9	21.1
Swea City	4.4	11.1	18.9	8.9	20.0	11.1	4.4	21.1
Sentral	2.0	19.6	17.6	9.8	21.6	3.9	5.9	19.6
LuVerne	0.0	23.1	30.8	2.6	5.1	10.3	0.0	28.2
Algona	0.0	17.5	12.5	25.0	17.5	7.5	0.0	20.0
ALO ALTO COUNTY								
West Bend	1.6	16.3	22.5	7.0	14.0	13.2	4.7	20.9
Ruthven	1.2	10.7	23.8	10.7	10.7	8.3	8.3	26.2
Mallard	1.4	14.9	32.4	8.1	17.6	4.1	4.1	16.2
Graettinger	6.7	19.2	16.7	8.3	15.0	6.7	4.2	23.3
Emmetsburg	3.3	11.3	22.6	17.9	18.9	6.0	3.7	16.3
Ayrshire	0.0	16.3	18.4	12.2	20.4	2.0	4.1	26.5
LL SCHOOLS	3.3	15.2	24.4	8.9	13.8	8.0	5.5	20.8

TABLE XVII, PAGE 1

Student Responses total and by school, in % to the Question
Based upon your answer to question 36 which High School Courses are most important to you

	% A Art	% B Business	% C English	% D For Language	% E Home Making	% F Ind. Arts	% G Math	% H Music	% I P.E.	% J Science	% K Social Studies	% L Vocational
All Schools	4.3	11.9	12.5	3.3	6.4	8.5	15.2	4.3	8.7	11.7	6.5	6.8
1.	3.4	9.9	11.8	3.1	10.7	8.0	15.3	1.5	9.9	10.3	6.1	9.9
2.	6.3	12.6	15.7	2.7	9.9	4.5	16.6	3.6	6.3	8.1	4.5	9.4
3.	2.9	11.9	11.2	3.2	8.0	8.0	15.7	4.5	9.9	10.6	6.1	8.0
4.	3.2	13.6	9.5	2.7	6.8	4.5	17.2	5.4	11.8	10.9	7.7	6.8
5.	4.8	11.3	12.8	3.6	4.0	8.0	14.2	3.9	7.8	14.3	9.2	6.2
6.	2.7	10.2	12.9	2.0	6.8	15.0	16.3	2.7	8.8	12.2	8.2	2.0
7.	5.1	9.1	12.6	1.2	0.4	5.5	16.5	5.5	6.3	10.6	8.3	9.8
8.	5.0	13.7	12.2	2.7	5.2	8.8	12.4	4.5	9.9	12.6	7.0	6.1
9.	4.3	13.0	13.0	6.7	6.1	6.5	17.4	5.3	7.3	12.1	5.2	3.1
10.	4.3	12.6	17.3	1.4	4.0	9.4	17.0	4.0	10.1	10.5	2.5	6.9
11.	3.6	11.5	11.8	3.0	8.9	7.9	13.8	1.6	7.5	10.2	9.2	11.1
12.	4.1	14.7	11.3	3.7	6.9	5.3	15.4	5.7	12.9	10.3	5.1	4.6
13.	4.0	10.5	12.1	2.4	3.2	8.1	13.7	7.3	12.1	12.1	6.5	8.1
14.	3.8	13.4	12.9	3.5	6.4	10.7	14.6	4.1	7.0	10.8	5.2	7.6

TABLE XVII , PAGE 2

"Based upon your answer to question 36 which High School Courses are most important to you"

	A Art	B. Business	C. English	D. For Language	E. Home Making	F. Ind. Arts	G. Math	H. Music	I. P.E	J. Science	K. Social Studies	L. Vocational
15.	5.7	10.5	17.1	0.0	6.7	12.4	16.2	6.7	6.7	9.5	2.9	5.7
16.	3.1	9.2	13.1	2.3	6.2	8.5	17.7	7.7	4.6	11.5	5.4	10.8
17.	6.0	15.7	9.8	2.1	6.4	10.6	14.9	2.1	7.2	9.8	3.8	11.5
18.	5.3	11.1	14.8	2.4	7.4	7.7	12.9	3.7	9.8	11.1	5.8	8.2
19.	6.3	15.1	7.9	6.3	4.0	18.3	14.3	3.2	4.0	7.9	4.8	7.9
20.	4.0	13.5	11.6	3.0	6.2	9.9	15.2	4.9	8.0	11.9	6.4	5.6
21.	3.9	6.5	12.0	2.6	8.4	11.3	10.4	6.5	12.0	10.0	6.1	10.4
22.	6.3	11.4	9.7	3.4	5.1	8.0	16.0	4.0	6.9	18.3	5.7	5.1
23.	3.5	12.1	13.8	3.2	6.0	7.4	16.3	3.9	10.6	11.3	7.8	3.9
24.	2.5	9.9	13.2	2.5	6.6	9.4	17.4	3.0	6.1	13.8	7.2	8.5

TABLE XVIII

Student Responses total & by school, in % to the Question
"What is the overall educational goal of the school you attend?"

	% A.	% B.	% C.	% D.	% E.
All Schools	17.8	15.1	30.1	16.9	20.1
1.	16.7	7.8	32.2	20.0	23.3
2.	13.7	14.7	33.7	23.2	14.7
3.	12.4	8.2	17.5	40.2	20.6
4.	12.7	9.9	11.3	40.8	25.4
5.	22.3	15.5	29.9	16.8	15.3
6.	26.3	5.3	29.8	24.6	14.0
7.	20.2	23.4	30.9	13.8	11.7
8.	10.9	24.1	27.6	10.3	27.0
9.	13.8	13.8	27.6	21.1	23.6
10.	21.5	18.3	34.4	9.7	16.1
11.	20.2	16.2	25.3	22.2	16.2
12.	14.9	20.1	27.3	13.0	24.7
13.	12.2	17.1	34.1	17.1	19.5
14.	20.6	13.7	38.9	11.1	15.6
15.	29.7	8.1	16.2	24.3	21.6
16.	15.4	9.6	44.2	21.2	9.6
17.	15.7	16.9	23.6	27.0	16.9
18.	24.3	13.1	29.9	10.3	22.4
19.	4.0	14.0	22.0	28.0	32.0
20.	22.6	17.9	32.9	6.6	19.6
21.	10.9	16.0	21.0	22.7	29.4
22.	19.4	18.1	23.6	19.4	19.4
23.	22.4	4.7	44.7	11.8	16.5
24.	17.8	11.6	38.0	11.6	20.2

TEACHERS' AND ADMINISTRATORS RESPONSES TO QUESTIONNAIRE
QUESTIONS #18 through #23

TABLE XIX

	Administrators						Teachers					
	Yes	%	No	%	Don't Know	%	Yes	%	No	%	Don't Know	%
18. The career education concept helps students in all grade levels and all subjects.	52	66	10	13	17	22	315	52	112	19	178	29
19. The career education concept helps students who are preparing for job entry or vocational technical education immediately after graduation.	61	77	7	9	11	14	485	80	25	4	99	16
20. The career education concept helps students who are preparing to enter a four-year college or university.	65	82	5	6	9	11	398	66	66	11	141	23
21. The career education concept is useful as a tool to motivate student learning.	63	80	3	4	13	16	431	71	37	6	138	23
22. The career education concept can be implemented in my school district without outside help.	16	20	46	58	17	22	96	16	220	37	281	47
23. Initiation of the career education concept will cause unusual changes in the school curriculum.	19	24	45	58	14	18	158	26	196	33	242	41

TEACHERS SURVEY

There were six hundred and eleven teachers (elementary & secondary) who responded to this questionnaire. The teachers were asked to respond to the statement: "The career education concept is being implemented in my classes" with one of three responses. Forty-eight percent responded "agree"; thirty-two percent responded "disagree"; nineteen percent responded "don't know".

Of the six hundred and eleven teachers who responded to the questionnaire, two hundred & seventy four indicated that they taught in Kindergarten through sixth grade; two hundred & six did teaching with seventh graders; two hundred and seven had classes with eighth graders; one hundred and eighty-six taught nineth graders; one hundred and sixty-seven worked with tenth grade; one hundred and fifty-six did teaching in the eleventh grade; and one hundred and six taught twelfth graders.

Forty-seven percent of the teachers surveyed were presently doing teaching in the areas of mathematics and science. Thirty-one percent were teaching in the areas of English, fine arts, and foreign language. Six percent were teaching physical education. Sixteen percent of the teachers were involved with practical arts (Aq., Bus., DE, Home Ec., Ind. Ed., Voc., Coop.).

The teachers were asked to check how many years of educational work-experience in elementary and secondary school they had. Two hundred & fifteen (36.2%) checked the "1-5 yrs." category; one hundred & nineteen (20%) checked "6-10 yrs." one hundred and seventy-nine (30.1%) checked "11-20 yrs."; fifty-four (9.1%) checked "21-30 yrs."; and twenty seven (4.5%) checked "over thirty years". Seventeen did not respond.

The teachers were asked to indicate how many years of full-time non-educational work-experience they have had. Two hundred and thirty-nine (41.1%) marked the "0-1years" category; two hundred twenty-eight (39.2%) checked "1-5 years"; seventy-one (12.2%) marked "6-10 years", twenty (3.4%) checked "11-20 years"; and twenty-two (3.8%) marked over twenty years". Twenty-nine did not respond.

The teachers were asked to indicate which sources they had received information about the career education concept. They could check as many of the seven choices as applied. Three hundred & thirty-eight (25.4%) marked "journals"; two hundred & three (15.2%) checked "films"; three hundred eighty-two (28.7%) marked "in-service sessions"; sixty-nine (5.0%) checked "seminars"; one hundred forty-one (10.6%) marked college courses"; one hundred thirty-four (10.1%) checked "books"; sixty-five (4.9%) marked research reports".

The question was asked each of the teachers, "Do you feel that counselors provide necessary services and feedback to you concerning students' needs?"

Teachers were evenly split on this question, two hundred eleven (37.0%) agreed; two hundred twelve (37.2%) disagreed and one hundred forty-six (25.6%) did not know.

The teachers were asked, "Does the school have a definite plan for placing students in learning activities within the school and community in accordance with individual abilities, interests, and needs?" A large portion of the teachers were uncertain of this with one hundred seventy-two (30.0%) saying yes; one hundred sixty-one (28.1%) saying no, and two hundred thirty-nine (41.7%) saying they did not know.

The teachers were questioned, "Do you use information available through the guidance services to learn more about the pupils in your classes?" Results indicated significant usage with three hundred forty-three (63.9%) indicating yes, and one hundred ninety-three (35.9%) indicating no.

Teachers were also surveyed as to career development classroom activities and materials currently in use. The five most popular were bulletin boards (17%), audio-video presentations (16%), books and newspapers (16%), field trips (14%), and guest speakers (11%).

AREA III TEACHERS' RESPONSES TO QUESTIONNAIRE QUESTIONS 18-36

	Agree	%	Disagree	%	Don't Know	%
18. The career education concept helps students in all grade levels and all subjects.	315	52	112	19	178	29
19. The career education concept helps students who are preparing for job entry or vocational-technical education immediately after graduation.	485	80	25	4	99	16
20. The career education concept helps students who are preparing to enter a four-year college or university.	398	66	66	11	141	23
21. The career education concept is useful as a tool to motivate student learning.	431	71	37	6	138	23
22. The career education can be implemented in my school district without outside help.	96	16	220	37	281	47
23. Initiation of the career education concept will cause unusual changes in the school curriculum.	158	27	196	33	242	41
24. The career education concept is being implemented in my classes.	261	48	177	33	100	19

5

25. Sex : Female 55% Male 45%

26. How many years of educational work-experience in elementary and high school do you have?

	Number	%
1-5 years	215	36
6-10 years	119	20
11-20 years	179	30
21-30 years	54	9
over 30 years	27	5

27. How many years of full-time non-educational work-experience do you have?

0-1 years	239	41
1-5 years	228	39
6-10 years	71	12
11-20 years	20	3
over 20 years	22	4

AREA III TEACHERS' RESPONSES TO QUESTIONNAIRE QUESTIONS 18-36 (cont)

28. I have received career education information from the following sources: (check all that apply)

	Number	%		Number	%
journals	338	25	college courses	141	11
films	203	15	books	134	10
in-service sessions	382	29	research reports	65	5
seminars	69	5			

29. Teaching classification: (check as many as apply)

	Number	%		Number	%
Kindergarten through sixth	274	21	tenth	167	13
seventh	206	16	eleventh	156	12
eighth	207	16	twelfth	106	8
nineth	186	14			

30. What subjects do you teach?

	Number	%
Mathematics, science	699	47
English, fine arts, foreign language	468	31
Physical education	84	6
Practical arts (Ag., Bus., DE, Home Ec. Voc., Coop.)	240	16

31. Speakers Directory Survey

32. Speakers Directory Survey

33. Do you feel that counselors provide necessary services and feedback to you? Agree - 37% Disagree - 37% Don't Know - 26%

34. Does the school have a definite plan for placing students in learning activities, within the school and community, in accordance with individual abilities, interests, and needs? Yes 30% No 28% Don't Know 42%

35. Do you use information available through the guidance services to learn more about the pupils in your classes? Yes - 64% No - 36%

AREA III TEACHERS' RESPONSES TO QUESTIONNAIRE QUESTIONS 18-36 (cont)

36. The following items are used for career development in my classes:

Number	%		Number	%	
306	16	Audio-video presentations	86	5	simulation kits or models
207	11	guest speakers	294	16	books and newspapers
257	14	field trips	37	2	scrapbooks
42	2	photography	87	5	interviewing
18	1	career clubs	114	6	actual work experience
322	17	bulletin boards			
127	7	simulation games			

ADMINISTRATORS SURVEY

There were seventy-nine administrators (superintendents, principals, counselors) who responded to this questionnaire.

The school administrators were asked, "Can the career education concept be implemented in your school district without additional funding?" Eleven (13.9) agreed that it could be implemented without additional funding. Forty-four (55.7%) felt that implementing the career education concept could not be done without additional funding. Twenty-four (30.4%) marked "don't know."

To the question "Is the career education concept being implemented in your local school district?" Fifty-two (67.5%) of the administrators indicated that it was being done. Fifteen (19.5%) checked that it was not being implemented. Ten (13.0%) didn't know.

Question 26 lists written responses by school district on specific activities being utilized to implement career development. Question 27 lists written responses as to obstacles blocking implementation efforts.

To the question, "I have received career education information from", the two primary sources of information were in-service sessions and journals.

Slightly less than half of the administrators surveyed indicated one or more days of career education in-service for teachers.

Approximately 75% of the surveys indicated that additional in-service days are available to teachers on an individual basis.

Question 36 dealt with classroom space and will be covered in the resources section of the study.

AREA III ADMINISTRATORS RESPONSES TO QUESTIONNAIRE - QUESTIONS 18-35

	Agree	%	Disagree	%	Don't Know	%
18. The career education concept helps students in all grade levels and all subjects.	52	66	10	13	17	21
19. The career education concept helps students who are preparing for job entry or vocational-technical education immediately after graduation.	61	77	7	9	11	14
20. The career education concept helps students who are preparing to enter a four-year college or university.	65	82	5	6	9	11
21. The career education concept is useful as a tool to motivate student learning.	63	80	3	4	9	11
22. The career education concept can be implemented in my school district without outside help.	15	20	46	58	17	22
23. Initiation of the career education concept will cause unusual changes in the school curriculum.	19	24	45	58	14	18
24. The career education concept can be implemented in my school district without additional funding.	11	14	44	56	24	30
25. The career education concept is being implemented in my local school district.	52	68	15	20	10	13

26. If the answer to question number 25 is "Agree" write a brief explanation below of your career education program:

School District	Response
South Clay	Within regular cirriculum areas
Spencer Community Schools	Elementary needs co-ordination
Harris - Lake Park	Teacher at all grade levels have made attempts to inform students of occupations and the dignity of all work
Harris - Lake Park	Introduction of classes. Nurses Aid - Career math class Purchasing of career Ed related equipment. DPI Grant

RESPONSES TO NUMBER 26 (cont)

School District	Response
Graettinger Community	Various vocational and exploritory courses are available. Areas outside of academic courses are strongly emphasized. Program does not go far enough. We are limited as to what we would like to offer and what we can.
Graettinger	Career Advisory Committee, Elementary Career Education Workshop on "Awareness" ideas - planning guideline for teachers. Mini-Career and College Day Programs provided juniors & seniors.
Milford Community School	Career units in Social Studies and English. Work-study, and work observation programs.
Milford Community	Vocational Programs in Careers, On-the-Job training, Teachers use subject matter areas in comparison with job skills.
Clay Central Community	Just beginning. We have career days in the Elementary Grades. Study various careers and what the careers involve.
Arnolds Park Cons. School	Our guidance counselor is supervising this area in cooperation of the staff. This is being done through group as well as in individual guidance. This question may be answered better by our guidance director.
No school listed	To some degree - working with ILCC on program. Youngsters are permitted to leave school during "no class" periods to work at jobs.
Mallard Community	We have purchased some materials - teachers have been encouraged to begin writing a course of study. An attempt is being made to present material and information regarding career education. However, I wouldn't say it is fully implemented.
Algona	Awareness at Jr. High level, Self-awareness at 9-11 level, Career awareness at senior level.
Titonka	Following a In-service meeting devoted to career education two years ago our teachers have individually planned and implemented career development activities in their class rooms. We are now in the process of organizing our teacher's efforts into a program. We plan on using this assessment plus our own community assessment to determine our present needs so we can establish goals as a group and then plan a coordinated program of career development activities to meet our goals. We hope to implement a program later this spring. We feel this will be an improvement over the present where teachers are individually implementing career ed. activities.

RESPONSES TO NUMBER 26 (cont)

School District	Response
Arnolds Park Cons.	Grades 10, 11, 12 - Career exploration units taught by student handbook, student activity booklet, films, trips, speakers. Covers values, attitudes, goals, interests, abilities, the world of work, psychology of work, occupational clusters, future occupational trends, educational avenues, getting the 1st job.
Emmetsburg	Jr. High - group work on values, job exploration, guest speakers, group work on work ethics and attitudes, etc.
Milford Community	In the elementary program career education is integrated along with the regular course of study.
Milford	1. Career Units in sophmore and junior years. 2. Some in regular classes.
Harris Lake Park	All levels have been made aware of the concept and all levels do make some provision. At the jr. High level a course in orientation takes them through clusters and self appraisal. Also, a teacher advisor system is in operation. At the high school level, English courses have been recognized, Career math added, work study, Voc Ag. Shop as well as home economics and business courses lead themselves to vocational Ed. In addition, this semester we are offering nurses aid. Finally the senior year is made more flexible so that students can secure jobs on their own.
Estherville	Career Ed. information in student course offering handbook. Posters illustrating course - careers coordination. New career information for teachers in the rooms (kits). Resource people coming in for small groups at sophmore level.
Estherville Comm. School	We have a work-study program for seniors. We have a mini-grant for Juniors dealing with career education. We have a few cases of work release for underclassmen. We have had resource people in on various occupations and have made field trips.
Estherville	Career information program through home rooms 9, 10, and 11. Career information oriented student handbook. A well developed elective program in trade & industry-office Ed. & DE.
Titonka	We have done some in-service to acquaint staff with concept. Steering Comm functions in our school to coordinate activities. Self awareness activities and acquaintance with world of work are carried out at elementary level. Plans are being formulated in high school for work study experiences.

RESPONSES TO NUMBER 26 (cont)

School District	Response
Terril	One semester courses in 10th and 12th grade, provision for work experience with credit, integration into K-12 program of concepts of career ed. Setting up outside courses on a contractual basis.
South Clay	Films - interviews
Terril Comm. School	Classes offered to two high school grades. Some awareness in elementary. Plans to implement work study.
Spencer Community	DE - OE Quest Day - Guidance Dept. Vocational training.
Spencer Community	Students in high school are on work study programs. Teachers in elementary schools are introducing students to the awareness of jobs and what they entail.
Spencer	D.E.; O.E.; Visitations, Guest speakers, counselors, T & I
Estherville	Career education is taught incidentally and formally on a limited program (kits, resource people, etc.)
Armstrong	Each individual instructor is including some type of career education in their program.
LuVerne Community	1. Values clarification with 7th graders. 2. As appropriate, brought up in classes. 3. Courses such as consumer math and consumer education.
Everly	It is in the initial stage, mostly the planning stage.
Algona	We have continued to discuss careers and jobs in our elementary curriculum, making career Ed an integral part of our total curriculum. The middle school and high school have taken special steps to focus on careers.
Algona	Career awareness is being conducted by senior instructors and community resource people. Awareness is being weekly in home-room and then career awareness is worked into classrooms whenever possible.
Algona	8th grade - ½ hr. per week small or large group with student activities or speaker from local community. 7th grade - ½ hr combination of career education and self awareness program. 6th grade same as 7th grade.
Ayrshire Cons.	Work-study program
Garrigan - Algona Community	Area College programs are available in power mechanics and health occupations.
South Clay Community	Implementation within regular course areas.

RESPONSES TO NUMBER 26 (cont)

School District	Response
Ruthven Cons.	Have a job training exploritory into various occupations, information available on various positions, counseling at all levels.
Ruthven Cons.	Have means to explore careers, have three courses for job industry, allow on-the-job training.
Arnolds Park	Mostly through class discussion and teacher awareness of careers. Being brought up during occurances in class.
Terril	Career education course for all sophmores and seniors. Special interest areas. Entry-level job placement.
Spirit Lake	Concept is encouraged K-12, many teachers are doing great things to implement the concept.
Spirit Lake	D-Ed program added, emphasis on Industrial Arts program and illustrated to students how course (ie: English, Math) are used by people in our society.
Spirit Lake	By thinking of the greater community as a most useful resource to our program.
Lincoln Central	Part of 10 school project. Self awareness at K-level - Guidance dept. and several teachers at high school level are becoming involved. Newer texts now in use at elementary level have the concept built in.

27. If the answer to question number 25 is "Disagree" list below obstacles to implementation of the career education concept:

Response:

Persomel qualified to implement program - such as a guidance counselor

In-service training for staff. Acceptance of the career education concept by staff

Teacher training and experience in its implementation.

Career concept have to vogue for real evaluation.

RESPONSES TO NUMBER 27 (cont)

Response:

Money. Work opportunities. Resource people

Teachers must see the need before any change in curriculum is of any value. We haven't pushed for it. Resource people are not readily available in our small community. A large per cent of our students are interested in farming.

Not enough information and direction with regard to career education - need in-service and information.

Need to organize details of program. Need additional funds. Lack of job sites in district.

Funding and job placement.

Our proposal because of time problems is now being developed for 2nd semester implementation.

Lack of money. Lack of facilities. Lack of teacher time.

No leadership.

Deficient at 9th grade - need a work study exploration program. Need community help.

Teacher understanding. Better in-service.

An all school effort has never been exerted - we have the CE concept scattered throughout our school but not on a formal basis.

The counselor is quite unfamiliar with what is needed. The problems with setting up a work-study program.

AREA III ADMINISTRATORS RESPONSES TO QUESTIONNAIRE QUESTIONS-18-35 (cont)

28. Check the category(s) in each of the three columns listed below that apply to you:

JOB CATEGORY	#	%
Superintendent	20	26
Principal	38	50
Counselor	18	24

29. How many years of educational work experience do you have?

YEARS	#	%
1-5	9	11
6-10	11	14
11-20	29	37
21-30	24	30
over 30	6	8

30. How many years of non-educational work experience do you have?

YEARS	#	%
0-1	8	10
1-5	45	58
6-10	18	23
11-20	7	9

31. I have received career education information from: (check all that apply)

Number	%		Number	%	
48	14	films	50	15	books
68	20	in-service sessions	46	13	research reports
35	10	seminars	28	8	college courses
68	20	journals			

AREA III ADMINISTRATORS RESPONSES TO QUESTIONNAIRE QUESTIONS - 18-35 (cont)

32. How many days of in-service training for teachers are scheduled during the school year?

Days	Number	%
0-3	33	46
4-6	18	25
7-10	19	26
11 or more	2	3

33. How many of these days are devoted to career education in-service?

Days	Number	%
0	36	56
1	16	25
2	6	9
3	3	5
4 or more	3	5

34. What percentage of elementary (k-6) teachers were released for in-service activity other than for regularly scheduled in-service days?

Percentage	Number	%
0	11	26
1-10	7	16
11-24	5	12
25 or more	20	47

35. What percentage of secondary (7-12) teachers were released for in-service activity other than for regularly scheduled in-service days?

Percentage	Number	%
0	11	23
1-10	11	23
11-24	6	13
25 or more	19	40

NEEDS ASSESSMENT

Comprehensive program planning is basic to the implementation of any new program and begins with the needs assessment. A needs assessment is exactly what it says it is, an assessment of needs -- all needs. The comprehensiveness of the assessment is the springboard to program planning. A list of needs might include the following:

School Records

- survey of school population showing student population by grade level, number of families represented, and family economic level
- jobs held by adult members of family
- ethnic profile
- language of parents
- mobility rate

Educational Profile

- previous school performance of students, according to standardized and/or criterion referenced tests
- teacher opinion

Instructional Program

- curriculum offerings and schedules
- class size
- degree to which present program offers an individualized, diagnostic approach
- record keeping for continuous progress

Health

- type and amount of health services provided students
- available school personnel
- community/county/state resources

Parent Education

- existence or availability of parent education
- parent need
- available facilities

Parent/Community Involvement

- existing parent/community involvement
- parent/community interest
- community advisory committee
- human resources
- particular talents
- community business/industry resources

Staff Development

- existing staff development program
- inservice needs
- availability of library materials
- university or college offerings

District Support

- survey and analysis of district resources
- availability and types of consultant, guidance, health, etc. services
- district roles and objectives

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More Emphasis to Career Education

National public support is best reflected in the Gallup Poll Report of Fall 1973. This poll shows overwhelming approval of the suggestion that schools give more emphasis to a study of trades, professions, and businesses to help students decide on their careers. Nine in ten persons in all major groups sampled in this survey say they would like to have the schools give more emphasis to this part of

the educational program. Most of those who vote for this greater emphasis say this program should start with junior and senior high school. However, many professional educators think it should start in the elementary grades.

The Question:

Should public schools give more emphasis to a study of trades, professions, and businesses to help students decide on their careers?

	National Totals N=1,627 %	No. Children in school 928 %	Public School Parents 620 %	Private School Parents 124 %	Professional Educators 306 %
Yes, more emphasis	90	90	90	89	90
No	7	7	7	9	9
No Opinion	3	3	3	2	1
	100	100	100	100	100

(The Gallup Poll of Attitudes Toward Education 1969-1973. Phi Delta Kappa, Inc. Elam, Stanley Editor. P. 163.)

Assessment of the Quality and Effectiveness of Instruction at Iowa Lakes Community College

The factors for assessing the quality and effectiveness of instruction at Iowa Lakes Community College are found in the Follow-up Placements Study of 1972-1973; The Research Center Survey; The Student Survey; Technological Readiness Survey; The Survey of the Community; The Program Curriculum Evaluation; The North Central Report; Employer Ratings of Graduates; and Analysis of the Success of the ILCC Transfer Students at Four-Year Institutions.

INDICES:

QUALITY OF EDUCATION

Follow-up and Placements Study 1972-1973:

1. How satisfactory was the training or classwork the 1972-1973 students received at Iowa Lakes?

   Very Satisfied - 24% Satisfied - 69%
   Unsatisfied - 6% Very Unsatisfied - 1%

2. Did the Arts and Science students feel that Iowa Lakes Community College provided what was needed for the school they are now presently attending?

   Yes - 86% No - 14%

3. Did your stay at Iowa Lakes Community College help you at your present school?

   Yes - 88% No - 12%

4. Has your training at Iowa Lakes Community College helped you with your present job?

   Yes - 67% No - 33%

Research Center Survey:

1. College Effectiveness:

A high score suggests that in the opinion of members, the college has a favorable reputation in the community, has a good atmosphere for learning, and offers high quality programs.

ILCC		ALL SCHOOLS
3.3	Students	3.5
3.5	Faculty	3.4
4.0	Administrators	3.7

2. Quality of Courses:

Reflects the quality of randomly selected courses (classes) from the perspective students currently completing those courses. A high score denotes that the courses have provided students with useful ideas and skills, broadened their perspectives, and increased their interest in the course topics. High scores also indicate that students are satisfied with the way the courses are going and would recommend the courses to friends.

ILCC		ALL SCHOOLS
3.3	Students	3.4

Iowa Lakes Community College Student Survey:

1. Examinations are usually thorough and fair:

   Agree - 53%; Partially Agree - 40%; Disagree - 7% (N)= 391

2. Instructors are generally available for assistance with classwork:

   Agree - 61%; Partially Agree - 27%; Disagree - 12% (N)= 359

3. Lectures are dry, dull, and monotonous:

   Majority - 13%; Half - 39%; Minority - 48% (N)= 401

4. Instructors present material in an entertaining manner:

   Majority - 30%; Half - 49%; Minority - 21% (N)= 400

5. Instructors give disorganized, superficial or imprecise treatment of their material:

   Majority - 8%; Half - 21%; Minority - 71% (N)= 400

6. Out-of-class assignments are reasonable in length:

Majority - 45%; Half - 37%; Minority - 18% (N)= 397

7. Insufficient distinction is made between major ideas and less important details:

Majority - 15%; Half - 40%; Minority - 45% (N)= 398

8. Instructors relate course material to contemporary problems:

Majority - 37%; Half - 45%; Minority - 18% (N)= 400

9. Generally speaking, I have been very satisfied with the quality of the classroom, shop, and lab instruction that I have received at ILCC:

Agree - 66%; Undecided - 14%; Disagree - 7%; Mixed Feelings - 13%
(N)= 371

Survey on Decision-Making Practices, Technological Readiness, and Attitudes:

Board Members and Administrators

1. In terms of quality education, two years at ILCC is similar to two years at one of the state universities:

Agree - 72%; Disagree - 14%; Undecided - 14% (N)= 7

2. The Adult and Continuing Education evening classes at ILCC provide something for most everyone:

Agree - 100% (N)= 7

Survey of the Community:

1. In terms of quality education, two years at ILCC is similar to two-years at one of the state universities:

Agree - 49%; Disagree - 24%; Undecided - 27% (N)= 339

2. The Adult and Continuing Education evening classes at ILCC provide something for most everyone:

Agree - 86%; Disagree - 4%; Undecided - 10% (N)= 343

Program Curriculum Evaluation:

1. Arts and Science Division

   a. Currently Enrolled Students:
      i. Are the courses you are now taking challenging?

         Yes - 91%; No - 6%; Some - 3% (N)=1249

   b. 1971-1972 Graduates and Dropouts:

      i. Has your training at ILCC helped you at your present job?

         Yes - 100%

      ii. Did your stay at ILCC help you at your present school?

         Yes - 80%; No - 20%

      iii. How satisfactory was the training or classwork that you received at ILCC?

         Very Satisfactory - 22.8% Satisfactory - 70.6%
         Unsatisfactory - 6.0% Very Unsatisfactory - 0.6%

         (N)= 175

2. Vocational and Technical Division

   a. Graduates and Dropouts:

      i. Has your training at ILCC helped with your present job?

         Yes - 84%; No - 16% (N)= 100*

      ii. How satisfactory was your training or classwork that you received at ILCC?

         Very Satisfactory - 28% Satisfactory - 69%
         Unsatisfactory - 01% Very Unsatisfactory - 02%
         (N)= 100

North Central Survey: 1974
Instructional Strengths

The College has established a curriculum that has a total range of educational experiences for the students, both in the transfer

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*Includes 51% of graduating students.

program and in the occupational vocational programs.

Placements:

Records and Placement Survey 1973:

Arts and Science Students from 1972-1973 at ILCC are presently:

Going to School	68%
Working Full Time	20%
Working Part Time	8%
Military	1%
Seeking Employment	2%
Unable to Work	1%

Vocational Students from 1972-1973 are presently:

Going to School	4%
Working Full Time	62%
Working Part Time	9%
Military	4%
Seeking Employment	16%
Unable to Work	3%
Unknown	2%

Were Iowa Lakes 1972-1973 graduates employed in fields or related fields they were trained for at ILCC?

In Occupation or Related Field	85%
Occupation Unrelated to Area Trained In	15%

Is your major field of study different than what you prepared for at ILCC?

Major Remained the Same	78%
Major Changed	22%

Employer Evaluation:

Employer Ratings of Graduates:

In a recent survey encompassing the last two graduation classes of all the vocational-technical programs, the graduates' first employers were asked to rate their performance on-the-job. There were 195 surveys sent with 103 being returned.

Survey Results:

Question:	By Percentage of Respondents Below Average (Poor)	Average	Above Average (Excellent)
How do you rate this person's preparation for his job?	7.9%	49.0%	43.1%
How does this employee relate to customers?	10.0%	27.0%	63.0%
How does this employee relate to the employer or immediate supervisor?	5.0%	22.5%	72.5%
If you have employed other people in the same type of position as that held by the referred individual, how does our graduate compare in reference to competencies needed to perform the job?	15.5%	25.8%	58.7%
Average of Responses:	9.5%	31.0%	59.5%

Based on past graduates' performances, do you plan to interview future graduates for possible openings?

Yes - 95% No - 5%

Transferability and Success at Four-Year Institutions:

Curriculum Evaluation Study:
Survey Question:

Did you experience any difficulty in transferring ILCC credits?

Yes - 21% No - 79%

Analysis of Success of ILCC Transfer Students at Four-Year Institutions[1]:

	Iowa State University	Mankato University	University of Iowa	University of Northern Iowa
Number of ILCC Transfer Students	22	35	23	46
Mean GPA of ILCC Transfer Students	2.49	2.78	2.44	2.70
Mean GPA of all Students from Iowa 2-Year Institutions	NG[2]	2.72	2.50	2.60
Mean Transfer GPA of ILCC Students	NG	2.72	3.00	2.92
Mean Transfer GPA of all Students Iowa 2-Year Institutions	NG	2.54	2.80	2.53
Breakdown of Cumulative GPA's of Enrolled ILCC Transfer Students by Percent				
0 to 1	0	0	0	0
1 to 2	27.00	8.6	22.00	0
2 to 3	55.00	54.3	52.00	74.00
3 to 4	18.00	37.1	26.00	26.00

Comments:

1. Iowa Lakes Community College transfer students are, in general, successful at four-year institutions.

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1. Approximately 60% of ILCC transfer students transfer to the schools listed in this chart.

2. Not Given

2. The mean transfer GPA for ILCC students is higher than the mean transfer GPA of students from other Iowa two-year institutions.

3. The mean UNI and MSC GPA of ILCC transfer students is higher than that of students from other Iowa two-year institutions.

4. The mean U of I GPA of ILCC transfer students is lower than that of students from other Iowa two-year institutions.

5. Judging from the breakdown of cumulative GPA's it appears that ILCC transfer students are more likely to succeed at the University of Northern Iowa and Mankato State College than at Iowa State University or the University of Iowa.

6. Interpretation: It appears that the transfer GPA's of ILCC students are higher as compared to the transfer GPA's of other Iowa two-year institutions. However, the superior performance of ILCC transfer students as compared with transfer students from other Iowa two-year institutions at two of the three institutions, where comparative information is available, might indicate superior capabilities.

ANALYSIS:

The quality and effectiveness of instruction at Iowa Lakes Community College is excellent. Ninety-three percent of the respondents in the Follow-up Placements Study stated that they were satisfied with the training or classwork they received. Sixty-eight percent of the ILCC Arts and Science students successfully transferred to various four-year institutions, and 62% of the vocational-technical students were employed full time. Of those students who were employed, 85% were employed in their field or related field of training, while 78% of the transfer students remained in their field of preparation (major).

Employers consistently rated ILCC vocational-technical students by an average response rate of 59.3% as excellent and above average in their work performance. ILCC transfer students were successful at four-year institutions. At two (2) of the three (3) four-year

institutions, for which information is available, ILCC transfer students maintained a higher GPA than the average GPA of all transfer students from Iowa two-year institutions.

A. Assessment of Instruction

CONCLUSIONS:

1. Assessment of the Scope of Instruction

   a. Iowa Lakes Community College has an excellent scope of instruction which meets the educational needs of the people of Merged Area III and the ten (10) points of the law.

   b. A plan of action for the development and implementation of the courses of study identified in the Course Development Planning Report should be made.

2. Assessment of the Quality and Effectiveness of Instruction

   a. The quality and effectiveness of instruction at Iowa Lakes Community College is excellent.

POPULATION CHARACTERISTICS AND TRENDS

Population characteristics and the trends that develop must be seriously studied and considered in the process of evaluating educational needs for Area III. The following tables present population changes occuring in the last ten years, by county, considering all ages. Looking at the totals for each county, we see that Clay county had a decrease in population of forty between 1960 and 1970, leaving a total population in 1970 of 18,464. Dickinson county experienced a total decrease of nine, leaving a total of 12,565 in 1970. Emmet county dropped 862 between 1960 and 1970, leaving a total of 14,009. Kossuth county experienced a loss of 2,377 people in the same ten year period leaving their total population at 22,937. And Palo Alto saw it's numbers decline from 14,736 in 1960 to 13,289 in 1970 for a loss of 1,447 people.

Table XXII presents a breakdown by county of the population change between 1960 and 1970. Not only is the total population of each county considered but more specifically, male and female statistics are presented and twenty-three different age categories are considered.

In 1960 there were 85,999 persons in the five counties of Area III. In 1970 there were 81,264 persons, for a 4735 population decrease of 5.5 percent. The State of Iowa experienced a 2.4 percent increase in the same decade.

When the population of the various age categories is studied in detail some rather startling facts are revealed. In 1960 there were 9836 children under five years of age in Area III, but in 1970 that same age category contained only 6128 persons. This was a decline of 3708 children, or a loss of 37.7 percent from 1960 to 1970. Table XXIV contains further information on age group population comparisons.

Table XXIII presents the population number and the percent of change of each of the towns of the five counties of Area III from 1950 to 1960 to 1970.

The meaning of this data in terms of enrollment projections, labor supply and labor demand becomes obvious. If the out-migration continues at the rate that it did between 1960 and 1970, it compounds the already substantial decrease in the number of available young people caused by the decline in the birth rate. In otherwords, not only were there fewer young persons in 1970 than in 1960, below the age of 10 in Area III, but by the time they reach age 18, there will, in all likelihood, be an additional decline in their numbers due to out-migration.

Table 25 reveals the rate of live births per 1,000 population for each county of Area III and for the State of Iowa. From 1955 to 1972 there was a decline in the rate of live births per 1,000 in Area III of 11.8 while the figures for the State of Iowa show a 9.2 decline.

Table 26 presents some interesting comparisons concerning the elderly, by county and state totals. We see that while the index of aging for the state is 43.4, it is 47.4 for Area III. 13.6 percent of the population of Area III is sixty-five years and older while 12.4 percent of the total state of Iowa population falls in that age category.

Table XXII presents a breakdown of the median age of county and state population for 1960 and 1970. While the median age in the state of Iowa dropped from 30.3 in 1960 to 28.8 in 1970, the median age in Area III increased from 30.1 in 1960 to 31.6 in 1970.

Tables 27, 28 (1) and 28 (2) are maps showing the county configuration within the state of Iowa, the total population of each county within Iowa, the percent of the county population that is rural, the percent of population that is rural-farm, and the percent of population of each county that is rural non-farm.

Table 29 lists the population projections for Area III, for 1960-1980 as developed for the Governor's Planning and Programming Office.

TABLE XXII

CLAY COUNTY
POPULATION CHANGES
1960-1970

1950: 18,103
1960: 18,504 = + 401
1970: 18,464 = - 40

AGE GROUPS	CHANGE 1960-70	1970 MALE	1970 FEMALE	1970 TOTAL	1960 MALE	1960 FEMALE	1960 TOTAL
ALL AGES	- 40	8,811	9,653	18,464	9,123	9,381	18,504
Under 5 years	- 682	677	683	1,360	1,076	966	2,042
5 and 6	- 185	338	326	664	441	408	849
7 to 9	- 179	566	576	1,142	668	653	1,321
10 to 13	- 23	790	719	1,509	773	759	1,532
14	+ 153	253	198	451	145	153	298
15	+ 97	209	202	411	159	155	314
16 and 17	+ 228	405	433	838	293	317	610
18 and 19	+ 336	263	410	673	170	167	337
20	+ 41	81	117	198	71	86	157
21	+ 192	66	104	170	259	357	616
22 to 24		284	354	638			
		350	458	808			
25 to 24	- 280	933	989	1,922	1,050	1,152	2,202
35 to 44	- 296	982	1,080	2,062	1,155	1,203	2,358
45 to 54	+ 123	1,051	1,127	2,178	1,019	1,036	2,055
55 to 59	+ 67	440	496	936	426	443	869
60 to 61	+ 58	180	193	373	396	436	832
62 to 64		244	273	517			
		424	466	890			
65 to 74	+ 12	610	765	1,375	680	683	1,363
75+	+ 298	439	608	1,047	342	407	749
Under 10	-1,046	1,581	1,585	3,166	2,185	2,027	4,212
Under 18	- 591	3,238	3,137	6,375	3,555	3,411	6,966
18 to 64	+ 241	4,524	5,143	9,667	4,546	4,880	9,426
65+	+ 310	1,049	1,373	2,422	1,022	1,090	2,112
Male	- 312	8,811			9,123		
Female	+ 272		9,653			9,381	
Men - 18-64	- 22	4,524			4,546		
Women - 18-64	+ 263		5,143			4,880	

Source: 1960 and 1970 Census of Population
Prepared By: Northwest Iowa Area Extension Office

TABLE XXII

DICKINSON COUNTY
POPULATION CHANGES
1960-1970

1950: 12,756
1960: 12,574 = - 182
1970: 12,565 = - 9

AGE GROUPS	CHANGE 1960-70	1970 MALE	1970 FEMALE	1970 TOTAL	1960 MALE	1960 FEMALE	1960 TOTAL
ALL AGES	- 9	6,191	6,374	12,565	6,314	6,260	12,574
Under 5 years	- 422	445	406	851	652	621	1,273
5 and 6	- 112	209	201	410	254	268	522
7 to 9	- 111	366	335	701	424	388	812
10 to 13	- 29	511	509	1,020	567	482	1,049
14	+ 70	140	123	263	90	103	193
15	+ 84	147	118	265	96	85	181
16 and 17	+ 113	282	236	518	216	189	405
18 and 19	+ 109	182	177	359	135	115	250
20	+ 17	58	64	122	48	57	105
21	+ 117	51	67	118	179	209	388
22 to 24		194	193	387			
		245	260	505			
25 to 34	- 39	593	613	1,206	605	640	1,245
35 to 44	- 239	635	685	1,320	751	808	1,559
45 to 54	+ 63	763	830	1,593	761	769	1,530
55 to 59	+ 68	396	409	805	383	354	737
60 and 61	+ 68	149	171	320	336	317	653
62 to 64		199	202	401			
		348	373	721			
65 to 74	+ 8	532	584	1,116	552	556	1,108
75 +	+ 226	339	451	790	265	299	564
Under 10	- 645	1,020	942	1,962	1,330	1,277	2,607
Under 18	- 407	2,100	1,928	4,028	2,299	2,136	4,435
18 to 64	+ 164	3,220	3,411	6,631	3,198	3,269	6,467
65+	+ 234	871	1,035	1,906	817	855	1,672
MALE	- 123	6,191			6,314		
FEMALE	+ 114		6,374			6,260	
Men - 18-64	+ 22	3,220			3,198		
Women - 18 - 64	+ 142		3,411			3,269	

SOURCE: 1960 and 1970 Census of Population
Prepared By: Northwest Iowa Area Extension Office

TABLE XXII

EMMET COUNTY
POPULATION CHANGES
1960 - 1970

1950: 14,102
1960: 14,871 = + 769
1970: 14,009 = - 862

AGE GROUPS	CHANGE 1960-70	1970 MALE	1970 FEMALE	1970 TOTAL	1960 MALE	1960 FEMALE	1960 TOTAL
ALL AGES	- 862	6,840	7,169	14,009	7,348	7,523	14,871
Under 5 years	- 596	572	531	1,103	863	836	1,699
5 and 6	- 175	274	251	525	383	317	700
7 to 9	- 199	446	420	866	536	529	1,065
10 to 13	- 145	595	597	1,192	671	666	1,337
14	+ 62	159	146	305	120	123	243
15	+ 31	160	122	282	126	125	251
16 and 17	+ 126	333	288	621	244	251	495
18 and 19	+ 350	341	337	678	172	156	328
20	+ 84	101	110	211	66	61	127
21	+ 32	287 70	332 77	619 147	268	319	587
22 to 24		217	255	472			
25 to 34	- 260	675	694	1,369	782	847	1,629
35 to 44	- 368	694	732	1,426	874	920	1,794
45 to 54	- 65	716	828	1,544	820	789	1,609
55 to 59	+ 44	379	367	746	354	348	702
60 and 61	+ 72	317 133	360 151	677 284	282	323	605
62 to 64		184	209	393			
65 to 75	- 36	466	572	1,038	525	549	1,074
75+	+ 181	325	482	807	262	364	626
Under 10	- 970	1,292	1,202	2,494	1,782	1,682	3,464
Under 18	- 896	2,539	2,355	4,894	2,943	2,847	5,790
18 to 64	- 111	3,510	3,760	7,270	3,618	3,763	7,381
65+	+ 145	791	1,054	1,845	787	913	1,700
Male	- 508	6,840			7,348		
Female	- 354		7,169			7,523	
Men - 18-64	- 108	3,510			3,618		
Women - 18-64	- 3		3,760			3,763	

Source: 1960 and 1970 Census of Population
Prepared By: Northwest Iowa Area Extension Office

TABLE XXII

KOSSUTH COUNTY
POPULATION CHANGES
1960-1970

1950: 26,241
1960: 25,314 = - 927
1970: 22,937 = - 2,377

AGE GROUP	CHANGE 1960-70	1970 MALE	1970 FEMALE	1970 TOTAL	1960 MALE	1960 FEMALE	1960 TOTAL
ALL AGES	- 2,377	11,330	11,607	22,937	12,680	12,634	25,314
Under 5 years	- 1,242	982	862	1,844	1,556	1,530	3,086
5 and 6	- 289	481	470	951	623	617	1,240
7 to 9	- 123	856	766	1,622	882	863	1,745
10 to 13	- 119	1,098	1,063	2,161	1,147	1,133	2,280
14	+ 103	286	307	593	263	227	490
15	+ 132	243	281	524	215	177	392
16 and 17	+ 143	562	502	1,064	471	450	921
18 and 19	+ 92	318	257	575	250	233	483
20	- 11	104	108	212	101	122	223
21	- 151	70	112	182	453	539	992
22 to 24		326	333	659			
		396	445	841			
25 to 34	- 559	1,056	1,114	2,170	1,350	1,379	2,729
35 to 44	- 628	1,183	1,230	2,413	1,522	1,519	3,041
45 to 54	- 102	1,313	1,336	2,649	1,400	1,351	2,751
55 to 59	- 65	580	616	1,196	651	610	1,261
60 and 61	+ 33	243	226	469	530	593	1,123
62 to 64		318	369	687			
		561	595	1,156			
65 to 74	+ 209	838	985	1,823	840	774	1,614
75+	+ 200	473	670	1,143	426	517	943
Under 10	- 1,654	2,319	2,098	4,417	3,061	3,010	6,071
Under 18	- 1,395	4,508	4,251	8,759	5,157	4,997	10,154
18 to 64	- 1,391	5,511	5,701	11,212	6,257	6,346	12,603
65+	+ 409	1,311	1,655	2,966	1,266	1,291	2,557
Male	- 1,350	11,330			12,680		
Female	- 1,027		11,607			12,634	
Men - 18-64	- 746	5,511			6,257		
Women - 18-64	- 645		5,701			6,346	

Source: 1960 and 1970 Census of Population
Prepared By: Northwest Iowa Area Extension Office

TABLE XXII

PALO ALTO COUNTY
POPULATION CHANGES
1960 - 1970

1950: 15,891
1960: 14,736 = - 1,155
1970: 13,289 = - 1,447

AGE GROUPS	CHANGE 1960-70	1970 MALE	1970 FEMALE	1970 TOTAL	1960 MALE	1960 FEMALE	1960 TOTAL
ALL AGES	- 1,447	6,576	6,713	13,289	7,356	7,380	14,736
Under 5 years	- 766	503	467	970	915	821	1,736
5 and 6	- 198	252	255	507	366	339	705
7 to 9	- 195	453	418	871	535	531	1,066
10 to 13	- 78	661	561	1,222	645	655	1,300
14	+ 14	125	162	287	156	117	273
15	+ 95	166	164	330	115	120	235
16 and 17	+ 84	344	279	623	265	274	539
18 and 19	+ 145	245	221	466	165	156	321
20	+ 22	69	69	138	51	65	116
21	- 16	52	70	122	227	260	487
22 to 24		172	177	349			
		224	247	471			
25 to 34	- 519	530	577	1,107	794	832	1,626
35 to 44	- 226	673	735	1,408	806	828	1,634
45 to 54	- 116	733	751	1,484	812	788	1,600
55 to 59	+ 1	353	393	746	383	362	745
60 and 61	+ 48	142	160	302	311	349	660
62 to 64		219	187	406			
		361	347	708			
65 to 74	+ 67	543	617	1,160	531	562	1,093
75+	+ 191	341	450	791	279	321	600
Under 10	- 1,159	1,208	1,140	2,348	1,816	1,691	3,507
Under 18	- 1,044	2,504	2,306	4,810	2,997	2,857	5,854
18 to 64	- 661	3,188	3,340	6,528	3,549	3,640	7,189
65+	+ 258	884	1,067	1,951	810	883	1,693
Male	- 780	6,576			7,356		
Female	- 667		6,713			7,380	
Men - 18-64	- 361	3,188			3,549		
Women - 18-64	- 300		3,340			3,640	

Source: 1906 and 1970 Census of Population
Prepared By: Northwest Iowa Area Extension Office

TABLE XXIII

POPULATION NUMBER AND PERCENT CHANGE OF TOWNS
NORTHWEST IOWA EXTENSION AREA - 1950-1960-1970

COUNTY	1950	1960	% CHANGE 1950-60	1970	1960-1970 NO. CHANGE	1960-1970 % CHANGE
Clay						
Dickens	311	241	- 22.5	240	- 1	- 0.4
Everly	547	668	+ 22.1	699	+ 31	+ 4.6
Fostoria	147	167	+ 13.6	219	+ 52	+31.1
Greenville	173	173	+ 0.0	117	- 56	-32.4
Peterson	589	565	- 4.1	469	- 96	-17.0
Rossie	112	102	- 8.9	91	- 11	-10.8
Royal	495	475	- 4.0	469	- 6	- 1.3
Spencer	7,446	8,864	+ 19.0	10,278	+1,414	+16.0
Webb	235	236	+ 0.4	234	- 2	- 0.8
Dickinson						
Arnolds Park	1,078	953	- 11.6	970	+ 17	+ 1.8
Lake Park	924	952	+ 3.0	918	- 34	- 3.6
Milford	1,375	1,476	+ 7.3	1,668	+ 192	+13.0
Okoboji	336	330	- 1.8	361	+ 31	+ 9.4
Old Town	40	27	- 32.5	24	- 3	-11.1
Orleans	317	280	- 11.7	396	+ 116	+41.4
Spirit Lake	2,467	2,685	+ 8.8	3,014	+ 329	+12.3
Superior	240	190	- 20.8	139	- 51	-26.8
Terril	425	382	- 10.0	397	+ 15	+ 3.9
Wahpeton	127	117	- 7.9	149	+ 32	+27.4
West Okoboji	158	171	+ 8.2	210	+ 39	+22.8
Emmet						
Armstrong	943	958	+ 1.6	1,061	+ 103	+10.8
Dolliver	130	122	- 6.2	95	- 44	-22.1
Estherville	6,719	7,927	+ 18.0	8,108	+ 181	+ 2.3
Gruver	135	140	+ 3.7	135	- 5	- 3.6
Ringsted	578	559	- 3.3	509	- 50	- 8.9
Wallingford	229	228	- 0.4	245	+ 17	+ 7.5

COUNTY	1950	1960	% CHANGE 1950-60	1970	1960-1970 NO. CHANGE	% CHANGE
Kossuth						
Algona	5,415	5,702	+ 5.3	6,032	+ 330	+ 5.8
Bancroft	901	1,000	+ 11.0	1,103	+ 103	+ 10.3
Burt	572	620	+ 8.5	608	- 12	- 1.9
Fenton	446	440	- 1.3	403	- 37	- 8.4
Lakota	443	459	+ 3.6	385	- 74	- 16.1
Ledyard	327	289	- 11.6	240	- 49	- 17.0
Lone Rock	188	185	- 1.6	166	- 19	- 10.3
Luverne	553	468	- 15.4	380	- 88	- 18.8
Swea City	869	805	- 7.4	774	- 31	- 3.9
Titonka	589	647	+ 9.8	599	- 48	- 7.4
Wesley	509	514	+ 1.0	548	+ 34	+ 6.6
Whittemore	678	74[illegible]	+ 9.3	658	- 83	- 11.2
Palo Alto						
Ayrshire	334	298	- 10.8	243	- 55	- 18.5
Curlew	151	134	- 11.3	95	- 39	- 29.1
Cylinder	143	161	+ 12.6	133	- 28	- 17.4
Emmetsburg	3,760	3,887	+ 3.4	4,150	+ 263	+ 6.8
Graettinger	1,016	879	- 13.5	907	+ 28	+ 3.2
Mallard	399	431	+ 8.0	384	- 47	- 10.9
Rodman	123	144	+ 17.1	104	- 40	- 27.8
Ruthven	868	712	- 18.0	708	- 4	- 0.6
West Bend	772	910	+ 17.9	865	- 45	- 4.9

ource: 1960 and 1970 Census of Population
repared By: Northwest Iowa Area Extension Office

Table XXIV

POPULATION FACTORS

Birth Rate Statistics *

County	1955	1960	1965	1967	1968	1969	1970	1971	1972
Clay	25.4	20.8	15.1	14.1	14.3	15.7	16.5	13.0	13.3
Dickinson	22.8	22.1	15.1	11.9	14.5	14.1	15.5	15.2	12.2
Emmet	26.7	23.8	17.5	15.0	14.2	16.7	15.4	15.9	15.5
Kossuth	25.9	26.0	17.4	15.1	13.9	14.6	15.5	13.7	14.3
Palo Alto	25.5	25.8	17.3	13.2	11.3	13.4	14.0	15.4	11.5
Area III	25.2	23.7	16.5	13.9	13.6	14.9	15.4	14.6	13.4
State of Ia.	23.9	23.2	18.4	17.2	16.8	17.2	17.1	15.8	14.2

*This information reveals the rate of live births per 1,000 population for each county and for the State of Iowa. Bureau of Vital Statistics.

The Elderly

County	Number and % 65 and Over		Number Under 15	Index of Aging	Percent of Total Aged	Total Pop.	Percent of State Pop.
Clay	2,422	13.1	5,126	47.2	0.7%	18,464	0.7%
Dickinson	1,906	15.1	3,245	58.7	0.5%	12,565	0.4%
Emmet	1,845	13.1	3,991	46.2	0.5%	14,009	0.5%
Kossuth	2,966	12.9	7,171	41.4	0.8%	22,937	0.8%
Palo Alto	1,951	14.6	3,857	50.6	0.6%	13,289	0.5%
Area III	11,090	13.6	23,390	47.4	3.1%	81,264	2.9%
State of Ia.	350,293	12.4	806,753	43.4		2,824,376	

Source: 1970 Census

Median Age of County Population

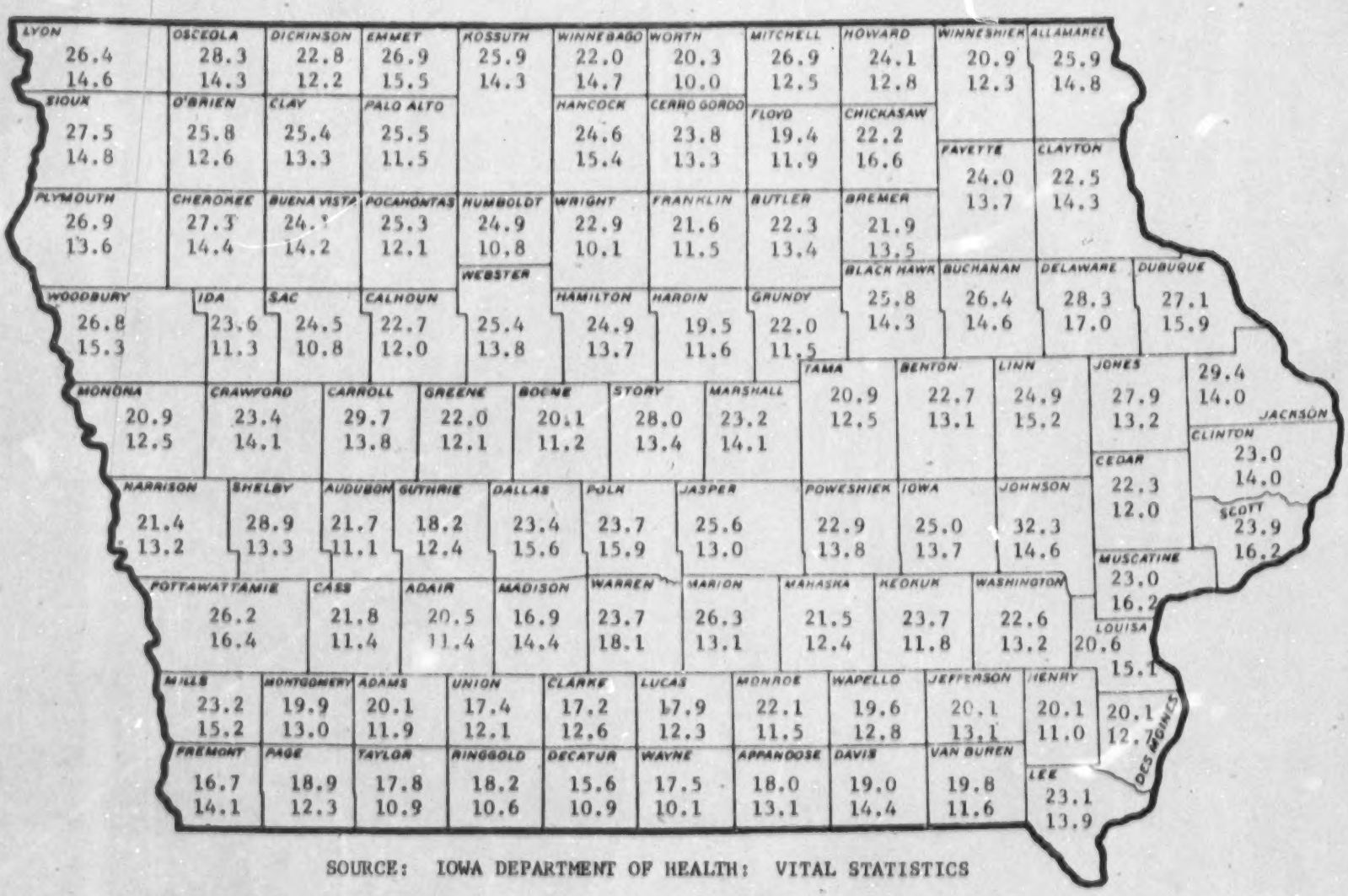
County	1970	1960
Clay	31.0	30.7
Dickinson	35.5	34.0
Emmet	29.5	29.1
Kossuth	30.2	28.1
Palo Alto	31.9	28.8
Area III	31.6	30.1
State of Iowa	28.8	30.3

Source: 1970 Census

Top Figure 1955
Bottom 1972

DEPARTMENT OF PUBLIC INSTRUCTION
Administration and Finance Division
Grimes State Office Building
Des Moines, Iowa 50319

BIRTH RATES PER 1000 POPULATION



SOURCE: IOWA DEPARTMENT OF HEALTH: VITAL STATISTICS

TABLE XXV

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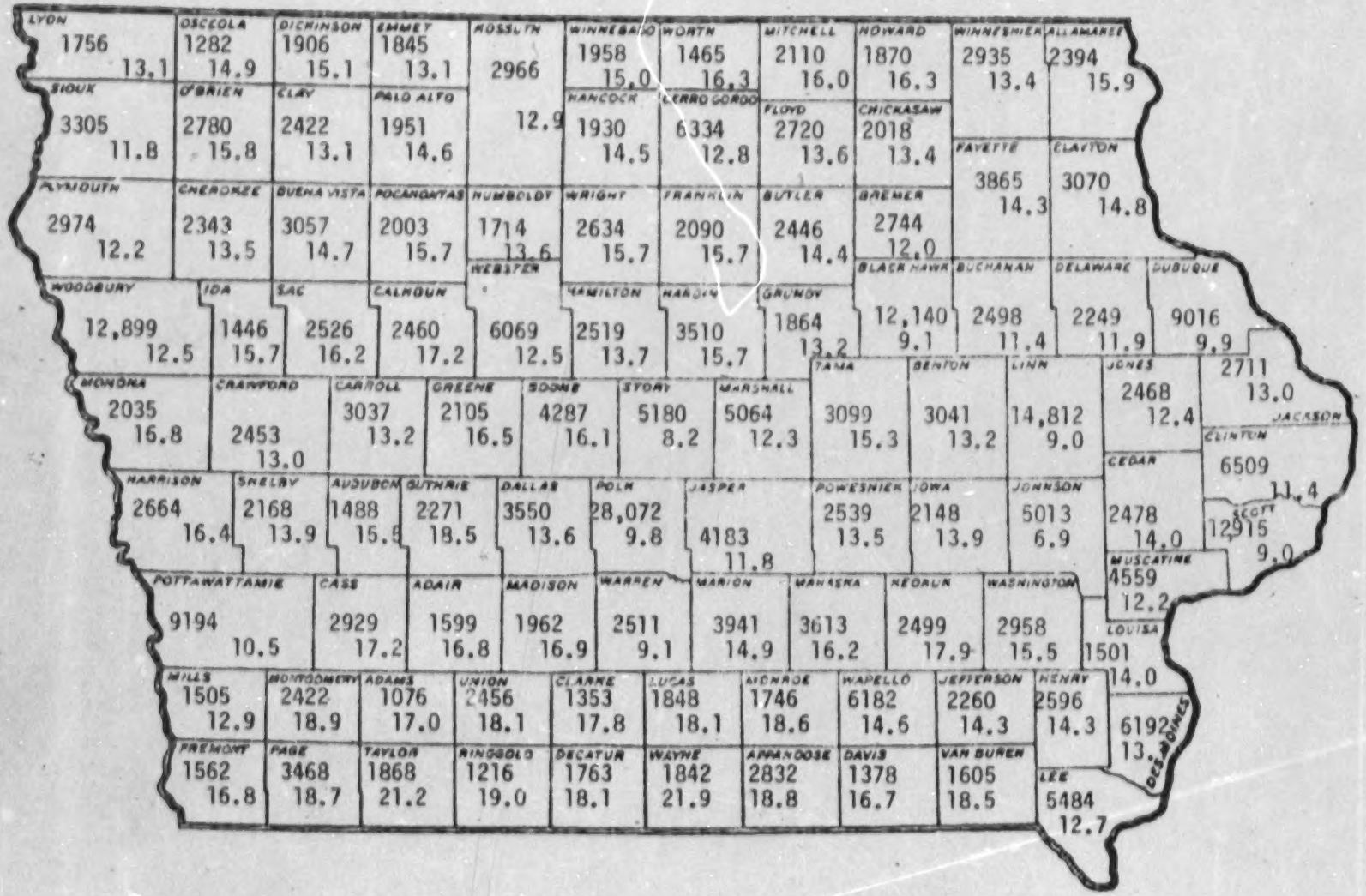
TABLE XXVI

NUMBER AND PERCENT OF POPULATION OVER 65



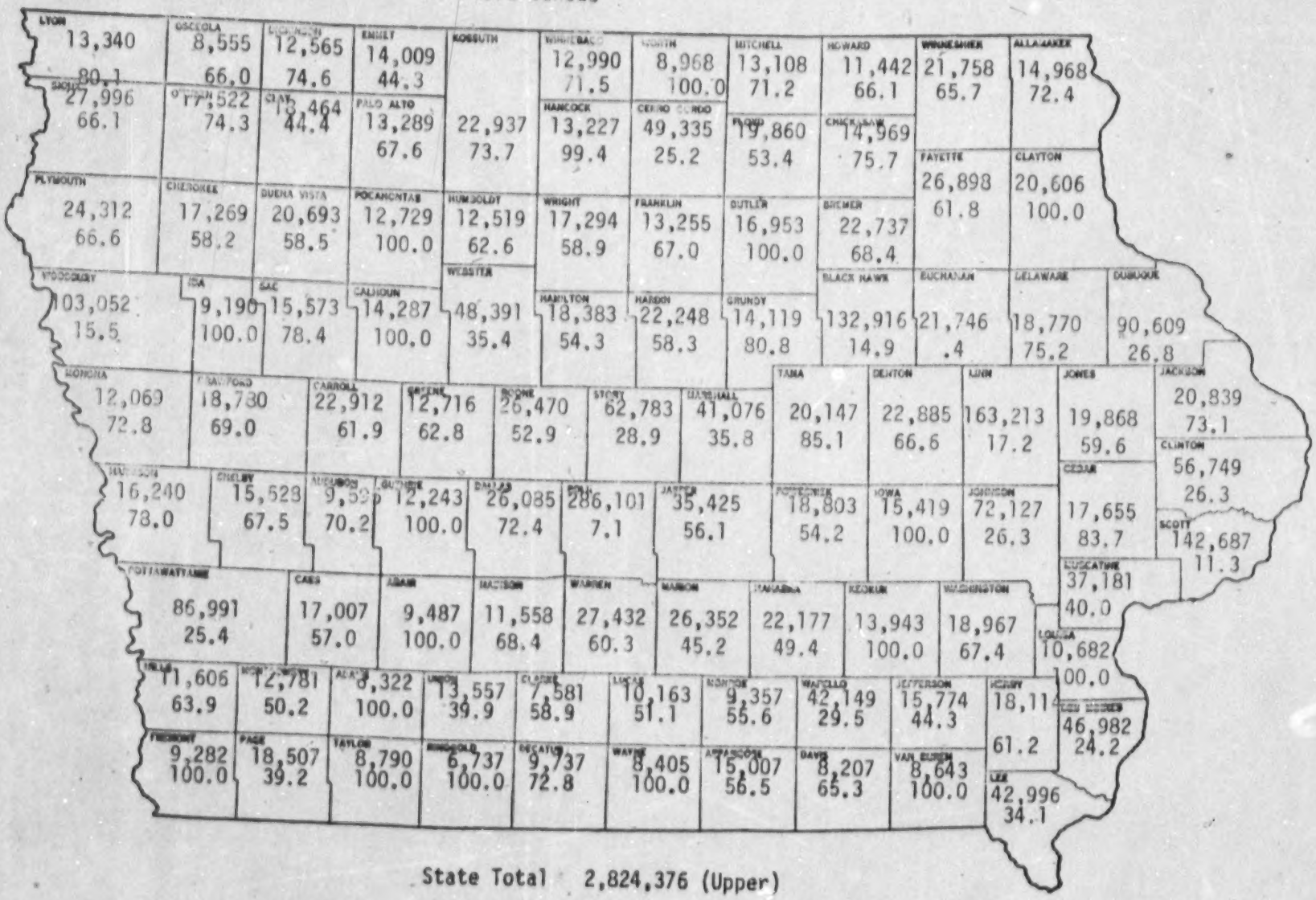
State Average 12.4 (Upper)

State Total 350,293(Lower)

TABLE XXVII

TOTAL POPULATION AND PERCENT RURAL

1970 Census



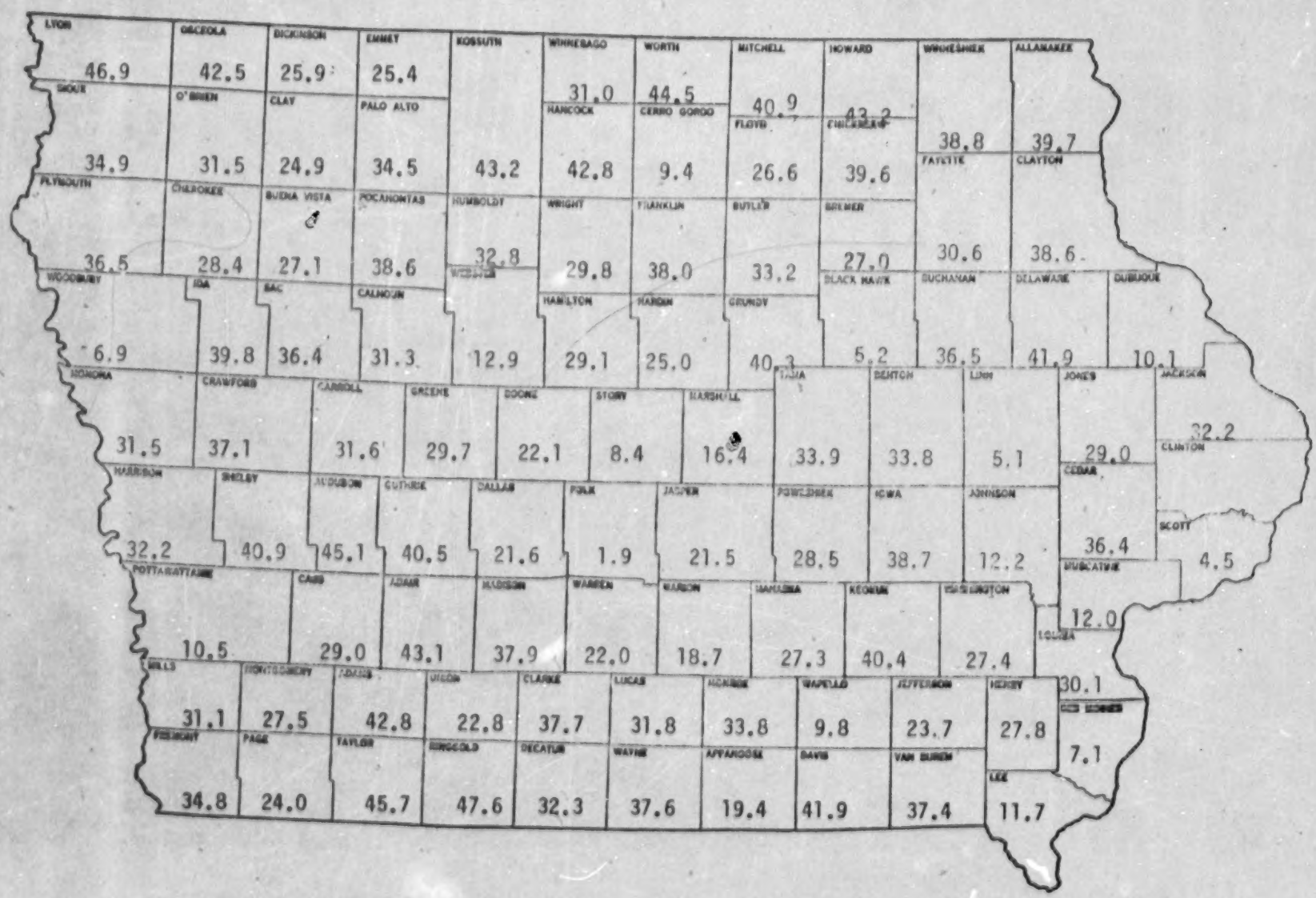
State Total 2,824,376 (Upper)

Percent Rural 42.8

68

TABLE XXVIII (1)

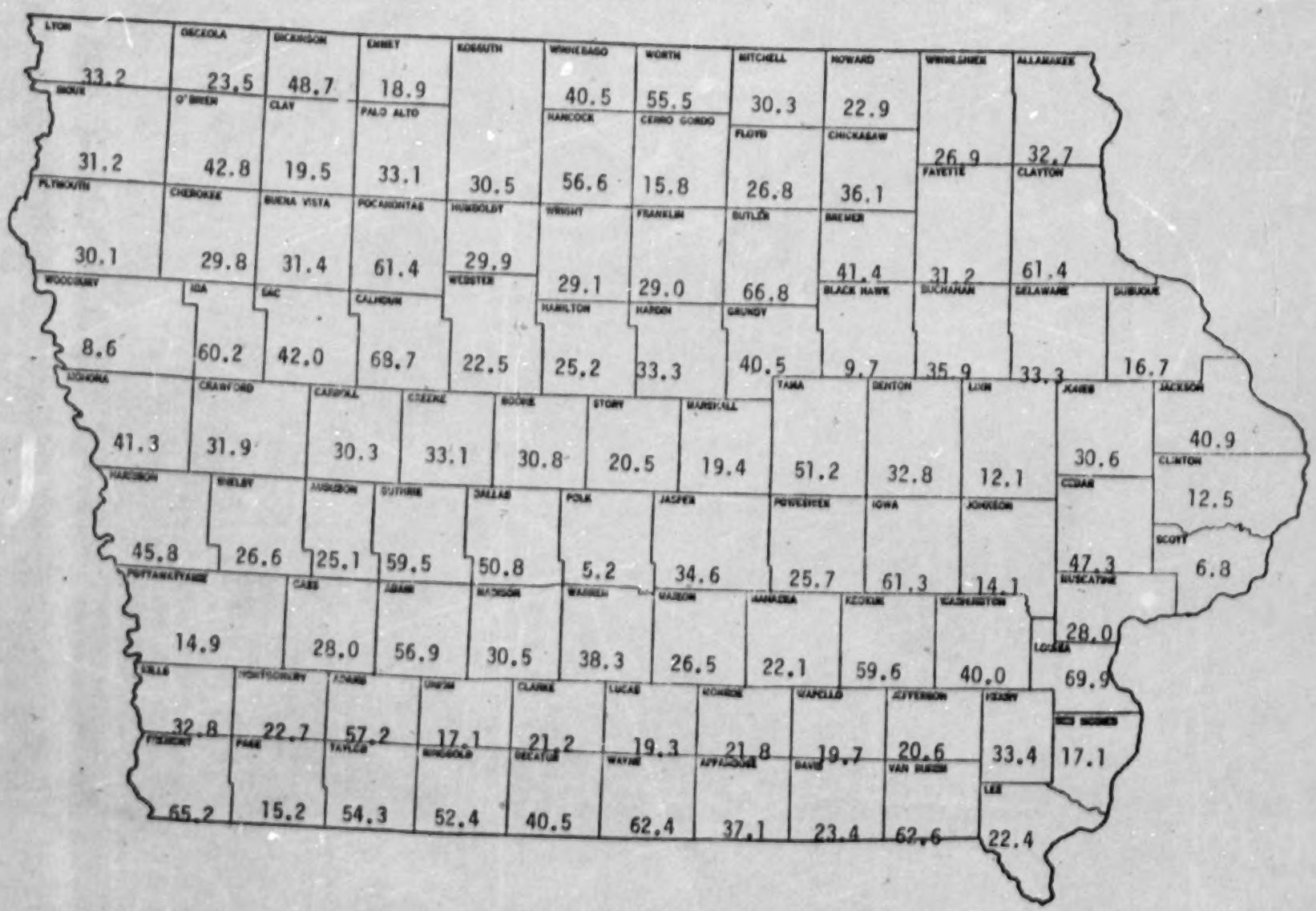
PERCENT RURAL FARM



90

4.15

PERCENT RURAL NONFARM



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91

Table XXIX

POPULATION PROJECTIONS FOR 1960-1980

AS DEVELOPED FOR THE GOVERNOR'S PLANNING AND PROGRAMMING OFFICE
by John Hartman

County	1960	1965	1970	1975	1980
Clay	18,504	17,900	17,309	16,720	16,199
Dickinson	12,574	12,044	11,518	10,985	10,467
Emmet	14,871	14,718	14,547	14,374	14,222
Kossuth	25,314	24,017	22,821	21,663	20,538
Palo Alto	14,736	13,631	12,614	11,642	10,767
Area III	85,999	82,310	78,809	75,354	72,193
State of Iowa	2,757,537	2,777,195	2,792,606	2,803,121	2,814,044

AREA III EMPLOYMENT

The unemployment rate has risen drastically in recent times. The picture has become increasingly gloomy. Unemployment rates, even at their best, do not tell the complete story, however. Such reports do not reflect that many persons who would like to have full-time employment have to be satisfied with part-time jobs, and they do not describe how many persons hold down two jobs. And, one of the major problems with an unemployment report is that it does not provide a distinction betweens employed and under-employed persons.

An importment concern, especially for the rural areas, is that the majority of the unemployed are from seasonal, agricultural situations. Educational programming that can meet these persons' needs and provide alternatives to seasonal employment conditions is one goal for which the schools can strive.

Tables XXX, XXXI, XXXII, and XXXIII are intended to help fill in the employment picture in Area III. It must be understood at the start that employment and unemployment statistics are in constant change. But a study of such statistics does not lend itself to seeing important trends and drawing conclusions that will be of help as plans are made to best meet the career needs of persons in Area III.

Table XXX presents the number of persons in each of the five counties of Area III who are employed in numerous occupations, as of 1970.

Table XXXI sets out the numbers of males and females sixteen years old and over and their situations as this relates to the labor force. Table XXXIII is a break-down of Area III female employment as of 1970.

AREA III EMPLOYMENT: 1970

Occupation	Clay	Dickinson	Emmet	Kossuth	Palo Alto
Total Employed - 16 Years Old & Over	7,046	4,935	4,956	8,090	4,562
Professional, Technical & Kindred Workers	704	439	550	763	453
Engineers	25	14	20	20	16
Physicians, Dentists & Related Practitioners	77	30	34	38	15
Health Workers, except practitioners	93	28	54	67	32
Teachers, Elementary & Secondary Schs.	258	169	226	408	204
Technicians, except health	22	10	21	15	25
Other Professional Workers	229	188	195	215	161
Managers & Administrators, Except Farm	733	445	531	789	371
Salaried: Manufacturing	60	63	74	85	11
Retail Trade	177	62	80	153	53
Other Industries	304	141	228	260	93
Self- Employed: Retail Trade	124	96	97	174	149
Other Industries	68	83	52	117	65
Sales Workers	643	377	323	523	299
Retail Trade	394	202	215	357	161
Other Than Retail Trade	294	175	108	166	138
Clerical and Kindred Workers	893	555	538	735	457
Craftsmen, Foreman & Kindred Workers	676	506	534	817	453
Auto Mechanics, Including Body Repairmen	86	47	83	120	48
Mechanics & Repairmen, except Auto	95	60	36	112	42
Metal Craftsmen, except Mechanics	46	31	15	54	11
Construction Craftsmen	223	196	183	269	175
Other Craftsmen	226	172	217	262	177
Operatives, Except Transport	687	594	578	573	330
Durable goods manufacturing	137	339	169	304	164
Non-durable goods manufacturing	283	82	251	42	47
Non-Manufacturing Industries	267	173	158	227	119
Transport Equipment Operatives	281	235	192	329	210
Laborers, Except Farm	289	166	249	257	168
Construction Laborers	29	---	21	82	40

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Table XXX

AREA III EMPLOYMENT: 1970

	Clay	Dickinson	Emmet	Kossuth	Palo Alto
Occupation: (Continued)					
Freight, Stock & Materials Handlers	121	63	85	67	68
Other Laborers, Except Farm	139	103	143	108	60
Farmers and Farm Managers	995	769	599	1,984	947
Farm Laborers and Farm Foreman	209	183	191	383	158
Service Workers, except private Household	844	594	587	797	646
Cleaning Service Workers	197	108	127	120	130
Food Service Workers	329	278	223	330	303
Health Service Workers	147	75	89	143	121
Personal Service Workers	86	70	62	126	39
Protective Service Workers	24	25	56	14	14
Private Household Workers	92	72	84	140	70

Prepared By: L.O. Hansen, Extension Resource Development Specialist, Northwest Iowa Extension Area Office, July 1972

Source: 1970 Census

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4.20

Table XXXI

AREA III: INDUSTRY OF EMPLOYED PERSONS - 1970

	Clay	Dickinson	Emmet	Kossuth	Palo Alto	Area III
Total Employed, 16 Years and older	7,046	4,935	4,956	8,090	4,562	29,589
Ag. Forestry & Fisheries	1,296	995	785	2,500	1,147	6,723
Mining	16	15	10	10	-----	51
Construction	368	262	250	441	225	1,546
Manufacturing	837	895	913	941	450	4,036
Furniture & Lumber & Wood Products	81	32	10	15	-----	138
Metal Industries	19	7	-----	246	6	278
Machinery, except electrical	106	81	167	85	96	450
Electrical machinery, equipment & supplies	5	16	11	20	5	57
Transportation Equipment	----	17	5	262	16	300
Other Durable Goods	61	551	129	60	123	985
Food & Kindred Products	382	98	528	129	136	1,273
Textiles & Fabricated Textile Products	92	29	14	----	----	135
Printing, Publishing And Allied Industries	64	32	15	72	50	233
Chemicals & Allied Products	11	6	5	20	----	42
Other Non-Durable Goods (Incl. not specified) Manufacturing Indust.	16	26	29	32	18	121
Railroads and Railway Express Services	30	11	62	18	5	126
Trucking Service and Warehousing	124	118	62	94	114	512
Other Transportation	15	18	31	42	18	124
Communications	106	15	26	50	42	239
Utilities and Sanitary Services	121	105	65	65	51	407
Wholesale Trade	394	192	168	256	210	1,614
Food, Bakery and Dairy Store	209	97	143	181	119	749
Eating & Drinking Places	242	226	181	298	258	1,205
General Merchandise Retailing	216	67	49	147	26	505
Motor Vehicle Retailing & Service Stations	212	117	190	231	114	864
Other Trade	657	412	388	591	318	2,366

	Clay	Dickinson	Emmet	Kossuth	Palo Alto	Area III
Banking & Credit Agencies	124	42	76	120	49	411
Insurance, Real Estate & Other Finance	183	114	52	122	71	542
Business & Repair Service	112	100	67	157	105	541
Private Households	103	89	90	148	70	500
Other Personal Services	257	243	168	201	109	978
Entertainment & Recreation Services	67	34	40	77	10	228
Hospitals	199	88	101	137	163	688
Health Services, Except Hospitals	205	70	163	187	108	733
Elementary, Secondary Schools & Colleges - Government	312	269	398	390	330	1,699
Elementary, Secondary Schools & Colleges - Private	108	28	56	266	80	538
Other Education & Kindred Services	35	15	5	59	30	144
Welfare, Religious & Non-Profit Membership Organizations	106	61	84	98	76	424
Legal, Engineering & Misc. Professional Services	134	53	111	107	91	496
Public Administration	258	184	222	156	174	994

SOURCE: 1970 Census of Population

Excerpts from a report prepared by L.O. Hansen, Extension Resource Development Specialist
Northwest Iowa Area Extension Office - July 1972

Table XXXII

AREA III EMPLOYMENT: 1970

EMPLOYMENT STATUS	Clay	Dickinson	Emmet	Kossuth	Palo Alto
Male, 16 years old and over	5,973	4,366	4,601	7,311	4,398
Labor Force	4,643	3,212	3,427	5,617	3,135
% of Total	77.7	73.6	74.5	76.8	71.3
Civilian Labor Force	4,643	3,198	3,427	5,607	3,135
Employed	4,523	3,122	3,292	5,458	3,037
Unemployed	120	76	135	149	98
Percent of civilian labor force	2.6	2.4	3.9	2.7	3.1
Not in Labor Force	1,330	1,154	1,174	1,694	1,263
Inmate of Institution	56	33	73	66	98
Enrolled in School	294	255	265	439	311
Other: Under 65 years	255	281	327	308	256
65 years and over	725	585	509	881	598
Female - 16 years old & over	6,899	4,637	5,117	7,913	4,619
Labor Force	2,585	1,922	1,809	2,704	1,595
% of Total	37.5	41.4	35.4	34.2	34.5
Civilian Labor Force	2,585	1,922	1,809	2,704	1,595
Employed	2,523	1,813	1,664	2,632	1,525
Unemployed	62	109	145	72	70
Percent of civilian labor force	2.4	5.7	8.0	2.7	4.4
Not in Labor Force	4,314	2,715	3,308	5,209	3,024
Inmate of Institution	137	72	160	153	104
Enrolled in School	344	227	358	483	280
Other: 65 years & over	1,114	853	840	1,344	880
Under 65 years	2,719	1,563	1,950	3,229	1,760
Male - 16 to 21 years old	834	628	828	1,017	673
Not enrolled in school	254	199	230	255	163
Not High School Graduate	74	36	68	52	47
Unemployed or not in labor force	17	15	20	23	11

PREPARED BY: L.O. Hansen, Extension Resource Development Specialist, Northwest Iowa Area Extension Office
SOURCE: 1970 Census of Population November 1972

Table XXI

AREA III FEMALE EMPLOYMENT: 1970

OCCUPATION	Clay	Dickinson	Emmet	Kossuth	Palo Alto
Female Employed - 16 years old and over	2,523	1,813	1,664	2,632	1,525
Professional, Technical & Kindred Workers	318	207	277	470	230
Nurses	74	22	42	52	27
Health Workers, except nurses	7	----	12	15	5
Teachers, elementary & secondary schools	167	116	150	303	139
Technicians, except health	----	4	----	----	4
Other Professional workers	70	65	73	100	55
Managers and Administrators, except farm	114	78	69	159	61
Sales Workers	276	153	153	256	81
Retail Trade	236	119	128	235	81
Other than retail trade	40	34	25	21	----
Clerical and Kindred Workers	708	447	441	606	340
Bookkeeper	196	108	103	262	107
Secretaries, Stenographers and Typists	212	94	132	128	96
Other Clerical Workers	300	245	206	216	137
Craftsman, formen and kindred workers	48	30	24	60	43
Operatives, except transport	289	334	150	151	136
Durable goods manufacturing	70	267	61	62	80
Non-manufacturing industries	111	22	26	11	6
Non-durable goods manufacturing	108	45	63	78	50
Transport Equipment operatives	10	----	4	30	10
Laborers, except farm	21	26	26	42	----
Farmers, and farm managers	22	17	38	43	42
Farm Laborers and Farm Foremen	29	17	16	63	6
Service Workers, except Private Household	596	432	382	617	506
Cleaning Service Workers	73	42	41	48	50
Food Service Workers	289	226	184	292	274
Health Service Workers	138	75	89	138	114
Personal Service Workers	57	56	49	86	34
Protective Service Workers	----	----	----	4	----
Private Household Workers	92	72	84	135	70

Prepared by: L.O. Hansen, Extension Resource Development Specialist, Northwest Iowa Extension Area Office. July 1972. SOURCE: 1970 Census

Financial Resources

Fiscal resources available to a school system will provide a major contributing (or limiting) factor in the decision to alter educational programming. Thus, given schools may reject consideration of curriculum development that would expand into career education areas not presently in operation.

Declining enrollment in most schools will have the effect of reducing pupil-teacher ratios, thereby driving up per pupil costs. One viable alternative may, in fact, be a cooperative development approach among clusters of schools in order to pool financial resources and make educational programming available to students not possible through a single district venture.

Data obtained from the Department of Public Instruction, Administration and Finance Section, is reported in Table XXXIV . This table reflects, among other factors, indices of ability to pay, namely, assessed valuation per child and per pupil expenditures.

Public School Financial Data, 1973-74 School Year

County School	Total A.D.M. 73-74 SAR	Assessed Valuation	Assessed Valuation Per Res. child in A.D.M.	Full Millage Gen. Fund	Full Levy Sch. H. Fund	Gen. FD Exp. Per Pupil A.D.M.	Current EXP/Pupil in A.D.M.
CLAY							
Clay Central	491.4	$10,634,605	$21,641	39.087	2.357	$1,128.82	$1,107.27
Everly	476.5	$10,955,599	$22,922	36.936	3.290	$1,063.02	$1,057.88
Sioux Valley	359.0	$ 8,344,974	$23,245	35.297	.000	$1,200.80	$1,190.98
South Clay	384.0	$ 8,710,244	$22,683	41.876	.644	$1,286.17	$1,274.96
Spencer	2,432.8	$32,051,441	$13,175	34.986	7.096	$ 901.46	$ 887.94
DICKINSON							
Arnolds Park	304.0	$ 8,562,021	$28,165	27.956	.958	$1,064.98	$1,039.90
Harris-Lake Park	465.1	$11,526.984	$24,784	37.129	.000	$1,159.77	$1,147.64
Milford	669.2	$14,888,391	$22,248	31.067	5.685	$ 978.23	$ 972.55
Spirit Lake	1,338.0	$21,206,243	$15,849	30.229	5.193	$ 866.60	$ 834.54
Terril	375.9	$ 9,556,907	$25,424	40.505	.000	$1,220.50	$1,212.05
EMMET							
Armstrong	513.1	$10,143,473	$19,769	36.624	1.654	$1,057.96	$1,042.60
Estherville	2,235.9	$20,493,617	$ 9,166	39.312	6.041	$ 912.72	$ 892.21
Lincoln Central	310.2	$ 9,768,453	$31,491	35.534	2.035	$1,247.26	$1,208.85
Ringsted	266.9	$ 7,633,096	$28,599	40.304	.000	$1,268.29	$1,262.10
Swea City	478.4	$14,367,771	$30,033	31.931	.953	$1,296.68	$1,282.34
Titonka	475.2	$ 9,562,300	$20,123	38.999	3.209	$1,096.71	$1,082.51

Public School Financial Data, 1973-74 School Year

County School	Total A.D.M. 73-74 SAR	Assessed Valuation	Assessed Valuation Per Res. Child in A.D.M.	Full Millage Levy Gen. Fund	Full Millage Levy Sch. H. Fund	Gen. FD Exp. Per Pupil A.D.M.	Current EXP/Pupil in A.D.M.
KOSSUTH							
Algona	1,849.1	$36,737,784	$19,868	38.301	6.651	$1,133.72	$1,092.61
Burt	263.0	$ 5,745,769	$21,847	36.666	4.137	$1,119.49	$1,107.40
Lakota	208.8	$ 6,602,710	$31,622	37.141	3.105	$1,524.48	$1,422.77
Ledyard	212.3	$ 5,632,783	$26,532	33.868	.000	$1,134.18	$1,123.31
Lu Verne	230.9	$ 8,644,247	$37,437	33.017	.000	$1,243.91	$1,237.95
Sentral	408.0	$12,939,571	$31,715	30.675	3.625	$1,239.98	$1,231.61
PALO ALTO							
Ayrshire	264.6	$ 5,566,320	$21,037	35.930	2.901	$1,245.98	$1,197.89
Emmetsburg	1,342.8	$21,500,696	$16,012	41.727	7.771	$1,108.27	$1,098.62
Graettinger	542.4	$ 7,213,576	$13,299	41.772	.000	$1,093.96	$1,083.87
Mallard	330.6	$ 7,820,920	$23,657	36.274	2.082	$1,114.13	$1,087.71
Ruthven	317.6	$ 5,098,768	$16,054	45.094	2.154	$1,127.26	$1,124.15
West Bend	455.0	$10,910,281	$23,979	42.082	1.558	$1,185.12	$1,172.41
AREA III TOTALS	18,000.7	$342,819,544	$18,904			$1,062.51	$1,043.12
STATE OF IA. TOTALS	623,974.4	$8,309,432,591	$13,317			$1,035.03	$1,011.39

PUBLIC SCHOOL CURRICULUM ANALYSIS

One basic question of importance addresses the issue of what is currently being taught. In order for well-founded planning to take place, this question must be thoroughly examined. A curriculum evaluation must occur to determine the status of the curriculum foundation prior to any re-modeling or building efforts of the educational endeavor.

Curriculum information supplied by the Department of Public Instruction was analyzed to describe current programming at the secondary school level. The data, presented in Table XXXV, categorize and summarize individual courses (grades 9 through 12) into basic curriculum areas.

The first 6 curriculum areas are those normally considered to be traditional or general courses for college bound youth. They are Art, English, Mathematics, Science, Foreign Language & Social Studies. The remaining 4 areas are classified as vocational in nature. They are Agricultural, Industrial Arts, Business, & Home Economics. Drivers Education and Physical Education courses were not part of this study.

The courses were arbitrarily placed in categories using as a guide the "Minimum Curriculum Requirements for Approval of Iowa Elementary and Secondary Schools and Curriculum Required by Law in Iowa Schools" published by the Iowa Department of Public Instruction.

A study of Table XXXV shows that approximately 63% of the public curriculum courses offered are general courses, traditionally for college preparation. 37% are vocational oriented. More courses are offered than are units of credit. This indicates that flexibility of scheduling and the probability of not only single semester courses, but also mini-courses for credit do exist.

This study does not presuppose the future of some of the smaller school district curricula. It does appear, however, that small enrollment in some of the curriculum areas, traditional as well as vocational, may be an indication of forced, future curriculum revision. Those schools that cannot justify extremely high per-pupil program costs due to light enrollment may have to consider the possibility of joint inter-school curricula efforts if continued program offerings are anticipated.

Area III 1973-1974 Curriculum Analysis

Number of Subject Units Offered & Student Enrollment in each Subject

School System		Art	Eng.	Math.	Sci.	For. Lang.	Soc. Stds.	Ag.	Ind. Arts	Busi.	Home Ec.	Total Gen.	%	Total Voc.	%
Clay Central															
	Units Offered	4	5	6	5	1	6	4	4	5	3	27	63	16	37
	Enrollment	37	137	99	103	4	184	41	38	83	53	564	72	215	28
Everly															
	Units Offered	2	5	6	5	1	4.5	4	6	2	3	23.5	61	15	39
	Enrollment	20	177	116	110	15	204	38	64	55	28	622	77	185	23
Sioux Valley															
	Units Offered	1	6	6	4	2	7	0	4.5	4	5	26	66	13.5	34
	Enrollment	12	139	91	83	6	249	0	56	61	75	580	75	192	25
South Clay															
	Units Offered	3	4.5	4	3	2	4	4	4	5	2	20.5	58	15	42
	Enrollment	32	162	62	77	15	114	50	27	85	32	462	70	194	30
Spencer	Units Offered	2	8	5.5	6	4	6	3	11.5	9	4.5	31.5	53	28	47
	Enrollment	76	961	450	534	179	1015	94	416	426	157	3215	75	1093	25

Area III 1973-1974 Curriculum Analysis

Number of Subject Units Offered & Student Enrollment in each Subject

School System		Art	Eng.	Math.	Sci.	For. Lang.	Soc. Stds.	Ag.	Ind. Arts	Busi.	Home Ec.	Total Gen.	%	Total Voc.	%
Dickinson County															
Arnolds Park															
	Units Offered	0	5	6	5	1	4.5	0	4	4.5	2	21.5	67	10.5	33
	Enrollment	0	91	76	71	2	174	0	36	75	23	414	76	134	24
Harris-Lake Park															
	Units Offered	3	5.5	6	5	2	8	2	3	5.5	3	29.5	69	13.9	31
	Enrollment	55	205	81	109	13	143	80	34	105	28	606	71	247	29
Milford															
	Units Offered	1.5	7	5	4	3	4	5.5	5.5	4.5	3	24.5	57	18.5	43
	Enrollment	44	232	87	138	20	262	105	119	152	139	783	60	515	40
Spirit Lake															
	Units Offered	2	10.25	6	6	5	7	0	5.5	4	3	36.25	74	12.5	26
	Enrollment	63	725	261	304	154	500	0	138	128	129	2007	84	395	16
Terril															
	Units Offered	1	4.5	6	3	2	4	0	5	3	0	20.5	72	8	28
	Enrollment	41	122	84	83	24	112	0	57	35	0	466	84	92	16
Emmet County															
Armstrong															
	Units Offered	3.5	7	5	4	2	4.5	4	3	6	3	26	62	16	38
	Enrollment	47	183	87	77	21	205	49	37	87	47	620	74	220	26
Estherville															
	Units Offered	2	6	6	4	5	4.5	3	11.5	12.5	3	27.5	48	30	52
	Enrollment	149	735	464	452	79	621	101	406	482	200	2500	68	1189	32
Lincoln Central															
	Units Offered	1	7.5	5	4	2	7	0	5	3.5	5	26.5	66	13.5	34
	Enrollment	7	120	70	65	13	175	0	53	113	46	450	68	212	32

Area III 1973-74 Curriculum Analysis

Number of Subject Units Offered & Student Enrollment in each Subject

School System		Art	Eng.	Math.	Sci.	For. Lang.	Soc. Stds.	Ag.	Ind. Arts	Busi.	Home Ec.	Total Gen.	%	Total Voc.	%
Kossuth County															
Algona															
	Units Offered	1.5	9.5	6.5	7	5	5.75	4	8	11.5	3	34.75	57	26.5	43
	Enrollment	55	1021	476	421	50	913	64	249	536	146	2936	75	995	25
Lu Verne															
	Units Offered	1	5	6.5	5	2	4	0	2	5	2	23.5	72	9	28
	Enrollment	17	83	53	56	8	90	0	21	48	15	307	79	84	21
Sentral															
	Units Offered	1.5	8	5	4	2	5.5	2	5	5	3.5	26	63	15.5	37
	Enrollment	24	299	82	86	14	173	28	89	69	73	678	72	259	28
Swea City															
	Units Offered	4	5.75	6.10	4	2	3.5	4	3.80	5.35	4	25.35	60	17.15	40
	Enrollment	36	206	107	86	12	123	48	152	146	49	570	59	395	41
Titonka															
	Units Offered	4	6	5	4.5	2	4	4	5	6.5	3.5	25.5	57	19	43
	Enrollment	70	218	96	112	14	168	43	148	105	71	678	65	367	35

Area III 1973-74 Curriculum Analysis

Number of Subject Units Offered & Student Enrollment in each Subject

School System		Art	Eng.	Math.	Sci.	For. Lang.	Soc. Stds.	Ag.	Ind. Arts	Busi.	Home Ec.	Total Gen.	%	Total Voc.	%
Palo Alto County															
Ayrshire															
	Units Offered	3	6	5	4	3	8	0	6	5	2	29	69	13	31
	Enrollment	31	76	47	35	21	108	0	66	38	23	318	71	127	29
Emmetsburg															
	Units Offered	3	9	6.5	5	7	5	0	6	8.5	3	35.5	67	17.5	33
	Enrollment	157	775	412	396	99	469	0	265	376	166	2308	74	807	26
Graettinger															
	Units Offered	2.5	4.5	5	3	1	3	4	3	2.5	4	18.5	58	13.5	42
	Enrollment	28	168	147	113	14	144	44	48	56	52	614	75	200	25
Mallard															
	Units Offered	0	4	5	4	2	5	0	4	7	2.5	20	60	13.5	40
	Enrollment	0	118	83	95	7	218	0	51	105	30	521	74	186	26
Ruthven															
	Units Offered	2	6	5.5	4	2	4	0	4	5	3	23.5	66	12	34
	Enrollment	15	161	80	82	18	114	0	44	81	25	470	76	150	24
West Bend															
	Units Offered	2.25	6.75	7	4.75	3	4.75	4	4	5.75	3.25	28.5	63	17	37
	Enrollment	82	323	122	141	19	224	55	118	119	115	911	69	407	31
Total Area III															
	Average Units Offered											26	63	16	37
	Average Enrollment											983	73	369	27

CENIS STUDENT INTEREST SURVEY

The CENIS Student Interest Survey was conducted early in 1973 on a sampling basis.

The survey was designed to sample the occupational interests of approximately 15 percent of Iowa's eleventh and twelfth grade students. Each of the fifteen area schools coordinated the survey within its merged area. Statewide, 123 public and fifteen private school districts participated with approximately 150 different high schools involved. Totally, 17,865 students were surveyed from a total population of 102,485, for a sample of slightly over 17 percent.

In establishing the sample, schools with junior-senior enrollment of three hundred or more were randomly sampled within. Schools with less than three hundred eleventh and twelfth graders were selected randomly. All juniors and seniors attending those schools were surveyed. See pp. 8.16 for the survey instrument.

Occupations surveyed corresponded with those encompassed in the CENIS Labor Demand Survey, but the coverage also included many professional occupations (requiring at least a baccalaureate degree). Students responded to a total of 206 occupational areas, divided into nine categories. The first entry in each category allowed the respondent to select a broad occupational area, while subsequent entries permitted more specificity. Space was provided for the student to write in other occupational choices not included on the list.

The five most popular vocational areas selected by the students in the statewide sample included (1) secretaries, (2) agricultural production, (3) transportation (truck drivers). (4) auto mechanics, and (5) general merchandise (sales occupations).

In Area III, the six most popular vocational areas were (1) agri-business, (2) public services, (3) health occupations, (4) fine arts/humanities, (5) business office, and (6) personal service.

Table XXXVI shows the student interest in occupations in rank order. Table XXXVII shows the student interest by occupational clusters. Selected occupations from the interest survey are also given in Table XLVI to show the relationship between student interest and labor supply and demand.

As a part of this total Career Needs Assessment Study for Area III, an occupational interests survey was taken of all tenth, eleventh, and twelfth graders in the twenty-four schools willing to participate. Approximately 350 occupational choices were given and students were asked to indicate their first, second and third choices. Table XXXIX presents a breakdown of those occupations selected as first choice by five or more students. The occupations are listed in clusters. This will enable a quick comparison with cluster results from the CENIS Student Interest Survey.

TABLE XXXVI

Area III Tenth, Eleventh & Twelfth Grade
Occupational Cluster Inventory

School / Occ. Cluster	Agri-Business %	Business/Office %	Health Occupations %	Personal Service %	Public Service %	Environmental %	Communication/Media %	Construction %	Manufacturing %	Fine Arts/ Humanities %	Marketing/Distribution %	Consumer/Homemaking %	Transportation %	Recreation/Hospitality %	Maritime %
Algona Comm. Sch.	20	20	8	10	15	0	3	0	3	15	0	0	0	3	3
Armstrong	16	12	7	19	13	0	1	4	4	6	2	4	12	0	1
Arnolds Park	15	5	9	17	17	0	5	7	4	11	0	2	2	4	2
Ayrshire	26	11	13	19	2	0	6	2	0	6	2	0	11	0	2
Clay Central	13	11	15	16	8	0	1	8	2	7	1	5	9	0	4
Emmetsburg	14	13	22	14	7	0	5	3	1	8	5	1	5	0	0
Estherville	15	9	21	12	9	1	2	4	1	16	1	0	7	1	1
Everly	21	4	7	15	9	1	5	4	1	14	5	1	10	0	2
Graettinger	26	12	9	15	15	0	6	3	3	0	9	0	3	0	0
Harris-Lake Park	14	12	15	12	8	1	2	3	5	14	3	0	8	1	1
Lincoln Central	12	19	19	14	12	0	2	5	3	3	3	0	5	3	0
LuVerne															
Mallard	22	13	15	11	14	0	1	3	0	10	1	3	6	1	0
Milford	16	9	16	16	13	0	5	5	0	7	2	1	7	1	1
Ruthven	16	11	13	14	8	0	4	5	0	9	5	1	10	2	2
Sentral	21	11	11	7	11	0	11	7	0	18	4	0	0	0	0
Sioux Valley	22	11	5	8	19	0	5	3	0	19	3	0	5	0	0
South Clay															
Spencer	11	11	13	17	14	0	5	4	1	10	5	2	6	2	1
Spirit Lake	14	13	14	8	11	1	1	8	4	7	7	1	7	2	2
Swea City	17	13	16	12	10	0	2	6	0	8	3	0	10	2	0
Terril	26	15	11	7	16	0	3	2	1	11	3	0	2	1	0
Titonka	12	10	13	14	12	0	1	7	2	15	4	4	2	2	2
West Bend	24	10	21	10	14	2	3	1	1	5	2	0	7	1	0
Average	18	12	13	13	12	0.27	4	4	2	10	3	1	6	1	1

Student Interest in Occupation in Rank Order

Registered Nurse	149
Medical Doctor	102
Veterinarian	94
Garage Mechanic	92
Gen. Sec.	92
Farmer	88
Elementary Teacher	83
Agric. Business	81
CPA	81
Secondary Teacher	79
Lawyer	73
LPN	63
Construction	57
Announcer	55
Artist	55
Physical Therapist	53
Industrial Marketing	49
Social Worker	49
Office Worker	47
Police	45
Pharmicist	41
Heavy Equipment Op.	39
Religious Worker	39
Airline Reservation	35
Dental Assistant	35
Banker	33
Bookkeeper	33
Child Care	33
Factory Worker	33
Actor	31
Nurses' Aide	31
Veterinarian Asst.	31
Art Design	29
Stewardess - Airline	29
Farm Equipment	26
Truck Driver	26
Waiter/Waitress	26
Dramatic Artist	24
Math/Nat Sci.	24
Medical Sec.	24
Spec. Ed. Teacher	24
Wildlife	24
Computer Programmer	22
Conser. Fish & Wildlife	22
Fashion Designer	22
Receptionist	22
Electronic Tech	20
Med. Lab. Asst.	20
Office Sup	20
Public/Private Soc. Wkr.	20
Set Up Farm Equip	20
X-Ray Tech	20
Animal	18
Biologist	18
Business Admin.	18
Dept. Hd. Supermkt	18
Elec. Engineer	18
Journalist	18
Oceanographer	18
Radio Serv.	18
Small Engine	18
Switchboard Operator	18
Clerk/Typist	16
Retail Store Mgr.	16
Air Cond Mech	14
Archeologist	14
Auto Body	14
Clergy	14
Cosmetology	14
EMT	14
Forklift Truck	14
Inst. Housekeeper	14
Int. Decor.	14
Musician/Singer	14
Personnel Director	14
Security Guard	14
Speech	14
Teller	14
Brick Layer	12
Carpenter	12
Dental Hygeine	12
Elect. Maint	12
Home Ec.	12
Photographer	12
Physicians' Asst.	12
Radio/TV Reporter	12
Service Engr.	12
Acct. Exec.	10
Auto Sales	10
Checker	10
Conser. Soil	10
Electrician	10
Gen. Sales	10
Ill./Layout	10
Legal Sec.	10
Orthodontist	10
Park Sup.	10
Route Sales Food	10
Stenographer	10
Writer - novel	8
Architect	6
Civil Engr.	6
Conductor/ RR	6
Cook	6
Darkroom Attendant	6
Dentist	6
Drafting	6
Fireman	6
Floral Design	6
Foreign Lang. Inst.	6
Homemaker	6
Ins. Sales	6
Kitchen Helper	6
Librarian	6
Mach. Opr	6
Mental Health Tech	6
Plumber	6
Sales-Home Furnishings	6
Sales Sporting- Goods	6

TABLE XXXVII

CENIS STUDENT INTEREST SURVEY BY CLUSTER

AGRI-BUSINESS & NATURAL RESOURCES

Veterinarians (94)
Farmer (88)
Agri-Business (81)
Veterinary Assistants (31)
Farm Equipment (26)
Animal (18)
Soil Conservation (10)
Floral Design (6)

Total Student Interest -- 354

BUSINESS AND OFFICE OCCUPATIONS

General Secretary (92)
Certified Public Accts. (81)
Office Worker (47)
Banker (33)
Bookkeeper (33)
Math/Nat Science (24)
Medical Secretary (24)
Computer Programmer (22)
Receptionist (22)
Office Sup (20)
Business Administration (18)
Switch Board Operators (18)
Clerk/Typist (16)
Personnel Director (14)
Teller (14)
Account Executives (10)
Legal Secretary (10)
Stenographer (10)

Total Student Interest -- 508

PERSONAL SERVICE

Lawyers (73)
Physical Therapists (53)
Religious Workers (39)
Child Care (33)
Radio Service (18)
Air Conditioning Mechanics (14)
Clergy (14)
Cosmetology (14)
Interior Decorators (14)
Speech Clinicians (14)
Photographers (12)
Foreign Language Interpreters (6)

Total Student Interest -- 304

PUBLIC SERVICE

Elementary Teachers (83)
Secondary Teachers (79)
Police (45)
Social Workers (49)
Special Education Teachers (24)
Fashion Designer (22)
Public/Private Social Worker (20)
Civil Engineers (6)
Fireman (6)

Total Student Interest -- 334

CENIS STUDENT INTEREST SURVEY BY CLUSTER

MARKETING AND DISTRIBUTION

Industrial Marketing (49)
Dept. Head Supermarket (18)
Retail Store Manager (16)
Auto Sales (10)
Checker (10)
General Sales (10)
Illustration/layout (10)
Route Salesman Food (10)
Insurance Sales (6)
Sales - Home Furnishings (6)
Sales - Sporting Goods (6)

Total Student Interest -- 151

COMMUNICATIONS & MEDIA

Announcer (55)
Journalist (18)
Radio/TV Reporter (12)

Total Student Interest -- 85

HEALTH OCCUPATIONS

Registered Nurse (149)
Medical Doctor (102)
Licensed Practical Nurses (63)
Pharmicists (41)
Dental Assistant (35)
Nurse's Aides (31)
Medical Lab Assistants (20)
X-Ray Technicians (20)
Emergency Medical Technicians (14)
Dental Hygiene (12)
Physician's Assistant (12)
Orthodontist (10)
Dentist (6)
Medical Health Technicians (6)

Total Student Interest -- 521

ENVIRONMENT

Wildlife Conservation (24)
Fish & Wildlife (22)

Total Student Interest -- 46

MANUFACTURING

Factory Worker (33)
Electrical Technicians (20)
Set up Farm Equipment (20)
Electrical Engineers (18)
Security Guard (14)
Electrical Maintenance (12)
Darkroom Assistant (6)
Machine Operator (6)

Total Student Interest -- 129

CENIS STUDENT INTEREST SURVEY BY CLUSTER

CONSTRUCTION

Construction (57)
Heavy Equipment Operators (39)
Small Engine (18)
Forklift Truck (14)
Bricklayers (12)
Carpenters (12)
Electricians (10)
Architects (6)
Drafting (6)
Plumbers (6)

Total Student Interest -- 180

TRANSPORTATION

Garage Mechanics (92)
Airline Reservationist (35)
Airline Stewardess (29)
Truck Drivers (26)
Auto Body (14)
Service Engineers (12)
Conductor/RR (6)

Total Student Interest -- 214

HOSPITALITY & RECREATION

Waiter/Waitress (26)
Park Superintendent (10)
Cooks (6)
Kitchen Helpers (6)

Total Student Interest -- 48

CONSUMER & HOMEMAKING OCCUPATIONS

Institution's Housekeeper (14)
Home Economics (12)
Homemaker (6)

Total Student Interest -- 32

FINE ARTS & HUMANITIES

Artists (55)
Actors (31)
Art Design (29)
Dramatic Artist (24)
Biologist (18)
Archeologist (14)
Musician/Singer (14)
Writer-Novel (8)
Librarian (6)

Total Student Interest -- 199

MARINE SCIENCE

Oceanographers (18)

Total Student Interest -- 18

TABLE XXXVIII

FUTURE PLANS OF AREA III, 10th, 11th, and 12th GRADES

	homemaking	work full-time	enroll in a 4-year college or university	enroll in a community finish at a 4-year college or university	enroll in a community college or public vocational-technical school only	enroll in a private barber, cosmetology, nursing, business, or trade school only	go into military service	don't know
	%	%	%	%	%	%	%	%
AY COUNTY								
Spencer	3.4	14.8	35.7	4.0	9.4	7.6	5.6	19.5
South Clay	1.4	25.0	27.8	9.7	8.3	8.3	4.2	15.3
Sioux Valley	7.0	26.0	21.0	2.0	10.0	7.0	12.0	15.0
Everly	3.1	20.8	21.9	4.2	20.8	6.3	1.0	21.9
Clay Central	4.3	7.4	25.5	5.3	18.1	10.6	9.6	19.1
CKINSON COUNTY								
Terril	1.1	27.2	20.7	4.3	17.4	7.6	4.3	17.4
Spirit Lake	2.9	15.2	27.2	8.2	6.2	7.4	11.1	21.8
Milford	2.3	17.2	16.7	6.3	16.1	7.5	6.3	27.6
Harris-Lake Park	6.5	18.3	25.8	2.2	14.0	7.5	5.4	20.4
Arnolds Park	1.8	16.1	21.4	7.1	19.6	7.1	5.4	21.4
EMMET COUNTY								
Lincoln Central	3.0	13.3	25.8	10.6	12.5	11.4	3.4	20.1
Estherville	5.2	5.8	22.1	14.9	11.0	7.8	7.1	26.0
Armstrong	7.0	14.0	19.0	8.0	20.0	11.0	4.0	17.0
OSSUTH COUNTY								
Titinka	3.7	14.0	24.3	12.1	22.4	9.3	1.9	21.1
Swea City	4.4	11.1	18.9	8.9	20.0	11.1	4.4	21.1
Sentral	2.0	19.6	17.6	9.8	21.6	3.9	5.9	19.6
LuVerne	0.0	23.1	30.8	2.6	5.1	10.3	0.0	28.2
Algona	0.0	17.5	12.5	25.0	17.5	7.5	0.0	20.0
PALO ALTO COUNTY								
West Bend	1.6	16.3	22.5	7.0	14.0	13.2	4.7	20.9
Ruthven	1.2	10.7	23.8	10.7	10.7	8.3	8.3	26.2
Mallard	1.4	14.9	32.4	8.1	17.6	4.1	4.1	16.2
Graettinger	6.7	19.2	16.7	8.3	15.0	6.7	4.2	23.3
Emmetsburg	3.3	11.3	22.6	17.9	18.9	6.0	3.7	16.3
Ayshire	0.0	16.3	18.4	12.2	20.4	2.0	4.1	26.5
LL SCHOOLS	3.3	15.2	24.4	8.9	13.8	8.0	5.5	20.8

TABLE XXXIX

TABULATING FIRST CHOICE FOR OCCUPATION - ONLY THOSE OCCUPATIONS MARKED BY FIFTEEN OR MORE STUDENTS ARE INCLUDED

Occupational Cluster	Occupation	Frequency Number	Rank Within Its Own Cluster #1 High	Rank Among 15 Clusters	Rank, as Total, Among 15 Clusters
1	Farm Management	65	1	3	
	Farm Equipment Mechanic	18	7		
	Veterinarian	33	4	13	
	Forester	22	6		
	Horse Industry	16	8		
	Livestock	50	2	7	
	Wildlife & Conservation	32	5	14.5	
	Farmer (Corn/Wheat)	43	3	9	1
	Total	323			
2	Computer Operator	18	4		
	Certified Public Accountant	17	5		
	Accountant	29	2	16	
	Secretary	76	1	2	
	Bookkeeper	16	6		
	Clerk/Typist	21	3		5
	Total	214			
3	Nurse/ADN	28	3	17.5	
	Internist	32	2	14.5	
	Physical Therapist	16	6.5		
	LPN	22	4		
	Nurse Aide/Orderly	15	8		
	Registered Nurse	48	1	8	
	Dental Technician	18	5		
	Medical Technologist	16	6.5		3
	Total	280			
4	Auto Body Mechanic	102	1	1	
	Diesel Mechanic	18	3		
	Child Care Specialist	36	2	10	6
	Total	193			
5	Peace Corp	15	9		
	Coach	24	5		
	Social Case Worker	26	4		
	Child Welfare Worker	19	7		
	Social Worker-Community	20	6		
	Teacher (Elementary)	35	2	11	
	Teacher (Kindergarten)	16	8		
	Teacher (Secondary)	27	3	19	
	Police Cosmotologist	56	1	5.5	2
	Total	282			
6	Lawyer	34	1	12	
	Psychologist	15	4		
	Fish & Wildlife	24	2		
	Biologist	17	3		8
	Total	95			

Footnote: "Frequency numbers include occupations chosen by fifteen student or less."

TABULATING FIRST CHOICE FOR OCCUPATION - ONLY THOSE OCCUPATIONS MARKED BY FIFTEEN OR MORE STUDENTS ARE INCLUDED

Occupational Cluster	Occupation	Frequency Number	Rank Within Its Own Cluster #1 High	Rank Among 15 Clusters	Rank, as Total, Among 15 Clusters
7	Journalism/Photography	18	1		12
	Total	36			
8	Carpenter	19	2		9
	Architect	26	1		
	Total	86			
10	Fashion Designer	20	5		4
	Commercial Artist	28	1	17.5	
	Interior Decorator	21	4		
	Musician	19	6		
	Singer	15	7		
	Art Teacher	26	2		
	Music Teacher	24	3		
	Total	224			
12	Home Ec	16	1		11
	Total	39			
13	Airline Stewardess	57	1	4	7
	Pilot	20	3		
	Truck Driver	56	2	5.5	
	Total	140			
14	Professional Athlete	21	1		13
	Total	31			

Total 1st choices recorded here -- 2045

Footnote: "Frequency numbers include occupations chosen by fifteen students or less."

TABLE XXXIX

TABULATING FIRST CHOICE FOR OCCUPATION - ONLY THOSE OCCUPATIONS MARKED BY 5 THROUGH 14 STUDENTS ARE INCLUDED

Occupational Cluster	Occupation	Frequency Number
1	Feed & Fertilizer	7
	Ag. Business	5
	Range Manager	6
	Dairy	7
	Livestock	5
	Parks	7
	Lab Animal Care Technician	7
2	Accounting	9
	Motel Management	5
	Bank Teller	9
	Bookkeeper	7
	Statistician	5
	Legal Secretary	7
3	Physical Therapy Assistant	7
	Medical Lab Technician	14
	Dental Hygenist	5
	Physician, G.P.	12
	Occupational Therapist	5
	Medical Secretary	12
	Pediatrician	5
	Dietician	8
	Optometrist	5
	Pharmecist	12
4	Gunsmith	5
	Auto Technician	13
	Electrical Repairman	8
	Psychiatrist	6
	Minister	5
5	Foreign Language Teacher	5
	English Teacher	5
	Probation Officer	5
	Foreign Service	5
	F.B.I.	5
	Special Education Teacher	5
	Rehabilitation Counselor	5
	Mathematician	9
6	Ecologist	5
7	Telephone Operator	6
	Radio-Television Announcer	12

Footnote: "Frequency numbers include occupations chosen by fifteen students or less."

TABULATING FIRST CHOICE FOR OCCUPATION - ONLY THOSE OCCUPATIONS MARKED BY 5 THROUGH 14 STUDENTS ARE INCLUDED

Occupational Cluster	Occupation	Frequency Number	
8	Electrical Engineer	14	
	Draftsman	6	
	Electronic Technician	9	
	Bricklayer	6	
	Welder	6	
9	Mechanical Engineer	11	
	Operating Engineer (Construction Mechanics)	5	(15)
	Total	16	
10	Cartoonist	11	
	Designer	9	
	Fashion Illustrator	5	
	Archeologist	5	
	Writer	9	
	Actor	9	
	Art Director	7	
	Dancer	10	
	Floral Designer	6	
11	Parts Personnel	5	
	Waiter/Waitress	7	
	Sales	5	
	Retail Sales Clerk	11	
	Economics	5	
	Purchasing Agent	5	
	Buyer	10	
	Retail Food Sales	8	
	Restaurant Manager	9	(10)
	Total	65	
12	Cook	9	
	Dentist	14	
13	Aircraft Mechanic	7	
14	Recreation Worker	10	
15	Marine Mechanic	7	
	Oceanographer	14	(14)
	Total	21	

Footnote: "Frequency numbers include occupations chosen by fifteen students or less."

STUDENT FOLLOW-UP

The Guidance Services branch of the Department of Public Instruction accounts for high school graduates and high school dropouts on a yearly basis.

According to the information released by the Guidance Services branch, approximately fifty-eight percent of the Area III 1972 high school graduates are pursuing further education or training; twenty-eight per cent are employed full-time, and fourteen percent are engaged in other pursuits. See Table XXXVLII

A four-year state composite follow-up study of all Iowa high school graduates is presented in Table XLI.

Information from Table XLII indicates a trend for fewer graduates to pursue further education and training. In 1969, sixty-three percent of the graduates were in this category as opposed to forty-nine percent of the 1972 class. However, there is an increase in the trend for graduates to be involved in full-time employment from twenty-four percent in 1969 to thirty-two percent in 1973.

It is interesting to compare the future plans of Area III tenth, eleventh, and twelfth graders with the average of the 1971 and 1972 follow-up studies. As part of the student interest inventory, fifty-five percent of the tenth, eleventh, and twelfth graders indicated plans to enter further education or training upon graduation; fifteen percent intend to enter full time employment; six percent plan to go into military service; three percent intend to become homemakers; and twenty-one percent are undecided.

Another classification of students that leave the educational system X-12 are the dropouts. Table XLV documents this information. In 1972 the Area III dropout rate was 1.51 percent; in 1973 it was 1.55 percent. Generally speaking the urban area has a higher dropout rate than does the rural area.

TABLE XL

1971 MERGED AREA III GRADUATE FOLLOWUP BY COUNTY
PRIMARY STATUS AS OF "ON OR ABOUT JUNE 1, 1972"

County	Education/Trng Total	Education/Trng Percent	Employment Total	Employment Percent	Other Total	Other Percent	Total Graduates
Clay	214	55.4	106	27.5	66	17.1	386
Dickinson	157	58.8	69	25.8	41	15.4	267
Emmet	169	61.5	71	25.8	35	12.7	275
Kossuth	160	58.2	76	27.6	39	14.2	275
Palo Alto	185	67.8	56	20.5	32	11.7	273
Area III	885	59.9	378	25.6	213	14.4	1,476

1972 MERGED AREA III GRADUATE FOLLOWUP BY COUNTY
PRIMARY STATUS AS OF "ON OR ABOUT JUNE 1, 1973"

County	Education/Trng Total	Education/Trng Percent	Employment Total	Employment Percent	Other Total	Other Percent	Total Graduates
Clay	192	53.6	111	31.0	55	15.4	358
Dickinson	146	54.9	87	32.7	33	12.4	266
Emmet	161	57.3	77	27.4	43	15.3	281
Kossuth	189	55.8	91	26.8	59	17.4	339
Palo Alto	206	68.7	61	20.3	33	11.0	300
Area III	894	57.9	427	27.7	223	14.4	1,544

TABLE XLI

STATE OF IOWA

GRADUATES: TOTALS AND PERCENTS BY PRIMARY STATUS
A FOUR-YEAR COMPOSITE
1969 - 1972

TYPE OF INSTITUTION/PROGRAM	1969 Graduates Status Oct. 15, 1969 Total	Percent	1970 Graduates Status Feb. 15, 1971 Total	Percent	1971 Graduates Status June 1, 1972 Total	Percent	1972 Graduates Status June 1, 1973 Total	Percent
4-Year College - Private	4,597	11.17	4,736	11.21	4,494	10.53	4,325	9.96
4-Year College - Public	9,120	22.15	8,724	20.64	7,958	18.64	7,157	16.47
Area Schools (Area Community Colleges and Area Voc/Tech)	6,250	15.18	5,529	13.08	6,252	14.64	6,306	14.51
Community or Junior Colleges - Private	1,099	2.67	1,005	2.38	930	2.18	916	2.11
Community or Junior Colleges - Public	852	2.06	1,222	2.89	163	.38	139	.32
Business, Trade, Tech School - Private	2,217	5.38	1,999	4.73	1,580	3.70	1,547	3.55
Business, Trade, Tech School - Public	337	.82	602	1.43	277	.65	110	.25
Nursing (Other than University, Area School or Community College)	693	1.68	619	1.47	630	1.48	606	1.39
Other Special Schools	591	1.44	572	1.35	380	.89	382	.88
Apprenticeship Training	266	.65	217	.51	172	.40	207	.48
TOTALS (Education/Training)	26,021	63.20	25,225	59.69	22,836	53.49	21,689	49.92
TYPE OF EMPLOYMENT								
Professional, Technical, Managerial	315	.76	189	.45	333	.78	431	.99
Service Occupations	979	2.38	2,187	5.17	2,618	6.13	2,655	6.11
Farm, Fish, Forest, Related Processing	3,125	7.59	1,268	3.00	1,567	3.67	1,862	4.29
Clerical and Sales	1,495	3.63	3,081	7.29	3,442	8.06	3,663	8.43
Processing Occupations	414	1.00	582	1.38	598	1.40	1,035	2.38
Machine Trades	493	1.20	419	.99	616	1.44	1,033	2.38
Bench Work	366	.89	294	.70	577	1.35	794	1.83
Structural Work	485	1.18	618	1.46	843	1.97	878	2.02
Miscellaneous	2,251	5.47	1,340	3.17	1,699	3.98	1,694	3.90
TOTALS (Employment)	9,923	24.10	9,978	23.61	12,293	28.79	14,045	32.33
Homemaker Only	1,423	3.46	1,861	4.40	2,263	5.30	2,535	5.83
Actvie Military Service	1,896	4.60	1,934	4.58	2,108	4.94	2,094	4.82
Deceased	33	.08	43	.10	48	.11	61	.14
Institutionalized	..	.05	8	.02	15	.04	21	.05
Unemployed	815	1.98	1,458	3.45	1,454	3.41	1,150	2.65
Unknown	1,040	2.53	1,754	4.15	1,678	3.93	1,850	4.26
TOTALS (Other)	5,228	12.70	7,058	16.70	7,566	17.72	7,711	17.75
GRAND TOTALS	41,172	100.00	42,261	100.00	42,695	100.00	43,445	100.00

TABLE XLII

AREA III

SUMMARY OF GRADUATE FOLLOW-UP

FOR FOUR SELECTED YEARS

	AREA III TOTALS		STATE TOTALS	
	Number	%	Number	%
1964 - Attending 4 year	374	29.3	10934	32.6
Attending 2 year	181	14.2	3379	10.1
Totals	555	43.5	14313	42.7
Total H.S. Grads	1277		33555	
1969 - Attending 4 year	421	28.6	13717	33.3
Attending 2 year	411	28.0	7439	18.1
Totals	832	56.6	21156	51.4
Total H.S. Grads	1470		41172	
1971 - Attending 4 year	453	30.4	13460	31.8
Attending 2 year	420	28.2	7353	17.4
Totals	873	58.6	20813	49.2
Total H.S. Grads	1489		42261	
1972 - Attending 4 year	408	27.6	12452	29.2
Attending 2 year	369	25.0	6252	14.6
Totals	777	52.6	18704	43.8
Total H.S. Grads	1476		42695	

COUNTY WIDE COMPARISIONS 1964 VS. 1972

FOLLOW-UP OF H.S. GRADS

AREA III

		1964		1972	
		Number	%	Number	%
Clay	4 year	106	35.3	120	31.1
	2 year	18	6.0	66	17.1
	Totals	124	41.3	186	48.2
	Total Grads	300		386	
Dickinson	4 year	62	30.4	86	32.2
	2 year	28	13.7	56	21.0
	Totals	90	44.1	142	53.2
	Total Grads	204		267	
Emmet	4 year	49	21.8	62	22.5
	2 year	69	30.4	95	34.5
	Totals	118	52.2	157	57.0
	Total Grads	227		275	
Kossuth	4 year	92	32.2	79	28.7
	2 year	27	9.4	56	20.4
	Totals	119	41.6	135	49.1
	Total Grads	286		275	
Palo Alto	4 year	65	25.0	61	22.3
	2 year	39	19.8	96	35.2
	Totals	104	44.8	157	57.5
	Total Grads	260		273	

NOTE: One school district (Mallard) did not report in 1972.

FOLLOW UP INFORMATION - DISTRICTS IN AREA III
(DATA GATHERED BY THE ISDPI, GUIDANCE SERVICES SECTION)
1972 Graduates

	FOUR YEAR		TWO YEAR		
	No.	%	No.	%	Total Grads
Algona	32	30.2	17	16.0	106
Armstrong	12	27.3	13	29.6	44
Arnolds Park	5	19.2	3	11.5	26
Ayrshire	4	18.2	9	40.9	22
Burt	3	18.8	4	25.0	16
Clay Center	11	28.3	7	18.0	39
Emmetsburg	25	21.6	49	42.2	116
Estherville	34	21.0	46	28.4	162
Everly	14	29.8	8	17.0	47
Graettinger	13	32.5	8	20.0	40
Harris - Lake Park	15	32.6	6	13.0	46
Lakota	3	20.0	0	0.0	15
Ledyard	3	20.0	6	40.0	15
Lincoln Central	6	18.2	7	21.2	33
LuVerne	1	11.1	4	44.4	9
Mallard	Not Reported		Not Reported		
Milford	18	28.1	23	35.9	64
Ringsted	10	27.8	9	25.0	36
Ruthven	10	24.4	12	29.3	41
Sentral	6	16.2	11	29.7	37
Sioux Valley	9	17.0	10	18.9	53
South Clay	12	33.4	10	27.8	36
Spencer	74	35.1	27	12.8	211
Spirit Lake	33	33.3	11	11.1	99
Swea City	15	40.5	5	13.5	37
Terril	15	46.9	6	18.8	32
Titonka	16	40.0	2	5.0	40
West Bend	9	16.7	14	25.9	54

TABLE XLV

FISCAL 1972 DROPOUT SURVEY AREA III
BY COUNTY

County	Male Drops	Female Drops	Total Drops	Enrollees	Dropout Rate %
Clay	17	15	32	2,224	1.43
Dickinson	17	15	32	1,661	1.92
Emmet	18	15	33	1,737	1.89
Kossuth	17	7	24	2,077	1.15
Palo Alto	17	5	22	1,717	1.28
Area III	86	57	143	9,416	1.51

State of Iowa Dropout Rate 2.56%

FISCAL 1973 DROPOUT SURVEY AREA III
BY COUNTY

County	Male Drops	Female Drops	Total Drops	Enrollees	Dropout Rate %
Clay	22	10	32	2,202	1.45
Dickinson	18	10	28	1,680	1.66
Emmet	28	17	45	1,717	2.62
Kossuth	12	8	20	2,079	.96
Palo Alto	12	9	21	1,719	1.22
Area III	92	54	146	9,397	1.55

State of Iowa Dropout Rate 2.74%

CAREER EDUCATION NEEDS INFORMATION SYSTEM (CENIS)

CENIS LABOR DEMAND SURVEY

In the early 1970's the Iowa Department of Public Instruction generated the CENIS Survey Project. Organized on a state-wide basis, the CENIS project samples representative employers and from that sampling projects a labor demand analysis for approximately 300 occupations for each merged area and for the state as a whole.

Factors included in the CENIS - collected data are full-time employees, current vacancies, estimated employment levels for one, three, and five years; and replacement needs for each of those three years.

The approximately 300 occupations included in the survey were those that required less than baccalaureate degree preparation or that were currently being taught at secondary and post-secondary training programs. Survey entries were tabulated according to the Dictionary of Occupational Titles (DOT) codes and titles.

For the purposes of this study, the labor demand and supply information was classified into the fifteen occupational clusters. Full-time employment for Area III in occupations requiring less than baccalaureate preparation is indicated along with the replacement demand for 1975 and 1977.

The Labor Demand Analysis tables of the CENIS report indicated labor needs as expressed by both replacement (due to turnover) and expansion. These indicators constitute another of the input variables utilized in considering the manpower need picture in conducting feasibility studies.

Another factor that addresses needs assessment is an analysis of student interests. In attempting to give this more total picture, Table XLVI presents

not only the number of persons presently employed in a specific occupation and the Labor Demand caused by replacement, but also the specific student interest in each occupational area listed. Table XLVI also includes the CENIS estimate of the number of new positions available in each of the occupational areas in 1977. This figure, considered with the replacement figures, should give an approximate view of employment trends in each occupation considered.

The Fine Arts and Humanities and the Marine Science clusters do not appear in Table XLVI since there is apparently little or no employment in Area III of persons with less than baccalaureate preparation in these areas.

TABLE XLVI (Con't)

AREA III SUMMARY CENIS FULL-TIME EMPLOYMENT, LABOR DEMAND, AND STUDENT INTEREST

Agribusiness & Natural Resourses

DOT Title	Full Time Emply	Labor Demand 1975 Replacement Need	1977 Total	Need	Student Interest
Farm Hand, General	44	8	18		210
Poultryman, Tech Advisor	2	0	3		5
Manager, Farm	20	0	0		58
Feed-Research Aid	6	0	1		0
Sprayer	12	0	8		0
Supt., Grain Elev.	23	1	0	)	
Feed Mixer	46	5	18	)	
Feed & Farm Mgmt. Adv.	22	7	7	)	
Salesman, Grain & Feed	49	7	17	)	
Custom Feed Mill Oper.	27	2	12	)	9
Veterinary Asst.	2	0	1		7
Farm Equip Mechanic	19	2	8	)	
Farm Mch. Set-Up Man	13	1	7	)	
Countryman, Farm Equip. Parts	14	0	4	)	13
Buyer, Grain	9	0	0		0
Buyer, Livestock	36	5	10		0
Landscape Gardener	4	1	1		5
Greenskeeper	11	0	0	)	
Supt., Greens	2	0	0	)	
Park Foreman	1	0	0	)	19
GRAND TOTAL	362	39	115		326

AGRIBUSINESS & NATURAL RESOURSES OCCUPATIONS

TABLE XLVI (Con't)

AREA III SUMMARY CENIS FULL-TIME EMPLOYMENT, LABOR DEMAND, AND STUDENT INTEREST SURVEY

Marketing and Distribution Occupations

DOT Title	Full Time Emply	Labor Demand 1975 Replacement Need	1977 Total	Need	Student Interest
Marketing Research Analyst	6	0	0	)	
Account Executive	9	0	0	)	
Public Relations Specialist	2	0	0	)	
Advertising Asst.	2	0	0	)	36
SalesPrsn., Fashion Accessories	17	8	17	)	
SalesPrsn., Men's Furnishings	2	2	3	)	
SalesPrsn., Women's Garments	24	6	7	)	45
Dept. Head, Supermarket	12	1	3		0
Salesman-Driver	8	1	1		0
Salesperson, Food	16	4	4		0
Salesperson, Fabrics & Hm. Sewing Supplies	7	7	14	)	
Salesperson, General	71	18	37	)	
Retail Store Manager	34	4	6	)	
Buyer, Asst. Buyer	50	1	1	)	46
Salesman, Farm & Grdn Equip & Supplies	17	4	16	)	
Salesman, Tract. & Farm Impl.	9	1	3	)	
Salesprsn., Hdwe, & Bldg. Sup.	11	4	7	)	
Salesprsn., Lawn & Grdn. Sup.	1	0	0	)	8
Salesperson, Home Furnishings	10	5	11	)	
Hm. Furnishings Asst.	1	0	0	)	3
Sales Mgr., Indus.	11	0	1	)	
Salesmn., Indus.	25	1	9	)	12
Mgr. Trainee Ins. Office	2	0	2	)	
Salesman, Insurance	20	1	20	)	11
Display Man	2	1	.0		0
GRAND TOTAL MARKETING & DISTRIBUTION OCCUPATIONS	369	69	162		161

TABLE XLVI (Con't)

AREA III SUMMARY CENIS FULL-TIME EMPLOYMENT, LABOR DEMAND, AND STUDENT INTEREST SURVEY

Transportation Occupations

DOT Title	Full Time Emply	Labor Demand 1975 Replacement Need	1977 Total	Need	Student Interest
Salesman, Auto.	25	0	3	)	
Counterman, Auto. Parts	18	2	5	)	3
Service Station Attendent	17	10	17	)	
Field Rep. Petroleum	2	0	1	)	
Mgr., Service Station	9	0	1	)	5
Truck Driver, Heavy	55	20	23	)	
Industrial Truck Operator	41	13	43	)	
Light-Truck Driver	34	6	24	)	
Tractor-Trailer Truck Driver	70	4	13	)	
Traffic Agent	1	0	0	)	
Dispatcher, Motor Vehicle	1	0	0	)	
Manager, Traffic	4	0	0	)	
Traffic Engineer	3	0	1	)	141
Auto. Air-Conditioning Mech	1	0	1		15
Auto-Body Repairman	22	4	7	)	
Auto. Painter	1	0	0	)	30
Auto Mechanic	52	6	23		31
Auto. Front End Align Mechanic	5	0	0	)	
Auto. Transmission Mech	1	0	0	)	
Auto. Service Station Mechanic	2	1	1	)	31
Aircraft & Engine Mechanic	1	0	1		5
Diesel Mechanic	1	0	1		0
Gasoline engine Repairman	2	0	0		8
GRAND TOTAL TRANSPORTATION OCCUPATIONS	368	66	165		269

TABLE XLVI (Con't)

AREA III SUMMARY CENIS FULL-TIME EMPLOYMENT, LABOR DEMAND, AND STUDENT INTEREST

Business & Office Occupations

DOT Title	Full Time Emply	Labor Demand 1975 Replacement Need	1977 Total	Need	Student Interest
Accounting Technician	34	11	16	)	
Cost Estimator	8	1	3	)	25
Bookkeeper	188	34	70		47
Cashier	29	5	11		0
Office Mach. Oper	35	6	9		0
Computer Operator	5	1	6		0
Computer Operations Superv.	2	0	0		0
Key Punch Oper.	18	2	10		9
Programmers	5	1	4		26
Systems Analyst	2	0	3		5
Duplicating Mach. Oper.	4	0	1		0
File Clerk	12	3	10		0
General Office Clerk	126	19	49	)	
Statistical Clerk	17	3	5	)	3
Transcribing Mach Oper	8	1	7		0
Telephone Oper	17	0	4		9
Mail Clerk	3	1	1		0
Receptionist	24	9	13		52
Survey Worker	1	0	0	)	
Library Asst.	5	2	4	)	1
Ship. & Receiving Clerk	43	8	26		0
Legal Secretary	7	1	0	)	
Medical Secretary	5	0	4	)	
Secretary	97	21	45	)	155
Stenographer	9	2	6		15
Off. Supervisor	84	6	17		0
Clerk-Typist	29	14	21		12
Cashier/Checker	88	21	20		0
Loan Officer	47	5	17	)	
Teller	57	12	20	)	
Credit & Collect. Mgr.	4	0	1	)	7
GRAND TOTAL BUSINESS & OFFICE OCCUPATIONS	1013	189	403		357

TABLE XLVI (Con't)

AREA III SUMMARY CENIS FULL-TIME EMPLOYMENT, LABOR DEMAND, AND STUDENT INTEREST SURVEY

Manufacturing Occupations

DOT Title	Full Time Emply	Labor Demand 1975 Replacement Need	1977 Total	Need	Student Interest
Electromechanical Tech	1	0	0		0
Industrial Maintenance Mech	79	4	15		0
Industrial Engineering Tech	2	0	3		0
Mechanical Engineering Tech	4	0	1		0
Quality Control Technician	20	3	12		0
Industrial Safety Technician	2	0	1		0
Air Conditioning Mechanic	1	0	0		0
Furn. Install. & Repair	1	0	0		0
Electrical Appliance Repair	1	0	0		0
Gas Appliance Serviceman	2	0	0		2
Plastics Inject. Mold Mach. Operator	31	3	3		0
Plastics Vacuum Forming Mach. Oper.	1	0	0		0
Industrial Designer	6	2	2		3
Leatherworker	2	0	0		0
Upholsterer	14	5	23		0
Woodworking Machine Oper.	6	11	30	)	
Furniture & Hdwe Assembler	10	3	15	)	5
Inspector, General	19	0	6		0
Vending Machine Repairman	2	0	1		0
Musical Instrument Repairman	1	0	2		0
GRAND TOTAL MANUFACTURING OCCUPATIONS	205	31	114		10

TABLE XLVI

AREA III SUMMARY CENIS FULL-TIME EMPLOYMENT, LABOR DEMAND, AND STUDENT INTEREST SURVEY

Consumer and Homemaking Occupations

DOT Title	Full Time Emply	Labor Demand 1975 Replacement Need	1977 Total	Need	Student Interest
Steam Press Operator	2	0	0		0
Sewing Machine Operator --All Around	17	7	23		0
GRAND TOTAL CONSUMER AND HOMEMAKING OCCUPATIONS	19	7	23		0

Hospitality and Recreation Occupations

DOT Title	Full Time Emply	Labor Demand 1975 Replacement Need	1977 Total	Need	Student Interest
Restaurant Hostess	7	2	6		0
Mgr., Lodging Facilities	10	0	0		
Bellman	2	2	2		3
Director, Recreation	1	0	0		
Salesperson, Sporting Goods	12	2	8		41
Food Establishment Mgr.	24	3	1		
Kitchen Supervisor	5	4	3		5
Housekeeper, Inst.	48	7	11		5
Baker	4	0	0		0
Baker's Helper	11	0	0		0
Cook	77	19	28		
Cook's Helper	43	12	15		16
Meat Cutter	8	0	3		0
Waiter/Waitress	93	35	52		9
GRAND TOTAL HOSPITALITY AND RECREATION OCCUPATIONS	345	86	129		79

TABLE XLVI (Con't)

AREA III SUMMARY CENIS FULL-TIME EMPLOYMENT, LABOR DEMAND, AND STUDENT INTEREST

Manufacturing Occupations

DOT Title	Full Time Emply	Labor Demand 1975 Replacement Need	1977 Total Need	Student Interest
Electrician, Maintenance	7	1	1	0
Lineman	7	0	0	0
Print Shop Foreman	12	2	0	0
Phototypesetter Operator	17	0	0	0
Offset Pressman	10	2	4	0
Platen & Letter Pressman	11	2	0	0
Photographer, Lithographic	10	0	0	0
Bookbinder	8	0	0	0
Foundry Molder	2	0	0	0
Coremaker	2	0	0	0
Metal Pourer	0	0	1	0
Die-Casting Mach. Oper.	3	0	7	0
General Machinist	112	6	26	3
Tape Control Mach. Oper	0	0	3	0
Production Machine Oper	105	26	61	0
Punch Press Operator	30	4	33	0
Press Operator, Heavy Duty	20	2	11	0
Fabricator-Assembler Metal Products	335	37	87	0
Welder, Combination	41	9	25	)
Welder, Gas	4	4	8	)
Welder, Resistance Machine	75	53	60	)
Welder, Inert Gas Shielded Arc	25	5	27	)
Flame Cutting Machine Operator	4	0	1	) 11
Tool & Die Maker	21	3	15	6
GRAND TOTAL MANUFACTURING OCCUPATIONS	861	156	370	20

TABLE XLVI (Con't)

AREA III SUMMARY CENIS FULL-TIME EMPLOYMENT, LABOR DEMAND, AND STUDENT INTEREST

Health Occupations

DOT Title	Full Time Emply	Labor Demand 1975 Replacement Need	1977 Total	Need	Student Interest
Dental Assistant	0	1	4		22
Cytotechnologist	1	0	2		0
Medical Lab. Assistant	11	8	13		27
Nurse, General	14	4	13		20
Nurse, Licensed Practical	46	10	31		36
Nurse Aid/Orderly	208	40	58		5
Operating Room Tech	3	2	6		0
Home Health Aid	9	3	7		0
Physical Therapy Attendant	4	2	4		4
Orthopedic Appliance Tech	0	0	1		0
Radiologic Technician	7	0	3		14
Radiation Technician	0	0	1		0
Nuclear Med. Tech	0	0	1		0
Optical Assistant	1	1	0		0
Electroencephalograph Tech	0	0	1		0
Electrocardiograph Tech	3	0	1		0
Inhalation Therapist	2	2	6		0
Med. Emergency Tech.	14	7	7		0
Dietetic Tech.	2	0	2		0
Health Care Administrator	6	0	0	)	
Physician's Asst.	1	0	1	)	14
GRAND TOTAL HEALTH OCCUPATIONS	332	80	162		142

Personal Service

DOT Title	Full Time Emply	Labor Demand 1975 Replacement Need	1977 Total	Need	Student Interest
Dry Cleaner	4	0	0		8
Launderer	63	7	28		0
Cosmetologist	20	1	11		70
Child Care Attendant Assistant	19	0	0		26
GRAND TOTAL PERSONAL SERVICE OCCUPATIONS	106	8	39		104

TABLE XLVI (Con't)

AREA III SUMMARY CENIS FULL-TIME EMPLOYMENT, LABOR DEMAND, AND STUDENT INTEREST

Construction Occupations

DOT Title	Full Time Emply	Labor Demand 1975 Replacement Need	1977 Total	Need	Student Interest
Interior Decorator	1	0	0		19
Bldg. Maintenance Man	19	1	2		32
Carpenter	164	32	119	)	
Form Builder	47	24	41	)	18
Electrician	5	1	8		0
Operating Engineer	101	26	45	)	
Construction Equip. Mechanic	17	6	13	)	10
Bricklayer	31	11	24		1
Painting	21	6	10		14
Plumber	3	1	0	)	
Pipefitter	3	1	3	)	5
Dry Wall Applicator	5	2	4		0
Roofer	7	2	4		0
Structural Steel Worker	14	9	14		0
Carpet & Linoleum Layer	1	0	0		0
Cement Mason	75	22	34		0
Draftsman, Structure	4	2	1	)	
Draftsman, Mechanical	12	2	4	)	11
GRAND TOTAL CONSTRUCTION OCCUPATIONS	530	148	326		110

TABLE XLVI (Con't)

AREA III SUMMARY CENIS FULL-TIME EMPLOYMENT, LABOR DEMAND, AND STUDENT INTEREST SURVEY

Public Service Occupations

DOT Title	Full Time Emply	Labor Demand 1975 Replacement Need	1977 Total	Need	Student Interest
Custodian	66	11	22		4
Surveyor	15	7	7		0
Civil Engineering Tech	4	0	0		0
Social Service Aid	4	0	1		0
Building Inspector	2	0	0		0
Educational Media Tech	1	0	0		0
Building & Safety Inspector	4	0	0		0
Fireman	50	2	13		0
Policeman	45	6	14		17
GRAND TOTAL PUBLIC SERVICE OCCUPATIONS	191	26	57		21

Environmental Occupations

DOT Title	Full Time Emply	Labor Demand 1975 Replacement Need	1977 Total	Need	Student Interest
Chemical Technician	1	0	0		0
Solid Waste Technician	4	0	3		0
GRAND TOTAL ENVIRONMENTAL OCCUPATIONS	5	0	3		0

Communications and Media Occupations

DOT Title	Full Time Emply	Labor Demand 1975 Replacement Need	1977 Total	Need	Student Interest
Comm. Equip. Repairman	1	0	0		0
TV & Radio Serviceman	13	0	12		13
Announcer, Radio & TV	10	0	0	)	
Program Director, Radio & TV	3	0	0	)	33
Sign Painter	1	0	0		0
Photographer	2	0	0		14
Developer	1	0	0		0
Control Room Tech.	2	0	0		56
GRAND TOTAL COMMUNICATIONS & MEDIA OCCUPATIONS	33	0	12		116

AREA III SCHOOL ENROLLMENT DATE, PROJECTIONS, AND EDUCATIONAL CHARACTERISTICS

The greatest and most valuable resource with which the educational enterprise deals is obviously the human factor, the consumer of educational resources. The status of enrollment levels, present and predicted, is another critical planning factor that must face evaluation prior to curriculum modification.

In those districts where a decline in student numbers is occuring, the character of the curriculum may of necessity face alteration simply because of the decreased student demand for selected courses of study. On the other hand, those districts anticipating growth, or at least stability of student numbers, may find curriculum revision necessary due to changes in student demand emphasis. In either case, the educational unit must carefully analyze the student population as a part of the planning process.

The trend in recent years for the preponderant number of school districts is toward declining numbers in the student population. Even though total student numbers are in the downswing, a growing emphasis on career education is emerging in the school districts within Merged Area III.

Evaluation of the enrollment picutre serves as one important means of analyzing the emergining needs of the district in planning decision efforts.

Analysis of enrollment trends is presented by school district in Tables. XLVIII.

Each table consists of the enrollment projections by grade for each school district. This data was computed by the Department of Public Instruction, taking into consideration a need to compensate for migration, attrition, and other factors affecting enrollment. The kindergarten class data for each year 1974 through 1978 was obtained from the School Census Report received from each school district.

A composite picture of the enrollment level for Area III shows that while grades 9 through 12 remain fairly constant over the five year period, 1974-75, through 1978-79, there is a more drastic decrease in the elementary grades.

Table XLVIII lists a number of educational characteristics that are of importance in obtaining a more total picture of trends and needs of Area III. The breakdown for each of the five counties, as well as Area III totals and State of Iowa totals are presented. Information was gathered from 1970 Census materials.

TABLE XLVII

EDUCATIONAL CHARACTERISTICS

County	Persons 25 Yrs. Old & Over	No. With 7 Yrs. or Less Educ.	% With 7 Yrs. or Less Educ.	No. With 8 Yrs. Educ. Only	No. With 1-3 Yrs. HS Only	% Less Than 12 Yrs. Educ.	No. With 12 Yrs. Educ. HS Grad Only	% HS Grads Male	Median School Yrs. Male	% HS Grads Female	Median School Yrs. Female
Clay	10,404	561	5.4%	1,593	1,462	34.7%	4,580	60.7%	12.3	69.2%	12.4
Dickinson	7,551	547	7.2%	1,280	1,136	39.2%	3,116	55.0%	12.1	66.0%	12.3
Emmet	7,614	614	8.1%	1,552	1,113	43.1%	2,816	51.0%	12.0	61.9%	12.3
Kossuth	12,548	1,008	8.0%	2,732	1,559	42.2%	5,175	52.1%	12.1	63.0%	12.3
Palo Alto	7,407	789	10.7%	1,446	987	43.5%	2,971	53.8%	12.1	61.6%	12.3
Area III	45,524	3,519	7.9%	8,603	6,257	40.5%	18,658	54.5%	12.1	64.3%	12.3
State of Iowa	1,540,588	116,801	7.6%	284,531	231,034	41.1%	596,649	55.8%	12.2	61.8%	12.3

SOURCE: 1970 Census

TABLE XLVIII SCHOOL ENROLLMENT 1974 - 75 - 1978 - 79 - ACTUAL AND PROJECTED - SIOUX VALLEY COMM

ENROLLMENT PROJECTION

YEAR	K	1	2	3	4	5	6	7	8	9	10	11	12	K-12
74-75	13	21	18	17	14	20	26	24	27	33	35	34	37	319
75-76	19	13	20	16	17	13	19	24	23	26	33	33	32	288
76-77	12	19	12	19	16	16	13	18	24	23	27	31	32	262
77-78	14	12	18	11	18	15	16	12	18	23	22	25	29	233
78-79	13	14	11	17	11	17	15	15	12	17	23	21	23	209

SCHOOL ENROLLMENT 1974 - 75 - 1978 - 79 - ACTUAL AND PROJECTED - SOUTH CLAY COMM

ENROLLMENT PROJECTION

YEAR	K	1	2	3	4	5	6	7	8	9	10	11	12	K-12
74-75	19	22	24	27	29	22	31	36	30	33	32	34	34	373
75-76	21	19	23	25	26	30	22	33	35	30	33	30	33	360
76-77	19	21	20	23	25	27	30	24	32	35	29	31	29	345
77-78	18	19	23	21	23	26	27	32	23	32	34	27	30	335
78-79	18	17	20	24	20	24	26	29	31	23	31	32	26	321

The initial enrollment and census data used to compile this table was provided by the local districts. The enrollment projections were made by the Department of Public Instruction.

TABLE XLVIII SCHOOL ENROLLMENT 1974 - 75 - 1978 - 79 - ACTUAL AND PROJECTED - SPENCER COMM.

ENROLLMENT PROJECTION

YEAR	K	1	2	3	4	5	6	7	8	9	10	11	12	K-12
74-75	134	159	153	158	179	198	198	219	186	237	191	196	174	2382
75-76	110	124	156	149	159	177	195	208	223	198	236	187	191	2309
76-77	67	100	122	151	151	167	174	201	206	235	196	225	180	2165
77-78	48	61	100	118	153	150	154	180	204	221	233	288	219	2029
78-79	39	44	61	96	120	162	152	159	183	218	218	224	183	1845

SCHOOL ENROLLMENT 1974 - 75 - 1978 - 79 - ACTUAL AND PROJECTED - ARNOLDS PARK CONS.

ENROLLMENT PROJECTION

YEAR	K	1	2	3	4	5	6	7	8	9	10	11	12	K-12
74-75	23	19	16	22	27	22	26	31	25	27	27	18	20	303
75-76	18	23	19	17	23	26	22	27	33	26	26	26	17	303
76-77	12	18	24	20	18	22	25	23	29	34	25	24	25	299
77-78	6	12	19	24	21	17	22	27	25	30	32	23	24	282
78-79	4	6	12	19	25	19	17	23	29	26	28	30	23	261

The initial enrollment and census data used to compile this table was provided by the local districts. The enrollment projections were made by the Department of Public Instruction.

TABLE XLVIII SCHOOL ENROLLMENT 1974 - 75 - 1978 - 79 - ACTUAL AND PROJECTED - HARRIS-LAKE PARK COMM

ENROLLMENT PROJECTION

YEAR	K	1	2	3	4	5	6	7	8	9	10	11	12	K-12
74-75	23	24	36	35	33	31	32	41	40	43	37	28	42	445
75-76	26	24	23	36	35	32	29	32	40	40	42	36	28	423
76-77	36	28	23	23	36	34	31	29	31	41	38	41	36	427
77-78	20	38	27	23	22	35	33	31	29	31	39	38	40	406
78-79	17	21	37	26	23	21	33	32	30	29	30	39	37	375

SCHOOL ENROLLMENT 1974 - 75 - 1978 - 79 - ACTUAL AND PROJECTED - MILFORD COMM.

ENROLLMENT PROJECTION

YEAR	K	1	2	3	4	5	6	7	8	9	10	11	12	K-12
74-75	51	34	24	33	47	49	43	43	55	76	89	64	73	651
75-76	43	45	34	24	35	47	50	45	44	72	77	58	63	637
76-77	62	36	45	35	25	35	48	52	47	58	73	75	57	648
77-78	66	53	37	47	37	26	36	50	54	60	69	71	74	670
78-79	78	56	55	39	49	38	26	38	52	69	62	57	69	688

The initial enrollment and census data used to compile this table was provided by the local districts. The enrollment projections were made by the Department of Public Instruction.

TABLE XLVIII SCHOOL ENROLLMENT 1974 - 75 - 1978 - 79 - ACTUAL AND PROJECTED - SPIRIT LAKE COMM

ENROLLMENT PROJECTION

YEAR	K	1	2	3	4	5	6	7	8	9	10	11	12	K-12
74-75	104	94	105	85	100	100	102	114	115	129	113	104	94	1359
75-76	73	109	93	114	85	101	102	106	115	121	127	109	102	1357
76-77	103	77	108	104	115	86	102	105	107	121	118	122	105	1373
77-78	75	106	75	121	103	115	87	106	106	113	119	114	117	1359
78-79	72	79	106	84	120	103	116	90	108	112	110	114	109	1323

SCHOOL ENROLLMENT 1974 - 75 - 1978 - 79 - ACTUAL AND PROJECTED - TERRIL COMM

YEAR	K	1	2	3	4	5	6	7	8	9	10	11	12	K-12
74-75	26	22	29	28	28	23	27	29	33	33	32	31	31	372
75-76	21	27	22	29	28	29	23	27	28	33	32	32	31	362
76-77	28	22	28	23	29	28	29	22	26	28	32	32	32	359
77-78	30	30	22	29	22	29	29	28	22	26	28	33	32	360
78-79	28	33	31	23	28	23	30	28	28	22	26	28	32	360

The initial enrollment and census data used to compile this table was provided by the local districts. The enrollment projections were made by the Department of Public Instruction.

TABLE XLVIII SCHOOL ENROLLMENT 1974 - 75 - 1978 - 79 - ACTUAL AND PROJECTED - ARMSTRONG COMM.

ENROLLMENT PROJECTION

YEAR	K	1	2	3	4	5	6	7	8	9	10	11	12	K-12
74-75	26	36	40	33	49	37	36	37	50	39	39	36	25	483
75-76	23	27	34	41	34	48	36	35	38	50	40	38	35	479
76-77	35	23	25	34	42	33	48	35	36	38	52	38	37	476
77-78	32	35	22	26	35	41	33	46	35	36	39	49	38	467
78-79	29	32	33	22	26	34	41	33	47	35	37	37	49	455

SCHOOL ENROLLMENT 1974 - 75 - 1978 - 79 - ACTUAL AND PROJECTED - ESTHERVILLE COMM

ENROLLMENT PROJECTION

YEAR	K	1	2	3	4	5	6	7	8	9	10	11	12	K-12
74-75	181	134	149	154	162	182	161	185	211	192	195	193	164	2263
75-76	147	166	134	152	157	167	186	166	187	224	191	196	173	2242
76-77	154	137	162	134	154	160	172	191	168	197	224	191	176	2220
77-78	151	144	132	167	135	156	165	177	193	179	197	224	171	2191
78-79	147	141	138	135	167	136	159	167	177	202	176	196	199	2140

The initial enrollment and census data used to compile this table was provided by the local distr cts.
The enrollment projections were made by the Department of Public Instruction.

TABLE XLVIII SCHOOL ENROLLMENT 1974 - 75 - 1978 - 79 - ACTUAL AND PROJECTED - LINCOLN CENTRAL COMM

ENROLLMENT PROJECTION

YEAR	K	1	2	3	4	5	6	7	8	9	10	11	12	K-12
74-75	16	23	16	21	16	26	27	23	27	25	27	28	18	293
75-76	26	17	21	15	22	15	26	26	25	27	25	26	25	297
76-77	32	28	16	20	15	21	15	27	30	25	27	24	24	304
77-78	32	35	26	15	20	15	21	16	29	30	25	26	22	312
78-79	45	35	32	25	15	20	15	22	17	28	30	23	24	331

SCHOOL ENROLLMENT 1974 - 75 - 198 - 79 - ACTUAL AND PROJECTED - RINGSTED COMM

ENROLLMENT PROJECTION

YEAR	K	1	2	3	4	5	6	7	8	9	10	11	12	K-12
74-75	14	12	17	19	20	15	18	20	25	24	17	21	22	244
75-76	8	14	11	16	18	20	14	17	20	25	24	17	20	224
76-77	11	9	14	11	16	18	19	14	17	20	25	23	16	213
77-78	14	11	9	14	10	16	17	18	14	16	19	24	22	204
78-79	13	15	11	9	14	11	15	17	18	13	16	19	22	193

The initial enrollment and census data used to compile this table was provided by the local districts. The enrollment projections were made by the Department of Public Instruction.

TABLE XLVIII SCHOOL ENROLLMENT 1974 - 75 - 1978 - 79 - ACTUAL AND PROJECTED - ALGONA COMM

ENROLLMENT PROJECTION

YEAR	K	1	2	3	4	5	6	7	8	9	10	11	12	K-12
74-75	129	113	111	140	123	131	141	164	168	156	143	156	127	1802
75-76	137	92	94	113	142	125	137	143	164	177	155	141	151	1771
76-77	132	99	80	97	115	144	129	137	143	173	175	153	136	1713
77-78	114	96	85	81	98	116	150	130	137	149	172	172	148	1648
78-79	103	83	83	87	82	100	119	150	126	141	147	168	165	1556

SCHOOL ENROLLMENT 1974 - 75 - 1978 - 79 - ACTUAL AND PROJECTED - BURT COMM

ENROLLMENT PROJECTION

YEAR	K	1	2	3	4	5	6	7	8	9	10	11	12	K-12
74-75	24	18	18	22	15	20	21	23	24	18	23	29	18	273
75-76	33	20	18	19	21	15	20	21	24	23	18	25	30	267
76-77	26	27	21	19	17	20	15	21	22	23	24	20	25	260
77-78	19	21	26	20	17	17	20	15	21	22	24	25	20	269
78-79	20	16	22	26	19	17	17	21	15	21	22	26	25	269

The initial enrollment and census data used to compile this table was provided by the local districts. The enrollment projections were made by the Department of Public Instruction.

TABLE XLVIII SCHOOL ENROLLMENT 1974 - 75 - 1978 - 79 - ACTUAL AND PROJECTED - CLAY CENTRAL COMM

ENROLLMENT PROJECTION

YEAR	K	1	2	3	4	5	6	7	8	9	10	11	12	K-12
74-75	25	26	27	32	40	33	50	31	46	40	39	39	35	463
75-76	35	26	26	29	31	43	33	50	30	48	39	36	37	463
76-77	30	34	25	27	27	34	42	34	48	31	46	36	34	448
77-78	26	29	34	26	26	30	33	43	32	50	31	43	34	437
78-79	25	25	26	35	25	28	29	34	41	34	48	28	41	421

SCHOOL ENROLLMENT 1974 - 75 - 1978 - 79 - ACTUAL AND PROJECTED - EVERLY COMM

ENROLLMENT PROJECTION

YEAR	K	1	2	3	4	5	6	7	8	9	10	11	12	K-12
74-75	32	19	35	23	32	42	43	36	38	38	35	40	39	462
75-76	45	36	19	33	24	33	41	43	37	37	37	34	39	458
76-77	35	51	36	18	33	24	32	41	45	37	36	37	33	458
77-78	37	39	50	34	18	34	23	32	42	44	36	36	35	460
78-79	36	42	37	48	34	19	34	24	33	42	43	35	34	461

The initial enrollment and census data used to compile this table was provided by the local districts.
The enrollment projections were made by the Department of Public Instruction.

TABLE XLVIII SCHOOL ENROLLMENT 1974 - 75 - 1978 - 79 - ACTUAL AND PROJECTED - MALLARD COMM

ENROLLMENT PROJECTION

YEAR	K	1	2	3	4	5	6	7	8	9	10	11	12	K-12
74-75	16	8	18	15	20	22	22	23	30	22	33	39	34	302
75-76	21	16	8	18	15	19	22	22	23	31	21	34	40	290
76-77	12	20	15	8	17	14	19	22	23	24	30	21	34	259
77-78	18	12	19	15	7	16	14	19	23	23	23	30	22	241
78-79	17	17	11	19	14	7	16	14	20	23	23	23	30	234

SCHOOL ENROLLMENT 1974 - 75 - 1978 - 79 - ACTUAL AND PROJECTED - RUTHVEN CONS

ENROLLMENT PROJECTION

YEAR	K	1	2	3	4	5	6	7	8	9	10	11	12	K-12
74-75	12	15	22	14	19	17	27	22	26	27	30	31	32	294
75-76	16	13	15	21	13	18	17	27	22	27	27	29	31	276
76-77	11	16	12	14	20	13	18	17	27	24	27	26	28	253
77-78	12	12	16	11	14	12	13	18	17	29	23	26	26	236
78-79	10	12	12	15	11	13	19	13	18	19	28	23	27	220

The initial enrollment and census data used to compile this table was provided by the local districts. The enrollment projections were made by the Department of Public Instruction.

TABLE XLVIII SCHOOL ENROLLMENT 1974 - 75 - 1978 - 79 - ACTUAL AND PROJECTED - EMMETSBURG COMM

ENROLLMENT PROJECTION

YEAR	K	1	2	3	4	5	6	7	8	9	10	11	12	K-12
74-75	94	77	98	76	89	105	86	109	103	153	131	111	113	1345
75-76	98	80	85	82	76	91	104	90	109	136	151	130	106	1338
76-77	103	83	89	70	82	77	91	107	90	141	134	151	123	1341
77-78	89	86	93	75	70	84	77	92	106	117	140	135	142	1306
78-79	87	76	96	78	75	71	84	79	92	139	117	141	128	1263

SCHOOL ENROLLMENT 1974 - 75 - 1978 - 79 - ACTUAL AND PROJECTED - GRAETTINGER COMM

ENROLLMENT PROJECTION

YEAR	K	1	2	3	4	5	6	7	8	9	10	11	12	K-12
74-75	39	30	30	31	45	37	35	37	49	48	47	53	34	515
75-76	29	37	31	29	34	45	38	35	37	50	49	47	50	511
76-77	40	28	38	30	32	33	45	38	35	37	52	49	44	501
77-78	45	38	29	38	33	31	34	46	38	35	38	51	47	503
78-79	45	42	39	28	41	33	32	34	46	38	36	38	49	504

The initial enrollment and census data used to compile this table was provided by the local districts. The enrollment projections were made by the Department of Public Instruction.

TABLE XLVIII SCHOOL ENROLLMENT 1974 - 75 - 1978 - 79 - ACTUAL AND PROJECTED - AYRSHIRE COMM

ENROLLMENT PROJECTIONS

YEAR	K	1	2	3	4	5	6	7	8	9	10	11	12	K-12
74-75	11	12	20	9	27	19	28	30	19	17	24	23	15	254
75-76	17	10	12	20	10	27	18	30	29	19	17	23	22	254
76-77	12	17	9	12	21	10	26	20	28	28	19	16	21	239
77-78	13	12	16	9	12	20	9	28	19	27	28	17	15	225
78-79	12	13	11	15	10	12	19	9	26	18	27	25	16	213

SCHOOL ENROLLMENT 1974 - 75 - 1978 - 79 - ACTUAL AND PROJECTED - LuVERNE COMM

ENROLLMENT PROJECTIONS

YEAR	K	1	2	3	4	5	6	7	8	9	10	11	12	K-12
74-75	22	14	19	13	19	16	22	17	15	20	17	15	18	227
75-76	13	17	13	19	14	20	17	22	16	15	19	16	13	214
76-77	17	11	17	13	19	14	21	18	20	16	15	18	15	214
77-78	26	14	11	17	14	20	15	20	16	21	16	14	17	221
78-79	21	22	14	11	17	14	21	15	19	17	21	15	12	219

The initial enrollment and census data used to compile this table was provided by the local districts. The enrollment projections were made by the Department of Public Instruction.

TABLE XLVIII SCHOOL ENROLLMENT 1974 - 75 - 1978 - 79 - ACTUAL AND PROJECTED - SENTRAL COMM

ENROLLMENT PROJECTION

YEAR	K	1	2	3	4	5	6	7	8	9	10	11	12	K-12
74-75	23	19	19	22	28	28	29	35	29	41	36	35	38	382
75-76	26	20	19	18	21	28	26	29	35	31	40	35	35	363
76-77	29	23	21	17	18	21	26	26	29	38	30	40	36	354
77-78	25	26	22	20	17	18	20	26	27	31	37	30	40	339
78-79	26	22	25	21	19	17	17	20	26	29	31	37	30	320

SCHOOL ENROLLMENT 1974 - 75 - 1978 - 79 - ACTUAL AND PROJECTED - SWEA CITY COMM

ENROLLMENT PROJECTION

YEAR	K	1	2	3	4	5	6	7	8	9	10	11	12	K-12
74-75	84	25	17	28	33	30	35	38	39	30	39	29	32	459
75-76	105	42	22	17	28	32	29	36	37	38	30	36	29	481
76-77	53	53	37	22	17	28	31	29	34	35	37	28	36	440
77-78	62	26	47	37	23	17	27	32	28	32	35	34	28	428
78-79	67	31	23	47	38	23	16	27	30	26	32	32	34	426

The initial enrollment and census data used to compile this table was provided by the local districts. The enrollment projections were made by the Department of Public Instruction.

TABLE XLVIII SCHOOL ENROLLMENT 1974 - 75 - 1978 - 79 - ACTUAL AND PROJECTED - TITONKA CONS

ENROLLMENT PROJECTION

YEAR	K	1	2	3	4	5	6	7	8	9	10	11	12	K-12
74-75	18	25	26	31	32	42	40	40	35	32	39	39	46	445
75-76	22	18	27	24	32	32	43	29	41	34	32	39	38	421
76-77	23	22	20	25	24	32	33	41	40	40	34	32	38	404
77-78	18	23	24	18	25	25	33	32	42	39	40	34	31	384
78-78	16	18	25	22	18	26	25	32	32	41	38	40	33	366

SCHOOL ENROLLMENT 1974 - 75 - 1978 - 79 - ACTUAL AND PROJECTED - WEST BEND COMM

ENROLLMENT PROJECTION

YEAR	K	1	2	3	4	5	6	7	8	9	10	11	12	K-12
74-75	37	19	21	22	21	24	32	32	27	43	49	45	47	419
75-76	40	16	18	22	23	21	26	33	32	40	42	48	46	406
76-77	26	18	16	20	23	23	21	26	33	49	38	41	48	382
77-78	27	12	18	17	21	23	24	22	26	52	47	37	40	366
78-79	26	12	11	19	18	21	24	24	22	40	50	46	37	350

The initial enrollment and census data used to compile this table was provided by the local districts. The enrollment projections were made by the Department of Public Instruction.

TABLE XLVIII SCHOOL ENROLLMENT 1974 - 75 - 1978 - 79 - ACTUAL AND PROJECTED - LAKOTA COMM

ENROLLMENT PROJECTION

YEAR	K	1	2	3	4	5	6	7	8	9	10	11	12	K-12
74-75	10	9	9	10	16	14	22	18	25	18	21	20	10	202
75-76	14	10	9	9	9	15	13	22	19	25	18	21	19	203
76-77	14	14	10	9	9	9	14	13	24	19	24	18	21	198
77-78	14	13	14	10	9	9	9	15	14	24	18	24	18	191
78-79	12	13	13	14	10	9	8	9	16	14	23	18	24	183

SCHOOL ENROLLMENT 1974 - 75 - 1978 - 79 - ACTUAL AND PROJECTED - LEDYARD COMM

ENROLLMENT PROJECTION

YEAR	K	1	2	3	4	5	6	7	8	9	10	11	12	K-12
74-75	14	11	11	10	14	18	14	19	18	19	17	17	26	208
75-76	13	12	12	11	10	13	17	14	19	18	19	17	17	192
76-77	13	11	12	11	11	9	13	16	13	18	17	15	17	179
77-78	11	11	11	12	11	10	9	12	16	12	18	17	18	168
78-79	13	10	11	11	12	10	10	9	12	15	12	17	16	158

The initial enrollment and census data used to compile this table was provided by the local districts. The enrollment projections were made by the Department of Public Instruction.

BECOMING OPERATIONAL

THE CURRICULUM VITAE OF IOWA LAKES COMMUNITY COLLEGE

INTRODUCTION:

This section has been designed to provide an overview of the attributes and character of Iowa Lakes Community College. This section provides a background or milieu in which assessments and action plans are made. A general understanding of Iowa Lakes Community College will give substance to the nature of the activities and latitudes of ILCC.

CONTENTS OF SECTION:

1. The Purpose and Goals of the Institution
2. History and Chronology
3. The Service Area
4. Governance: Decision Making & Management
5. Information Flow
6. The Faculty
7. The Faculty Association
8. The Students
9. The Student Government
10. Programs of Instruction
11. Supplemental and Supportive Services
12. Communication
13. Community Relationships and Advisory Bodies
14. Facilities
15. Finances

THE PURPOSE AND GOALS OF THE INSTITUTION

Iowa Lakes Community College is a comprehensive Community College[1] dedicated to meeting the educational needs of all the people in Merged Area III.[2] The institution seeks to serve the general population, the educationally, economically, and socially disadvantaged, and the mentally and physically handicapped. The institution endeavors to provide a wide range of educational opportunities so that every student or participant may develop his or her capabilities to the fullest extent possible.

The mission of the institution is to be responsive to the varied needs of a heterogeneous clientele. The institution meets these needs by providing programs and offerings which include the first two years of college work, pre-professional education, vocational and technical training, in-service training and re-training of workers, high school completion, and continuing education; by providing training, re-training, and all necessary preparation for the productive employment of people; by providing community services; by providing activities which further and enhance the life styles of students and participants; and, by recognizing and responding to the educational needs of the people of Merged Area III.

The institution is committed to an open-door policy: to offering educational services at moderate cost, and to providing guidance, counseling, and personal services to all engaged in the institution's activities. The institution is further committed to engendering a wide

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[1]A comprehensive community college is one that offers all of the services as defined in the Iowa Area College Law, Section 280 A, Code of Iowa

[2]Reference: Institutional Data, Vol. II, Section XX

variety of extra-curricular activities in order to fulfill students' and participants' need for well rounded cultural and social lives at Iowa Lakes Community College. These extra-curricular activities include art, drama, athletics, political awareness, lectures, intramural sports, music, and other activities.

Meeting the needs of people necessitates offering programs and services during both day and evening hours and at locations that are distant from the main attendance centers[1] to provide greater accessability for the public. Delivering educational programs, offerings, and services to the student is consistent with the institution's student oriented philosophy. The true measure of the institution's educational effectiveness is rooted in the quality of instruction and assistance given to students and the achievement by the students of their respective educational goals. Techniques and methods of instruction are designed for learning rather than for teaching. The institution is continually evaluating the methods and processes of instruction in order to create better learning environments and learner oriented activities.

The institution seeks to be innovative and creative in designing its educational offerings and services. This innovativeness makes the educational opportunities at the college unique. The institution is engaged, on a continual basis, in self-evaluation and self-assessment in order to ascertain the effectiveness of the instruction in achieving its goals. This process of self-study is instrumental in the designing of alternative approaches for achieving established goals, in the identification of new areas of need, and in the development and

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[1] Reference: Institutional Data, Vol. II, Section XXI

implementation of new objectives and procedures. It is through this continual evaluation process that Iowa Lakes Community College remains both flexible in meeting educational needs and relevant to its social context.

Briefly stated, the purposes and goals of the institution are:

1. As authorized by law[1] to make educational and community activities available at moderate or no cost to the people of Merged Area III.

2. To provide liberal arts courses[2] and to ensure that those courses are transferable to any four year college or university.

3. To provide a selection of career, vocational, and technical training and re-training programs for those who seek gainful employment and employment up-grading and to insure that students and participants are well prepared for entrance and promotion in their chosen fields of work.

4. To provide in-service training and re-training for workers.

5. To provide guidance, counseling, and personal services to those individuals participating in the activities of the institution.

6. To engender a program of extra-curricular activities so as to insure access to a well rounded cultural and social life for those individuals participating in the activities of the institution.

7. To provide programs of instruction, such as high school completion; career, technical, and vocational education; the first two years of college education; continuing education; community services; enrichment activities; and adult basic education at hours and at locations accessable to the public.

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[1]Reference: Institutional Data, Vol. II, Section XXII

[2]Reference: Institutional Data, Vol. II, Section XXIII

8. To make programs, services, and offerings accessible to the educationally, economically, and socially disadvantaged, and the mentally and physically handicapped.

9. To foster among students and participants an awareness of their responsibliities as citizens in our contemporary and everchanging society.

10. To provide students and participants with avenues of exploration that lead to greater self-fulfillment and better use of leisure time.

11. To continually evaluate and assess programs and services for their improvement and for the development of more effective and responsive programs, offerings, and services.

HISTORY AND CHRONOLOGY

Iowa Lakes Community College was officially organized on January 12, 1967, as authorized by Iowa Senate File 550, the Iowa Area College Law, which had passed the Iowa Legislature in 1965. Upon organization, the college's first board of directors began planning for the development of the college.

Estherville Junior College, which had been operated by the Estherville Community School District since its founding in 1924, was absorbed by Iowa Lakes Community College in 1968, the ownership of the Rotunda classroom building passing to the college. Construction of this facility had been made possible through popular community subscription of $213,000 in matching funds for federal grants. This community interest and concern in higher education continues and is reflected in bequests, trusts, and gifts to Iowa Lakes Community College.[1]

Emmetsburg Junior College, which was founded in 1930, was absorbed by Iowa Lakes Community College in 1970. Board policy calls for the operation of two attendance centers, with general education courses offered at both centers. A single administrative staff is charged with the operation of the entire system.

By the Fall of 1971, Iowa Lakes Community College had experienced two academic years with declining enrollment in the traditional junior college arts and sciences program. At that time the institution had not yet become flexible in determining the needs of people in Area III and in establishing programs to meet those needs. Therefore, the situation in the Fall of 1971 called for some retrenchment of faculty and some staff reassignment, but, most of all, it called for a new approach to

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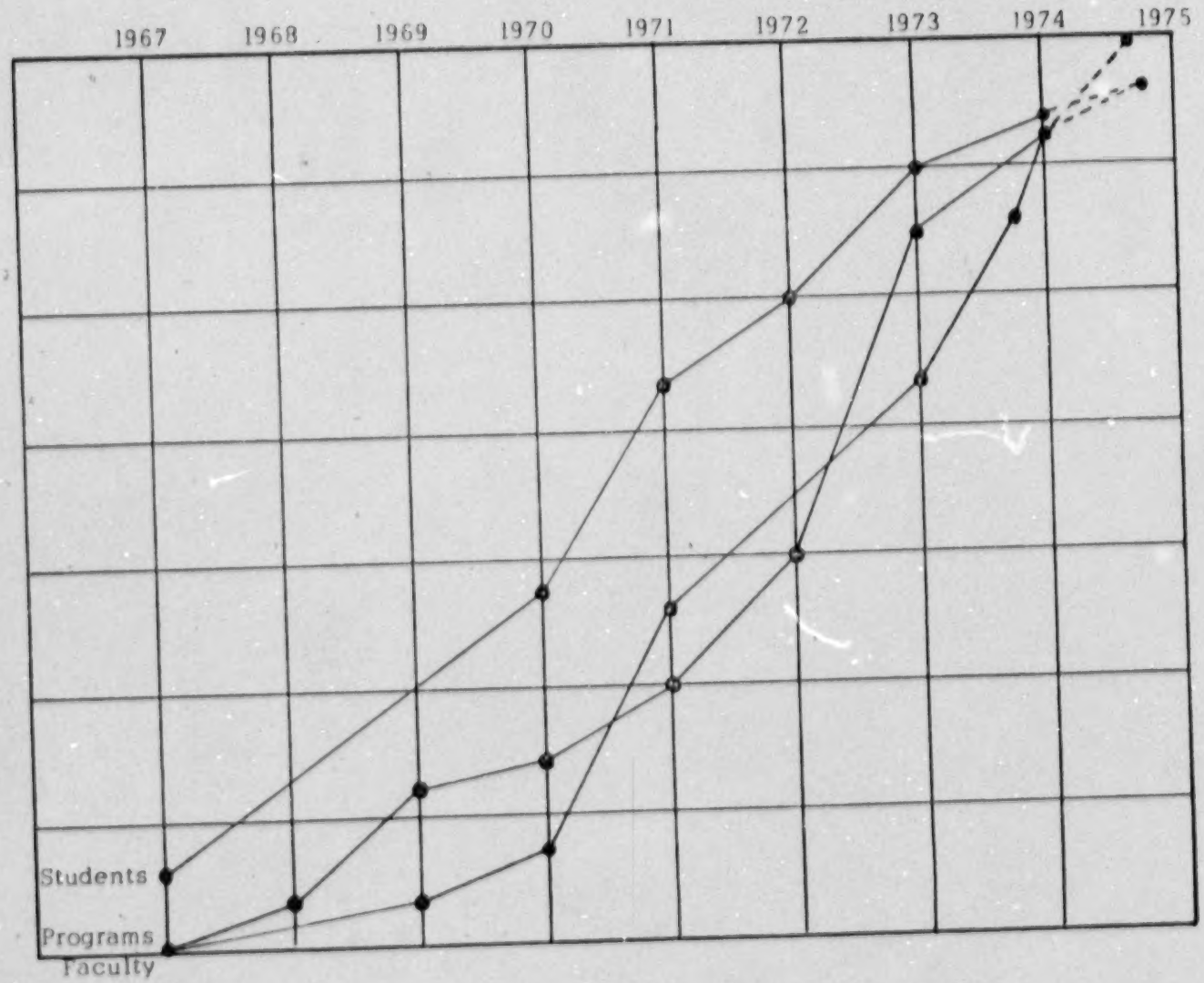
[1]Reference: Institutional Data, Vol. II, Section XXIV

education, new attitudes, and new concepts in serving the educational needs of the people of the community.

The answer to the problem clearly lay in developing more adult educational programs and more vocational and technical programs and in redesigning the traditional Arts and Sciences offerings. This period saw the emergence of the Career-Option programs, which provide a choice between more education following graduation or immediate employability. New offerings attracted new students as the emphasis was shifted from the traditional to the innovative.

With the addition of program offerings and the accompanying growth in student enrollment, there has been a corresponding expansion of the instructional staff, supportive personnel, and physical facilities to meet this growth, as shown in the graph on the following page:



CORRELATION OF FACULTY, PROGRAM, AND STUDENT GROWTH

The first phase of the classroom facility program at the South Attendance Center was completed in 1970 at a total cost of $750,000. This was financed through a State of Iowa grant and funds from the 3/4 mill capital improvement tax levy. The second phase was finished in 1973 at a cost of $660,000, financed through a Higher Education Facility grant and funds from the 3/4 mill levy.

The classroom facilities at the North Attendance Center were completed in 1972. Phase I of this complex cost $797,650 and was financed by 3/4 mill funds and a grant from the Higher Education Facility. Phase II was financed by funds realized through the sale of the Rotunda Building and from the 3/4 mill levy.

A chronological history detailing important events in the college follows:

CHRONOLOGICAL HISTORY

1965 Senate File 550, authorizing the establishment of area schools in Iowa, was passed by the Iowa Legislature.

1965 Series of preliminary meetings of county superintendents of seven northwest Iowa counties was begun for discussion of formation of merged area.

1966 Proposal for Merged Area III, composed of Clay, Dickinson, Emmet, Kossuth, and Palo Alto counties (Buena Vista and Pocahontas counties having withdrawn from the discussions), was adopted. State approval was given.

1966 Special election was held to name directors for the seven director districts in Area III.

1967 The Board of Directors of Iowa Lakes Community College was organized, electing Jack Tatman, Spirit Lake, as president.

1967 Doyle Carpenter took office as first superintendent of the college.

1967 Proposal for a 3/4 mill levy for capital improvements was approved by the voters of Area III and took effect with the year 1968.

1967 Iowa Lakes assumed operation of vocational courses that had been operated by Estherville Junior College.

1967 The Board of Directors voted to locate the vocational and technical programs at the South Attendance Center in Emmetsburg and to develop the general education programs at the North Attendance Center in Estherville.

1967 A 120-acre site was purchased at Emmetsburg at a cost of $120,000, while a 13-acre site was purchased at Estherville for $12,438.

1967 NEW PROGRAMS ADOPTED

VOCATIONAL	ARTS & SCIENCE	ADULT EDUCATION
Office Clerical	Arts & Science curriculum assumed from Estherville Junior College	Adult Basic Education
Licensed Practical Nursing		High School Completion
Auto Mechanics		Continuing Education
Farm Equipment Mechanics		
Auto Body		
Feed & Fertilizer		

1968 Dr. H. Edwin Cramer was elected superintendent to succeed Doyle Carpenter

1968 Complete jurisdiction over the operation of Estherville Junior College was assumed.

1968 NEW PROGRAMS ADOPTED

VOCATIONAL	ARTS & SCIENCE	ADULT EDUCATION
Secretarial		College Parallel Extension

1969 NEW PROGRAMS ADOPTED

VOCATIONAL	ARTS & SCIENCE	ADULT EDUCATION
Marine & Small Engine	Arts & Science curriculum assumed from Estherville Junior College	Career Short Term Preparatory
Farm Management		Career Supplemental
		Nurse Aide - Orderly

1970 Completion of Phase I of the buildings at the South Attendance Center, providing facilities for several vocational programs that had previously been housed temporarily in rented facilities throughout Area III.

1970 Emmetsburg Junior College, which had been established in 1930 and was operated by the Emmetsburg Community School District, was absorbed by Iowa Lakes Community College, making it possible to offer general education courses at both attendance centers.

1970 Following motion was adopted by Board of Directors at its August 25 meeting:

"To meet the needs of the heterogeneous clientele, multiple and varied programs shall be offered within each of the major subject areas of the community college, as well as

curricula which are varied according to the abilities, interests, and goals of the student population on each of the existing campuses."

1970 NEW PROGRAMS ADOPTED

VOCATIONAL	ARTS & SCIENCE	OTHER SERVICES
Retail Sales and Marketing		Fire Fighting
Farm Cooperative		American Institute of Banking

1971 Board of directors reorganized to conform to "one man-one vote" rule.

1971 The 3/4 mill levy was approved by the voters of Area III.

1971 Richard H. Blacker was named Acting Superintendent to succeed H. Edwin Cramer, who resigned. Mr. Blacker was subsequently elected Superintendent.

1971 NEW PROGRAMS ADOPTED

VOCATIONAL	ARTS & SCIENCE	OTHER SERVICES
Associate Degree Nursing		
Special Needs		

1972 New classroom building was completed at the North Attendance Center. The Rotunda Building was sold to the Estherville Community School District for $350,000.

1972 NEW PROGRAMS ADOPTED

VOCATIONAL	ARTS & SCIENCE	OTHER SERVICES
Parts Personnel	Veterans A.D.V.A.N.C.E.	Mental Health Project
Accounting Specialist	Instrumental Music	EMTA
Work Adjustment Center		

1973 The second phase of the facilities at the South Attendance Center was completed.

1973 Farm near Emmetsburg was purchased for laboratory use by the Agriculture Education Department.

1973 NEW PROGRAMS ADOPTED

VOCATIONAL	ARTS & SCIENCE	OTHER SERVICES
Carpentry	Journalism/Photography	Career Education Co-ordinator for local schools
Dairy Farm Management	Rehabilitation Facilities Specialist	
Motor Lodge-Motel Management	Junior Executive Sec.	
Secondary Exploratory	Secretarial Management	
Power Mech.	Business Administration	
Secondary Exploratory Health Occ.		
Ag Evaluation Center		
Upward Bound		
Special Services		

1974 Joseph Graff, Spencer, was elected president of the board of directors.

1974 Construction of greenhouse, milking parlor, two silos, and cattle and hog feeding facilities completed for the Agriculture Education Department.

1974 NEW PROGRAMS ADOPTED

VOCATIONAL	ARTS & SCIENCE	OTHER SERVICES
Horticulture	Recreational Specialist	Aging Programs
		Criminal Justice
		Spencer Learning Center
		CETA Programs

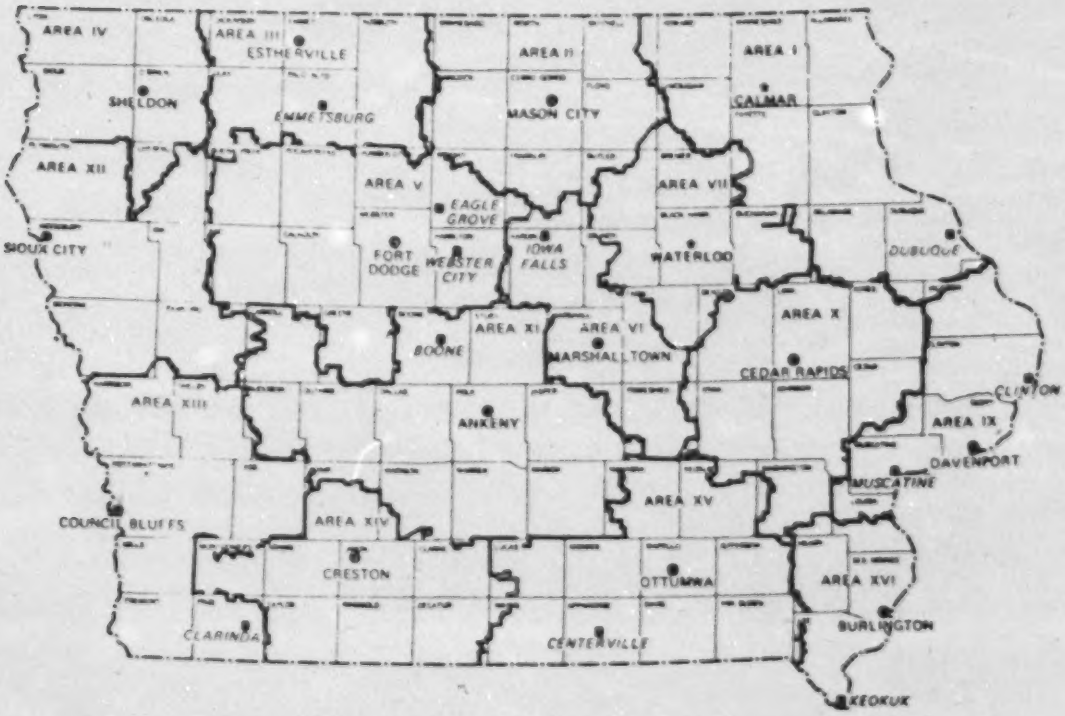
1975 Student Center opened at the North Attendance Center

1975 NEW PROGRAMS ADOPTED

VOCATIONAL	ARTS & SCIENCE	OTHER SERVICES
Secondary Health	Data Processing Specialist	Summer CETA
New Section:	Environmental Technology	Youth Conservation Corp.
Swea City (1)Section		CETA Youth Recreation
Emmetsburg(2)Section		CETA Youth Career Development
Secondary Power Mechanics		
New Section:		
Emmetsburg(1)Section		
Secondary Agriculture		
New Program:		
Emmetsburg(2)Section		

THE SERVICE AREA - MERGED AREA III

Merged Area III is composed of five counties: Clay, Dickinson, Emmet, Kossuth, and Palo Alto, and encompasses thirty school districts, two of which are parochial systems. These five counties constitute the major service area of the College. However, students also come from other counties surrounding the service area. The quality of the programs and services offered by Iowa Lakes Community College has attracted many students from outside of the service area. A majority of these students come from the 12 contiguous counties surrounding the planning and service area. The map below shows the five county area that supports the College through a 3/4 mill operational levy and a 3/4 mill capital improvement levy, and the surrounding counties from which a significant number of students come.



Indices: COURSE DEVELOPMENT PLANNING REPORT

Program Development:

Planning for new programs proceeds on both a short-term and long-term basis. The procedure for identifying needs for new programs and determining employability is clearly laid out. As a program is developed it passes through several stages -- Request, Investigation, Development, and finally, Implementation. As a program develops through each stage it is presented to the Board of Directors for approval to proceed with the next stage of development. When documentation is complete, need has been established, and the recommendations of an advisory committee have been studied in developing the program curriculum, the final proposal is submitted to the State Board of Instruction for approval. (Prior to submission to the State, articulation with other institutions has been explored where the transfer of credits may be involved.)

Each department chairman submits annually his short-term and long-term program projections to the Assistant Superintendent for Instruction. Departmental program planning for the 1975-76 academic year includes the following new programs:

Environmental Technician; Data Processing Specialist; Welding and Cutting;

Secondary Preparatory Carpentry; Secondary Exploratory Power Mechanics;

Agriculture Career Awareness; Supplemental Continuing Education in Agriculture;

College Transfer Agriculture, and Secondary Exploratory Health Careers

Programs identified for development at a later date are:

Legal Assistance or Lawyer's Assistant; Physical Therapy Assistant;

Medical Assisting; Masonry; Millwork and Cabinet Making;

Plumbing and Heating; Electrician; Vocational and Occupational Education in Commercial Music;

Integrated Humanities; Corrections Specialist; Athletic Trainer;

Agricultural Equipment Operation; Agricultural Equipment Sales;

Agricultural Sales; Agricultural Resources; Horse Management;

Agricultural Adjustment Center; Horticultural Therapy;

Food Management; Food Production; Automotive Sales Specialist;

Court-Conference Reporting, and Industrial Field Laboratory

Educationally related programs and services have also been identified by Department Chairmen and others. They are as follows:

Financial Services; Summer CETA Program; Expanded Sheltered Workshop;

and, Programs for Senior Adults

ANALYSIS:

Iowa Lakes Community College provides instruction or related instruction in 93% of the professional areas of work identified by students in the Professional, Technical and Vocational Interest Survey[1]. The college also provides instruction or related instruction in 63% of the vocational-technical areas of work identified in the same survey. An additional three (3) programs or 10% of the identified occupations are under consideration for development and implementation[2].

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1. Instruction for the remaining 7% of the identified areas of work is provided by other schools.

2. Instruction for 17% of the identified areas of work is provided by other schools. Ten percent of the identified areas are unmet.

Iowa Lakes Community College provides instruction, programs and services, as mandated in the ten (10) points of the Law.

Iowa Lakes Community College has projected enrollment figures which will necessitate an expansion in the programs and services offered.

Through the Course Development Planning Process, faculty members and Department Chairmen have identified several areas of instruction for implementation on immediate and long-term bases. Services have also been identified for implementation.

1975 Wage and Employment Practices Survey

During the 1974-75 fiscal year, Iowa Lakes Community College, in cooperation with the McQuay-Perfex Company of Spirit Lake, surveyed a number of regional industries as to their wage and employment practices. For the sake of brevity, the wage section is included in this report.

This data should be useful from two standpoints. First, the reader will be able to determine the specific occupations available for employment in each of the surveyed industries. Second, the reader can gain an idea of the specific salaries available for various types of work in this region.

WAGE RATES AND EARNINGS

FACTORY, OFFICE & SALARIED	STARTING	AVERAGE	TOP
ALFS MANUFACTURING CO.			
Final Inspector	$2.10	$2.60	$3.80
Warehouse	$2.91	$3.17	$3.43
File Clerk	$2.50	$2.86	$3.22
Clerk-Typist	$2.50	$2.86	$3.22
Secretary	$2.50	$2.86	$3.22
Supervisor(office)	$2.91	$3.14	$3.38
Foreman	$2.91	$3.14	$3.38
Mechanic	$3.07	$3.64	$4.20
Production Worker	$2.10	$2.68	$5.00
ALUMINUM WINDOW MANUFACTURING			
Tool & Die Maker	$5.50	$6.50	
Assembler-Erector	$2.50	$3.68	
Bench Assembler	$2.50	$3.36	
Final Inspector	$2.50	$3.79	
Shipping Clerk	$2.50	$3.79	
Lead People	$3.50	$4.04	
Clerk-Typist	$2.80	$3.25	
Foreman	$4.74		
Assistant Superintendent	$4.98		
Manager Shipping Department	$4.74		
ARMOUR FOOD CO.			
Electrician			$4.82
Machinist	$4.37	$4.52	$4.82
Meat Cutter	$3.82	$3.82	$3.82
Welder, Arc or Heli-arc	$4.37	$4.52	$4.82
Carpenter	$4.37	$4.52	$4.82
Shipping Clerk	$4.37	$4.37	$4.37
Warehouseman	$4.82	$4.82	$4.82
Plumber	$4.37	$4.52	
Lead People	$4.37	$4.52	$4.82
Clerk-Typist	$110.00 (weekly)	$118.00	$165.00
Timekeeper	$119,00 (weekly)	$140.00	$165.00
Special Clerk (Acct., Pers. Prchsng, etc)	$127.00 (weekly)	$140.00	$178.00
Supervisor (office)	$224.00 (weekly)	$253.00	$338.00
Foreman	$191.00 (weekly)	$234.00	$338.00
Industrial Engineer Tech.	$299.00 (weekly)	$347.00	$449.00
ART'S-WAY MFG. CO. INC.			
Electrician	$2.75	$4.50	$4.90
Machinist	$2.75	$4.00	$4.95
Tool & Die Maker	$2.75	$4.50	$5.10
Assembler-Erector	$2.75	$4.00	$4.95
Bench Assembler	$2.75	$4.00	$4.95
Welder, Arc or Heli-arc	$2.75	$4.50	$5.10
Final Inspector	$2.75	$4.00	$4.95
Sheet Metal Press Operator	$2.75	$4.00	$4.95
Carpenter	$2.75	$4.00	$4.95
Shipping Clerk	$2.75	$4.00	$4.95
Lead People	$2.75	$4.00	$4.95
Lead People	$2.75	$4.30	$5.10
File Clerk			
Clerk-Typist			
Timekeeper	$2.25	$3.25	$4.50
Special Clerk			
Secretary			
Supervisor (office)			
Foreman	$13,800.00	$14,500.00	$15,000.00
Draftsman	$3.25	$4.50	$5.40

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WAGE RATES AND EARNINGS (cont.)

FACTORY, OFFICE & SALARIED	STARTING	AVERAGE	TOP
BEVERAGE			
Warehousman	$2.50	$2.75	$3.00
Secretary	$2.25	$2.60	$3.05
CAMPBELL SOUP COMPANY			
Electrician		$4.225	
Welder, Arc or Heli-arc		$4.225	
Carpenter		$4.225	
Shipping Clerk		$3.465	
Warehouseman		$3.14	
Plumber		$4.225	
Lead People	$.25/hr. over highest rate under supervision		
File Clerk	$109.00 (weekly)	$116.00	$158.00
Clerk-Typist	$109.00 (weekly)	$116.00	$158.00
Secretary	$120.00 (weekly)	$133.00	$174.50
Timekeeper	$126.00 (weekly)	$132.00	$183.00
Special Clerk (Acct., Pers., Prchsng, etc.)	$120.00 (weekly)	$132.50	$174.50
CHASE BAG			
Electrician	$3.13		$4.21
Millwright	$3.03		$4.11
Final Inspector	$2.73		$2.98
Shipping Clerk	$2.88		$3.58
Warehouseman	$2.78		$3.48
Printer (pressman)	$3.13		$4.23
Timekeeper	$425.00 (monthly)	$480.00 (monthly)	
Secretary	$425.00 (monthly)	$480.00 (monthly)	
Foreman	$800.00 (monthly)	$1200.00(monthly)	
DELUXE PRODUCTS			
Electrician	$4.93	$5.08	$5.46
Machinist	$4.08	$4.75	$5.08
Tool & Die Maker	$4.60	$5.46	$5.87
Millwright	$4.08	$4.31	$4.53
Bench Assembler	$2.82	$2.87	$2.92
Welder, Arc & Heli-arc	$3.56	$3.64	$3.71
Final Inspector	$3.84	$3.92	$3.99
Sheet Metal Press Operator	$3.15	$3.20	$3.25
Shipping Clerk	$3.56	$3.64	$3.71
Warehouseman	$3.15	$3.20	$3.25
File Clerk	$396.00(monthly)	$446.00	$502.00
Clerk-Typist	$446.00(monthly)	$502.00	$566.00
Special Clerk (Acct., Pers., Prchsng, etc.)	$502.00(monthly)	$566.00	$637.00
Secretary	$502.00(monthly)	$566.00	$637.00
Foreman	$906.00(monthly)	$1019.00	$1146.00
Industrial Engineer Tech.	$716.00(monthly)	$806.00	$906.00
EATON CORPORATION-HYDROSTATICS PLANT			
Electrician	$184.00 (weekly)	$198.00	$210.00
Tool & Die Maker	$184.00 (weekly)	$198.00	$210.00
Machine Tool Operator	$162.00 (weekly)	$	$174.00
Bench Assembler	$144.00 (weekly)	$154.00	$154.00
Final Inspector	$148.00 (weekly)	$158,00	$158.00
Shipping Clerk	$152.00 (weekly)	$174.00	$174.00
Lead People	$162.00 (weekly)	$174.00	$174.00

WAGE RATES AND EARNINGS (cont.)

FACTORY, OFFICE & SALARIED	STARTING	AVERAGE	TOP
Clerk-Typist	$497.00 (monthly)	$527.00	$577.00
Secretary	$552.00 (monthly)	$582.00	$742.00
Foreman	$802.00 (monthly)	$1115.00	$1467.00
Draftsman	$727.00 (monthly)	$931.00	$1172.00
FINGERNIT CORPORATION			
Final Inspector	$2.53	$2.63	$2.88
Shipping Clerk	$3.02	$3.22	$3.47
Lead People	$3.97	$4.17	$4.42
IOWA INDUSTRIAL HYDRAULICS			
Electrician	$4.41	$4.54	$4.71
Tool Room Machinist	$4.41	$4.54	$4.71
Machine Operator	$3.16	$3.88	$4.17
Assembler-Tractor	$3.16	$3.79	$3.94
Bench Assembler	$3.16	$3.63	$3.76
Welder, Arc or Heli-arc	$3.16	$3.88	$4.07
Final Inspector	$4.41	$4.54	$4.71
Warehouseman	$3.16	$3.50	$3.76
Lead People	Are paid at the rate of 20¢/hr over the top rate of those in the group they lead.		
(On Sept. 1, 1975 all the above rates for IOWA IND. HYD. will increase 30¢)			
File Clerk	$2.26	$2.60	$2.70
Clerk-Typist	$2.26	$2.60	
Special Clerk (Acct., Pers., Prchsng, etc.)	$2.26		$2.85
Secretary	$2.26	$2.71	$3.06
Foreman	$220.00 (weekly)	$225.00	$240.00
Industrial Engineer Tech.	$190.00 (weekly)	$220.00	$235.00
Draftsman	$140.00 (weekly)	$175.00	$200.00
Executive Secretary	$2.92	$3.21	$3.51
Key Punch Operator	$2.26	$2.47	$2.70
IOWA VENEERS, INC.			
(no listing under these headings)			
JOHN MORRELL & CO.			
Electrician			$6.49
Millwright			$6.44
Beef Lugger			$5.99
Meatcutter	$5.69		$6.14
Welder, Arc or Helo-arc			$6.54
Carpenter			$6.44
Shipping Clerk			$5.74
Warehouseman			$5.54
Plumber			$6.44
File Clerk	$118.00 (weekly)		$160.00
Clerk-Typist	$118.00 (weekly)		$160.00
Special Clerk (Acct., Pers. Prchsng, etc.)	$135.00 (weekly)		$180.00
Secretary	$165.00 (weekly)		$220.00
Supervisor (office)	$200.00 (weekly)		$275.00
Foreman	$200.00 (weekly)		$300.00
LAZY IKE CORPORATION			
Bench Assembler	$2.10	$2.30	$2.30
Shipping Clerk	$2.10	$2.40	$2.40
Lead People	$2.10	$2.40	$2.50
Special Clerk (Acct., Pers., Prchsng, etc.)	$125.00 (weekly)	$130.00	$130.00
Secretary	$100.00 (weekly)	$100.00	$100.00
Supervisor (office)	$1000.00(monthly)	$1000.00	$1000.00

WAGE RATES AND EARNINGS (cont.)

FACTORY, OFFICE & SALARIED	STARTING	AVERAGE	TOP
3M COMPANY			
Electrician	$5.04	$5.19	$5.19
Machinist	$5.04	$5.19	$5.19
Final Inspector	$3.62	$3.62	$3.62
Shipping Clerk	$4.34	$4.34	$4.34
Warehouseman	$4.16	$4.16	$4.16
File Clerk	$122.00 (weekly)	$128.00	$132.00
Clerk-Typist	$122.00 (weekly)	$134.54	$150.00
Secretary	$139.00 (weekly)	$145.00	$160.00
Foreman	$232.00 (weekly)	$265.00	$301.00
Draftsman	$174.00 (weekly)	$174.00	
McQUAY-PERFEX, INC.			
Electrician		$5.24	
Machinist		$4.72	
Assembler-Erector		$3.93	
Bench Assembler		$3.77	
Welder, Arc or Heli arc		$4.10	
Final Inspector		$4.10	
Sheet Inspector		$3.77	
Carpenter		$4.30	
Shipping Clerk		$4.10	
Warehouseman		$4.10	
File Clerk	$405.00(monthly)	$440.00	
Clerk-Typist	$430.00(monthly)	$470.00	
Timekeeper	$430,00(monthly)	$490.00	
Special Clerk (Acct., Pers. Prchsng, etc.)	$430.00(monthly)	$475.00(monthly)	
Secretary	$500.00(monthly)	$650.00	
Foreman	$890.00(monthly)	$1050.00	
Industrial Engineer Tech.	$650.00(monthly)	$700.00	
Draftsman	$575.00(monthly)	$625.00	
MERRILL MFG. CO.			
(all factory people on same schedule of $3.45, $4.40, & $4.40, except Department head with $3.45, 4.50, & 4.50.)			
Secretary	$2.25	$3.75	
Supervisor (office)		$5.63	
Foreman		$5.63	
OWATONNA TOOL CO.			
Electrician	$5.11	$5.48	$5.72
Machinist	$4.46	$4.94	$5.07
Tool & Die Maker	$4.78	$5.25	$5.37
Machine Tool Operator	$3.89	$4.36	$4.46
Assembler-Erector	$4.18	$4.54	$4.78
Bench Assembler	$3.89	$4.36	$4.46
Welder, Arc or Heli-arc	$4.18	$4.65	$4.78
Final Inspector	$3.89	$4.36	$4.46
Carpenter	$4.46	$4.94	$5.07
Shipping Clerk	$3.28	$3.64	$3.89
Warehouseman	$3.89	$4.23	$4.46
Lead People	$4.46	$5.25	$5.72
File Clerk	$395.00(monthly)	$450.00	$485.00
Clerk-Typist	$435.00(monthly)	$480.00	$525.00
Special Clerk (Acct., Pers. Prchsng, etc)	465.00 (monthly	$535.00	$585.00
Secretary	$465.00(monthly)	$535.00	$585.00
Industrial Engineer Tech.	$655.00(monthly)	$850.00	$1180.00
Draftsman	$740.00(monthly)	$925.00	$1180.00

WAGE RATES AND EARNINGS (cont.)

FACTORY, OFFICE & SALARIED	STARTING	AVERAGE	TOP
PALO ALTO MFG. CO.			
Machinist	$2.90		$3.95
Machine Tool Operator	$2.65		$3.80
Assembler-Erector	$2.65		$3.80
Bench Assembler	$2.50		$3.60
Welder, Arc or Heli arc	$2.90		$3.95
Sheet Metal Press Operator	$2.65		$3.80
Shipping Clerk	$2.90		$3.95
Warehouseman	$2.90		$3.95
Lead People	(15¢ above)		
File Clerk	$2.10	$3.00	$3.65
Clerk-Typist	$2.10	$3.00	$3.65
Timekeeper	$2.10	$3.00	$3.65
Special Clerk (Acct.,Pers. Prchsng, etc)	$175.00	(weekly)	$285.00
Secretary	$2.25	$3.00	$3.65
Supervisor (office)	$150.00(weekly)		$245.00
Foreman	$175.00(weekly)		$285.00
Industrial Engineer Tech.	$175.00(weekly)		$285.00
Draftsman	$150.00(weekly)		$220.00
SPENCER FOODS, INC.			
Beef Lugger	$5.42		
Meatcutter	$4.97	$5.47	$6.07
File Clerk	$2.20		
Clerk-Typist	$2.35		
Timekeeper	$8,000.00	$9,800.00	$11,000.00
Special Clerk (Acct.,Pers Prchsng., etc)	$2.50	$2.60	$3.40
Secretary (exec.)	$2.65	$2.90	$3.40
Supervosor (office)	$8,500.00	$10,800.00	$13,000.00
Foreman	$12,000.00	$14,500.00	$16,500.00
Industrial Engineer Technician	$15,000.00		$27,500.00
SPERRY UNIVAC			
Machine Tool Operator	$2.41	$3.09	$3.09
Assembler-Erector	$2.26	$2.78	$2.94
Final Inspector	$2.26	$2.78	$2.94
Shipping Clerk	$2.26	$2.94	$2.94
Secretary	$104.00(weekly)	$150.00	
Foreman	$150.00(weekly)	$175.00	$250.00
STOKELY VAN CAMP, INC.			
Electrician	$4.17	$4.33	$4.50
Machinist	$4.50		$4.50
Millwright	$4.33	$4.33	
Welder, Arc or Heli arc	$4.33	$4.33	
Carpenter	$4.33	$4.33	
Shipping Clerk	$4.33	$4.33	
Warehouseman	$3.79	$3.79	
Plumber	$4.33	$4.33	
Lead People	$3.79	$4.17	$4.33
File Clerk	$430.00(monthly)	$460.00	$560.00
Clerk-Typist	$430.00(monthly)	$465.00	$560.00
Timekeeper	$3.86		
Special Clerk (Acct.,Pers. Prchsng, etc)	$475.00(monthly)	$545.00	$620.00
Supervisor (office)	$525.00(monthly)	$600.00	$680.00

WAGE RATES AND EARNINGS (cont.)

FACTORY, OFFICE, & SALARIED	STARTING	AVERAGE	TOP
STYLE CRAFT, INC.			
Warehouseman	$2.35	$3.67	$3.75
Lead People	$3.00	$3.50	$4.00
Seamstress	$2.15	$2.67	$3.86
Framer & Springer	$2.35	$2.33	$2.90
Upholster	$2.35	$3.57	$3.86
Clerk-Typist	$4,472.00	$5,200.00	$5,200.00
Special Clerk (Acct.,Pers. Prchsng, etc)	$8,580.00	$11,960.00	$14,700.00
Supervisor (office)	$4,472.00	$8,400.00	$8, 00.00
TELEX COMMUNICATIONS, INC.			
Bench Assembler Electronic	$2.10	$2.36	$2.53
Final Inspector	$2.15	$2.41	$2.59
Lead People	$2.22	$2.48	$2.65
File Clerk			
Clerk Typist			
Special Clerk (Acct.,Pers. Prchsng, etc)	$435.00(monthly)	$490.00	$545.00
Secretayr	$435.00(monthly)	$480.00	$545.00
Supervisor (office)	$675.00(monthly)	$820.00	$890.00
Foreman	$675.00(monthly)	$850.00	$940.00
Industrial Engineer Tech.	$760.00(monthly)	$830.00	$940.00
THE TORO COMPANY			
Millwright	$2.82	$4.13	$4.13
Assembler-Erector	$2.77	$3.81	$3.90
Bench Assembler	$2.77	$3.81	$3.90
Welder, Arc or Heli arc	$2.82	$4.01	$4.13
Final Inspector	$2.81	$4.00	$4.06
Shipping Clerk	$2.81	$4.06	$4.06
Lead People	(12¢ above the people they are over)		
File Clerk	$405.00(monthly)	$480.00	$540.00
Clerk-Typist	$450.00(monthly)	$550.00	$610.00
Timekeeper	$555.00(monthly)	$650.00	$710.00
Special Clerk (Acct., Pers. Prchsng, etc)	$500.00(monthly)	$540.00	$670.00
Supervisor (office)	$750.00(monthly)	$985.00	$1020.00
Foreman	$835.00(monthly)	$985.00	$113[illegible].00
UNIVERSAL MFG. CO.			
Electrician	$3.36	$3.80	$3.95
Machinist	$3.36	$3.93	$4.25
Tool & Die Maker	$3.36	$3.93	$4.25
Machine Tool Operator	$3.36	$3.93	$4.25
Assembler-Erector	$3.36	$3.80	$3.95
Bench Assembler	$3.36	$3.80	$3.95
Shipping Clerk	$3.36	$3.93	$4.25
Clerk-Typist	$3.00	$3.40	$3.50
Supervisor (office)	$5.00	$5.00	$5.00
Foreman			$1150.(mo.)

WAGE RATES AND EARNINGS (cont.)

FACTORY, OFFICE, & SALARIED	STARTING	AVERAGE	TOP
VAN LAERER, INC.			
Electrician	$3.00	$4.50	
Machinist	$3.00	$	
Machine Tool Operator	$3.00	$3.75	
Welder, Arc or Heli-arc	$3.50		
Sheet Metal Press Operator	$3.00	$3.75	
Shipping Clerk	$3.00	$3.75	
Clerk-Typist	$2.00	$3.00	
Special Clerk (Acct., Pers. Prchsng, etc)	$300.00 (weekly)		
Foreman	$225.00 (weekly)		
Industrial Engineer Tech.	$300.00 (weekly)		
Draftsman	$225.00 (weekly)		
Sales Mgr.	$300.00 (weekly)		
WEIDENHOFF DIVISION OF SNAP-ON TOOLS CORPORATION			
Electrician	$3.24	$3.64	$4.04
Machinist	$3.38	$3.78	$4.18
Tool & Die Maker	$3.12	$3.68	$4.24
Bench Assembler	2.78	$3.18	$3.58
Welder, Arc or Heli-arc	3.06	$3.46	$3.86
Final Inspector	3.12	$3.52	$3.92
Sheet Metal Press Operator	3.06	$3.46	$3.86
~~Carpenter~~ Shipping Clerk	2.89	$3.29	$3.69
Warehouseman	2.96	$3.36	$3.76
Plumber	3.24	$3.64	$4.04
Lead People	(10¢ per hr over directed rate)		
File Clerk	2.10	$2.15	$2.25
Clerk-Typist	2.10	$3.00	$3.30
Timekeeper	2.10	$2.55	$2.90
Special Clerk (Acct., Pers Prchsng, etc)	$2.10	$3.30	$4.05
Secretary	2.50	$3.65	$3.65
Foreman	$175.00(weekly)	$275.00	$350.00
Industrial Engineer Tech.	$175.00(weekly)	$225.00	$240.00
Draftsman	$150.00(weekly)	$175.00	$185.00
Supervisor (office)	$175.00(weekly)	$255.00	$400.00
WINNEBAGO INDUSTRIES INC.			
Electrician	$4.40	$5.00	$5.25
Machinist	4.05	4.50	4.80
Tool & Die Maker	5.00	5.50	6.00
Assembler-Erector	3.50	3.80	4.05
Bench Assembler	3.25	3.50	3.80
Welder, Arc or Heli-arc	4.05	4.30	4.45
Final Inspector	4.40	4.65	4.80
Sheet Metal Press Operator	3.75	3.95	4.05
Carpenter	4.40	5.00	5.25
Shipping Clerk	3.75	4.00	4.05
Warehouseman	3.75	4.00	4.05
Plumber	4.40	5.00	5.25
Printer (pressman)		3.58	
Lead People	(10¢ over top of labor grader their in)		

WAGE RATES AND EARNINGS (cont.)

FACTORY, OFFICE, & SALARIED	STARTING	AVERAGE	TOP
WINNEBAGO (cont.)	(weekly)		
File Clerk	$ 85.00	$ 98.00	$120.00
Clerk-Typist	85.00	98.00	120.00
Timekeeper	90.00	113.00	136.00
Special Clerk (Acct., Pers. Prchsgn., etc.)	103.00	128.00	153.00
Secretary	85.00	130.00	173.00
Supervisor (office)	187.00		279.00
Foreman	165.00		248.00
Industrial Engineer Tech.	238.00		355.00
Detail Draftsman	147.00		220.00
Layout Draftsman	165.00		248.00
Design Draftsman I	187.00		279.00
Design Draftsman II	210.00		316.00
BERKLEY & COMPANY	(hourly)		
Electrician	$ 2.39	$ 3.95	$ 4.99
Machinist	2.39	3.47	4.25
Tool & Die Maker	2.39	4.99	6.12
Assembler - Erector	2.39	2.44	2.88
Welder, Arc or Heli-arc	2.39	3.95	4.99
Final Inspector	2.39	2.88	3.14
Carpenter	2.39	3.95	4.99
Shipping Clerk	2.39	2.88	3.14
Warehouseman	2.39	3.22	3.80
Plumber	2.39	3.95	4.99
Printer (pressman)	2.39	3.39	4.05
Lead People	2.39	(+35¢ over top)	
File Clerk	2.39	2.64	3.04
Clerk - Typist	2.39	2.64	3.04
Timekeeper	2.39	2.92	3.34
Special Clerk (Acct., Prchsng., Pers. etc.)	2.39	3.09	3.53
Secretary	2.39	2.92	3.73
Supervisor (Office)	2.39	710.00 (mo.)	1110.00 (mo.)
Foreman	2.39	710.00 (mo.)	1110.00 (mo.)
Industrial Engineer Technician	2.39	4.99	6.12
Draftsman	2.39	3.95	4.99

V. Study Applications for Career Development in Merged Area III

The reader will probably see many applications of the enclosed information, and we do not presume to limit these applications by suggesting the following:

1. Questions 1 through 16 of the Curriculum Survey can be used by educators to identify strengths and weaknesses of ongoing career education efforts. By considering student opinion, an idea can be gained as to program effectiveness within each school in attaining career development goals. By comparing student, teacher, administrator, and parent responses, differences in perception as to program effectiveness can be identified and possibly rectified.

2. Questions 17 through 22 of the Curriculum Survey indicate universal acceptance of nontraditional approaches to education by the four groups surveyed other than quitting school. Schools may wish to take a closer look at implementation of some of these programs.

3. Teachers may wish to review Questions 29 and 37 of the Curriculum Survey to determine how students view the degree of relevancy students see specific course offerings to their own needs and goals.

4. Question 31 of the Curriculum Survey provides data on where students receive information on careers. Educators may wish to review this data for their own school and determine if students are receiving information from the most desirable sources.

5. Questions 33 and 36 of the Curriculum Survey provide highly interesting data on student's intentions after high

school, geographically and educationally. Community leaders may be interested in the high tendency of students to leave the area.

6. Responses to Questions 34 & 35 of the Curriculum Survey indicate a high degree of unrealistic expectations in terms of current reality in job changes and educational requirements for most jobs.

7. Population and enrollment data must be considered in long-range planning. Indicators are that enrollment in school will continue to deadline. This makes joint cooperative efforts or consolidation more and more likely in the years ahead.

8. Employment information, projected job availability, current wage information and student occupational interest is provided. This data should prove useful to educators attempting to provide realistic occupational forecasts and realistic options to students, and educators involved in curriculum planning, especially at the secondary level.

9. Numbers of curriculum units available in each school are provided. Lists of specific courses offered are available for any school interested in cooperative efforts with neighboring districts.

10. Follow-up data on graduates and dropouts can be useful to schools in aligning their elementary and secondary programs with the reality of where the students actually are going.

VI. Study Limitations

The study did not succeed in involving all twenty-eight public districts, as four of them had supplied no data by computer processing time.

Student surveys were limited to grades 10, 11, and 12. We felt that the information from students at this level would be more realistic than that attained at lower grades.

The parent sample was not as large as hoped, but we feel the sample received provides data of adequate validity.

All information provided should be viewed carefully. Often unseen factors may be of influence, but easily overlooked. For instance, the data on school course relevancy, while on the surface indicating an objective student evaluation, may be heavily influenced by the numbers of students enrolled, often mandatorily. Also, wage and employment data changed constantly, and this information should be considered as relevant to that specific point in time.

While information in any study has its limitations, it should provide a tentative base for decision making, and provide groundwork for additional supplementary research.

VII. Dissemination

The present plan for dissemination includes two copies for each public and parochial school in Area III, a copy for each administrative head at Iowa Lakes Community College, an initial ten copies for the Iowa DPI, and copies for other public agencies in the area.

Anyone interested in receiving a copy of this study should contact the Iowa Department of Public Instruction.

APPENDIX

VIII

CAREER EDUCATION SURVEY - STUDENT

INSTRUCTIONS: Please read each of the statements below concerning your school. Indicate the degree of help your school gives you regarding each one of the statements below. Circle "1" on your answer sheet if you think your school gives you no help; "2" if you think your school gives you very little help; "3" if you think your school gives you some help; "5" if you think your school gives you a great deal of help; or "6" if you don't know.

	No Help	Very Little Help	Some Help	Much Help	A Great Help	Don't Know
1. My school has activities that help me find out what work and jobs mean	1	2	3	4	5	6
2. My school helps me see my strengths and my interests when I am thinking about choosing a job	1	2	3	4	5	6
3. My school has activities that help me to choose a group of jobs to study	1	2	3	4	5	6
4. My school helps me to recognize and understand those things in my life that are important to me	1	2	3	4	5	6
5. My school helps me plan what courses and activities I should take in school and beyond to be prepared to do the job for which I am planning	1	2	3	4	5	6
6. My school helps me see the special skills needed by people who work in various jobs	1	2	3	4	5	6
7. My school helps me discover my interests, my abilities, and my feelings that relate to a group of jobs in which I think I might like to work	1	2	3	4	5	6
8. My school has activities that help me develop a positive concept of myself	1	2	3	4	5	6
9. My school helps me see that a person's standard of living depends on the kind of job he has as a wage earner	1	2	3	4	5	6
10. My school helps me learn the relationship between an occupation and leisure time	1	2	3	4	5	6
11. My school has activities that teach me to appreciate the dignity and value of work	1	2	3	4	5	6
12. My school provides experiences for me to use tools and equipment that are used in various groups of jobs	1	2	3	4	5	6

	No Help	Very Little Help	Some Help	Much Help	A Great Help	Don't Know
13. My school helps me match my interests and abilities with the skills that are needed in groups of jobs	1	2	3	4	5	6
14. My school helps me to see that "how I act and what I am" may fit one kind of job more than another kind of job ..	1	2	3	4	5	6
15. My school has activities showing why certain types of jobs require more education and training than other kinds of jobs	1	2	3	4	5	6
16. (Answer this question only if you have decided upon a specific career choice. Otherwise, leave blank.) My school helps me get the skills that are basic to a single job for which I am planning	1	2	3	4	5	6

17. Some students have no interest in school work as now offered in junior and senior high school and they become a problem. Here are some ways that have been proposed for dealing with these students. Will you indicated in the case of each proposal whether or not you approve of it?

a. Permit these students to quit school?	__ Yes	__ No	__ Don't Kn
b. Have businesses and industries provide on-the-job training as a substitute for regular school	__ Yes	__ No	__ Don't Kn
c. Have special training courses which would prepare them for jobs	__ Yes	__ No	__ Don't Kn
d. Have a work-study program (½ day at school, ½ day on-the-job training)	__ Yes	__ No	__ Don't Kn
e. Give school credit for volunteer work during the school day with an approved organization such as a local hospital, day-care center, and the like	__ Yes	__ No	__ Don't Kn
f. Have separate programs for students with out-of-the ordinary interests and talents	__ Yes	__ No	__ Don't Kn

Please indicate how well your school relates the subject matter of each course listed below to how that course will help you when you are making decisions about selecting a job and when you are working in that job.

18. Art	1	2	3	4	5	6
19. Business	1	2	3	4	5	6
20. English	1	2	3	4	5	6
21. Foreign Language	1	2	3	4	5	6
22. Homemaking	1	2	3	4	5	6

	No Help	Very Little Help	Some Help	Much Help	A Great Help	Don't Know
23. Industrial Arts	1	2	3	4	5	6
24. Mathematics	1	2	3	4	5	6
25. Music	1	2	3	4	5	6
26. Physical Education	1	2	3	4	5	6
27. Science	1	2	3	4	5	6
28. Social Studies	1	2	3	4	5	6
29. Vocational (Specify _____)	1	2	3	4	5	6

30. If you could get a good full-time job, would you prefer to continue going to school? ..... __ Yes __ No __ Don't Know

You may select more than one answer for any of the following questions number 31 through 35. Circle the corresponding letter.

31. If I want information about jobs in which I am interested as a career I would go to:

A. a teacher
B. a counselor
C. parents or relatives
D. the library
E. workers on the job in which I am interested in

32. I have investigated jobs or career opportunities through:

A. courses in school
B. part-time summer work
C. visiting a business, professionial office, factory, farm or medical facility.
D. scouting, 4-H or other youth groups
E. have not investigated any career

33. When I enter the job market, I plan to stay:

A. in my hometown
B. in Northwest Iowa
C. in Iowa
D. in the Midwestern United States
E. elsewhere

34. I expect to change jobs during my lifetime:

A. not at all
B. one time
C. two times
D. three times
E. four times
F. five times

35. What percentage of jobs require a four-year college degree?

A. 10%
B. 20%
C. 30%
D. 40%
E. 50%

36. What are your plans after graduating from high school?(circle only one answer)
A. homemaker
B. work full-time
C. enroll in a 4-year college or university
D. enroll in a community college and them finish, at a 4-year college or university.
E. enroll in a community college or public vocational-technical school only
F. enroll in a private barber, cosmetology, nursing, business, or trade school
G. go into military service
h. don't know

37. Based upon your answer to question number 36, which high school courses are most important to you. Cirlce letter of your choices

A. Art
B. Business
C. English
D. Foreign Language
E. Homemaking
F. Industrial Arts
G. Mathematics
H. Music
I. Physical Education
J. Science
K. Social Studies
L. Vocational

38. What is the overall educational goal of the school you attend? Circle only one

A. to prepare students for college
B. to prepare students for jobs
C. to develop students individually (become more secure, self-confident, etc.)
D. to graduate students and get them out of school
E. don't know

39. Using the "Hal" occupation listing, select you first, second, and third career choices. Please list the career and the code number directly to the left of it.

	Code Number	Career
A.	_____	_____
B.	_____	_____
C.	_____	_____

40. Your school district is: _____

41. Please indicate your grade in high school:

A. sophomore B. junior C. senior

CAREER EDUCATION SURVEY - TEACHERS

Career Education is the sequence of career development experiences, beginning in early childhood and continuing through adult life, that prepares individuals for present and future career opportunities. These experiences are offered through various programs, services, and activities which are designed and implemented to assist youth and adults develop occupational compentencies and attitudes which facilitate employment and/or advancement in an occupation and which will result in meaningful career development. The following questions are based on the Career Education Concept.

INSTRUCTIONS: Please read each of the statements below concerning you classes. Indicate the degree of help your classes give your students regarding each of the statements below. Circle "1" on you answer sheet if you think your classes give your students no help; "2" if you think your classes give your students very little help; "3" if you think you classes give your students some help; "4" if you think your classes give your students much help; "5" if you think your classes give your students a great deal of help; or "6" if you don't know.

	No Help	Very Little Help	Some Help	Much Help	A Great Help	Don't Know
1. My classes have activities that help my students find out what work and jobs mean.....	1	2	3	4	5	6
2. My classes help my students see their strengths and interests when they are thinking about choosing a job.....	1	2	3	4	5	6
3. My classes have activities that help my students choose a group of jobs to study.....	1	2	3	4	5	6
4. My classes help my students to recognize and understand those things in their lives that are important to them.....	1	2	3	4	5	6
5. My classes help my students plan what courses and activities they should take in school and beyond to be prepared to do the job for which they are planning.....	1	2	3	4	5	6
6. My classes help my students see the special skills needed by people who work in various jobs.....	1	2	3	4	5	6
7. My classes help my students discover their interests, abilities, and feelings that relate to a group of jobs in which they think they might like to work.....	1	2	3	4	5	6
8. My classes have activities that help my students develop a positive concept of self.....	1	2	3	4	5	6
9. My classes help my students see that a person's standard of living depends on the kind of job he has as a wage earner.....	1	2	3	4	5	6
10. My classes help my students learn the relationship between an occupation and leisure time.....	1	2	3	4	5	6

11. My classes have activities that teach my students to appreciate the dignity and value of work..... 1 2 3 4 5 6

12. My classes provide experiences for my students to use tools and equipment that are used in various groups of jobs..... 1 2 3 4 5 6

13. My classes help my students match interests and abilities with the skills that are needed in groups of jobs..... 1 2 3 4 5 6

14. My classes help my students to see that "how I act and what I am" may fit one kind of job more that another kind of job..... 1 2 3 4 5 6

15. My classes have activities showing why certain types of jobs require more education and training than other kinds of jobs.. 1 2 3 4 5 6

16. My classes help my students get the skills that are basic to a single job for which they are planning..... 1 2 3 4 5 6

17. Some students have no interest in school work as now offered in junior and senior high school and they become a problem. Here are some ways that have been proposed for dealing with these students. Will you indicate in the case of each proposal whether or not you approve of it?

a. Permit these students to quit school?..... __ Yes __ No __ Don't Kno

b. Have businesses and industries provide on-the-job training as a substitute for regular school..... __ Yes __ No __ Don't Kno

c. Have special training courses which would prepare them for jobs..... __ Yes __ No __ Don't Kno

d. Have a work-study program (½ day at school, ½ day on-the-job training)..... __ Yes __ No __ Don't Kno

e. Give school credit for volunteer work during the school day with an approved organization such as a local hospital, day-care center, and the like..... __ Yes __ No __ Don't Kno

f. Have separate programs for students with out-of-the ordinary interests and talents..... __ Yes __ No __ Don't Kno

(Mark "1" for Agree; "2" for Disagree; "3" for Don't Know)

	Agree	Disagree	Don't Know
18. The career education concept helps students in all grade levels and all subjects.....	1	2	3
19. The career education concept helps students who are preparing for job entry or vocational-technical education immediately after graduation.....	1	2	3
20. The career education concept helps students who are preparing to enter a four-year college or university.....	1	2	3
21. The career education concept is useful as a tool to motivate student learning.....	1	2	3

22. The career education concept can be implemented in my school district without outside help..... 1 2 3

23. Initiation of the career education concept will cause unusual changes in the school curriculum..... 1 2 3

24. The career education concept is being implemented in my classes..... 1 2 3

25. Please indicate your sex: __ Female __ Male

26. How many years of educational work-experience in elementary and high school do you have?

    A. One to five years
    B. Six to ten years
    C. Eleven to twenty years
    D. Twenty-one to thirty years
    E. Over thirty years

27. How many years of full-time non-educational work-experience do you have?

    A. 0 to one year
    B. One to five years
    C. Six to ten years
    D. Eleven to twenty years
    E. Over twenty years

28. Circle the sources from which you have received information about the career education concept.

    A. Journals
    B. Films
    C. In-service sessions
    D. Seminars
    E. College courses
    F. Books
    G. Research reports

29. Please circle your teaching classification. (circle as many as apply)

    A. Kindergarten through sixth
    B. Seventh
    C. Eighth
    D. Nineth
    E. Tenth
    F. Eleventh
    G. Twelfth

30. What subject (s) do you teach?

    A. Mathematics, science
    B. English, fine arts, foreign language
    C. Physical education
    D. Practical arts (Ag., Bus., DE, Home Ec., Ind. Ed., Voc., Coop.)

31. List names of people in your community that may be available to teach or speak on certain occupations or occupational clusters.

INDIVIDUAL	ADDRESS	OCCUPATION

32. May these people be listed in an Area III Speakers Directory?

___ Yes ___ No ___ Don't Know

33. Do you feel that counselors provide necessary services and feedback to you concerning students's needs? ___ Yes ___ No ___ Don't Know

34. Does the school have a definite plan for placing students in learning activities, within the school and community, in accordance with individual abilities, interests, and needs? ___ Yes ___ No ___ Don't Know

35. Do you use information available through the guidance services to learn more about the pupils in your classes? ___ Yes ___ No

36. Check the following items that you use for career development in you classes.

___ Audio-video presentations
___ Guest speakers
___ Field trips
___ Photography
___ Career clubs
___ Bulletin boards
___ Simulation games
___ Simulation kits or models
___ Books and newspapers
___ Scrapbooks
___ Interviewing
___ Actual work experience
___ Other _____

_____

37. Your school district is: _____

CAREER EDUCATION SURVEY - ADMINISTRATORS

Career Education is the sequence of career development experiences, beginning in early childhood and continuing through adult life, that prepares individuals for present and future career opportunities. These experiences are offered through various programs, services, and activities which are designed and implemented to assist youth and adults develop occupational competencies and attitudes which facilitate employment and/or advancement in an occupation and which will result in meaningful career development. The following questions are based on the Career Education Concept.

INSTRUCTIONS: Please read each of the statements below concerning your school. Indicate the degree of help your school gives students regarding each one of the statements below. Circle "1" on your answer sheet if you think your school gives students no help; "2" if you think your school gives students very little help; "3" if you think your school gives students some help; "4" if you think your school gives students much help; "5" if you think your school gives students a great deal of help; or "6" if you don't know.

	No Help	Very Little Help	Some Help	Much Help	A Great Help	Don't Know
1. Our school has activities that help students find out what work and jobs mean.....	1	2	3	4	5	6
2. Our school helps students see their strengths and their interests when they are thinking about choosing a job.....	1	2	3	4	5	6
3. Our school has activities that help students to choose a group of jobs to study.....	1	2	3	4	5	6
4. Our school helps students to recognize and understand those things in their lives that are important to them...	1	2	3	4	5	6
5. Our school helps students plan what courses and activities they should take in school and beyond to be prepared to do the job for which they are planning.....	1	2	3	4	5	6
6. Our school helps students see the special skills needed by people who work in various jobs.....	1	2	3	4	5	6
7. Our school helps students discover their interests, their abilities, and their feelings that relate to a group of jobs in which they think they might like to work.....	1	2	3	4	5	6
8. Our school has activites that help students develop a positive concept of themselves.....	1	2	3	4	5	6
9. Our school helps students see that a person's standard of living depends on the kind of job he has as a wage earner.....	1	2	3	4	5	6
10. Our school helps students learn the relationship between an occupation and leisure time.....	1	2	3	4	5	6

11. Our school has activities that teach students to appreciate the dignity and value of work..... 1 2 3 4 5 6

12. Our school provides experiences for students to use tools and equipment that are used in various groups of jobs.... 1 2 3 4 5 6

13. Our school helps students match their interests and abilities with the skills that are needed in groups of jobs.. 1 2 3 4 5 6

14. Our school helps students to see that "how I act and what I am" may fit one kind of job more than another kind of job..... 1 2 3 4 5 6

15. Our school has activities showing why certain types of jobs require more education and training than other kinds of jobs..... 1 2 3 4 5 6

16. Our school helps students get the skills that are basic to a single job for which they are planning..... 1 2 3 4 5 6

17. Some students have no interest in school work as now offered in junior and senior high school and they become a problem. Here are some ways that have been proposed for dealing with these students. Will you indicate in the case of each proposal whether or not you approve of it?

a. Permit these students to quit school..... __Yes __No __Don't Know

b. Have businesses and industries provide on-the-job training as a substitute for regular school..... __Yes __No __Don't Know

c. Have special training courses which would prepare them for jobs..... __Yes __No __Don't Know

d. Have a work-study program (½ day at school, ½ day on-the-job training)..... __Yes __No __Don't Know

e. Give school credit for volunteer work during the school day with an approved organization such as a local hospital, day-care center, and the like..... __Yes __No __Don't Know

f. Have separate programs for students with out-of-the ordinary interests and talents..... __Yes __No __Don't Know

(Mark "1" for Agree; "2" for Disagree; "3" for Don't Know)

	Agree	Disagree	Don't Know
18. The career education concept helps students in all grade levels and all subjects.....	1	2	3
19. The career education concept helps students who are preparing for job entry or vocational-technical education immediately after graduation.....	1	2	3

20. The career education concept helps students who are preparing to enter a four-year college or university..... 1 2 3

21. The career education concept is useful as a tool to motivate student learning..... 1 2 3

22. The career education concept can be implemented in my school district without outside help..... 1 2 3

23. Initiation of the career education concept will cause unusual changes in the school curriculum..... 1 2 3

24. The career education concept can be implemented in my school district without additional funding..... 1 2 3

25. The career education concept is being implemented in my local school district..... 1 2 3

26. If the answer to question number 25 is "Agree" write a brief explanation below of your career education program:

27. If the answer to question number 25 is "Disagree" list below obstacles to implementation of the career education concept:

28. Check the category(s) in each of the three columns listed below that apply to you:

JOB CATEGORY	GRADE LEVEL(S)	SEX
__ Superintendent	__ Elementary (K-6)	__ Female
__ Principal	__ Middle School (7-9)	__ Male
__ Counselor	__ Tenth grade	
	__ Eleventh grade	
	__ Twelfth grade	

29. How many years of educational work experience do you have?

A. One to Five
B. Six to Ten
C. Eleven to Twenty
D. Twenty one to Thirty
E. Over Thirty

30. How many years of non-educational work experience do you have?

A. 0 to One year
B. One to Five years
C. Six to Ten years
D. Eleven to Twenty years

31. I have received career education information from: (circle all that apply)

A. journals
B. films
C. in-service sessions
D. seminars
E. college courses
F. books
G. research reports

32. How many days of in-service training for teachers are scheduled during the school year ? _____

33. How many of these days are devoted to career education in-service? _____

34. What percentage of elementary (k-6) teachers were released for in-service activity other than for regularly scheduled in-service days? _____

35. What percentage of secondary (7-12) teachers were released for in-service activity other than for regularly scheduled in-service days? _____

36. Would classroom or building space be available in your school district for joint vocational or exploratory offerings by your school district in cooperation with another district or districts and/or with Iowa Lakes Community College?

___ Yes ___ No Where _____

_____

_____

37. What subjects do you now offer that usually have slots for additional students?

SUBJECT	CAPACITY	VACANCIES

38. List names of people in your community that may be available to teach or speak on certain occupations or occupational clusters.

INDIVIDUAL	ADDRESS	OCCUPATION

39. May these people be listed in an Area III Speakers' Directory?

___ Yes ___ No ___ Don't Know

40. List educational programs in your school district that should be added to enrich and improve the existing curriculum

_____

_____

_____

41. Your school district is: _____

CAREER EDUCATION SURVEY - PARENTS

Career Education is the sequence of career development experiences, beginning in early childhood and continuing through adult life, that prepares individuals for present and future career opportunities. These experiences are offered through various programs, services, and activities which are designed and implemented to assist youth and adults develop occupational competencies and attitudes which facilitate employment and/or advancement in an occupation and which will result in meaningful career development. The following questions are based on the Career Education Concept.

INSTRUCTIONS: Please read each of the statements below concerning your school. Indicate the degree of help your school gives students regarding each one of the statements below. Circle "1" on your answer sheet if you think your school gives students no help; "2" if you think your school gives students very little help; "3" if you think your school gives students some help; "4" if you think your school gives students much help; "5" if you think your school gives students a great deal of help; or "6" if you don't know.

	No Help	Very Little Help	Some Help	Much Help	A Great Help	Don't Know
1. Our school has activities that help students find out what work and jobs mean.....	1	2	3	4	5	6
2. Our school helps students see their strengths and their interests when they are thinking about choosing a job.....	1	2	3	4	5	6
3. Our school has activities that help students to choose a group of jobs to study.....	1	2	3	4	5	6
4. Our school helps students to recognize and understand those things in their lives that are important to them...	1	2	3	4	5	6
5. Our school helps students plan what courses and activities they should take in school and beyond to be prepared to do the job for which they are planning.....	1	2	3	4	5	6
6. Our school helps students see the special skills needed by people who work in various jobs.....	1	2	3	4	5	6
7. Our school helps students discover their interests, their abilities, and their feelings that relate to a group of jobs in which they think they might like to work.....	1	2	3	4	5	6
8. Our school has activites that help students develop a positive concept of themselves.....	1	2	3	4	5	6
9. Our school helps students see that a person's standard of living depends on the kind of job he has as a wage earner.....	1	2	3	4	5	6
10. Our school helps students learn the relationship between an occupation and leisure time.....	1	2	3	4	5	6

11. Our school has activities that teach students to appreciate the dignity and value of work..... 1 2 3 4 5 6

12. Our school provides experiences for students to use tools and equipment that are used in various groups of jobs.... 1 2 3 4 5 6

13. Our school helps students match their interests and abilities with the skills that are needed in groups of jobs.. 1 2 3 4 5 6

14. Our school helps students to see that "how I act and what I am" may fit one kind of job more than another kind of job..... 1 2 3 4 5 6

15. Our school has activities showing why certain types of jobs require more education and training than other kinds of jobs..... 1 2 3 4 5 6

16. Our school helps students get the skills that are basic to a single job for which they are planning..... 1 2 3 4 5 6

17. Some students have no interest in school work as now offered in junior and senior high school and they become a problem. Here are some ways that have been proposed for dealing with these students. Will you indicate in the case of each proposal whether or not you approve of it?

a. Permit these students to quit school..... __Yes __No __Don't Know

b. Have businesses and industries provide on-the-job training as a substitute for regular school..... __Yes __No __Don't Know

c. Have special training courses which would prepare them for jobs..... __Yes __No __Don't Know

d. Have a work-study program (½ day at school, ½ day on-the-job training)..... __Yes __No __Don't Know

e. Give school credit for volunteer work during the school day with an approved organization such as a local hospital, day-care center, and the like..... __Yes __No __Don't Know

f. Have separate programs for students with out-of-the ordinary interests and talents..... __Yes __No __Don't Know

State of Iowa
DEPARTMENT OF PUBLIC INSTRUCTION
Career Education Division
Des Moines, Iowa 50319

Dear High School Junior or Senior:

The Career Education Division of the Iowa Department of Public Instruction, in cooperation with your high school, is undertaking a survey to find out your career interests. Knowledge of your interests will help in the planning of future career education programs both at the high school and post-high school level.

Lists of occupations, organized and coded into groups, have been attached for you to review. They are printed on both sides of the attached sheet.

On the form below, please do these things:

1. List two occupations, by code letter and numbers, in which you plan or expect to be employed after completing your schooling.

2. Indicate how sure you are of entering your first choice occupation.

3. Indicate what your immediate plans following high school are expected to be.

When you have finished, please hand in this sheet. You may keep the occupational lists.

STUDENT INTEREST SURVEY

Instructions: After putting appropriate numbers in the top row of boxes, indicate your occupational choices by a letter (major group) and two numbers (specific occupation within group). For occupations numbered 99 (other), write titles on bottom lines. Indicate certainty of first choice and immediate plans after high school with a check (✓) or "X" in the appropriate box. If you have any questions, please ask for assistance.

(1-14) ☐☐ County ☐☐☐☐ District ☐☐☐☐ School ☐☐ Area ☐☐ Grade

Occupational Choices:

(15-17) ☐☐☐ 1st Choice

(18-20) ☐☐☐ 2nd Choice

Certainty of First Choice:
(21)

1 ☐ Very Sure of Decision

2 ☐ Fairly Sure of Decision

3 ☐ Not Sure of Decision

Immediate Plans after High School:
(22)

1 ☐ Full-time Employment

2 ☐ Military Service

3 ☐ Less than 4 year College

4 ☐ 4 Year College/University

5 ☐ None of These

Choices Numbered 99:

_____
Specific Occupational Title

_____
Specific Occupational Title

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AGRICULTURE AND CONSERVATION OCCUPATIONS

A01 General agriculture or conservation worker
A02 General, livestock, or crop farmer
[illegible] Farm manager
[illegible] Feed mill elevator operator
[illegible] Grain and feed products salesman or buyer
A06 Farm implement or garden equipment salesman
A07 Farm equipment mechanic
[illegible] Farm machinery set-up man
[illegible] Animal husbandryman
A10 Poultryman
A11 Seed analyst
[illegible] Agronomist
[illegible] Forester
[illegible] Nurseryman
A15 Landscaper
A16 Groundskeeper
[illegible] Horticulturist or florist
[illegible] Park ranger or foreman
A19 Wildlife gamekeeper
A20 Conservation officer
[illegible] Exterminator
[illegible] Soil conservation aid
[illegible] Extension agent
A24 Veterinarian
A25 Veterinary assistant or technician
[illegible] Other, specify

CONSTRUCTION OCCUPATIONS

[illegible] Construction worker
[illegible] Carpenter
B03 Painter
[illegible] Bricklayer or mason
[illegible] Building contractor
[illegible] Building materials dealer, salesman, or yardsman
Cost estimator
B08 Building inspector
[illegible] Civil engineering technician
[illegible] Earth moving equipment operator
[illegible] Electrician or lineman
B12 Plumber or pipefitter
[illegible] Sheet metal worker
[illegible] Structural steel worker
[illegible] Construction welder
B16 Architect
B17 Architectural draftsman
[illegible] Other, specify

SALES OCCUPATIONS

[illegible] General sales worker
[illegible] Buyer or merchandiser
C03 Industrial sales manager
C04 Retail store manager
[illegible] Advertising assistant
[illegible] Sales or grocery store checker or cashier
C07 Supermarket department head
C08 Clothes and accessories salesperson
[illegible] Fabric and sewing supplies salesperson
[illegible] Home furnishings salesperson
[illegible] Sporting goods salesperson
C12 Lawn and garden supplies salesperson
C13 Hardware salesperson
[illegible] Insurance salesman
[illegible] Real estate salesman
C99 Other, specify

MEDIA, ART, AND ENTERTAINMENT OCCUPATIONS

D01 Designer or entertainer
D02 Journalist
D03 Author or writer
D04 Editor
D05 Publisher
D06 Bookbinder
D07 Print shop foreman
D08 Printing pressman
D09 Typesetter
D10 Photographer
D11 Photographic assistant
D12 Photographic darkroom technician
D13 Fashion or photographer's model
D14 Fashion designer
D15 Displayman
D16 Illustrator or layout man
D17 Sign painter
D18 Artist
D19 Floral designer
D20 Industrial or product designer
D21 Actress or actor
D22 Dramatic or theater artist
D23 Dancer or performer
D24 Drama coach or director
D25 Professional musician or singer
D26 Professional athlete
D27 Radio or TV announcer
D28 Radio or TV program director
D29 Radio or TV control room technician
D30 Radio or TV equipment operator
D31 Radio or TV reporter
D99 Other, specify

MAINTENANCE AND REPAIR OCCUPATIONS

E01 Maintenance and repair worker
E02 Air conditioning or refrigeration mechanic
E03 Industrial maintenance mechanic
E04 Building maintenance man
E05 Electric motor repairman
E06 Electronics mechanic or technician
E07 Radio or TV serviceman
E08 Gas or electric appliance serviceman
E09 Maintenance electrician
E10 Instrument or watch repairman
E11 Musical instrument repairman
E12 Office machine repairman
E13 Repair welder
E99 Other, specify

FOOD SERVICE AND LODGING OCCUPATIONS

F01 Food service or lodging worker
F02 Bellman
F03 Caterer
F04 Cook or baker
F05 Kitchen helper
F06 Kitchen supervisor
F07 Meat cutter or butcher
F08 Food technologist
F09 Restaurant hostess
F10 Restaurant manager
F11 Waiter or waitress
F12 Custodian
F13 Housekeeper
F14 Hotel or motel manager
F99 Other, specify

BUSINESS AND OFFICE OCCUPATIONS

G01 Business and office worker
G02 Business administrator
G03 Business manager
G04 Banker
G05 Teller
G06 Cashier
G07 Loan officer
G08 Account executive
G09 Accounting technician
G10 Finance expert
G11 Certified public accountant
G12 Bookkeeper
G13 Claims adjuster
G14 Clerk-typist
G15 General office clerk
G16 Receptionist
G17 Switchboard operator
G18 General secretary
G19 Legal secretary
G20 Medical secretary
G21 Stenographer
G22 Key-punch operator
G23 Computer programmer
G24 Computer systems analyst
G25 Shipping and receiving clerk
G26 Office machine operator
G27 Office supervisor
G28 Personnel director
G29 Public relations specialist
G30 Industrial relations director
G31 Market research analyst
G32 Survey worker
G33 Credit and collection manager
G99 Other, specify

MANUFACTURING OCCUPATIONS

H01 Factory worker
H02 Foundry molding machine operator
H03 Foundry metal patternmaker
H04 Mechanical draftsman
H05 Tool and die maker
H06 General machinist
H07 Machine tool set-up operator
H08 Numerical control machine operator
H09 Numerical control tool programmer
H10 Electrical discharge machine operator
H11 Stamp or punch press operator
H12 Metallurgical assistant
H13 Quality control technician
H14 Job or time study analyst
H15 Fluid-power technician
H16 Industrial safety technician
H17 Industrial waste inspector
H18 Plastics molding machine operator
H19 Cabinetmaker
H20 Woodworking machine operator
H21 Electrical or electronics technician
H22 Electromechanical technician
H23 Engineering technician
H24 Forklift truck operator
H25 General inspector
H26 Leatherworker
H27 Sewing machine operator
H28 Combination arc and gas welder
H29 Electric arc welder
H30 Inert gas welder
H31 Oxyacetylene welder
H32 Cutting torch operator
H99 Other, specify

MORE OCCUPATIONS LISTED ON BACK OF THIS SHEET

CE 008 937

HEALTH OCCUPATIONS

I01 Hospital or health worker
I02 Dental assistant or technician
I03 Dental hygienist
I04 Dentist
I05 Medical doctor, physician, or surgeon
I06 Physician's assistant
I07 Chiropractor
I08 Osteopath
I09 Orthodontist
I10 Medical laboratory technician or assistant
I11 Medical record technician
I12 Nuclear medical technologist
I13 Ambulance attendant
I14 Hospital orderly
I15 Nurse's aid
I16 General nurse
I17 Licensed practical nurse
I18 Registered professional nurse
I19 Electrocardiograph technician
I20 Electroencephalograph technician
I21 Cytotechnologist
I22 Operating room technician
I23 Inhalation therapist
I24 Physical therapist
I25 Physical therapy attendant
I26 Mental health technician
I27 Home health aid
I28 Dietician
I29 Dietetic technician
I30 Optometrist
I31 Optical assistant
I32 Physiologist
I33 Psychiatrist
I34 Psychologist
I35 Pathologist
I36 X-ray technician
I99 Other, specify

TRANSPORTATION RELATED OCCUPATIONS

J01 General mechanic
J02 Service station attendant
J03 Automobile garage mechanic
J04 Automobile body and fender repairman
J05 Automobile painter
J06 Automobile parts counterman
J07 Automobile salesman
J08 Diesel mechanic
J09 Hydraulic or fluid power mechanic
J10 Aircraft and engine mechanic
J11 Airline stewardess
J12 Airline reservationist
J13 Airplane pilot
J14 Flight engineer or navigator
J15 Ground control operations specialist
J16 Railroad trainman
J17 Railroad agent
J18 Small gas engine repairman
J19 Motorcycle repairman
J20 Bicycle repairman
J21 Light-truck driver
J22 Tractor-trailer truck driver
J23 Traffic engineer
J24 Motor vehicle dispatcher
J25 Tire recapper
J99 Other, specify

GENERAL SERVICE OCCUPATIONS

K01 Private or public service worker
K02 Community or social services worker
K03 Social services director
K04 Clergyman
K05 Church or religious worker
K06 Homemaker
K07 Home economist
K08 Home furnishings assistant
K09 Home service representative
K10 Child care attendant
K11 Recreation director
K12 Elementary school teacher
K13 Secondary school teacher
K14 Special education teacher
K15 School teacher's aid
K16 School counselor
K17 School administrator
K18 College instructor
K19 Librarian
K20 Interviewer
K21 Foreign language interpreter
K22 Diplomat or foreign service worker
K23 Government official
K24 Lawyer, attorney, or judge
K25 Court reporter
K26 Military officer or career serviceman
K27 Temporary military serviceman or woman
K28 Policeman, policewoman, or highway patrolman
K29 Fireman
K30 Watchman or guard
K31 Mail carrier or post office worker
K32 Sanitarian worker
K33 Barber
K34 Cosmetologist or beautician
K35 Masseur or masseuse
K36 Bartender
K37 Dressmaker or tailor
K38 Clothing maintenance specialist
K39 Fashion coordinator
K40 Interior designer or decorator
K41 Upholsterer
K42 Carpet and linoleum layer
K43 Carpet and upholstery cleaner
K44 Dry cleaner or launderer
K45 Laundry steam press operator
K46 Janitor
K47 Urban planner
K48 Funeral director or undertaker
K49 Building and safety inspector
K50 Food and drug inspector
K51 Solid waste technician
K52 Speech clinician
K53 Politician
K54 Auctioneer
K99 Other, specify

SCIENTIFIC OCCUPATIONS

L01 Scientist or engineer
L02 Archaeologist
L03 Anthropologist
L04 Astronomer
L05 Bacteriologist
L06 Biologist
L07 Botanist
L08 Cartographer
L09 Chemist
L10 Economist
L11 Aeronautical engineer
L12 Ceramic engineer
L13 Chemical engineer
L14 Civil engineer
L15 Electrical engineer
L16 Industrial engineer
L17 Mechanical engineer
L18 Sanitary engineer
L19 Geophysicist
L20 Geologist
L21 Meteorologist
L22 Jeweler
L23 Mathematician
L24 Actuary
L25 Oceanographer
L26 Pharmacist
L27 Philosopher
L28 Historian
L29 Physicist
L30 Political scientist
L31 Research analyst
L32 Sociologist
L33 Zoologist
L99 Other, specify

CPB-23031 9/72

ACCESSION NUMBER: VT103271

PUBLICATION DATE: 20FEB76

TITLE: A PLAN FOR DEVELOPMENT OF PHOTOGRAPHIC PROCESS FOR OVERHEAD TRANSPARENCIES. FINAL REPORT.

PERSONAL AUTHOR: EACHUS, THOMAS E.

DESCRIPTOR: *TRANSPARENCIES; *MATERIAL DEVELOPMENT; *TEACHER DEVELOPED MATERIALS; *INSTRUCTIONAL MATERIALS; DEVELOPMENTAL PROGRAMS; *GUIDES

EDRS PRICE: MF AND HC AVAILABILITY WILL BE ANNOUNCED IN VOL. 10, NO. 2.

DESCRIPTIVE NOTE: 1AP.

ABSTRACT: THIS PROJECT WAS DESIGNED TO PROVIDE THE TEACHER WITH AN INEXPENSIVE, RELATIVELY FAST MEANS OF MAKING TRANSPARENCIES WHICH COVER THE HIGHLY SPECIFIC, UNIQUE SUBJECT MATTER OF A VOCATIONAL COURSE. AFTER PRESENTATION OF A RATIONALE FOR TEACHER-ORIGINATED MATERIALS AND FOR A SELECTIVE, ANALYTIC PROCESS FOR DETERMINING INSTRUCTIONAL MATERIALS' REQUIREMENTS, A TECHNICAL SECTION PRESENTS THE FOLLOWING: (1) TAKING THE PHOTOGRAPH, (2) PROCESSING THE FILM, (3) MAKING THE ORIGINAL PRINT, (4) PROCESS CAMERA INFORMATION, AND (5) PRESS WORK. A FIN[illegible] SECTION INCLUDES SUMMARY STATEMENTS PERTAINING TO CONCLUSIONS REACHED [illegible]ING THE PROJECT AND RECOMMENDATIONS FOR IMPLEMENTATION OF THE PROCESS FOR EFFICIENT PRODUCTION AND DISSEMINATION OF THE MATERIALS. (AUTHOR/NJ)

INSTITUTION NAME: INDIANA STATE UNIV., TERRE HAUTE.

SPONSORING AGENCY NAME: INDIANA STATE DEPT. OF PUBLIC INSTRUCTION, INDIANAPOLIS. DIV. OF VOCATIONAL EDUCATION.; OFFICE OF EDUCATION (DHEW), WASHINGTON, D.C.

VT 103 271

FINAL REPORT

A PLAN FOR DEVELOPMENT OF PHOTOGRAPHIC PROCESS FOR OVERHEAD TRANSPARENCIES

Mr. Thomas E. Eachus

Project No. 454-72-C

INDIANA STATE UNIVERSITY

TERRE HAUTE, INDIANA

February 20, 1976

State Board of
Vocational Technical Education
Department of Public Instruction
Division of Vocational Education
State of Indiana

VT 103 271

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INFORMATION SHEET

A. Kind of Project: (check one)

1	Experimental	4	Demonstration
2 X	Developmental	5	Evaluative
3	Pilot	6	Exemplary

B. Population (Not Applicable)

TYPE		Numbers
A	Disadvantaged	A
B	Handicapped	B
C	Migrant	C
D	Minority	D
E	Comination of the above	E
F	Other_____	F

GROUP		
1	Pre-school	1
2	Elementary	2
3	Junior High School	3
4	Middle School	4
5	Senior High School	5 X
6	Post Secondary	6 X
7	Adult	7 X
8	University	8 X
9	Employer	9
10	Employee	10
11	Citizens	11
12	Parents	12
13	Combination of the above	13

_____

LOCALITY (check the one which encompasses the locality involved)

a	National	a
b	State	b X
c	Region	c
d	District	d
e	County	e
f	Area	f
g	Community	g
h	School Corporation (LEA)	h

CE 008 939

Project Abstract

Overhead projection equipment is commonly available for classroom use and transparencies are a popular and effective form of instructional media. As in other media forms, transparencies have their limitations. This project was designed to alleviate some of the principal limitations by providing the teacher with an inexpensive, relatively fast means of making transparencies which cover highly specific, unique subject matter contained in a vocational course.

After presentation of a rationale for teacher originated materials and for a selective, analytic process for determining requirements for instructional materials, a technical section is presented. The information there should provide sufficient background to replicate the process. This technical section includes:

a. taking the photograph
b. processing the film
c. making the original print
d. process camera information
e. press work

A final section of this report includes summary statements pertaining to conclusions reached during the project and recommendations for implementation of the process for efficient production and dissemination of the materials.

Rational for the Project

It has been noted by observation and intentional contact with teachers of vocational subjects that overhead transparencies are used extensively as a form of instructional media. Some reasons for this popularity are these:

1. The cost of projection equipment is relatively low so schools often have enough equipment that a projector is conveniently available to most classrooms.
2. Transparencies for special purposes and for special topics can often be made by the teachers.
3. Commercial sources afford reasonbly good access to instructional materials for topics within many courses.
4. Projection equipment is versatile and easy to use. It can be used by the teacher for class presentations; or be made available for use by small groups of students or by individual students. It is compatible with individualized instructional techniques.
5. The projection setting--the room--need not be darkened. In fact, projection equipment is at times used by smaller groups of students either in or adjacent to shop areas instead of the conventional classroom setting.

With these advantages and features which make transparencies a common form of instructional media are some factors or deterrents to use of transparencies. Some of these limiting factors are noted in the following:

1. Although there are commercially prepared transparencies and, in fact, significant series of transparencies, the cost is relatively high.
2. Commercially prepared materials understandibly are made for as wide a market as possible and often are limited to basic rudimentary topics, those "principles" least likely to change, leaving a large void, in the specific, changing topics, which are vital to vocational programs.
3. Content which must be constantly updated with current information (e.g. new processes, modified equipment, changed techniques, and technical information), presents an acquisition problem to the teacher.
4. Teachers have neither the time nor the resources to analytically select or construct instructional materials by the prescriptive process advocated for the development of highly functional media.

Because of the restrictions mentioned, teachers either do not use sufficient instructional devices or they select opportune but not necessarily effective materials. Another choice is,

with the limitations present, to construct very crude materials which can be done quickly with the resources at hand but which are not very effective as a teaching device. Preparation of transparencies, for instance, often requires the services of a person with the talent of a commercial artist. Such talent is seldom available.

The photographic process described in this report is not a complete panacea but does provide a method of acquiring transparencies for which a need is recognized. By intentional design, the subject can be identified, prepared for original photograph, and a highly detailed master (for reproduction) made by a relatively simple, quick, inexpensive process.

Technical Description of Photographic and Duplication Process

This section is intended to be a guide for those with some graphics and/or Audio Visual background which will enable them to replicate the process.

Specific reference will be made to commercial products which, in our experience, have proved to be satisfactory. This is in no way intended as endorsement or recommendation of a specific brand or source of commercial product. All products specified in this report are intended to indicate a type or grade of product and the term "or equivalent", (although not stated for writing simplicity) is understood to be implicit in the references to products used.

<u>Camera</u> There are relatively few comments and instructions

necessary for shooting the photo originals. Techniques, for those acquainted with a variety of photographic work, are most similar to press photography. Film processing and printing should produce a sharply detailed, high contrast print.

Some of the guidelines for shooting the original photo are noted in the following. Best results have been obtained by use of a 4 x 5 press camera. Satisfactory results were achieved with a medium format press camera or a twin lens reflex camera producing 2 1/4" x 3 1/4" and 2 1/4" square negatives. Good sharp 35 mm negatives, particularly when the subject matter has a limited area and can be shot in close, have also produced satisfactory originals.

Most of the small format experience has been with a 35 mm single lens reflex, however, some photos taken with simpler equipment like an Instamatic have been quite adequate. If available, the larger press camera or medium format cameras are recommended because there is more negative for ease in cropping and composing the final print.

All film was shot as near a normal exposure as possible. Flash, floodlights and available light have all been used. With artificial light (flash or flood) it may be necessary to consider back lighting or some means of providing neutral background which has medium reflectivity. The condition to avoid is a "black" background in the print. This dark background may be desirable for some photographic purposes but not for this process. In the printed transparency, it is necessary for a high value of light to be transmitted

through the image. Also, a large area of dense black in the original print will eventually result in large areas of ink on the printed form which causes severe press problems.

Available light has been used successfully, however, a general caution is to be sure the available light level is high enough and sufficiently balanced to produce high contrast results in the print.

Any form of lightning chosen should be compatbile with the depth of field provision which is necessary. Generally, a limited area or an object in an area is chosen as the subject, so a minimum depth of field is most often desirable in order that the subject be in sharp focus while the background is out of focus and is as indistinct as possible.

Films and Processing Film types were limited to Kodak Plus X, Tri X and a small quantity of Royal Pan sheet film. Plus X and Tri X were used in the 35 mm camera and the Tri X in the medium format cameras. It was found through experience that grain in the print, normally objectionable in photography, was not a consideration in this process. Although it was not experienced, it is anticipated that extreme grain in a print may cause some loss of resolution of fine detail in the transparency.

Processing was accomplished in normal conditions, that is, the temperature and time of development followed the recommendations for the specific film/developer combinations which were used.

Three developers were used with all the film types

mentioned. Kodak D76; a one-to-one solution, was found to be satisfactory resulting in a near "average" negative in which the shadow detail is rather well pronounced. Presence of shadow detail may, for some subjects, be desirable, but for others, be objectionable. Shadow detail does produce a slightly "softer" projected image in the resulting transparency and seems to produce more of a third dimension-depth in the projected image.

A second developer, used primarily with the 35 mm film, is Kodak Microdol-X. This is recommended with reservations. It will produce reasonable results, however, the negative lacks a desirable degree of contrast and there is less lattitude in the rest of the processing.

Kodak D-11 is a high contrast developer, also satisfactory for the process. It could be recommended for those instances where it is desirable to have very little or no shadow detail. The resulting print (printed on 2 or 3 grade paper) will have extreme contrast, little or no shadow detail and appear to have a "flat", two-dimensional image. D-11 is recommended as the best single developer for all film types for the majority of transparencies because the reproduction of detail obtained with this developer is the one feature found to be common to reproduction of transparencies.

<u>The Original Photo Print</u> Earlier reference to the print indicated that high contrast is desirable, so most prints were made on 3 or 4 grade papers. If the negative is sharp and composition has provided for good contrast

in the subject, control of the rest of the results can be exercised through control of the print contrast. Shadow detail, or the intentional elimination of it, can best be judged by comparison of the original photo with the projected image of the transparency. One note of caution should be mentioned. Do not try to compare or make an analysis of the printed image on the transparency as would be the case if the image were printed on an opaque paper. The only way an accurate appraisal can be made is to project the transparency.

The only remaining consideration regarding the original print is that the print size be proportioned to the image size of the transparency, which in this project was 8" x 10". Actual print size is not significant since the process camera is used to enlarge or reduce the original to the desired image size.

Process Camera This process to produce transparencies causes very little change in standard camera work. The primary difference to remember as a control factor is that the printed matter will be seen as a projection. Light must pass through the transparent stock in those portions of the stock not masked by an opaque ink. Dot pattern and dot size in the half-tone negative roughly represents the amount of light masking as compared with the light transmitting areas on the finished transparency. Persons who are printers deal primarily with circumstances where the image is printed on opaque stock (paper) and the ink on the paper is the basis of inspection and evaluation of a

properly printed image. This process requires a complete reversal of value judgment on the part of the printer because the light through the stock is what constitutes the projection image.

The major change in camera technique is directly related to the above description. An 85-line gray screen is recommended as the basic screen for exposure of the half-tone negative. This equipment will assist in limiting shadow detail and contributing to the required contrast of the projected image.

For comparison, a 50-line screen was tried and found to be too "open", resulting in a loss of fine detail. Additional exposures were made with a 110-line magenta screen and this was found to be satisfactory particularly when shadow detail was desirable in the transparency and when extremely fine detail was present in the subject being processed. Experience indicates, however, that a 110-line screen will cause a sharp drop in the light transmitting ability of the printed matter with a resulting loss of the necessary contrast, so an 85-line screen is preferable.

Basic exposure will probably vary with different equipment and facilities but for reference, the following information represents the practice followed for this project.

Film: - Ansco Reproline and Kodak Type 3

Main Exposure: 40 seconds

Flash: 5 seconds with an O filter at 4 feet

Presswork Standard plates - 3M "E" plates and "R" plates were used on Addressograph Multigraph 1050 presses. No special press adjustment is necessary, however, it is recommended that the dampening system be run at a minimum level. Just enough fountain solution present to prevent "scumming" is the recommended procedure.

Ink which was found to be most satisfactory was Van Son Rubber Base Plus. Several other inks were tried but were found to have major limitations. An I.P.I. ink identified as a "special ink for acetate" provided very good drying but did not have sufficient density or opaqueness to provide contrast. Von Son "Big M" is not recommended because of poor drying quality. It was assumed from this experience (and recommendations from suppliers) that rubber-based inks are generally the most satisfactory types.

Two kinds of stock were used to print transparencies. The first was an acetate sheet, three mil thickness. It was satisfactory,. however, some difficulty was experienced in feeding and delivery through the press. Press speed was varied and the ink distribution system adjusted to correct feed problems. All stock was purchased inter-leaved with paper stock. This is recommended even though the expense is slightly higher because press adjustments are made on the impressions on the alternate paper interleaf rather than on the transparency stock. It is very difficult to check the impression on the clear stock during a press run. Also, the interleaf sheets help eliminate offsetting in

the delivered stack.

A second type of stock used was a three mil mylar. It is more expensive, however, it is easier to feed through a press and as a finished transparency seems to lie flat on the projector without the curl or buckling experienced with some acetate sheets.

Offsetting immediately after printing is a characteristic of the process which must be guarded against. As noted previously, interleafing with paper stock relieved the problem somewhat, but it was found that press lifts of approximately 100 impressions should be carefully taken from the delivery, then these lifts stacked separately and allowed to dry for 12 hours prior to further handling.

Evaluation of the Process

This method of producing transparencies is sufficiently close to standard practice in both the photography and printing that it can be accomplished with very little expense for special equipment. Individual transparencies printed in runs of 100 are well below the cost of other methods. The process does, however, assume that transparencies made for one vocational class will have value elsewhere in similar courses, thus, the process is predicated on an exchange of materials between schools or dissemination of transparencies to schools through some central clearinghouse.

After explanation of the process, several teachers have used camera equipment not previously familiar to them to shoot a series of photos. These were later processed

into transparencies with very satisfactory results, so apparently teachers are capable of originating the required input. There was no reported problem with the original photographs. They were shot quickly during regular class activity without causing interruption.

Conclusions and Recommendations

The principal difficulties experienced in this project was that of "selling" the idea of teacher prepared materials and then explaining the relationship between selection of topic and the appropriateness of transparencies as the form of media which would effectively illustrate the topic. Many ideas were suggested which were in no way compatible to the use of transparencies. It is therefore surmised that much work needs to be done with teachers in selecting media forms which will efficiently aid the instructional process.

Because of this experience and other contact with teachers, it is suggested that coordination of the input is an essential ingredient for any system for production of transparencies.

The following recommendations are offered as points to consider in establishing a system of production using this technique.

1. Establish one facility as a clearinghouse for receiving and coordinating the input and dissemination. Several other facilities could perform the production.

2. Assign a person or persons acquainted with the process and having some experience with vocational curriculum to act as a catalyst and coordinator in obtaining input.
3. Establish a cross-reference system of recording materials available and a periodic announcement of availability.

These administrative features should provide a functional system of acquisition, production and dissemination to support implemenation of the process.

FINANCIAL STATEMENT FOR FINAL REPORT ENDING February 20, 1976
(Date)

Project No. 454-72-C

ITEMS	Project Budget FY 19-- Agency	Project Budget FY 19-- Federal	Total Expenditures on Project Agency	Total Expenditures on Project State / Federal	End of Project Balance Agency	End of Project Balance State / Federal
A. DIRECT EXPENDITURES						
1. Personnel	$ 2,870			$ 2,870		
2. Contractual services	2,850			2,850		
3. Employee benefits						
4. Travel	280			280		
5. Supplies and materials	310			310		
6. Communications (include phone calls, printing)	660			660		
7. Properties (rentals or purchase of equipment)						
8. Facilities						
9. Product production and dissemination						
10. Project Evaluation						
B. INDIRECT EXPENDITURES						
C. TOTAL EXPENDITURES	$6,970			$6,970		

Project Monitor Thomas E. Eachus

Director: Thomas E. Eachus

LEA: Indiana State University

ACCESSION NUMBER: VT103273

PUBLICATION DATE: 76

TITLE: A HISTORICAL AND CURRENT FOLLOW-UP STUDY OF OKLAHOMA VOCATIONAL-TECHNICAL GRADUATES.

PERSONAL AUTHOR: MORTON, J.R.; AND OTHERS

DESCRIPTOR: *FOLLOWUP STUDIES; *VOCATIONAL FOLLOWUP; *GRADUATE SURVEYS; *TABLES (DATA); SECONDARY EDUCATION; POST SECONDARY EDUCATION

IDENTIFIER: *OKLAHOMA; OTIS; OCCUPATIONAL TRAINING INFORMATION SYSTEM

EDRS PRICE: MF AND HC AVAILABILITY WILL BE ANNOUNCED IN VOL. 10, NO. 2.

DESCRIPTIVE NOTE: 119P.

ABSTRACT: THE DOCUMENT PRESENTS THE RESULTS OF FOLLOWUP SURVEYS OF SECONDARY AND POSTSECONDARY GRADUATES FROM VOCATIONAL-TECHNICAL PROGRAMS FOR THE YEARS 1970-1975, INCLUSIVELY. THE POSTTRAINING EXPERIENCES THE FIRST, THIRD, AND FIFTH YEAR AFTER COMPLETING THE TRAINING PROGRAM ARE REPORTED. THE FOLLOWUP INFORMATION IS PRESENTED IN TWO SERIES OF TABLES: (1) FOR EACH PROGRAM AND (2) FOR EACH SCHOOL, BY PROGRAM, FOR 1974-75 ONLY. (AUTHOR/RG)

INSTITUTION NAME: OKLAHOMA STATE DEPT. OF VOCATIONAL AND TECHNICAL EDUCATION, STILLWATER. DIV. OF RESEARCH, PLANNING, AND EVALUATION.

SPONSORING AGENCY NAME: OKLAHOMA STATE BOARD OF VOCATIONAL AND TECHNICAL EDUCATION, STILLWATER.; OFFICE OF EDUCATION (DHEW), WASHINGTON, D.C.

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FOLLOW-UP STUDY OF GRADUATES

Occupational Training Information System (OTIS)

OKLAHOMA DEPARTMENT OF VOCATIONAL AND TECHNICAL EDUCATION

A Historical and Current Follow-up Study of Oklahoma Vocational-Technical Graduates

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CHAPTER I

BACKGROUND AND PROCEDURES

Introduction

The Oklahoma State Department of Vocational and Technical Education provides support for training for the purpose of providing students with the knowledge and skills necessary to enter and succeed in the world of work. It is necessary to examine the post-training experiences to get information for program evaluation, federal reports, and manpower support data for the Occupational Training Information System (OTIS).

The Oklahoma State Department of Vocational and Technical Education has been conducting follow-up surveys on individual students since 1965; however, follow-up information was not standardized until 1969. This report presents the findings of the surveys from 1970 to 1975.

Purpose of the Study

The purpose of this study is to answer the question, "What has been the post-training experience of vocational-technical graduates the first, third, and fifth year after completing the training program?"

Limitations

The report is limited by the following factors:

1. Comprehensive Home Economics, Coordinated Vocational Training and Education, and Pre-Vocational Orientation are not included in this report. The purpose of these programs does not include preparing students to enter the labor force as one of their major objectives.

2. Follow-up data on adult students, CETA students, and special schools students are not included in the report because the data is either not available or is published in other documents.

This report does include follow-up of secondary and post-secondary graduates from vocational-technical programs for the years 1970 to 1975 inclusively.

The Follow-Up Procedure

A three-report student accounting system was developed in 1970-71 and revised in 1973-74 to a one-entry system including the following reports to be submitted by the teacher.

1. The student enrollment form to be filled out for all new students in each vocational program.

2. The student status report, a computer printout of last year's students, to be updated with follow-up information or perpetuated enrollment data.

3. The student follow-up report to be completed on students who graduated or completed the program three and five years ago.

CHAPTER II

SURVEY RESULTS

Introduction

This chapter presents the results of the survey described in Chapter I. Table I indicates the relationship of last year's graduates to graduates employed full-time and graduates employed in jobs related to training by divisions. Table II shows the first year follow-up information by occupational objective and divisional first, third, and fifth year follow-up information. Table III is a listing by program and division of the 1974-75 follow-up information for each school.

Explanation of Terms and Tables

Number of students with marketable skills--refers to those vocational-technical graduates or who completed the training program or who dropped out of the program and are employed in the occupation for which they were trained.

Available for the labor force--refers to those vocational-technical graduates who are employed in a related field, employed in an unrelated field, employed part time, and unemployed.

Employed related--refers to those vocational-technical graduates or dropouts who are employed full time in an occupation that is the same as, or closely related to, the occupation for which the training program is designed.

Employed unrelated--refers to those vocational-technical graduates who are employed full time in an occupation that is not closely related to the occupation for which the training program is designed.

Employed part time--refers to those vocational-technical graduates who are currently employed on a part-time basis and not in school full time regardless of whether the particular job they are engaged in is related or unrelated to training.

Unemployed--refers to those vocational-technical graduates who are unemployed and seeking employment.

School related--refers to those vocational-technical graduates who have returned to school full time and are engaged in course work or a program of study related to the training they received from their particular vocational-technical program.

School unrelated--refers to those vocational-technical graduates who have returned to school full time and are engaged in course work or a program of study unrelated to the training they received from their particular vocational-technical program.

Armed forces--refers to those vocational-technical graduates who are serving in the Armed Forces. The 1973-75 data considers voluntary service in the Armed Forces as employment and may be either related or unrelated.

Not in labor force--refers to those vocational-technical graduates who are not in the labor force; that is, those not gainfully employed or seeking employment.

Unknown--refers to those vocational-technical graduates or dropouts that the survey respondents (i.e. teachers) were unable to place in any of the other eight categories defined above due to insufficient information. Prior to 1973-74, unknowns represented only students who had completed the training program; subsequent data reflects both completers and dropouts in the unknown category.

Table I of this study is a bar graph presenting the relation of graduates to graduates employed full time and graduates employed in jobs related to training by divisions. This information pertains to 1974-75 graduates and includes those dropouts who are employed in the field for which they were trained.

Table II of this study presents first year follow-up on the 1970-71, 1971-72, 1972-73, 1973-74, and 1974-75 graduates by each program. It presents, by division, first year follow-up information for the years 1967-68, 1968-69, 1969-70, 1970-71, 1971-72, 1972-73, 1973-74, and 1974-75. Third year follow-up by division is given for 1968-69, 1969-70, 1970-71, 1971-72, and 1972-73. Fifth year follow-up information is given for 1968-69, 1969-70, and 1970-71. If, in the report by program, there is no follow-up data available on a program for a particular year, the percentages for that year in that program will be zero. If the total number of follow-up responses for a program in a particular year is less than 30, an asterisk is printed by the year.

Table III of this study presents first year follow-up information by program on each school in the state. This information is reported on the 1974-75 graduates in raw numbers. The user may readily make percentage calculations if they are needed. A summary of the follow-up data is given both for the programs and for each division. The table has been divided to reflect secondary, post-secondary, and full-time adult status.

Table 1
Relation of 1974-75 Graduates to Graduates Employed and Graduates Employed Related to Training

All Divisions

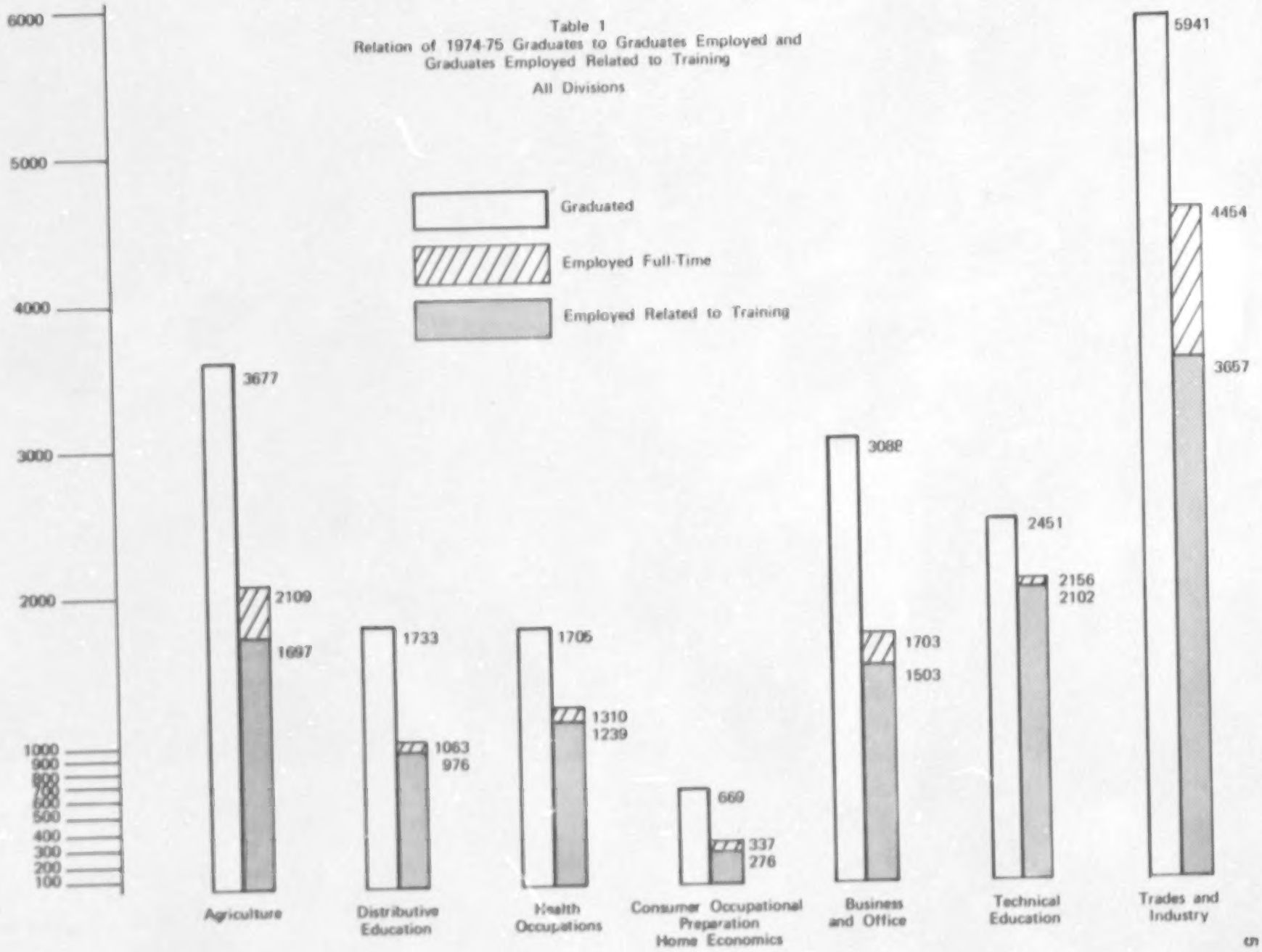

TABLE II

FOLLOW-UP DATA -- BY PROGRAM

PROGRAM TITLE	PERCENT AVAILABLE FOR LABOR FORCE	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET				PERCENT STATUS UNKNOWN
		PERCENT EMPLOYED RELATED	PERCENT EMPLOYED UNRELATED	PERCENT EMPLOYED PART TIME	PERCENT UNEMPLOYED	PERCENT IN SCHOOL RELATED	PERCENT IN SCHOOL UNRELATED	PERCENT IN ARMED FORCES	PERCENT NOT IN LABOR FORCE	
AGRICULTURE										
AGRICULTURAL PRODUCTION										
1970-71	33	75	16	3	6	38	20	5	1	3
1971-72	41	76	15	5	4	34	16	5	1	3
1972-73	39	75	20	3	2	39	12	4	0	6
1973-74	51	79	16	2	3	31	11	0	1	6
1974-75	55	83	15	1	1	28	10	0	1	6
AGRICULTURAL SUPPLIES/SERVICE										
1970-71	38	87	3	10	0	34	18	8	0	2
1971-72	41	75	19	0	6	32	17	7	1	2
1972-73	38	79	16	3	2	34	19	5	1	3
1973-74	59	77	17	4	2	28	6	0	1	6
1974-75	51	79	19	2	0	25	12	0	2	10
AGRICULTURAL MECHANICS										
1970-71	48	76	16	4	4	22	15	8	0	7
1971-72	52	72	18	3	7	21	13	9	0	5
1972-73	47	79	17	2	2	28	14	5	1	5
1973-74	61	78	19	1	2	22	9	0	1	7
1974-75	62	73	19	2	6	20	10	0	1	7
AGRICULTURAL PRODUCTS										
1970-71	36	78	17	0	5	32	16	14	0	2
1971-72	40	88	6	0	6	30	16	9	0	5
1972-73	60	79	10	3	8	21	4	10	0	5
1973-74	41	67	26	4	3	36	17	0	2	2
1974-75	68	79	21	0	0	21	4	0	0	7
ORNAMENTAL HORTICULTURE										
*1970-71	27	43	43	0	14	15	27	15	0	16
*1971-72	54	47	53	0	0	14	18	11	0	3
1972-73	47	59	30	4	7	14	14	4	0	21
1973-74	62	62	38	0	0	24	20	0	0	6
1974-75	51	74	23	0	3	19	13	0	1	16

* PERCENTS BASED ON TOTAL SAMPLE LESS THAN 30 STUDENTS

TABLE II

FOLLOW-UP DATA -- BY PROGRAM

PROGRAM TITLE	PERCENT AVAILABLE FOR LABOR FORCE	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET					PERCENT STATUS UNKNOWN
		PERCENT EMPLOYED RELATED	PERCENT EMPLOYED UNRELATED	PERCENT EMPLOYED PART TIME	PERCENT UNEMPLOYED	PERCENT IN SCHOOL RELATED	PERCENT IN SCHOOL UNRELATED	PERCENT IN ARMED FORCES	PERCENT NOT IN LABOR FORCE		
AG RESOURCES											
1970-71	28	68	29	3	0	37	22	11	0		2
1971-72	38	72	28	0	0	40	14	8	1		0
1972-73	44	76	20	4	0	40	9	4	2		1
1973-74	40	67	25	3	5	35	18	0	0		7
1974-75	41	62	26	0	12	26	9	0	0		24
FORESTRY											
1970-71	38	57	32	0	11	36	14	8	0		4
1971-72	35	69	17	7	7	30	18	12	0		5
1972-73	39	76	12	7	5	21	19	9	2		10
1973-74	54	67	32	1	0	37	4	0	0		5
1974-75	55	73	17	2	8	25	15	0	3		2
AG OTHER											
1970-71	18	66	19	8	7	50	23	6	0		3
1971-72	34	66	29	1	4	34	22	8	0		2
1972-73	34	68	21	5	6	34	21	4	1		6
1973-74	47	71	24	2	3	33	10	0	2		8
1974-75	53	67	27	3	3	26	10	0	1		10
TOTAL DIVISION AGRICULTURE											
1ST YEAR FOLLOW-UP											
1967-68	30	77	12	7	5	28	20	15	7		0
1968-69	28	74	17	4	4	34	27	7	1		5
1969-70	30	72	16	6	6	34	24	7	1		4
1970-71	35	74	17	4	5	35	19	6	0		5
1971-72	43	73	18	4	5	30	16	7	0		4
1972-73	40	75	19	3	3	35	14	5	1		5
1973-74	53	77	19	2	2	29	10	0	1		7
1974-75	56	77	18	2	3	26	10	0	1		7
3RD YEAR FOLLOW-UP											
1968-69	45	66	26	3	5	17	14	17	1		8
1969-70	48	71	26	2	2	16	12	14	1		8
1970-71	52	74	22	3	1	15	12	9	1		11
1971-72	64	68	28	3	1	15	9	0	1		9
1972-73	61	67	28	3	2	17	10	0	2		10

TABLE II

FOLLOW-UP DATA -- BY PROGRAM

PROGRAM TITLE	PERCENT AVAILABLE FOR LABOR FORCE	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET				PERCENT STATUS UNKNOWN
		PERCENT EMPLOYED RELATED	PERCENT EMPLOYED UNRELATED	PERCENT EMPLOYED PART TIME	PERCENT UNEMPLOYED	PERCENT IN SCHOOL RELATED	PERCENT IN SCHOOL UNRELATED	PERCENT IN ARMED FORCES	PERCENT NOT IN LABOR FORCE	
5TH YEAR FOLLOW-UP										
1968-69	81	71	26	3	1	7	4	8	1	19
1969-70	74	64	32	3	1	6	7	0	1	12
1970-71	73	71	26	2	1	8	5	0	1	13

TABLE II

FOLLOW-UP DATA -- BY PROGRAM

PROGRAM TITLE	PERCENT AVAILABLE FOR LABOR FORCE	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET				PERCENT STATUS UNKNOWN
		PERCENT EMPLOYED RELATED	PERCENT EMPLOYED UNRELATED	PERCENT EMPLOYED PART TIME	PERCENT UNEMPLOYED	PERCENT IN SCHOOL RELATED	PERCENT IN SCHOOL UNRELATED	PERCENT IN ARMED FORCES	PERCENT NOT IN LABOR FORCE	
DISTRIBUTIVE ED.										
ADVERTISING SERVICES										
1970-71	32	90	10	0	0	55	3	0	6	4
1971-72	50	87	13	0	0	23	10	3	10	6
1972-73	44	100	0	0	0	32	9	6	6	3
1973-74	71	90	7	3	0	14	7	0	5	3
1974-75	56	89	5	0	6	29	12	0	0	3
APPAREL AND ACCESSORIES										
1970-71	44	95	3	2	0	28	18	1	9	0
1971-72	36	81	9	3	7	24	20	2	16	2
1972-73	54	76	7	13	4	22	12	1	5	6
1973-74	56	81	11	5	3	29	8	0	6	1
1974-75	55	81	12	5	2	29	8	0	5	3
AUTOMOTIVE										
1970-71	57	81	19	0	0	25	14	4	0	0
1971-72	51	94	4	2	0	24	13	8	0	4
1972-73	75	85	13	2	0	16	0	6	0	3
1973-74	61	82	10	2	6	18	14	0	5	2
1974-75	71	89	4	4	3	11	14	0	2	2
FINANCE AND CREDIT										
*1970-71	52	79	21	0	0	22	11	0	11	4
1971-72	61	91	9	0	0	14	11	0	11	3
1972-73	64	81	7	7	5	24	2	0	7	3
1973-74	11	83	10	3	4	4	2	0	1	82
1974-75	34	96	4	0	0	16	6	0	1	43
FLORISTRY										
1970-71	0	0	0	0	0	0	0	0	0	0
*1971-72	30	100	0	0	0	20	10	10	20	10
*1972-73	50	91	0	0	9	9	5	5	27	4
*1973-74	48	71	21	0	8	17	21	0	10	4
*1974-75	62	81	13	6	0	12	19	0	7	0

* PERCENTS BASED ON TOTAL SAMPLE LESS THAN 30 STUDENTS

TABLE II

FOLLOW-UP DATA -- BY PROGRAM

PROGRAM TITLE	PERCENT AVAILABLE FOR LABOR FORCE	AVAILABLE FOR LABOR MARKET: PERCENT EMPLOYED RELATED	PERCENT EMPLOYED UNRELATED	PERCENT EMPLOYED PART TIME	PERCENT UNEMPLOYED	UNAVAILABLE FOR LABOR MARKET: PERCENT IN SCHOOL RELATED	PERCENT IN SCHOOL UNRELATED	PERCENT IN ARMED FORCES	PERCENT NOT IN LABOR FORCE	PERCENT STATUS UNKNOWN
FOOD DISTRIBUTION										
1970-71	43	84	5	5	6	24	21	6	4	2
1971-72	55	77	20	0	3	25	9	7	2	2
1972-73	62	77	14	6	3	16	11	6	3	2
1973-74	70	77	15	4	4	12	6	0	5	7
1974-75	73	79	8	0	13	9	7	0	5	6
FOOD SERVICES										
1970-71	56	76	22	2	2	21	3	3	8	9
1971-72	52	84	11	1	4	19	11	3	9	6
1972-73	50	75	8	11	6	13	8	3	12	6
1973-74	62	82	13	3	2	15	14	0	5	4
1974-75	64	83	10	2	5	13	9	0	6	4
GENERAL MERCHANDISE										
1970-71	49	87	6	4	3	22	12	1	14	2
1971-72	51	92	3	2	3	21	16	2	9	1
1972-73	53	87	6	2	3	26	9	4	8	0
1973-74	59	86	5	5	4	19	12	0	7	3
1974-75	50	87	7	5	1	18	10	0	5	9
HDW. BLDG. MAT. FARM SUPPLIES & EDP										
*1970-71	38	83	0	0	17	64	6	12	0	0
1971-72	55	89	11	0	6	30	3	6	3	3
1972-73	60	100	0	0	0	23	0	0	7	10
1973-74	62	90	10	0	0	48	4	0	2	6
1974-75	79	88	9	0	3	12	7	0	0	2
HOME FURNISHING										
*1970-71	38	71	22	0	0	33	13	8	8	0
1971-72	38	86	7	7	0	41	5	0	8	0
*1972-73	62	77	23	0	0	19	14	0	0	5
1973-74	56	95	0	5	0	25	11	0	8	0
*1974-75	69	76	12	12	0	20	8	0	4	0

* PERCENTS BASED ON TOTAL SAMPLE LESS THAN 30 STUDENTS

TABLE II

FOLLOW-UP DATA -- BY PROGRAM

PROGRAM TITLE	PERCENT AVAILABLE FOR LABOR FORCE	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET				PERCENT STATUS UNKNOWN
		PERCENT EMPLOYED RELATED	PERCENT EMPLOYED UNRELATED	PERCENT EMPLOYED PART TIME	PERCENT UNEMPLOYED	PERCENT IN SCHOOL RELATED	PERCENT IN SCHOOL UNRELATED	PERCENT IN ARMED FORCES	PERCENT NOT IN LABOR FORCE	
HOTEL AND LODGING										
*1970-71	29	100	0	0	0	14	43	0	0	14
*1971-72	55	83	17	0	0	9	36	0	0	0
*1972-73	75	100	0	0	0	0	0	0	0	25
1973-74	7	67	33	0	0	5	5	0	0	83
1974-75	30	100	0	0	0	9	0	0	4	57
INDUSTRIAL MARKETING										
*1970-71	14	100	0	0	0	71	0	14	0	1
*1971-72	60	100	0	0	0	30	10	0	0	0
*1972-73	29	100	0	0	0	43	14	14	0	0
*1973-74	38	100	0	0	0	54	0	0	0	8
*1974-75	67	100	0	0	0	25	0	0	0	8
INSURANCE										
*1970-71	33	100	0	0	0	44	11	11	0	1
*1971-72	33	100	0	0	0	67	0	0	0	0
*1972-73	100	100	0	0	0	0	0	0	0	0
*1973-74	31	75	0	0	25	38	8	0	8	15
*1974-75	67	100	0	0	0	11	22	0	0	0
INTERNATIONAL TRADE										
*1970-71	0	0	0	0	0	40	0	20	40	0
*1971-72	67	100	0	0	0	0	0	0	0	33
*1972-73	100	50	50	0	0	0	0	0	0	0
*1973-74	50	67	33	0	0	33	17	0	0	0
*1974-75	0	0	0	0	0	100	0	0	0	0
PERSONAL SERVICES										
1970-71	0	0	0	0	0	0	0	0	0	0
1971-72	44	76	14	0	10	21	14	5	14	2
1972-73	52	81	11	5	3	25	6	1	8	8
1973-74	47	82	13	5	0	21	20	0	7	5
1974-75	60	82	8	4	6	15	14	0	8	3

* PERCENTS BASED ON TOTAL SAMPLE LESS THAN 30 STUDENTS

TABLE II

FOLLOW-UP DATA -- BY PROGRAM

PROGRAM TITLE	PERCENT AVAILABLE FOR LABOR FORCE	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET				PERCENT STATUS UNKNOWN
		PERCENT EMPLOYED RELATED	PERCENT EMPLOYED UNRELATED	PERCENT EMPLOYED PART TIME	PERCENT UNEMPLOYED	PERCENT IN SCHOOL RELATED	PERCENT IN SCHOOL UNRELATED	PERCENT IN ARMED FORCES	PERCENT NOT IN LABOR FORCE	
PETROLEUM										
*1970-71	52	79	14	0	7	26	15	4	0	3
*1971-72	56	90	10	0	0	11	11	22	0	0
*1972-73	71	100	0	0	0	10	5	5	5	4
*1973-74	80	80	15	5	0	12	8	0	0	0
*1974-75	81	77	15	8	0	13	0	0	0	6
REAL ESTATE SALESMAN										
*1970-71	60	67	33	0	0	20	0	20	0	0
*1971-72	6	100	0	0	0	67	6	6	15	0
*1972-73	70	86	14	0	0	20	0	0	0	10
*1973-74	44	50	25	0	25	22	22	0	11	1
1974-75	61	57	38	5	0	6	1	0	3	29
RECREATION AND TOURISM										
1970-71	0	0	0	0	0	0	0	0	0	0
*1971-72	58	86	14	0	0	17	8	8	8	1
*1972-73	50	100	0	0	0	33	8	0	0	9
1973-74	44	81	19	0	0	33	17	0	0	6
*1974-75	58	73	7	0	20	19	8	0	8	7
TRANSPORTATION										
*1970-71	50	58	33	8	1	21	8	8	13	0
*1971-72	44	100	0	0	0	33	17	0	6	0
*1972-73	58	86	0	14	0	8	17	8	8	1
1973-74	33	80	5	5	10	7	5	0	2	53
1974-75	53	94	0	6	0	16	0	0	3	28
RETAIL TRADE										
1970-71	40	77	17	1	5	24	21	2	9	4
1971-72	47	82	11	4	3	22	17	2	9	3
1972-73	55	84	9	7	0	18	11	6	5	5
1973-74	44	83	10	5	2	25	12	0	5	14
1974-75	54	83	7	7	3	29	8	0	4	5

* PERCENTS BASED ON TOTAL SAMPLE LESS THAN 30 STUDENTS

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TABLE II

FOLLOW-UP DATA -- BY PROGRAM

PROGRAM TITLE	PERCENT AVAILABLE FOR LABOR FORCE	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET				PERCENT STATUS UNKNOWN
		PERCENT EMPLOYED RELATED	PERCENT EMPLOYED UNRELATED	PERCENT EMPLOYED PART TIME	PERCENT UNEMPLOYED	PERCENT IN SCHOOL RELATED	PERCENT IN SCHOOL UNRELATED	PERCENT IN ARMED FORCES	PERCENT NOT IN LABOR FORCE	
WHOLESALE TRADE										
*1970-71	47	63	13	13	11	29	18	0	6	0
*1971-72	50	100	0	0	0	42	8	0	0	0
*1972-73	56	90	10	0	0	17	6	6	11	4
1973-74	53	76	6	6	12	22	19	0	3	3
*1974-75	56	90	10	0	0	28	11	0	5	0
DISTRIBUTIVE EDUCATION OTHER										
1970-71	29	78	17	0	5	26	24	8	10	3
1971-72	33	88	12	0	0	35	13	8	11	0
1972-73	47	93	3	3	1	23	11	1	6	12
1973-74	35	86	11	2	1	17	14	0	3	31
1974-75	38	96	2	1	1	12	5	0	0	45
MID MANAGEMENT										
*1970-71	78	94	0	6	0	0	13	4	0	5
1971-72	51	89	4	0	7	38	5	2	2	2
1972-73	55	93	5	2	0	33	5	2	1	4
1973-74	32	100	0	0	0	0	0	0	0	68
1974-75	0	0	0	0	0	0	0	0	0	0
TOTAL DIVISION DISTRIBUTIVE ED.										
1ST YEAR FOLLOW-UP										
1967-68	36	87	5	6	2	27	14	9	15	0
1968-69	32	74	15	4	7	28	24	5	6	5
1969-70	39	82	10	4	4	20	21	6	9	5
1970-71	45	83	12	2	3	25	15	3	8	3
1971-72	47	85	10	1	4	25	13	4	8	3
1972-73	56	85	8	5	2	22	8	3	5	6
1973-74	47	82	11	4	3	18	10	0	4	21
1974-75	57	84	8	3	5	17	7	0	4	15
3RD YEAR FOLLOW-UP										
1968-69	40	75	21	2	2	19	11	9	14	10
1969-70	46	76	21	1	2	8	8	9	16	13
1970-71	56	79	15	5	1	12	8	4	8	12
1971-72	62	79	16	3	2	12	8	0	9	9
1972-73	66	79	15	4	2	12	[illegible]	0	6	10

* PERCENTS BASED ON TOTAL SAMPLE LESS THAN 30 STUDENTS

TABLE II

FOLLOW-UP DATA -- BY PROGRAM

PROGRAM TITLE	PERCENT AVAILABLE FOR LABOR FORCE	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET				PERCENT STATUS UNKNOWN
		PERCENT EMPLOYED RELATED	PERCENT EMPLOYED UNRELATED	PERCENT EMPLOYED PART TIME	PERCENT UNEMPLOYED	PERCENT IN SCHOOL RELATED	PERCENT IN SCHOOL UNRELATED	PERCENT IN ARMED FORCES	PERCENT NOT IN LABOR FORCE	
5TH YEAR FOLLOW-UP										
1968-69	59	85	12	2	1	7	4	3	9	18
1969-70	64	81	16	4	0	3	6	0	11	16
1970-71	74	77	17	4	2	5	2	0	9	10

TABLE II

FOLLOW-UP DATA -- BY PROGRAM

PROGRAM TITLE	PERCENT AVAILABLE FOR LABOR FORCE	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET				PERCENT STATUS UNKNOWN
		PERCENT EMPLOYED RELATED	PERCENT EMPLOYED UNRELATED	PERCENT EMPLOYED PART TIME	PERCENT UNEMPLOYED	PERCENT IN SCHOOL RELATED	PERCENT IN SCHOOL UNRELATED	PERCENT IN ARMED FORCES	PERCENT NOT IN LABOR FORCE	
HEALTH										
DENTAL ASSISTING										
1970-71	78	72	17	0	11	5	11	0	3	3
1971-72	69	74	19	5	2	12	5	1	12	1
1972-73	69	79	21	0	0	6	3	0	22	0
1973-74	84	72	14	4	10	7	5	0	3	1
1974-75	78	68	18	5	8	16	2	0	2	2
DENTAL HYGIENIST (ASSOC.)										
1970-71	0	0	0	0	0	0	0	0	0	0
*1971-72	100	58	0	42	0	0	0	0	0	0
*1972-73	80	67	0	25	8	0	13	0	7	0
*1973-74	33	50	0	0	50	67	0	0	0	0
*1974-75	46	100	0	0	0	0	0	0	0	54
DENTAL LAB TECHNICIAN										
1970-71	0	0	0	0	0	0	0	0	0	0
*1971-72	50	100	0	0	0	0	50	0	0	0
*1972-73	50	100	0	0	0	50	0	0	0	0
*1973-74	0	0	0	0	0	0	100	0	0	0
1974-75	0	0	0	0	0	0	0	0	0	0
MEDICAL LABORATORY ASSISTING										
*1970-71	58	91	0	9	0	26	11	0	0	5
*1971-72	56	78	0	11	11	31	13	0	0	0
1972-73	72	79	4	7	10	21	3	0	3	1
1973-74	59	98	2	0	0	14	3	0	4	20
1974-75	41	92	4	2	2	7	1	0	1	50
MEDICAL LAB AIDE										
1970-71	0	0	0	0	0	0	0	0	0	0
1971-72	0	0	0	0	0	0	0	0	0	0
1972-73	0	0	0	0	0	0	0	0	0	0
*1973-74	25	0	100	0	0	25	0	0	25	25
*1974-75	50	100	0	0	0	50	0	0	0	0

* PERCENTS BASED ON TOTAL SAMPLE LESS THAN 30 STUDENTS

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TABLE II

FOLLOW-UP DATA -- BY PROGRAM

PROGRAM TITLE	PERCENT AVAILABLE FOR LABOR FORCE	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET				PERCENT STATUS UNKNOWN
		PERCENT EMPLOYED RELATED	PERCENT EMPLOYED UNRELATED	PERCENT EMPLOYED PART TIME	PERCENT UNEMPLOYED	PERCENT IN SCHOOL RELATED	PERCENT IN SCHOOL UNRELATED	PERCENT IN ARMED FORCES	PERCENT NOT IN LABOR FORCE	
MEDICAL RECORD TECHNICIAN										
1970-71	0	0	0	0	0	0	0	0	0	0
1971-72	0	0	0	0	0	0	0	0	0	0
*1972-73	86	83	0	0	17	0	14	0	0	0
*1973-74	50	50	0	0	50	25	25	0	0	0
*1974-75	0	0	0	0	0	0	0	0	100	0
NURSING (ASSOCIATE DEGREE)										
1970-71	84	98	0	2	0	5	0	0	8	3
1971-72	78	98	0	2	0	8	2	0	3	9
1972-73	83	97	2	1	0	6	1	0	2	8
1973-74	71	98	1	0	1	2	1	0	2	24
1974-75	46	99	0	1	0	1	0	0	1	52
PRACTICAL (VOC) NURSING										
1970-71	91	94	0	4	2	2	0	0	5	2
1971-72	94	94	1	2	3	2	0	0	2	2
1972-73	92	98	0	1	1	4	0	0	3	1
1973-74	82	93	0	1	6	3	0	0	1	14
1974-75	86	95	2	1	2	5	0	0	1	8
NURSE ASST. (AIDE/ORDERLY)										
1970-71	39	77	8	5	10	7	7	0	4	43
1971-72	36	68	6	21	5	22	18	0	7	17
1972-73	44	71	15	11	3	27	11	1	9	8
1973-74	47	74	14	8	4	34	3	0	7	9
1974-75	46	71	18	4	7	30	5	0	8	11
SURGICAL TECHNICIAN										
*1970-71	100	100	0	0	0	0	0	0	0	0
*1971-72	0	0	0	0	0	100	0	0	0	0
*1972-73	0	0	0	0	0	33	0	0	33	34
*1973-74	50	100	0	0	0	0	0	0	0	50
*1974-75	13	100	0	0	0	6	0	0	0	81

* PERCENTS BASED ON TOTAL SAMPLE LESS THAN 30 STUDENTS

TABLE II

FOLLOW-UP DATA -- BY PROGRAM

PROGRAM TITLE	PERCENT AVAILABLE FOR LABOR FORCE	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET				PERCENT STATUS UNKNOWN
		PERCENT EMPLOYED RELATED	PERCENT EMPLOYED UNRELATED	PERCENT EMPLOYED PART TIME	PERCENT UNEMPLOYED	PERCENT IN SCHOOL RELATED	PERCENT IN SCHOOL UNRELATED	PERCENT IN ARMED FORCES	PERCENT NOT IN LABOR FORCE	
NURSING OTHER										
1970-71	0	0	0	0	0	0	0	0	0	0
*1971-72	17	100	0	0	0	50	0	0	33	0
1972-73	0	0	0	0	0	0	0	0	0	0
1973-74	0	0	0	0	0	0	0	0	0	0
1974-75	0	0	0	0	0	0	0	0	0	0
OCCUPATIONAL THERAPY ASST.										
1970-71	0	0	0	0	0	0	0	0	0	0
1971-72	0	0	0	0	0	0	0	0	0	0
1972-73	0	0	0	0	0	0	0	0	0	0
*1973-74	67	100	0	0	0	33	0	0	0	0
1974-75	25	100	0	0	0	0	0	0	0	75
PHYSICAL THERAPY ASST.(AIDE)										
*1970-71	0	0	0	0	0	0	0	0	0	100
*1971-72	18	0	0	0	100	36	27	9	0	10
*1972-73	45	80	0	20	0	36	9	0	9	1
*1973-74	78	89	0	0	11	4	4	0	9	5
1974-75	26	89	11	0	0	3	0	0	0	71
RADIOLOGIC TECH. (X-RAY)										
1970-71	0	0	0	0	0	0	0	0	0	0
*1971-72	50	100	0	0	0	0	0	0	0	50
*1972-73	33	0	100	0	0	67	0	0	0	0
*1973-74	67	50	50	0	0	0	0	0	33	0
1974-75	29	88	0	6	6	9	0	0	0	62
SEWAGE PLANT OPERATOR										
1970-71	0	0	0	0	0	0	0	0	0	0
*1971-72	70	57	43	0	0	0	30	0	0	0
1972-73	0	0	0	0	0	0	0	0	0	0
1973-74	0	0	0	0	0	0	0	0	0	0
1974-75	0	0	0	0	0	0	0	0	0	0

* PERCENTS BASED ON TOTAL SAMPLE LESS THAN 30 STUDENTS

TABLE II

FOLLOW-UP DATA -- BY PROGRAM

PROGRAM TITLE	PERCENT AVAILABLE FOR LABOR FORCE	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET				PERCENT STATUS UNKNOWN
		PERCENT EMPLOYED RELATED	PERCENT EMPLOYED UNRELATED	PERCENT EMPLOYED PART TIME	PERCENT UNEMPLOYED	PERCENT IN SCHOOL RELATED	PERCENT IN SCHOOL UNRELATED	PERCENT IN ARMED FORCES	PERCENT NOT IN LABOR FORCE	
COMMUNITY MENTAL HEALTH										
1970-71	0	0	0	0	0	0	0	0	0	0
1971-72	0	0	0	0	0	0	0	0	0	0
*1972-73	0	0	0	0	0	0	0	0	0	100
*1973-74	100	100	0	0	0	0	0	0	0	0
1974-75	32	91	0	9	0	12	0	0	0	56
INHALATION THERAPY TECH.										
*1970-71	50	100	0	0	0	0	0	0	25	25
*1971-72	100	100	0	0	0	0	0	0	0	0
*1972-73	82	91	0	4	5	7	0	4	0	7
1973-74	81	97	0	0	3	7	0	0	0	12
1974-75	36	100	0	0	0	1	1	0	0	62
MEDICAL OFFICE ASSISTANT										
1970-71	60	79	10	1	10	26	0	0	10	4
1971-72	57	69	15	4	12	23	3	1	11	5
1972-73	54	20	40	20	20	19	11	3	13	0
1973-74	53	66	17	4	13	26	8	0	5	8
1974-75	51	79	10	0	11	25	5	0	6	13
HEALTH AIDE										
1970-71	0	0	0	0	0	0	0	0	0	0
*1971-72	0	0	0	0	0	100	0	0	0	0
1972-73	0	0	0	0	0	0	0	0	0	0
*1973-74	25	67	33	0	0	25	42	0	0	8
*1974-75	100	100	0	0	0	0	0	0	0	0
MEDICAL EMERGENCY TECH.										
1970-71	0	0	0	0	0	0	0	0	0	0
1971-72	0	0	0	0	0	0	0	0	0	0
1972-73	0	0	0	0	0	0	0	0	0	0
1973-74	0	0	0	0	0	0	0	0	0	0
1974-75	6	100	0	0	0	3	0	0	0	91

* PERCENTS BASED ON TOTAL SAMPLE LESS THAN 30 STUDENTS

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TABLE II

FOLLOW-UP DATA -- BY PROGRAM

PROGRAM TITLE	PERCENT AVAILABLE FOR LABOR FORCE	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET				PERCENT STATUS UNKNOWN
		PERCENT EMPLOYED RELATED	PERCENT EMPLOYED UNRELATED	PERCENT EMPLOYED PART TIME	PERCENT UNEMPLOYED	PERCENT IN SCHOOL RELATED	PERCENT IN SCHOOL UNRELATED	PERCENT IN ARMED FORCES	PERCENT NOT IN LABOR FORCE	
FUNERAL SERVICE										
1970-71	0	0	0	0	0	0	0	0	0	0
1971-72	0	0	0	0	0	0	0	0	0	0
1972-73	0	0	0	0	0	0	0	0	0	0
1973-74	0	0	0	0	0	0	0	0	0	0
*1974-75	39	100	0	0	0	0	0	0	0	61
ORTHOPEDIC ASST										
*1970-71	100	100	0	0	0	0	0	0	0	0
1971-72	0	0	0	0	0	0	0	0	0	0
1972-73	0	0	0	0	0	0	0	0	0	0
1973-74	0	0	0	0	0	0	0	0	0	0
1974-75	0	0	0	0	0	0	0	0	0	0
HEALTH CARE SUPERVISOR										
1970-71	0	0	0	0	0	0	0	0	0	0
*1971-72	0	0	0	0	0	100	0	0	0	0
1972-73	0	0	0	0	0	0	0	0	0	0
*1973-74	0	0	0	0	0	100	0	0	0	0
*1974-75	50	100	0	0	0	0	0	0	0	50
MEDICAL ASSISTANT										
1970-71	0	0	0	0	0	0	0	0	0	0
1971-72	0	0	0	0	0	0	0	0	0	0
*1972-73	55	92	0	0	8	23	5	0	0	17
*1973-74	50	100	0	0	0	50	0	0	0	0
*1974-75	70	86	0	0	14	10	0	0	0	20
HEALTH, OTHER										
1970-71	26	50	23	13	14	28	12	1	11	22
1971-72	39	73	6	12	9	30	8	5	14	4
1972-73	0	0	0	0	0	0	0	0	0	0
1973-74	48	59	27	0	14	37	2	0	9	4
*1974-75	67	75	0	0	25	0	17	0	0	16

* PERCENTS BASED ON TOTAL SAMPLE LESS THAN 30 STUDENTS

TABLE II

FOLLOW-UP DATA -- BY PROGRAM

PROGRAM TITLE	PERCENT AVAILABLE FOR LABOR FORCE	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET				PERCENT STATUS UNKNOWN
		PERCENT EMPLOYED RELATED	PERCENT EMPLOYED UNRELATED	PERCENT EMPLOYED PART TIME	PERCENT UNEMPLOYED	PERCENT IN SCHOOL RELATED	PERCENT IN SCHOOL UNRELATED	PERCENT IN ARMED FORCES	PERCENT NOT IN LABOR FORCE	
WARC CLERK										
*1970-71	100	0	0	100	0	0	0	0	0	0
1971-72	0	0	0	0	0	0	0	0	0	0
*1972-73	25	0	100	0	0	0	25	0	25	25
*1973-74	100	100	0	0	0	0	0	0	0	0
1974-75	0	0	0	0	0	0	0	0	0	0
DIETARY TECHNICIAN										
1970-71	0	0	0	0	0	0	0	0	0	0
1971-72	0	0	0	0	0	0	0	0	0	0
*1972-73	33	50	50	0	0	0	33	33	0	1
*1973-74	50	50	25	0	25	38	0	0	12	0
*1974-75	62	88	0	0	12	15	0	0	0	23
BIOMEDICAL ELECTRONIC EQUIP. TEC										
1970-71	0	0	0	0	0	0	0	0	0	0
1971-72	0	0	0	0	0	0	0	0	0	0
1972-73	0	0	0	0	0	0	0	0	0	0
*1973-74	0	0	0	0	0	100	0	0	0	0
1974-75	0	0	0	0	0	0	0	0	0	0
MEDICAL INSTRUMENTATION TECH.										
1970-71	0	0	0	0	0	0	0	0	0	0
1971-72	0	0	0	0	0	0	0	0	0	0
1972-73	0	0	0	0	0	0	0	0	0	0
*1973-74	0	0	0	0	0	100	0	0	0	0
1974-75	0	0	0	0	0	0	0	0	0	0
OPERATING ROOM TECHNOLOGY										
1970-71	0	0	0	0	0	0	0	0	0	0
1971-72	0	0	0	0	0	0	0	0	0	0
1972-73	0	0	0	0	0	0	0	0	0	0
1973-74	0	0	0	0	0	0	0	0	0	0
*1974-75	0	0	0	0	0	100	0	0	0	0

* PERCENTS BASED ON TOTAL SAMPLE LESS THAN 50 RESPONSES

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TABLE II

FOLLOW-UP DATA -- BY PROGRAM

PROGRAM TITLE	PERCENT AVAILABLE FOR LABOR FORCE	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET				PERCENT STATUS UNKNOWN
		PERCENT EMPLOYED RELATED	PERCENT EMPLOYED UNRELATED	PERCENT EMPLOYED PART TIME	PERCENT UNEMPLOYED	PERCENT IN SCHOOL RELATED	PERCENT IN SCHOOL UNRELATED	PERCENT IN ARMED FORCES	PERCENT NOT IN LABOR FORCE	
TOTAL DIVISION HEALTH										
1ST YEAR FOLLOW-UP										
1967-68	74	88	0	0	12	0	0	0	6	0
1968-69	77	91	6	1	2	5	4	1	4	9
1969-70	83	89	5	0	6	9	8	0	0	0
1970-71	59	85	5	4	6	10	4	0	6	21
1971-72	68	86	5	5	4	14	5	1	7	5
1972-73	73	90	5	4	1	13	4	0	5	5
1973-74	67	87	5	2	6	14	2	0	4	13
1974-75	54	90	5	2	3	10	1	0	2	33
3RD YEAR FOLLOW-UP										
1968-69	69	89	8	2	1	4	2	0	7	18
1969-70	27	50	50	0	0	5	0	0	9	59
1970-71	54	87	6	6	1	3	2	0	6	35
1971-72	72	82	13	3	2	9	3	0	8	6
1972-73	72	85	8	5	2	9	2	0	6	9
5TH YEAR FOLLOW-UP										
1968-69	42	93	7	0	0	2	1	1	6	48
1969-70	45	38	60	10	0	9	0	0	14	32
1970-71	63	81	10	4	5	4	2	0	8	23

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TABLE II

FOLLOW-UP DATA -- BY PROGRAM

PROGRAM TITLE	PERCENT AVAILABLE FOR LABOR FORCE	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET				PERCENT STATUS UNKNOWN
		PERCENT EMPLOYED RELATED	PERCENT EMPLOYED UNRELATED	PERCENT EMPLOYED PART TIME	PERCENT UNEMPLOYED	PERCENT IN SCHOOL RELATED	PERCENT IN SCHOOL UNRELATED	PERCENT IN ARMED FORCES	PERCENT NOT IN LABOR FORCE	
HOME ECONOMICS										
CARE AND GUIDANCE OF CHILDREN										
1970-71	54	63	21	8	8	14	3	0	27	2
1971-72	43	63	23	0	14	19	11	1	10	16
1972-73	38	61	13	20	6	27	16	1	13	5
1973-74	50	60	25	9	6	20	8	0	15	7
1974-75	46	66	12	7	15	13	1	0	6	34
CLOTHING MGMT. PROD. & SERVICE										
1970-71	27	63	26	11	0	23	27	0	21	2
1971-72	39	57	20	6	17	14	22	0	18	7
1972-73	45	64	10	10	16	19	14	0	12	10
1973-74	61	60	24	13	3	22	7	0	8	2
1974-75	37	49	22	20	9	17	10	0	23	13
FOOD MANAGEMENT PROD. & SERVICE										
1970-71	32	56	28	6	10	18	23	4	16	7
1971-72	62	76	15	6	3	3	14	5	11	5
1972-73	47	71	14	14	1	22	6	2	9	14
1973-74	62	66	26	6	2	12	4	0	6	16
1974-75	42	75	14	2	9	9	7	0	7	35
HOME FURNISHING SERVICES										
*1970-71	0	0	0	0	0	100	0	0	0	0
*1971-72	50	50	50	0	0	25	25	0	0	0
*1972-73	0	0	0	0	0	33	0	0	33	34
*1973-74	0	0	0	0	0	100	0	0	0	0
*1974-75	93	46	15	8	31	0	0	0	0	7
INSTITUTIONAL & HOME MGT. SERV.										
1970-71	0	0	0	0	0	0	0	0	0	0
*1971-72	0	0	0	0	0	75	25	0	0	0
1972-73	13	33	33	17	17	13	29	0	9	36
*1973-74	0	0	0	0	0	100	0	0	0	0
*1974-75	0	0	0	0	0	0	100	0	0	0

* PERCENTS BASED ON TOTAL SAMPLE LESS THAN 50 PERSONS

TABLE II

FOLLOW-UP DATA -- BY PROGRAM

PROGRAM TITLE	PERCENT AVAILABLE FOR LABOR FORCE	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET				PERCENT STATUS UNKNOWN
		PERCENT EMPLOYED RELATED	PERCENT EMPLOYED UNRELATED	PERCENT EMPLOYED PART TIME	PERCENT UNEMPLOYED	PERCENT IN SCHOOL RELATED	PERCENT IN SCHOOL UNRELATED	PERCENT IN ARMED FORCES	PERCENT NOT IN LABOR FORCE	
HOME HEALTH AIDE										
1970-71	0	0	0	0	0	0	0	0	0	0
1971-72	0	0	0	0	0	0	0	0	0	0
*1972-73	50	0	100	0	0	0	0	50	0	0
*1973-74	25	100	0	0	0	75	0	0	0	0
*1974-75	100	100	0	0	0	0	0	0	0	0
OCCUPATIONAL TRAINING, OTHER										
*1970-71	14	100	0	0	0	43	0	29	14	0
*1971-72	33	33	67	0	0	22	22	0	11	12
1972-73	32	83	10	2	5	11	9	0	7	41
1973-74	43	59	22	4	15	27	8	0	11	11
1974-75	56	69	16	12	3	16	7	0	12	9
TOTAL DIVISION HOME ECONOMICS										
1ST YEAR FOLLOW-UP										
1967-68	22	51	18	20	11	13	27	1	37	0
1968-69	22	54	31	8	7	23	34	3	11	7
1969-70	0	0	0	0	0	0	0	0	0	0
1970-71	37	62	24	8	6	19	17	2	21	4
1971-72	46	66	20	4	10	15	16	2	12	9
1972-73	40	68	13	13	6	20	12	1	11	16
1973-74	56	63	25	8	4	19	6	0	10	9
1974-75	46	67	15	8	10	13	6	0	10	25
3RD YEAR FOLLOW-UP										
1968-69	38	51	25	12	12	7	10	8	24	13
1969-70	0	0	0	0	0	0	0	0	0	0
1970-71	46	71	22	4	3	9	9	6	15	15
1971-72	55	58	26	8	8	9	10	0	12	14
1972-73	52	62	29	5	4	6	6	0	14	22
5TH YEAR FOLLOW-UP										
1968-69	40	70	17	4	9	7	5	11	25	12
1969-70	0	0	0	0	0	0	0	0	0	0
1970-71	58	58	35	5	2	8	4	0	8	22

* PERCENTS BASED ON TOTAL SAMPLE LESS THAN 30 STUDENTS

TABLE II

FOLLOW-UP DATA -- BY PROGRAM

PROGRAM TITLE	PERCENT AVAILABLE FOR LABOR FORCE	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET				PERCENT STATUS UNKNOWN
		PERCENT EMPLOYED RELATED	PERCENT EMPLOYED UNRELATED	PERCENT EMPLOYED PART TIME	PERCENT UNEMPLOYED	PERCENT IN SCHOOL RELATED	PERCENT IN SCHOOL UNRELATED	PERCENT IN ARMED FORCES	PERCENT NOT IN LABOR FORCE	
BUSINESS & OFFICE										
ACCOUNTING AND COMPUTING										
1970-71	27	63	33	0	4	26	19	1	9	8
1971-72	41	85	9	3	3	22	12	1	10	14
1972-73	47	78	0	19	3	35	5	5	3	5
1973-74	36	79	11	6	4	24	18	0	4	18
1974-75	33	88	8	4	0	13	2	0	1	51
BUSINESS DATA PROCESSING										
1970-71	54	76	19	1	4	28	5	1	10	2
1971-72	57	67	18	5	10	22	3	4	11	3
1972-73	62	78	15	2	5	19	4	2	7	6
1973-74	50	65	17	3	15	20	6	0	8	16
1974-75	43	60	29	4	7	20	7	0	5	25
GENERAL OFFICE CLERICAL OCCUP.										
1970-71	33	59	23	5	13	27	19	1	17	3
1971-72	53	79	11	3	7	23	11	0	11	2
1972-73	52	74	11	12	3	22	10	1	13	2
1973-74	52	76	12	4	8	29	5	0	8	6
1974-75	50	75	10	4	11	25	5	0	7	13
INFORM. COMMUNICATIONS OCCUP.										
*1970-71	50	86	0	14	0	29	14	0	7	0
*1971-72	52	83	8	8	1	30	0	4	4	10
1972-73	40	53	26	16	5	38	10	0	8	4
1973-74	68	74	8	3	15	18	7	0	2	5
*1974-75	94	47	27	26	0	0	0	0	6	0
MATERIALS SUPPORT OCCUP.										
1970-71	0	0	0	0	0	0	0	0	0	0
1971-72	0	0	0	0	0	0	0	0	0	0
1972-73	0	0	0	0	0	0	0	0	0	0
*1973-74	40	50	0	0	50	0	20	0	0	40
*1974-75	100	100	0	0	0	0	0	0	0	0

* PERCENTS BASED ON TOTAL SAMPLE LESS THAN 30 STUDENTS

TABLE II

FOLLOW-UP DATA -- BY PROGRAM

PROGRAM TITLE	PERCENT AVAILABLE FOR LABOR FORCE	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET				PERCENT STATUS UNKNOWN
		PERCENT EMPLOYED RELATED	PERCENT EMPLOYED UNRELATED	PERCENT EMPLOYED PART TIME	PERCENT UNEMPLOYED	PERCENT IN SCHOOL RELATED	PERCENT IN SCHOOL UNRELATED	PERCENT IN ARMED FORCES	PERCENT NOT IN LABOR FORCE	
PERSONNEL TRNG. AND RELATED										
*1970-71	39	100	0	0	0	50	0	0	11	0
*1971-72	60	67	0	0	33	0	40	0	0	0
1972-73	0	0	0	0	0	0	0	0	0	0
*1973-74	40	100	0	0	0	40	20	0	0	0
*1974-75	43	44	0	0	56	48	0	0	9	0
SECRETARY OR STENOGRAPHER										
1970-71	43	78	9	4	9	30	13	0	9	5
1971-72	60	83	6	4	7	19	6	0	12	3
1972-73	59	83	8	4	5	21	5	0	10	5
1973-74	58	77	9	4	10	19	4	0	5	14
1974-75	45	80	8	4	8	18	3	0	3	31
MEDICAL SECRETARY										
1970-71	0	0	0	0	0	0	0	0	0	0
1971-72	56	55	21	10	14	17	4	0	23	0
1972-73	0	0	0	0	0	0	0	0	0	0
1973-74	0	0	0	0	0	0	0	0	0	0
1974-75	0	0	0	0	0	0	0	0	0	0
LEGAL SECRETARY										
1970-71	0	0	0	0	0	0	0	0	0	0
1971-72	0	0	0	0	0	0	0	0	0	0
1972-73	0	0	0	0	0	0	0	0	0	0
1973-74	0	0	0	0	0	0	0	0	0	0
1974-75	66	89	0	3	8	4	0	0	2	28
MEDICAL SECRETARY										
1970-71	0	0	0	0	0	0	0	0	0	0
1971-72	0	0	0	0	0	0	0	0	0	0
1972-73	0	0	0	0	0	0	0	0	0	0
1973-74	0	0	0	0	0	0	0	0	0	0
1974-75	45	91	2	0	7	4	2	0	2	47

* PERCENTS BASED ON TOTAL SAMPLE LESS THAN 30 STUDENTS

TABLE II

FOLLOW-UP DATA — BY PROGRAM

PROGRAM TITLE	PERCENT AVAILABLE FOR LABOR FORCE	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET				PERCENT STATUS UNKNOWN
		PERCENT EMPLOYED RELATED	PERCENT EMPLOYED UNRELATED	PERCENT EMPLOYED PART TIME	PERCENT UNEMPLOYED	PERCENT IN SCHOOL RELATED	PERCENT IN SCHOOL UNRELATED	PERCENT IN ARMED FORCES	PERCENT NOT IN LABOR FORCE	
SUPERVISORY & ADMIN. MGMT.										
*1970-71	67	75	13	12	0	25	8	0	0	0
*1971-72	54	86	0	0	14	31	8	0	7	0
1972-73	0	0	0	0	0	0	0	0	0	0
1973-74	57	100	0	0	0	6	6	0	1	30
1974-75	28	96	0	4	0	1	1	0	0	70
TYPING AND RELATED OCCUP.										
1970-71	44	78	9	4	9	28	10	0	10	8
1971-72	50	77	10	2	11	29	9	1	11	0
1972-73	50	78	6	4	10	30	5	1	10	4
1973-74	58	72	8	10	10	16	8	0	7	11
1974-75	70	82	4	7	7	20	4	0	5	1
BUSINESS AND OFFICE, OTHER										
*1970-71	36	40	30	10	20	36	11	0	14	3
1971-72	35	54	31	8	7	19	27	5	14	0
1972-73	0	0	0	0	0	0	0	0	0	0
1973-74	40	63	30	7	0	13	9	0	3	35
1974-75	33	39	39	6	16	33	4	0	4	26
TOTAL DIVISION BUSINESS & OFFICE										
1ST YEAR FOLLOW-UP										
1967-68	43	78	8	4	10	32	10	1	14	0
1968-69	38	71	17	2	10	29	16	1	10	7
1969-70	45	78	9	2	11	29	12	1	11	2
1970-71	40	71	15	4	10	29	15	0	12	4
1971-72	54	78	10	3	9	22	8	1	11	4
1972-73	55	80	9	5	6	24	5	1	10	5
1973-74	53	75	11	4	10	22	6	0	6	13
1974-75	45	77	10	4	9	19	4	0	4	28
3RD YEAR FOLLOW-UP										
1968-69	49	80	13	3	4	15	6	2	22	6
1969-70	60	87	9	2	2	12	6	1	16	6
1970-71	38	84	10	2	4	10	4	1	9	38
1971-72	62	76	14	4	6	12	5	0	13	8
1972-73	64	81	12	4	3	12	4	0	11	9

* PERCENTS BASED ON TOTAL SAMPLE LESS THAN 30 STUDENTS

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TABLE II

FOLLOW-UP DATA -- BY PROGRAM

PROGRAM TITLE	PERCENT AVAILABLE FOR LABOR FORCE	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET				PERCENT STATUS UNKNOWN
		PERCENT EMPLOYED RELATED	PERCENT EMPLOYED UNRELATED	PERCENT EMPLOYED PART TIME	PERCENT UNEMPLOYED	PERCENT IN SCHOOL RELATED	PERCENT IN SCHOOL UNRELATED	PERCENT IN ARMED FORCES	PERCENT NOT IN LABOR FORCE	
5TH YEAR FOLLOW-UP										
1968-69	58	77	16	2	5	8	2	2	14	16
1969-70	62	81	12	3	4	3	3	0	16	16
1970-71	64	81	13	3	3	4	3	0	16	13

TABLE II

FOLLOW-UP DATA -- BY PROGRAM

PROGRAM TITLE	PERCENT AVAILABLE FOR LABOR FORCE	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET				PERCENT STATUS UNKNOWN
		PERCENT EMPLOYED RELATED	PERCENT EMPLOYED UNRELATED	PERCENT EMPLOYED PART TIME	PERCENT UNEMPLOYED	PERCENT IN SCHOOL RELATED	PERCENT IN SCHOOL UNRELATED	PERCENT IN ARMED FORCES	PERCENT NOT IN LABOR FORCE	
TECHNICAL ED.										
ENGINEERING RELATED TECH.										
1970-71	0	0	0	0	0	0	0	0	0	0
1971-72	30	79	14	0	7	43	11	9	0	7
1972-73	0	0	0	0	0	0	0	0	0	0
*1973-74	100	100	0	0	0	0	0	0	0	0
1974-75	0	0	0	0	0	0	0	0	0	0
AERONAUTICAL TECHNOLOGY										
*1970-71	100	100	0	0	0	0	0	0	0	0
*1971-72	0	0	0	0	0	0	0	0	0	100
1972-73	0	0	0	0	0	0	0	0	0	0
*1973-74	40	100	0	0	0	0	0	0	0	60
1974-75	14	100	0	0	0	17	0	0	2	67
ARCHITECTURAL TECHNOLOGY										
*1970-71	14	100	0	0	0	0	0	0	0	86
*1971-72	30	67	33	0	0	50	10	0	10	0
*1972-73	0	0	0	0	0	0	100	0	0	0
1973-74	18	80	0	20	0	2	0	0	0	80
*1974-75	100	100	0	0	0	0	0	0	0	0
AUTOMOTIVE TECHNOLOGY										
1970-71	0	0	0	0	0	0	0	0	0	0
1971-72	0	0	0	0	0	0	0	0	0	0
1972-73	0	0	0	0	0	0	0	0	0	0
*1973-74	100	100	0	0	0	0	0	0	0	0
*1974-75	5	100	0	0	0	0	0	0	0	95
CHEMICAL TECHNOLOGY										
*1970-71	40	50	0	33	17	47	0	7	6	0
*1971-72	29	100	0	0	0	57	0	10	0	4
*1972-73	90	100	0	0	0	10	0	0	0	0
1973-74	32	85	15	0	0	61	5	0	2	0
*1974-75	25	100	0	0	0	63	0	0	0	12

* PERCENTS BASED ON TOTAL SAMPLE LESS THAN 30 STUDENTS

TABLE II

FOLLOW-UP DATA -- BY PROGRAM

PROGRAM TITLE	PERCENT AVAILABLE FOR LABOR FORCE	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET				PERCENT STATUS UNKNOWN
		PERCENT EMPLOYED RELATED	PERCENT EMPLOYED UNRELATED	PERCENT EMPLOYED PART TIME	PERCENT UNEMPLOYED	PERCENT IN SCHOOL RELATED	PERCENT IN SCHOOL UNRELATED	PERCENT IN ARMED FORCES	PERCENT NOT IN LABOR FORCE	
CIVIL TECHNOLOGY										
*1970-71	0	0	0	0	0	0	0	0	0	100
*1971-72	16	67	33	0	0	63	5	5	0	11
*1972-73	100	100	0	0	0	0	0	0	0	0
1973-74	86	100	0	0	0	2	0	0	0	12
*1974-75	90	95	0	5	0	5	0	0	0	5
ELECTRICITY										
1970-71	0	0	0	0	0	0	0	0	0	0
*1971-72	100	100	0	0	0	0	0	0	0	0
*1972-73	50	100	0	0	0	50	0	0	0	0
1973-74	0	0	0	0	0	0	0	0	0	0
1974-75	0	0	0	0	0	0	0	0	0	0
ELECTRONIC TECHNOLOGY										
1970-71	49	74	20	2	4	30	7	10	1	3
1971-72	34	73	23	4	0	52	2	3	0	9
*1972-73	72	90	10	0	0	10	0	10	3	5
1973-74	39	99	1	0	0	16	1	0	0	44
1974-75	25	94	4	0	2	9	0	0	0	66
ELECTROMECHANIC TECHNOLOGY										
*1970-71	59	90	0	10	0	29	0	6	0	6
1971-72	49	95	5	0	0	37	2	2	0	10
1972-73	29	89	5	0	6	56	3	11	1	0
1973-74	51	98	2	0	0	16	7	0	0	26
1974-75	53	97	3	0	0	5	0	0	0	42
ENVIRONMENTAL CONTROL TECH.										
1970-71	0	0	0	0	0	0	0	0	0	0
1971-72	0	0	0	0	0	0	0	0	0	0
1972-73	0	0	0	0	0	0	0	0	0	0
*1973-74	60	100	0	0	0	0	0	0	0	40
1974-75	52	88	12	0	0	0	0	0	3	45

* PERCENTS BASED ON TOTAL SAMPLE LESS THAN 30 STUDENTS

TABLE II

FOLLOW-UP DATA -- BY PROGRAM

PROGRAM TITLE	PERCENT AVAILABLE FOR LABOR FORCE	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET				PERCENT STATUS UNKNOWN
		PERCENT EMPLOYED RELATED	PERCENT EMPLOYED UNRELATED	PERCENT EMPLOYED PART TIME	PERCENT UNEMPLOYED	PERCENT IN SCHOOL RELATED	PERCENT IN SCHOOL UNRELATED	PERCENT IN ARMED FORCES	PERCENT NOT IN LABOR FORCE	
INDUSTRIAL TECHNOLOGY										
*1970-71	29	100	0	0	0	0	0	0	0	71
*1971-72	0	0	0	0	0	0	0	0	0	100
1972-73	0	0	0	0	0	0	0	0	0	0
*1973-74	48	90	0	10	0	0	0	0	0	52
*1974-75	44	100	0	0	0	4	4	0	0	48
INSTRUMENTATION TECHNOLOGY										
*1970-71	100	100	0	0	0	0	0	0	0	0
1971-72	0	0	0	0	0	0	0	0	0	0
1972-73	0	0	0	0	0	0	0	0	0	0
*1973-74	91	100	0	0	0	0	0	0	0	9
*1974-75	9	100	0	0	0	0	0	0	0	91
MECHANICAL TECHNOLOGY										
*1970-71	25	100	0	0	0	17	0	0	0	58
1971-72	85	100	0	0	0	4	1	1	0	[illegible]
*1972-73	100	100	0	0	0	0	0	0	0	0
1973-74	46	54	46	0	0	8	0	0	0	46
1974-75	39	97	3	0	0	6	0	0	0	55
METALURGICAL TECHNOLOGY										
*1970-71	75	100	0	0	0	25	0	0	0	0
*1971-72	50	100	0	0	0	50	0	0	0	0
*1972-73	100	100	0	0	0	0	0	0	0	0
*1973-74	63	90	10	0	0	19	0	0	0	18
1974-75	77	99	1	0	0	5	0	0	0	18
RADIATION TECH.										
1970-71	0	0	0	0	0	0	0	0	0	0
1971-72	0	0	0	0	0	0	0	0	0	0
1972-73	0	0	0	0	0	0	0	0	0	0
*1973-74	0	0	0	0	0	100	0	0	0	0
*1974-75	5	100	0	0	0	79	5	0	5	6

* PERCENTS BASED ON TOTAL SAMPLE LESS THAN 30 STUDENTS

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TABLE II

FOLLOW-UP DATA -- BY PROGRAM

PROGRAM TITLE	PERCENT AVAILABLE FOR LABOR FORCE	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET				PERCENT STATUS UNKNOWN
		PERCENT EMPLOYED RELATED	PERCENT EMPLOYED UNRELATED	PERCENT EMPLOYED PART TIME	PERCENT UNEMPLOYED	PERCENT IN SCHOOL RELATED	PERCENT IN SCHOOL UNRELATED	PERCENT IN ARMED FORCES	PERCENT NOT IN LABOR FORCE	
PETROLEUM TECHNOLOGY										
1970-71	0	0	0	0	0	0	0	0	0	0
1971-72	0	0	0	0	0	0	0	0	0	0
1972-73	0	0	0	0	0	0	0	0	0	0
1973-74	0	0	0	0	0	0	0	0	0	0
*1974-75	0	0	0	0	0	47	0	0	0	53
ELECT. REPAIRMAN (RADIO/TV)										
1970-71	0	0	0	0	0	0	0	0	0	0
1971-72	0	0	0	0	0	0	0	0	0	0
*1972-73	0	0	0	0	0	100	0	0	0	0
1973-74	31	100	0	0	0	0	0	0	0	69
1974-75	0	0	0	0	0	0	0	0	0	0
SURVEYOR										
1970-71	0	0	0	0	0	0	0	0	0	0
1971-72	0	0	0	0	0	0	0	0	0	0
1972-73	0	0	0	0	0	0	0	0	0	0
*1973-74	27	100	0	0	0	9	0	0	0	64
*1974-75	23	100	0	0	0	0	0	0	0	77
QUALITY CONTROL TECHNOLOGY										
1970-71	0	0	0	0	0	0	0	0	0	0
1971-72	0	0	0	0	0	0	0	0	0	0
*1972-73	100	100	0	0	0	0	0	0	0	0
1973-74	47	100	0	0	0	0	0	0	0	53
1974-75	0	0	0	0	0	0	0	0	0	0
BUILDING CONSTRUCTION										
*1970-71	100	100	0	0	0	0	0	0	0	0
*1971-72	100	100	0	0	0	0	0	0	0	0
*1972-73	50	100	0	0	0	50	0	0	0	0
1973-74	48	95	5	0	0	29	0	0	0	23
1974-75	42	98	2	0	0	19	0	0	0	39

* PERCENTS BASED ON TOTAL SAMPLE LESS THAN 30 STUDENTS

TABLE II

FOLLOW-UP DATA -- BY PROGRAM

PROGRAM TITLE	PERCENT AVAILABLE FOR LABOR FORCE	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET				PERCENT STATUS UNKNOWN
		PERCENT EMPLOYED RELATED	PERCENT EMPLOYED UNRELATED	PERCENT EMPLOYED PART TIME	PERCENT UNEMPLOYED	PERCENT IN SCHOOL RELATED	PERCENT IN SCHOOL UNRELATED	PERCENT IN ARMED FORCES	PERCENT NOT IN LABOR FORCE	
DRAFTING AND DESIGN										
1970-71	38	83	9	2	6	25	2	9	0	26
1971-72	24	76	24	0	0	45	7	4	1	19
1972-73	63	87	7	3	3	31	0	0	0	6
1973-74	37	98	1	0	1	18	0	0	0	45
1974-75	46	98	2	0	0	6	0	0	0	48
ENGINEERING RELATED TECH.										
1970-71	57	82	11	6	1	34	0	2	1	6
1971-72	0	0	0	0	0	0	0	0	0	0
1972-73	0	0	0	0	0	0	0	0	0	0
1973-74	0	0	0	0	0	0	0	0	0	0
1974-75	0	0	0	0	0	0	0	0	0	0
RANCH OPERATION										
*1970-71	91	90	0	0	10	9	0	0	0	0
*1971-72	100	100	0	0	0	0	0	0	0	0
1972-73	0	0	0	0	0	0	0	0	0	0
1973-74	0	0	0	0	0	0	0	0	0	0
1974-75	0	0	0	0	0	0	0	0	0	0
BIO-ELECTRONICS										
1970-71	0	0	0	0	0	0	0	0	0	0
1971-72	0	0	0	0	0	0	0	0	0	0
1972-73	0	0	0	0	0	0	0	0	0	0
*1973-74	42	100	0	0	0	0	0	0	0	58
1974-75	6	100	0	0	0	0	6	0	0	88
COMPUTER SCIENCE										
1970-71	41	78	15	3	4	26	8	5	4	16
1971-72	41	83	17	0	0	26	13	7	2	11
1972-73	53	97	3	0	0	27	5	2	0	13
1973-74	61	88	12	0	0	12	4	0	1	22
1974-75	28	96	1	1	2	1	1	0	0	70

* PERCENTS BASED ON TOTAL SAMPLE LESS THAN 30 STUDENTS

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TABLE II

FOLLOW-UP DATA -- BY PROGRAM

PROGRAM TITLE	PERCENT AVAILABLE FOR LABOR FORCE	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET				PERCENT STATUS UNKNOWN
		PERCENT EMPLOYED RELATED	PERCENT EMPLOYED UNRELATED	PERCENT EMPLOYED PART TIME	PERCENT UNEMPLOYED	PERCENT IN SCHOOL RELATED	PERCENT IN SCHOOL UNRELATED	PERCENT IN ARMED FORCES	PERCENT NOT IN LABOR FORCE	
BANKING AND FINANCE										
1970-71	0	0	0	0	0	0	0	0	0	0
1971-72	0	0	0	0	0	0	0	0	0	0
1972-73	0	0	0	0	0	0	0	0	0	0
*1973-74	67	100	0	0	0	33	0	0	0	0
1974-75	75	100	0	0	0	0	0	0	0	25
LIBRARY ASST.										
1970-71	0	0	0	0	0	0	0	0	0	0
1971-72	0	0	0	0	0	0	0	0	0	0
*1972-73	100	0	0	0	100	0	0	0	0	0
*1973-74	50	100	0	0	0	50	0	0	0	0
1974-75	0	0	0	0	0	0	0	0	0	0
COMPUTER OPERATOR										
1970-71	0	0	0	0	0	0	0	0	0	0
1971-72	0	0	0	0	0	0	0	0	0	0
1972-73	0	0	0	0	0	0	0	0	0	0
*1973-74	60	100	0	0	0	0	0	0	0	40
1974-75	0	0	0	0	0	0	0	0	0	0
PILOT TRAINING										
1970-71	0	0	0	0	0	0	0	0	0	0
*1971-72	0	0	0	0	0	100	0	0	0	0
*1972-73	100	100	0	0	0	0	0	0	0	0
1973-74	0	0	0	0	0	0	0	0	0	0
1974-75	0	0	0	0	0	0	0	0	0	0
FIRE SAFETY										
1970-71	100	100	0	0	0	0	0	0	0	0
*1971-72	100	0	100	0	0	0	0	0	0	0
1972-73	0	0	0	0	0	0	0	0	0	0
1973-74	44	100	0	0	0	47	0	0	0	9
1974-75	29	97	3	0	0	17	0	0	0	54

* PERCENTS BASED ON TOTAL SAMPLE LESS THAN 30 STUDENTS

TABLE II

FOLLOW-UP DATA -- BY PROGRAM

PROGRAM TITLE	PERCENT AVAILABLE FOR LABOR FORCE	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET				PERCENT STATUS UNKNOWN
		PERCENT EMPLOYED RELATED	PERCENT EMPLOYED UNRELATED	PERCENT EMPLOYED PART TIME	PERCENT UNEMPLOYED	PERCENT IN SCHOOL RELATED	PERCENT IN SCHOOL UNRELATED	PERCENT IN ARMED FORCES	PERCENT NOT IN LABOR FORCE	
CORRECTIONS TRAINING										
*1970-71	100	100	0	0	0	0	0	0	0	0
*1971-72	60	100	0	0	0	10	20	10	0	0
1972-73	0	0	0	0	0	0	0	0	0	0
1973-74	0	0	0	0	0	0	0	0	0	0
1974-75	45	100	0	0	0	0	0	0	2	53
OCEANOGRAPHIC TECHNOLOGY										
1970-71	0	0	0	0	0	0	0	0	0	0
*1971-72	100	0	100	0	0	0	0	0	0	0
1972-73	0	0	0	0	0	0	0	0	0	0
1973-74	0	0	0	0	0	0	0	0	0	0
1974-75	0	0	0	0	0	0	0	0	0	0
POLICE SCIENCE										
1970-71	98	100	0	0	0	2	0	0	0	0
*1971-72	0	0	0	0	0	0	100	0	0	0
*1972-73	60	100	0	0	0	20	0	0	0	20
1973-74	39	97	3	0	0	2	0	0	0	59
1974-75	70	94	6	0	0	5	0	0	0	25
PUBLIC WORKS TECHNOLOGY										
1970-71	0	0	0	0	0	0	0	0	0	0
*1971-72	0	0	0	0	0	100	0	0	0	0
*1972-73	100	100	0	0	0	0	0	0	0	0
1973-74	0	0	0	0	0	0	0	0	0	0
1974-75	0	0	0	0	0	0	0	0	0	0
URBAN PLANNING TECHNOLOGY										
1970-71	0	0	0	0	0	0	0	0	0	0
1971-72	0	0	0	0	0	0	0	0	0	0
1972-73	0	0	0	0	0	0	0	0	0	0
1973-74	0	0	0	0	0	0	0	0	0	0
*1974-75	100	100	0	0	0	0	0	0	0	0

* PERCENTS BASED ON TOTAL SAMPLE LESS THAN 30 STUDENTS

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TABLE II

FOLLOW-UP DATA -- BY PROGRAM

PROGRAM TITLE	PERCENT AVAILABLE FOR LABOR FORCE	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET				PERCENT STATUS UNKNOWN
		PERCENT EMPLOYED RELATED	PERCENT EMPLOYED UNRELATED	PERCENT EMPLOYED PART TIME	PERCENT UNEMPLOYED	PERCENT IN SCHOOL RELATED	PERCENT IN SCHOOL UNRELATED	PERCENT IN ARMED FORCES	PERCENT NOT IN LABOR FORCE	
RECREATION ASSISTANT										
1970-71	0	0	0	0	0	0	0	0	0	0
1971-72	0	0	0	0	0	0	0	0	0	0
1972-73	0	0	0	0	0	0	0	0	0	0
*1973-74	0	0	0	0	0	100	0	0	0	0
1974-75	0	0	0	0	0	0	0	0	0	100
TV AND THEATRE PRCD. TECH.										
1970-71	0	0	0	0	0	0	0	0	0	0
1971-72	0	0	0	0	0	0	0	0	0	0
1972-73	0	0	0	0	0	0	0	0	0	0
*1973-74	100	100	0	0	0	0	0	0	0	0
1974-75	10	67	33	0	0	39	0	0	0	51
MEDIA TECH.										
1970-71	0	0	0	0	0	0	0	0	0	0
1971-72	0	0	0	0	0	0	0	0	0	0
*1972-73	33	100	0	0	0	33	33	0	0	1
*1973-74	0	0	0	0	0	100	0	0	0	0
*1974-75	0	0	0	0	0	0	0	0	0	100
TECHNICAL WRITING										
1970-71	0	0	0	0	0	0	0	0	0	0
1971-72	0	0	0	0	0	0	0	0	0	0
1972-73	0	0	0	0	0	0	0	0	0	0
1973-74	0	0	0	0	0	0	0	0	0	0
*1974-75	87	100	0	0	0	0	7	0	0	6
TECHNICAL, OTHER										
1970-71	0	0	0	0	0	0	0	0	0	0
1971-72	0	0	0	0	0	0	0	0	0	0
1972-73	0	0	0	0	0	0	0	0	0	0
*1973-74	100	100	0	0	0	0	0	0	0	0
1974-75	0	0	0	0	0	0	0	0	0	0

* PERCENTS BASED ON TOTAL SAMPLE LESS THAN 30 STUDENTS

TABLE II

FOLLOW-UP DATA -- BY PROGRAM

PROGRAM TITLE	PERCENT AVAILABLE FOR LABOR FORCE	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET				PERCENT STATUS UNKNOWN
		PERCENT EMPLOYED RELATED	PERCENT EMPLOYED UNRELATED	PERCENT EMPLOYED PART TIME	PERCENT UNEMPLOYED	PERCENT IN SCHOOL RELATED	PERCENT IN SCHOOL UNRELATED	PERCENT IN ARMED FORCES	PERCENT NOT IN LABOR FORCE	
TOTAL DIVISION TECHNICAL ED.										
1ST YEAR FOLLOW-UP										
1967-68	8	56	13	25	6	45	15	17	15	0
1968-69	30	82	14	3	1	25	7	9	0	29
1969-70	40	67	26	6	1	26	3	15	5	2
1970-71	53	86	9	2	3	22	4	[illegible]	1	15
1971-72	41	85	14	1	0	38	6	4	1	10
1972-73	53	92	5	1	2	33	3	5	1	5
1973-74	45	94	5	0	1	15	1	0	0	39
1974-75	48	97	3	0	0	4	0	0	0	46
3RD YEAR FOLLOW-UP										
1968-69	56	82	17	0	1	10	4	13	1	17
1969-70	43	84	16	0	0	4	2	9	8	34
1970-71	61	88	12	0	0	15	4	5	1	14
1971-72	53	82	17	0	1	21	3	0	1	22
1972-73	76	93	7	0	0	9	4	0	1	10
5TH YEAR FOLLOW-UP										
1968-69	73	91	9	0	0	0	13	7	0	7
1969-70	70	84	15	1	0	4	2	0	0	24
1970-71	67	86	13	1	0	4	2	0	4	23

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TABLE II

FOLLOW-UP DATA -- BY PROGRAM

PROGRAM TITLE	PERCENT AVAILABLE FOR LABOR FORCE	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET				PERCENT STATUS UNKNOWN
		PERCENT EMPLOYED RELATED	PERCENT EMPLOYED UNRELATED	PERCENT EMPLOYED PART TIME	PERCENT UNEMPLOYED	PERCENT IN SCHOOL RELATED	PERCENT IN SCHOOL UNRELATED	PERCENT IN ARMED FORCES	PERCENT NOT IN LABOR FORCE	
TRADES & INDUSTRY										
AIR CONDITIONING										
1970-71	73	75	25	0	0	14	5	5	0	3
1971-72	68	85	10	1	4	19	3	6	1	3
1972-73	76	84	14	1	1	13	5	3	2	1
1973-74	69	83	10	1	6	8	2	0	1	20
1974-75	60	85	9	1	5	26	1	0	0	13
APPLIANCE REPAIR										
1970-71	38	83	17	0	0	34	6	6	0	16
*1971-72	56	71	14	7	8	20	0	16	0	8
*1972-73	95	79	5	5	11	0	0	5	0	0
*1973-74	59	81	19	0	0	22	11	0	0	8
*1974-75	78	62	38	0	0	7	4	0	0	11
BODY AND FENDER										
1970-71	63	65	32	2	1	14	12	8	0	3
1971-72	74	71	24	2	3	6	5	7	2	6
1972-73	76	73	23	2	2	5	3	5	1	10
1973-74	72	72	23	2	3	8	4	0	2	14
1974-75	81	74	23	1	2	3	2	0	1	13
AUTO MECHANICS										
1970-71	61	71	24	2	3	16	8	11	0	4
1971-72	60	73	21	2	4	18	7	9	0	6
1972-73	60	77	18	2	3	16	9	5	1	9
1973-74	68	76	20	2	2	13	6	0	2	11
1974-75	74	78	18	1	3	10	6	0	2	8
AUTOMOTIVE SERVICES										
*1970-71	59	85	15	0	0	14	14	13	0	0
1971-72	60	88	8	0	4	7	17	14	2	0
1972-73	66	67	33	0	0	3	9	16	3	3
1973-74	66	84	14	0	2	12	8	0	0	14
1974-75	82	78	19	3	0	13	0	0	0	5

* PERCENTS BASED ON TOTAL SAMPLE LESS THAN 30 STUDENTS

TABLE II

FOLLOW-UP DATA -- BY PROGRAM

PROGRAM TITLE	PERCENT AVAILABLE FOR LABOR FORCE	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET				PERCENT STATUS UNKNOWN
		PERCENT EMPLOYED RELATED	PERCENT EMPLOYED UNRELATED	PERCENT EMPLOYED PART TIME	PERCENT UNEMPLOYED	PERCENT IN SCHOOL RELATED	PERCENT IN SCHOOL UNRELATED	PERCENT IN ARMED FORCES	PERCENT NOT IN LABOR FORCE	
AIRCRAFT MAINTENANCE										
1970-71	45	43	48	0	9	25	10	16	0	4
1971-72	43	53	41	6	0	28	8	14	0	7
1972-73	53	74	16	4	6	23	3	13	1	7
1973-74	74	77	22	0	1	17	1	0	1	7
1974-75	58	72	25	2	1	19	4	0	1	18
BLUEPRINT READING										
1970-71	0	0	0	0	0	0	0	0	0	0
1971-72	0	0	0	0	0	0	0	0	0	0
1972-73	0	0	0	0	0	0	0	0	0	0
*1973-74	0	0	0	0	0	0	100	0	0	0
1974-75	0	0	0	0	0	0	0	0	0	0
BUSINESS MACHINE REPAIR										
*1970-71	0	0	0	0	0	100	0	0	0	0
*1971-72	0	0	0	0	0	0	100	0	0	0
*1972-73	50	100	0	0	0	50	0	0	0	0
*1973-74	50	100	0	0	0	50	0	0	0	0
*1974-75	100	100	0	0	0	0	0	0	0	0
COMMERCIAL ART										
1970-71	48	57	4	30	9	29	2	6	8	7
1971-72	30	85	15	0	0	50	9	2	5	4
1972-73	69	83	11	4	2	19	1	0	7	4
1973-74	48	84	10	5	1	24	2	0	3	23
1974-75	48	79	12	9	0	19	1	0	1	31
DISPLAY										
*1970-71	33	80	20	0	0	0	40	7	20	0
1971-72	0	0	0	0	0	0	0	0	0	0
1972-73	0	0	0	0	0	0	0	0	0	0
1973-74	0	0	0	0	0	0	0	0	0	0
1974-75	0	0	0	0	0	0	0	0	0	0

* PERCENTS BASED ON TOTAL SAMPLE LESS THAN 30 STUDENTS

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TABLE II

FOLLOW-UP DATA -- BY PROGRAM

PROGRAM TITLE	PERCENT AVAILABLE FOR LABOR FORCE	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET				PERCENT STATUS UNKNOWN
		PERCENT EMPLOYED RELATED	PERCENT EMPLOYED UNRELATED	PERCENT EMPLOYED PART TIME	PERCENT UNEMPLOYED	PERCENT IN SCHOOL RELATED	PERCENT IN SCHOOL UNRELATED	PERCENT IN ARMED FORCES	PERCENT NOT IN LABOR FORCE	
COMMERCIAL PHOTOGRAPHY										
1970-71	39	47	29	18	6	14	27	5	9	6
*1971-72	72	46	46	0	8	11	11	0	0	6
1972-73	46	57	14	24	5	4	28	2	15	5
*1973-74	60	50	42	0	8	10	10	0	15	5
*1974-75	71	67	25	0	8	6	6	0	17	0
CARPENTRY										
1970-71	56	72	22	4	2	15	14	10	1	4
1971-72	54	75	17	3	5	13	10	14	1	8
1972-73	66	73	22	3	2	10	9	6	1	8
1973-74	73	69	26	3	2	10	9	0	2	6
1974-75	78	70	25	1	4	10	5	0	1	6
ELECTRICITY										
*1970-71	48	40	60	0	0	10	24	10	0	8
1971-72	70	84	9	0	7	2	8	11	0	9
1972-73	56	89	8	2	1	9	6	6	19	4
1973-74	61	95	5	0	0	4	2	0	0	33
1974-75	72	85	9	3	3	5	3	0	0	20
HEAVY EQUIPMENT										
1970-71	0	0	0	0	0	0	0	0	0	0
*1971-72	83	80	20	0	0	0	0	17	0	0
*1972-73	40	100	0	0	0	20	0	20	0	20
1973-74	85	98	2	0	0	2	2	0	0	11
1974-75	83	73	7	1	19	0	0	0	1	16
MASONRY										
*1970-71	80	75	25	0	0	0	0	0	0	20
*1971-72	70	71	7	0	22	0	0	15	0	15
1972-73	68	53	43	0	4	7	15	10	0	0
1973-74	79	85	11	0	4	5	4	0	1	11
1974-75	78	72	19	4	5	10	3	0	4	5

* PERCENTS BASED ON TOTAL SAMPLE LESS THAN 30 STUDENTS

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TABLE II

FOLLOW-UP DATA -- BY PROGRAM

PROGRAM TITLE	PERCENT AVAILABLE FOR LABOR FORCE	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET				PERCENT STATUS UNKNOWN
		PERCENT EMPLOYED RELATED	PERCENT EMPLOYED UNRELATED	PERCENT EMPLOYED PART TIME	PERCENT UNEMPLOYED	PERCENT IN SCHOOL RELATED	PERCENT IN SCHOOL UNRELATED	PERCENT IN ARMED FORCES	PERCENT NOT IN LABOR FORCE	
PLUMBING AND PIPEFITTING										
*1970-71	55	83	17	0	0	18	9	18	0	0
*1971-72	90	100	0	0	0	0	10	0	0	0
1972-73	78	83	15	0	2	14	6	0	0	2
1973-74	78	88	12	0	0	1	3	0	0	18
1974-75	54	100	0	0	0	1	0	0	1	44
CONSTRUCTION & MAINT. TRADES										
*1970-71	100	100	0	0	0	0	0	0	0	0
*1971-72	50	100	0	0	0	0	0	50	0	0
*1972-73	100	100	0	0	0	0	0	0	0	0
*1973-74	83	63	26	5	6	13	0	0	0	4
*1974-75	82	96	4	0	0	11	7	0	0	0
CUSTODIAL SERVICES										
*1970-71	50	75	0	0	25	38	12	0	0	0
*1971-72	48	86	14	0	0	17	24	3	3	5
1972-73	52	77	18	5	0	12	12	12	2	10
1973-74	66	56	37	4	3	15	15	0	2	2
1974-75	71	83	0	5	12	6	10	0	1	12
DIESEL MECHANICS										
1970-71	63	61	32	3	4	16	12	4	0	5
1971-72	63	84	11	3	2	15	1	13	0	8
1972-73	83	91	5	4	0	6	2	4	0	5
1973-74	68	84	8	0	8	25	2	0	1	4
1974-75	74	85	12	2	1	4	1	0	0	21
DRAFTING										
1970-71	37	33	43	4	20	39	5	13	0	6
1971-72	44	61	34	0	5	29	7	12	5	3
1972-73	47	66	30	0	4	34	9	5	1	4
1973-74	53	68	24	4	4	23	6	0	1	17
1974-75	50	68	23	4	5	33	3	0	3	11

* PERCENTS BASED ON TOTAL SAMPLE LESS THAN 30 STUDENTS

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TABLE II

FOLLOW-UP DATA -- BY PROGRAM

PROGRAM TITLE	PERCENT AVAILABLE FOR LABOR FORCE	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET				PERCENT STATUS UNKNOWN
		PERCENT EMPLOYED RELATED	PERCENT EMPLOYED UNRELATED	PERCENT EMPLOYED PART TIME	PERCENT UNEMPLOYED	PERCENT IN SCHOOL RELATED	PERCENT IN SCHOOL UNRELATED	PERCENT IN ARMED FORCES	PERCENT NOT IN LABOR FORCE	
ELECTRICIAN RELATED										
1970-71	0	0	0	0	0	0	0	0	0	0
*1971-72	0	0	0	0	0	0	0	0	0	100
1972-73	0	0	0	0	0	0	0	0	0	0
1973-74	57	70	30	0	0	21	6	0	4	12
*1974-75	80	63	0	0	37	10	10	0	0	0
ELECTRIC LINEMAN										
1970-71	0	0	0	0	0	0	0	0	0	0
1971-72	0	0	0	0	0	0	0	0	0	0
1972-73	0	0	0	0	0	0	0	0	0	0
1973-74	0	0	0	0	0	0	0	0	0	0
*1974-75	71	93	7	0	0	0	0	0	10	19
ELECTRONICS										
1970-71	34	52	44	0	4	41	5	14	0	6
1971-72	42	76	18	3	3	30	12	13	0	3
1972-73	37	65	30	3	2	30	14	7	2	10
1973-74	54	81	17	0	2	31	4	0	1	10
1974-75	58	46	42	2	10	30	5	0	1	6
RADIO/TV										
*1970-71	55	67	17	16	0	9	0	9	0	27
*1971-72	53	90	0	10	0	32	0	15	0	0
1972-73	58	65	28	4	3	24	3	10	0	5
1973-74	56	72	27	1	0	30	4	0	3	7
*1974-75	91	90	10	0	0	9	0	0	0	0
LAUNDERING AND DRY CLEANING										
*1970-71	100	50	0	0	50	0	0	0	0	0
*1971-72	20	100	0	0	0	0	40	0	20	20
*1972-73	71	70	30	0	0	0	7	0	0	22
*1973-74	34	70	20	10	0	0	17	0	0	49
*1974-75	42	82	0	9	9	12	15	0	12	19

* PERCENTS BASED ON TOTAL SAMPLE LESS THAN 30 STUDENTS

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TABLE II

FOLLOW-UP DATA -- BY PROGRAM

PROGRAM TITLE	PERCENT AVAILABLE FOR LABOR FORCE	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET				PERCENT STATUS UNKNOWN
		PERCENT EMPLOYED RELATED	PERCENT EMPLOYED UNRELATED	PERCENT EMPLOYED PART TIME	PERCENT UNEMPLOYED	PERCENT IN SCHOOL RELATED	PERCENT IN SCHOOL UNRELATED	PERCENT IN ARMED FORCES	PERCENT NOT IN LABOR FORCE	
FOREMANSHIP, SUP MGMT. DEV.										
1970-71	0	0	0	0	0	0	0	0	0	0
1971-72	0	0	0	0	0	0	0	0	0	0
1972-73	0	0	0	0	0	0	0	0	0	0
*1973-74	65	92	8	0	0	10	5	0	10	10
*1974-75	56	93	7	0	0	24	8	0	4	8
COMPOSITION AND TYPESETTING										
*1970-71	40	100	0	0	0	20	0	0	20	20
*1971-72	38	67	17	0	16	25	19	6	12	0
1972-73	0	0	0	0	0	0	0	0	0	0
1973-74	0	0	0	0	0	0	0	0	0	0
1974-75	0	0	0	0	0	0	0	0	0	0
PRINTING										
1970-71	58	51	32	6	11	12	20	3	2	5
1971-72	53	56	26	3	15	14	11	4	10	8
1972-73	58	57	35	2	6	7	13	4	6	12
1973-74	51	64	27	1	8	15	10	0	3	21
1974-75	62	58	34	1	7	7	4	0	4	23
INSTRUMENT MAINT. & REPAIR										
*1970-71	0	0	0	0	0	100	0	0	0	0
*1971-72	60	67	33	0	0	0	20	20	0	0
*1972-73	100	100	0	0	0	0	0	0	0	0
*1973-74	55	100	0	0	0	0	0	0	0	45
*1974-75	68	100	0	0	0	0	5	0	0	27
MACHINE SHOP										
1970-71	58	68	21	4	7	19	5	10	2	6
1971-72	69	78	17	0	5	13	4	10	0	4
1972-73	76	78	16	2	4	8	5	5	1	5
1973-74	68	89	9	1	1	17	5	0	0	10
1974-75	81	86	10	1	3	7	0	0	5	7

* PERCENTS BASED ON TOTAL SAMPLE LESS THAN 30 STUDENTS

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TABLE II

FOLLOW-UP DATA -- BY PROGRAM

PROGRAM TITLE	PERCENT AVAILABLE FOR LABOR FORCE	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET				PERCENT STATUS UNKNOWN
		PERCENT EMPLOYED RELATED	PERCENT EMPLOYED UNRELATED	PERCENT EMPLOYED PART TIME	PERCENT UNEMPLOYED	PERCENT IN SCHOOL RELATED	PERCENT IN SCHOOL UNRELATED	PERCENT IN ARMED FORCES	PERCENT NOT IN LABOR FORCE	
SHEET METAL										
*1970-71	43	83	17	0	0	0	14	14	0	29
*1971-72	74	76	24	0	0	4	9	9	0	4
*1972-73	80	70	30	0	0	0	16	4	0	0
1973-74	87	65	23	12	0	4	5	0	0	4
1974-75	75	80	15	4	1	11	6	0	3	5
WELDING AND CUTTING										
1970-71	68	82	11	3	4	9	6	11	1	5
1971-72	68	89	9	1	1	6	5	12	1	8
1972-73	65	87	8	4	1	11	4	8	0	12
1973-74	64	87	10	1	2	15	7	0	2	12
1974-75	81	88	9	1	2	6	2	0	2	9
METALURGY										
1970-71	0	0	0	0	0	0	0	0	0	0
*1971-72	100	100	0	0	0	0	0	0	0	0
*1972-73	0	0	0	0	0	0	100	0	0	0
*1973-74	86	67	17	0	16	14	0	0	0	0
*1974-75	100	100	0	0	0	0	0	0	0	0
BARBER										
*1970-71	0	0	0	0	0	0	0	0	0	100
*1971-72	63	50	40	0	10	19	13	0	5	0
*1972-73	100	100	0	0	0	0	0	0	0	0
*1973-74	100	100	0	0	0	0	0	0	0	0
1974-75	0	0	0	0	0	0	0	0	0	0
COSMETOLOGY										
1970-71	49	78	14	3	5	8	14	0	23	6
1971-72	58	75	20	0	5	7	12	1	13	9
1972-73	61	66	18	7	9	8	7	1	12	11
1973-74	63	70	16	4	10	6	4	0	15	12
1974-75	68	66	22	4	8	10	4	0	10	8

* PERCENTS BASED ON TOTAL SAMPLE LESS THAN 30 STUDENTS

TABLE II

FOLLOW-UP DATA -- BY PROGRAM

PROGRAM TITLE	PERCENT AVAILABLE FOR LABOR FORCE	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET				PERCENT STATUS UNKNOWN
		PERCENT EMPLOYED RELATED	PERCENT EMPLOYED UNRELATED	PERCENT EMPLOYED PART TIME	PERCENT UNEMPLOYED	PERCENT IN SCHOOL RELATED	PERCENT IN SCHOOL UNRELATED	PERCENT IN ARMED FORCES	PERCENT NOT IN LABOR FORCE	
PLASTIC OCCUPATIONS										
1970-71	0	0	0	0	0	0	0	0	0	0
*1971-72	100	50	0	0	50	0	0	0	0	0
*1972-73	100	0	0	100	0	0	0	0	0	0
*1973-74	100	100	0	0	0	0	0	0	0	0
*1974-75	0	0	0	0	0	0	100	0	0	0
FIREMAN TRAINING										
*1970-71	0	0	0	0	0	100	0	0	0	0
*1971-72	100	100	0	0	0	0	0	0	0	0
1972-73	0	0	0	0	0	0	0	0	0	0
*1973-74	100	100	0	0	0	0	0	0	0	0
1974-75	0	0	0	0	0	0	0	0	0	0
LAW ENFORCEMENT TRAINING										
*1970-71	60	67	0	0	33	0	0	0	0	40
*1971-72	50	100	0	0	0	0	0	0	0	50
*1972-73	50	100	0	0	0	0	50	0	0	0
*1973-74	100	100	0	0	0	0	0	0	0	0
*1974-75	40	50	50	0	0	20	20	0	0	20
OTHER FOOD OCCUPATIONS										
*1970-71	67	83	17	0	0	11	11	11	0	0
1971-72	50	84	11	5	0	16	21	5	8	0
1972-73	44	68	32	0	0	9	26	5	7	9
1973-74	60	70	11	7	12	16	13	0	2	9
1974-75	75	61	26	3	10	6	12	0	2	5
BAKER										
1970-71	0	0	0	0	0	0	0	0	0	0
*1971-72	60	100	0	0	0	0	0	40	0	0
*1972-73	100	100	0	0	0	0	0	0	0	0
1973-74	0	0	0	0	0	0	0	0	0	0
*1974-75	0	0	0	0	0	100	0	0	0	0

* PERCENTS BASED ON TOTAL SAMPLE LESS THAN 30 STUDENTS

TABLE II

FOLLOW-UP DATA -- BY PROGRAM

PROGRAM TITLE	PERCENT AVAILABLE FOR LABOR FORCE	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET				PERCENT STATUS UNKNOWN
		PERCENT EMPLOYED RELATED	PERCENT EMPLOYED UNRELATED	PERCENT EMPLOYED PART TIME	PERCENT UNEMPLOYED	PERCENT IN SCHOOL RELATED	PERCENT IN SCHOOL UNRELATED	PERCENT IN ARMED FORCES	PERCENT NOT IN LABOR FORCE	
COOK/CHEF										
*1970-71	53	70	10	20	0	26	5	0	11	5
1971-72	57	75	20	0	5	9	17	6	6	5
1972-73	57	67	29	4	0	14	14	7	5	3
1973-74	65	69	15	4	12	10	8	0	5	12
*1974-75	73	89	11	0	0	12	12	0	0	3
BUTCHER (MEAT CUTTER)										
*1970-71	57	100	0	0	0	0	43	0	0	0
*1971-72	42	80	20	0	0	17	25	8	0	8
*1972-73	76	77	15	8	0	6	6	12	0	0
*1973-74	93	81	19	0	0	3	0	0	0	4
*1974-75	70	95	5	0	0	7	15	0	0	8
WAITER OR WAITRESS										
*1970-71	50	88	0	12	0	13	13	0	6	18
1971-72	61	82	14	4	0	8	14	0	8	9
1972-73	51	75	20	0	5	3	18	5	18	5
1973-74	68	79	18	3	0	12	4	0	7	9
1974-75	63	87	10	0	3	6	8	0	15	8
REFRIGERATION										
1970-71	0	0	0	0	0	0	0	0	0	0
1971-72	0	0	0	0	0	0	0	0	0	0
1972-73	0	0	0	0	0	0	0	0	0	0
*1973-74	100	64	36	0	0	0	0	0	0	0
1974-75	0	0	0	0	0	0	0	0	0	0
SMALL GASOLINE ENGINE REPAIR										
*1970-71	25	57	43	0	0	29	32	0	0	14
*1971-72	55	42	42	8	8	23	9	9	0	4
1972-73	67	96	4	0	0	24	7	2	0	0
1973-74	74	58	22	8	12	8	11	0	4	3
1974-75	63	72	26	2	0	2	2	0	0	33

* PERCENTS BASED ON TOTAL SAMPLE LESS THAN 30 STUDENTS

TABLE II

FOLLOW-UP DATA -- BY PROGRAM

PROGRAM TITLE	PERCENT AVAILABLE FOR LABOR FORCE	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET				PERCENT STATUS UNKNOWN
		PERCENT EMPLOYED RELATED	PERCENT EMPLOYED UNRELATED	PERCENT EMPLOYED PART TIME	PERCENT UNEMPLOYED	PERCENT IN SCHOOL RELATED	PERCENT IN SCHOOL UNRELATED	PERCENT IN ARMED FORCES	PERCENT NOT IN LABOR FORCE	
STATIONARY ENERGY SOURCES OCC										
*1970-71	100	0	0	100	0	0	0	0	0	0
1971-72	0	0	0	0	0	0	0	0	0	0
1972-73	0	0	0	0	0	0	0	0	0	0
1973-74	0	0	0	0	0	0	0	0	0	0
1974-75	0	0	0	0	0	0	0	0	0	0
TEXTILE PRODUCTION & FAB.										
*1970-71	80	75	0	0	25	20	0	0	0	0
*1971-72	33	100	0	0	0	0	33	0	0	34
1972-73	0	0	0	0	0	0	0	0	0	0
*1973-74	100	100	0	0	0	0	0	0	0	0
*1974-75	100	100	0	0	0	0	0	0	0	0
TAILORING										
1970-71	0	0	0	0	0	0	0	0	0	0
*1971-72	56	56	33	0	11	25	19	0	0	0
*1972-73	65	54	31	8	7	30	5	0	0	0
*1973-74	65	53	24	18	5	12	15	0	4	4
*1974-75	25	100	0	0	0	25	0	0	0	50
LEATHER WORK										
1970-71	0	0	0	0	0	0	0	0	0	0
*1971-72	100	100	0	0	0	0	0	0	0	0
*1972-73	100	100	0	0	0	0	0	0	0	0
*1973-74	80	75	15	5	5	0	4	0	0	16
1974-75	71	96	4	0	0	0	6	0	3	20
UPHOLSTERY										
*1970-71	58	71	14	14	1	8	0	17	8	9
*1971-72	73	82	18	0	0	7	13	0	7	0
*1972-73	64	61	22	17	0	18	0	0	4	14
1973-74	56	35	52	13	0	10	5	0	4	25
1974-75	33	82	11	7	0	2	5	0	37	23

* PERCENTS BASED ON TOTAL SAMPLE LESS THAN 30 STUDENTS

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TABLE II

FOLLOW-UP DATA -- BY PROGRAM

PROGRAM TITLE	PERCENT AVAILABLE FOR LABOR FORCE	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET				PERCENT STATUS UNKNOWN
		PERCENT EMPLOYED RELATED	PERCENT EMPLOYED UNRELATED	PERCENT EMPLOYED PART TIME	PERCENT UNEMPLOYED	PERCENT IN SCHOOL RELATED	PERCENT IN SCHOOL UNRELATED	PERCENT IN ARMED FORCES	PERCENT NOT IN LABOR FORCE	
WOODWORKING										
1970-71	0	0	0	0	0	0	0	0	0	0
1971-72	0	0	0	0	0	0	0	0	0	0
1972-73	0	0	0	0	0	0	0	0	0	0
*1973-74	38	50	25	0	25	19	5	0	0	38
*1974-75	100	100	0	0	0	0	0	0	0	0
CABINET MAKING										
1970-71	71	45	41	5	9	13	3	3	0	10
1971-72	59	89	11	0	0	13	0	28	0	0
1972-73	62	78	10	8	4	15	5	3	0	15
1973-74	80	86	9	2	3	4	5	0	0	11
1974-75	76	79	14	3	4	8	8	0	3	5
TRADE AND INDUSTRIAL OCC.										
1970-71	42	71	19	3	7	15	10	3	10	20
1971-72	50	77	13	3	7	17	15	4	11	3
1972-73	54	79	14	3	4	14	9	4	8	11
1973-74	47	84	9	3	4	32	10	0	5	6
1974-75	69	84	10	0	6	13	5	0	5	8
TRUCK DRIVER										
1970-71	0	0	0	0	0	0	0	0	0	0
*1971-72	33	100	0	0	0	0	67	0	0	0
*1972-73	86	83	17	0	0	0	0	14	0	0
1973-74	91	81	13	0	6	1	1	0	0	7
1974-75	96	80	11	0	9	0	3	0	1	0
FARM MACHINERY REPAIR										
1970-71	0	0	0	0	0	0	0	0	0	0
*1971-72	63	87	13	0	0	13	13	8	0	3
*1972-73	76	86	0	14	0	17	0	3	0	4
1973-74	74	100	0	0	0	21	3	0	0	2
*1974-75	83	100	0	0	0	8	8	0	0	1

* PERCENTS BASED ON TOTAL SAMPLE LESS THAN 30 STUDENTS

TABLE II

FOLLOW-UP DATA -- BY PROGRAM

PROGRAM TITLE	PERCENT AVAILABLE FOR LABOR FORCE	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET				PERCENT STATUS UNKNOWN
		PERCENT EMPLOYED RELATED	PERCENT EMPLOYED UNRELATED	PERCENT EMPLOYED PART TIME	PERCENT UNEMPLOYED	PERCENT IN SCHOOL RELATED	PERCENT IN SCHOOL UNRELATED	PERCENT IN ARMED FORCES	PERCENT NOT IN LABOR FORCE	
INDUSTRIAL ARTS-CRAFTS										
1970-71	0	0	0	0	0	0	0	0	0	0
1971-72	0	0	0	0	0	0	0	0	0	0
*1972-73	47	100	0	0	0	53	0	0	0	0
*1973-74	50	100	0	0	0	0	17	0	0	33
1974-75	0	0	0	0	0	0	0	0	0	0
INDIAN ARTS AND CRAFTS										
1970-71	0	0	0	0	0	0	0	0	0	0
1971-72	0	0	0	0	0	0	0	0	0	0
1972-73	0	0	0	0	0	0	0	0	0	0
1973-74	0	0	0	0	0	0	0	0	0	0
*1974-75	83	80	20	0	0	17	0	0	0	0
AUTO/TRUCK TIRE PRODUCTION										
1970-71	0	0	0	0	0	0	0	0	0	0
1971-72	0	0	0	0	0	0	0	0	0	0
1972-73	0	0	0	0	0	0	0	0	0	0
*1973-74	67	50	0	0	50	0	0	0	33	0
*1974-75	50	100	0	0	0	25	0	0	0	25
ELECTRO-MECHANICAL										
1970-71	0	0	0	0	0	0	0	0	0	0
1971-72	0	0	0	0	0	0	0	0	0	0
1972-73	0	0	0	0	0	0	0	0	0	0
1973-74	0	0	0	0	0	0	0	0	0	0
*1974-75	25	100	0	0	0	50	0	0	25	0
INDUSTRIAL CHEMISTRY										
1970-71	0	0	0	0	0	0	0	0	0	0
1971-72	0	0	0	0	0	0	0	0	0	0
1972-73	0	0	0	0	0	0	0	0	0	0
1973-74	0	0	0	0	0	0	0	0	0	0
*1974-75	50	89	11	0	0	50	0	0	0	0

* PERCENTS BASED ON TOTAL SAMPLE LESS THAN 30 STUDENTS

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TABLE II

FOLLOW-UP DATA -- BY PROGRAM

PROGRAM TITLE	PERCENT AVAILABLE FOR LABOR FORCE	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET				PERCENT STATUS UNKNOWN
		PERCENT EMPLOYED RELATED	PERCENT EMPLOYED UNRELATED	PERCENT EMPLOYED PART TIME	PERCENT UNEMPLOYED	PERCENT IN SCHOOL RELATED	PERCENT IN SCHOOL UNRELATED	PERCENT IN ARMED FORCES	PERCENT NOT IN LABOR FORCE	
TOTAL DIVISION TRADES & INDUSTRY										
1ST YEAR FOLLOW-UP										
1967-68	44	88	1	8	3	20	12	18	6	0
1968-69	43	71	23	2	4	19	16	11	4	7
1969-70	46	72	22	2	4	16	14	11	5	8
1970-71	53	68	23	4	5	18	10	8	4	7
1971-72	58	75	19	2	4	16	9	9	3	5
1972-73	63	76	18	3	3	14	8	5	3	7
1973-74	65	77	18	2	3	14	6	0	2	13
1974-75	71	77	17	2	4	12	4	0	3	10
3RD YEAR FOLLOW-UP										
1968-69	43	66	28	3	3	10	6	18	6	17
1969-70	51	71	25	2	2	8	6	16	6	14
1970-71	56	66	30	1	3	7	5	9	4	19
1971-72	74	71	25	3	1	6	5	0	3	12
1972-73	77	73	23	2	2	6	4	0	3	10
7TH YEAR FOLLOW-UP										
1968-69	51	72	26	2	0	4	2	8	4	31
1969-70	73	64	31	3	2	3	2	0	4	18
1970-71	71	66	31	1	2	4	3	0	5	17

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TABLE III

SECONDARY FOLLOW-UP DATA -- BY SCHOOL

1974-75

SCHOOL	NUMBER OF STUDENTS WITH MARKETABLE SKILLS	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET			NUMBER STATUS UNKNOWN
		NUMBER EMPLOYED RELATED	NUMBER EMPLOYED UNRELATED	NUMBER EMPLOYED PART TIME	NUMBER UNEMPLOYED	NUMBER CONTINUING SCHOOL RELATED	NUMBER CONTINUING SCHOOL UNRELATED	NUMBER NOT IN LABOR FORCE	
AGRICULTURE									
VOC AG CCC TRNG									
ARNETT-H CO	2	1	1	0	0	0	0	0	0
BEAVER HS	8	5	0	0	1	0	0	2	0
BRO ARROW HS	6	5	0	1	0	0	0	0	0
CACDC KIOWA AS	4	4	0	0	0	0	0	0	0
CLINTON HS	3	0	1	0	0	2	0	0	0
COLLINSVILLE HS	3	1	0	0	0	2	0	0	0
EARLY HS	7	7	0	0	0	0	0	0	0
EL RENO HS	1	1	0	0	0	0	0	0	0
ELK CITY HS	9	7	0	0	0	2	0	0	0
GRANDFIELD HS	2	1	0	0	0	1	0	0	0
GUTHRIE HS	7	5	0	0	0	2	0	0	0
GUYMON HS	1	1	0	0	0	0	0	0	0
HARTSHORNE HS	8	6	0	0	0	0	2	0	0
HUGO HS	3	0	0	0	0	2	1	0	0
MERRITT HS	6	4	0	2	0	0	0	0	0
PIACC HS	4	3	0	0	1	0	0	0	0
MUSKOGEE HS	5	2	1	0	0	2	0	0	0
OKC MARSHALL HS	9	1	3	0	0	3	2	0	0
POTEAU HS	6	1	5	0	0	0	0	0	2
PRAGUE HS	7	4	0	0	0	1	2	0	0
SAND SPG PAGE	5	3	0	0	0	2	0	0	0
SAPULPA HS	17	12	0	0	0	2	3	0	0
SHATTUCK HS	8	5	0	0	0	3	0	0	0
SHAWNEE HS	2	1	1	0	0	0	0	0	0
STILLWATER HS	4	3	0	0	0	1	0	0	0
VANOSS HS	2	2	0	0	0	0	0	0	0
WAYNOKA HS	3	0	3	0	0	0	0	0	0
PROGRAM TOTAL	142	85	15	3	2	25	10	2	2
VOC AGRICULTURE									
ACHILLE HS	4	0	0	0	0	2	2	0	0
ADAIR HS	3	0	0	0	0	3	0	0	0
AFTON HS	4	0	0	0	0	4	0	0	0
AGRA HS	11	7	0	0	0	4	0	0	0
ALEX HS	5	1	2	0	0	2	0	0	0
ALINE CLEO HS	10	6	0	0	0	4	0	0	0

TABLE III

SECONDARY FOLLOW-UP DATA -- BY SCHOOL

1974-75

SCHOOL	NUMBER OF STUDENTS WITH MARKETABLE SKILLS	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET			NUMBER STATUS UNKNOWN
		NUMBER EMPLOYED RELATED	NUMBER EMPLOYED UNRELATED	NUMBER EMPLOYED PART TIME	NUMBER UNEMPLOYED	NUMBER CONTINUING SCHOOL RELATED	NUMBER CONTINUING SCHOOL UNRELATED	NUMBER NOT IN LABOR FORCE	
ALLEN HS	5	2	2	0	0	1	0	0	3
ALTUS HS	7	4	0	0	0	3	0	0	0
ALVA HS	14	5	0	0	0	9	0	0	0
AMBER POCASSET	4	0	4	0	0	0	0	0	1
AMES HS	2	0	1	0	0	1	0	0	3
ANADARKO HS	8	4	0	0	0	4	0	0	0
APACHE HS	5	1	1	0	0	0	3	0	1
ARAPAHO HS	6	2	0	0	0	2	2	0	0
ARNETT ELLIS	5	2	0	0	0	3	0	0	1
ARNETT-H CO	5	0	0	0	1	0	4	0	0
ASHER HS	15	7	0	0	0	4	4	0	0
ATOKA HS	15	10	0	0	0	5	0	0	0
BALKO HS	5	1	0	0	0	2	2	0	0
BATTIEST HS	19	7	5	0	2	4	1	0	0
BEAVER HS	8	5	0	0	0	0	2	1	0
BEGGS HS	5	3	0	0	0	2	0	0	1
BENNINGTON HS	0	0	0	0	0	0	0	0	2
BETHEL HS	8	3	1	0	0	3	1	0	0
BIG PASTURE HS	7	3	0	0	0	1	3	0	0
BILLINGS HS	6	2	0	0	0	3	1	0	0
BINGER HS	5	2	0	0	1	2	0	0	0
BIXBY HS	6	6	0	0	0	0	0	0	0
BLACKWELL HS	14	5	1	1	0	7	0	0	0
BLAIR HS	11	0	8	0	0	0	3	0	5
BLANCHARD HS	11	8	0	0	0	3	0	0	0
BLUEJACKET HS	9	7	0	0	0	1	1	0	1
BOISE CITY HS	6	4	0	0	1	0	1	0	1
BOKCHITO HS	10	2	2	2	0	3	0	1	0
BOKOSHE HS	8	8	0	0	0	0	0	0	0
BOSWELL HS	6	5	0	0	0	1	0	0	2
BRAY HS	6	1	4	0	0	0	1	0	1
BRC ARROW HS	6	2	0	0	0	1	3	0	0
BROKEN BOW HS	18	17	1	0	0	0	0	0	10
BROXTON HS	3	1	0	0	0	0	2	0	0
BUFFALO HS	6	2	0	0	0	4	0	0	0
BUFFALO VALLEY	14	13	0	0	0	1	0	0	0
BURLINGTON HS	5	1	0	0	0	4	0	0	0
BURNS FLAT HS	1	0	0	0	0	1	0	0	0
BUTLER HS	8	6	1	0	0	0	1	0	1
BUTNER HS	7	1	1	0	0	2	3	0	2
BYNG HS	9	5	3	0	0	0	1	0	2
CACHE HS	3	0	0	0	0	3	0	0	0

TABLE III

SECONDARY FOLLOW-UP DATA -- BY SCHOOL

1974-75

SCHOOL	NUMBER OF STUDENTS WITH MARKETABLE SKILLS	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET			NUMBER STATUS UNKNOWN
		NUMBER EMPLOYED RELATED	NUMBER EMPLOYED UNRELATED	NUMBER EMPLOYED PART TIME	NUMBER UNEMPLOYED	NUMBER CONTINUING SCHOOL RELATED	NUMBER CONTINUING SCHOOL UNRELATED	NUMBER NOT IN LABOR FORCE	
CADDO HS	5	2	0	1	0	2	0	0	0
CALERA HS	4	0	1	0	0	0	3	0	0
CALVIN HS	7	0	7	0	0	0	0	0	0
CANADIAN HS	8	2	1	0	1	3	1	0	0
CANEY HS	15	9	3	1	0	1	1	0	0
CANEY VALLEY HS	3	3	0	0	0	0	0	0	0
CANTON HS	8	1	2	0	0	5	0	0	0
CANUTE	8	8	0	0	0	0	0	0	0
CARMEN DECOMA	9	1	1	0	0	5	2	0	1
CARNEGIE HS	7	2	2	0	0	1	2	0	1
CARNEY HS	4	4	0	0	0	0	0	0	0
CARRIER HS	11	4	1	0	0	5	1	0	0
CARTER HS	5	1	3	0	0	1	0	0	1
CASHION HS	2	2	0	0	0	0	0	0	0
CAVE SPRINGS HS	13	10	1	0	0	2	0	0	2
CEMENT HS	3	0	2	0	0	0	1	0	0
CENTRAL STEPHEN	5	3	0	0	0	2	0	0	2
CHANDLER HS	6	5	0	0	0	1	0	0	0
CHATTANOOGA HS	3	2	0	0	0	1	0	0	0
CHECOTAH HS	7	2	1	0	0	2	0	2	1
CHELSEA HS	11	2	0	3	0	3	3	0	0
CHEROKEE HS	10	2	0	0	0	2	6	0	0
CHEYENNE HS	7	5	0	0	0	1	1	0	0
CHICKASHA HS	5	5	0	0	0	0	0	0	1
CHOCTAW HS	9	4	4	0	1	0	0	0	0
CHOUTEAU HS	9	2	4	1	0	1	1	0	0
CLAREMORE HS	4	1	2	0	0	0	1	0	3
CLAYTON	12	11	0	0	0	1	0	0	0
CLEVELAND HS	7	4	2	0	0	0	1	0	3
CLINTON HS	8	0	2	0	0	2	4	0	0
COALGATE HS	5	0	0	0	0	3	2	0	0
COLBERT HS	11	7	1	0	0	3	0	0	0
COLCORD HS	10	2	0	0	0	8	0	0	0
COLLINSVILLE HS	5	4	0	0	0	1	0	0	2
COMANCHE HS	9	3	4	0	0	1	1	0	0
COPAN HS	5	3	0	0	0	2	0	0	0
CORDELL HS	24	15	9	0	0	0	0	0	0
COVINGTON DOUG	13	8	0	0	0	5	0	0	0
COYLE HS	6	3	1	0	0	2	0	0	0
CRESCENT HS	4	1	2	0	0	1	0	0	4
CROWDER HS	9	6	0	0	0	2	1	0	0
CUSHING HS	2	1	0	0	0	1	0	0	0

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TABLE III

SECONDARY FOLLOW-UP DATA -- BY SCHOOL

1974-75

SCHOOL	NUMBER OF STUDENTS WITH MARKETABLE SKILLS	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET			NUMBER STATUS UNKNOWN
		NUMBER EMPLOYED RELATED	NUMBER EMPLOYED UNRELATED	NUMBER EMPLOYED PART TIME	NUMBER UNEMPLOYED	NUMBER CONTINUING SCHOOL RELATED	NUMBER CONTINUING SCHOOL UNRELATED	NUMBER NOT IN LABOR FORCE	
CUSTER HS	6	2	0	0	0	1	3	0	0
CYRIL HS	4	2	1	0	0	1	0	0	0
DALE HS	5	2	0	0	0	3	0	0	0
DAVENPORT HS	10	5	0	1	1	3	0	0	0
DAVIS HS	5	0	3	0	0	1	1	0	1
DELAWARE HS	5	0	1	0	1	1	2	0	0
DEWEY HS	9	4	3	0	0	1	1	0	2
DIEBLE HS	9	7	0	0	0	2	0	0	0
DILL CITY HS	6	2	2	0	0	0	2	0	1
DOVER HS	1	1	0	0	0	0	0	0	0
DRUMMOND HS	2	0	1	0	0	1	0	0	0
DRUMRIGHT HS	6	2	0	0	0	4	0	0	0
DUKE HS	4	1	0	0	0	3	0	0	0
DUNCAN HS	12	5	0	0	0	5	0	2	0
DUSTIN HS	6	2	4	0	0	0	0	0	0
EAGLETOWN HS	3	0	1	0	0	0	2	0	0
EARLY HS	1	1	0	0	0	0	0	0	0
EDMOND HS	13	9	1	0	0	2	1	0	1
EL RENO HS	19	11	0	0	0	8	0	0	1
ELDORADO HS	4	2	1	0	0	0	1	0	0
ELGIN HS	8		2	1	0	2	1	0	0
ELK CITY HS	4	2	0	0	0	2	0	0	1
ELMORE CITY HS	8	5	0	0	0	3	0	0	0
EMPIRE HS	12	5	1	0	0	0	6	0	1
ERICK HS	5	3	1	0	0	1	0	0	0
EUFAULA HS	14	7	0	0	0	7	0	0	1
FAIRLAND HS	11	5	0	0	0	5	1	0	0
FAIRVIEW HS	17	9	2	2	0	4	0	0	0
FARGO HS	9	4	1	0	0	4	0	0	0
FLETCHER HS	11	6	0	0	0	4	0	1	0
FORT COBB HS	4	0	0	0	0	4	0	0	1
FORT GIBSON HS	3	0	0	1	0	2	0	0	3
FORT SUPPLY HS	4	3	0	0	0	1	0	0	1
FREDERICK HS	12	2	0	0	0	7	2	1	0
FREECOM HS	3	0	0	0	0	3	0	0	0
GANS HS	9	6	0	0	0	3	0	0	0
GARBER HS	11	4	0	0	0	5	2	0	2
GEARY HS	1	0	0	0	0	1	0	0	0
GERONIMO HS	3	3	0	0	0	0	0	0	0
GLENCOE HS	3	1	0	0	0	1	1	0	0
GOTEBO HS	3	0	0	0	2	0	1	0	0
GOLLD HS	10	4	1	0	0	5	0	0	0

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TABLE III

SECONDARY FOLLOW-UP DATA -- BY SCHOOL

1974-75

SCHOOL	NUMBER OF STUDENTS WITH MARKETABLE SKILLS	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET			NUMBER STATUS UNKNOWN
		NUMBER EMPLOYED RELATED	NUMBER EMPLOYED UNRELATED	NUMBER EMPLOYED PART TIME	NUMBER UNEMPLOYED	NUMBER CONTINUING SCHOOL RELATED	NUMBER CONTINUING SCHOOL UNRELATED	NUMBER NOT IN LABOR FORCE	
GRANDFIELD HS	3	0	0	0	0	3	0	0	1
GRANITE HS	3	0	0	0	0	2	1	0	0
GRANT HS	4	1	0	0	2	1	0	0	0
GROVE HS	5	3	0	0	0	2	0	0	1
GUTHRIE HS	13	9	0	0	0	2	2	0	0
GUYMON HS	7	1	0	0	0	6	0	0	0
HAILEYVILLE HS	13	9	1	0	0	2	1	0	0
HARRAH HS	18	12	1	0	0	5	0	0	1
HARTSHORNE HS	9	3	0	0	0	3	3	0	4
HASKELL HS	14	0	8	0	1	3	2	0	1
HAWORTH HS	3	0	1	0	0	1	1	0	0
HEAVENER HS	6	1	3	0	0	1	1	0	0
HELENA GOLTRY H	7	5	1	0	0	1	0	0	0
HENNESSEY HS	8	5	0	0	0	3	0	0	0
HINTON HS	4	3	0	1	0	0	0	0	0
HOBART HS	10	4	0	0	0	6	0	0	0
HOLDENVILLE HS	8	3	0	0	0	3	2	0	0
HOLLIS HS	11	7	0	0	0	4	0	0	4
HOOKER HS	10	2	0	0	0	8	0	0	0
HOWE HS	5	3	0	0	1	1	0	0	3
HUGO HS	14	7	0	0	0	7	0	0	0
HYDRO HS	3	3	0	0	0	0	0	0	0
IDABEL HS	59	33	0	0	0	2	19	5	0
INDIAHOMA HS	4	1	0	0	0	0	3	0	0
INDIANOLA HS	11	3	2	0	1	2	3	0	1
INOLA HS	21	9	0	0	0	7	5	0	1
JAY HS	6	0	0	0	0	6	0	0	3
JENKS HS	15	0	12	0	0	2	0	1	0
JONES HS	7	3	2	0	0	1	1	0	0
KANSAS	4	4	0	0	0	0	0	0	0
KECTA HS	11	2	4	0	0	2	2	1	0
KINGFISHER HS	7	5	1	0	0	1	0	0	0
KINTA HS	5	3	0	0	0	2	0	0	1
KIOWA HS	2	2	0	0	0	0	0	0	0
KONAWA HS	10	1	4	2	0	2	1	0	0
LAHOMA HS	14	10	3	0	0	1	0	0	0
LAMONT HS	1	0	0	0	0	1	0	0	0
LATTA HS	5	3	0	0	0	2	0	0	0
LAVERNE HS	5	0	0	0	0	4	1	0	0
LAW EISENHOWER	20	3	2	0	0	7	8	0	0
LAWTON HS	13	7	0	0	0	6	0	0	15
LEEDEY HS	10	4	0	0	0	6	0	0	0

TABLE III

SECONDARY FOLLOW-UP DATA -- BY SCHOOL

1974-75

SCHOOL	NUMBER OF STUDENTS WITH MARKETABLE SKILLS	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET			NUMBER STATUS UNKNOWN
		NUMBER EMPLOYED RELATED	NUMBER EMPLOYED UNRELATED	NUMBER EMPLOYED PART TIME	NUMBER UNEMPLOYED	NUMBER CONTINUING SCHOOL RELATED	NUMBER CONTINUING SCHOOL UNRELATED	NUMBER NOT IN LABOR FORCE	
LEFLORE HS	7	3	4	0	0	0	0	0	0
LENAPAH HS	7	4	0	0	0	0	3	0	0
LEXINGTON HS	3	0	0	0	0	3	0	0	1
LINDSAY HS	4	0	0	0	0	4	0	0	0
LOCUST GROVE HS	8	4	2	0	0	2	0	0	0
LOMEGA HS	3	3	0	0	0	0	0	0	0
LONE GROVE HS	19	6	10	0	0	1	2	0	0
LONE WOLF HS	2	1	0	0	0	1	0	0	0
LONEWOLF HS	4	1	0	0	0	3	0	0	0
LOOKEBA-SICKLES	8	3	0	0	0	5	0	0	1
LUTHER HS	6	3	0	0	0	0	3	0	0
MACOMB HS	6	2	2	0	0	1	1	0	0
MADILL HS	8	6	0	0	0	2	0	0	1
MANFORD HS	8	3	0	0	1	4	0	0	0
MANGUM HS	9	5	2	0	0	1	0	1	0
MARIETTA HS	12	3	4	0	0	2	3	0	3
MARLAND HS	7	7	0	0	0	0	0	0	0
MARLOW HS	12	5	2	0	0	4	1	0	0
MARSHALL HS	6	5	0	0	0	0	1	0	0
MAYSVILLE HS	3	2	0	0	0	1	0	0	0
MCLOUD HS	12	4	0	0	0	8	0	0	0
MEDFORD HS	10	5	0	0	0	3	2	0	1
MEEKER HS	5	5	0	0	0	0	0	0	0
MERRITT HS	8	4	1	2	0	0	1	0	1
MIAMI HS	10	4	5	0	0	1	0	0	0
MINCO HS	17	4	0	0	1	12	0	0	0
MOORE HS	6	4	0	0	0	1	1	0	0
MOORELAND HS	8	5	0	0	0	3	0	0	0
MORRISON HS	10	9	0	0	0	0	1	0	0
MOSS HS	14	4	0	0	6	4	0	0	0
MOUNTAIN PARK	5	3	0	0	0	2	0	0	0
MOUNTAIN VIEW	5	4	0	0	0	0	1	0	0
MULDROW HS	12	9	1	0	0	2	0	0	0
MULHALL ORLANDO	5	3	0	0	0	1	1	0	0
MUSKOGEE HS	10	5	2	0	0	2	1	0	0
MWC CARL ALBERT	17	10	0	0	0	4	3	0	3
NAVAJO HS	1	1	0	0	0	0	0	0	0
NEWCASTLE HS	13	10	0	0	0	2	1	0	0
NEWKIRK HS	14	8	0	0	0	4	0	2	0
NINNEKAH HS	4	1	1	0	0	2	0	0	0
NOBLE HS	10	5	0	1	0	4	0	0	0
NORMAN HS	7	5	2	0	0	0	0	0	0

TABLE III

SECONDARY FOLLOW-UP DATA -- BY SCHOOL

1974-75

SCHOOL	NUMBER OF STUDENTS WITH MARKETABLE SKILLS	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET			NUMBER STATUS UNKNOWN
		NUMBER EMPLOYED RELATED	NUMBER EMPLOYED UNRELATED	NUMBER EMPLOYED PART TIME	NUMBER UNEMPLOYED	NUMBER CONTINUING SCHOOL RELATED	NUMBER CONTINUING SCHOOL UNRELATED	NUMBER NOT IN LABOR FORCE	
NOWATA HS	11	5	1	0	0	4	1	0	0
OAK MISSION HS	9	4	1	0	0	2	2	0	0
OILTON HS	10	1	5	1	1	1	1	0	0
OKARCHE HS	7	1	0	0	0	5	1	0	0
OKC MARSHALL HS	23	1	7	0	0	11	4	0	4
OKEENE HS	13	1	0	0	0	3	9	0	0
OKEMAH HS	10	4	0	0	0	2	4	0	0
OKMULGEE HS	3	1	1	0	0	1	0	0	0
ONEY HS	4	1	3	0	0	0	0	0	0
OOLOGAH HS	15	7	1	0	1	6	0	0	0
OWASSO	6	0	0	0	0	6	0	0	0
PADEN HS	2	0	1	0	0	0	0	1	0
PANAMA HS	27	17	1	0	1	3	5	0	0
PANOLA HS	9	5	0	0	0	4	0	0	2
PAOLI HS	4	3	0	0	0	1	0	0	0
PAULS VALLEY HS	9	7	1	0	0	0	1	0	0
PAWNEE HS	13	11	0	0	0	2	0	0	0
PERKINS HS	10	4	2	0	0	4	0	0	0
PERRY HS	6	2	0	0	0	4	0	0	0
PONCA CITY HS	13	3	5	0	0	5	0	0	0
POND CREEK HS	16	5	2	0	0	6	3	0	2
PORTER HS	7	3	4	0	0	0	0	0	2
POTEAU HS	1	0	0	0	1	0	0	0	0
PRAGUE HS	9	3	0	0	0	2	4	0	0
PRYOR HS	10	6	1	0	0	3	0	0	0
PURCELL HS	18	11	0	0	0	6	1	0	0
QUAPAW HS	9	5	0	0	0	3	1	0	0
QUINTON HS	10	4	0	0	0	5	0	1	0
RALSTON HS	6	2	0	0	0	3	0	1	0
RATTAN HS	8	5	1	0	0	0	2	0	0
RED OAK HS	11	3	0	0	0	8	0	0	0
RINGLING HS	9	2	1	0	0	0	2	0	0
RIPLEY HS	6	3	1	0	0	2	0	0	0
ROFF HS	1	1	0	0	0	0	0	0	0
ROOSEVELT HS	8	2	0	2	0	4	0	0	3
RUSH SPRINGS HS	4	0	1	0	0	3	0	0	1
RYAN HS	7	0	0	0	1	2	4	0	0
SALINA HS	13	8	2	0	0	2	1	0	0
SALLISAW HS	11	8	1	0	0	2	0	0	0
SAND SP BOYD JR	6	6	0	0	0	0	0	0	1
SAND SPG PAGE	15	4	2	0	0	6	3	0	1
SAPULPA HS	20	17	0	0	0	1	2	0	6

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SECONDARY FOLLOW-UP DATA -- BY SCHOOL

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		NUMBER EMPLOYED RELATED	NUMBER EMPLOYED UNRELATED	NUMBER EMPLOYED PART TIME	NUMBER UNEMPLOYED	NUMBER CONTINUING SCHOOL RELATED	NUMBER CONTINUING SCHOOL UNRELATED	NUMBER NOT IN LABOR FORCE	
SASAKWA HS	9	6	1	0	1	0	1	0	2
SAVANNAH HS	2	0	0	0	0	2	0	0	1
SAYRE HS	15	5	3	0	0	3	4	0	2
SEILING HS	11	2	0	0	1	2	6	0	0
SHARON MUTUAL	5	4	0	0	0	1	0	0	0
SHATTUCK HS	4	0	0	0	0	4	0	0	1
SHAWNEE HS	8	2	2	0	0	3	1	0	0
SILO HS	6	1	4	0	0	1	0	0	0
SKIATOOK HS	16	3	0	0	1	5	7	0	2
SMITHVILLE HS	8	7	0	0	0	1	0	0	0
SNYDER HS	4	2	1	0	0	1	0	0	0
SOPER HS	5	5	0	0	0	0	0	0	0
SOUTHSIDE HS	5	4	0	0	0	1	0	0	0
SPERRY HS	14	4	0	0	0	6	4	0	0
SPIRO HS	18	12	0	0	0	4	2	0	0
SPRINGER HS	9	6	1	0	0	2	0	0	0
STERLING HS	11	5	0	0	1	2	3	0	1
STIGLER HS	19	8	5	2	2	2	0	0	0
STILLWATER HS	11	3	1	0	0	4	3	0	2
STILWELL HS	11	5	1	0	0	3	2	0	1
STRATFORD HS	4	2	1	0	0	1	0	0	0
STRINGTOWN HS	6	2	3	0	1	0	0	0	0
STROUD HS	9	4	0	0	0	5	0	0	2
STUART HS	7	3	1	0	0	3	0	0	1
SULPHUR HS	12	7	0	0	0	5	0	0	0
SWEETWATER HS	5	4	0	0	0	1	0	0	0
TALIHINA HS	8	1	1	0	0	6	0	0	1
TALOGA HS	11	6	0	0	0	4	1	0	0
TECUMSEH HS	15	1	5	0	1	4	3	1	2
TEMPLE HS	6	3	1	0	0	1	1	0	0
TERRAL HS	3	3	0	0	0	0	0	0	0
TEXHOMA HS	4	0	0	0	0	2	2	0	0
THACKERVILLE HS	2	0	0	0	0	1	0	1	0
THOMAS HS	11	3	0	0	0	6	2	0	0
TIPTON HS	2	1	0	0	0	0	1	0	0
TISHOMINGO HS	6	1	0	0	0	5	0	0	0
TONKAWA HS	8	2	0	0	0	6	0	0	1
TURNER HS	11	9	0	0	0	2	0	0	0
TUTTLE HS	17	9	0	0	0	3	4	1	4
UNION CITY HS	3	1	0	0	0	2	0	0	1
VALLIANT HS	4	4	0	0	0	0	0	0	0
VANOSS HS	7	1	0	0	0	6	0	0	0

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SECONDARY FOLLOW-UP DATA -- BY SCHOOL

1974-75

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VELMA ALMA HS	12	3	0	0	0	9	0	0	0
VERDEN HS	6	1	2	0	0	3	0	0	0
VIAN HS	6	2	0	0	0	4	0	0	1
VICI HS	12	5	3	0	0	2	2	0	0
VINITA HS	10	3	4	0	0	2	1	0	1
WAGONER HS	8	6	0	0	0	2	0	0	0
WAKITA HS	7	2	0	0	0	4	1	0	0
WALTERS HS	0	0	0	0	0	0	0	0	5
WANETTE HS	2	1	1	0	0	0	0	0	0
WAPANUCKA HS	3	2	0	0	0	0	1	0	0
WARNER HS	11	6	2	0	0	1	2	0	0
WASHINGTON HS	12	2	5	0	0	2	3	0	0
WASHITA HEIGHTS	8	4	0	0	0	1	3	0	0
WATONGA HS	6	2	3	0	0	1	0	0	1
WATTS HS	2	2	0	0	0	0	0	0	0
WAUKOMIS HS	10	3	3	0	1	2	1	0	0
WAURIKA HS	0	0	0	0	0	0	0	0	1
WAYNE HS	6	5	1	0	0	0	0	0	0
WAYNOKA HS	9	5	0	0	0	4	0	0	0
WEBBERS FALLS	13	8	0	0	0	3	2	0	0
WELCH HS	11	8	0	0	0	2	1	0	1
WELEETKA HS	6	2	1	0	0	3	0	0	0
WELLSTON HS	6	5	1	0	0	0	0	0	0
WETUMKA HS	13	5	6	0	1	0	1	0	0
WEWOKA HS	16	6	5	0	0	5	0	0	0
WHITESBORO HS	8	5	0	0	1	1	0	1	0
WILBURTON HS	9	3	0	0	2	1	0	3	0
WISTER HS	8	0	0	2	0	4	2	0	0
WOODWARD HS	12	3	2	0	0	3	3	1	0
WRIGHT CITY HS	3	1	0	0	0	2	0	0	0
WYANDOTTE HS	7	0	0	0	0	7	0	0	0
WYNNEWOOD HS	3	1	1	0	0	1	0	0	0
YALE HS	9	8	0	0	0	0	1	0	0
YUKON HS	10	3	0	0	0	7	0	0	0
PROGRAM TOTAL	2,745	1,241	318	27	42	784	304	29	177
AG MECHANICS									
AFTON HS	2	0	0	0	0	2	0	0	0
AGRA HS	6	3	0	0	0	3	0	0	0
AMBER POCASSET	3	0	1	0	0	2	0	0	0

TABLE III

SECONDARY FOLLOW-UP DATA -- BY SCHOOL

1974-75

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		NUMBER EMPLOYED RELATED	NUMBER EMPLOYED UNRELATED	NUMBER EMPLOYED PART TIME	NUMBER UNEMPLOYED	NUMBER CONTINUING SCHOOL RELATED	NUMBER CONTINUING SCHOOL UNRELATED	NUMBER NOT IN LABOR FORCE	
ANADARKO HS	5	2	0	0	0	2	1	0	0
ARNETT ELLIS	2	1	0	0	0	1	0	0	0
ASHER HS	5	3	0	0	0	1	1	0	0
BALKO HS	2	1	0	0	0	0	1	0	0
BEGGS HS	1	1	0	0	0	0	0	0	1
BENNINGTON HS	11	9	0	1	0	0	1	0	0
BIG PASTURE HS	7	0	0	0	0	6	1	0	0
BINGER HS	3	2	0	0	0	1	0	0	0
BRAY HS	2	0	1	0	1	0	0	0	0
BRO ARROW HS	6	5	1	0	0	0	0	0	0
BRCKEN BOW HS	8	7	1	0	0	0	0	0	5
BROXTON HS	3	1	0	0	0	0	2	0	0
BUFFALC VALLEY	10	4	0	0	0	6	0	0	0
BURLINGTON HS	4	1	2	0	0	0	1	0	0
CALERA HS	2	0	0	0	0	0	2	0	0
CANTON HS	1	1	0	0	0	0	0	0	0
CARMEN DECOMA	1	0	0	0	0	1	0	0	0
CASHION HS	1	1	0	0	0	0	0	0	0
CEMENT HS	6	0	6	0	0	0	0	0	0
CENTRAL STEPHEN	2	2	0	0	0	0	0	0	0
CHANDLER HS	6	5	0	0	0	1	0	0	0
CLAREMORE HS	10	1	3	0	1	1	4	0	3
CLAYTON	9	7	0	0	0	1	1	0	0
CLINTON HS	2	0	1	0	0	0	1	0	0
COPAN HS	1	0	0	0	0	1	0	0	0
CRESCENT HS	0	0	0	0	0	0	0	0	2
CROWDER HS	5	4	0	0	0	1	0	0	0
CUSHING HS	4	0	0	0	0	2	2	0	0
DALE HS	3	2	0	0	0	1	0	0	0
DILL CITY HS	7	1	1	0	0	0	5	0	1
DOVER HS	3	2	1	0	0	0	0	0	0
EDMOND HS	11	3	2	0	0	6	0	0	1
EL RENO HS	3	0	0	0	0	3	0	0	0
ELK CITY HS	11	4	0	0	0	5	2	0	0
ERICK HS	3	0	2	0	0	1	0	0	0
EUFAULA HS	16	8	0	0	1	5	2	0	1
FORT COBB HS	4	0	0	1	1	1	1	0	0
FORT GIBSON HS	5	2	0	0	0	3	0	0	0
FREEDOM HS	5	0	0	0	0	4	1	0	0
GERONIMO HS	1	1	0	0	0	0	0	0	0
GOTEBO HS	1	0	0	0	1	0	0	0	0
GRANITE HS	3	1	0	0	0	1	1	0	0

TABLE III

SECONDARY FOLLOW-UP DATA -- BY SCHOOL

1974-75

SCHOOL	NUMBER OF STUDENTS WITH MARKETABLE SKILLS	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET			NUMBER STATUS UNKNOWN
		NUMBER EMPLOYED RELATED	NUMBER EMPLOYED UNRELATED	NUMBER EMPLOYED PART TIME	NUMBER UNEMPLOYED	NUMBER CONTINUING SCHOOL RELATED	NUMBER CONTINUING SCHOOL UNRELATED	NUMBER NOT IN LABOR FORCE	
GRANT HS	1	0	0	0	1	0	0	0	0
GROVE HS	8	1	1	0	0	5	0	1	0
GUTHRIE HS	24	11	0	0	0	7	6	0	0
HAILEYVILLE HS	20	13	3	0	0	1	3	0	0
HARRAH HS	14	9	0	0	0	5	0	0	0
HARTSHORNE HS	3	2	0	0	0	1	0	0	2
HELENA ST SCH	0	0	0	0	0	0	0	0	17
HOBART HS	7	4	0	0	0	3	0	0	0
HOLDENVILLE HS	2	2	0	0	0	0	0	0	0
HOWE HS	0	0	0	0	0	0	0	0	1
HUGO HS	1	1	0	0	0	0	0	0	0
INDIAHOMA HS	1	0	1	0	0	0	0	0	0
JAY HS	16	3	0	0	0	11	0	2	9
JENKS HS	6	0	3	0	0	0	3	0	0
JONES HS	1	0	1	0	0	0	0	0	0
KEOTA HS	15	5	2	0	1	5	2	0	0
KINGFISHER HS	9	1	1	0	0	6	1	0	0
KIOWA HS	2	1	0	0	0	1	0	0	0
LAHOMA HS	3	2	0	0	0	0	1	0	2
LATTA HS	3	2	0	0	0	1	0	0	0
LAVERNE HS	4	1	0	0	0	1	2	0	1
LEEDEY HS	13	4	0	0	0	9	0	0	0
LENAPAH HS	4	3	0	0	0	0	1	0	0
LIBERTY-MOUNDS	6	1	5	0	0	0	0	0	4
LOMEGA HS	2	2	0	0	0	0	0	0	0
LONE GROVE HS	5	0	0	0	0	5	0	0	0
LONE WOLF HS	2	1	0	0	0	1	0	0	0
LONEWOLF HS	3	1	0	0	0	2	0	0	0
MADILL HS	3	2	0	0	0	0	1	0	0
MARLAND HS	8	5	0	2	0	1	0	0	0
MARSHALL HS	4	3	0	0	0	0	1	0	0
MEEKER HS	9	7	1	0	0	0	1	0	0
MINCO HS	17	7	0	0	1	7	2	0	1
MORRISON HS	2	2	0	0	0	0	0	0	0
MOUNTAIN PARK	1	1	0	0	0	0	0	0	0
MUSKOGEE HS	1	1	0	0	0	0	0	0	0
NORMAN HS	24	17	2	0	0	0	5	0	0
OKARCHE HS	4	4	0	0	0	0	0	0	0
OKMULGEE HS	18	4	6	0	1	2	5	0	0
PANAMA HS	2	1	0	0	0	0	1	0	0
PANOLA HS	2	1	0	0	0	1	0	0	1
PAULS VALLEY HS	2	1	1	0	0	0	0	0	0

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TABLE III

SECONDARY FOLLOW-UP DATA -- BY SCHOOL

1974-75

SCHOOL	NUMBER OF STUDENTS WITH MARKETABLE SKILLS	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET			NUMBER STATUS UNKNOWN
		NUMBER EMPLOYED RELATED	NUMBER EMPLOYED UNRELATED	NUMBER EMPLOYED PART TIME	NUMBER UNEMPLOYED	NUMBER CONTINUING SCHOOL RELATED	NUMBER CONTINUING SCHOOL UNRELATED	NUMBER NOT IN LABOR FORCE	
PRAGUE HS	4	3	0	0	0	0	1	0	0
PALSTON HS	6	2	0	0	0	3	0	1	0
RINGLING HS	1	0	0	0	0	0	1	0	0
RUSH SPRINGS HS	12	3	1	0	0	8	0	0	0
SAND SPG PAGE	8	5	0	0	0	3	0	0	2
SOPER HS	6	6	0	0	0	0	0	0	0
SOUTHSIDE HS	6	3	0	0	0	1	2	0	0
SPIRO HS	4	2	0	0	0	2	0	0	0
SPRINGER HS	5	3	1	0	0	1	0	0	0
STILLWATER HS	6	3	0	0	0	2	1	0	0
STILWELL HS	9	5	3	0	1	0	0	0	0
STRATFORD HS	2	1	0	0	0	1	0	0	0
STRINGTOWN HS	3	0	1	1	1	0	0	0	0
STUART HS	6	2	1	0	0	3	0	0	0
SWEETWATER HS	4	3	0	0	0	1	0	0	0
TECUMSEH HS	4	1	0	0	1	1	1	0	0
TEMPLE HS	6	5	1	0	0	0	0	0	0
TERRAL HS	2	1	0	0	0	0	1	0	0
THACKERVILLE HS	3	3	0	0	0	0	0	0	0
TIPTON HS	8	3	5	0	0	0	0	0	0
TISHOMINGO HS	1	0	0	0	0	1	0	0	0
TONKAWA HS	7	0	1	0	0	5	1	0	0
UNION CITY HS	1	0	0	0	0	1	0	0	0
VALLIANT HS	17	11	0	0	3	3	0	0	0
VANOSS HS	2	1	0	0	0	0	1	0	0
VICI HS	2	1	0	0	0	1	0	0	0
VINITA HS	2	0	2	0	0	0	0	0	0
WALTERS HS	0	0	0	0	0	0	0	0	1
WARNER HS	6	4	0	0	0	1	1	0	0
WASHITA HEIGHTS	8	3	0	0	0	1	4	0	0
WATTS HS	1	0	0	0	0	0	0	1	0
WAYNE HS	4	3	1	0	0	0	0	0	0
WAYNOKA HS	3	3	0	0	0	0	0	0	0
WELCH HS	4	3	0	0	0	1	0	0	0
WELLSTON HS	8	3	2	0	0	0	3	0	0
WOODWARD HS	13	6	3	1	0	1	2	0	0
WRIGHT CITY HS	5	0	1	0	0	3	1	0	0
WYANDOTTE HS	6	0	1	0	0	5	0	0	0
PROGRAM TOTAL	673	303	73	6	15	186	85	5	55
HORTICULTURE									

TABLE III

SECONDARY FOLLOW-UP DATA -- BY SCHOOL

1974-75

SCHOOL	NUMBER OF STUDENTS WITH MARKETABLE SKILLS	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET			NUMBER STATUS UNKNOWN
		NUMBER EMPLOYED RELATED	NUMBER EMPLOYED UNRELATED	NUMBER EMPLOYED PART TIME	NUMBER UNEMPLOYED	NUMBER CONTINUING SCHOOL RELATED	NUMBER CONTINUING SCHOOL UNRELATED	NUMBER NOT IN LABOR FORCE	
STILWELL HS	16	7	3	0	0	3	3	0	0
TULSA AVTS	16	8	2	0	0	3	2	1	0
PROGRAM TOTAL	32	15	5	0	0	6	5	1	0
DIVISION TOTAL	3,592	1,644	411	36	59	1,001	404	37	234

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TABLE III

SECONDARY FOLLOW-UP DATA -- BY SCHOOL

1974-75

SCHOOL	NUMBER OF STUDENTS WITH MARKETABLE SKILLS	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET			NUMBER STATUS UNKNOWN
		NUMBER EMPLOYED RELATED	NUMBER EMPLOYED UNRELATED	NUMBER EMPLOYED PART TIME	NUMBER UNEMPLOYED	NUMBER CONTINUING SCHOOL RELATED	NUMBER CONTINUING SCHOOL UNRELATED	NUMBER NOT IN LABOR FORCE	
DISTRIBUTIVE ED.									
CCCP D E									
ADA HS	22	11	1	0	1	0	7	2	1
AFTON AVTS	9	2	2	0	1	2	0	2	1
ALTUS HS	24	8	1	0	2	12	0	1	1
ANADARKO HS	14	5	1	0	1	2	4	1	0
ARDMORE HS	27	18	0	0	0	3	4	2	0
BIXBY HS	14	13	0	0	0	1	0	0	0
BRO ARROW HS	60	41	0	1	0	18	0	0	8
BVILLE COL HS	28	6	6	0	0	3	10	3	0
BVILLE SOONER	32	10	4	1	0	2	14	1	0
CENTRAL OK-AS	17	10	2	0	0	0	2	3	1
CLINTON HS	22	6	0	0	0	15	0	1	0
DUNCAN HS	23	8	6	1	0	0	7	1	0
DURANT HS	21	5	2	0	0	8	6	0	0
EDMOND HS	19	1	1	2	1	5	7	2	0
ENID HS	27	19	1	1	1	2	2	1	0
G COOPER AS	5	2	0	0	0	0	3	0	0
GREAT PLAINS AS	9	6	1	0	0	1	0	1	1
GUTHRIE HS	15	3	0	2	1	8	1	0	1
HELLIS HS	5	2	0	0	0	3	0	0	0
JENKS HS	33	19	1	2	0	9	2	0	0
KIAMICHI AS-PO	40	29	0	0	3	5	1	2	0
LAW EISENHOWER	26	12	3	0	1	7	2	1	0
LAWTON HS	24	9	0	3	0	6	5	1	0
LINDSAY HS	17	6	0	0	1	7	2	1	0
MCALESTER HS	19	11	0	0	1	2	5	0	0
MID AMERICA AS	23	8	1	1	0	8	0	5	1
MIDWEST CITY HS	40	34	0	1	0	5	0	0	0
MOORE HS	28	17	1	0	2	6	2	0	1
MUSKOGEE HS	25	13	1	3	1	4	2	1	1
NWC CARL ALBERT	4	0	0	2	0	1	0	1	0
NWC DEL CITY HS	26	18	2	2	1	2	0	1	3
NORMAN HS	23	5	7	2	1	1	1	6	7
OK CAPITOL HILL	14	13	0	0	0	0	0	1	2
OKC GRANT HS	52	31	4	1	0	12	3	1	0
OKC MARSHALL HS	14	13	0	0	0	1	0	0	1
OKC NW CLASSEN	19	15	0	1	0	3	0	0	1
OKC SOUTHEAST	20	17	0	0	0	2	0	1	0
PONCA CITY HS	52	15	6	1	0	11	16	3	0

TABLE III

SECONDARY FOLLOW-UP DATA -- BY SCHOOL

1974-75

SCHOOL	NUMBER OF STUDENTS WITH MARKETABLE SKILLS	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET			NUMBER STATUS UNKNOWN
		NUMBER EMPLOYED RELATED	NUMBER EMPLOYED UNRELATED	NUMBER EMPLOYED PART TIME	NUMBER UNEMPLOYED	NUMBER CONTINUING SCHOOL RELATED	NUMBER CONTINUING SCHOOL UNRELATED	NUMBER NOT IN LABOR FORCE	
PRYOR AVTS	11	7	0	1	0	2	0	1	3
PUTNAM C WEST	20	14	0	0	0	5	1	0	1
PUTNAM CITY HS	32	10	0	2	0	20	0	0	0
SAPULPA HS	13	10	2	1	0	0	0	0	2
SHAWNEE HS	6	2	0	0	0	2	2	0	0
STILLWATER HS	29	4	0	0	0	18	1	0	0
TAFT MCTON HS	1	0	0	0	0	0	1	0	0
TISHOMINGO HS	24	8	2	1	4	1	7	1	0
TULSA CENTRAL	17	10	0	0	0	4	2	1	0
TULSA E CENTRAL	22	13	0	0	0	8	0	1	0
TULSA EDISON HS	38	21	0	4	0	11	1	1	0
TULSA HALE HS	33	28	0	0	0	2	3	0	0
TULSA MCLAIN	22	15	1	0	0	4	1	1	0
TULSA MEMORIAL	29	9	0	0	0	20	0	0	0
TULSA ROGERS	17	13	0	0	0	2	0	2	1
TULSA WASHINGTON	21	11	0	0	0	10	0	0	0
TULSA WEBSTER	29	23	0	0	0	0	3	3	0
VINITA HS	30	21	1	0	0	4	4	0	0
W DULA AVTS	21	13	0	0	1	2	0	5	0
WESTERN HEIGHTS	18	9	0	0	2	5	0	2	0
YUKON HS	10	5	1	0	1	1	2	0	4
PROGRAM TOTAL	1,329	707	61	36	27	298	136	64	42
PROJECT OE									
CLINTON HS	3	3	0	0	0	0	0	0	0
GREAT PLAINS AS	5	3	0	0	0	2	0	0	0
MCALLES HS	5	1	0	0	0	1	1	2	0
OSB-MUSKOGEE	6	4	0	0	0	2	0	0	0
SAPULPA HS	1	1	0	0	0	0	0	0	0
PROGRAM TOTAL	20	12	0	0	0	5	1	2	0
DIVISION TOTAL	1,349	719	61	36	27	303	137	66	42

TABLE III

SECONDARY FOLLOW-UP DATA -- BY SCHOOL

1974-75

SCHOOL	NUMBER OF STUDENTS WITH MARKETABLE SKILLS	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET			NUMBER STATUS UNKNOWN
		NUMBER EMPLOYED RELATED	NUMBER EMPLOYED UNRELATED	NUMBER EMPLOYED PART TIME	NUMBER UNEMPLOYED	NUMBER CONTINUING SCHOOL RELATED	NUMBER CONTINUING SCHOOL UNRELATED	NUMBER NOT IN LABOR FORCE	
HEALTH									
DENTL OFF ASSIS									
OKLA CITY AVTS	39	29	5	1	1	3	0	0	0
OT AUTRY AS	13	6	2	2	2	1	0	0	0
PIONEER AVTS PC	14	4	3	1	2	2	1	1	0
TULSA AVTS	18	9	3	0	0	5	1	0	1
PROGRAM TOTAL	84	48	13	4	5	11	2	1	1
HEALTH SERV OCC									
AFTON AVTS	8	1	1	0	1	4	1	0	5
ALVA NW AVTS	7	3	1	1	1	1	0	0	0
BYNG HS	11	2	1	0	1	5	1	1	0
CADDO KIOWA AS	8	5	0	0	0	3	0	0	0
CAN VAL AS CHI	10	3	0	2	1	2	0	2	0
CAN VAL AS-ELRN	8	0	1	0	0	2	2	3	2
CENTRAL OK-AS	31	14	0	0	0	17	0	0	1
FAIRVIEW AVTS	9	5	3	0	0	1	0	0	0
G COOPER AS	30	7	2	0	0	15	3	3	0
GREAT PLAINS AS	18	1	6	1	4	6	0	0	6
INDIAN CAP AS	27	8	0	3	1	13	0	2	0
KIAMICHI AS-HU	16	1	0	1	0	13	0	1	0
KIAMICHI AS-MCL	25	12	1	0	1	4	3	4	0
KIAMICHI AS-PO	19	0	1	1	1	7	6	3	0
MID AMERICA AS	20	14	0	0	1	5	0	0	1
MWC VOCATION HS	8	1	1	0	0	2	2	2	2
OKLA CITY AVTS	35	15	1	0	0	17	0	2	0
OT AUTRY AS	26	13	6	0	0	4	1	2	0
PIONEER AVTS PC	21	9	4	0	0	1	0	7	0
PRYOR AVTS	3	0	1	0	0	0	2	0	30
STILWELL AVTS	14	5	2	0	0	2	0	5	2
TRI COUNTY AS	24	11	6	0	2	2	2	1	0
TULSA AVTS	35	17	1	1	1	13	1	1	2
W OKLA AVTS	6	2	2	0	0	2	0	0	2
PROGRAM TOTAL	419	149	41	10	15	141	24	39	53
MEDCL OFF ASSIS									

TABLE III

SECONDARY FOLLOW-UP DATA -- BY SCHOOL

1974-75

SCHOOL	NUMBER OF STUDENTS WITH MARKETABLE SKILLS	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET			NUMBER STATUS UNKNOWN
		NUMBER EMPLOYED RELATED	NUMBER EMPLOYED UNRELATED	NUMBER EMPLOYED PART TIME	NUMBER UNEMPLOYED	NUMBER CONTINUING SCHOOL RELATED	NUMBER CONTINUING SCHOOL UNRELATED	NUMBER NOT IN LABOR FORCE	
CAN VAL AS CHI	14	11	1	0	0	1	1	0	0
CAN VAL AS-ELRN	7	1	0	0	1	2	1	2	2
GREAT PLAINS AS	26	5	5	0	1	10	4	1	3
OKLA CITY AVTS	28	13	1	0	3	9	0	2	0
OT AUTRY AS	12	6	0	0	1	3	1	1	1
TULSA AVTS	28	18	0	0	1	7	0	2	2
PROGRAM TOTAL	115	54	7	0	7	32	7	8	8
PRACTICAL NURSE									
MWC VOCATION HS	46	33	7	0	1	4	0	1	2
PROGRAM TOTAL	46	33	7	0	1	4	0	1	2
DIVISION TOTAL	664	284	68	14	28	188	33	49	64

TABLE III

SECONDARY FOLLOW-UP DATA -- BY SCHOOL

1974-75

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		NUMBER EMPLOYED RELATED	NUMBER EMPLOYED UNRELATED	NUMBER EMPLOYED PART TIME	NUMBER UNEMPLOYED	NUMBER CONTINUING SCHOOL RELATED	NUMBER CONTINUING SCHOOL UNRELATED	NUMBER NOT IN LABOR FORCE	
HOME ECONOMICS									
CLOTHING MGT									
ALTUS HS	16	0	1	0	0	4	0	11	0
ALVA NW AVTS	8	0	2	0	1	1	0	4	0
ARDMORE HS	2	0	0	0	2	0	0	0	0
CAN VAL AS-ELRN	15	5	0	0	0	2	3	5	0
G COOPER AS	6	1	1	0	1	0	3	0	3
HEALDTON HS	3	0	0	0	0	0	0	3	0
HUGO HS	8	0	2	0	0	0	5	1	1
IDABEL HS	19	10	0	0	0	7	0	2	2
KIAMICHI AS-MCL	4	0	1	2	0	0	0	1	0
MIAMI HS	3	0	0	3	0	0	0	0	1
PWC VOCATION HS	7	3	0	0	0	1	0	3	1
NOBLE HS	1	0	0	1	0	0	0	0	0
OOS-SULPHUR	2	0	0	0	0	0	0	2	0
RINGWOOD HS	5	0	1	0	0	3	1	0	0
TRI COUNTY AS	6	1	2	0	1	1	0	1	3
TULSA AVTS	10	3	1	0	0	2	2	2	0
W OKLA AVTS	2	1	0	1	0	0	0	0	0
PROGRAM TOTAL	117	24	11	7	5	21	14	35	11
FOOD MGT									
AFTON AVTS	8	8	0	0	0	0	0	0	3
CAN VAL AS-ELRN	1	1	0	0	0	0	0	0	0
COLCORD HS	1	0	0	0	0	1	0	0	0
GREAT PLAINS AS	22	10	1	1	0	0	8	2	0
HUGO HS	13	0	5	0	0	0	4	4	4
INDIAN CAP AS	14	2	3	1	5	0	1	2	0
OOS-SULPHUR	7	6	0	0	0	0	0	1	0
OKC MARSHALL HS	15	6	0	0	0	8	1	0	0
OT AUTRY AS	5	3	0	0	1	1	0	0	0
PIONEER AVTS PC	6	4	0	0	0	1	1	0	0
PRYOR AVTS	12	3	0	0	1	7	0	1	1
SOUTH OKLA AS	12	4	1	1	1	0	1	4	0
TECUMSEH GIRL	3	2	0	0	0	0	0	1	46
TRI COUNTY AS	14	9	0	0	2	1	0	2	2
TULSA AVTS	11	3	1	0	0	4	1	2	1
W OKLA AVTS	8	5	1	0	1	0	0	1	0
PROGRAM TOTAL	152	66	12	3	11	23	17	20	57

TABLE III

SECONDARY FOLLOW-UP DATA - BY SCHOOL

1974-75

SCHOOL	NUMBER OF STUDENTS WITH MARKETABLE SKILLS	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET			NUMBER STATUS UNKNOWN
		NUMBER EMPLOYED RELATED	NUMBER EMPLOYED UNRELATED	NUMBER EMPLOYED PART TIME	NUMBER UNEMPLOYED	NUMBER CONTINUING SCHOOL RELATED	NUMBER CONTINUING SCHOOL UNRELATED	NUMBER NOT IN LABOR FORCE	
HOUSNG HOM FURN									
KIAMICHI AS-HU	8	5	0	0	3	0	0	0	0
W OKLA AVTS	5	1	2	1	1	0	0	0	1
PROGRAP TOTAL	13	6	2	1	4	0	0	0	1
H E HELTC OCC									
OKC DOUGLASS HS	15	12	0	0	0	2	1	0	9
CSR-MUSKOGEE	3	0	0	0	1	2	0	0	0
PAUL VAL HILTOP	13	2	0	7	0	0	0	4	2
PIONEER AVTS PC	2	2	0	0	0	0	0	0	0
SAND SPG HISSOM	6	2	0	4	0	0	0	0	1
YUKON HS	7	4	1	0	0	0	0	2	0
PROGRAM TOTAL	46	22	1	11	1	4	1	6	12
COOP H E									
ACHILLE HS	6	2	0	0	0	4	0	0	0
BEAVER HS	2	0	1	0	0	1	0	0	0
BLUE HS	3	1	0	0	0	0	0	2	0
BRO ARROW HS	12	3	3	0	0	2	2	2	5
CANTON HS	8	3	3	0	0	1	0	1	1
CARRIER HS	6	3	0	0	0	1	2	0	0
CARTER HS	5	5	0	0	0	0	0	0	0
CATOCSA HS	10	7	1	0	1	0	1	0	0
CLEVELAND HS	8	1	3	0	0	1	1	2	3
EARLY HS	4	4	0	0	0	0	0	0	0
EMPIRE HS	9	1	2	0	0	0	3	3	0
LIBERTY-MOUNDS	8	4	3	0	0	0	1	0	1
LONE GROVE HS	5	3	2	0	0	0	0	0	1
MARIETTA HS	1	0	0	0	0	1	0	0	0
MOORE HS	6	3	0	0	0	3	0	0	0
OKC NORTHEAST	17	4	0	0	0	9	4	0	0
OKMULGEE HS	1	0	0	0	0	0	1	0	0
SHATTUCK HS	6	3	1	0	1	0	1	0	0
SMITHVILLE HS	3	0	0	0	0	0	0	3	0
SPRINGER HS	4	2	2	0	0	0	0	0	0
TUTTLE HS	9	3	0	0	0	6	0	0	1

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TABLE III

SECONDARY FOLLOW-UP DATA -- BY SCHOOL

1974-75

SCHOOL	NUMBER OF STUDENTS WITH MARKETABLE SKILLS	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET			NUMBER STATUS UNKNOWN
		NUMBER EMPLOYED RELATED	NUMBER EMPLOYED UNRELATED	NUMBER EMPLOYED PART TIME	NUMBER UNEMPLOYED	NUMBER CONTINUING SCHOOL RELATED	NUMBER CONTINUING SCHOOL UNRELATED	NUMBER NOT IN LABOR FORCE	
UNION HS	5	4	0	1	0	0	0	0	0
VICI HS	5	1	0	0	0	2	0	2	0
YUKON HS	16	14	0	0	0	0	2	0	4
PROGRAM TOTAL	159	71	21	1	2	31	18	15	15
VOCATIONAL SERV									
INDIAN CAP AS	2	0	0	0	0	0	0	2	0
KIAMICHI AS-MCL	1	0	0	0	1	0	0	0	2
PROGRAM TOTAL	3	0	0	0	1	0	0	2	2
CARE GUID CHILD									
ALTUS HS	8	4	0	0	2	2	0	0	0
CAN VAL AS CHI	3	2	1	0	0	0	0	0	0
CAN VAL AS-ELRN	10	2	1	0	2	5	0	0	0
KIAMICHI AS-HU	7	1	0	0	3	3	0	0	1
KIAMICHI AS-MCL	19	13	4	1	1	0	0	0	2
LAWTON HS	12	2	0	0	6	4	0	0	0
MWC VOCATION HS	5	5	0	0	0	0	0	0	0
NORMAN HS	11	0	3	1	1	3	1	2	0
OKC NW CLASSEN	18	3	2	1	2	7	1	2	0
STILLWATER HS	5	0	2	0	0	2	0	1	1
UNION HS	2	1	0	1	0	0	0	0	0
PROGRAM TOTAL	100	33	13	4	17	26	2	5	4
FASHION & MERCH									
KIAMICHI AS-MCL	1	0	0	1	0	0	0	0	0
TRI COUNTY AS	0	0	0	0	0	0	0	0	2
PROGRAM TOTAL	1	0	0	1	0	0	0	0	2
DIVISION TOTAL	591	222	60	28	41	105	52	83	104

TABLE III

SECONDARY FOLLOW-UP DATA -- BY SCHOOL

1974-75

SCHOOL	NUMBER OF STUDENTS WITH MARKETABLE SKILLS	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET			NUMBER STATUS UNKNOWN
		NUMBER EMPLOYED RELATED	NUMBER EMPLOYED UNRELATED	NUMBER EMPLOYED PART TIME	NUMBER UNEMPLOYED	NUMBER CONTINUING SCHOOL RELATED	NUMBER CONTINUING SCHOOL UNRELATED	NUMBER NOT IN LABOR FORCE	
BUSINESS & OFFICE									
SEC TRNG									
AFTON AVTS	29	18	0	0	1	8	0	2	2
ALVA NW AVTS	15	5	1	1	1	3	0	4	0
CADDO KIOWA AS	13	0	1	0	7	3	1	1	0
CAN VAL AS-ELRN	24	17	0	0	0	5	0	2	1
CENTRAL OK-AS	45	27	0	2	4	11	0	1	0
CUSHING HS	8	0	0	0	1	6	0	1	4
DUNCAN AREA SH	21	15	0	1	2	0	0	3	0
FAIRVIEW AVTS	24	12	0	0	0	7	0	5	0
G COOPER AS	33	20	1	1	2	7	0	2	0
GREAT PLAINS AS	30	6	7	1	9	6	1	0	3
GROVE HS	1	0	0	0	0	1	0	0	0
INDIAN CAP AS	36	20	0	0	1	10	0	5	0
KIAMICHI AS-HU	28	10	0	0	1	12	0	5	0
KIAMICHI AS-MCL	2	1	0	0	0	0	0	1	0
MID AMERICA AS	26	10	5	0	1	9	0	1	0
OKLA CITY AVTS	9	2	1	0	0	5	0	1	0
ST AUTRY AS	38	13	3	0	1	14	3	4	1
PRYOR AVTS	9	3	0	0	4	1	1	0	18
SALLISAW AVTS	18	6	2	1	5	4	0	0	0
TULSA AVTS	24	14	1	0	1	5	0	3	0
W OKLA AVTS	3	3	0	0	0	0	0	0	0
PROGRAM TOTAL	436	202	22	7	41	117	6	41	29
SEC TRNG COE									
BRC ARROW HS	19	11	0	0	2	6	0	0	0
DUNCAN AREA SH	14	5	0	0	0	8	0	1	0
GUTHRIE HS	10	4	0	1	0	5	0	0	0
KIAMICHI AS-MCL	2	0	0	0	1	1	0	0	0
MWC DEL CITY HS	27	21	0	0	2	4	0	0	0
NORMAN HS	13	5	0	0	0	7	1	0	0
PRYOR HS	13	5	0	0	0	7	1	0	1
PUTNAM CITY HS	2	1	0	0	0	1	0	0	0
SAND SPG PAGE	11	8	0	0	1	1	0	1	0
TAFT MOTON HS	1	0	0	0	1	0	0	0	0
TULSA CENTRAL	7	4	0	0	0	2	0	1	0

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TABLE III

SECONDARY FOLLOW-UP DATA -- BY SCHOOL

1974-75

SCHOOL	NUMBER OF STUDENTS WITH MARKETABLE SKILLS	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET			NUMBER STATUS UNKNOWN
		NUMBER EMPLOYED RELATED	NUMBER EMPLOYED UNRELATED	NUMBER EMPLOYED PART TIME	NUMBER UNEMPLOYED	NUMBER CONTINUING SCHOOL RELATED	NUMBER CONTINUING SCHOOL UNRELATED	NUMBER NOT IN LABOR FORCE	
TULSA E CENTRAL	8	5	0	0	1	1	1	0	0
TULSA HALE HS	42	16	1	0	0	23	2	0	1
TULSA ROGERS	18	7	0	1	1	7	1	1	1
TULSA WASHINGT	7	4	0	0	1	1	1	0	0
UNION HS	6	4	0	0	0	2	0	0	0
WATONGA HS	5	2	1	0	0	1	1	0	0
PROGRAM TOTAL	205	102	2	2	10	77	8	4	3
GEN OFF TRNG									
ALVA NW AVTS	2	0	0	0	1	1	0	0	0
CADDO KIOWA AS	2	1	0	0	0	1	0	0	0
G COOPER AS	18	11	0	1	1	5	0	0	0
INDIAN CAP AS	35	21	0	0	3	9	0	2	1
KIAMICHI AS-MCL	35	26	1	2	0	4	1	1	3
KIAMICHI AS-PO	23	16	0	0	1	6	0	0	0
MIAMI HS	39	3	0	0	0	25	11	0	0
OK CAPITOL HILL	3	2	1	0	0	0	0	0	5
OKC CLASSEN HS	0	0	0	0	0	0	0	0	9
OKC GRANT HS	6	2	0	0	0	2	2	0	0
OKLA CITY AVTS	2	1	0	0	0	0	0	1	0
OT AUTRY AS	10	2	5	0	1	1	0	1	0
PIONEER AVTS PC	40	20	2	0	6	7	0	5	4
PRYOR AVTS	6	3	1	0	0	1	1	0	7
SOUTH OKLA AS	27	12	1	0	0	5	0	9	0
TECUMSEH GIRL	0	0	0	0	0	0	0	0	1
W OKLA AVTS	26	19	0	1	1	5	0	0	0
WATONGA HS	6	2	2	0	0	2	0	0	2
PROGRAM TOTAL	280	141	13	4	14	74	15	10	32
GEN OFF TRG COR									
ATOKA HS	17	8	0	0	0	9	0	0	0
BRC ARROW HS	18	10	1	0	1	4	1	1	0
BVILLE COL HS	26	10	0	0	0	14	2	0	0
BVILLE SOONER	28	8	2	0	0	18	0	0	1
BYNG HS	5	3	0	0	1	1	0	0	0
CLAREMORE HS	23	4	0	0	5	13	0	1	0
COALGATE HS	10	2	2	2	1	1	1	1	0
COLCORD HS	15	1	5	0	2	0	5	2	0

TABLE III

SECONDARY FOLLOW-UP DATA -- BY SCHOOL

1974-75

SCHOOL	NUMBER OF STUDENTS WITH MARKETABLE SKILLS	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET			NUMBER STATUS UNKNOWN
		NUMBER EMPLOYED RELATED	NUMBER EMPLOYED UNRELATED	NUMBER EMPLOYED PART TIME	NUMBER UNEMPLOYED	NUMBER CONTINUING SCHOOL RELATED	NUMBER CONTINUING SCHOOL UNRELATED	NUMBER NOT IN LABOR FORCE	
CUSHING HS	10	2	0	0	1	3	1	3	0
DUNCAN AREA SH	15	4	0	0	0	10	0	1	0
DURANT HS	35	7	0	0	2	24	1	1	0
EDMOND HS	27	12	1	0	0	12	1	1	0
ELK CITY HS	10	4	1	1	0	3	1	0	0
GROVE HS	6	1	0	0	0	1	4	0	0
GUTHRIE HS	17	6	0	0	0	11	0	0	0
HOLDENVILLE HS	16	3	1	0	1	6	2	3	0
IDABEL HS	17	6	0	0	4	4	1	2	0
KANSAS	16	0	4	0	0	5	2	5	0
KIAMICHI AS-MCL	21	14	0	0	4	1	2	0	2
LAWTON HS	13	3	0	3	2	3	0	2	1
LINDSAY HS	18	4	2	0	3	8	0	1	0
MARKETING TECH	4	2	1	0	0	1	0	0	3
MIAMI HS	35	8	0	0	1	23	3	0	2
MIDWEST CITY HS	34	18	1	9	0	3	2	1	0
MOORE HS	13	7	2	0	1	3	0	0	0
MWC DEL CITY HS	23	11	0	2	0	4	1	5	0
NORMAN HS	17	4	2	1	1	4	3	2	0
OK CAPITOL HILL	14	7	0	0	0	6	0	1	0
OK STAR SPENCER	29	9	1	0	4	3	9	3	0
OKC ADULT INST	14	4	3	0	1	2	2	2	3
OKC CLASSEN HS	20	6	2	0	1	11	0	0	0
OKC GRANT HS	40	18	6	5	1	8	0	2	2
OKC MARSHALL HS	14	6	0	0	0	4	0	4	0
OKC NORTHEAST	14	1	2	0	3	3	5	0	0
OKC NW CLASSEN	18	12	0	0	2	4	0	0	0
OKC SOUTHEAST	22	17	1	0	0	3	0	1	0
PRYOR HS	13	3	1	0	0	9	0	0	0
PUTNAM C WEST	35	14	2	0	0	9	8	2	1
PUTNAM CITY HS	30	12	0	1	1	12	4	0	0
SAND SPG PAGE	35	14	2	3	2	8	4	2	2
TULSA CENTRAL	10	4	0	1	0	0	2	3	0
TULSA E CENTRAL	20	15	0	0	2	2	1	0	0
TULSA MCLAIN	18	9	0	0	1	7	1	0	0
TULSA MEMORIAL	17	12	0	0	0	5	0	0	0
TULSA ROGERS	20	11	1	0	2	2	0	4	0
TULSA WASHINGT	12	5	0	0	0	6	1	0	0
TULSA WEBSTER	19	11	0	0	1	5	0	2	0
VELMA ALMA HS	10	3	1	0	0	3	1	2	0
WAGONER HS	23	9	1	1	1	8	3	0	0
WATONGA HS	11	2	1	0	0	8	0	0	0

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SECONDARY FOLLOW-UP DATA -- BY SCHOOL

1974-75

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		NUMBER EMPLOYED RELATED	NUMBER EMPLOYED UNRELATED	NUMBER EMPLOYED PART TIME	NUMBER UNEMPLOYED	NUMBER CONTINUING SCHOOL RELATED	NUMBER CONTINUING SCHOOL UNRELATED	NUMBER NOT IN LABOR FORCE	
WESTERN HEIGHTS	19	11	0	0	0	4	4	0	4
WESTVILLE HS	10	3	1	0	1	5	0	0	0
PROGRAM TOTAL	976	380	50	29	53	326	78	60	21
DATA PROC									
CADDO KIOWA AS	20	5	2	0	1	4	8	0	0
CENTRAL OK-AS	30	3	12	0	2	8	3	2	4
G COOPER AS	26	9	0	1	2	7	0	7	5
GREAT PLAINS AS	15	6	0	0	0	4	3	2	0
MID AMERICA AS	23	12	4	0	1	3	2	1	0
OKLA CITY AVTS	70	16	26	2	6	14	5	1	0
OT AUTRY AS	28	6	5	1	1	6	2	7	0
SOUTH OKLA AS	13	4	2	2	0	5	0	0	0
TULSA AVTS	50	31	1	0	0	15	2	1	1
PROGRAM TOTAL	275	92	52	6	13	66	25	21	10
DATA PROC COE									
NORMAN HS	31	6	7	0	2	6	8	2	0
PROGRAM TOTAL	31	6	7	0	2	6	8	2	0
GRAPHIC COMMUN									
CENTRAL OK-AS	10	4	2	3	0	0	0	1	0
PROGRAM TOTAL	10	4	2	3	0	0	0	1	0
DIVISION TOTAL	2,213	927	148	51	133	666	140	148	95

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SECONDARY FOLLOW-UP DATA -- BY SCHOOL

1974-75

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		NUMBER EMPLOYED RELATED	NUMBER EMPLOYED UNRELATED	NUMBER EMPLOYED PART TIME	NUMBER UNEMPLOYED	NUMBER CONTINUING SCHOOL RELATED	NUMBER CONTINUING SCHOOL UNRELATED	NUMBER NOT IN LABOR FORCE	
TRACES & INDUSTRY									
ICT									
ADA HS	9	5	1	0	0	1	2	0	0
BRCKEN BOW HS	35	24	2	0	1	3	1	4	0
BUFFALO HS	10	6	0	0	0	1	1	2	0
BVILLE COL HS	39	16	6	1	0	4	11	1	0
CHICKASHA HS	24	19	0	0	0	4	1	0	1
CUSHING HS	25	17	0	0	2	4	2	0	3
DUNCAN HS	13	7	0	0	0	5	1	0	1
EL REAC HS	23	18	0	0	1	1	2	1	2
ELK CITY HS	20	14	1	0	0	5	0	0	0
GUYMON HS	10	8	0	0	0	2	0	0	5
HELENA ST SCH	0	0	0	0	0	0	0	0	1
HENRYETTA HS	17	14	0	0	0	3	0	0	0
HOBERT HS	16	15	1	0	0	0	0	0	0
HUGO HS	16	12	1	0	0	3	0	0	0
LAWTON HS	17	10	0	0	2	2	3	0	0
PARLOW HS	19	14	0	0	0	3	2	0	0
MCALESTER HS	25	10	1	0	2	10	1	1	0
ODS-SULPHUR	5	2	0	0	3	0	0	0	0
OK CAPITOL HILL	30	23	1	0	0	5	1	0	10
OKMULGEE HS	20	13	3	0	0	1	1	2	0
PAWHUSKA HS	25	15	1	0	0	5	1	3	0
PRYOR HS	19	12	4	0	0	0	3	0	2
PUTNAM C WEST	27	25	0	0	0	1	1	0	1
PUTNAM CITY HS	27	12	4	0	1	3	5	2	0
SAND SPG HESSOM	11	8	1	0	2	0	0	0	0
SAND SPG PAGE	24	21	1	1	0	0	1	0	1
SHAWNEE HS	9	4	0	1	0	4	0	0	0
TAFT MOTON HS	0	0	0	0	0	0	0	0	3
TECUMSEH GIRL	4	0	0	0	2	0	2	0	13
TRI COUNTY AS	42	24	0	0	0	5	1	12	1
TULSA CENTRAL	15	12	0	0	0	3	0	0	0
TULSA E CENTRAL	17	9	3	0	1	2	2	0	1
TULSA ROGERS	16	14	1	1	0	0	0	0	4
WOODWARD HS	27	18	3	1	0	2	2	1	0
PROGRAM TOTAL	636	421	35	5	17	82	47	29	49
AIR CON & REFR									

TABLE III

SECONDARY FOLLOW-UP DATA -- BY SCHOOL

1974-75

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		NUMBER EMPLOYED RELATED	NUMBER EMPLOYED UNRELATED	NUMBER EMPLOYED PART TIME	NUMBER UNEMPLOYED	NUMBER CONTINUING SCHOOL RELATED	NUMBER CONTINUING SCHOOL UNRELATED	NUMBER NOT IN LABOR FORCE	
AFTCA AVTS	28	19	3	1	2	3	0	0	0
CADDO KIOWA AS	12	7	3	0	0	2	0	0	0
CAN VAL AS-ELRN	1	1	0	0	0	0	0	0	2
DUNCAN AREA SH	16	12	0	0	3	1	0	0	0
GREAT PLAINS AS	17	11	1	0	0	3	2	0	0
INDIAN CAP AS	11	5	1	0	0	4	0	1	0
KIAMICHI AS-PO	16	9	0	0	0	7	0	0	1
MID AMERICA AS	14	10	0	0	0	4	0	0	4
PWC VOCATION HS	14	5	6	0	3	0	0	0	0
OKLA CITY AVTS	16	16	0	0	0	0	0	0	0
OT AUTRY AS	9	8	0	0	1	0	0	0	0
PIONEER AVTS PC	4	1	0	1	1	0	1	0	1
PRYOR AVTS	10	7	1	0	0	2	0	0	0
SALLISAW AVTS	12	8	4	0	0	0	0	0	2
SOUTH OKLA AS	11	7	4	0	0	0	0	0	2
STILWELL AVTS	10	5	0	0	0	4	1	0	0
TRI COUNTY AS	11	10	0	0	0	1	0	0	0
TULSA AVTS	10	9	0	0	0	1	0	0	0
W OKLA AVTS	6	5	0	0	1	0	0	0	0
PROGRAM TOTAL	228	155	23	2	11	32	4	1	12
APPL REPAIR									
CATOOSA HS	10	8	1	0	0	0	1	0	1
LOCKEBA-SICKLES	1	0	0	0	0	1	0	0	0
OKC SOUTHEAST H	11	4	7	0	0	0	0	0	2
PROGRAM TOTAL	22	12	8	0	0	1	1	0	3
AUTO BODY									
AFTON AVTS	9	7	1	0	0	1	0	0	0
BYNG HS	11	7	3	0	1	0	0	0	1
CADDC KIOWA AS	3	3	0	0	0	0	0	0	0
CAN VAL AS CHI	21	12	9	0	0	0	0	0	1
COMMERCE HS	1	0	1	0	0	0	0	0	1
DUNCAN AREA SH	21	15	0	0	1	5	0	0	0
GREAT PLAINS AS	19	12	2	0	0	2	3	0	0
INDIAN CAP AS	14	13	1	0	0	0	0	0	0
KIAMICHI AS-HU	5	2	1	1	0	0	0	1	1
PWC VOCATION HS	8	5	3	0	0	0	0	0	0

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OK CAPITOL HILL	14	8	6	0	0	0	0	0	0
OKC DOUGLASS HS	2	0	1	0	1	0	0	0	2
OKC GRANT HS	16	2	13	0	1	0	0	0	4
OKLA CITY AVTS	13	11	2	0	0	0	0	0	2
OT ALTHY AS	12	6	4	0	0	2	0	0	0
PIONEER AVTS PC	5	5	0	0	0	0	0	0	0
PRYOR AVTS	15	8	3	1	1	0	2	0	1
SOUTH OKLA AS	10	9	0	0	0	0	1	0	4
TRI COUNTY AS	4	2	2	0	0	0	0	0	0
TULSA AVTS	15	10	5	0	0	0	0	0	0
W OKLA AVTS	14	10	3	1	0	0	0	0	3
PROGRAM TOTAL	232	147	60	3	5	10	6	1	20
AUTO MECH									
AFTON AVTS	12	10	1	0	0	0	1	0	0
ALLUWE HS	10	5	1	1	0	3	0	0	0
ALTUS HS	17	11	3	0	0	1	1	1	0
ALVA NW AVTS	10	3	7	0	0	0	0	0	0
ATOKA HS	11	8	3	0	0	0	0	0	0
BOISE CITY HS	1	1	0	0	0	0	0	0	0
BOSWELL HS	8	3	2	0	0	2	1	0	0
BYNG HS	6	3	0	0	2	0	0	1	1
CADDO KIOWA AS	17	7	2	0	1	7	0	0	1
CAN VAL AS CHI	19	8	4	1	0	4	2	0	1
CAN VAL AS-ELRN	21	13	5	0	1	0	2	0	1
CENTRAL OK-AS	30	18	7	1	0	1	2	1	2
CHOCTAW HS	7	5	1	0	0	1	0	0	0
CLAREMORE HS	9	6	1	0	1	0	1	0	2
CLINTON HS	3	3	0	0	0	0	0	0	0
CROOKED OAK HS	8	5	1	0	0	1	1	0	0
DIBBLE HS	4	4	0	0	0	0	0	0	0
DUNCAN AREA SH	22	20	0	0	0	2	0	0	0
DURANT HS	10	3	2	0	1	3	0	1	0
EL RENO HS	9	4	4	0	0	1	0	0	0
FAIRFAX HS	10	3	4	0	0	0	2	1	0
FAIRVIEW AVTS	18	12	1	0	0	4	1	0	0
FOYIL HS	2	1	0	0	1	0	0	0	5
G COOPER AS	12	12	0	0	0	0	0	0	0
GREAT PLAINS AS	38	25	2	0	0	7	4	0	3
HINTON HS	11	9	0	0	0	1	1	0	0

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HOLDENVILLE HS	9	5	1	0	3	0	0	0	0
INDIAN CAP AS	8	6	1	0	0	0	1	0	0
JONES HS	3	0	1	0	0	1	1	0	0
KANSAS	2	0	0	0	1	1	0	0	0
KIAMICHI AS-MCL	7	6	1	0	0	0	0	0	2
KINGFISHER HS	14	6	8	0	0	0	0	0	0
LAW EISENHOWER	13	9	1	0	1	2	0	0	0
LAWTON HS	15	7	0	0	0	7	0	1	0
LINDSAY HS	5	4	1	0	0	0	0	0	0
LOCUST GROVE HS	9	8	0	0	1	0	0	0	0
LOCKEBA-SICKLES	6	4	2	0	0	0	0	0	1
MAUD HS	5	2	0	0	1	0	2	0	1
MID AMERICA AS	15	11	2	0	0	2	0	0	1
MOORE HS	11	7	4	0	0	0	0	0	0
MUSKOGEE HS	11	3	3	0	0	1	4	0	1
NWC VOCATION HS	28	25	2	0	0	0	1	0	4
OK CAPITOL HILL	8	4	4	0	0	0	0	0	0
OK STAR SPENCER	8	2	4	0	0	2	0	0	0
OKC CLASSEN HS	16	12	2	0	0	0	1	1	1
OKC DOUGLASS HS	7	4	1	0	0	2	0	0	0
OKC GRANT HS	17	15	1	0	0	0	1	0	0
OKC MARSHALL HS	8	5	1	0	1	0	1	0	0
OKC NORTHEAST	1	0	0	0	0	1	0	0	0
OKLA CITY AVTS	16	11	0	0	0	5	0	0	0
OT AUTRY AS	14	7	5	0	0	0	2	0	1
PAWHUSKA HS	12	7	1	0	0	0	4	0	0
PIONER CARDEN	6	4	0	0	0	0	2	0	1
PIONEER AVTS PC	14	11	2	0	0	1	0	0	0
POTEAU HS	6	2	1	0	1	2	0	0	0
PRYOR AVTS	13	5	4	1	1	2	0	0	0
PRYOR HS	4	2	2	0	0	0	0	0	0
RED OAK HS	9	2	1	0	0	3	3	0	2
SAND SPG PAGE	15	8	5	0	0	2	0	0	0
SAPULPA HS	8	1	4	0	2	1	0	0	1
SEILING HS	14	7	0	1	0	4	0	2	0
SHIDLER HS	2	0	0	0	0	0	2	0	1
SOUTH OKLA AS	5	2	1	0	0	2	0	0	2
STIGLER HS	15	9	0	0	0	3	1	2	0
TAFT PETON HS	2	2	0	0	0	0	0	0	0
TAHLEQUAH HS	6	3	1	0	0	2	0	0	0
TRI COUNTY AS	20	14	1	0	1	3	1	0	1
TULSA AVTS	24	19	2	0	0	3	0	0	0

TABLE III

SECONDARY FOLLOW-UP DATA -- BY SCHOOL

1974-75

SCHOOL	NUMBER OF STUDENTS WITH MARKETABLE SKILLS	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET			NUMBER STATUS UNKNOWN
		NUMBER EMPLOYED RELATED	NUMBER EMPLOYED UNRELATED	NUMBER EMPLOYED PART TIME	NUMBER UNEMPLOYED	NUMBER CONTINUING SCHOOL RELATED	NUMBER CONTINUING SCHOOL UNRELATED	NUMBER NOT IN LABOR FORCE	
TULSA CENTRAL	17	2	7	1	0	3	4	0	3
TULSA MCLAIN	17	13	1	1	0	2	0	0	4
TULSA WEBSTER	8	4	4	0	0	0	0	0	1
W OKLA AVTS	11	10	0	0	0	1	0	0	7
WATONGA HS	11	1	1	0	0	0	9	0	0
WESTERN HEIGHTS	4	2	0	0	0	1	0	1	0
PROGRAM TOTAL	824	495	134	7	20	97	59	12	51
AIRCRFT MECH									
CAR VAL AS-ELRN	5	3	2	0	0	0	0	0	0
G COOPER AS	8	4	2	0	0	2	0	0	2
INDIAN CAP AS	10	6	0	0	0	4	0	0	0
MID AMERICA AS	9	7	2	0	0	0	0	0	1
OKLA CITY AVTS	2	1	0	0	0	1	0	0	0
OT ALTRY AS	4	1	1	0	0	2	0	0	0
TULSA AVTS	16	9	4	1	0	0	1	1	0
W OKLA AVTS	8	3	1	0	1	2	1	0	1
PROGRAM TOTAL	64	30	12	1	1	17	2	1	12
COMM ART									
CAR VAL AS-ELRN	2	1	0	0	0	1	0	0	0
DUNCAN AREA SW	8	1	0	1	0	0	0	0	4
OKLA CITY AVTS	23	13	6	0	0	4	0	0	1
SAND SPG PAGE	9	3	1	0	0	5	0	0	1
TULSA AVTS	18	10	2	0	0	5	0	1	0
PROGRAM TOTAL	60	28	9	1	0	21	0	1	6
COOP PHOTOG									
TULSA AVTS	10	3	3	0	0	1	0	3	0
PROGRAM TOTAL	10	3	3	0	0	1	0	3	0
CARPENTRY									
ARDM AVTS	16	7	5	0	0	3	1	0	2

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SECONDARY FOLLOW-UP DATA -- BY SCHOOL

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		NUMBER EMPLOYED RELATED	NUMBER EMPLOYED UNRELATED	NUMBER EMPLOYED PART TIME	NUMBER UNEMPLOYED	NUMBER CONTINUING SCHOOL RELATED	NUMBER CONTINUING SCHOOL UNRELATED	NUMBER NOT IN LABOR FORCE	
ALTUS HS	8	5	1	0	0	2	0	0	0
ALVA NW AVTS	4	2	1	0	1	0	0	0	1
BROKEN BOW HS	14	8	5	0	0	0	1	0	0
CADDO KIOWA AS	19	13	2	0	0	2	1	1	0
CAN VAL AS-ELRN	9	3	5	1	0	0	0	0	1
CATOOSA HS	8	3	4	0	0	0	1	0	4
CENTRAL OK-AS	23	22	0	0	0	0	1	0	0
CHECOTAH HS	12	6	3	0	0	0	3	0	0
CHOCTAW HS	4	4	0	0	0	0	0	0	0
CLAREMORE HS	10	7	0	2	0	0	0	1	2
CLEVELAND HS	4	4	0	0	0	0	0	0	0
COLCORD HS	6	4	2	0	0	0	0	0	0
DEWAR HS	11	11	0	0	0	0	0	0	0
DUNCAN AREA SH	22	20	0	0	0	2	0	0	0
EUFAULA HS	11	1	5	0	2	1	1	1	1
FOX HS	10	6	0	0	0	0	4	0	0
G COOPER AS	10	10	0	0	0	0	0	0	0
GREAT PLAINS AS	25	14	4	0	0	7	0	0	0
GUTHRIE HS	8	5	0	1	0	2	0	0	0
GUYMON HS	4	2	0	0	0	1	1	0	1
HAWORTH HS	17	1	12	0	1	3	0	0	1
HENRYETTA HS	12	7	3	0	0	1	0	1	0
HUGO HS	9	2	1	0	3	2	1	0	1
IDABEL HS	13	3	6	0	0	2	2	0	2
INDIAN CAP AS	16	11	1	0	0	4	0	0	0
JAY HS	8	2	4	0	2	0	0	0	3
KIAMICHI AS-MCL	13	12	1	0	0	0	0	0	0
KIAMICHI AS-PO	13	11	2	0	0	0	0	0	0
KINGFISHER HS	2	0	0	0	0	2	0	0	0
KIOWA HS	4	4	0	0	0	0	0	0	1
LOCUST GROVE HS	7	1	3	0	2	1	0	0	0
MID AMERICA AS	11	7	2	0	0	2	0	0	0
MWC DEL CITY HS	18	11	5	1	0	0	1	0	0
NOWATA HS	7	6	1	0	0	0	0	0	0
OAK MISSION HS	9	6	3	0	0	0	0	0	0
OKMULGEE HS	8	2	2	0	4	0	0	0	0
OT AUTRY AS	6	1	1	0	0	2	2	0	0
PAWHUSKA HS	7	5	2	0	0	0	0	0	0
PICHER CARDEN	10	1	0	0	1	2	2	4	0
PIONEER AVTS PC	4	4	0	0	0	0	0	0	0
PRYOR HS	14	10	3	0	0	0	1	0	0
RINGLING HS	5	3	2	0	0	0	0	0	0

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SALLISAW HS	14	6	5	0	1	2	0	0	0
SAND SPG PAGE	17	12	5	0	0	0	0	0	0
SAYRE HS	2	0	1	0	0	0	1	0	1
SHAWNEE HS	17	10	4	0	3	0	0	0	1
SOUTH OKLA AS	15	7	2	0	0	6	0	0	1
STILWELL HS	4	1	0	0	0	2	1	0	0
TAHLEQUAH HS	11	7	1	0	0	3	0	0	1
TRI COUNTY AS	13	5	4	0	0	3	1	0	1
TULSA AVTS	17	13	1	2	0	1	0	0	1
VALLIANT HS	7	5	1	0	0	1	0	0	0
VELMA ALMA HS	8	4	0	0	0	3	1	0	0
WAGONER HS	15	5	7	0	2	0	1	0	1
WALTER HS	8	2	4	0	0	0	1	1	0
WATONGA HS	3	2	1	0	0	0	0	0	0
WEATHERFORD HS	9	8	1	0	0	0	0	0	8
WESTERN HEIGHTS	11	4	6	0	0	0	1	0	5
WESTVILLE HS	13	7	2	1	0	2	1	0	0
WOODWARD HS	7	2	3	0	0	0	1	1	0
PROGRAM TOTAL	642	367	139	8	22	64	32	10	40
ELECTRICITY									
AFTON AVTS	13	9	1	0	0	3	0	0	0
CENTRAL OK-AS	2	2	0	0	0	0	0	0	0
G COOPER AS	12	7	4	0	0	0	1	0	0
INDIAN CAP AS	8	5	0	0	1	2	0	0	0
KIAMICHI AS-HU	7	2	3	0	1	0	1	0	0
MWC VOCATION HS	9	6	0	1	2	0	0	0	0
OK CAPITOL HILL	10	10	0	0	0	0	0	0	0
OKC GRANT HS	16	14	0	0	0	1	1	0	2
PIONEER AVTS PC	6	6	0	[illegible]	0	0	0	0	2
SOUTH OKLA AS	14	1	5	1	0	4	3	0	1
STILWELL AVTS	9	6	0	2	0	0	1	0	0
TRI COUNTY AS	10	10	0	0	0	0	0	0	3
PROGRAM TOTAL	116	78	13	4	4	10	7	0	8
DIESEL MECH									
ALVA NW AVTS	13	11	2	0	0	0	0	0	0
CADDO KIOWA AS	7	6	1	0	0	0	0	0	3

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SECONDARY FOLLOW-UP DATA -- BY SCHOOL

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		NUMBER EMPLOYED RELATED	NUMBER EMPLOYED UNRELATED	NUMBER EMPLOYED PART TIME	NUMBER UNEMPLOYED	NUMBER CONTINUING SCHOOL RELATED	NUMBER CONTINUING SCHOOL UNRELATED	NUMBER NOT IN LABOR FORCE	
CAN VAL AS-ELRN	0	0	0	0	0	0	0	0	2
CENTRAL OK-AS	23	21	1	0	1	0	0	0	1
GREAT PLAINS AS	14	9	1	1	1	1	1	0	2
KIAMICHI AS-MU	14	12	0	0	0	2	0	0	0
MID AMERICA AS	11	10	0	1	0	0	0	0	2
OKLA CITY AVTS	11	10	1	0	0	0	0	0	0
OT AUTRY AS	11	6	1	0	0	3	1	0	0
PRYOR AVTS	9	4	3	1	0	0	1	0	0
SOUTH OKLA AS	8	3	4	0	0	1	0	0	12
TULSA AVTS	20	12	6	0	0	2	0	0	0
W OKLA AVTS	5	5	0	0	0	0	0	0	3
PROGRAM TOTAL	146	109	20	3	2	9	3	0	25
BRICK MASONRY									
CENTRAL OK-AS	6	4	1	1	0	0	0	0	0
DUNCAN AREA SH	4	2	1	0	0	0	1	0	0
G COOPER AS	11	8	3	0	0	0	0	0	0
INDIAN CAP AS	13	7	1	2	0	0	2	1	0
MID AMERICA AS	5	3	0	0	0	2	0	0	1
OKLA CITY AVTS	2	2	0	0	0	0	0	0	0
OKMULGEE HS	13	9	1	0	1	2	0	0	0
PIONEER AVTS PC	2	2	0	0	0	0	0	0	0
PRYOR AVTS	8	0	4	0	0	2	0	2	3
SALLISAW AVTS	7	2	3	0	1	1	0	0	0
STILWELL AVTS	16	12	1	0	0	2	0	1	1
TAHLEQUAH HS	8	6	0	0	2	0	0	0	0
PROGRAM TOTAL	95	57	15	3	4	9	3	4	5
PLUMBING									
AFTON AVTS	9	8	0	0	0	0	0	1	15
KIAMICHI AS-PO	7	7	0	0	0	0	0	0	0
PIONEER AVTS PC	3	3	0	0	0	0	0	0	1
PROGRAM TOTAL	19	18	0	0	0	0	0	1	16
DRAFTING									
ALLUWE HS	8	4	0	0	0	4	0	0	0

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BRC ARROW HS	6	0	1	0	0	4	1	0	0
CAN VAL HS CHI	6	1	1	0	0	2	1	1	1
CAN VAL AS-ELRN	13	7	2	0	0	3	1	0	0
CENTRAL OK-AS	15	7	2	1	1	4	0	0	0
DUNCAN AREA SH	34	22	2	0	0	10	0	0	0
G COOPER AS	18	4	7	0	1	5	0	1	0
GREAT PLAINS AS	17	2	2	0	0	11	2	0	0
INDIAN CAP AS	11	1	2	2	0	6	0	0	1
JAY HS	4	2	0	0	0	2	0	0	0
KIAMICHI AS-MCL	23	10	0	0	3	9	1	0	0
KINGFISHER HS	7	2	1	0	0	2	2	0	0
MIAMI HS	7	1	1	1	0	3	0	1	0
MID AMERICA AS	22	5	4	0	0	7	2	4	0
MWC VOCATION HS	11	1	1	0	2	6	1	0	0
OKC GRANT HS	16	4	3	0	0	9	0	0	1
OKLA CITY AVTS	16	4	3	0	1	8	0	0	0
OT AUTRY AS	18	9	0	2	0	4	3	0	0
SAND SPG PAGE	9	3	3	0	1	1	0	1	1
SOUTH OKLA AS	9	2	2	0	0	4	0	1	1
TULSA AVTS	39	15	5	0	0	18	0	1	0
TULSA WASHINGT	3	3	0	0	0	0	0	0	0
PROGRAM TOTAL	312	109	42	6	9	122	14	10	5
ELECTRONICS									
CADDO KIOWA AS	7	5	2	0	0	0	0	0	0
CAN VAL AS CHI	10	3	5	0	0	2	0	0	0
CAN VAL AS-ELRN	12	3	3	0	0	4	2	0	0
DUNCAN AREA SH	30	8	7	0	7	8	0	0	0
G COOPER AS	13	4	6	0	0	3	0	0	0
GREAT PLAINS AS.	18	7	3	0	0	6	2	0	5
GUTHRIE HS	7	2	0	0	0	5	0	0	0
LAWTON HS	14	0	7	0	0	7	0	0	2
MID AMERICA AS	8	5	2	0	0	0	1	0	0
MWC VOCATION HS	10	4	1	0	2	2	1	0	0
OKC CLASSEN HS	8	1	1	0	3	1	2	0	2
OKC MARSHALL HS	16	2	1	0	2	7	2	2	1
OKLA CITY AVTS	16	8	4	0	0	4	0	0	1
OT AUTRY AS	11	1	5	0	0	5	0	0	0
SAND SPG PAGE	6	1	4	0	0	1	0	0	1
SOUTH OKLA AS	13	1	4	1	0	5	2	0	2

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TULSA AVTS	26	7	4	0	0	13	0	0	0
PROGRAM TOTAL	225	62	59	3	14	73	12	2	14
RAD-TV REPAIR									
TRI COUNTY AS	7	7	0	0	0	0	0	0	0
PROGRAM TOTAL	7	7	0	0	0	0	0	0	0
PRINTING									
BRC ARROW HS	15	5	9	0	0	1	0	0	2
CADDO KIOWA AS	18	5	5	0	4	2	2	0	0
CENTRAL OK-AS	6	3	2	0	0	1	0	0	1
CUSHING HS	8	2	4	1	0	1	0	0	4
DUNCAN AREA SH	20	4	5	0	4	4	0	3	0
LAWTON HS	0	0	0	0	0	0	0	0	8
MUSKOGEE HS	8	3	0	0	0	1	0	4	1
MWC VOCATION HS	1	1	0	0	0	0	0	0	5
OKLA CITY AVTS	14	9	4	0	0	1	0	0	0
OKMULGEE HS	6	0	4	0	0	2	0	0	0
OT AUTRY AS	4	1	1	0	0	0	2	0	0
PONCA CITY HS	5	1	4	0	0	0	0	0	0
SAND SPG PAGE	0	0	0	0	0	0	0	0	2
SHAWNEE HS	12	4	4	0	2	0	2	0	3
TRI COUNTY AS	15	8	4	0	0	0	2	1	2
TULSA AVTS	14	14	0	0	0	0	0	0	1
TULSA ROGERS	8	2	2	0	0	4	0	0	0
PROGRAM TOTAL	154	62	48	1	10	17	8	8	29
MACHINE SHOP									
CADDO KIOWA AS	3	1	1	0	0	1	0	0	0
CAN VAL AS-ELRN	12	10	1	0	1	0	0	0	0
CENTRAL OK-AS	13	11	0	0	0	2	0	0	1
DUNCAN AREA SH	17	17	0	0	0	0	0	0	0
G COOPER AS	13	11	1	0	0	1	0	0	0
GREAT PLAINS AS	13	9	1	0	1	1	1	0	1
INDIAN CAP AS	8	6	0	0	0	2	0	0	0
MID AMERICA AS	13	6	5	0	1	1	0	0	0

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OKLA CITY AVTS	28	27	0	0	0	1	0	0	1
OT AUTRY AS	6	6	0	0	0	0	0	0	0
PONCA CITY HS	12	10	0	0	0	2	0	0	0
SOUTH OKLA AS	11	6	4	0	1	0	0	0	1
TRI COUNTY AS	17	13	1	2	0	1	0	0	0
TULSA AVTS	13	10	2	0	0	1	0	0	0
TULSA MCLAIN	5	4	0	0	0	1	0	0	0
TULSA WEBSTER	12	6	4	1	1	0	0	0	0
PROGRAM TOTAL	196	153	20	3	5	14	1	0	4
SHEET METAL									
G COOPER AS	13	9	0	1	0	2	0	1	0
OKC GRANT HS	17	6	4	0	1	2	4	0	2
OKLA CITY AVTS	11	6	2	1	0	1	0	1	0
SALLISAW AVTS	11	8	1	0	0	2	0	0	2
TRI COUNTY AS	10	9	1	0	0	0	0	0	0
PROGRAM TOTAL	62	38	8	2	1	7	4	2	4
WELDER									
AFTON AVTS	16	11	1	0	0	4	0	0	1
ALLUWE HS	7	3	0	0	0	4	0	0	4
CADDO KIOWA AS	8	8	0	0	0	0	0	0	0
CAN VAL AS CHI	5	3	2	0	0	0	0	0	4
CAN VAL AS-ELRN	14	12	1	0	1	0	0	0	1
CENTRAL OK-AS	23	20	2	0	0	1	0	0	1
DUNCAN AREA SH	32	29	0	1	0	2	0	0	0
FAIRVIEW AVTS	24	22	0	0	0	0	2	0	0
FOX HS	7	5	1	0	0	1	0	0	0
G COOPER AS	18	14	3	0	0	1	0	0	0
GREAT PLAINS AS	22	13	3	3	0	2	1	0	0
INDIAN CAP AS	18	15	0	0	1	1	1	0	0
KIAMICHI AS-HU	10	9	1	0	0	0	0	0	0
KIAMICHI AS-PO	11	10	0	0	0	1	0	0	0
MID AMERICA AS	15	10	5	0	0	0	0	0	0
POORE HS	0	0	0	0	0	0	0	0	5
MWC VOCATION HS	20	17	2	0	0	0	0	1	0
OK CAPITOL HILL	6	5	0	1	0	0	0	0	3
OKC DOUGLASS HS	6	6	0	0	0	0	0	0	10

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OKC NORTHEAST	6	0	3	0	0	1	2	0	17
OKLA CITY AVTS	9	8	1	0	0	0	0	0	0
OT AUTRY AS	10	6	1	0	0	2	0	1	0
PIONEER AVTS PC	12	2	7	0	0	3	0	0	0
PRYOR AVTS	11	10	0	0	0	0	0	1	2
SHAWNEE HS	12	9	1	0	0	0	2	0	3
SOUTH OKLA AS	19	17	1	0	0	1	0	0	0
STIGLER HS	10	3	1	1	0	4	1	0	1
TRI COUNTY AS	17	14	1	0	0	1	0	1	0
TULSA AVTS	9	9	0	0	0	0	0	0	0
TULSA MCLAIN	20	8	3	0	1	4	1	3	0
W OKLA AVTS	12	7	0	0	2	2	1	0	3
PROGRAM TOTAL	409	305	40	6	5	35	11	7	55
COSMETOLOGY									
BYNG HS	4	1	0	0	0	0	1	2	0
CADDO KIOWA AS	11	4	1	1	0	0	0	5	0
CENTRAL OK-AS	17	7	2	0	3	3	1	1	0
CHOCTAW HS	8	5	1	1	0	1	0	0	0
COLCORD HS	4	1	0	0	3	0	0	0	0
CROOKED OAK HS	5	0	0	0	3	1	0	1	1
EUFALLA HS	8	0	2	0	1	0	1	4	0
IDABEL HS	2	0	1	0	0	0	1	0	0
KIAMICHI AS-MCL	5	2	0	0	0	2	0	1	0
KINGFISHER HS	5	1	1	2	0	0	0	1	1
LINDSAY HS	4	1	1	0	1	0	0	1	1
PIC AMERICA AS	2	0	1	0	1	0	0	0	0
MOORE HS	11	0	4	0	0	2	2	3	1
MUSKOGEE HS	12	2	4	0	0	4	2	0	1
MWC VOCATION HS	16	11	4	0	0	1	0	0	4
OKC DOUGLASS HS	7	5	0	1	0	0	1	0	0
OKC GRANT HS	10	6	2	1	0	1	0	0	0
OKC MARSHALL HS	18	18	0	0	0	0	0	0	0
OKC NORTHEAST	2	2	0	0	0	0	0	0	1
OKC NW CLASSEN	9	5	4	0	0	0	0	0	0
OKC SOUTHEAST H	6	3	1	0	2	0	0	0	2
SAND SPG PAGE	9	3	3	0	3	0	0	0	0
SOUTH OKLA AS	10	5	3	0	1	0	1	0	0
TAFT MOTON HS	0	0	0	0	0	0	0	0	6
TRI COUNTY AS	14	12	1	1	0	0	0	0	0

TABLE III

SECONDARY FOLLOW-UP DATA -- BY SCHOOL

1974-75

SCHOOL	NUMBER OF STUDENTS WITH MARKETABLE SKILLS	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET			NUMBER STATUS UNKNOWN
		NUMBER EMPLOYED RELATED	NUMBER EMPLOYED UNRELATED	NUMBER EMPLOYED PART TIME	NUMBER UNEMPLOYED	NUMBER CONTINUING SCHOOL RELATED	NUMBER CONTINUING SCHOOL UNRELATED	NUMBER NOT IN LABOR FORCE	
TULSA AVTS	17	7	2	1	0	6	0	1	0
TULSA ROGERS	13	5	1	0	0	0	0	7	0
TULSA WASHINGT	5	1	0	0	1	3	0	0	0
WETONGA HS	4	0	1	1	0	0	1	1	2
WESTERN HEIGHTS	15	9	3	0	0	1	0	2	2
PROGRAM TOTAL	253	116	43	9	19	25	11	30	22
SM ENGINE REPR									
CAN VAL AS-ELRN	4	4	0	0	0	0	0	0	0
G COOPER AS	17	11	6	0	0	0	0	0	3
GREAT PLAINS AS	7	3	3	1	0	0	0	0	3
OKLA CITY AVTS	2	0	2	0	0	0	0	0	1
CT AUTRY AS	3	2	0	0	0	1	0	0	1
TULSA AVTS	9	4	3	0	0	0	2	0	0
PROGRAM TOTAL	42	24	14	1	0	1	2	0	8
TAILORING									
OKC DOUGLASS HS	4	2	0	0	0	2	0	0	3
PROGRAM TOTAL	4	2	0	0	0	2	0	0	3
UPHOLSTERY									
MWC VOCATION HS	5	2	1	0	0	1	0	1	3
OKC CLASSEN HS	3	2	0	0	0	0	1	0	1
OKC DOUGLASS HS	3	2	0	0	0	1	0	0	0
OKLA CITY AVTS	10	6	1	2	0	0	1	0	3
TRI COUNTY AS	2	1	0	0	0	0	0	1	0
PROGRAM TOTAL	23	13	2	2	0	2	2	2	7
CABINETMAKING									
HEAVENER HS	4	4	0	0	0	0	0	0	0
MUSKOGEE HS	13	8	0	0	1	2	1	1	0
OK CAPITOL HILL	12	6	4	0	0	1	1	0	1
TULSA CENTRAL	7	5	0	1	0	0	1	0	1
PROGRAM TOTAL	36	23	4	1	1	3	3	1	2

TABLE III

SECONDARY FOLLOW-UP DATA -- BY SCHOOL

1974-75

SCHOOL	NUMBER OF STUDENTS WITH MARKETABLE SKILLS	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET			NUMBER STATUS UNKNOWN
		NUMBER EMPLOYED RELATED	NUMBER EMPLOYED UNRELATED	NUMBER EMPLOYED PART TIME	NUMBER UNEMPLOYED	NUMBER CONTINUING SCHOOL RELATED	NUMBER CONTINUING SCHOOL UNRELATED	NUMBER NOT IN LABOR FORCE	
FARM EQUIP REPR									
KIAMICHI AS-PO	9	8	0	0	0	0	1	0	0
CT ALTRY AS	8	5	0	0	0	2	1	0	0
PROGRAM TOTAL	17	13	0	0	0	2	2	0	0
RADIO BRDCSTNG									
HOBART HS	1	1	0	0	0	0	0	0	0
KIAMICHI AS-MCL	5	1	3	0	0	0	0	1	0
PROGRAM TOTAL	6	2	3	0	0	0	0	1	0
ELECTRC-MECH									
CENTRAL OK-AS	23	13	1	0	0	8	0	1	1
PROGRAM TOTAL	23	13	1	0	0	8	0	1	1
CHEMICAL TECH									
OKLA CITY AVTS	7	6	0	0	0	1	0	0	0
TULSA AVTS	11	2	1	0	0	8	0	0	0
PROGRAM TOTAL	18	8	1	0	0	9	0	0	0
OCCUP SERV BOYS									
AFTON AVTS	3	1	0	0	1	0	0	1	0
INDIAN CAP AS	9	8	0	0	1	0	0	0	0
KIAMICHI AS-MCL	10	9	0	0	1	0	0	0	0
OT AUTRY AS	8	8	0	0	0	0	0	0	4
PIONEER AVTS PC	12	8	0	0	4	0	0	0	2
SOUTH OKLA AS	1	1	0	0	0	0	0	0	0
PROGRAM TOTAL	43	35	0	0	7	0	0	1	6
OCCUP SER GIRLS									
OT AUTRY AS	5	3	0	0	2	0	0	0	1

TABLE III

SECONDARY FOLLOW-UP DATA -- BY SCHOOL

1974-75

SCHOOL	NUMBER OF STUDENTS WITH MARKETABLE SKILLS	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET			NUMBER STATUS UNKNOWN
		NUMBER EMPLOYED RELATED	NUMBER EMPLOYED UNRELATED	NUMBER EMPLOYED PART TIME	NUMBER UNEMPLOYED	NUMBER CONTINUING SCHOOL RELATED	NUMBER CONTINUING SCHOOL UNRELATED	NUMBER NOT IN LABOR FORCE	
SOUTH OKLA AS	2	1	0	0	1	0	0	0	5
PROGRAM TOTAL	7	4	0	0	3	0	0	0	6
DIVISION TOTAL	4,931	2,900	756	71	160	673	234	128	413

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TABLE III

SECONDARY FOLLOW-UP DATA -- BY SCHOOL

1974-75

SCHOOL	NUMBER OF STUDENTS WITH MARKETABLE SKILLS	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET			NUMBER STATUS UNKNOWN
		NUMBER EMPLOYED RELATED	NUMBER EMPLOYED UNRELATED	NUMBER EMPLOYED PART TIME	NUMBER UNEMPLOYED	NUMBER CONTINUING SCHOOL RELATED	NUMBER CONTINUING SCHOOL UNRELATED	NUMBER NOT IN LABOR FORCE	
CVE									
CCCP VCC BD									
ANADARKO HS	11	4	1	0	0	2	3	1	0
BLACKWELL HS	22	12	2	0	0	3	2	3	3
CENTRAL OK-AS	21	11	0	1	2	4	0	3	3
CHEYENNE HS	17	8	1	0	0	5	3	0	1
COPPERCE HS	9	6	1	0	0	0	2	0	0
CRESCENT HS	29	13	2	0	0	9	4	1	0
DICKSON HS	25	25	0	0	0	0	0	0	1
DURANT HS	30	11	4	5	0	7	2	1	2
HOLDENVILLE HS	24	6	7	0	0	1	9	1	1
HOPIAY HS	24	10	1	2	1	8	0	2	0
KEOTA HS	23	13	1	0	1	5	2	1	0
KIAMICHI AS-PO	13	11	0	0	1	0	1	0	0
LAW EISENHOWER	24	9	2	0	0	12	0	1	0
MILLWOOD HS	17	4	0	2	1	5	5	0	4
COS-SULPHUR	5	4	0	0	1	0	0	0	0
CK CAPITOL HILL	23	5	3	0	3	9	3	0	6
OK STAR SPENCER	39	18	7	1	0	8	2	3	1
OKC CLASSEN HS	28	11	7	3	2	3	2	0	7
OKC DOUGLASS HS	25	14	2	1	0	6	2	0	0
OKEMAH HS	20	13	3	0	0	2	0	2	0
CT ALTRY AS	49	42	0	0	0	5	2	0	0
OWASSO	26	23	0	0	0	3	1	1	1
SAYRE HS	20	9	6	0	0	0	0	5	0
STILWELL HS	24	16	0	0	0	5	3	0	0
TECUMSEH GIRL	29	14	7	2	0	3	3	0	1
YUKON HS	17	11	0	0	0	2	4	0	0
PROGRAM TOTAL	596	323	57	17	12	107	55	25	31
DIVISION TOTAL	596	323	57	17	12	107	55	25	31

TABLE III

POST SECONDARY FOLLOW-UP DATA -- BY SCHOOL

1974-75

SCHOOL	NUMBER OF STUDENTS WITH MARKETABLE SKILLS	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET			NUMBER STATUS UNKNOWN
		NUMBER EMPLOYED RELATED	NUMBER EMPLOYED UNRELATED	NUMBER EMPLOYED PART TIME	NUMBER UNEMPLOYED	NUMBER CONTINUING SCHOOL RELATED	NUMBER CONTINUING SCHOOL UNRELATED	NUMBER NOT IN LABOR FORCE	
AGRICULTURE									
RANCH OPERATION									
EASTERN OSC	7	4	0	0	0	3	0	0	0
NE OKLA A M COL	6	6	0	0	0	0	0	0	0
PROGRAM TOTAL	13	10	0	0	0	3	0	0	0
FARM RANCH MGT									
MURRAY ST COL	2	1	0	0	0	1	0	0	0
OKLA PANHANDLE	0	0	0	0	0	0	0	0	10
PROGRAM TOTAL	2	1	0	0	0	1	0	0	10
PARK MGT									
EASTERN OSC	10	1	0	0	1	6	2	0	2
TULSA JR COLL	0	0	0	0	0	0	0	0	13
PROGRAM TOTAL	10	1	0	0	1	6	2	0	15
FOREST TECH									
EASTERN OSC	19	12	0	0	0	2	5	0	3
PROGRAM TOTAL	19	12	0	0	0	2	5	0	3
AG TECH									
CONNORS ST COL	7	2	0	0	0	5	0	0	6
NE STATE COLL	0	0	0	0	0	0	0	0	1
S OKC JR COL	0	0	0	0	0	0	0	0	1
TULSA JR COLL	2	0	0	0	0	2	0	0	5
PROGRAM TOTAL	9	2	0	0	0	7	0	0	13
AG BUSINESS									
ALTUS JR COL	11	11	0	0	0	0	0	0	3
NORTH OKLA COL	16	13	0	0	0	3	0	0	0

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TABLE III

POST SECONDARY FOLLOW-UP DATA -- BY SCHOOL

1974-75

SCHOOL	NUMBER OF STUDENTS WITH MARKETABLE SKILLS	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET			NUMBE STATU UNKNOW
		NUMBER EMPLOYED RELATED	NUMBER EMPLOYED UNRELATED	NUMBER EMPLOYED PART TIME	NUMBER UNEMPLOYED	NUMBER CONTINUING SCHOOL RELATED	NUMBER CONTINUING SCHOOL UNRELATED	NUMBER NOT IN LABOR FORCE	
TULSA JR COLL	0	0	0	0	0	0	0	0	13
PROGRAM TOTAL	27	24	0	0	0	3	0	0	16
DIVISION TOTAL	80	50	0	0	1	22	7	0	57

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TABLE III

POST SECONDARY FOLLOW-UP DATA -- BY SCHOOL

1974-75

SCHOOL	NUMBER OF STUDENTS WITH MARKETABLE SKILLS	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET			NUMBE STATU UNKNOW
		NUMBER EMPLOYED RELATED	NUMBER EMPLOYED UNRELATED	NUMBER EMPLOYED PART TIME	NUMBER UNEMPLOYED	NUMBER CONTINUING SCHOOL RELATED	NUMBER CONTINUING SCHOOL UNRELATED	NUMBER NOT IN LABOR FORCE	
DISTRIBUTIVE ED.									
MID MANAGEMENT									
ALTUS JR COL	5	5	0	0	0	0	0	0	0
CARL ALBERT JRC	0	0	0	0	0	0	0	0	4
CHANCRS ST COL	7	7	0	0	0	0	0	0	2
EASTERN OSC	55	52	0	0	0	3	0	0	12
MURRAY ST COL	11	11	0	0	0	0	0	0	1
NE OKLA A M COL	40	16	0	0	1	22	1	0	12
NORTH OKLA COL	17	14	0	0	0	3	0	0	4
OKLA ST TECH	8	8	0	0	0	0	0	0	22
OSCAR ROSE JR CL	4	4	0	0	0	0	0	0	0
SAYRE JR COL	12	9	0	0	0	3	0	0	5
SEMINOLE JR COL	6	6	0	0	0	0	0	0	2
TULSA JR COLL	36	20	0	0	0	7	9	0	150
PROGRAM TOTAL	201	152	0	0	1	38	10	0	214
HOTEL-RESTR PER									
TULSA JR COLL	3	3	0	0	0	0	0	0	27
PROGRAM TOTAL	3	3	0	0	0	0	0	0	27
MRKT-MERCH SPEC									
TULSA JR COLL	0	0	0	0	0	0	0	0	28
PROGRAM TOTAL	0	0	0	0	0	0	0	0	28
REAL ESTATE MGM									
OSCAR ROSE JR CL	34	14	14	2	0	0	0	2	0
TULSA JR COLL	1	1	0	0	0	0	0	0	20
PROGRAM TOTAL	35	15	14	2	0	0	0	2	20
DIVISION TOTAL	239	170	14	2	1	38	10	2	289

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TABLE III

POST SECONDARY FOLLOW-UP DATA -- BY SCHOOL

1974-75

SCHOOL	NUMBER OF STUDENTS WITH MARKETABLE SKILLS	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET			NUMBER STATUS UNKNOWN
		NUMBER EMPLOYED RELATED	NUMBER EMPLOYED UNRELATED	NUMBER EMPLOYED PART TIME	NUMBER UNEMPLOYED	NUMBER CONTINUING SCHOOL RELATED	NUMBER CONTINUING SCHOOL UNRELATED	NUMBER NOT IN LABOR FORCE	
HEALTH									
COMMUN MENTL HL									
ALTUS JR COL	8	8	0	0	0	0	0	0	2
NORTH OKLA COL	5	2	0	0	0	3	0	0	17
PROGRAM TOTAL	13	10	0	0	0	3	0	0	19
MEDCL OFF ASSIS									
SAYRE JR COL	5	1	0	0	1	3	0	0	2
ST GREG JR COL	1	0	0	0	0	1	0	0	3
TULSA JR COLL	0	0	0	0	0	0	0	0	7
PROGRAM TOTAL	6	1	0	0	1	4	0	0	12
DENTAL HYGIENST									
OSCAR ROSE JR CL	11	11	0	0	0	0	0	0	14
PROGRAM TOTAL	11	11	0	0	0	0	0	0	14
OCC THERAPY AST									
S OKC JR COL	6	6	0	0	0	0	0	0	28
TULSA JR COLL	7	7	0	0	0	0	0	0	9
PROGRAM TOTAL	13	13	0	0	0	0	0	0	37
DIETARY TECH									
OSCAR ROSE JR CL	8	5	0	0	1	2	0	0	3
PROGRAM TOTAL	8	5	0	0	1	2	0	0	3
MEDICAL LAB TEC									
CONNORS ST COL	0	0	0	0	0	0	0	0	10
NORTH OKLA COL	8	4	1	1	0	2	0	0	5
OSCAR ROSE JR CL	12	12	0	0	0	0	0	0	17
SAYRE JR COL	28	22	1	0	1	3	0	1	3

TABLE III

POST SECONDARY FOLLOW-UP DATA -- BY SCHOOL

1974-75

SCHOOL	NUMBER OF STUDENTS WITH MARKETABLE SKILLS	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET			NUMBER STATUS UNKNOWN
		NUMBER EMPLOYED RELATED	NUMBER EMPLOYED UNRELATED	NUMBER EMPLOYED PART TIME	NUMBER UNEMPLOYED	NUMBER CONTINUING SCHOOL RELATED	NUMBER CONTINUING SCHOOL UNRELATED	NUMBER NOT IN LABOR FORCE	
ST GREG JR COL	5	2	0	0	0	3	0	0	13
TULSA JR COLL	6	6	0	0	0	0	0	0	22
PROGRAM TOTAL	59	46	2	1	1	8	0	1	60
NURSE A D									
BACONE COLLEGE	40	36	1	0	0	0	0	3	7
CAMERON ST COL	38	34	0	2	0	0	1	1	21
EASTERN OSC	33	31	0	0	0	2	0	0	3
MURRAY ST COL	20	20	0	0	0	0	0	0	12
NE OKLA A M COL	20	20	0	0	0	0	0	0	0
NORTH OKLA COL	33	32	0	0	0	1	0	0	6
OKC CSU TECH	91	91	0	0	0	0	0	0	16
S OKC JR COL	21	20	0	1	0	0	0	0	110
SEMINOLE JR COL	17	16	0	0	0	1	0	0	0
TULSA JR COLL	56	56	0	0	0	0	0	0	246
PROGRAM TOTAL	369	356	1	3	0	4	1	4	421
FUNERAL SERV									
CENTRAL ST COLL	7	7	0	0	0	0	0	0	11
PROGRAM TOTAL	7	7	0	0	0	0	0	0	11
SURGICAL TECH									
S OKC JR COL	2	2	0	0	0	0	0	0	13
PROGRAM TOTAL	2	2	0	0	0	0	0	0	13
PHYS THER ASSIS									
TULSA JR COLL	7	7	0	0	0	0	0	0	25
PROGRAM TOTAL	7	7	0	0	0	0	0	0	25
RADIOLOG TECH									
OSCAR ROSE JR CL	17	13	0	1	1	2	0	0	21
SAYRE JR COL	3	0	0	0	0	3	0	0	0

TABLE III

POST SECONDARY FOLLOW-UP DATA -- BY SCHOOL

1974-75

SCHOOL	NUMBER OF STUDENTS WITH MARKETABLE SKILLS	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET			NUMBER STATUS UNKNOWN
		NUMBER EMPLOYED RELATED	NUMBER EMPLOYED UNRELATED	NUMBER EMPLOYED PART TIME	NUMBER UNEMPLOYED	NUMBER CONTINUING SCHOOL RELATED	NUMBER CONTINUING SCHOOL UNRELATED	NUMBER NOT IN LABOR FORCE	
TULSA JR COLL	1	1	0	0	0	0	0	0	13
PROGRAM TOTAL	21	14	0	1	1	5	0	0	34
INHAL THER TECH									
NE OKLA A M COL	0	0	0	0	0	0	0	0	5
OSCAR ROSE JR CL	4	4	0	0	0	0	0	0	14
OU MED CET	20	19	0	0	0	0	1	0	1
TULSA JR COLL	7	7	0	0	0	0	0	0	32
PROGRAM TOTAL	31	30	0	0	0	0	1	0	52
MEDICAL ASSIST									
NE OKLA A M COL	7	6	0	0	0	1	0	0	0
NORTH OKLA COL	0	0	0	0	0	0	0	0	2
PROGRAM TOTAL	7	6	0	0	0	1	0	0	2
HEALTH CARE SUP									
TULSA JR COLL	9	9	0	0	0	0	0	0	9
PROGRAM TOTAL	9	9	0	0	0	0	0	0	9
MED ENERGN TECH									
S OKC JR COL	2	2	0	0	0	0	0	0	28
PROGRAM TOTAL	2	2	0	0	0	0	0	0	28
DIVISION TOTAL	565	519	3	5	4	27	2	5	740

TABLE III

POST SECONDARY FOLLOW-UP DATA -- BY SCHOOL

1974-75

SCHOOL	NUMBER OF STUDENTS WITH MARKETABLE SKILLS	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET			NUMBER STATUS UNKNOWN
		NUMBER EMPLOYED RELATED	NUMBER EMPLOYED UNRELATED	NUMBER EMPLOYED PART TIME	NUMBER UNEMPLOYED	NUMBER CONTINUING SCHOOL RELATED	NUMBER CONTINUING SCHOOL UNRELATED	NUMBER NOT IN LABOR FORCE	
HOME ECONOMICS									
COM FD PROD MGT									
EAST CENTRAL SU	1	1	0	0	0	0	0	0	1
NE STATE COLL	1	0	0	0	1	0	0	0	1
OKLA ST TECH	11	11	0	0	0	0	0	0	38
TULSA JR COLL	0	0	0	0	0	0	0	0	1
PROGRAM TOTAL	13	12	0	0	1	0	0	0	41
FASHION TRADE									
NE OKLA A M COL	5	1	0	3	0	1	0	0	5
NORTH OKLA COL	4	1	1	0	0	2	0	0	1
OKLA PANHANDLE	0	0	0	0	0	0	0	0	1
PROGRAM TOTAL	9	2	1	3	0	3	0	0	7
CARE GUID CHILD									
CLAREMORE JR CO	24	18	0	0	0	6	0	0	33
EASTERN OSC	0	0	0	0	0	0	0	0	16
NE OKLA A M COL	15	9	0	0	0	1	0	5	11
OSCAR ROSE JR CL	12	11	0	1	0	0	0	0	5
S OKC JR COL	0	0	0	0	0	0	0	0	14
SEMINOLE JR COL	1	1	0	0	0	0	0	0	2
PROGRAM TOTAL	52	39	0	1	0	7	0	5	81
DIVISION TOTAL	74	53	1	4	1	10	0	5	129

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TABLE III

POST SECONDARY FOLLOW-UP DATA -- BY SCHOOL

1974-75

SCHOOL	NUMBER OF STUDENTS WITH MARKETABLE SKILLS	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET			NUMBER STATUS UNKNOWN
		NUMBER EMPLOYED RELATED	NUMBER EMPLOYED UNRELATED	NUMBER EMPLOYED PART TIME	NUMBER UNEMPLOYED	NUMBER CONTINUING SCHOOL RELATED	NUMBER CONTINUING SCHOOL UNRELATED	NUMBER NOT IN LABOR FORCE	
BUSINESS & OFFICE									
GEN OFF TRNG									
OKLA ST TECH	8	6	1	0	0	0	0	1	0
PROGRAM TOTAL	8	6	1	0	0	0	0	1	0
MEDCL SECR									
ALTUS JR COL	9	9	0	0	0	0	0	0	1
CONNORS ST COL	2	1	0	0	1	0	0	0	4
NE OKLA A M COL	5	2	0	0	0	3	0	0	0
NORTH OKLA COL	1	0	1	0	0	0	0	0	2
OKLA ST TECH	8	7	0	0	1	0	0	0	0
OSCAR ROSE JR CL	17	11	0	0	1	1	2	2	5
TULSA JR COLL	9	9	0	0	0	0	0	0	33
PROGRAM TOTAL	51	39	1	0	3	4	2	2	45
LEGAL SECR									
ALTUS JR COL	2	2	0	0	0	0	0	0	0
NE OKLA A M COL	6	4	0	0	0	2	0	0	0
OKLA ST TECH	13	13	0	0	0	0	0	0	3
OSCAR ROSE JR CL	18	13	0	1	3	0	0	1	5
TULSA JR COLL	1	1	0	0	0	0	0	0	8
PROGRAM TOTAL	40	33	0	1	3	2	0	1	16
COURT REPORTER									
OSCAR ROSE JR CL	10	8	2	0	0	0	0	0	3
PROGRAM TOTAL	10	8	2	0	0	0	0	0	3
BUS DATA PROC									
OKLA ST TECH	4	4	0	0	0	0	0	0	36
OSCAR ROSE JR CL	5	3	0	0	0	1	0	1	66
PROGRAM TOTAL	9	7	0	0	0	1	0	1	102

TABLE III

POST SECONDARY FOLLOW-UP DATA -- BY SCHOOL

1974-75

SCHOOL	NUMBER OF STUDENTS WITH MARKETABLE SKILLS	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET			NUMBER STATUS UNKNOWN
		NUMBER EMPLOYED RELATED	NUMBER EMPLOYED UNRELATED	NUMBER EMPLOYED PART TIME	NUMBER UNEMPLOYED	NUMBER CONTINUING SCHOOL RELATED	NUMBER CONTINUING SCHOOL UNRELATED	NUMBER NOT IN LABOR FORCE	
ACCOUNTING									
NE OKLA A M COL	14	0	0	0	0	14	0	0	5
NORTH OKLA COL	1	0	0	1	0	0	0	0	0
OKLA ST TECH	12	9	1	0	0	1	1	0	50
OSCAR ROSE JR CL	10	7	2	0	0	0	1	0	0
SE STATE COLL	2	0	0	0	0	0	0	0	3
TULSA JR COLL	1	1	0	0	0	0	0	0	12
PROGRAM TOTAL	38	17	3	1	0	15	2	0	70
SECR SCIENCE									
ALTUS JR COL	12	9	3	0	0	0	0	0	2
CARL ALBERT JRC	1	1	0	0	0	0	0	0	0
CENTRAL ST COLL	4	4	0	0	0	0	0	0	48
CLAREMORE JR CO	4	4	0	0	0	0	0	0	14
CONCORS ST COL	2	2	0	0	0	0	0	0	11
EAST CENTRAL SU	3	2	0	1	0	0	0	0	2
EASTERN OSC	12	7	0	0	0	0	0	5	11
EL RENO JR COLL	1	1	0	0	0	0	0	0	6
NE OKLA A M COL	66	23	10	0	1	27	2	3	53
NE STATE COLL	7	6	0	0	0	0	0	1	22
NORTH OKLA COL	17	14	0	0	0	1	2	0	13
NW STATE COLL	9	5	0	0	0	2	1	1	6
OKLA ST TECH	20	19	1	0	0	0	0	0	13
OSCAR ROSE JR CL	94	47	16	12	3	11	3	2	11
S OKC JR COL	9	9	0	0	0	0	0	0	113
SEMINOLE JR COL	16	12	0	0	0	4	0	0	4
SW STATE COLL	41	17	1	0	2	18	1	2	15
TULSA JR COLL	3	3	0	0	0	0	0	0	1
PROGRAM TOTAL	321	185	31	13	6	63	9	14	345
PROFESSNL SECR									
ALTUS JR COL	9	9	0	0	0	0	0	0	2
CARL ALBERT JRC	3	3	0	0	0	0	0	0	1
MURRAY ST COL	4	3	0	0	1	0	0	0	11
NE OKLA A M COL	21	8	2	0	0	9	0	2	8
TULSA JR COLL	8	8	0	0	0	0	0	0	87
PROGRAM TOTAL	45	31	2	0	1	9	0	2	109

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TABLE III

POST SECONDARY FOLLOW-UP DATA -- BY SCHOOL

1974-75

SCHOOL	NUMBER OF STUDENTS WITH MARKETABLE SKILLS	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET			NUMBER STATUS UNKNOWN
		NUMBER EMPLOYED RELATED	NUMBER EMPLOYED UNRELATED	NUMBER EMPLOYED PART TIME	NUMBER UNEMPLOYED	NUMBER CONTINUING SCHOOL RELATED	NUMBER CONTINUING SCHOOL UNRELATED	NUMBER NOT IN LABOR FORCE	
JUNIOR ACCT									
ALTUS JR COL	7	6	0	0	1	0	0	0	6
CARL ALBERT JRC	3	3	0	0	0	0	0	0	0
CENTRAL ST COLL	0	0	0	0	0	0	0	0	18
EAST CENTRAL SU	2	2	0	0	0	0	0	0	4
EL RENO JR COLL	0	0	0	0	0	0	0	0	1
NE OKLA A M COL	7	3	2	0	0	2	0	0	3
NE STATE COLL	1	1	0	0	0	0	0	0	2
NORTH OKLA COL	1	1	0	0	0	0	0	0	0
NW STATE COLL	8	6	0	0	0	1	0	1	4
OKLA PANHANDLE	1	1	0	0	0	0	0	0	3
TULSA JR COLL	24	24	0	0	0	0	0	0	45
PROGRAM TOTAL	54	47	2	0	1	3	0	1	86
GEN OFF ASSIST									
CARL ALBERT JRC	4	3	0	0	0	0	1	0	0
CONNORS ST COL	2	2	0	0	0	0	0	0	4
NE OKLA A M COL	20	7	2	0	0	11	0	0	7
NORTH OKLA COL	3	1	0	0	0	2	0	0	13
OKLA ST TECH	5	4	0	0	1	0	0	0	10
SE STATE COLL	19	11	0	2	0	5	0	1	21
SW STATE COLL	15	7	0	0	1	6	1	0	14
TULSA JR COLL	1	1	0	0	0	0	0	0	12
PROGRAM TOTAL	69	36	2	2	2	24	2	1	81
SUPV & ADM DEV									
ALTUS JR COL	33	33	0	0	0	0	0	0	5
CARL ALBERT JRC	0	0	0	0	0	0	0	0	1
CLAREMORE JR CO	0	0	0	0	0	0	0	0	30
CONNORS ST COL	0	0	0	0	0	0	0	0	1
NE STATE COLL	0	0	0	0	0	0	0	0	1
NORTH OKLA COL	4	3	0	0	0	1	0	0	8
OSCAR ROSE JR CL	33	33	0	0	0	0	0	0	2
S OKC JR COL	8	6	0	0	0	0	2	0	145
TULSA JR COLL	0	0	0	0	0	0	0	0	18
PROGRAM TOTAL	78	75	0	0	0	1	2	0	211
DIVISION TOTAL	723	484	44	17	14	122	17	23	1,068

TABLE III

POST SECONDARY FOLLOW-UP DATA -- BY SCHOOL

1974-75

SCHOOL	NUMBER OF STUDENTS WITH MARKETABLE SKILLS	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET			NUMBER STATUS UNKNOWN
		NUMBER EMPLOYED RELATED	NUMBER EMPLOYED UNRELATED	NUMBER EMPLOYED PART TIME	NUMBER UNEMPLOYED	NUMBER CONTINUING SCHOOL RELATED	NUMBER CONTINUING SCHOOL UNRELATED	NUMBER NOT IN LABOR FORCE	
TECHNICAL ED.									
SURVEYOR									
TULSA JR COLL	5	5	0	0	0	0	0	0	17
PROGRAM TOTAL	5	5	0	0	0	0	0	0	17
AERONAUT TECH									
ALTUS JR COL	6	5	0	0	0	0	0	1	0
OK ST UNIV TECH	8	1	0	0	0	7	0	0	3
OSCAR ROSE JR CL	1	0	0	0	0	1	0	0	25
PROGRAM TOTAL	15	6	0	0	0	8	0	1	28
ARCHITEC TECH									
CKC CSU TECH	7	7	0	0	0	0	0	0	0
PROGRAM TOTAL	7	7	0	0	0	0	0	0	0
CHEMICAL TECH									
CCANCRS ST COL	3	2	0	0	0	1	0	0	0
EASTERN OSC	4	0	0	0	0	4	0	0	1
PROGRAP TOTAL	7	2	0	0	0	5	0	0	1
CIVIL-HGHWY TEC									
EASTERN OSC	0	0	0	0	0	0	0	0	1
CKC CSU TECH	20	18	0	1	0	1	0	0	0
PROGRAM TOTAL	20	18	0	1	0	1	0	0	1
ELECTRCN TECH									
ALTUS JR COL	2	2	0	0	0	0	0	0	4
CAMERON ST COL	7	6	1	0	0	0	0	0	8
EASTERN OSC	25	22	0	0	0	3	0	0	5
LANGSTCN UNIV	15	1	0	0	1	11	2	0	9

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TABLE III

POST SECONDARY FOLLOW-UP DATA -- BY SCHOOL

1974-75

SCHOOL	NUMBER OF STUDENTS WITH MARKETABLE SKILLS	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET			NUMBER STATUS UNKNOWN
		NUMBER EMPLOYED RELATED	NUMBER EMPLOYED UNRELATED	NUMBER EMPLOYED PART TIME	NUMBER UNEMPLOYED	NUMBER CONTINUING SCHOOL RELATED	NUMBER CONTINUING SCHOOL UNRELATED	NUMBER NOT IN LABOR FORCE	
MURRAY ST COL	3	2	1	0	0	0	0	0	3
NE OKLA A M COL	13	7	0	0	0	6	0	0	1
NORTH OKLA COL	7	4	2	0	0	1	0	0	3
OK ST UNIV TECH	45	5	0	0	0	40	0	0	32
OKC OSU TECH	28	26	0	0	1	1	0	0	146
OKLA ST TECH	53	50	1	0	2	0	0	0	19
OSCAR ROSE JR CL	18	18	0	0	0	0	0	0	57
S OKC JR COL	3	2	1	0	0	0	0	0	76
SAYRE JR COL	11	11	0	0	0	0	0	0	1
SE STATE COLL	0	0	0	0	0	0	0	0	13
TULSA JR COLL	3	3	0	0	0	0	0	0	72
PROGRAM TOTAL	233	159	6	0	4	62	2	0	449
ELECT-MECH TECH									
EASTERN OSC	34	34	0	0	0	0	0	0	10
MURRAY ST COL	7	7	0	0	0	0	0	0	2
NE OKLA A M COL	3	2	1	0	0	0	0	0	3
OKLA ST TECH	4	4	0	0	0	0	0	0	6
OSCAR ROSE JR CL	7	6	0	0	0	1	0	0	21
TULSA JR COLL	1	1	0	0	0	0	0	0	11
PROGRAM TOTAL	56	54	1	0	0	1	0	0	53
INDUSTR TECH									
EASTERN OSC	6	5	0	0	0	1	0	0	0
EL RENO JR COLL	1	1	0	0	0	0	0	0	1
NE OKLA A M COL	1	0	0	0	0	0	1	0	4
OKC OSU TECH	6	6	0	0	0	0	0	0	8
PROGRAM TOTAL	14	12	0	0	0	1	1	0	13
MECHANICAL TECH									
EASTERN OSC	45	43	0	0	0	2	0	0	21
MURRAY ST COL	1	1	0	0	0	0	0	0	1
NE OKLA A M COL	5	1	4	0	0	0	0	0	63
NORTH OKLA COL	1	1	0	0	0	0	0	0	0
OK ST UNIV TECH	20	1	0	0	0	19	0	0	19
OKC OSU TECH	80	80	0	0	0	0	0	0	22

TABLE III

POST SECONDARY FOLLOW-UP DATA -- BY SCHOOL

1974-75

SCHOOL	NUMBER OF STUDENTS WITH MARKETABLE SKILLS	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET			NUMBER STATUS UNKNOWN
		NUMBER EMPLOYED RELATED	NUMBER EMPLOYED UNRELATED	NUMBER EMPLOYED PART TIME	NUMBER UNEMPLOYED	NUMBER CONTINUING SCHOOL RELATED	NUMBER CONTINUING SCHOOL UNRELATED	NUMBER NOT IN LABOR FORCE	
OSCAR ROSE JR CL	0	0	0	0	0	0	0	0	18
SE STATE COLL	0	0	0	0	0	0	0	0	4
TULSA JR COLL	0	0	0	0	0	0	0	0	40
PROGRAM TOTAL	152	127	4	0	0	21	0	0	188
METAL TECH									
EASTERN OSC	24	20	1	0	0	3	0	0	14
MURRAY ST COL	4	2	0	0	0	2	0	0	1
NW STATE COLL	1	1	0	0	0	0	0	0	2
SE STATE COLL	54	54	0	0	0	0	0	0	1
PROGRAM TOTAL	83	77	1	0	0	5	0	0	18
DRAFTING & DESGN									
ALTUS JR COL	7	7	0	0	0	0	0	0	0
CAMERON ST COL	15	7	0	0	0	8	0	0	6
CAPL ALBERT JRC	0	0	0	0	0	0	0	0	4
CCANCPS ST COL	6	3	0	0	0	2	0	1	5
EASTERN OSC	10	6	1	0	0	2	1	0	1
MURRAY ST COL	8	8	0	0	0	0	0	0	3
NE OKLA A M COL	15	8	1	0	0	6	0	0	22
NORTH OKLA COL	3	3	0	0	0	0	0	0	1
OK ST UNIV TECH	12	1	0	0	0	11	0	0	21
OKC OSU TECH	133	130	1	0	0	0	1	1	0
OKLA ST TECH	32	32	0	0	0	0	0	0	45
OSCAR ROSE JR CL	6	3	2	0	0	1	0	0	19
TULSA JR COLL	1	1	0	0	0	0	0	0	89
PROGRAM TOTAL	240	209	5	0	0	30	2	2	216
ENV HLTH POL CN									
NE OKLA A M COL	0	0	0	0	0	0	0	0	14
OKC OSU TECH	17	14	2	0	0	0	0	1	0
PROGRAM TOTAL	17	14	2	0	0	0	0	1	14
DIPED EL-PED IN									

TABLE III

POST SECONDARY FOLLOW-UP DATA -- BY SCHOOL

1974-75

SCHOOL	NUMBER OF STUDENTS WITH MARKETABLE SKILLS	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET			NUMBER STATUS UNKNOWN
		NUMBER EMPLOYED RELATED	NUMBER EMPLOYED UNRELATED	NUMBER EMPLOYED PART TIME	NUMBER UNEMPLOYED	NUMBER CONTINUING SCHOOL RELATED	NUMBER CONTINUING SCHOOL UNRELATED	NUMBER NOT IN LABOR FORCE	
OKC OSU TECH	3	1	0	0	0	0	2	0	21
TULSA JR COLL	1	1	0	0	0	0	0	0	8
PROGRAM TOTAL	4	2	0	0	0	0	2	0	29
COMPUTER SCI									
CAPERDA ST COL	21	16	1	1	1	2	0	0	20
EASTERN OSC	6	3	0	0	1	0	2	0	6
MURRAY ST COL	0	0	0	0	0	0	0	0	1
NE OKLA A M COL	3	2	0	0	0	1	0	0	0
NORTH OKLA COL	5	2	1	0	1	1	0	0	9
OKC CSU TECH	77	76	0	0	0	0	1	0	10
SEMINOLE JR COL	0	0	0	0	0	0	0	0	7
TULSA JR COLL	33	33	0	0	0	0	0	0	301
PROGRAM TOTAL	145	132	2	1	3	4	3	0	354
PETROLEUM TECH									
OK ST UNIV TECH	8	0	0	0	0	8	0	0	9
PROGRAM TOTAL	8	0	0	0	0	8	0	0	9
RADIATN NUC TEC									
OK ST UNIV TECH	18	1	0	0	0	15	1	1	1
PROGRAM TOTAL	18	1	0	0	0	15	1	1	1
MEDIA TECH									
S OKC JR COL	0	0	0	0	0	0	0	0	23
PROGRAM TOTAL	0	0	0	0	0	0	0	0	23
TV-THTR PRD TEC									
NE OKLA A M COL	13	0	1	0	0	12	0	0	3
OKLA ST TECH	2	2	0	0	0	0	0	0	13
PROGRAM TOTAL	15	2	1	0	0	12	0	0	16

TABLE III

POST SECONDARY FOLLOW-UP DATA -- BY SCHOOL

1974-75

SCHOOL	NUMBER OF STUDENTS WITH MARKETABLE SKILLS	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET			NUMBER STATUS UNKNOWN
		NUMBER EMPLOYED RELATED	NUMBER EMPLOYED UNRELATED	NUMBER EMPLOYED PART TIME	NUMBER UNEMPLOYED	NUMBER CONTINUING SCHOOL RELATED	NUMBER CONTINUING SCHOOL UNRELATED	NUMBER NOT IN LABOR FORCE	
RECREATN ASSOC									
S OKC JR COL	0	0	0	0	0	0	0	0	32
PROGRAM TOTAL	0	0	0	0	0	0	0	0	32
BANKAG & FINANC									
S OKC JR COL	641	641	0	0	0	0	0	0	1
TULSA JR COLL	4	4	0	0	0	0	0	0	216
PROGRAM TOTAL	645	645	0	0	0	0	0	0	217
FIRE PROTEC TEC									
CAMERON ST COL	0	0	0	0	0	0	0	0	1
NORTH OKLA COL	1	1	0	0	0	0	0	0	2
OK ST UNIV TECH	23	4	0	0	0	19	0	0	13
OKC OSU TECH	23	22	1	0	0	0	0	0	15
TULSA JR COLL	4	4	0	0	0	0	0	0	29
PROGRAM TOTAL	51	31	1	0	0	19	0	0	60
POLICE SCI									
ALTUS JR COL	11	9	0	0	0	2	0	0	6
CAMERON ST COL	41	13	2	0	0	26	0	0	30
CONNORS ST COL	123	100	21	0	0	1	1	0	3
NE OKLA A M COL	13	10	0	0	0	3	0	0	22
NE STATE COLL	1	0	0	0	0	0	0	0	1
NORTH OKLA COL	3	3	0	0	0	0	0	0	9
NW STATE COLL	3	0	0	0	0	3	0	0	0
OKC COL TECH	143	143	0	0	0	0	0	0	0
OKLA PANHANDLE	0	0	0	0	0	0	0	0	8
S OKC JR COL	133	133	0	0	0	0	0	0	1
SEMINOLE JR COL	19	13	6	0	0	0	0	0	7
TULSA JR COLL	44	44	0	0	0	0	0	0	90
PROGRAM TOTAL	533	468	29	0	0	35	1	0	177
INSTRUMENT TECH									

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TABLE III

POST SECONDARY FOLLOW-UP DATA -- BY SCHOOL

1974-75

SCHOOL	NUMBER OF STUDENTS WITH MARKETABLE SKILLS	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET			NUMBER STATUS UNKNOWN
		NUMBER EMPLOYED RELATED	NUMBER EMPLOYED UNRELATED	NUMBER EMPLOYED PART TIME	NUMBER UNEMPLOYED	NUMBER CONTINUING SCHOOL RELATED	NUMBER CONTINUING SCHOOL UNRELATED	NUMBER NOT IN LABOR FORCE	
CRC OSU TECH	2	2	0	0	0	0	0	0	15
OKLA ST TECH	0	0	0	0	0	0	0	0	1
OSCAR ROSE JR CL	0	0	0	0	0	0	0	0	1
TULSA JR COLL	0	0	0	0	0	0	0	0	3
PROGRAM TOTAL	2	2	0	0	0	0	0	0	20
BLDG CONSTRUCTN									
CARL ALBERT JRC	13	13	0	0	0	0	0	0	15
EASTERN OSC	54	46	2	0	0	6	0	0	0
NE OKLA A M COL	14	3	0	0	0	11	0	0	7
NE STATE COLL	0	0	0	0	0	0	0	0	1
CN ST UNIV TECH	20	0	0	0	0	20	0	0	26
OKLA ST TECH	28	25	0	0	0	3	0	0	21
TULSA JR COLL	1	1	0	0	0	0	0	0	16
PROGRAM TOTAL	130	88	2	0	0	40	0	0	86
URBAN PLANNING									
CRC CSU TECH	3	3	0	0	0	0	0	0	0
PROGRAM TOTAL	3	3	0	0	0	0	0	0	0
CORRECTIONS TRG									
NORTH OKLA COL	0	0	0	0	0	0	0	0	7
OSCAR ROSE JR CL	25	24	0	0	0	0	0	1	21
PROGRAM TOTAL	25	24	0	0	0	0	0	1	28
TECH WRITING									
CRC CSU TECH	14	13	0	0	0	0	1	0	1
PROGRAM TOTAL	14	13	0	0	0	0	1	0	1
AUTOMOTIVE TECH									
CARL ALBERT JRC	1	1	0	0	0	0	0	0	18
OKLA PANHANDLE	0	0	0	0	0	0	0	0	3
PROGRAM TOTAL	1	1	0	0	0	0	0	0	21
DIVISION TOTAL	2,491	2,182	54	2	7	247	13	6	2,072

TABLE III

POST SECONDARY FOLLOW-UP DATA -- BY SCHOOL

1974-75

SCHOOL	NUMBER OF STUDENTS WITH MARKETABLE SKILLS	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET			NUMBER STATUS UNKNOWN
		NUMBER EMPLOYED RELATED	NUMBER EMPLOYED UNRELATED	NUMBER EMPLOYED PART TIME	NUMBER UNEMPLOYED	NUMBER CONTINUING SCHOOL RELATED	NUMBER CONTINUING SCHOOL UNRELATED	NUMBER NOT IN LABOR FORCE	
TRADES & INDUSTRY									
AIR CON & REFR									
OKLA ST TECH	171	77	1	0	5	88	0	0	45
PROGRAM TOTAL	171	77	1	0	5	88	0	0	45
AUTO BODY									
OKLA ST TECH	47	45	0	0	0	0	0	2	23
PROGRAM TOTAL	47	45	0	0	0	0	0	2	23
AUTO MECH									
OKLA ST TECH	75	72	0	0	0	0	0	3	30
PROGRAM TOTAL	75	72	0	0	0	0	0	3	30
COMM ART									
ALTUS JR COL	7	6	0	0	0	1	0	0	4
EL RENO JR COLL	0	0	0	0	0	0	0	0	2
OKLA ST TECH	45	29	1	6	0	9	0	0	11
S OKC JR COL	1	1	0	0	0	0	0	0	29
PROGRAM TOTAL	53	36	1	6	0	10	0	0	46
ELECTRICITY									
OKLA ST TECH	64	63	0	0	1	0	0	0	31
PROGRAM TOTAL	64	63	0	0	1	0	0	0	31
DIESEL MECH									
OKLA ST TECH	33	33	0	0	0	0	0	0	22
PROGRAM TOTAL	33	33	0	0	0	0	0	0	22
PLUMBING									

TABLE III

POST SECONDARY FOLLOW-UP DATA -- BY SCHOOL

1974-75

SCHOOL	NUMBER OF STUDENTS WITH MARKETABLE SKILLS	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET			NUMBER STATUS UNKNOWN
		NUMBER EMPLOYED RELATED	NUMBER EMPLOYED UNRELATED	NUMBER EMPLOYED PART TIME	NUMBER UNEMPLOYED	NUMBER CONTINUING SCHOOL RELATED	NUMBER CONTINUING SCHOOL UNRELATED	NUMBER NOT IN LABOR FORCE	
OKLA ST TECH	18	18	0	0	0	0	0	0	17
PROGRAM TOTAL	18	18	0	0	0	0	0	0	17
DRAFTING									
OKLA ST TECH	9	9	0	0	0	0	0	0	34
PROGRAM TOTAL	9	9	0	0	0	0	0	0	34
PRINTING									
NORTH OKLA COL	2	1	1	0	0	0	0	0	0
OKLA ST TECH	18	15	1	0	1	0	0	1	27
PROGRAM TOTAL	20	16	2	0	1	0	0	1	27
MACHINE SHOP									
OKLA ST TECH	34	20	1	0	0	0	0	13	10
PROGRAM TOTAL	34	20	1	0	0	0	0	13	10
SM ENGINE REPR									
OKLA ST TECH	11	11	0	0	0	0	0	0	19
PROGRAM TOTAL	11	11	0	0	0	0	0	0	19
UPHOLSTERY									
OKLA ST TECH	35	5	1	0	0	0	0	29	10
PROGRAM TOTAL	35	5	1	0	0	0	0	29	10
DRY CLEANING									
OKLA ST TECH	6	4	0	0	1	0	0	1	2
PROGRAM TOTAL	6	4	0	0	1	0	0	1	2
LEATHERCRAFT									

TABLE III

POST SECONDARY FOLLOW-UP DATA -- BY SCHOOL

1974-75

SCHOOL	NUMBER OF STUDENTS WITH MARKETABLE SKILLS	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET			NUMBER STATUS UNKNOWN
		NUMBER EMPLOYED RELATED	NUMBER EMPLOYED UNRELATED	NUMBER EMPLOYED PART TIME	NUMBER UNEMPLOYED	NUMBER CONTINUING SCHOOL RELATED	NUMBER CONTINUING SCHOOL UNRELATED	NUMBER NOT IN LABOR FORCE	
OKLA ST TECH	24	23	0	0	0	0	0	1	7
PROGRAM TOTAL	24	23	0	0	0	0	0	1	7
WATCH-MICR REPR									
OKLA ST TECH	10	10	0	0	0	0	0	0	5
PROGRAM TOTAL	10	10	0	0	0	0	0	0	5
DIVISION TOTAL	590	422	6	6	8	98	0	50	328

TABLE III

FULL-TIME ADULT FOLLOW-UP DATA -- BY SCHOOL

1974-75

SCHOOL	NUMBER OF STUDENTS WITH MARKETABLE SKILLS	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET			NUMBER STATUS UNKNOWN
		NUMBER EMPLOYED RELATED	NUMBER EMPLOYED UNRELATED	NUMBER EMPLOYED PART TIME	NUMBER UNEMPLOYED	NUMBER CONTINUING SCHOOL RELATED	NUMBER CONTINUING SCHOOL UNRELATED	NUMBER NOT IN LABOR FORCE	
AGRICULTURE									
HORTICULTURE									
MID AMERICA AS	4	2	1	0	1	0	0	0	1
PROGRAM TOTAL	4	2	1	0	1	0	0	0	1
AG BUSINESS									
CADDO KIOWA AS	1	1	0	0	0	0	0	0	0
PROGRAM TOTAL	1	1	0	0	0	0	0	0	0
DIVISION TOTAL	5	3	1	0	1	0	0	0	1

TABLE III

FULL-TIME ADULT FOLLOW-UP DATA -- BY SCHOOL

1974-75

SCHOOL	NUMBER OF STUDENTS WITH MARKETABLE SKILLS	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET			NUMBER STATUS UNKNOWN
		NUMBER EMPLOYED RELATED	NUMBER EMPLOYED UNRELATED	NUMBER EMPLOYED PART TIME	NUMBER UNEMPLOYED	NUMBER CONTINUING SCHOOL RELATED	NUMBER CONTINUING SCHOOL UNRELATED	NUMBER NOT IN LABOR FORCE	
DISTRIBUTIVE ED.									
CASHIER CHECKER									
GREAT PLAINS AS	145	87	10	0	27	5	6	10	19
PROGRAM TOTAL	145	87	10	0	27	5	6	10	19
DIVISION TOTAL	145	87	10	0	27	5	6	10	19

TABLE III

FULL-TIME ADULT FOLLOW-UP DATA -- BY SCHOOL

1974-75

SCHOOL	NUMBER OF STUDENTS WITH MARKETABLE SKILLS	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET			NUMBER STATUS UNKNOWN
		NUMBER EMPLOYED RELATED	NUMBER EMPLOYED UNRELATED	NUMBER EMPLOYED PART TIME	NUMBER UNEMPLOYED	NUMBER CONTINUING SCHOOL RELATED	NUMBER CONTINUING SCHOOL UNRELATED	NUMBER NOT IN LABOR FORCE	
HEALTH									
PRACTICAL NURSE									
BYNG HS	16	16	0	0	0	0	0	0	0
CAN VAL AS-ELRN	22	19	0	1	2	0	0	0	1
CENTRAL OK-AS	25	23	0	0	0	1	0	1	0
G COOPER AS	31	30	0	0	0	1	0	0	0
GREAT PLAINS AS	23	20	0	0	2	0	0	1	0
INDIAN CAP AS	39	38	0	0	0	1	0	0	4
KIAMICHI AS-MCL	19	19	0	0	0	0	0	0	3
KIAMICHI AS-PO	19	19	0	0	0	0	0	0	0
KIAMICHI AS-TAL	11	11	0	0	0	0	0	0	0
MID AMERICA AS	1	1	0	0	0	0	0	0	2
OKC ADULT INST	53	53	0	0	0	0	0	0	1
OT AUTRY AS	13	13	0	0	0	0	0	0	0
PIONEER AVTS PC	21	21	0	0	0	0	0	0	2
PRYOR AVTS	41	24	0	0	0	17	0	0	0
SOUTH OKLA AS	16	16	0	0	0	0	0	0	0
TRI COUNTY AS	19	15	0	0	3	1	0	0	9
TULSA AVTS	22	20	0	0	2	0	0	0	15
TULSA CEN OFF	40	37	0	1	0	0	0	2	3
W OKLA AVTS	27	24	0	2	0	0	0	1	0
WOODWARD HS	18	17	0	1	0	0	0	0	3
PROGRAM TOTAL	476	436	0	5	9	21	0	5	43
DIVISION TOTAL	476	436	0	5	9	21	0	5	43

TABLE III

FULL-TIME ADULT FOLLOW-UP DATA -- BY SCHOOL

1974-75

SCHOOL	NUMBER OF STUDENTS WITH MARKETABLE SKILLS	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET			NUMBER STATUS UNKNOWN
		NUMBER EMPLOYED RELATED	NUMBER EMPLOYED UNRELATED	NUMBER EMPLOYED PART TIME	NUMBER UNEMPLOYED	NUMBER CONTINUING SCHOOL RELATED	NUMBER CONTINUING SCHOOL UNRELATED	NUMBER NOT IN LABOR FORCE	
HOME ECONOMICS									
VOCATIONAL SERV									
KIAMICHI AS-HU	2	1	0	1	0	0	0	0	0
KIAMICHI AS-MCL	2	0	0	0	0	0	0	2	0
PROGRAM TOTAL	4	1	0	1	0	0	0	2	0
DIVISION TOTAL	4	1	0	1	0	0	0	2	0

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TABLE III

FULL-TIME ADULT FOLLOW-UP DATA -- BY SCHOOL

1974-75

SCHOOL	NUMBER OF STUDENTS WITH MARKETABLE SKILLS	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET			NUMBER STATUS UNKNOWN
		NUMBER EMPLOYED RELATED	NUMBER EMPLOYED UNRELATED	NUMBER EMPLOYED PART TIME	NUMBER UNEMPLOYED	NUMBER CONTINUING SCHOOL RELATED	NUMBER CONTINUING SCHOOL UNRELATED	NUMBER NOT IN LABOR FORCE	
BUSINESS & OFFICE									
GENRL OFF CLRK									
CENTRAL OK-AS	60	26	8	3	8	1	1	13	0
G COOPER AS	17	10	0	2	1	1	0	3	2
KIAMICHI AS-PO	5	5	0	0	0	0	0	0	0
TRI COUNTY AS	66	51	0	0	8	3	0	4	35
PROGRAM TOTAL	148	92	8	5	17	5	1	20	37
COMPUTER PROG									
DUNCAN AREA SH	4	0	0	0	0	4	0	0	0
PROGRAM TOTAL	4	0	0	0	0	4	0	0	0
DIVISION TOTAL	152	92	8	5	17	9	1	20	37

TABLE III

FULL-TIME ADULT FOLLOW-UP DATA -- BY SCHOOL

1974-75

SCHOOL	NUMBER OF STUDENTS WITH MARKETABLE SKILLS	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET			NUMBER STATUS UNKNOWN
		NUMBER EMPLOYED RELATED	NUMBER EMPLOYED UNRELATED	NUMBER EMPLOYED PART TIME	NUMBER UNEMPLOYED	NUMBER CONTINUING SCHOOL RELATED	NUMBER CONTINUING SCHOOL UNRELATED	NUMBER NOT IN LABOR FORCE	
TRADES & INDUSTRY									
AIRCRAFT FRAME									
OT AUTRY AS	3	2	0	0	0	0	1	0	0
PROGRAM TOTAL	3	2	0	0	0	0	1	0	0
CARPENTRY									
KIAMICHI AS-MCL	7	6	0	0	1	0	0	0	0
KIAMICHI AS-PO	19	8	1	0	0	10	0	0	1
PROGRAM TOTAL	26	14	1	0	1	10	0	0	1
ELECTRONICS									
OT AUTRY AS	15	2	8	0	0	5	0	0	0
PROGRAM TOTAL	15	2	8	0	0	5	0	0	0
WELDER									
CENTRAL OK-AS	41	35	4	0	2	0	0	0	1
SAPULPA EXTEN	112	104	3	0	1	0	1	3	0
PROGRAM TOTAL	153	139	7	0	3	0	1	3	1
HEAVY EQUIP OPR									
CENTRAL OK-AS	63	44	5	1	12	0	0	1	13
PROGRAM TOTAL	63	44	5	1	12	0	0	1	13
TRUCK DRIVER TR									
CENTRAL OK-AS	125	98	13	0	12	0	1	1	1
PROGRAM TOTAL	125	98	13	0	12	0	1	1	1
ELECT LINEMAN									

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TABLE III

FULL-TIME ADULT FOLLOW-UP DATA -- BY SCHOOL

1974-75

SCHOOL	NUMBER OF STUDENTS WITH MARKETABLE SKILLS	AVAILABLE FOR LABOR MARKET				UNAVAILABLE FOR LABOR MARKET			NUMBER STATUS UNKNOWN
		NUMBER EMPLOYED RELATED	NUMBER EMPLOYED UNRELATED	NUMBER EMPLOYED PART TIME	NUMBER UNEMPLOYED	NUMBER CONTINUING SCHOOL RELATED	NUMBER CONTINUING SCHOOL UNRELATED	NUMBER NOT IN LABOR FORCE	
AFTON AVTS	14	12	1	0	0	0	0	1	2
TRI COUNTY AS	3	2	0	0	0	0	0	1	0
PROGRAM TOTAL	17	14	1	0	0	0	0	2	2
BUTCHER									
W CKLA AVTS	17	12	0	0	0	2	3	0	1
PROGRAM TOTAL	17	12	0	0	0	2	3	0	1
DIVISION TOTAL	419	360	35	1	28	17	6	7	19

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CE 008 941

ACCESSION NUMBER: VT103276

PUBLICATION DATE: JAN74

TITLE: A DIGEST OF THE EVALUATION OF COORDINATED VOCATIONAL ACADEMIC EDUCATION IN TEXAS.

DESCRIPTOR: *EDUCATIONAL ALTERNATIVES; *VOCATIONAL EDUCATION; *PROGRAM EVALUATION; *SCHOOL SURVEYS; SECONDARY EDUCATION; PROGRAM EFFECTIVENESS; *DISADVANTAGED YOUTH

IDENTIFIER: COORDINATED VOCATIONAL ACADEMIC EDUCATION; CVAE; TEXAS

EDRS PRICE: MF AND HC AVAILABILITY WILL BE ANNOUNCED IN VOL. 10, NO. 2.

DESCRIPTIVE NOTE: 11P.

ABSTRACT: THIS STUDY WAS CONDUCTED TO DETERMINE IF THE GOALS AND OBJECTIVES OF THE COORDINATED VOCATIONAL ACADEMIC EDUCATION (CVAE) PROGRAM IN TEXAS WERE BEING MET. QUESTIONNAIRES WERE DEVELOPED AND ADMINISTERED TO ADMINISTRATIVE SUPERVISORS, VOCATIONAL AND ACADEMIC TEACHERS, AND PRESENT AND FORMER STUDENTS IN 381 SCHOOLS. FROM THE INFORMATION RECEIVED, MOST VOCATIONAL PROGRAMS WERE FOUND TO BE SUCCESSFUL, WHILE 35 PERCENT OF THE ACADEMIC PROGRAMS INDICATED SUCCESS, AND 33 PERCENT INDICATED PROGRESS AND IMPROVEMENT. ALSO INCLUDED IN THE REPORT IS ADDITIONAL INFORMATION BEARING ON THE SUCCESS OR FAILURE OF THE PROGRAM, SUCH AS THE METHOD OF SELECTION OF COURSES, THE ADEQUACY OF FACILITIES, SUPERVISION, TEACHER PREPARATION, STUDENT INTEREST, STUDENT SEGREGATION, AND CURRICULUM. WHEN COMPARED TO STUDENT PERFORMANCE BEFORE ENROLLMENT, ABSENTEEISM, SUSPENSIONS, AND DISCIPLINE PROBLEMS SHOWED A MARKED DECREASE. CVAE TEACHERS REPORTED THAT 97 PERCENT OF THE VOCATIONAL TEACHERS AND 86 PERCENT OF THE ACADEMIC TEACHERS FELT THAT THE PROGRAM WAS EFFECTIVE. LESS SUCCESS WAS ACHIEVED BY THE ACADEMIC PHASE DUE TO LACK OF TRAINING FOR ACADEMIC TEACHERS, LARGE CLASSES, AND UNFAVORABLE ATTITUDES OF STUDENTS AND TEACHERS. ALTHOUGH STIGMA WAS A MAJOR DETRIMENT IN SOME SCHOOLS, IT WAS NOT FOUND WHERE CVAE STUDENTS REMAINED AN INTEGRAL PART OF THE STUDENT BODY. ALL FORMER STUDENTS RETURNING QUESTIONNAIRES WOULD ADVISE HIGH SCHOOL STUDENTS TO ENTER THE CVAE PROGRAM. (NJ)

INSTITUTION NAME: EAST TEXAS STATE UNIV., COMMERCE.

SPONSORING AGENCY NAME: TEXAS EDUCATION AGENCY, AUSTIN. DEPT. OF OCCUPATIONAL EDUCATION AND TECHNOLOGY.

VT 103 276

A Digest of the Evaluation of Coordinated Vocational Academic Education in Texas

A digest of a study conducted
under contract with the Department
of Occupational Education and Technology,
Texas Education Agency

East Texas State University
Commerce, Texas
January, 1974

CE 008 944
103 276

A digest of a study
for the evaluation of
Coordinated Vocational Academic
Education in Texas

The study was conducted
by Mrs. Vonda June Prestom,
Paris Junior College, under
contract with the Department
of Occupational Education
and Technology, Texas
Education Agency.

This digest was completed at the
request of the Texas Education
Agency by Ira Nell Truman,
C.V.A.E. Teacher Education Project,
East Texas State University

SYNTHESIS OF COORDINATED

VOCATIONAL ACADEMIC EDUCATION IN TEXAS

Coordinated Vocational Academic Education in Texas has been in effect for six years with a growing number of schools in the program to indicate the program is a success. However, due to the fact that no formal research was available to determine the strengths and weaknesses of the CVAE Program, the Texas Education Agency approved a grant and contracted with Paris Junior College for a research study of the present CVAE Program in Texas. The primary purpose of this study was to determine if the goals and objectives for which CVAE was established were being met.

Coordinated Vocational Academic Education is a combination of vocational and academic instruction for the student who is not succeeding in the traditional program due to academic, socio-economic, or other handicaps. The vocational courses provide instruction to prepare students for jobs requiring semi-skilled knowledge and training; the academic courses provide instruction to meet the needs of the students and to provide practical application to the vocational courses.

Two studies were conducted. Questionnaires were developed for CVAE administrative supervisors, CVAE vocational and academic teachers, and present and former CVAE students. The first study was done to field test the research instruments and was used in 29 schools. The sample study and personal interviews formed a basis for evaluation and revision for the second study which included the 381 schools or 195 school districts which operated CVAE schools in Texas during the 1971-1972 school year. The questionnaires included reply envelopes which provided for each to be returned individually by the administrators and teachers. The student questionnaires were distributed during personal visitation. A large percentage of the personnel involved in the teaching or supervising of CVAE programs returned data for this study.

Due to the fact that teachers of failing programs are not as willing to return questionnaires as are teachers of successful programs, all conclusions drawn from the comparison of successful to failing programs are based on inconclusive data. Further research is needed in this area. However, from the information received, most vocational programs were found to be successful while 35 percent of the academic programs indicated failure, 32 percent indicated success, and 33 indicated progress and improvement.

The selection of clusters for CVAE programs in indivudual schools was determined by three methods: an occupational survey to determine the job market in the local area, administrative personal judgment, and recommendations of advisory councils. Personal interviews with administrators revealed that students have a greater tendency to drop out of school at the junior high school level. The 16 year old student who is two years behind his grade level is not likely to continue a traditional academic program. For this reason, most school systems introduce the CVAE program at the junior high level and feel a need for additional CVAE units at the high school level to continue the program beyond the junior high school level to regular high school vocational courses or CVAE Cooperative Part-time Programs. However, most administrators and academic teachers see a need to have more CVAE units in the junior high level and meet the needs of these students before expanding to the upper grades.

A large percentage of the administrators say they have 15 percent or more of their students eligible but not enrolled for CVAE. Administrators more than teachers realize the need for additional CVAE units. The industrial area is the primary area needing additional units according to the academic teachers. Industrial, homemaking, and cooperative are most often mentioned by administrators and teachers as needing additional units. CVAE personnel feel additional clusters should be added to the Texas Education Agency Approved List for additional programs for girls and for paint and body repair. Yet,

most administrators and vocational teachers feel most existing clusters do represent area job demands and most students say they are interested in obtaining a job in the field which they are studying in CVAE. More than half the clusters in current programs are mechanical repair, construction trades, and home and community services.

Lack of facilities is the major problem mentioned by administrators for not adding CVAE programs. Sixty-nine percent of the administrators gave this reason for not expanding. Most CVAE facilities and equipment meet the standards required by Texas Education Agency. The feasibility of CVAE using regular vocational facilities is equally divided in the opinion of administrators. The questionnaire data which revealed there is little isolation of CVAE students from the total student body was contradictory to visitation findings which indicated isolation of academic classrooms has a direct relationship to CVAE stigma.

Supervision is usually performed by school principals. According to questionnaires returned from administrators and to visitation, school principals are usually the supervisors of local school CVAE programs. Of the questionnaires returned from supervisors of CVAE programs, 53 percent were from principals or assistant principals. Although vocational director/administrators were on the staff of 70 percent of the responding schools, questionnaires were completed by only 26 percent of them as direct supervisors of CVAE. The remaining were completed by vocational counselors and other members of the school staff. One individual usually supervises both academic and vocational areas of CVAE. When there is a division in the supervision, the principal usually supervises the academic phase and the vocational director usually supervises the vocational phase.

While the teachers do not agree with the figures above as to principals usually being the supervisors of CVAE programs, all questionnaires agree that all vocational classes receive more supervisory visits than academic classes. Failing academic programs showed still fewer supervisory visits than successful academic programs. Lack of interest and concern of the administrator has a

direct relationship to CVAE failure. Administrators and vocational and academic teachers returned questionnaires indicating need of assistance from experienced personnel in developing instructional materials for CVAE and a state CVAE vocational and academic specialist to assist local programs.

The dissimilarities of vocational and academic teachers may be factors in the success or failure of the CVAE program. The vocational program was more successful than the academic program according to the findings of the administrators, CVAE teachers, and visiting team. The lack of academic teachers with training for teaching CVAE students was mentioned twice as often as any other problem in faculty selection. The state requirement for vocational teacher training adds to the wide difference of training between the academic teacher and the vocational teacher. More than half of the academic teachers feel they need additional training in areas of teaching methods, instructional materials, instructional aids for the students and training in student relationships and motivation. Vocational and academic teachers want additional training to be offered through area in-service training and summer college courses and feel a need for coordination of academic and vocational phases of CVAE.

The CVAE students' interest in vocational classes is most often the primary reason for his selection to the program. A large percentage of the students continue to prefer the vocational classes. Principals, counselors, and CVAE teachers with help from regular academic teachers usually identify, screen, and select students for the CVAE programs. Academic failure is most often the deciding factor in selection. Interviews and achievement testing are used in the decision.

There is little feeling of segregation on the part of the CVAE student. In fact, one proof of favorable attitude toward vocational classes is reflected by teachers' feelings that CVAE students feel segregated less often in vocational classes than in academic classes. Sixty-six percent of the

administrators report they have students returning to regular programs before completing CVAE classes due to the students' improved achievement levels. Vocational teachers see greater improvement in their students than the academic teachers see in their CVAE students. They agree that self-confidence and pride are the areas of greatest improvement.

Course offerings at the individual local level differ greatly. The local school personnel is responsible for the decision of how the classroom meets the needs of the CVAE students. The methods of achieving these goals vary from district to district, school to school, and teacher to teacher. Modified academic classes in English, mathematics, science, and social studies are offered for CVAE students. However, few CVAE students are enrolled in elective courses with mainstream students. Few elective courses, other than physical education are offered to CVAE students.

Vocational and academic teachers develop their own course outlines. Ninety percent of the academic teachers and 66 percent of the vocational teachers expressed a need for assistance in developing the outlines. The greatest need expressed was for definite curriculum guidelines with realistic goals. It was felt by many teachers and administrators that more coordination between vocational and academic courses is needed. Credit toward high school graduation is received for CVAE courses, although many schools do not offer enough CVAE courses to fulfill graduation requirements.

Since CVAE students are often absent and have a history of academic failure, the influence of CVAE can be noted by a change in absenteeism, academic failure, disciplinary problems and school dropouts. This study did a comparison of students before and since their enrollment in CVAE in regards to absenteeism, academic failure, disciplinary problems and dropouts. It further did a study between regular and CVAE students. When CVAE students are compared to their performance before enrolling in CVAE, the improvement is impressive:

- 2½ percent decrease in dropouts

- 11 percent decrease in absenteeism
- 36 percent decrease in suspensions
- 41 percent decrease in discipline problems

However, many teachers have found chronic absentees, undisciplined or apathetic students, and severe emotional problem students do not benefit from CVAE programs.

CVAE teachers report that 97 percent of the vocational teachers and 86 percent of the academic teachers feel that the CVAE program is effective in their school. Adequate or good community support is reported by a majority of the administrators. The most common means of promoting CVAE in a local area is through the informative programs to PTA, civic clubs, and community groups and letters to parents. News media in the community and local businesses often lend support.

Initial prejudice against the vocational phase of CVAE is eliminated by job interest, the lack of previous experience, and the break from traditional education. The stigma attached to the academic phase of CVAE is due to previous academic failure, low intellectual level of many selected students, and deprivation of elective courses and extra-curricular activities. Less success has been achieved by the academic phase of CVAE due to lack of CVAE training for academic teachers, large classes, difficulty in obtaining appropriate teachers' materials, as well as due to the unfavorable attitudes of teachers and students toward the academic phase.

Many schools have never encountered stigma, while in others stigma attachment is a major detriment to the CVAE program. Stigma is seldom found in programs where CVAE students attend modified CVAE academic classes and have daily contact with regular students through physical education, elective courses, and sports. When CVAE students remain an integral part of the total student body, no stigma is found. Evidence of CVAE success and program acceptance was found when mainstream students requested enrollment in CVAE courses. When

students see a product made by a CVAE student whose skill exceeds that of regular students, CVAE becomes a prestige involvement. Community use or display increases the respect and pride for the student. Another means of stigma deterrent is the development of leadership among CVAE students. Schools can further prevent stigma attachment by recognition of CVAE participation in area and state industrial fairs, display of awards, and honor rolls.

All former students returning questionnaires would advise high school students to enter CVAE. Their reasons are opportunity for job improvement, development of a better attitude toward school and respect for an occupation, and expansion of learning beyond that of regular classes. The students felt personal improvements in appearance, getting along with others, and more interest in and better understanding of school were results of CVAE.

COORDINATED VOCATIONAL ACADEMIC

EDUCATION CURRICULUM PREPARATION

AND TEACHER EDUCATION

Several years ago the State of Texas began its implementation of Coordinated Vocational Academic Education programs for disadvantaged students in the secondary schools. Since that time, an impressive number of programs have been established. The success in terms of keeping students in school to graduation, giving them valuable vocational training, and providing them with necessary income while they are in school can be validated in all parts of the State.

However, there is still a lack of coordination in aspects of the program and several needs have not been addressed. Therefore, the Texas Education Agency approved a project entitled Coordination of Coordinated Vocational Academic Education Curriculum Preparation and Teacher Education which was awarded to East Texas State University from September, 1973 to July, 1975. The priority area addressed in this proposal is for educational disadvantaged students in CVAE through the coordination of teacher education and curriculum development.

The objectives for this two-year project are as follows:

- to provide leadership and liaison for the developing of curriculum guides in the subject areas of mathematics, science, social studies, and English, utilizing existing materials and developing additional methods and materials for CVAE programs.
- to develop a comprehensive teacher education program for teachers in CVAE programs.
- to implement in-service program utilizing and piloting the modules mentioned in Objective two.
- to make available a network of professional staff development

centers, including the training of a corps of master teachers.

- to develop a model for curriculum development incorporating sound and current notions of inquiry, concept development, multi-cultural education, and relating academic concepts to the realities of work and everyday behavior.

One can conclude that the scope of this project should serve to meet the needs pointed out in the Paris Junior College report in that within two years:

- teachers would have curriculum guides and suggested materials to guide them,
- a supervisory staff capable of assisting academic teachers would be developed, and
- academic teachers in CVAE programs would have a source of in-service (and pre-service) education to help them meet the needs of their students.

CE 008 244

ACCESSION NUMBER: VT103277

PUBLICATION DATE: 28OCT74

TITLE: ANALYSIS OF EFFECTS OF CHANGE IN THE BASIS OF FUNDING APPRENTICESHIP RELATED INSTRUCTION IN PUBLIC SCHOOLS. FINAL REPORT.

PERSONAL AUTHOR: PULASKI, RICHARD E.

DESCRIPTOR: *EDUCATIONAL FINANCE; STATE AID; PRIVATE FINANCIAL SUPPORT; *FINANCE REFORM; *APPRENTICESHIPS; *WORK EXPERIENCE PROGRAMS; TRADE AND INDUSTRIAL EDUCATION; PROGRAM COSTS; *LOCAL UNIONS; PROGRAM EVALUATION

IDENTIFIER: *TEXAS

EDRS PRICE: MF AND HC AVAILABILITY WILL BE ANNOUNCED IN VOL. 10, NO. 2.

DESCRIPTIVE NOTE: 57P.

ABSTRACT: FUNDING POLICY FOR APPRENTICESHIP-RELATED INSTRUCTION IN THE TEXAS PUBLIC SCHOOLS WAS CHANGED IN 1973 TO PROVIDE MORE EQUITABLE DISTRIBUTION BETWEEN STATE AND LOCAL MONIES THROUGH USE OF A CONTRACT HOUR FORMULA BASIS. TO PROVIDE GUIDELINES FOR ANY ADJUSTMENTS IN FUTURE FUNDING PATTERNS, THE TEXAS ENGINEERING EXTENSION SERVICE OF THE TEXAS A&M UNIVERSITY CONDUCTED A STUDY TO DETERMINE THE PRIVATE SECTOR'S ASSESSMENT OF THE NEW FUNDING BASIS AND ANY NEEDED CHANGES. DATA WERE COLLECTED THROUGH INTERVIEWS AND QUESTIONNAIRES FOR LOCAL APPRENTICESHIP PROGRAMS WITH RELATED INSTRUCTION PROGRAMS IN COOPERATION WITH LOCAL PUBLIC SCHOOLS. FINDINGS INDICATED THAT THE NEW FUNDING POLICY WAS APPROVED BY NEARLY EVERYONE CONCERNED WITH THE PROGRAMS. THE QUESTION, RESPONSES, AND SUMMARIZED PROGRAM EXPENDITURES ARE APPENDED. THE REPORT CONCLUDES THAT EXPENDITURES BY THE LOCAL JOINT APPRENTICESHIP COMMITTEES WERE A MAJOR CONTRIBUTION TO THE QUALITY OF THE PROGRAMS. RECOMMENDATIONS FOR FURTHER MODIFICATIONS IN THE STATE FUNDING POLICY AND IN PROGRAM STANDARDS ARE PRESENTED. (MF)

INSTITUTION NAME: TEXAS A AND M UNIV., COLLEGE STATION. TEXAS ENGINEERING EXTENSION SERVICE.; TEXAS EDUCATION AGENCY, AUSTIN.

VT 103 277

ANALYSIS OF EFFECTS OF CHANGE IN THE BASIS OF FUNDING APPRENTICESHIP RELATED INSTRUCTION IN PUBLIC SCHOOLS

FINAL REPORT

TEXAS ENGINEERING EXTENSION SERVICE
THE TEXAS A&M UNIVERSITY SYSTEM

in cooperation with

THE TEXAS EDUCATION AGENCY

W. B. Mansfield
Project Director

Richard E. Pulaski
Principal Investigator

October 28, 1974

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BACKGROUND AND PURPOSE OF THE STUDY

For a number of years, apprenticeship related instruction in the public schools was not only inadequately funded (in relation to total expenditures) but was also inequitably funded when compared to the contact hour reimbursement method used in the post-secondary institutions. In addition to State monies allowed for apprenticeship related instruction, the Local Joint Apprenticeship Committees (JAC) were called upon to provide supplementary funds to meet necessary expenditures. In many cases, these supplementary funds provided by the JAC are in addition to tuition charged to the apprentices. The Apprenticeship Related Instruction Cost Study (1972) found that the ratio of participation was 12 percent State monies and 88 percent local monies. As a result of a new funding policy adopted by the Texas Education Agency in 1973, financing of apprentice training related instruction has been more equitably distributed; and a greater utilization of apprenticeship related instruction has been encouraged.

In February of 1973, The State Board of Education accepted the concept of a contact hour formula basis for funding apprenticeship related instruction classes without regard to the type of sponsoring institution. In the public schools, this was a major change in funding, which was previously based on a percentage reimbursement of the instructor's salary up to a maximum amount. In some cases a portion of supervisory costs were also reimbursed. In addition to instructor's salary and supervision, allowable expense items under the new reimbursement policy also include clerical costs, operating expenses, janitorial

costs, and lighting and heating.

In this same meeting, The State Board also accepted the report mentioned above, (Apprenticeship Related Instruction Cost Study), which included a number of recommendations reads in part: "that an apprenticeship training advisory committee (ATAC) be established which would be representative of education, labor, management, and public who are presently involved in apprenticeship training . . ." (This committee was appointed March 10, 1973, and is now functioning). This recommendation further suggests: "Also, ATAC should determine which expenses would be reimbursible under the student contact hour basis of funding after further study." A problem arose in ensuring adequate analysis and input from the private sector and program sponsors with regard to needed adjustments and guidelines on future funding patterns.

The Texas Engineering Extension Service has maintained contact with apprenticeship program sponsors throughout the State. This line of communication was utilized to obtain data and an analysis of the needs of this important segment of the educational delivery system. It is expected that results of this project will:

1. Aid the Texas Education Agency (TEA) in making needed adjustments in the funding of apprenticeship related instruction programs.

2. Provide information to the Apprenticeship Training Advisory Committee to assist the committee in formulative recommendations to TEA.

3. Supply information to apprentice training specialists for use in advising local program operators on TEA policies.

4. Supply information to TEA and apprentice training specialists to be used by local schools and apprentice program sponsors in determining optimum size of classes.

OBJECTIVES

The specific objectives of the study were to:

1. Determine private sector assessment of the adequacy of the new basis for funding apprenticeship related instruction classes in the public schools.

2. Identify capabilities of the private sector funding program which should be considered in establishing future contracting, reporting, and auditing procedures.

3. Make recommendations, if needed, for possible adjustment in future funding plans.

PROCEDURE

The need for possible adjustments in funding of apprentice programs was discussed through contact with sponsors (JAC and coordinators) of local apprentice training programs. The data were collected through personal and telephone interviews and through questionnaires. In most instances, an interview checklist was completed by the interviewer for local apprenticeship programs which conduct related instruction programs in cooperation with local public schools. Some r spondents supplied information by completing the forms themselves and returning them.

The study followed the sequence of events listed below:

1. An interview checklist was developed and refined to elicit information on related instruction expenditures borne by local program sponsors (See Appendix I) and to determine reaction of local sponsors to the new funding procedure.

2. An overview of the project was presented to the annual meeting of the Apprenticeship and Training Association of Texas at the 1974 meeting of this organization to obtain an understanding of the study by the membership and support for assistance in gathering the data.

3. Arrangements were made for interviews, which were conducted as program sponsors were available.

4. For various reasons, numerous program sponsors were not available for personal interviews. Efforts were made, with some degree of success, to reach these individuals through telephone interviews or interview checklists distributed to them to serve as a survey questionnaire.

5. The U. S. Department of Labor, Bureau of Apprenticeship and Training, was consulted as need arose.

6. Close liaison was maintained with The Department of Occupational Education and Technology, Division of Public School Occupational Programs (Industrial) of the Texas Education Agency.

7. Responses were analyzed, and results are tabulated in Appendices II and III.

8. Recommendations were formulated on the basis of the interviews and the data obtained.

FINDINGS OF THE STUDY

The results which the study was expected to produce are briefly summarized as follows:

1. To determine the private sector assessment of the adequacy of the new basis for funding.

2. To identify the capabilities of the private sector funding program

which should be considered in establishing future contracting, reporting, and auditing procedures.

3. To provide a report which reflects the results of the study and which will have practical value to the Advisory Council for Technical-Vocational Education in Texas.

In general, the first result summarized above appears to have been successfully achieved. For the most part, those who participated in the study were quite helpful in providing an assessment of the new funding procedure. Less success was met in identifying (in objective terms) the capabilities of the private sector funding program.

Apprenticeship related instruction is funded by the Texas Education Agency in 20 independent school districts of the State. Partial or complete responses were obtained from 13 of these districts. This constituted a sampling of 65 percent of the funded school districts. The participating districts provide related instruction for 73 apprenticeship programs. Of these, complete or partial returns were obtained from 26 for a sampling of 36 percent. Apprenticeship programs which provided data in this study enroll a total of 1355 apprentices. This constitutes 38 percent of the total number of apprentices (3585) who receive related instruction through the public schools. Totals for the number of school districts which conduct apprenticeship related classes, programs being funded, and apprentices enrolled, are computed as accurately as data available at time of study would permit.

Private Sector Assessment of the New Funding Procedure. The information obtained for the purpose of determining the private sector assessment of the adequacy of the new basis for funding was acquired in the following manner:

Five questions were devised to elicit this data. Answers to the questions were received through interviews (both personal and telephone) and through responses returned by mail or through other individuals. Responses to these five questions are listed in Appendix II. They are listed in the order of the number of apprentices enrolled in each program which participated in the study. The responses begin with the program which enrolled the smallest number of apprentices and terminates with the program which enrolled the largest number. These programs enrolled from six apprentices to 309 apprentices.

> Question 1: How do you feel the present funding system compares to the previous funding system and why?

Three of the participants gave no response to this question. One explanation of this failure to answer the question may lie in comments of two others. One respondent indicated that he had little or no information about the previous method. Another stated in the interview that he had been given no explanation by the school of the present method. It was the feeling of the interviewer that there was a frequent lack of effective communication regarding funding methods. Of those who responded to the question, 85 percent expressed favorable to enthusiastic acceptance of the new procedure. The most frequent idea expressed by those who approved the program was that the new procedure was more flexible and permitted expenditure of funds for additional purposes which would directly improve the program.

> Question 2: Can the local school system be more helpful in the operation of apprenticeship?

One participant did not respond to this question. Thirteen of the respondents answered, "No". Fourteen answered, "Yes". (The additional response results from one coordinator whose program is divided between two districts. He responded

"No" for one location, and "Yes" for the other.) The "Yes" responses were requested to explain how the local school might be more helpful. Among the responses to this part of the question, the most frequent answers expressed concern for better communication with local school officials and more adequate facilities. Two respondents mentioned that it would be desirable for the local sponsor to participate in the budgeting process.

Question 3: Can State funding of apprenticeship related instruction classes be modified to be more responsive to your needs?

One participant provided no response to this question. Nine respondents replied, "No", to this question. The remaining comments (16) provided a variety of suggestions of ways State funding might be made more helpful. Nearly all, however, in one way or another were essentially requests for additional funds. Most suggestions could be summarized as a request that the limit of 12 students per class in the present reimbursement formula be increased--preferably to include all students in a class.

Question 4: In order of importance what are the five most urgent needs of your program?

No response was given this question by two participants. Other respondents identified from one to five needs. The need for improved physical facilities was a frequent response, and where mentioned, was usually listed first. Twelve respondents stated that instructional materials were a principal need--textbooks were most often mentioned specifically. Another frequently expressed need pertained to better cooperation and/or coordination with other interested groups. These included the local school, the JAC, and others concerned with apprentice training. Three individuals indicated problems in attracting qualified applicants while an additional three stressed the importance of better qualified

instructors. Five respondents stated a need for full-time program coordinators.

Question 5: What have been the five most important improvements in your program in the last five years?

The purpose of this question was to provide an assessment of the relative importance placed on various aspects of apprentice related instruction programs by those who conduct them. When viewed in relationship to question number four, answers to this question help provide insight into the priorities of expressed needs. Three participants provided no response to this question.

Eleven respondents indicated that new or improved physical facilities obtained during the past five years were considered to be one of their most important improvements. This is consistent with the large number of those who indicated improved physical facilities to be their greatest need in response to question number four. There were fifteen statements regarding improved relationships, cooperation, and/or coordination with those who are in a position to influence the program. This, too, coincides with instances in question number four where improved relationships with others concerned with the program was seen as a need. Only two respondents mentioned better instructional materials as our important improvement. When compared to the number who saw improved instructional materials as an urgent need, an interesting question is raised. When adequate instructional materials are available to a program, are they taken for granted and not seen as an important accomplishment; or is there a general dearth of suitable instructional materials in the related instruction programs? The latter appears to be the more probable explanation. Improved funding was seen as a major improvement by eight participants. There were four specific mentions of improved State funding, while four mentioned better local funding.

In summary, it appears the new funding policy was met with enthusiastic approval by nearly everyone concerned with related instruction programs conducted for apprentices through the public schools. In identifying ways the funding procedure might be improved, numerous respondents suggested that funding from the Agency be made more flexible, that is, that reimbursement be permitted on instructional materials and other program needs as well as on instruction and supervision. It was also frequently suggested that the number of students on which contact hour reimbursement would be made should be increased. There were some requests that reimbursement be permitted on all students enrolled in a class irrespective of the total number. Others indicated only that the maximum should be increased to a larger number than twelve. There were also indications that a need was felt for better communications from school officials and for more participation on the part of sponsors in the planning stages of budgets and programs. These indications were evident both in the written responses to questionnaires and in conversations with the interviewer.

Capabilities of the Private Sector Funding. It was known from data obtained in the Apprenticeship Related Instruction Cost Study (1972) that the major portion of the costs of related instruction in apprenticeship programs is borne by the apprenticeship training committees. It was hoped that the present study might provide additional information on the private sector involvement in two respects: (1) Has the new funding procedure changed the ratio of involvement between the private sector and the Texas Education Agency? (2) What is the nature of the expenses being absorbed by the training committees under the new funding procedure?

The extent of participation in this part of the study was somewhat disappointing of the 26 respondents who provided information regarding their assessment of the new funding program, only 16 included the financial data which was requested. This constituted a sampling of 22 percent of the 73 programs which are reimbursed by the Texas Education Agency. The information obtained from those who did participate in this phase of the study was generally detailed and well documented.

One problem in obtaining participation in this part of the study stemmed from the fact that there was no uniformity in the time at which annual accounts were closed and audits were performed. Data on expenditures were requested for the 1973-74 school year. Although the data were collected in the summer of 1974 after the close of school, numerous programs had not closed accounts and the desired information was not readily available. Those programs that did participate generally provided the information from audited records. One program, however, estimated expenditures for 1973-74. This was Program Number 18. Expenditures of this program for previous years were adequately detailed, had been audited, and provided a good basis for the estimate.

The first table in Appendix III provides a summary of expenditures for the 16 participating programs. Amounts have been rounded to the nearest dollar. The program numbers indicated in the table correspond to the program numbers in Appendix II. The programs numbered in the table are the 16 participants (out of total of 26) that provided data on expenses borne by the committee.

The following is a brief explanation of expense items as they appear in the table entitled "Summary of Expenditures by Programs."

Instructors' salaries. This amount constitutes a portion of the salary of one or more instructors which was paid by the committee directly to the instructor as a supplement to the salary paid by the school. While there are no substantiating data, the interviewer learned that the salaries received by instructors (including the supplement) ranged from an amount equal to the hourly wages in the respective crafts to double the regular hourly wage. The average appeared to be about one and one half times the regular hourly wages in the craft.

Other salaries. This amount represents salaries paid to others than the instructor. It includes salaries for clerical personnel and building custodians. All or part of a coordinator's salary were paid by programs number 15, 17, 21, 22, 23, and 26. Programs number 17, 18, and 24 also included a portion of administrative salaries in the amounts of $830, $500, and $3873 respectively.

Travel. This represents travel related to the instructional program. In general, it is for purposes other than conferences and contests. These are covered in a separate item.

Building expense. Expenses under this heading include rent or an equivalent amount for amortization where building is owned by the training committee. Only buildings used for classroom or laboratory purposes are included here. Office space for committee or administrative personnel is included under "other expenses."

Instructional materials. Included under this heading are such items as text books, library books, training aids, expendable shop supplies, and other materials.

Equipment purchases. These expenditures are for capital equipment used in the instructional program.

Conferences and contests. Expenses incurred as a request of participation in the Southern States Apprenticeship Conference, the Purdue Contest for Plumbers and Pipe Fitter Apprentices, State Apprenticeship Contests and similar programs are shown here. In-service training conferences are also included. The amount includes apprentices, instructors, and coordinators.

Payments to school. This includes any payment by the committee to the public school through which the program is conducted. In most cases this represents tuition for the apprentices which (in these instances) is paid to the school by the committee. Tuition collected by the school directly from the students is not considered in this study to be an expense of the training committee. Other payments to the school are for a variety of items such as social security, instructor salary supplements, supervisory salaries, and various student services.

Other expenses. Expenditures for such items as office supplies, auditors' fees, student services, office rent for committee members or coordinators, and equipment maintenance and repair are included under this heading.

At the bottom of the table, the amount of reimbursement for the program received by the school from the Texas Education Agency is shown. This information is taken from records of the Agency.

The second table in Appendix III, entitled "Classroom and Laboratory Facilities," provides information on ownership of classroom and shop buildings. There is a variety of arrangements ranging from ownership and maintenance by the school to ownership and maintenance by the local union. The specific arrangements of each program are described.

It appears that the first question on which this phase of the study was expected

to provide information cannot be answered definitely -- Has the new funding procedure changed the ratio of involvement between the private sector and the Texas Education Agency? Several problems exist: (1) It was not possible to obtain a random sample of programs, (2) the data obtained for the private sector in this study actually included only expenditures by the committee, while the Cost Study of 1972 included committees, employers, and others, and (3) the sample for the current study is heavily weighted by programs which provide their own classroom and laboratory facilities.

The Cost Study of 1972 did provide a separate total for expenditures by the committees, however. The amount was $2,253,947 for programs included in the study. The 1972 study also arrived at a total reimbursement by the Texas Education Agency of $296,791 for those programs included in the inquiry. (Apprenticeship Related Instruction Cost Study, 1972, Table 2, p. 14.) The total of these two sources of funding was $2,550,738. Thus, the committees provided 88.4 percent of this total while the Texas Education Agency provided 11.6 percent.

In computing totals for the sample in the present study, Program Number 1 was omitted. No reimbursement was reported by the Agency for this program which has six apprentices. The total expenditures reported by the remaining 15 programs in the sample was $401,324. The amount reimbursed the public schools for these programs by the Agency was $144,712. The total of these two sources of funding was $546,036. This constitutes a ratio of 73.5 percent for the training committees and 26.4 percent for the Agency.

This would suggest that the percentage of involvement by the Agency has increased significantly. This probability appears to be strengthened if the present

sample includes (as was suggested) a disproportionately high percentage of programs in which the committee or local union provides the classroom and laboratory facilities. These conclusions should be held as tentative, however, till further data can be obtained.

The total amount expended by the 16 programs in the study are listed in the table below. The expense items are listed in the order of their relationship to the grand total for expenditures by all programs combined. (Note the total percentage does not add to 100 due to rounding.)

TOTAL AMOUNT OF EXPENDITURES
FOR 16 PROGRAMS IN THE STUDY

Expenditure	Total Amount	Percent of Grand Total
Building Expenses	$105,510	26.0
Other salaries	71,960	17.8
Instructors' salaries	66,444	16.5
Instructional materials	55,422	13.7
Conferences and Contests	49,235	12.2
Payments to school	23,042	5.7
Equipment Purchases	12,390	3.1
Other expenses	11,919	2.9
Travel	8,930	2.2
Grand Total	$405,052	100.1

The data appear to provide useful information on the second question which this part of the study was designed to answer -- What is the nature of the expenses being absorbed by the training committees under the new funding procedure? As indicated by the Table, "Summary of Expenditures by Programs" (in Appendix III) the largest expenditure for committees which own the classroom and laboratory facilities in which related instruction is conducted is generally

"Building expense". The one exception is Program Number 20 whose payments to the school were somewhat greater than building expenses. The total amount spent by the 16 programs for building expense was also the largest amount spent by the combined programs in the study.

"Other salaries" were a major expenditure for several of the programs. Of the 11 groups that funded salaries for others than instructors, five provide part or all of a salary for a coordinator. The amount paid for coordination ranged from $135 to $16,153 per year. Clerical salaries were paid by eight of the programs. The amount ranged from $120 to $5,670 annually. The second highest amount paid for clerical salaries was $1,786. Administrative salaries constituted an expenditure for three programs with amounts of $500, $830, and $3,873. Building custodians were paid $20, $450, $960, and $5,100 by four committees. The total amount of $71,960 spent by the 16 programs constituted the second largest expenditure of all programs combined.

Only one program (Number 12) did not report any expenditure for instructors' salaries. The cost of salaries of instructors for individual programs in comparison to other expenditure varied widely. For five programs, (Number 3, 10, 15, 20, and 21) it was the largest single expenditure. "Instructors' salaries" tied "payments to school" as the largest expenditure of Program Number 18. For Program Number 26, it was the smallest expense item. For all programs in the study combined, instructors' salaries constituted the third greatest expense.

A major expenditure by most committees was for instructional materials. It appears probable that a principal part of the instructional materials used in related instruction classes is supplied by the training committees. Only two

committees reported no expenditures for this purpose. Although one program (Number 7) showed expenditures for instructional materials to be the largest single expense, for all programs combined, it was the fourth largest expenditure.

The cost of sending apprentices, instructors, and coordinators to conferences and contests was another major cost of the training committees. For the largest program (Number 26) it was the greatest single expense. For the combined programs, it was the fifth largest expense.

"Payments to schools" and "Equipment purchases" were respectively the sixth and seventh greatest expenses for the combined programs. Travel expense other than for conferences and contests was a sizable expense only for three of the largest programs. Program Number 22, which had the largest expenditure for this purpose, charged 80 percent of administrative travel to instructional purposes. Program Number 23 assigned all administrative travel to instruction, while Program Number 26 assigned 95 percent of administrative travel to instruction. For all programs combined, "travel" constituted the smallest expense category.

It is evident from the data that expenditures by the committees make a major contribution to the quality of related instruction in apprenticeship training programs. Classroom and laboratory facilities tailored specifically to program needs and instructional materials have contributed greatly to program enrichment. It is doubtful that experienced instructors could be obtained without the supplementary amounts paid on instructor salaries. The "extras" such as participation in contests and in many of the training conferences probably would not be possible without the financial participation of the training committees.

RECOMMENDATIONS

Although this report was not completed and published until after the beginning of school in 1974, the data were available to personnel of the Texas Education Agency during the previous summer. A modification in the funding program which the Agency made effective for the 1974-75 school year is consistent with what would have been a primary recommendation of this report.

The following provision was included in guidelines released by the Texas Education Agency to public schools in August, 1974.

"Limitations have been placed on the amounts reimbursable to the local education agency for approved expenditures. The maximum percentages reimbursable for each category are as follows:

Instructional Salaries	80% of approved class allotment
Supervision and Evaluation	15% of approved class allotment
Clerical and Custodial Salaries	8% of approved class allotment
Other (Supply, etc.)	25% of approved class allotment

Maximum reimbursement for the four categories cannot exceed 100 percent of the approved class allotment."

The amount reimbursed by the Agency for these categories of expense is paid to the public schools through which classes are conducted. There is no reimbursement directly to the local training committees or program sponsors. Those programs which provide their own classroom and laboratory facilities generally receive no assistance for categories other than instructors' salaries. There were some instances reported, however, where the school provided some help on purchase of supplies and instructional materials.

Other recommendations which have resulted from the present study are as follows:

1. That an effort be made by all concerned to improve communication regarding the opportunities available through apprenticeship training and the role of the Texas Education Agency in funding apprenticeship related instruction. Particularly it is suggested that the Texas Education Agency, the public schools, the Bureau of Apprenticeship and Training, The Apprenticeship and Training Association of Texas, the local training committees, and (where they exist) the State training committees continue and expand their efforts to ensure that everyone involved in apprenticeship training is familiar with the funding policies of the Agency.

2. That the Texas Education Agency develop and publish a State Plan, Guidelines, and Minimum Standards for related instruction classes funded by the Agency.

3. That in preparing the proposed State Plan, Guidelines, and Minimum Standards, the optimum size (for instructional purposes) of various types of classes be determined and that the maximum size of the classes for which reimbursement is paid be increased from the present 12 to 16 or 18.

4. That the Texas Education Agency provide local schools with information on any changes in funding policy no later than June 1 each year. At this time information should also be available regarding specific expenses which may be reimbursed and (to the extent that available funds are known) the amount which can be committed by the Agency to the school for reimbursement of related instruction classes.

5. That the Texas Education Agency provide basic funding information annually to the other groups listed in Recommendation Number 1 immediately after it is released to the local schools.

6. That representatives of the local schools and representatives of the local training committees be encouraged to develop program budgets on a cooperative basis to help ensure that all financial resources be coordinated toward making the maximum contribution to program effectiveness.

7. That area consultants of the Texas Education Agency be familiar with current guidelines and policies of the Agency regarding related instruction classes in order to assist local interests in program development and budget planning.

8. That the Texas Education Agency sponsor an annual meeting of apprenticeship coordinators in conjunction with other summer and/or winter workshops.

APPENDIX I

INTERVIEW CHECKLIST

INTERVIEW CHECKLIST

Date

_____ _____
Interview Information

_____ _____ _____
Program Name Number of Apprentices City

_____ _____ _____
Teacher's Name Number of Class Hours School District

_____ _____
Social Security Number Total Student Contact Hrs.

I. Charges made by local school district to Committee on Students:

_____ per contact hour

_____ per class hour

_____ per semester

_____ TOTAL charge for _____ apprentices in

_____ classes

The above charges defray the following program costs:

_____ supervision

_____ clerical

_____ instructors salary

_____ instructional materials

_____ instructional equipment

_____ building use (class room & labs)

_____ gas (heating & equipment)

_____ electricity (lighting & equipment)

_____ janitorial

_____ other (specify)

II. Additional necessary expenditures are made as follows:

1. General Administration Expenses Borne by Committee

_____ Travel _____% charged to instruction; TOTAL _____

_____ Meetings _____% charged to instruction; TOTAL _____

2. Instruction and Laboratory Expenses Borne by Committee

A. Classroom and Laboratory

_____ materials

_____ supplies

_____ capital equipment

_____ non-capital equipment

_____ instructor salary

_____ consultants

_____ teacher training

a. In Service

_____ salary and travel

_____ tuition

b. Conference

_____ salary and travel

_____ registration

_____ other

_____ TOTAL hours classroom

_____ TOTAL hours laboratory

B. Library

_____ reference materials

_____ films

_____ video tapes

_____ A/V equipment

_____ TOTAL

C. Other (specify)

_____ _____ _____% instructional Cost

III. Additional Expenses

A. Building Operational Expense

_____ office rent in public school facility

_____ office rent for committee _____% instruction

_____ building cost (privately owned) _____% instruction

_____ utilities (TOTAL)

_____ electricity

_____ gas

_____ water

_____ telephone

_____ insurance (TOTAL)

_____ building

_____ equipment

_____ other (specify)

_____ other (specify)

_____ TOTAL

B. Salary

_____ committee

_____ coordinator _____% charged to instruction

_____ clerical _____% charged to instruction

_____ custodian _____% charged to instruction

_____ other (consultants)

_____ TOTAL

C. Office

_____ supplies _____% instruction _____

IV. Student Services

_____ veterans benefits

_____ student concessions

_____ extracurricular activities (contest, apprentice conferences)* specify

_____ TOTAL

SUMMARY OF EXPENDATURES

	Through Schools	Other	Total
Salaries			
Travel			
Rental of Space			
Instructional Supplies			
Maintenance and Repair of Equip.			
Equipment (Purchase)			
Rental of Equip.			
Employee Reimb.			
Student Compensation			
Student Service			
Construction			
Other (specify)			

1. How do you feel the present funding system compares to the previous funding system and why?

_____

_____

_____

_____

2. Can the local school system be more helpful in the operation of apprenticeship?

_____ No; _____ Yes - How? _____

_____

_____

_____

_____

3. Can the state funding of apprenticeship related instruction classes be modified to be more responsive to your needs?

_____ No; _____ Yes - How? _____

_____

_____

_____

_____

4. In order of importance - what are the five most urgent needs of your program:

1) _____

2) _____

3) _____

4) _____

5) _____

5. What have been the five most important improvements made in your program in the last five years?

1) _____

2) _____

3) _____

4) _____

5) _____

Supplemental

QUESTIONNAIRE

1. NAME OF TOWN: _____

2. COMMITTEE MEMBERS:

NAME	BUSINESS ADDRESS	BUSINESS PHONE	LABOR/ MANAGEMENT*
CHAIRMAN:			
SECRETARY-TREASURER			

* Indicate Labor or Management Representative

3. COMMITTEE'S MAILING ADDRESS AND PHONE NUMBER:

_____

_____

_____

_____

4. REGULAR MEETING TIME:

_____

5. NAME AND LOCATION OF SCHOOL FACILITIES:

_____

_____

_____

_____

6. LOCAL SCHOOL REPRESENTATIVE WORKING WITH J.A.C.:

_____

_____

_____

_____

7. TEXAS EDUCATION AGENCY AREA SUPERVISOR:

_____

_____

_____

8. APPRENTICE COORDINATOR:

_____

_____

_____

9. APPRENTICE SCHOOL INSTRUCTORS:

10. NUMBER OF APPRENTICES:

PIPEFITTER: 1st_____ 2nd_____ 3rd_____ 4th_____ 5th_____

PLUMBER: 1st_____ 2nd_____ 3rd_____ 4th_____ 5th_____

11. TIME AND DAYS APPRENTICE SCHOOL MEETS:

_____

12. JOURNEYMAN SCHOOL INSTRUCTORS:

13. TIME AND DAYS JOURNEYMAN SCHOOL MEETS:

_____

14. ANTICIPATED CHANGES IN PROGRAM:

_____

_____

_____

15. AMOUNT OF HOURLY CONTRIBUTION TO TRUST FUND

Amount _____ /Date Expires _____

16. TUITION CHARGED TO APPRENTICES

APPENDIX II

RESPONSES TO QUESTIONS REGARDING ASSESSMENTS OF NEW FUNDING PROCEDURE

QUESTION 1: HOW DO YOU FEEL THE PRESENT FUNDING SYSTEM COMPARES TO THE PREVIOUS FUNDING SYSTEM AND WHY?

1. No response.

2. It's more equitable for the JAC.

3. Improvement, helping greatly.

4. Present system more reasonable because it shares equal operation costs with local JAC.

5. No change - were getting $6 per instruction hour and are still getting it. Did away with $10 per apprentice per semester tuition. This year at end of year, $200 was allotted to program for books.

6. Much better. Change to public school made funding much more directly responsive.

7. No response.

8. Increased funding allows program to operate on broader base.

9. It's no different than before in _____ (Name of school).

10. Don't know anything about previous system.

11. Good, allows local funds to be used for needed items no longer covered by International Training Fund.

12. Appreciate having more money--don't know (how present system compares to previous system).

13. Increased funding by TEA took some strain off funding by local JAC.

14. Better because of increase instructors' salary and funds for material cost.

15. Better, less expense on local committee.

16. Got to be better. Other than an increase in instructors' salaries little of the funds sifted through.

17. Much improved. Added funds have been a great help.

18. Helping a considerable amount. Allowing enrichment of program.

19. Much better than old system. More of funding reaching the apprentice program.

20. Better, because of added funds.

21. Improved, no information from school people.

22. Much better because of flexibility.

23. Better because of flexibility.

24. The present system of $ .92 per student hour is much better than the old system. More of this funding is finally reaching the apprenticeship program.

25. Well pleased with contact hour system -- no comparison to old system.

26. Much better. More needed benefits.

QUESTION 2: CAN THE LOCAL SCHOOL SYSTEM BE MORE HELPFUL IN THE OPERATION OF APPRENTICESHIP?

1. No response.

2. No.

3. No. Has been very cooperative - furnishing facilities like pipe trades.

4. Yes, by providing a better training facility.

5. Yes, by including the program sponsor in the budgeting of the money. Maintain closer communication with the program sponsors.

6. No, don't see how.

7. No.

8. No.

9. Yes, increasing instructor cost, furnishing material cost and rental cost for shop area in _____(Name of school).

10. Yes, they will not let our students use the equipment which they have available for their classes.

11. No.

12. Yes, develop better understanding of program and better communications.

13. Yes, let the committee and instructors' know what's going on.

14. Yes, by not interfering with the local JAC'S method of operation. Not interfering with school policy.

15. Yes, let this committee and instructors know what is going on.

16. Yes, pass on more of funds. Could be more helpful in communications to state office. (That is, the school could be more helpful in assisting in communications between program leadership and TEA).

17. No (for one location). Yes, communications need to be better (for second location).
NOTE: This respondent instructs in two school districts.

18. Yes, excellent cooperation but short on space. Feel could have space if nonproductive programs were phased out (MDTA).

19. No.

20. Yes, by eliminating "red tape" in receiving supplies. Long procedures delay delivery. Coordinators need to be in on budgeting money for program use.

21. Yes, only in funding -- have coordinator.

22. No, the school system is changing so fast, can't complain now.

23. No.

24. No.

25. No, local coordinator leaves little desired.

26. No.

QUESTION 3: CAN STATE FUNDING OF APPRENTICESHIP RELATED INSTRUCTION CLASSES BE MODIFIED TO BE MORE RESPONSIVE TO YOUR NEEDS?

1. No response.
2. By paying reimbursement on each student.
3. Yes, pay 100%.
4. Yes, by paying the present rate on each student regardless of the number that is enrolled.
5. Yes, see to it that present flexibility is used to the full advantage of the local apprenticeship program.
6. No, don't know how it could be.
7. No.
8. Yes, reimbursement by the contact hour on all students.
9. Yes, by paying on each student by the contact hour.
10. No.
11. No.
12. Yes, come in and discuss plans, etc.
13. Yes, reimbursements should be paid on each student regardless of class size.
14. Reimbursement should be 92¢ on every student.
15. Yes, increase the maximum number in classes.
16. Not at present. We do need for school to be more flexible.
17. No, not now. Flexibility is helping.
18. Yes, use flexibility to buy training aids and other instructional materials.
19. Yes, more funding.

20. Yes, more money on direct funding with less red tape and overhead charges by intermediate funding agency (30% going to school).

21. No, need more information on present flexibility.

22. Yes, put in more money to level out fluctuations caused by work picture in industry funding.

23. No - satisfied.

24. Yes, more funding.

25. Yes, direct funding to financially sound programs which have own facilities, including supervisory reimbursement to full-time coordinators.

26. Yes, increase funding to pay for supervision within the program and help with material purchases.

QUESTION 4: IN ORDER OF IMPORTANCE, WHAT ARE THE FIVE MOST URGENT NEEDS OF YOUR PROGRAM?

1. a. Blueprint reading.
   b. Welding.
   c. Reinforcing setting.
   d. Structural steel.
   e. Miscellaneous steel.

2. a. Need a local training fund.
   b. Better coordinated JAC.
   c. More dedicated interest in apprenticeship.
   d. New text materials.
   e. Visual aids.

3. More laboratory testing equipment. (Only response)

4. a. Better facility to train in.
   b. New textbooks.
   c. Visual aids.
   d. Closer coordination between school officials and JAC.
   e. Closer coordination among members of local JAC.

5. a. Money to round out program.
   b. Better facilities -- using public school facilities.
   c. More contractor interest.

6. Shop materials because of decrease in ITF (International Training Fund), journeyman training. (Only response)

7. Qualified applicants. (Only response)

8. a. Larger shop area.
   b. More jobs.
   c. Program coordinator.
   d. New textbooks.
   e. More flexibility of control.

9. a. Better cooperation of school officials.
   b. Better cooperation of management group.
   c. Better cooperation of JAC.
   d. New text materials.
   e. More jobs.

10. a. More money.
    b. More equipment.

11. More qualified applicants. (Only response)

12. a. Adequate committee financing.
    b. Full time coordinator.
    c. Some help in applying national materials at the local level.
    d. Employer participation and help.

13. a. More jobs in order to train the apprentices.
    b. More shop area.
    c. More and better visual aids.
    d. New textbooks.
    e. Full time coordinator.

14. a. Funding should be on the contact hour for each student .
    b. New textbooks.
    c. Better equipment to be used at facility.
    d. Visual aids.
    e. Full time coordinator.

15. a. New building - more fitted to needs of the program.
    b. Better qualified instructors (more and better teacher training).
    c. More local funds.
    d. More active support and understanding by local schools.

16. a. More physical facilities for advanced courses.
    b. Local coordination.

17. No response.

18. a. Shop facilities.
    b. Better qualified instructors.

19. a. More funding for equipment.
    b. More funding for text materials.
    c. More funding for tools, equipment, and materials.

20. a. More money - due to local economy being let down and other sources.
    b. Teacher training.

21. a. Equipment - motor controls and pipe bending (plan to buy some).
    b. Instructional materials--beyond third year.
    c. Supplementary materials.

22. a. Complete new training facility.
    b. More training aids.
    c. Time for extra tutoring.

23. a. More space.
    b. More ITF (International Training Funds) for tools and capital equipment.
    c. More journeyman classes.
    d. Full time secretary.
    e. More black applicants (qualified and sincere).

24. a. More funding for equipment.
    b. More funding for text materials.
    c. More funding for tools--materials--and supplies.

25. Increase size of training facility.

26. No response.

QUESTION 5: WHAT HAVE BEEN THE FIVE MOST IMPORTANT IMPROVEMENTS IN YOUR PROGRAM IN THE LAST FIVE YEARS?

1. a. Being reactivated.
   b. Building a building.

2. a. Organization of the JAC.
   b. Starting related classes.
   c. Good job opportunity..
   d. Higher wage rates.
   e. Interest shown by management people.

3. a. General updating of total program.
   b. Instructional materials.
   c. Cooperation of National JAC in developing local standards.
   d. Selecting apprentices only one time per year.
   e. Responding to Title 29 Part 30 (1964) selection.

4. a. Holding related classes instead of correspondence courses.
   b. Initiation of local training fund.
   c. Interest created by participating in state apprentice contest.
   d. The use of a part time coordinator.

5. a. Attitude of apprentices has changed -- taking pride and showing appreciation of opportunity afforded them.
   b. More control and interest by the committee in what is being taught.
   c. A test record kept on each apprentice.

6. Getting out of P. S. institution and getting into own facilities. (Only response).

7. a. New building specifically for apprentice training.
   b. More local union interest.
   c. More instructors available.
   d. Increased flexibility in state funding.

8. a. Change in funding rates by TEA.
   b. Initiation of local training fund.
   c. Closer coordination with school officials.
   d. Closer coordination with local JATC.
   e. Better training facilities.

9. a. Initiation of local training fund.
   b. Better related classes.
   c. New facility to train in.
   d. Guidance by state coordinator.
   e. Minority participation.

10. a. Welding class was added.
    b. Plastic has been introduced for some patterns.
    c. More capable teachers have been added.
    d. We have received more cooperation from contractors.

11. Modified building to more nearly meet program needs, building exclusively for trade. (Only response).

12. Haven't had any important improvements. (Only response).

13. a. Closer coordination with school officials.
    b. Closer coordination by JATC.
    c. Increased funding by TEA.
    d. Initiation of local training fund.
    e. Newer facilities.

14. a. Improved funding of program by TEA.
    b. Negotiation of local training fund.
    c. New training building for training purposes.
    d. Closer coordination with school officials.
    e. Closer coordination with local JATC.

15. a. Different building.
    b. Increased number of apprentices by 300%.
    c. Better local union participation and understanding.
    d. Better management participation.

16. a. Changed instructors.
    b. Added to staff.

17. No response.

18. a. The tremendous upsurge in acceptance and approval by journeymen.
    b. Programs are turning out journeymen that are of a caliber that is generating more interest and applicants.
    c. There is evidence of the quality of the work improving as a result of new graduating apprentices entering the ranks of journeymen.

19. a. Constructed larger class and shop facilities.
    b. Purchased additional machines.
    c. Number of classes increased from four to eleven.
    d. Number of instructors increased from two to ten.
    e. Local training fund increased from 3 1/2 cents to 5 cents.

20. a. Own building for exclusive use.
    b. New State funding.
    c. Increase in local per-capita apprentice fund.
    d. Increased cooperation between labor and management in apprenticeship programs.
    e. Emphasis and assistance to adult and apprentice education by local school administration in recent years.

21. a. Full time training director.
    b. Having own facilities.
    c. Instructional materials from National.
    d. Better qualified applicants (don't know why).
    e. Labor-management relations on rules and regulations.

22. No response.

23. a. New training facility.
    b. Coordinator on full-time.
    c. Increased funding (local fund).
    d. Participating in national annual training directors meetings.
    e. Improvement in committee administration of program.

24. a. Organization of classes--assistance and record keeping.
    b. All new text materials from _____(Name of National Organization) through public schools.
    c. Tools and equipment from International Training Funds.
    d. State funding change helped take up slack in International Training Funds.

25. a. Constructed larger classroom and workshop facilities.
    b. Purchased additional welding machines.
    c. Number of classes increased from four to ten.
    d. Apprentice training increased from 3 1/2¢ to 5¢ per hour.

26. a. Building a shop building.
    b. Change in funding of program.
    c. Positive change in attitude of school administration and JATC.

27. No response.

20. a. Own building for exclusive use.
    b. New State funding.
    c. Increase in local per-capita apprentice fund.
    d. Increased cooperation between labor and management in apprenticeship programs.
    e. Emphasis and assistance to adult and apprentice education by local school administration in recent years.

21. a. Full time training director.
    b. Having own facilities.
    c. Instructional materials from National.
    d. Better qualified applicants (don't know why).
    e. Labor-management relations on rules and regulations.

22. a. New training facility.
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24. a. Constructed larger classroom and workshop facilities.
    b. Purchased additional welding machines.
    c. Number of classes increased from four to ten.
    d. Apprentice training increased from 3 1/2¢ to 5¢ per hour.

25. a. Building a shop building
    b. Change in funding of program.
    c. Positive change in attitude of school administration and JATC.

26. No response.

APPENDIX III

SUMMARY OF EXPENDITURES BY PROGRAMS

OWNERSHIP OF CLASSROOM AND LABORATORY FACILITIES

SUMMARY OF EXPENDITURES BY PROGRAMS

EXPENDITURES	PROGRAM NUMBER							
	1	3	6	7	10	11	12	15
Instructors' Salaries	$1,063	$1,253	$ 450	$ 660	$ 317	$ 645	---	$2,160
Other Salaries	---	---	$ 300	---	$ 120	$ 530	---	$ 735
Travel	---	---	$ 630	---	---	---	---	---
Building Expenses	$ 465	---	$4,100	---	---	$1,016	$1,500	$ 950
Instructional Materials	$ 300	$ 282	$2,230	$1,183	---	$1,665	$ 225	$1,740
Equipment Purchases	$1,200	$ 21	$3,540	$ 576	---	$ 57	---	$ 600
Conferences and Contests	$ 700	$ 600	$1,850	$ 622	---	$2,000	---	$1,881
Payments to School	---	$ 657	$ 186	---	---	---	---	---
Other	---	$ 285	$ 200	$ 204	$ 50	$ 211	---	$ 248
Total Committee Expenditures	$3,728	$3,098	$13,486	$3,245	$ 487	$6,124	$1,725	$8,314
Reimbursement by TEA	None Reported	$1,590	$2,385	$3,577	$1,415	$3,356	$1,888	$5,962

SUMMARY OF EXPENDITURES BY PROGRAMS (continued)

EXPENDITURES	PROGRAM NUMBER							
	17	18	20	21	22	23	24	26
Instructors' Salaries	$2,312	$2,800	$25,348	$12,544	$ 2,303	$ 8,864	$ 3,960	$ 1,965
Other Salaries	$4,297	$ 500	---	$ 2,900	$12,930	$21,417	$2,746	$25,485
Travel	$ 240	$ 475	$ 396	---	$ 3,360	$ 1,629	---	$ 2,200
Building Expenses	$ 78	$ 200	$11,973	---	$ 1,960	$26,663	$15,555	$41,050
Instructional Materials	$1,466	---	$ 3,627	$ 1,137	$ 231	$ 6,842	$ 9,441	$25,053
Equipment Purchases	---	$ 100	$ 238	$ 350	$ 2,150	$ 3,248	$ 310	---
Conferences and Contests	---	$1,000	$ 7,335	$ 2,250	$ 125	$ 4,272	---	$26,600
Payments to School	$ 678	$2,800	$12,884	---	$ 1,053	$ 2,796	---	$ 1,988
Other	---	$ 397	$ 3,450	$ 850	$ 430	$ 2,479	$ 375	$ 2,740
Total Committee Expenditures	$9,071	$8,272	$65,251	$20,031	$24,542	$78,210	$32,387	$127,081
Reimbursement by TEA	$7,842	$13,689	$10,574	$ 9,314	$ 7,693	$12,632	$17,487	$45,308

OWNERSHIP OF CLASSROOM AND LABORATORY FACILITIES

PROGRAM NUMBER	BUILDING OWNERSHIP
1	Building owned by local union.
3	Building owned by public school.
6	Building owned by committee.
7	Building owned by local union.
10	Building owned by public school.
11	Building owned by public school.
12	Building owned by local union.
15	Building owned by public school and maintained by the committee.
17	Building owned by public school.
18	Building owned by public school.
20	Building owned by committee.
21	Building owned by local union.
22	Building owned by public school.
23	Building owned by committee.
24	Building owned by committee.
26	Building owned by committee.

APPENDIX IV

BIOGRAPHICAL DATA OF RESEARCH PERSONNEL

BIOGRAPHICAL DATA

MANSFIELD, WESLEY B. January, 1974

PERSONAL:

Age: 55 Citizenship: U.S. S.S. No.: 476-10-5932

Birthplace: Groveton, Texas Marital Status: Married

Number of Children: Two

Professional Interests:

Vocational Industrial Education
Supervisory and Managerial Development
Business and Industrial Communication

EDUCATION:

D.Ed., Texas A&M University, 1970.
M.A., Baylor University, Summer, 1948.
B.A., Baylor University, Spring, 1948.

EXPERIENCE:

Educational

Associate Director, Engineering Extension Service, Texas A&M University 1973-Present
Assistant Director for Programs, Engineering Extension Service, 1972-1973
Program Head, Supervisory Development Program, Engineering Extension Service, 1963-1972
Extension Instructor, Supervisory Development Program, Engineering Extension Service, 1953-1963

Industrial

15 years in industrial field of Structural Steel Fabrication in areas of estimating, designing, and production coordination.

Military Service

Service in U.S. Maritime Commission (1943-1944) and Water Division of U.S. Army Transportation Corps (1944-1946). Served in European Theater of Operations and attained rank of First Lieutenant.

PROFESSIONAL AFFILIATIONS:

Texas Vocational Industrial Association
American Vocational Association
Phi Delta Kappa
Iota Lambda Sigma
Texas Association for Community Service and Continuing Education

COMMITTEE MEMBERSHIPS:

Apprenticeship and Training Advisory Committee to the Texas Education Agency
Brazos County Development Council Manpower Committee
Business/Industry and Education Exchange Advisory Committee to the Texas Education Agency
Texas A&M University Library Council

OTHER PROFESSIONAL ACTIVITIES:

Extensive work in field of human relations and communication in industry.

Co-developer of the "Communimeter" (A training device being used internationally to point up problems in person-to-person communication).
Coordination of more than 2000 short courses, seminars, and workshops. Instruction in more than 450 of these.
Author of numerous articles and training manuals in communication and supervision.
Title of Doctoral Dissertation: A Study of Time Allotments to First-Line Supervisory Activities in Texas Manufacturing Industries with Implications for Training Programs.

BIOGRAPHICAL DATA

PULASKI, RICHARD E. January, 1974

PERSONAL:

Age: 43 Citizenship: U.S. S. S. No.: 462-36-1868

Birthplace: San Antonio, Texas Marital Status: Married

Number of Children: Two

Professional Interests:

Apprenticeship Training
Labor-Management Relations

EDUCATION:

Ed.D, Interdisciplinary Education, Texas A&M University (In Prog.)
M.Ed., Industrial Education, Texas A&M University, 1966
B.S., Industrial Education, Texas A&M College, 1960

EXPERIENCE:

Educational

Training Consultant, Texas Engineering Extension Service, Texas A&M University 1971-Present
Administrative Assistant to the Superintendent, North East Independent School District, San Antonio, Texas 1972-73
Program Officer, Advisory Council for Technical Vocational Education in Texas, 1969-1971
Apprentice Training Specialist, Texas Engineering Extension Service, Texas A&M University, 1962-1969
Teacher-Coordinator, Industrial Cooperative Training, Midland Independent School District, Midland, Texas 1960-1962
Instructor of Apprentices, Odessa College, 1961-1962

Industrial

A total of 5 years with various employers
4 years as an Apprentice Plumber & Pipe Fitter
1 year as a Journeyman Plumber & Pipe Fitter 1948-1949
Various full and part-time assignments with the Building and Utilities Department, Texas A&M College, 1956-1960

Military

U.S. Navy, Enlistedman 1950-1954

LICENCES:

Professional

Texas-High School Teacher, Academic and Vocational Subjects.
Vocational Supervisor and Counselor Administrator Certificate.

Trade

Texas-Journeyman Plumber

PROFESSIONAL AFFILIATIONS:

American Society of Sanitary Engineers
United Association of Journeyman Plumbers and Pipe Fitters in the U.S. and Canada
Texas State Association of Plumbing Inspectors (Honorary Life Member)
American Vocational Association
Texas Industrial Vocational Association
Texas State Teachers Association
Apprenticeship and Training Association of Texas
Iota Lambda Sigma
Phi Delta Kappa

COMMITTEE MEMBERSHIPS:

Texas Education Agency Construction Cluster Curriculum Development Advisory Council for Technical Vocational Education in Texas (Labor Alternate)
Texas Comprehensive area Manpower Planning System Committee
Bryan Manpower Development Training Act. Committee
College Station Plumbing Code Advisory and Appeals Board, Chairman

OTHER PROFESSIONAL ACTIVITIES:

Author of numerous articles and training manuals related to apprenticeship and related instruction.
Contributor to articles and books regarding plumbing, pipe fitting, and apprentice training.
Lecturer on apprenticeship training and building inspection.
Investigator on studies and research projects related to apprentice training.

HONORS AND AWARDS:

Vocational-Technical Education Leadership Development Fellowship Awardee (EPDA-552)

Mechanical Contractors of Texas Commendation for Leadership in Development of Apprenticeship and Journeyman Training Programs

Who's Who in Texas, 1974

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ABSTRACT: THIS REPORT PRESENTS DATA DESIGNED TO PROVIDE ESTIMATES OF THE PROPORTION OF THE LABOR FORCE IN WHICH KNOWLEDGE OF AGRICULTURE AND AGRICULTURAL PROCESSES COULD IMPROVE ON-THE-JOB PERFORMANCE. "THE STANDARD TERMINOLOGY FOR CURRICULUM AND INSTRUCTION IN LOCAL AND STATE SYSTEMS" WAS USED TO DETERMINE OCCUPATIONS WHICH MAY REQUIRE AGRICULTURAL OR RELATED COMPETENCIES. THIS WAS SUPPLEMENTED BY THE EXPERIENCE OF TEXAS AGRICULTURAL AND AGRIBUSINESS SPECIALISTS WHO EVALUATED JOB TITLES USED IN CLASSIFYING SURVEY EMPLOYMENT DATA FROM THE 1970 CENSUS OF THE POPULATION. IN 1970, OVER 500,000 JOBS EXISTED IN 141 OCCUPATIONS REQUIRING AGRICULTURAL OR RELATED KNOWLEDGE. THESE JOBS WERE FOUND IN 172 INDUSTRIES WITH APPROXIMATELY HALF IN 12 INDUSTRIES INVOLVED IN THE PRODUCTION OF AGRICULTURAL, HORTICULTURAL, FORESTRY, AND FISHERY PRODUCTS AND RELATED SERVICES AND PROCESSING INDUSTRIES. THE REMAINING OCCUPATIONS WERE IN AREAS SUCH AS EDUCATION, AGRICULTURAL AND FOOD PRODUCT SALES, BANKING, AND REAL ESTATE. APPENDIXES CONSIST OF THE GUIDE DEVELOPED TO DEFINE AGRICULTURAL COMPETENCIES, THE CENSUS QUESTIONS USED TO OBTAIN THE OCCUPATIONAL AND INDUSTRY DATA, LISTS OF ADVISORY COMMITTEE MEMBERS, LISTS OF VOCATIONAL AGRICULTURE COURSES IN TEXAS, AND CENSUS CODING SCHEME FOR OCCUPATION COMBINATIONS. (AUTHOR/NJ)

INSTITUTION NAME: TEXAS A AND M UNIV., COLLEGE STATION. TEXAS AGRICULTURAL EXPERIMENT STATION.

SPONSORING AGENCY NAME: TEXAS EDUCATION AGENCY, AUSTIN.

VT 03 279

Employment and Training Needs in *Texas* Agribusiness

C. F. Fritsch

L. R. Lorenz

TEXAS AGRICULTURAL EXPERIMENT STATION
DEPARTMENT OF AGRICULTURAL ECONOMICS AND RURAL SOCIOLOGY
TEXAS A&M UNIVERSITY

Submitted to the TEXAS EDUCATION AGENCY

DECEMBER 1973

VT 103 279

DIGEST

Development and evaluation of vocational education programs requires knowledge of current and projected occupations which utilize the competencies gained from instructional programs. Because of the increasing interrelationships involved in the production, processing and distribution of agricultural products many persons in this chain, in addition to persons in the production sector, require competencies gained through instructional programs of vocational agriculture. While not difficult to estimate the potential training requirements in the production sector alone, identification of occupations in allied industries involves a detailed search over all occupations and industries. The Standard Terminology for Curriculum and Instruction in Local and State School Systems, published by the Office of Education was used as a standard reference to determine occupations which may require agricultural or related competencies. This was supplemented by the experience of Texas agricultural and agribusiness specialists who evaluated job titles used in classifying survey employment data from the 1970 Census of Population.

In 1970, over 500,000 jobs existed in 161 occupations requiring agricultural or related knowledge. These jobs were found in 172 industries with approximately half in twelve industries involved in the production of agricultural, horticultural, forestry and fishery products and related services and processing industries. The remaining occupations were in areas such as education, agricultural and food product sales, banking and real estate. While not all occupations identified require formal agricultural training and many require training in addition to that received from programs of vocational agriculture, analysis of the data leads to several recommendations for Vo-Ag. curriculum development.

Production agriculture

Production agriculture, while becoming less labor intensive will in the future, require a higher quality of human input. With a technologically dynamic agriculture this means that vocational-agriculture instructional programs will require constant evaluation and revision to assist in the training of this manpower. Additional programs of continuing adult education stressing farm record keeping and farm equipment maintenance and operating safety is encouraged.

A larger number of wage and salaried workers than self employed operators identified agriculture as their major source of employment. Almost 98,000 wage and salaried persons were tabulated by the 1970 Census of Population compared with 73,526 farm operators and tenants who earned over half of their income from farm operations. New courses of instruction dealing with farm personnel management and increased emphasis on occupational safety is encouraged.

Land economics and real estate

Emphasis on land conservation practices relating both to agricultural and non agricultural land use is recommended. The establishment of the Texas Real Estate Center at Texas A&M University provides a new resource for developing courses of instruction in land management and appraisal.

Gardeners and Groundskeepers

The existence of almost 20,000 gardeners and groundskeepers in Texas suggests that further study should be undertaken to determine the feasibility of expanding cooperative education efforts in landscape and grounds maintenance. Gardeners and groundskeepers are employed in over 125 industries in Texas. The continuing emphasis on environmental beauty suggests that higher skilled employees will be required in the future.

EMPLOYMENT AND TRAINING NEEDS IN TEXAS AGRIBUSINESS

C. F. FRITSCH
L. R. LORENZ

TEXAS AGRICULTURAL EXPERIMENT STATION
DEPARTMENT OF AGRICULTURAL ECONOMICS
AND RURAL SOCIOLOGY
TEXAS A&M UNIVERSITY

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ACKNOWLEDGMENTS AND PROJECT STAFF

The research team for this project consisted of the following persons associated with the Texas Agricultural Experiment Station.

Conrad F. Fritsch, Assistant Professor Dept. of Agricultural Economics and Rural Sociology	Project Director and Principal Investigator
John W. Holcomb, Professor Dept. of Agricultural Education	Co-Project Director
Earl S. Webb, Professor Dept. of Agricultural Education	Co-Project Director
Larry R. Lorenz	Co-Principal Investigator
David E. Wright	Research Scientist
Dennis L. Dance	Computer Scientist
Paula Tebbs Susan Moellenberg	Project Secretaries
Joanna Harrington	Technical Assistant
Susan Cronk	Clerical Assistant

In addition, Mr. J. A. Marshall and Mr. Garland Scroggins, Director and Assistant Director, Agricultural Education, Texas Education Agency provided valuable support and technical advise. Mr. Oscar Millican, Assistant Director, Division of Occupational Research and Development provided administrative guidance and liaison for the project.

Mr. Ed Ney and Mr. Randall Keeling of the Texas Employment Commission generously made available occupational data and provided encouragement and suggestions throughout the study. During all stages of the project, close liaison was maintained with members of the National Committee on Employment Opportunities and Training Needs in Agribusiness which assisted in development of consistent and meaningful guidelines to identify agricultural and related occupations. Comments and suggestions made by Mr. Walter Sellers on an earlier draft are especially appreciated.

Although benefiting greatly from the advise and assistance of the above people, any errors which remain are the sole responsibility of the authors.

PREFACE

Agriculture and the industries which it supports, more commonly known as the agribusiness sector, play an important role in the overall Texas economy. Total value has been estimated at upwards of $10 billion annually. While research relating to total output and capital requirements in Texas agribusiness is well grounded, systematic research relating to employment and human resource needs in agricultural and related occupations is still nascent.

That the term agriculture is no longer synonymous with simply the production of crops and livestock has been known by agricultural leaders for several decades. In the mid 50's the President's Panel of Consultants on Vocational Education recommended that:

> The vocational agriculture program, under Federal reimbursement, should be broadened to include instruction and increased emphasis on management, finance, farm mechanization, conservation, forestry, transportation, processing, marketing the products of the farm, and other similar topics.

The ideas expressed culminated in the passage of Public Law 88-210 in 1963, better known as the Vocational Education Act of 1963.

Furthermore, the increased emphasis on the "world of work" embodied in the concept of career education also points to the expanding awareness of the need for ongoing evaluation of existing instructional programs and development of new courses of instruction at the elementary, secondary and post-secondary levels.

The need for additional in depth data relating to current and projected manpower needs was recognized by The Advisory Council for Technical-Vocational Education in Texas when it recommended that compilation of "labor market data and information....is in all probability one of the most critical needs in the Management and Planning aspects of technical-vocational education in the state of Texas." The report of the Tri-Agency Task Force charged with developing a concept of the overall design of a manpower supply/demand system for Texas also recognized the critical need for data to provide an adequate base for making responsible decisions to meet the future educational and labor force requirements of the state.

This report uses data from the 1970 Census of Population to

provide guidelines for planning curricula in agriculture and its related fields. While oriented primarily towards needs which can be met by educational programs of vocational-agriculture, the results can also be generalized to include the broader aspects of career education at the elementary, secondary and college levels.

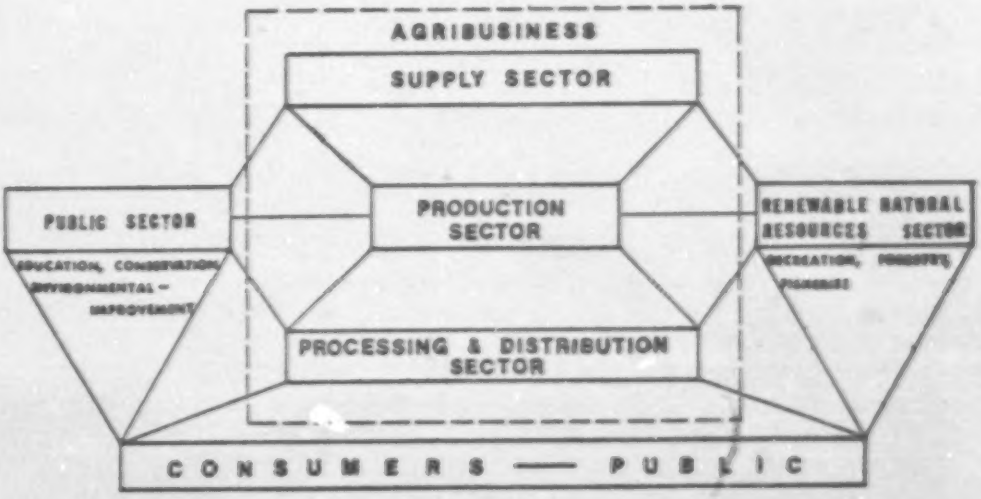
MANPOWER REQUIREMENTS IN AGRICULTURE AND RELATED OCCUPATIONS

INTRODUCTION

Over the past three decades agriculture has evolved in the public mind from simply a producer of raw agricultural output to a multifaceted complex of interrelated activities involving the production, processing and distribution of the nation's food and fiber. This complex is assisted by public services relating to conservation of natural resources and by formal and informal programs of education and research. Additionally, the forestry, fishery and recreation industries are closely tied to agricultural processes through efficient conservation and use of natural resources.

The term agricultural and related occupations used throughout the report refers to those occupations in the agribusiness sector defined here as including supply, production and processing and distribution sectors, as well as those occupations in the public sector and in the renewable natural resource sector, in which successful, on the job performance could be enhanced by knowledge of agriculture and agricultural processes (Figure 1).

Figure 1. Agribusiness and Related Industries



Development of Consistent Decision Criteria

To arrive at an acceptable, comprehensive and workable definition of agricultural and related competencies it is necessary to begin with a common source document which has basic acceptance to most people. Working in conjunction with the National Committee on Employment Opportunities and Training Needs in Agribusiness, composed of representatives from the U. S. Departments of Health, Education and Welfare; Agriculture; and Commerce (Bureau of the Census), initial concepts and ideas were developed.

The National Committee provided guidance to each of the states undertaking individual state studies. While the general guidelines and procedures were developed by the National Committee and the special Task Force working with the Committee, each state was encouraged to adapt the results developed at the national level to the conditions existing in the state.

The base document used to define occupations requiring agricultural and related competencies was developed from the agricultural section of the Standard Terminology for Curriculum and Instruction in Local and State School Systems published by the Office of Education. It is reproduced in Appendix I. Eight specific areas of competency are defined by this document as relating to agriculture.

1) agricultural production
2) agricultural supplies/services
3) agricultural mechanics
4) agricultural products
5) ornamental horticulture
6) renewable natural resources
7) forestry
8) other agribusiness

As a part of a national identification procedure, 30 specialists from Texas representing agricultural production and agribusiness, education and government were requested to select agricultural and related occupations within their specialty areas using the above source as a basic reference. The specialists were chosen based on their direct knowledge of agricultural and related occupations and were requested to augment the formal documentation by their own experience.

The occupation and industry classifications used were obtained from the Classified Index of Industries and Occupations, 1970 Census of Population, developed and published by the Bureau of the Census. This classification scheme conforms with industry and occupation data published from the 1970 Census of Population. The 215 industry groupings and 417 occupational groupings contained in the Index represent approximately 19,000 industry and 23,000 occupational titles. Even so, the reduced Census form contains upwards of 90,000 different combinations of industries and occupations.

Meeting in a two day conference November 8 and 9, 1972, the specialists representing the eight areas of concentration outlined above each made selections concerning the relevance of the particular occupation in each industry where the occupation was found.

The work performed by the Texas panel was similar to that done in eight other states. Included in this initial phase, in addition to Texas, were New York, Pennsylvania, South Carolina, Ohio, Minnesota, Iowa, California and Oregon.

The results of these special panels were collated and reviewed by the National Committee in December 1972.

Data Limitations

The data presented in this report are tabulations of results from the twenty percent sample of Texas households taken for the 1970 Census of Population. The employment data reflect the occupational distribution of the work force 16 years of age and older as of the last week in March, 1970. Although other data sources are available which provide estimates of either industry labor force distribution or occupational distribution, the Dicennial Census of Population provides the only comprehensive source of occupational distribution within industries.[1/]

Employment data is also obtained from the Bureau of Labor Statistics establishment surveys, i.e. direct surveys of industry establishments. These data are generally thought to provide greater accuracy than data

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[1/] The Census questions from which the data in this report are derived are reproduced in Appendix II.

from household surveys since they reflect actual industry employment at a given point in time.[y] Although providing more accurate estimates of industry employment, currently available establishment surveys underestimate total labor force participation since they cover only wage and salaried payrolls in non agricultural industries and include only people actually working during the survey period. Within this limitation there may be a slight overcount to the extent that workers are included on more than one payroll during the survey period.

Slight underestimation of the total labor force also occurs in the Census count. This is due to difficulties involved in definition of the household population from which samples are drawn.

When results from both household and establishment surveys are adjusted for conceptual differences, the household survey data consistently provide lower overall estimates of labor force participation although variations exist between industries. As seen in Table I, estimates from household surveys are lower than corresponding estimates from establishment surveys in mining, wholesale and retail trade and the service sector. They are higher in construction, manufacturing, transportation and public utilities and government. The discrepancy between the two data sources is largest in construction, wholesale and retail trade and services. While the figures in Table I reflect only national labor force estimates they provide an indication of potential discrepancies existing in state data.

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[y] Christopher G. Gellner, "A 25-Year Look at Employment as Measured by Two Surveys," Monthly Labor Review, Washington, B.L.S., U.S. Department of Labor, July 1973, pp. 14-23. In addition to the Dicennial Census of Population, the Bureau of the Census also conducts monthly surveys of 45,000 households-the Current Population Survey (CPS)-which provides occupation/industry data. These two sources provide the basis for the household employment estimates produced by the Bureau of Labor Statistics.

Table I. Comparison of Employment Estimates from Household and Establishment Surveys, by Industry Groups*

Industry	Comparison of Household Survey Estimates with Establishment Survey Estimates	Percent of Total Labor Force in each Industry (household estimate)
	----------Percent----------	
Mining	- 4.1	.8
Construction	+10.5	5.5
Manufacturing	+ 2.7	27.5
Transportation & Public Utilities	+ 1.3	6.4
Wholesale & retail Trade	- 9.0	20.3
Finance, Insurance & Real Estate	+ .2	5.6
Services	-16.0	15.0
Government	+ .3	18.9
Total	- 2.9	100.0

* The comparisons reflect household survey estimates beginning with 1972. This was the first year that estimates were adjusted to reflect the new totals from the 1970 Census of Population.

Source: Christopher G. Gellner, "A 25-Year Look at Employment as Measured by Two Surveys," Monthly Labor Review, Washington, B.L.S., U. S. Department of Labor, July 1973, pp. 14-23.

The data presented in this report are designed to provide estimates of the proportion of the labor force in which knowledge of agriculture and agricultural processes could improve on-the-job performance. While providing very good estimates of manpower requirements in production related occupations, estimates of employment in the remaining agriculturally related occupations contain both over and underestimates of the true values. Over estimates occur when the individual industry-occupation cell overaggregates employment requirements. For example, all officials of lodges, societies and unions are tabulated in one industry/occupation cell. Over 100 different organizations are represented under this heading, but only officials associated with agricultural organizations such as the

Farm Bureau, Growers marketing services, etc. require agricultural or related competencies. To exclude this occupation group would exclude many hundreds of persons who require very direct knowledge of agriculture in the course of daily business operations. Conversely, agriculture teachers are undercounted since this Census category includes only college level instructors.

A more serious source of undercount occurs in occupations such as recreation and conservation personnel employed by the state and federal government. Although appearing under the general heading of foresters and conservationists the future importance of this employment is underestimated by sole recourse to 1970 Census data.

Census data were adjusted to represent a more accurate occupation estimate in only one situation. Census tabulation combined all secondary school teachers regardless of area of specialty and reported them as a single occupation group. Data obtained from the Texas Education Agency, which included only science and vocational-agriculture teachers, were substituted to provide a more realistic figure.

Finally, when interpretating figures presented in this report it must be acknowledged that employment estimates provide only one criterion for measurement of training requirements. No attempt is made to determine the level or type of agricultural knowledge required in the identified occupations or the methods by which the agricultural competencies involved in each occupation can be obtained. These interpretations fall outside the scope of this report.

The Texas State Employment Matrix

The basic decisions made by the panel of specialists and reviewed by the National Committee were taken as a base for developing Texas agricultural and related occupations. In addition to this base, occupations relating to courses of instruction currently being offered through the Vocational-Agriculture program and in Colleges of Agriculture in the state were used to provide additional guidelines concerning the definition of an agricultural and related occupation.[3/]

3/ See Appendix IV for a list of the areas of instruction in vocational agriculture currently being offered in Texas.

Of the 215 industry groupings and 417 occupational groupings, defined by the Bureau of the Census, a total of 141 different occupations in 172 different Texas industries were identified as including people requiring agricultural or related competencies. This reduces the decision matrix by approximately three-quarters or to slightly less than 25,000 potential occupation/industry combinations.

For ease of presentation, occupations are grouped by the following criteria:

Group I---Occupations that require or utilize agricultural or related competencies in any industry in which they are found.

Group II--a) occupations that require or utilize agricultural or related competencies only in selected industries, or b) occupations within selected industries in which only a portion of the workers require agricultural or related competencies.

A major problem with the development of manpower data sufficiently precise for use in educational planning lies in the difficulty of relating employment needs jointly by occupations and industry. Identification of those occupations requiring agricultural or related competencies across all industries wherever they may exist is a more difficult task than simple determination of total employment in industries which have previously been defined as agribusiness. The matrix approach used to present the Census of Population data is the most direct method of arriving at this cross comparison.

It should be noted that this classification scheme uniquely separates occupations into either Group I or Group II. Nineteen individual occupations were identified in Group I with an additional 122 occupations in Group II. The occupations are further grouped by importance of agricultural and related occupations in total industry employment to provide easier identification of the major concentrations of agricultural and related employment.

AGRICULTURAL AND RELATED EMPLOYMENT IN TEXAS

To gain a perspective of the importance of agricultural and related employment within the occupations identified as including workers requiring agricultural or related competencies, the discussion in this chapter will utilize the importance of employment within industries as an aid to classifying agricultural or related employment. Because of the data limitations described earlier, not all employment in occupations defined as agricultural and related actually requires agricultural or related competencies. It is reasonable to assume however, that a much larger proportion of employment in identified occupations requires agricultural or related competencies when occuring in industries with a close association to agricultural production than when found in industries with more tenuous ties to agricultural production. Employment was therefore classified into five industry groups based on the proportion which employment in agricultural and related occupations is of total industry employment.

Agricultural and Related Employment within Industry Groupings

Of the 172 individual industries identified as having agricultural or related employment, 77 industries had employment in both Group I and Group II with the remaining 95 having occupations only in Group I or only in Group II (Table II).

It is also seen from Table II that the 77 industries with Group I and Group II employment account for 94 percent of the estimated 514,382 employees in occupations requiring agricultural or related competencies in 1970. Of this total, 207,817 or 40 percent were in Group I employment.

Almost half of the total employment in occupations identified as agricultural or related was concentrated in the 12 industries in which agricultural and related employment made up 50 percent or more of total industry employment. Almost 90 percent of the employment in these 12 industries was concentrated in ten industries having about three-quarters or more of their employment defined as agricultural or related (Table III). Because of the heavy concentration of employment

Table II. Summary Distribution of Major Industries With Agricultural and Related Occupations, Texas, 1970.

Percent Agricultural and Related Employment of Total Industry Employment	Number of Industries	Group I Agricultural and Related Employment	Group II Agricultural and Related Employment	Sum of Group I and II Employment
Greater than 50%*	12 (7.0)	180,001 (86.6)	68,802 (22.4)	248,803 (48.4)
25% to 49.9%*	16 (9.9)	10,858 (5.2)	105,744 (34.5)	116,602 (22.7)
10% to 24.9%*	17 (9.9)	7,441 (3.6)	71,413 (23.3)	78,854 (15.3)
Up to 10%*	32 (18.0)	2,632 (1.3)	38,731 (12.6)	41,363 (8.0)
All others with either agricultural or agriculturally related occupations	95 (55.2)	6,885 (3.3)	21,875 (7.1)	28,760 (5.6)
Totals	172 (100)	207,817 (100)	306,565 (100)	514,382 (100)

*Includes only industries with both Group I and Group II agricultural and related occupations.

directly associated with agricultural production, services and allied primary products almost three-quarters of the employment in the 12 industries on Table III is identified as Group I employment. However, the food processing and related products industry provided the second largest number of opportunities in occupations classified as agricultural or related.

Industries with agricultural and agriculturally related occupations with 25 to 49.9 percent of all industry occupations are listed in Table IV. The distribution of Group I and Group II type employment is almost the reverse of that indicated for industries with half or more of total employment in agricultural or related occupations. Over 90 percent of the estimated employment is identified as Group II employment. Industries included in Table IV are heavily oriented toward tertiary service industries related to agriculture, fisheries and forestry, and include farm machinery and equipment, canning preservation and distribution of farm products, real estate, credit agencies and business management and consulting firms. In addition, non-profit membership organizations, which include agricultural trade associations and farm organizations and state public officials are included in this group.

Table V lists industries with less than 25 percent, but more than 10 percent of total employment identified as agricultural or related. The 17 industries are similar to the industries in Table IV in that they provide services to the primary agricultural, fisheries and forestry sector. In addition, occupations in recreation and entertainment industries are included in Table V. Persons employed in local and Federal government are also included.

The remaining industries in which both Group I and Group II employment are found are listed on Table VI. While accounting for almost 25,000 employees who may require agricultural or related competencies, this employment is spread over 31 different industries. Relevant occupations include sales personnel who may have direct business associations with agricultural production firms, employment related to conservation and environmental protection, as well as employment associated with conservation of land and water resources as by-products of the extractive industries. In other cases management positions will be included in this list. Additionally, draftsmen or engineers in

Table III. Industries with Agricultural and Related Occupations Totaling at Least 50 Percent of all Occupations in the Industry, Texas, 1970.*

Industry	Census Code	Group I Agricultural and Related Employment	Group II Agricultural and Related Employment	Total Group I and Group II	Total Industry Employment	Agricultural and Related Employment as a Percent of Industry Emp.
Agricultural production	017	159698	3891	163589	166947	98.0
Agricultural services except horticultural	018	6696	7155	13851	15541	89.1
Horticultural services	019	6071	1730	7801	8138	95.9
Forestry	027	308	557	865	994	87.0
Fisheries	028	1559	791	2350	2639	89.0
Logging	107	46	3517	3563	4555	78.2
Meat products	268	3168	8479	11647	14609	79.7
Food and related products	527	1162	20773	21935	39174	56.0
Farm products-raw materials	528	219	4518	4737	6255	75.7
Hardware & farm equipment stores	608	873	7272	8145	10949	74.4
Farm & garden supply stores	679	176	5434	5610	8499	66.0
Retail Florists	689	25	4685	4710	5817	81.0
TOTAL		180001	68802	248803	284117	87.6

*Includes only industries with Group I and Group II agricultural and related occupations.

Table IV. Industries with Agricultural and Related Occupations Totaling from 25 Percent to 49.9 Percent of All Occupations in the Industry, Texas, 1970.*

Industry	Census Code	Group I Agricultural and Related Employment	Group II Agricultural and Related Employment	Total Group I and Group II	Total Industry Employment	Agricultural and Related Employment as a Percent of Industry Emp.
Sawmills, planing mills & mill work	108	62	3576	3638	12700	28.6
Farm machinery & equipment	178	**	875	875	2032	43.1
Dairy products	269	121	2024	2145	5537	38.7
Canning & preserving fruits, vegetables & seafoods	278	94	2427	2521	7688	32.8
Grain-mill products	279	348	1738	2086	6821	30.6
Pulp, paper, & paperboard mills	328	48	1765	1813	7079	25.6
Services incidental to transportation	429	46	1081	1127	4017	28.1
Lumber & construction materials	569	**	2843	2843	7861	36.2
Grocery stores	628	7156	19490	26646	95614	27.9
Food stores, n.e.c.	638	861	581	1442	4529	31.8
Credit agencies	708	39	6234	6273	19744	31.8
Insurance	717	**	32784	32784	78492	41.8
Real estate, inc. real estate insurance-law offices	718	1725	18779	20504	45159	45.4
Business management & consulting services	738	**	1734	1734	6283	27.6
Nonprofit membership organizations	887	87	5322	5409	13624	39.7
State public administration	927	211	4551	4762	17399	27.4
TOTAL		10858	105744	116602	334579	34.9

*Includes only industries with Group I and Group II agricultural and related occupations.
**The expanded estimate was less than 25 and is included in the Group II industry estimate. The column totals reflect the original distribution and hence do not sum to the totals given.

Table V. Industries with Agricultural and Related Occupations Totaling from 10 Percent to 24.9 Percent of All Occupations in the Industry, Texas, 1970.*

Industry	Census Code	Group I Agricultural and Related Employment	Group II Agricultural and Related Employment	Total Group I and Group II	Total Industry Employment	Agricultural and Related Employment as a Percent of Industry Emp.
Misc. wood products	109	**	429	429	3187	13.5
Misc. food preparation & kindred products	297	146	1953	2099	10057	20.9
Agricultural chemicals	367	**	384	384	2106	18.2
Warehousing & storage	418	216	1611	1827	10545	17.3
Air transportation	427	**	3241	3241	25881	12.5
Wholesalers, n.e.c.	587	49	2745	2794	17980	15.5
Misc. general merchandise stores	627	34	2077	2111	16009	13.2
Banking	707	**	10356	10356	47517	21.8
Business services, n.e.c.	748	**	2832	2832	23802	11.9
Misc. repair services	759	433	2868	3301	19523	16.9
Lodging places exc. hotels and motels	778	97	805	902	6122	14.7
Misc. entertainment & recreation services	809	1566	1437	3003	15323	19.6
Colleges & universities	858	1619	9581	11200	81164	13.8
Educational services, n.e.c.	867	**	1142	1142	10504	10.9
Engineering & architectural services	888	**	2248	2248	17047	13.2
Federal public administration	917	1391	18704	20095	102254	19.7
Local public administration	937	1804	9086	10890	65502	16.6
TOTAL		7441	71413	78854	474523	16.6

*Includes only industries with Group I and Group II agricultural and related occupations.
**The expanded estimate was less than 25 and is included in the Group II industry estimate. The column totals reflect the original distribution and hence do not sum to the totals given.

Table VI. Industries with Agricultural and Related Occupations Totaling up to 10 Percent of All Occupations in the Industry, Texas, 1970.*

Industry	Census Code	Group I Agricultural and Related Employment	Group II Agricultural and Related Employment	Total Agricultural and Related Employment	Total Industry Employment	Agricultural and Related Employment as a Percent of Industry Emp.
Crude petroleum & natural gas extractions	049	120	5,034	5,154	90,921	5.7
Nonmetallic mining & quarrying, exc. fuel	057	**	**	**	6,233	.3
General building contractors	067	142	509	651	64,086	1.0
General contractors, exc. building	068	396	4,403	4,799	78,690	6.1
Special trade contractors	089	**	**	91	721,056	.1
Unt specified construction	077	**	**	100	27,483	.4
Furniture & fixtures	118	**	**	**	15,240	.1
Cement, concrete, gypsum, & plaster products	127	**	438	438	12,380	3.5
Fabricated structural metal products	158	**	129	129	23,883	.5
Machinery, except electrical, n.e.c.	197	**	1,066	1,066	30,127	3.5
Misc. manufacturing industries	259	**	829	829	11,544	7.2
Beverage industries	299	61	156	217	10,342	2.1
Yarn, thread, & fabric mills	317	**	213	213	5,752	3.7
Printing, publishing & allied industries, exc. newspapers	339	**	549	549	22,138	2.5
Industrial chemicals	347	35	893	928	27,326	3.4
Drugs & medicines	357	128	**	128	2,388	5.4
Misc. chemicals	388	**	54	54	3,546	1.5
Trucking service	417	54	2,918	2,972	51,986	5.7
Electric light & power	467	86	1,487	1,573	26,368	6.0
Water supply	477	86	747	833	9,953	8.4
Sanitary services	478	81	**	81	9,857	.8
Other & not specified utilities	479	**	36	36	869	4.1
Drugs, chemicals, & allied products	508	**	44	44	9,378	.5
Machinery equipment & supplies	539	302	977	1,279	33,478	3.8
Misc. Retail stores	697	133	1,071	1,204	29,632	4.1
Commercial research, development, & testing labs	729	105	211	316	4,463	7.1
Employment & temporary help agencies	737	**	**	25	6,318	.4
Theaters & motion pictures	807	29	31	60	10,032	.6
Health services, n.e.c.	848	120	661	781	13,059	6.0
Secondary schools	867	501	16,034	16,535	232,943	7.1
Welfare services	878	**	71	71	11,160	.6
Misc. professional & related services	897	**	180	180	7,009	2.6
TOTAL		2,632	38,731	41,363	1,009,466	4.1

*Includes only industries with Group I and Group II agricultural and related occupations.
**The expanded estimate was less than 25. The estimated values are included however, in the remaining industry entries. Because of this redistribution, the column totals presented do not equal the sum of the column entries.

manufacturing industries who are responsible for equipment design and performance require understanding of agricultural and related processes in order to develop equipment required in mechanized agriculture.

Of the remaining industries in which only Group I or Group II employment was identified, the dominant occupation cited is that of gardeners and groundskeepers. They are scattered over 127 industries with almost 20,000 employees included in this category. Turf management employees are included as a sub classification.

Agricultural and Related Occupations
Within Occupation Groupings

Viewing occupational distributions within an industry context is suggestive of the overall importance of agricultural and related employment in the industry. The distribution of occupations within each of the four major industry groupings provides the framework for a more detailed discussion in this section of the type of competencies required. Whereas in the previous section the importance of agricultural and related employment was determined relative to total industry employment, in this section occupational importance within each of the four major Group II industry classifications will be discussed. Agricultural and related employment will be compared with total employment in each respective occupational classification for Group II occupations. Because of the close relationship of Group I employment to agricultural production and, by definition, the inclusion in Group I of only those occupations in which all occupation/industry combinations could be identified as agricultural or related, this employment will also be considered as a separate group.

Group I Employment

A large proportion of Group I employment is composed of direct agricultural production related employment as shown in Table VII.

Over three quarters of these workers are either farmers or employed by farmers, with an additional 12 percent associated with marine industries, veterinary aides or other assistants in the care of livestock and animals and gardeners and groundskeepers. Meat cutters

Table VII. Group I Workers in Occupations that Require or Utilize Agricultural and Related Competencies in any Industry in Which They Exist

Occupation Cluster	Number	Percent of Total State Employment in Occupation Cluster
PROFESSIONAL, TECHNICAL & KINDRED WORKERS.....	5022	100
Farm management advisors	412	
Foresters & conservationists	1220	
Agricultural scientists	645	
Veterinarians	1332	
Agriculture teachers, college & university	285	
Agricultural & biological technicians	1128	
CRAFTSMEN & KINDRED WORKERS.....	2184	100
Farm implement mechanics	1875	
Millers; grain, flour & feed	309	
OPERATIVES.....	13113	100
Meat cutters & butchers	13113	
LABORERS, EXCEPT FARM.....	24512	100
Animal caretakers, except farm	3037	
Fishermen & oystermen	1737	
Gardeners & groundskeepers, except farm	19738	

Table VII. Continued

Occupation Cluster	Number	Percent of Total State Employment in Occupation Cluster
FARMERS & FARM LABORERS.....	162986	100
Farmers, owners & tenants	73536*	
Farm managers	8694	
Farm foremen	9882	
Farm laborers	70874	
TOTAL	207817	100

*The Census of Agriculture reports 133,216 operators of part-time and retirement farms and farms with total agricultural sales of less than $5,000 in 1969. Farms with sales of $5,000 or more totaled 80,254 which compares favorably with the Census of Population figures. The 133,216 figure represents the maximum under-count of farmers and farm operators by the Census of Population and occurs because of differences in sample design and Census orientation. The employment data from the Census of Population reflects the major time spent in a job. The Census of Agriculture counts all farm operators with no regard to major source of earnings.

The Census of Agriculture further estimates that 128,269 farm operators reported non-farm earnings of which 100,329 reported at least 100 days of non-farm employment. Some of this employment may already be included in the agricultural and related employment presented in this report, and hence should not be recounted.

and butchers provided employment for over thirteen thousand persons in 1970 and constitutes an important occupation group.

Slightly over five thousand professional, technical and kindred workers, or about 2.4 percent of total Group I employment in these occupations were identified. This number represents an underestimation of teachers requiring knowledge of agricultural or related processes due to the Census classification scheme. Others are included under the general heading of secondary schools and colleges and universities and appear as Group II employment.

As noted in the footnote to Table VII, a smaller number of farmers is identified by the Census of Population than by the Census of Agriculture. This is primarily due to a difference in definition by the two Censuses. The figure estimated by the Census of Population includes only persons whose major employment was in production agriculture while the Census of Agriculture figure includes operators of part time and retirement farms who also receive additional outside income. Technically, a portion of the additional 133,216 persons should also be included within the general Group I framework. However, since it is not known how many are primarily employed in other agriculturally related occupations, none are included in order to eliminate the possibility of double counting. It is interesting to note that when identified by major source of employment, farm wage and salaried workers outnumber self employed farmers and tenants.

Group II Employment

Whereas most of the occupations listed under Group I are related to agricultural production, employment in Group II occupations is more heavily oriented toward management, administration and sales. Employment in agricultural occupations included in Table VIII reflects the employment distribution in industries with at least 50 percent of total employment previously classified as agricultural and related. Tables IX and X present the employment distribution in industries with 25-49.9 percent and 10-24.9 percent of total employment in agricultural or related occupations and Table XI employment in industries with less than 10 percent of total employment in agricultural or related occupations.

A major assumption implied in the organization of data as presented above, is that the accuracy of employment estimates for persons requiring agricultural and related competencies is greater for occupations in industries with a higher proportion of total employment in these occupations than in those industries with a smaller percentage of total employment in agricultural and related occupations. The highly aggregated industry and occupation Census classifications may overestimate actual agricultural and related employment in certain industry/occupation cells in which specific agriculturally related jobs are included with many non agricultural variations of the same occupation.

For example, 3647 airplane pilots were identified in industries which could have hired aerial applicators for crop dusting purposes. But only 416 were identified in the agricultural production and agricultural service sectors, both with 50 percent or more of total employment identified in agricultural and related occupations. Therefore it can be safely assumed this represents an accurate estimate of aerial applicators in these industries. The remaining 3231 pilots were employed by firms in the air transportation industry which are included in industries with 10-24.9 percent of total employment in agricultural and related occupations. While highly conceivable that some of these pilots were employed as aerial applicators the true number is perhaps only a small fraction of the total employment of airplane pilots. However, without recourse to specific industry data the exact total is unobtainable. With the exception of secondary teacher classification, for which supplementary data were readily available, the total industry employment is reported as it appears on the Census printout.

A total Group II employment of 68,802 was estimated in industries with at least 50 percent of total employment in agricultural or related occupations (Table VIII). Managers, administrators, sales workers and operatives constituted almost two/thirds of this total. Professional, technical and kindred workers made up only a very small proportion (about 2 percent) of total employment in these industries. The total employment of 68,802 in the agricultural and related occupations included in Table VIII

Table VIII. Group II Employment in Industries with at Least Half of Total Employment in Occupations Identified as Agricultural and Related

Occupation Cluster	Number	Percent of Total State Employment in Occupation Cluster
PROFESSIONAL, TECHNICAL & KINDRED WORKERS.....	1313	.8
Accountants	156	.4
Architects & designers	263	3.7
Engineers: civil, industrial, mechanical, other	103	.3
Economists & home management advisors	**	.2
Librarians	**	.1
Scientists: biological, chemical	104	1.7
Personnel & labor relations workers	35	.2
Technicians: engineering, others	52	.1
Teachers: adult education,n.e.c.	**	.1
Surveyors	26	.7
Airplane pilots	416	8.5
Writers, editors, reporters, photographers & publicity	137	.8
MANAGERS & ADMINISTRATORS, EXCEPT FARM.....	13642	4.8
Bank officers, financial managers & creditmen	51	.3
Buyers, shipping agents & purchasers	2458	11.8
Officers, pilots & pursers; ship	422	19.8
Sales managers: retail & wholesale trade	1118	4.4
Managers & administrators; other	9593	4.6
SALES WORKERS.....	15235	7.8
Sales & advertising agents	15107	7.8

Table VIII. Continued

Occupation Cluster	Number	Percent of Total State Employment in Occupation Cluster
Auctioneers	84	30.3
Demonstrators	44	1.7
CLERICAL & KINDRED WORKERS.....	11548	3.5
Bookkeepers	3525	3.8
Estimators & investigators	47	.3
Expeditors & production control managers	**	.1
Real estate appraisers	**	.6
Secretaries, n.e.c.	7223	5.0
Shipping & stock clerks & storekeepers	558	1.3
Weighers	135	11.2
Misc. Clerical workers	44	.2
CRAFTSMEN & KINDRED WORKERS.....	7352	3.4
Blacksmiths	25	5.2
Excavating, grading & road machinery operators	528	2.3
Carpenters	33	.1
Decorators & window dressers	2182	52.5
Electrician apprentices	**	2.2
Foremen	3016	3.6
Inspectors, scalers & graders	257	3.4
Mechanics & repairmen	1269	3.1
Structural metal craftsmen	**	.4
Craftsmen & kindred workers, others	**	.1

Table VIII. Continued

Occupation Cluster	Number	Percent of Total State Employment in Occupation Cluster
OPERATIVES	13600	3.7
Assemblers	52	.1
Bottling & canning operatives	**	.3
Checkers, examiners & inspectors, manufacturing	264	1.2
Sawyers & cutting operatives	127	1.4
Graders, sorters, packers & wrappers	4955	22.0
Welders & flame cutters	325	.8
Machine operatives	4139	3.8
Deliverymen, motermen & truck drivers	3733	3.0
LABORERS, EXCEPT FARM	6095	5.9
Freight & stock handlers	1004	1.7
Lumbermen, raftsmen & wood choppers	1928	80.5
Teamsters	200	43.6
Vehicle washers & equipment cleaners	**	.2
Warehousemen	68	1.1
Laborers, other	2884	10.0
SERVICE WORKERS, EXCEPT PRIVATE HOUSEHOLD	**	.1
Guards & watchmen	**	.1
TOTAL	68802	3.6

**Less than 25. The total includes all values and is therefore greater than the sum of the occupation estimates.

was only 3.6 percent of all employment in the identified occupations.

Included under the general heading of managers and administrators are persons employed in agricultural and horticultural services, agricultural production, meat products, food and other related farm products. Managers in logging, fishery and marine industries, hardware, garden and farm supply stores, and retail florist shops are also included in the total count of 9593. In addition, 3576 sales managers, shipping agents and purchasers are employed in these industries.

Similar to the occupation cluster of managers and administrators, 15235 sales workers and 11548 clerical workers are employed in industries handling agricultural or related products. As seen in Table III, (page 11) the twelve industries with employment in agricultural or related occupations totaling at least 50 percent of industry employment are all very closely associated with agricultural production. This suggests that virtually all of the estimated 68,802 workers employed in agricultural and related occupations require agricultural or related competencies as a necessary part of their overall job performance.

The largest block of Group II employment, 105,744, was identified in industries with 25 to 49.9 percent of total employment in agricultural or related industries, (Table IX). This is about 5½ percent of all employment in the identified occupations. Due to overaggregation of data, several occupational clusters appear to overcount agricultural or related employment. Most accountants listed are employed by business management and consulting firms, of which only a small percentage require agricultural or related competencies. The identified personnel and labor relations workers are employed as state officials. While very few would have been associated with agriculture in 1970, the importance of this occupation within agriculture will most likely increase in the current decade.

The occupations of creditmen and officials of lodges, societies and unions are both overestimated; the overestimation in the former is perhaps greater than in the latter. A more precise estimate is not possible in either case since employment presented is associated with only one industry group.

The classification of managers and administrators, while somewhat

Table IX. Group II Employment in Industries with 25-49.9 Percent of Total Employment in Occupations Identified as Agricultural and Related

Occupation Cluster	Number	Percent of Total State Employment in Occupation Cluster
PROFESSIONAL, TECHNICAL & KINDRED WORKERS.....	3552	2.5
Accountants	1202	3.1
Architects, draftsmen & designers	31	.2
Engineers: electrical, industrial, mechanical, sales, other	107	.4
Economists	291	11.9
Scientists: biological, chemical	138	2.3
Personnel & labor relations workers	1479	9.0
Technicians: engineering	44	.5
Surveyors	**	.2
Vocational & educational counselors	123	2.5
Authors, designers, editors & reporters & publicity	131	1.3
MANAGERS & ADMINISTRATORS, EXCEPT FARM.....	38265	13.2
Public administration: inspectors	2341	13.3
Creditmen	4356	21.6
Buyers, shipping agents & purchasers	944	4.5
Officials of lodges, societies & unions	1937	100.0
Sales managers: retail & wholesale trade	2557	10.1
Managers & administrators; other	26130	12.8
SALES WORKERS.....	43918	62.0
Sales & advertising agents	361	1.5
Demonstrators	25	1.0

Table IX. Continued

Occupation Cluster	Number	Percent of Total State Employment in Occupation Cluster
Insurance & real estate agents & brokers	43532	99.8
CLERICAL & KINDRED WORKERS.....	9999	4.9
Enumerators & interviewers	347	8.3
Estimators & investigators	793	5.7
Expeditors & production control managers	87	1.0
Insurance adjusters & real estate appraisers	5661	88.7
Secretaries	3080	2.1
Stock clerks & store keepers	31	.1
CRAFTSMEN & KINDRED WORKERS.....	670	.5
Blacksmiths	**	.6
Foremen	94	.1
Inspectors, scalers & graders	456	6.1
Mechanics & repairmen	111	.4
Pattern & model makers	**	.7
OPERATIVES.....	8124	2.9
Bottling & canning operatives	123	6.1
Checkers, examiners & inspectors, manufacturing	331	1.5
Graders, sorters, packers & wrappers	734	3.2
Sawyers	1142	31.7
Welders & flame cutters	274	.7
Machine operatives	4782	4.4
Truck Drivers	738	.9

Table IX. Continued

Occupation Cluster	Number	Percent of Total State Employment in Occupation Cluster
LABORERS, EXCEPT FARM.....	1216	1.6
Stock handlers	54	.2
Lumbermen, raftsmen & wood choppers	218	9.1
Teamsters	80	17.4
Vehicle washers & equipment cleaners	40	.7
Warehousemen	57	.9
Laborers, other	767	2.7
TOTAL	105744	5.5

**Less than 25. The total includes all values and is therefore greater than the sum of the occupation estimates.

overestimated none-the-less provides a reasonably good estimate of agricultural or related employment. Almost two/thirds of the total are grocery store managers. Managers, as distinct from clerks, require and often receive training in management and economics in courses included in curricula in Colleges of Agriculture. Most of the remaining employees in this occupation cluster are employed by firms providing services to or processing of agricultural, fishery or forestry products.

The figure of 43,532 real estate agents and brokers appears at first glance to be highly overstated in relation to agricultural and related competencies. However, recent developments in rural land markets and a more active research role in real estate economics by the Texas Real Estate Research Center at Texas A&M University must be cited as evidence for inclusion of this occupational group. Over 15,000 real estate agents were estimated for 1970 with an additional 683 appraisers. Finally, machine operatives is singled out as a potential over estimate of agricultural or related employment. However, a majority of these workers are employed in the forestry, forest products and food industries thereby requiring agricultural or related competencies.

While not all of the 105,744 employees in occupations identified as agriculturally related require agricultural or related competencies it is reasonable to conclude that between 50 percent and 75 percent require some knowledge of agricultural processes as a part of their employment requirements or between 50,000 and 80,000 persons.

Table X presents the occupational distribution in industries with employment in agricultural or related occupations of 10 to 24.9 percent of all indsutry employment. The estimated 71,413 employees is slightly less than 4 percent of total employment in the included occupations. Over 80 percent were included in the professional, technical and kindred, and managers and administrators classifications, compared with only 40 percent of employment in these classes in industries with 25 to 49.9 percent of total employment in agricultural and related occupations. However, these estimates are considered by the authors to contain a large element of overestimation.

Overcounting of architects, engineers, personnel and labor relations workers, airplane pilots, public administration, bank officers and school

Table X. Group II Employment in Industries with 10-24.9 Percent of Total Employment in Occupations Identified as Agricultural and Related

Occupation Cluster	Number	Percent of Total State Employment in Occupation Cluster
PROFESSIONAL, TECHNICAL & KINDRED WORKERS.....	20134	17.6
Statisticians	169	22.4
Architects	2314	73.4
Engineers: electrical, industrial, other	1164	3.9
Economists	223	9.1
Scientists: atmospheric, biological, chemical	996	15.6
Personnel & labor relations workers	1637	10.0
Technicians: health, chemical, engineering, research	550	2.6
Teachers: biology, chemistry, engineering, health, trade, miscellaneous, adult, economics	6224	78.7
Surveyors	141	3.5
Airplane pilots	3231	66.2
Vocational & educational counselors	1687	34.7
Athletes & kindred workers	1158	45.4
Editors & reporters & publicity	640	6.6
MANAGERS & ADMINISTRATORS, EXCEPT FARM.....	39500	14.0
Public administration: assesors & inspectors	17235	85.5
Bank officers, financial managers & creditmen	10423	51.7
Buyers & purchasers	38	.3
Sales managers: retail & wholesale trade	786	3.1
School administrators: college	1900	100.0
Managers & administrators; other	9118	4.5

Table X. Continued

Occupation Cluster	Number	Percent of Total State Employment in Occupation Cluster
SALES WORKERS	280	1.1
Sales & advertising agents	173	.7
Auctioneers	107	38.6
CLERICAL & KINDRED WORKERS	6193	11.2
Enumerators & interviewers	2986	71.3
Estimators & investigators	1500	10.7
Expeditors & production control managers	**	.1
Real estate appraisers	120	11.2
Weighers	**	.3
Clerical workers, other	1578	6.1
CRAFTSMEN & KINDRED WORKERS	2557	2.1
Blacksmiths	260	53.8
Foremen	876	1.0
Inspectors, scalers & graders	**	.3
Mechanics & repairmen	1398	5.2
OPERATIVES	2353	1.7
Checkers, examiners & inspectors, manufacturing	50	.2
Graders, sorters & packers	110	2.7
Machine operatives	2193	2.0

Table X. Continued

Occupation Cluster	Number	Percent of Total State Employment in Occupation Cluster
LABORERS, EXCEPT FARM	99	.3
Lumbermen, raftsmen & wood choppers	59	2.5
Laborers, other	40	.1
SERVICE WORKERS, EXCEPT PRIVATE HOUSEHOLD	297	14.7
Attendants, personal service	297	14.7
TOTAL	71,413	3.7

**Less than 25. The total includes all values and is therefore greater than the sum of the occupation estimates.

administrators is evident. Only tenuous ties to agriculture can be developed for most of the clerical and kindred workers although some of the 2986 enumerators and interviewers in federal employment are associated with agricultural crop surveys and therefore require extensive agricultural knowledge. All identified clerical workers are employed by local governments and few would require knowledge of agriculture or related subjects as a part of their normal responsibilities.

The occupation cluster of athletes and kindred workers however, is a valid occupation since it includes animal handlers in amusement parks and race tracks. Overall, based upon the limited importance of agriculture in the industries included in Table X, agricultural or related employment is estimated at 20 percent of total identified employment, or about 15,000 persons. This is less than 1 percent of all employment in the identified occupations.

Similar to employment figures for industries with 10-24.9 percent of total employment identified in agricultural and related occupations only part of identified employment in industries with less than 10 percent of total employment in agricultural or related occupations requires knowledge of agricultural competencies. However, several important occupational clusters are included in the data presented in Table XI.

Almost 13,000 secondary school teachers including teachers of vocational agriculture and biology are counted in addition to 2669 vocational and educational counselors. These two occupations represent 40 percent of the total identified employment on Table XI. Based on these figures, a conservative figure of 20,000 total employees requiring some degree of agricultural or related competency appears reasonable.

Table XI. Group II Employment in Industries with less than 10 Percent of Total Employment in Occupations Identified as Agricultural and Related

Occupation Cluster	Number	Percent of Total State Employment in Occupation Cluster
PROFESSIONAL, TECHNICAL & KINDRED WORKERS	29665	19.1
Architects, designers	190	.4
Computer specialists, statisticians	**	1.3
Engineers: civil, electrical, industrial, mechanical, sales, other	6151	12.4
Scientists: biological, chemical, geological	6213	52.2
Technicians: health, electrical	366	3.0
Economists	55	2.2
Teachers: adult education	430	17.4
Secondary school teachers	12997	23.1
Vocational & educational counselors	2669	54.9
Authors, editors & reporters	575	8.7
MANAGERS & ADMINISTRATORS, EXCEPT FARM	5856	2.0
Buyers & purchasing agents	549	2.8
Sales managers: retail & wholesale	1523	6.0
Managers & administrators; other	3784	1.9
SALES WORKERS	1158	5.4
Sales & advertising agents	1158	5.4
CLERICAL & KINDRED WORKERS	510	3.4

Table XI. Continued

Occupation Cluster	Number	Percent of Total State Employment in Occupation Cluster
Estimators & investigators	439	3.1
Real estate appraisers	71	6.6
CRAFTSMEN & KINDRED WORKERS.....	719	.7
Blacksmiths	**	4.3
Foremen	31	.0
Inspectors, log & lumber	490	6.5
Pattern & model makers	43	5.0
Craftsmen & kindred workers, other	134	4.2
OPERATIVES.....	586	1.2
Chainmen, rodmen, axmen; surveying	276	26.4
Graders, sorters	58	4.5
Machine operatives, misc.	252	.6
SERVICE WORKERS, EXCEPT PRIVATE HOUSEHOLD.....	237	1.7
Guards & watchmen	237	1.7
TOTAL	38731	5.87

**Less than 25. The total includes all values and is therefore greater than the sum of the occupation estimates.

SUMMARY AND RECOMMENDATIONS

Summary

Development and evaluation of vocational education programs requires knowledge of current and projected occupations which utilize the competencies gained from instructional programs. Because of the increasing interrelationships involved in the production, processing and distribution of agricultural products many persons in this chain, in addition to persons in the production sector, require competencies gained through instructional programs of vocational agriculture. Programs of technical and professional training beyond the secondary level are also requisite for many of these positions. While not difficult to estimate the potential training requirements in the production sector alone, identification of occupations in allied industries involves a detailed search over all occupations and industries.

Employment, both private and public, in areas of conservation and restoration of renewable natural resources such as land and water also utilize competencies basic to farm and ranch management and thereby qualify for inclusion under the general heading of agriculture. Additionally, occupations in the forestry, horticultural and fisheries industries utilize competencies associated with the production of food and fiber.

The Standard Terminology for Curriculum and Instruction in Local and State School Systems, published by the Office of Education was used as a standard reference to determine occupations which may require agricultural or related competencies. This was supplemented by the experience of agricultural and agribusiness specialists in nine states, including Texas, who evaluated job titles used in classifying survey employment data for the 1970 Census of Population. After compilation and re-evaluation by the interdepartmental National Committee on Employment Opportunities and Training Needs in Agribusiness, the selected occupations and industries were further evaluated within the context of Texas agriculture.

For ease of presentation, agricultural and related employment was grouped by the following criteria:

Group I---Occupations that require or utilize agricultural or related competencies in any industry in which they are found.

Group II--a) Occupations that require or utilize agricultural competencies only in selected industries, or b) occupations within selected industries in which only a portion of the workers require agricultural or related competencies.

Using these criteria, 141 occupations existing in 172 industries were identified as containing employment requiring agricultural or related competencies. Of a total 1970 labor force of 4,141,529, about 12½ percent or 514,382 persons were employed in occupations meeting the Group I or Group II criteria. These figures do not include 133,216 operators of part time and retirement farms identified by the Census of Agriculture who obviously require agricultural competencies. They were not included because of the possibility of double counting. Double counting would occur to the extent that these people are also employed in off farm jobs requiring agriculturally related competencies.

Employment in Group I occupations which are closely associated with agricultural production totaled 207,817 persons in 1970. An additional 68,802 persons required agricultural and related competencies in twelve related service industries and accounted for almost 90 percent of the employment in these industries. Only a portion of the remaining 237,763 persons employed in occupations requiring agricultural and related competencies actually require and utilize these competencies in the normal course of their employment. Data limitations prevent a precise estimate without bringing in additional judgmental factors. In the opinion of the authors approximately one half of these workers would require agricultural or related competencies. This suggests that about 400,000 persons required agricultural or related competencies in Texas in 1970.

Recommendations

Analysis of the employment counts from the 1970 Census of Population leads to several implications for increased training and educational

needs for that portion of the Texas labor force requiring agricultural or related competencies. Although additional training is required for occupations in rapidly expanding industries, more indepth training in existing fields of instruction is also important.

Production agriculture

Production agriculture, while becoming less labor intensive will in the future, require higher quality of human input. With a technologically dynamic agriculture this means that vocational-agriculture instructional programs will require constant evaluation and revision to assist in the training of this manpower. Additional programs of adult education stressing farm record keeping and farm equipment maintenance and operating safety is encouraged.

A larger number of wage and salaried workers than self employed operators identified agriculture as their major source of employment. Almost 90,000 wage and salaried persons were tabulated by the 1970 Census of Population compared with 73,536 farm operators and tenants who spent over half of their time in farming operations. New courses of instruction dealing with farm personnel management and increased emphasis on occupational safety is encouraged.

Land economics and real estate

Emphasis on land conservation practices relating both to agricultural and non agricultural land use is recommended. The establishment of the Texas Real Estate Center at Texas A&M University provides a new resource for developing courses of instruction in land management and appraisal.

Gardeners and Groundskeepers

The existence of almost 20,000 gardeners and groundskeepers in Texas suggests that further study should be undertaken to determine the feasibility of expanding cooperative education offerings in landscape and grounds maintenance. Gardeners and groundskeepers are employed in over 125 industries in Texas. The continuing emphasis on environmental beauty suggests that higher skilled employees will be required in the future.

Texas will continue to be one of the major agricultural states in the nation. Agriculture and related occupations will continue to provide an important source of income for many Texans. Although total employment in agricultural production will continue to decline as agriculture becomes less labor intensive, the quality of training and overall educational attainment of agricultural manpower must be continually upgraded in order to maintain a viable and competitive agricultural and rural economy.

Moreover, employment opportunities in off farm, agriculturally related occupations will undoubtedly increase. Only a few of the possibilities for expanded instructional offerings in these newer fields have been discussed in this report. However, the data developed for the report provide the necessary base for further evaluation of these possibilities in forthcoming publications.

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APPENDIX I

A Guide for Defining Agricultural and Related Competencies

A Guide for Defining Agricultural and Related Competencies[1/]

I. Summarized definition of agribusiness occupational competencies. Skills in and knowledge of 1) agricultural production - the production and propagation of animals (land and aquatic), animal products, plants (crops and ornamental), plant products and forests and forest products; and the provision of services associated with agricultural production; 2) the manufacture, distribution and servicing of supplies used in agricultural production; 3) the designing, installation, repair, operation and servicing of machinery, equipment and power sources and the construction of structures and conveniences used in agricultural production; 4) the inspection, processing and marketing of agricultural products and primary by-products; 5) aspects of greenhouse, nursery, landscaping and other ornamental horticultural operations; 6) the conservation, propagation, improvement and utilization of renewable natural resources; and 7) the multiple uses of forest lands and resources.

II. Detailed definition of agribusiness competencies

A. AGRICULTURAL PRODUCTION - Skills in and knowledge of the production of plants, animals and their products.

1. Animal science - Skills in and knowledge of the production of animals and animal products.

a. Animal propagation and production - Knowledge of animals produced for food, fiber and other purposes.

1) Animals produced for food and fiber - Knowledge of cattle, swine, sheep, poultry, fish (see also II.F.7. Fish) and other animals produced for food and fiber.

2) Other animals - Knowledge of pets, wildlife (see also II.F.4. Wildlife), laboratory animals and other animals produced and propagated for purposes

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1/ This definition has been adopted by the National Committee on Employment Opportunities and Training Needs in Agribusiness from Standard Terminology for Curriculum and Instruction in Local and State School Systems, HEW, Office of Education, 1966

other than food and fiber.

b. Nutrition - Knowledge of the relationship of proteins, fats, carbohydrates, water, minerals and vitamins in the production of meat, milk, eggs and wool.

c. Genetics - Knowledge of the principles of inheritance and their applications for the breeding and selection of animals.

d. Physiology - Knowledge of the body processes and functions related to the production of animals and animal products (eg. lactation, reproduction, egg production, digestion, growth and wool production).

e. Animal health - Skills in and knowledge of the prevention and control of animal diseases and the treatment of injuries to animals.

f. Production management - Skills in and knowledge of the operation and management of a farm, ranch or other establishment involved in the production of animals and animal products.

1) Feeding practices - Knowledge of the "least cost" combinations of feed ingredients for achieving maximum quality and quantity in production.

2) Housing practices - Knowledge of the housing and other environmental needs of specific kinds of animals.

g. Other animal science - Competencies, not elsewhere included, in the propagation and production of animals and animal products.

2. Plant science - Skills in and knowledge of the production of plants and the products derived from plants.

a. Plant culture and production - Knowledge of plants produced for food, fiber and other purposes.

1) Crops produced for food and fiber - Knowledge of cereal grain crops, fiber crops, forage crops, oil crops, tree fruit and nut crops, small fruit and berry crops, vegetable crops and other crops produced for food and fiber.

2) Other plants - Knowledge of shrubs, trees, flowers, turf and other plants cultivated and produced for ornamental, esthetic and other purposes except for food and fiber (see also II.E. Ornamental horticulture); and forest trees and forestry products (see also II.G. Forestry).

b. Soils - Knowledge of the physical, chemical, biological and fertility properties of soils in relation to their management for crop and other agricultural production operations.

c. Nutrition - Knowledge of the nutrient and soil fertility requirements of plants.

d. Genetics - Knowledge of the principles of inheritance and their applications for the breeding and selection of plants.

e. Physiology - Knowledge of the life processes in plants and their implications in the production of plants and plant products.

f. Plant disease and pest control - Knowledge of the symptoms, causes and control of plant injuries and diseases; the impace and control of beneficial and harmful insects, nematodes, snails, mites, rodents and birds in relation to agricultural production; and the control of undesirable forms of plant life.

1) Insecticides and rodenticides - Knowledge of and skills in the use of substances used to destroy or otherwise control harmful insects, rodents and other plant pests.

2) Fungicides, bactericides, viricides and nematocides - Knowledge of and skills in the use of substances used to destroy or inhibit bacteria, viruses and other causes of plant diseases.

3) Herbicides - Knowledge of and skills in the use of compounds used to destroy or inhibit the growth of selected plants.

4) Nonchemical and other methods of controlling plant

diseases and pests - Knowledge of biological, mechanical, cultural and other methods of control.

g. Environmental biology - Knowledge of the interaction of plant life processes with factors of the environment and their characteristics and implications for managing plant production.

h. Other plant science - Competencies, not elsewhere included, in the culture and production of plant and plant products.

3. Agricultural mechanics - (See II.C. Agricultural mechanics).

4. Agricultural business management - Decision-making skills in and knowledge of production efficiency and resource analysis, accounting, finance and other business management factors applied to agricultural production operations.

a. Accounting - Skills in accounting, including tax accounting, as applied to agricultural production operations.

b. Efficiency analysis - Skills in the use of performance records in determining and analyzing the efficiency of an agricultural production operation.

c. Agricultural economics - Skills in budget analysis and the use of quantitative input output relationships, costs and price expectations to secure optimum economic returns for agricultural production operations.

d. Manpower utilization - Decision-making skills in and knowledge of the economic use and management of labor resources.

e. Purchasing and marketing - Skills in purchasing agricultural production input (such as livestock, seed, machinery, etc.) and marketing animal and plant products for agricultural production operations.

f. Financial and legal management - Knowledge of the financial and legal aspects of managing an agricultural production business, such as agricultural loans and credit.

g. Agribusiness organizations - Knowledge of current programs of agribusiness organizations, including their development, purposes and usefulness.

h. Government programs - Knowledge of current government policies, regulations and programs available to and having influence upon agricultural production, management and prices and income of rural people.

i. Other agricultural business management - Competencies, not elsewhere included, in the business management of agricultural production operations.

B. AGRICULTURAL SUPPLIES/SERVICES - Knowledge of and skills in the production, processing, distribution and use of consumable supplies used in the production of animals, plants and their products; and the provision of services associated with the distribution of such supplies. Examples are agricultural chemicals, feeds, seeds and fertilizers (plant food).

C. AGRICULTURAL MECHANICS - Knowledge of the power, machinery, tools, equipment, structures and conveniences utilized in the production of animals, plants and their products; and skills in soil and water management for agricultural production.

1. Agricultural power and machinery - Knowledge of and skills in the selection, operation, servicing, maintenance, repair and safety of agricultural power -- engines, electricity and hydraulics; and the planning, installation, servicing, assembling, adjusting, operating, repairing and distribution of agricultural machinery.

2. Agricultural structures and conveniences - Knowledge of and skills in the planning, selection of materials for and construction and maintenance of agricultural structures and conveniences.

3. Soil management - Knowledge of and skills in surveying and classifying soils; determining cropping systems and fertilizer; and conditioning and cultural practices for increasing agricultural production efficiency.

4. Water management - Knowledge of and skills in surveying, planning, laying out, constructing, using and maintaining irrigation, drainage, water conservation, runoff and erosion control systems; and maintaining proper soil-water-plant relationships.

5. Agricultural tools and equipment - Knowledge of and skills in the planning, fabrication, selection, use, maintenance and distribution of agricultural hand and power tools and equipment and the planning and establishing of home farm shops.
6. Agricultural electrification - Skills in making effective use of electricity and electrical equipment in agricultural production operations.
7. Other agricultural mechanics - Competencies, not elsewhere included, in the mechanical aspects of agricultural production.

D. AGRICULTURAL PRODUCTS - Skills in the inspection, sorting, grading and storing of and knowledge of the use, nutritive value and other qualities of agricultural products (in their original state of production) and primary by-products (in the first processed stage), including the processing of agricultural products. Also, skills in the marketing of agricultural products and primary by-products when combined with other agricultural product competencies, for operations other than agricultural production (compare II.A.4.e Purchasing and marketing). Included are food products such as meat, milk, cheese, fruit, grain and oilseeds; and nonfood products such as cotton, tabacco, wool, furs and wood.

1. Food products and primary by-products - Knowledge of and skills in the preparation and processing of food products and primary by-products for sale and consumption and knowledge of the nutritive value of such products.
   a. Food products - Knowledge of the information, processes and science and decision-making skills associated with meats, fish, poultry, eggs, milk, fruits, vegetables, cereal grains, oilseeds, mushrooms, nuts, sugar, sap and other food products.
   b. Primary food by-products - Knowledge of the information, processes and science and decision-making skills associated with the primary by-products of the food products listed above, such as cream, ice cream, butter, cheese, flour,

cottonseed oil, alcohol and syrup.

2. Nonfood products and primary by-products - Knowledge of and skills in the processing, inspection, grading, sorting and storing of nonfood products and primary by-products for domestic and industrial uses.
   a. Nonfood products - Knowledge of and skills in processing, marketing and other activities involving nonfood products, such as ginning and baling cotton, grading and storing tobacco, sorting and grading wool and other nonfood products such as furs, hemp, gum and wood.
   b. Primary nonfood by-products - Knowledge of and skills in processing, marketing and other activities involving primary nonfood by-products, such as cotton yarn, wool yarn, processed tobacco and wood pulp.
3. Other agricultural products - Competencies, not elsewhere included, associated with agricultural products and primary by-products.

E. ORNAMENTAL HORTICULTURE - Knowledge of and skills in the culture of plants used principally for ornamental and esthetic purposes, including establishing, maintaining and managing ornamental horticulture enterprises.

1. Arboriculture - Knowledge of and skills in the culture and maintenance of woody plants used for decoration and shade purposes.
2. Floriculture - Knowledge of and skills in field or greenhouse production of flowers and the arrangement of such flowers for ornamental purposes.
3. Greenhouse operation and management - Skills in and knowledge of producing plants under glass and in other artificial environments.
4. Landscaping - Knowledge of and skills in locating, planting and maintaining turf, plants, shrubs, trees or devices for the beautification of home grounds and other areas of human habitation and recreation.
5. Nursery operation and management - Knowledge of and skills in the production of turf, plants, shrubs and trees for

purposes of transplanting or propagating them.

6. Turf management - Knowledge of and skills in establishing, managing and maintaining grassed areas for ornamental and recreational purposes.
7. Other ornamental horticulture - Competencies, not elsewhere included, associated with ornamental horticulture production, processing, marketing and services.

F. RENEWABLE NATURAL RESOURCES - Skills in and knowledge of the conservation, propagation, improvement and utilization of renewable natural resources such as air, forests, soil, water, fish, plants and wildlife, for economic and recreational purposes.

1. Forests - Skills in and knowledge of the conservation, propagation, improvement and utilization of forests for economic and recreational purposes (see also II.G. Forestry).
2. Recreational use of natural resources - Skills in and knowledge of the multiple uses of land, water and other natural resources for recreational activities such as fishing, picnicking, hunting, camping and nature study.
3. Soil - Skills in and knowledge of maintaining soil stability and productivity including the prevention of erosion, pollution, water logging, exhaustion of plant nutrients and the accumulation of toxic salts.
4. Wildlife - Skills in and knowledge of the propagation, preservation and improvement of wildlife, such as used in the operation of game farms and commercial hunting enterprises and the management of hunting areas (see also II.A.1.a.2. other animals).
5. Water - Skills in and knowledge of water conservation practices such as the prevention of soil erosion and water pollution; flood control; aquatic weed control; and the development, conservation and management of water supplies for agricultural, domestic, industrial and recreational purposes.
6. Air - Knowledge of and skills in the control of air pollution, including the effects of agricultural activities

on pollution and the effects of pollution on plants and animals.

7. Fish - Skills in and knowledge of the propagation, rearing, stocking and management of fish in public and private waters, such as used in fish farming and hatchery operations and commercial fishing enterprises (see also II.A.1.a.1. Animals produced for food and fiber).
8. Range - Skills in and knowledge of the preservation and improvement of natural range lands.
9. Other renewable natural resources - Competencies, not included elsewhere, associated with the conservation, propagation, improvement and utilization of renewable natural resources.

G. Forestry - Skills in and knowledge of the multiple uses of forest lands and resources, including their protection and management for economic and recreational purposes and related services.

1. Forestry production and propagation - Skills and competencies in the propagation of forest trees, including Christmas trees and the production of forest products, including initial collective activities such as harvesting trees and transporting logs (see also II.A.2.a.2 Other plants).
2. Forest protection - Knowledge of the behavior of and skills in the control of elements harmful to forests and forest resources (see also II.F.1. Forests).
3. Forest products - Skills in and knowledge of the processing, selection, grading and marketing of wood, gum, sap, nuts and other forest raw materials (see also II.D. Agricultural products).
4. Primary forest by-products - Skills in and knowledge of the processing, marketing and other functions associated with maple syrup, wood pulp and other forest by-products in the first processed stage (see also II.D. Agricultural products).
5. Recreational use of forest lands - (see II.F.2 Recreational use of natural resources).
6. Other forestry - Competencies, not included elsewhere, associated with the multiple uses of forest lands and resources.

H. OTHER AGRIBUSINESS - Competencies, not included elsewhere, associated with agricultural production, supplies/services, mechanics and products; ornamental horticulture; renewable natural resources; and forestry.

APPENDIX II

Census of Population Reference Questions

The occupation and industry data were obtained from answers to questions 33-35 of the 1970 Census of Population. These questions are reproduced below:

Census of Population Reference Questions

33-35. Current or most recent job activity or business.
Describe clearly your chief job activity or business last week, if any. If you had more than one job, describe the one at which you worked the most hours.
I you had no job or business last week, give information for last job or business since 1960.

---

33. Industry

a. For who did you work? *If now on active duty in the Armed Forces, print "AF" and skip to question 37.*

(Name of company, business, organization, or other employer)

b. What kind of business or industry was this?
Describe activity at location where employed.

(For example: Junior high school, retail supermarket, dairy farm, TV and radio service, auto assembly plant, road construction)

c. Is this mainly -- *(Check one box)*

- ☐ Manufacturing
- ☐ Wholesale trade
- ☐ Retail trade
- ☐ Other *(agriculture, construction, service, government, etc.)*

---

34. Occupation

a. What kind of work were you doing?

(For example: TV repairman, sewing machine operator, spray painter, civil engineer, farm operator, farm hand, bulldozer operator, junior high English teacher)

b. What were your most important activities or duties?

(For example: Types, keeps account books, files, sells cars, operates printing press, cleans buildings, finishes concrete)

c. What was your job title?

---

35. Were you -- *(Check one box)*

- ☐ Employee of private company, business, or individual, for wages, salary, or commissions
- ☐ Federal government employee
- ☐ State government employee
- ☐ Local government employee (city, county, etc.)

Self-employed in own business, professional practice or farm -

- ☐ Own business not incorporated
- ☐ Own business incorporated
- ☐ Working without pay in a family business or farm

The questions obtained information from the employed, the experienced unemployed and the experienced workers not in the labor force. The reference week for the requested information from employed persons was the last full week in March 1970. For the unemployed persons and those in the experienced out of labor force the information was obtained for the most recent position. If a worker was employed at two or more jobs during the reference week, the only job recorded was the one in which he worked the greatest number of hours.

APPENDIX III

Advisory Committees on Agricultural and Related Occupations

A. National Committee on Employment Opportunities and Training Needs in Agribusiness

B. Texas Committee on Employment and Training in Agribusiness

C. Panel of Agribusiness Specialists, Texas

A. National Committee on Employment Opportunities and Training Needs in Agribusiness[1]

Maurice L. Hill
Rural Manpower Service
Office of Rural Program Development

Neville Hunsicker (Chairman)
Vocational Education in Agriculture
Office of Education
U. S. Department of HEW

Melvin Janssen
Economic Research Service
U. S. Department of Agriculture

Kenneth R. Norell
Bureau of the Census
U. S. Department of Commerce

N. P. Ralston
U. S. Department of Agriculture

Willis J. Sloan
Rural Manpower Service

Phillip R. Teske
Office of Education
U. S. Department of HEW

Sheldon Ziman
Agriculture Division
U. S. Department of Commerce
Bureau of the Census

Task Force

Conrad F. Fritsch, Assistant Professor
Department of Agricultural Economics and Rural Sociology
Texas A&M University

Robert Glascow
Economic Development Division
Economic Research Service
U. S. Department of Agriculture

Glenn McNatt
Rural Manpower Service

Sheldon Ziman
Agriculture Division
Bureau of the Census

Joseph McCluskey
Rural Manpower Service
U. S. Department of Labor

Walter Sellers
Farm Production Economics Division
Economic Research Service
U. S. Department of Agriculture

Glenn Z. Stevens, Head
Department of Agricultural Education
Pennsylvania State University

1/ As constituted June 1972

B. Texas Committee on Employment and Training in Agribusiness

J. A. Marshall
Director
Agricultural Education
Texas Education Agency (Chairman)

H. O. Kunkel
Dean
College of Agriculture
Texas A&M University

John C. White
Commissioner
Texas Department of Agriculture

W. J. Hood
Chief
Rural Manpower Development
Texas Employment Commission

C. Panel of Agribusiness Specialists, Texas

D. A. (Andy) Anderson
Texas Forest Service
Texas A&M University

Chesley Auten
Lake Whitney State Park

John Barnes
Farmers Home Administration

Sam Barnes
Central Power and Light

Paul Sweetland
U. S. Forest Service

Dale E. Elms, President
Elms Equipment Company, Inc.

H. J. Ewald, Jr.
Red Ewald Fiber Glass

Mark Fowler, Chairman
Department of Ag. Economics
Texas Tech University

B. W. Glade
Southland Paper Mills, Inc.

Robert Gooch, Vice President
Gooch Packing Company

Frank Gross, Manager
Texas Valley Citrus Committee

Bluefford G. Hancock
Plant Sciences Department
Texas A&M University

Larry Hunt
Placement Department
Texas Employment Commission

Alton Ice, Executive Director
The State Advisory Council of
Technical-Vocational Education

Ira Kiker
Public Relations Department
Safeway Incorporated

Reese Killion, Vice President
Wolfe Wholesale Florist

Bill Lane
Farmer

Gordon McKee, Soil Scientist
SCS - USDA
First National Life Building

Wilbert Meischen, Executive
Director
Vocational Agriculture Teachers
Association of Texas

Robert (Bob) G. Merrifield, Head
Department of Forest Science
Texas A&M University

Howard Mitchell
Texas Ag. Limestone Association

Clemon Montgomery
Assistant Director, Marketing
Division
Texas Department of Agriculture

Kenneth Nelson
Temple Industries

J. H. (Tony) Price
Executive Director
Texas Cotton Ginners Association

Wilmer Smith
Farmer

E. R. Wagoner, Ex. Vice President
Texas Forestry Association

Clyde Wells
Business Executive and Rancher

Kenneth Wolf
Texas Ag. Extension Service
Texas A&M University

APPENDIX IV

Courses of Instruction in Vocational-Agriculture in Texas, 1971

Courses of Instruction in Vocational-Agriculture
in Texas, 1971

I. Production Agriculture

01.01 00 Agricultural Production
01.01 10 Vocational Agriculture I
01.01 20 Vocational Agriculture II
01.01 30 Vocational Agriculture III
01.01 40 Vocational Agriculture IV

II. Agricultural Cooperative Part-Time Training

01.01 00 Agricultural Production
01.01 11 Ranch Employee
01.01 21 Dairy Farm Worker
01.01 31 Poultry Hatchery Employee
01.01 41 Swine Farm Employee
01.01 51 Horse Farm Employee
01.01 61 Livestock Auction Employee
01.01 71 Feedlot Employee
01.01 81 Poultry Farm Worker - Broiler Production
01.01 91 Poultry Farm Worker - Commercial Egg Flock
01.01 12 Crop Farm Employee
01.01 22 Plant Scientist Assistant
01.02 00 Agricultural Supplies/Services
01.02 11 Agricultural Chemical Sales and Serviceman
01.02 12 Feed Sales and Serviceman
01.02 22 Feed Warehouse Employee
01.02 32 Grain Elevator Employee
01.02 13 Seed Sales Serviceman
01.02 14 Fertilizer Sales and Serviceman
01.02 99 Agri Supplies/Services (Other)
01.12 99 Horseshoer
01.22 99 Veterinarian Assistant
01.03 00 Agricultural Mechanics
01.03 11 Agricultural Machinery Repairman
01.03 21 Agricultural Machinery Set-up and Deliveryman
01.03 31 Irrigation Equipment Sales and Serviceman
01.03 41 Farm Equipment Operator
01.03 51 Agricultural Machinery Mechanic's Helper
01.03 61 Agricultural Machinery Partsman
01.03 71 Agricultural Machinery Service Supervisor
01.03 12 Agricultural Structures and Conveniences Employee
01.03 13 Soil Management Employee
01.03 14 Water Management Employee
01.03 15 Agricultural Welding and Serviceman
01.03 25 Agricultural Hand and Power Tools Serviceman
01.03 16 Agricultural Construction and Maintenance Employee
01.03 17 Farm and Ranch Electrification Employee
01.04 00 Agricultural Products

01.04 11 Meat Processing Plant Employee
01.04 21 Fruit and Vegetable Packing Plant Employee
01.04 31 Poultry Products Employee
01.04 41 Dairy Products Employee
01.04 51 Wool and Mohair Warehouse Employee
01.04 61 Cotton Gin Employee
01.04 71 Seafood Processing Employee
01.05 00 Ornamental Horticulture
01.05 10 Garden Center Employee
01.05 13 Greenhouse Worker
01.05 14 Parks Employee
01.05 24 Park and Landscape Employee
01.05 34 Assistant Groundskeeper
01.05 15 Nursery Worker
01.05 16 Assistant Greenskeeper
01.06 00 Agricultural Resources
01.06 12 Recreation Farm Employee
01.06 13 Soil Conservationist Assistant
01.06 14 Wildlife Conservation Employee
01.06 24 Game and Hunting Farm Employee
01.06 17 Fish Hatcheryman Employee
01.07 00 Forestry (Production, Processing, Management, Marketing & Services)
01.07 10 Forestry Worker
01.07 14 Wood Products Employee
01.07 24 Sawmill Employee
01.99 00 Other

III. Agricultural Pre-Employment Laboratory

01.01 00 Agricultural Production
01.11 01 Feedlot Employment I-II
01.02 00 Agricultural Supplies/Services
01.02 01 Agricultural Chemicals & Fertilizers I-II
01.03 00 Agricultural Mechanics
01.03 01 Agricultural Power & Machinery Repair I-II
01.03 10 General Agricultural Mechanics I-II
01.03 81 Farm & Ranch Mechanical Repair (CVAE)
01.04 00 Agricultural Products
01.04 01 Meat Processing I-II
01.05 00 Ornamental Horticulture I-II
01.05 20 Horticultural Related Occupations (CVAE)
01.06 00 Agricultural Resources Development I-II
01.07 00 Forest Products Harvesting I-II

APPENDIX V

Census Coding Scheme for Occupation Combinations

Census Coding Scheme for Occupation Combinations

PROFESSIONAL, TECHNICAL & KINDRED WORKERS 001 - 195

Accountants 001; computer specialists 003,004,005; statisticians 036
Architects 002; draftsmen 152; designers 183
Engineers: civil 011, electircal 012, industrial 013, mechanical 014, sales 022, other 023
Economists 091; home management advisors 026
Librarians 032,033
Scientists: atmospheric 043, biological 044, chemical 045, physical 042, 051, 052, 054
Personnel and labor relations workers 056
Technicians: health 085, chemical 151, electrical 153, engineering 154, 155, 162, 173, 195
Teachers: college & university, science, engineering, health, trade economics 102-143,145
Surveyors 161
Airplane pilots 163
Vocational & educational counselors 174
Athletes & kindred workers 180
Writers, editors, reporters, photographers, publicity 181-194

MANAGERS AND ADMINISTRATORS, EXCEPT FARM 201 - 246

Public administration: assessors 201, controllers, inspectors 213, 215,222
Bank officers, financial managers 202; creditmen 210
Buyers, shipping agents 203,205; purchasers 225
Officers, pilots, pursers: ship 220,221
Officials of lodges, societies, unions 223
Sales managers: retail & wholesale trade 231,233
School administrators: college 235
Managers and administrators, other 245 & 246

SALES WORKERS 260 - 284

Sales & advertising agents 260,281,282,283,284
Auctioneers 261
Demonstrators 262
Insurance & real estate agents & brokers 265, 270
Stock & bond salesmen 271

CLERICAL & KINDRED WORKERS 305 - 396

Bookkeepers 305
Enumerators & interviewers 320
Estimators & investigators 321
Expeditors & production control managers 323
Insurance adjuster & real estate appraisers 326, 363
Secretaries 370, 364, 372
Shipping & stock clerks & storekeepers 374, 381
Weighers 392
Clerical workers, other 394, 395, 396

CRAFTSMEN & KINDRED WORKERS 403 - 586

Blacksmiths 403
Excavating, grading, road machinery operators 436, 412
Carpenters 415, 416
Decorators & window dressers 425
Electrician apprentices 431
Foremen 441
Inspectors, scalers, graders 450, 452
Mechanics & repairmen 470-495
Pattern & model makers 514
Structural metal craftsmen 550
Craftsmen & kindred workers, other 575, 586

OPERATIVES 602 - 715

Assemblers 602
Bottling & canning operatives 604
Chainmen, rodmen, axmen: surveying 605
Checkers, examiners, inspectors, manufacturing 610
Sawyers & cutting operatives 662, 612
Graders, sorters, packers, wrappers 624, 625, 634, 643
Welders & flame cutters 680
Machine operatives 690, 692, 696, 694, 695
Deliverymen, motermen, truck drivers 705, 710, 715

LABORERS, EXCEPT FARM 753 - 796

Freight & stock handlers 753, 762
Lumbermen, raftsmen, woodchoppers 761
Teamsters 763
Vehicle washers & equipment cleaners 764
Warehousemen 770
Laborers, other 780, 785, 796

SERVICE WORKERS, EXCEPT PRIVATE HOUSEHOLD 933 - 962

Attendants, personal service 933
Guards & watchmen 962

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ABSTRACT: A COMPREHENSIVE SURVEY OF THE EDUCATIONAL AND OCCUPATIONAL ASPIRATIONS AND EXPECTATIONS OF EL PASO HIGH SCHOOL STUDENTS WAS MADE IN THIS STUDY. THE DATA WERE OBTAINED FROM A RANDOM SAMPLE OF FIVE PERCENT OF THE HIGH SCHOOL SOPHOMORES AND SENIORS ENROLLED IN THE EL PASO AND YSLETA SCHOOL DISTRICTS. APPROXIMATELY 590 STUDENTS WERE SAMPLED DURING FEBRUARY AND MARCH OF 1973. DATA ON THE HIGH SCHOOL STUDENTS WERE COMPARED AND ANALYZED IN TERMS OF ETHNICITY (MEXICAN AND ANGLO AMERICAN), SEX, GRADE LEVEL, AND TYPE OF PROGRAM. SPECIFICALLY, HYPOTHESES WERE FORMULATED TO DETERMINE DIFFERENCES OF EDUCATIONAL AND OCCUPATIONAL ASPIRATIONS AND EXPECTATIONS BASED ON SEX, GRADE, ETHNICITY, AND SCHOOL PROGRAM. RESPONSES WERE ANALYZED USING THE CHI-SQUARE AND ANALYSIS OF VARIANCE. CONCLUSIONS INDICATE THAT STUDENTS IN ALL GROUPS, REGARDLESS OF ETHNICITY, SEX, GRADE, OR PROGRAM HAD HIGH ASPIRATIONS AND EXPECTATIONS FOR EDUCATION AND OCCUPATION. A STATISTICALLY SIGNIFICANT DIFFERENCE WAS FOUND BETWEEN ANGLO AMERICANS AND MEXICAN AMERICANS AND BETWEEN MALES AND FEMALES. GENERALLY, ANGLO AMERICANS HAD HIGHER ASPIRATION AND EXPECTATION LEVELS, AS DID MALES IN COMPARISON TO FEMALES. A SIGNIFICANT DIFFERENCE WAS ALSO NOTED AMONG THE THREE SCHOOL PROGRAMS; THE ACADEMIC GROUP WAS GENERALLY HIGHER THAN THE GENERAL AND VOCATIONAL SAMPLES. IN ADDITION TO A REVIEW OF THE LITERATURE, DESCRIPTION OF THE PROCEDURES, AND DATA ANALYSIS, THE SURVEY INSTRUMENT IS APPENDED. (AUTHOR/NJ)

SPONSORING AGENCY NAME: TEXAS EDUCATION AGENCY, AUSTIN. DIV. OF OCCUPATIONAL RESEARCH AND DEVELOPMENT

VT 03 2 0

El Paso Community College

EDUCATIONAL AND OCCUPATIONAL ASPIRATIONS AND EXPECTATIONS OF EL PASO HIGH SCHOOL STUDENTS

By

Moises Venegas, B.A., M.A.

Part of a Comprehensive Manpower Survey of

El Paso County, Texas

Submitted to the Division of Occupational Research and Development,
Department of Occupational and Technical Education,
Texas Education Agency

October 31, 1973

2

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PREFACE

This study is one part of a two-part comprehensive manpower survey done in El Paso County, funded partly by Division of Occupational Research and Development, Department of Occupational and Technical Education, Texas Education Agency.

The work was done by Research Assistant Moises Venegas, who was then a doctoral student at New Mexico State University. In effect, this report is Mr. Venegas' dissertation.

The other part of the study, which analyzed the the need for trained/educated personnel as seen by the employers of the County, completes the comprehensive manpower survey, which will be used as a basis for designing curricular programs to meet not only the needs of the students but also the needs of the employers.

We want to thank the high school students who participated in the study, the members of the administrative staffs of both the Ysleta and the El Paso Independent School Districts, and the faculty members who helped us in our efforts.

We also want to thank the staff of the Texas Education Agency for their help and encouragement and the New Mexico State University personnel who were so generous with their time and effort, particularly Mr. Venegas.

Respectfully submitted,

Alfredo G. de los Santos Jr.
President
31 October 1973

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In addition, the writer would like to thank Dr. William P. Kuvleskey and the research team at Texas A&M University for their assistance in compiling and coding the information for this study. A special note of thanks is extended to Dr. Alfredo de los Santos for his assistance in the study's development. He also wants to thank Mrs. Marian E. Baker for her suggestions and for typing the manuscript.

I especially wish to acknowledge my wife, Nelinda, and Michael for their patience and understanding during the last two years.

ABSTRACT

EDUCATIONAL AND OCCUPATIONAL ASPIRATIONS
AND EXPECTATIONS OF EL PASO HIGH
SCHOOL STUDENTS

BY

MOISES VENEGAS, B.A., M.A.
Doctor of Education in Educational Administration
New Mexico State University
Las Cruces, New Mexico, 1973
Dr. Everett D. Edington, Chairman

The primary purpose of this study was to make a comprehensive survey of the educational and occupational aspirations and expectations of El Paso high school students.

The data were obtained from high school sophomores and seniors enrolled in the El Paso and Ysleta school districts, El Paso, Texas. An approximate random sample of 5% of sophomores and seniors was taken from the high schools of the two districts. Data were gathered through the use of group-administered questionnaires. The instrument selected was one which was developed at Texas A&M University and which has been widely used in status

projection studies of youth. Approximately 590 students were sampled during February and March of 1973.

Data on the high school students were compared and analyzed in terms of ethnicity (Mexican American and Anglo American), sex, grade level, and type of school program in which enrolled. Specifically, hypotheses were formulated to determine differences of educational and occupational aspirations and expectations based on sex, grade, ethnicity, and school program. Responses were analyzed using chi-square and analysis of variance.

From the findings presented, it was concluded that students in all groups, regardless of ethnicity, sex, grade, or school program, had high aspirations and expectations for education and occupation. A statistically significant difference was found between Anglo Americans and Mexican Americans and between males and females. Generally, Anglo Americans had higher aspiration and expectation levels, as did males when compared to females. A significant difference was also noted among the three school programs, i.e., the academic group was generally higher than the general and vocational samples.

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Chapter 1

INTRODUCTION

Excellence in education requires a rational basis for change. The first step is an assessment of needs. To attempt to state that assessing educational need is a concept new to education would be naive. On the other hand, there is little question that this most critical component of planning and decision-making has been left to the somewhat capricious whims of intuition and educational guessmanship. Many people in education assume, rather than assess, educational needs. It is the intent of this paper to survey the educational needs of El Paso high school students.

The comprehensive community college is better than most institutions of higher learning in attempting to fulfill the educational and occupational needs of the student of today. With the democratic "open door" policy of admission, the community college must offer opportunities to all the community, not just to a selected few.

In a discussion of the steps necessary to provide for a successful community college, Thornton (1966) outlined the following steps:

> 1. The first step is obviously an assessment of whether the community wants and needs a community college.

> 2. Having conducted such a poll, the future community college needs to conduct a general survey of educational needs before opening its doors.
> 3. Once the community college has its formal opening with a limited offering of courses, a more detailed investigation is necessary in order for the school personnel to have data available for future decision-making [p. 110].

In general, this survey should include at least two dimensions: the student dimension and the business sector. From the high school students, information is needed as to how many plan to attend college, what kind of courses they need, and what kind of vocational aspirations they have. From the business and industrial community, there is a need to acquire data on employment trends, training requirements, labor supply, and the economic future of each specific type of business. This study is, of course, interested in ascertaining the high school student's educational and occupational plans for the future. The best way to obtain this information is to approach the student himself and ask him. With this information on hand, the community college should be in a position to meet the needs of its clientele.

Statement of the Problem

The failure of schools to provide programs that will help all students cannot continue. Society and especially educational institutions need to meet the internalized needs and expectations of those individuals who make up that society. Not only will the failure to meet those needs lead to a frustrated society, but it will spell defeat for the purpose which educational institutions were set up to fulfill.

Educational institutions need to know what it is that people want. For the comprehensive community college, there are two main areas of concern, the business community and the student population, as mentioned earlier. The business sector has to be surveyed in order to determine the type of people it needs and wants, and the students need to be consulted in order to ascertain what they want and hope to be. The present study was mainly concerned with the students' aspirations and expectations in education and occupation. The study utilized the scheme suggested by Kuvleskey and Bealer (1966) to measure the aspirations and expectations of high school students. Kuvleskey and Bealer made a distinction between aspiration and expectation. Expectation refers to the person's anticipation, which may not be the same as aspiration or desire. The divergence between the two, if it exists, has been labeled anticipatory goal deflection by Kuvleskey and Bealer. The more precise we are concerning the aspirations and expectations of people, the better we can plan a program to meet the needs of those people.

Purpose of the Study

The primary purpose of this study was to make a comprehensive survey of the educational and occupational aspirations and expectations of El Paso high school students. It will be used along with other data for the projection, planning, and revision of the El Paso Community College's curricular program. The study will help

to make the community college more responsive to the needs of students in the El Paso area.

Definitions of Terms

Anticipatory goal deflection: The condition of not having congruent aspirations and expectations. It may be positive, in which case expectations are higher than aspirations, or negative, which indicates expectations lower than aspirations.

Aspirations: Those statuses that are desired; for example, an occupation or an education that is desired by an individual (see Appendix A, Questionnaire, question 9).

Community college: A public college which provides a two-year, postsecondary college parallel, terminal-general or terminal-technical, for out-of-school youth; or adult education programs; or any combination of these.

Expectations: The probable attainment of particular status areas, e.g., the educational level an individual expects, not desires, to attain. The individual's attitude toward this goal may be favorable or unfavorable (see Appendix A, Questionnaire, question 11).

Mexican American(s): A person or persons of Mexican or Spanish ancestry. Such diverse terms as Spanish-speaking Americans, Spanish Americans, Mexicans, La Roza, Latinos, Hispanos, Chicanos, etc., are often used interchangeably to identify this ethnic group in the Southwest.

Research Objective

Research was conducted to determine the occupational and educational status orientations of a sample of high school students from the metropolitan area of El Paso, Texas. Responses to the survey were compared by sex, age, ethnic background, and high school program in which enrolled. The major objective of the study was to determine the educational and occupational preferences of high school students in the El Paso area.

Implications of the Study

The results of this study will serve many purposes in future planning of educational programs in the El Paso area. The study will serve along with other data as a basis for the projection, planning, and revision of the El Paso Community College's curricular programs. Also, El Paso high schools will have much needed information for use in guiding the student towards his aspirations and expectations. The student becomes part of the planning in educational programs.

In a much wider range, the data gathered by the research will be compared and used with a similar study that is being conducted in the industrial and business sector. What business and industry need in future manpower and what the student hopes to be will give a very specific direction to educational institutions in determining what type of student to prepare for the future.

This study is also part of a more comprehensive survey of high school students in Texas that is being conducted by the Department of Sociology at Texas A&M University

Chapter 2

REVIEW OF THE LITERATURE

Aspirations and Expectations

The empirical literature on educational aspirations is substantial. Kuvleskey and Reynolds (1970a, 1970b, 1970c) have listed more than 400 published and unpublished works pertaining to educational and occupational aspirations. Merton's (1957) theory of social structure and anomie inculcation of high success goals of various kinds (educational and occupational) constitutes a patterned characteristic that cuts across subcultural differentiation in our society. Merton maintained that having high aspirations is not unique to one group in society, but is held by all segments of our society. Such writers as Heller (1968), Madsen (1964), and Schwartz (1971) have concluded that aspirational levels of Mexican Americans are lower than those of Anglo Americans. These authors used the cultural determinism model to explain the differences between the two groups. Others in the field of status orientation have come to a different conclusion. The findings of Kuvleskey (1970), for example, indicate that it is known from much research that the occupational aspirations and expectations of all kinds of youth are high during the high school stage relative to opportunities available.

Educational and occupational choices are decisions that are formulated over a period of years. Taylor (1968) identified three different stages: fantasy, tentative, and realistic. It is thought that the high school student is somewhere between the tentative and realistic stages. Studies do not completely agree on the stability of projection for high school students. Some studies indicate that students are stable, while other studies support the theory that there is considerable change between the tenth and twelfth grades. A Louisiana study (Mondart et al., 1970), conducted to identify the occupational and educational aspirations and expectations of high school students, surveyed a total of 13,607 students. The findings indicated that high school students develop strong occupational interests early, with tentative choices made by the eleventh grade. A Texas study project found that a large number of youth's projections went up (Kuvleskey, 1969). If this is true, then it contradicts Ginzberg's phase theory which contends that with age and maturity, aspirations and expectations become more realistic (Hoppock, 1967). For the researcher hoping to gather data to help plan educational and occupational training programs, this becomes crucial. When, in fact, is the time when adolescents have the most realistic view of what they expect or desire to be? By looking at two high school levels (tenth and twelfth), it is hoped that in this study some answers can be found.

In searching for answers that will help in planning future programs, there are many variables that aid in predicting what a

person will eventually become. A person's aspirations and expectations, more than other known variables, help predict what a person will do. Haller (1968, p. 484) cited correlations from +.46 to +.49 between youth's educational and/or occupational aspirations and early adult levels of attainment.

Empirical evidence shows that most respondents in the study of educational and occupational choices can differentiate rather sharply between aspirations and expectations. Ability to differentiate between aspirations and expectations is found at various age levels, but is particularly documented among adolescents (Stephenson, 1957).

In the words of Haller (1963), "we do not have a valid theory to explain and predict exactly what occupation a person will enter [p. 5]." There are, however, some instruments that help us decide what it is that people wish to pursue in terms of education and occupation.

Some distinctions should be made with regard to youth's orientations toward future status attainment. There are two types of projections (Kuvleskwy, 1970). The one involving desires is aspiration and the other, which is an anticipation of attainment, is expectation. Expectation, then, is

> the individual's estimation of his probable attainment in reference to a particular goal-area, i.e., what occupational position he expects to reach. Expectations should not be confused with aspirations, for the object involved with an expectation need not be desired and therefore need not be a goal. The object

> involved with an expectation is an anticipated occurrence, and the individual's orientation toward the expected state may be favorable or unfavorable [Kuvleskey & Bealer, 1966, pp. 11-12].

An example might be that a person desires to become a lawyer, but because of the time and money involved expects only to become an elementary school teacher. Kuvleskey and Bealer (1966) maintained that current evidence supports the fact that expectations are more clearly related to existing occupational opportunities than are aspirations. Kuvleskey (1970) contended that aspirations come before expectations, the latter being formed due to "perceived limitations, blockages, or strong directive pressures [p. 10]." When the two diverge, the relationship between them is an analytically separable element representing degree of modification of aspirations as anticipatory goal deflection (Kuvleskey, 1970). Anticipatory goal deflection represents the potential divergence.

Each of these two projections, aspirations and expectations, consists of two dimensions: (a) the status element which is the object of orientation, and (b) the strength of orientation which is measured by intensity of desire and certainty of expectation (Kuvleskey, 1970).

There is little research to indicate status projections of Mexican-American youth. D'Antonio and Samora (1962), De Hoyos (1961), Heller (1963), and Manuel (1965) have done some general research, but such research has not been too precise in terms of status projections as suggested by Kuvleskey and Bealer (1966).

There have been few comparative studies done in status projections of the Mexican American. The Juarez (1968) study, which is one of the few in the comparative area, found that, in comparison with the aspirations and expectations of Anglo youth, those of Mexican Americans differed very little. In a study based on rural youth in Texas, Mexican Americans, when compared with Negro and Anglo youths, tended to have lower occupational and educational projections (Kuvleskey et al., 1969).

A few studies have shown that the type of high school program offered, vocational in this case, appears to have a moderately negative association with the level of occupational aspiration and expectation and plans for college (Kuvleskey, 1969).

A lack of research is evident concerning the status projection of Mexican-American metropolitan youth. The research proposed for this study will contribute to the validation of existing research on the Mexican American, as well as provide more knowledge in the field of status projection.

The Community College

The community college has evolved from the junior college concept to the comprehensive community college idea (Fields, 1962). The changes have been made in part to meet the demands of the students.

At first the junior college was interested mainly in providing the first 2 years of college education. Such educators as William R. Harper of the University of Chicago felt that if the

4-year college or university could concentrate on the upper-level students, the product would be improved. Under his leadership, the University of Chicago separated the first 2 years from the junior and senior levels (Thornton, 1966) and established Joliet Junior College in 1901. Joliet Junior College is considered to be the first public junior college created which is still in existence today. Harper, in trying to meet the needs of the student population, cited the advantages of the new 2-year college. He stressed the "opportunity of doing more thorough work, saving money, stopping honorably at an obvious terminal point, and being able to take the first two years of college living at home [Thornton, 1966, pp. 47-48]." To summarize the philosophy of the junior college at the turn of the century, it was strictly for the purpose of providing transfer education.

The 1920's began to see an expansion of the junior college philosophy. The junior colleges saw the need to provide more for the student than merely transfer education. Between 1920 and 1945, therefore, the occupational programs of the 2-year schools were expanded (Hillway, 1958). As before, the main reason for change was a realization of the needs of the students. There was a demand for occupational training, and the junior college was ready to provide it. The Depression accelerated the trend towards more occupational education.

By 1945 the community college concept was beginning to take shape. The community college not only provided transfer and

occupational education, but it also developed adult education and community service programs.

It is, then, the intent of the community college to meet the demands of all students with a curriculum that satisfies those needs. To say that a community college offers transfer education, general education, and occupational and technical programs is not enough. We must know exactly what to offer in these areas in order to satisfy the needs of the college's clientele.

El Paso has two distinct student groups: Anglo and Mexican American. In a 1971 report, the Spanish-American surname group comprised 56.3% of the total number of students, while the Anglo group accounted for 40% (Wynn, 1971). The community college has to carefully plan programs that will satisfy needs of all students it serves. There is considerable agreement among educators that educational institutions have not done a good job of planning for minority students, and especially for the Mexican American (Carter, 1970). The failure of the schools to provide a successful program for the Mexican American has been variously argued from the cultural determinism of Heller (1968) and Madsen (1964) to the "pathological" reasoning advanced by Arciniega (1971).

Needs Assessment

It is common practice for many states to conduct their own assessment surveys to identify educational needs in terms of subjects to be taught, level of education needed, and type of vocational and occupational programs (Nevada State Department of

Education, 1970; U.S. Department of Health, Education and Welfare, 1960). Some states offer specific guidelines which must be followed in order for a community college to begin its operations or to continue as an educational institution. The Pennsylvania Department of Public Instruction (1965) offered a typical format:

1. Survey of community interest in a community college.

2. Survey of business and industry educational requirements.

3. Survey of youth and parental aspirations for higher education.

4. Survey of program needs.

The general purpose of most of these educational development models is threefold: (a) investigation of student, community, and manpower needs; (b) planning of curriculum programs with the information gathered; and (c) implementation of the plan.

According to Klein et al. (1971), in a symposium at the University of California at Los Angeles, there are two basic reasons why we need to determine educational needs. First, we need to ascertain which needs have the highest priority so that we can focus on those in planning programs. Secondly, needs assessment justifies the attention to or development of certain curricula over others.

The scope and purpose of needs assessment are determined by the purpose for which the data will be used. For example, in a community college district a needs assessment might be conducted to determine what type of programs to focus on.

The American Association of Junior Colleges (AAJC) has come up with more specific guidelines for the community or junior college (Henderson, 1970). The AAJC sees the needs assessment survey as a vital step for 2-year colleges. The survey can establish certain student characteristics such as socioeconomic background, education, and personal aspirations. The survey can also be used, as others have stated, to help define employment needs and projections. In the area of finance, the survey can be utilized to establish what is needed for a diverse student population. Generally, it can be said that the survey is necessary to determine what programs to offer and what the curriculum should be. Needs assessment surveys give the college and its administration and faculty hard data by which decisions can be made. Without such a tool, the administration is left to make assumptions of what is needed. To run a community college, one needs more than assumptions.

The AAJC guidelines also deal with the dimensions and design of the survey. Basic to the design is the gathering of information which gets at the needs, interests, and aspirations of those to be surveyed--the employer and potential employee--which should be considered. In the collection of data, different approaches might be used, such as by mail, telephone, or by dealing with people with specific knowledge of the target group. For example, if one wanted student interests, one could ask school personnel. The most basic and probably the best method for obtaining results is to administer a questionnaire or interview the target group directly. In the

selection of the target group, one should choose a random sample which is large and unbiased.

In determing enrollment potentials, the AAJC recommends different sources from which one could gather reliable information. Among the groups are parents, high school staff and faculty, and potential students. In surveying potential students, it is necessary to determine needs for postsecondary education and types of program training. There are different potential student populations, but the most promising and easiest to contact are those who are in high school.

The questionnaire, if one is used, may have different types of questions according to the purpose of the study. Generally they should include some questions on financial considerations, choice of college, program interest (transfer, technical, vocational), student perception of occupational education and preference for attending a local or distant college.

A typical example of a needs assessment survey by a community college is one which was conducted by Catawba Valley Technical Institute (CVTI) (Summerell, 1969). The CVTI, which is part of the community college system in North Carolina, provided technical and vocational education, but felt that other types of educational programs could be offered to the public. The school set out to survey the community so that it could implement a program that satisfied those needs. The school district was primarily interested in determining whether it could add different types of programs to

make the school a more comprehensive community college. The school was already offering courses in the technical/vocational fields and wanted to know if there was a need and demand for transfer or parallel education. The CVTI surveyed students, parents, and the business community in the area which it served. The findings indicated that the CVTI should offer a more comprehensive program.

Conclusion

It is hoped that this study will add new information in needs assessment studies. By concentration on the occupational and educational aspirations or preferences of the high school students, much needed information will be gathered based on student perceptions. The study is student-centered rather than subject-centered.

Chapter 3

PROCEDURES

Population

The population for this study included the public high school students of the El Paso and Ysleta, Texas, school districts. The high school sample was taken from sophomores and seniors of these districts.

The two separate school districts, El Paso and Ysleta, are located in El Paso, Texas. Situated in the far western corner of Texas at the center of New Mexico's southern border, El Paso is on the international boundary line between the United States and Mexico. El Paso and Cuidad Juarez together form an international metropolitan area of nearly 1,000,000 people (D'Antonio & Form, 1965). El Paso County, which includes both of the school districts involved in this study, has an approximate population of 360,000. The schools in the El Paso area have an ethnic composition of approximately 56% Mexican American, 42% Anglo, and 2% Black. With Fort Bliss and other federal installations in the area, there is a mobile student population, especially in the northeast corner of El Paso.

Sample

Data for this study were obtained from an approximate 5% sample of high school sophomores and seniors in the El Paso and Ysleta school districts. Two methods of selecting the sample were used: (a) A simple random list of numbers, given to the school, was used

to select students from the school's sophomore and senior lists; and (b) classes were selected according to the criterion that classes chosen were required courses for either all seniors or all sophomores. In almost all classes that were chosen, the students had been randomly selected by computer. Table 1 shows the distribution of students in the study.

TABLE 1

Enrollment and Sample of Sophomores and Seniors by District and School at Time of Study

District and school	Classes			
	Sophomores		Seniors	
	Enrollment	Sample	Enrollment	Sample
El Paso				
Andress	690	27	434	26
Austin	325	19	537	21
Bowie	470	21	277	19
Burges	850	26	716	28
Coronado	565	28	470	28
El Paso High	388	23	283	22
Irvin	678	23	523	20
Jefferson	890	37	524	21
Total	4,856	204	3,764	185
Ysleta				
Eastwood	650	28	564	26
Parkland	212	20	160	15
Riverside	413	30	293	25
Ysleta	647	31	434	26
Total	1,922	109	1,451	92

Methodology

Data were collected through the use of a collectively administered questionnaire (Appendix A). The students completed each stimulus question as it was read aloud by the interviewer. The El Paso Texas Youth Study questionnaire was developed at Texas A&M

University and has been widely used in studies of status projections. It contains 38 questions besides a separate, unnumbered section requesting the respondent's name and address and the name and address of a relative or friend most likely to keep in touch with the respondent for a few years. This information is requested so that the respondent may be contacted again in the future.

The questionnaire was administered to the students at their respective schools starting on February 26 and ending on March 15, 1973. Length of time required to administer the instrument was about 25 to 45 minutes. It was administered to groups of 20 to 60 students with general directions coming from the survey leader and specific ones being provided by two to three proctors.

Indicators and Measurements

The questionnaire provides fixed-choice stimulus questions to elicit responses which indicate educational and occupational aspirations and expectations. Aspirations have been defined as desires of the individual; expectations have been defined as the levels the respondent really expects to attain. When a difference exists, this is referred to as anticipatory goal deflection. These measurements, besides intensity and certainty of orientation, are discussed in the following sections.

Educational aspirations and expectations. Concerning educational aspirations, question number 13 asks the student how much education he would desire if he were free to choose. Concerning educational expectations, question number 14 asks the student what

he <u>really</u> expects to do about his education. The latter question assumes that the respondent will take into consideration his ability, financial condition, and social situation.

> <u>Question number 13</u>: If you could have as much education as you desired and were completely free to choose, which of the following would you do? (Circle only one number.)
>
> 1. Quit high school and never go to school again.
> 2. Quit high school and take some vocational training for a job.
> 3. Graduate from high school and never go to school again.
> 4. Graduate from high school and then complete a business, commercial, nurses' training, or some other technical school program.
> 5. Graduate from a junior college.
> 6. Graduate from a college or university.
> 7. Complete additional studies after graduating from a college or university.
>
> <u>Question number 14</u>: What do you <u>really</u> expect to do about your education? (Circle only one number.)
>
> Note: Responses for this question are exactly the same as for question number 13.

The responses are coded in accordance with the seven-level educational hierarchy.

<u>Occupational aspirations and expectations</u>. Concerning occupational aspirations and expectations, the same concept is used as for educational aspirations and expectations. The stimulus questions are open-ended. Question number 9 refers to occupational aspirations and question number 11 to occupational expectations.

> <u>Question number 9</u>: If you were completely free to choose any job, what would you <u>most desire</u> as a lifetime k'nd of work? (In answering this question, give an <u>exact</u> job. For example, do not say "work on the railroad," but tell us what railroad job you would like to have.) Write your answer in the box below.

Question number 11: What kind of job do you really expect to have most of your life? (Write your answer in the box below. Please give an exact job)

The answers to both questions were then coded according to an occupational level classification scale which was derived from the Duncan Scale to facilitate a uniform grouping of occupations listed by the respondents' inventories (question numbers 9 and 11). The categories used were:

0 - No information

1 - High professional

2 - Low professional

3 - Glamor

4 - Managerial, official

5 - Clerical and sales

6 - Skilled worker

7 - Operative

8 - Laborer

9 - Housewife, other

Anticipatory goal deflection. Anticipatory goal deflection is determined by comparing the measures of aspiration and expectation. If this measure differs, deflection exists. There are two types of deflection: positive and negative. Negative deflection is judged to exist if the expectation level is lower than the aspiration level. Conversely, positive deflection is indicated when the expectation level is higher than the aspiration level. Students'

responses are coded on three levels for anticipatory goal deflections: none, positive, and negative.

Concerning anticipatory goal deflection for education, a student would show no deflection if his educational aspirations were equal to his educational expectations, that is, he would aspire to graduate from a college or university (number 6 on the educational scale), for example, and would expect to graduate from a college or university. The deflection for this student would be none. A student with negative deflection might aspire to graduate from a college or university (number 6) and only expect to graduate from high school (number 3). Positive deflection would reverse the order of aspiration and expectation in the above example.

For anticipatory goal deflection in occupation, the same scale is used in the same way as for educational goal deflection. For example, a student would show negative deflection by desiring to be a lawyer (High professional, number 1 on the collapsed scale) and expecting to be a clerk in a department store (number 5 on the occupational scale).

Intensity of aspiration. Intensity of aspiration is indicated by a question that asks the respondent to rank order seven status goals believed to be desired by most young people, with both educational and occupational goals listed. Responses produce a self-rank hierarchy of importance ranging from scores of one through seven (question number 10). The lower the score is, the stronger the intensity of aspiration.

Question number 10: Listed below are a number of things that most young people look forward to. Rank them in order of their importance to you. For the one you think is most important, check number 1 in front of it; for the next most important one, check number 2, and so on until you have a number checked for each one. Read over the entire list before answering the question. (Check only one number beside each sentence and check each different number only once.)

Order of Importance to You							
1	2	3	4	5	6	7	
___	___	___	___	___	___	___	Having lots of free time to do what I want.
___	___	___	___	___	___	___	To develop my mind and get all the education I want.
___	___	___	___	___	___	___	To earn as much money as I can.
___	___	___	___	___	___	___	Getting the job I want most.
___	___	___	___	___	___	___	Living in the kind of place I like best.
___	___	___	___	___	___	___	Having the kind of house, car, furniture, and other things like this I want.
___	___	___	___	___	___	___	To get married and raise a family.

Certainty of expectation. Questions (numbers 15 and 12) concerning certainty of expectation for education and occupation are very much alike. The respondent is asked to indicate how certain he is that he will attain the expected level. A five-level scale is used in both questions.

Question number 15: How sure are you that you will really achieve the education you expect?
I am: (Circle one number.)

1	2	3	4	5
Very sure	Sure	Not very sure	Uncertain	Very uncertain

Question number 12: How sure do you feel that this will be the kind of work you will do most of your life? (Circle one number.)

I feel:

1	2	3	4	5
Very sure	Sure	Not very sure	Uncertain	Very uncertain

Null Hypotheses

The information obtained from the sample was related to independent and dependent variables. Response groups were classified according to the following classification variables:

1. Ethnicity
   a. Mexican American
   b. Anglo American
2. Grade level
   a. Sophomore
   b. Senior
3. Sex
   a. Male
   b. Female
4. High school program
   a. Academic or college preparatory
   b. General
   c. Vocational

Responses consist of measures on variables described as being dependent. They are listed as:

1. Educational aspiration level
2. Occupational aspiration level

3. Educational expectation level
4. Occupational expectation level
5. Anticipatory goal deflection -- education
6. Anticipatory goal deflection -- occupation
7. Intensity of aspiration -- education
8. Intensity of aspiration -- occupation
9. Certainty of expectation -- education
10. Certainty of expectation -- occupation

Interest of the analysis centers on determining the significance of the differences among the various groups in relation to the dependent variables. Specifically, the following null hypotheses were tested:

Ho_1: There will be no significant differences between the Mexican-American group and the Anglo-American group on the 10 dependent variables.

Ho_2: There will be no significant differences between males and females on the 10 dependent variables.

Ho_3: There will be no significant differences between sophomores and seniors on the 10 dependent variables.

Ho_4: There will be no significant differences among the students enrolled in different programs (general, academic, and vocational) on the 10 dependent variables.

Ho_5: There will be no significant interactions between sex and ethnicity and between grade level and school program.

Analysis of the Data

The detection of differences in responses is most interesting for the categories of (a) ethnicity, (b) sex, and (c) high school program. Furthermore, it is of interest to know if responses of one category to the 10 variables vary with classification in a second category. That is, the question becomes one of also detecting significant interactions.

Two-way analysis of variance was first used with ethnicity and sex and then with grade and high school program to detect significant differences and interactions among the classifications of the different variables. Analysis of variance was used for all the variables except for occupational aspirations, occupational expectations, and anticipatory-goal deflection. Chi-square was used for these last three variables because of the categorical nature of the data. Appropriate after-F tests were used to determine where differences were if the analysis of variance showed they existed.

Data Processing

Information on the questionnaire from the study was coded and placed on FORTRAN programming forms. A 10% sample of the questionnaires was checked against the FORTRAN forms and an error of less than 1% was found. The data were transferred to Hollerith cards which were keypunched and verified and had an error of less than 1%. Facilities of the Texas A&M University Data Processing Center were used to develop frequency and percentage tables.

Chapter 4

ANALYSIS OF DATA

The purpose of this chapter is to describe the educational and occupational status orientations of Mexican-American boys and girls studied, with further analysis of grade level and type of program in which the students were enrolled.

The findings are presented separately by ethnicity, sex, grade level, and curricular program in which enrolled. Specifically, measures were taken of the 10 dependent variables (listed on pp. 24-25) for each of the five major null hypotheses. The hypotheses are:

Ho_1: There will be no significant differences between the Mexican-American group and the Anglo-American group on the 10 dependent variables.

Ho_2: There will be no significant differences between males and females on the 10 dependent variables.

Ho_3: There will be no significant differences between sophomores and seniors on the 10 dependent variables.

Ho_4: There will be no significant differences among the students enrolled in different programs (general, academic, and vocational) on the 10 dependent variables.

Ho_5: There will be no significant interactions between sex and ethnicity and between grade level and school program.

Ethnicity

In this section, ethnicity and interactions between sex and ethnicity are discussed. Sex as a separate variable is discussed in the next section.

Educational Aspirations

Desired levels. A statistically significant difference was found between the Mexican-American group and the Anglo-American group (Table 2). The means for the two ethnic groups were 5.09 and 5.50 for the Mexican Americans and the Anglo Americans, respectively. These mean scores were based on the educational scale presented in Chapter 3 (p. 20) which designated a score of 1 as "quit high school and never go to school again" and a score of 7 as "complete additional studies after graduating from a college or university."

TABLE 2

Educational Aspirations by Ethnicity and Sex

Source of variance	SS	df	MS	F
Sex	26.7246	1	26.7246	12.7747*
Ethnicity	20.0177	1	20.0177	9.5687*
Sex x Ethnicity	0.1979	1	0.1979	0.0946
Within-cell	1131.7644	541	2.0920	

*$p < .01$.

In the two-way analysis of variance, interaction effects between sex and ethnicity were shown to be not significant. Therefore, it can be assumed that the educational aspiration levels of

the two groups did not differ significantly as sex varied in ethnicity. In the Newman-Keuls analysis (Appendix B), used to detect differences between means, the most significant difference was between Anglo males and Mexican-American females, with mean scores of 5.68 and 4.58, respectively. The difference between means was also significant for Anglo males and Mexican-American males (5.34).

Although statistically significant differences were found between Mexican Americans and Anglo Americans, similarities also existed. It should be noted that both ethnic groups desired to obtain some education beyond two years in college.

Intensity. The analysis showed that a significant difference existed between Mexican Americans and Anglo Americans on intensity of educational aspirations (Table 3). Mexican Americans had a mean score of 2.26 and Anglos had a mean score of 2.76. The respondents were asked to rank-order sever status goal areas of importance to them. A number one indicated a strong desire to achieve the status goal area, education in this case. Thus, the lower the score was, the higher the intensity of desire. In the comparison of the means there were significant differences between Mexican-American females and Anglo-American males and between Mexican-American males and Anglo-American males. It should be noted that Anglo-American males who had the highest educational aspirations had the lowest desires to accomplish those goals. Mexican-American females, on the other hand, had the lowest

educational aspirations, but the strongest intensity of aspiration. The Anglo-American male's educational aspirations may be unrealistic when compared to his desire for this educational goal. For all groups, these findings demonstrated not only awareness of high success goals but also strong feelings for such goals.

TABLE 3

Intensity of Educational Aspiration by Ethnicity and Sex

Source of variance	SS	df	MS	F
Sex	6.8203	1	6.8203	1.7413
Ethnicity	30.4017	1	30.4017	7.7800*
Sex x Ethnicity	3.8275	1	3.8275	0.9772
Within-cell	2118.9263	541	3.9167	

*$p < .01$.

Educational Expectations

Anticipated levels. The educational expectations of Mexican Americans and Anglo Americans were found to be about the same as their educational aspirations. Again there was a significant difference in the ethnicity comparison (Table 4). Mexican Americans had a mean educational expectation score of 4.80 and Anglo Americans had a score of 5.19.

Newman-Keuls analysis of differences between means showed significant values for the expectation level of the Anglo-American males (5.43) and the Mexican-American females (4.54)

and between the Anglo-American male and the Mexican-American male (5.06). Interaction effects were not significant; therefore, it can be assumed that educational expectations did not differ significantly as ethnicity varied across sex.

Although expectations were observed to be generally lower than aspirations in education, youth of both ethnic backgrounds still anticipated relatively high educational levels. Both groups thus expected to continue their education beyond high school and acquire some type of training at least up to the junior college level.

TABLE 4

Educational Expectations by Ethnicity and Sex

Source of variance	SS	df	MS	F
Sex	36.2243	1	36.2243	17.1488*
Ethnicity	18.2348	1	18.2348	8.6324*
Sex x Ethnicity	- 0.0124	1	- 0.0124	- 0.0059
Within-cell	1142.7852	541	2.1124	

*$p < .01$.

Certainty. The F values show that there were significant differences between Mexican Americans and Anglo Americans on the measure of certainty of educational expectations (Table 5). Mean level for Anglo Americans was 1.99 and 2.30 for Mexican Americans. On the scale used to measure certainty of expectations, a 2

indicates being "sure" and a 3 "not very sure." Anglo Americans, then, were sure about what education they expected to get, while Mexican Americans' certainty fell between being "sure" and "not very sure."

A significant difference between groups, as in educational aspirations, was found between Anglo males and Mexican-American males and females. Although Mexican Americans had lower educational expectations, they were less certain that they would accomplish their expectations.

TABLE 5

Certainty of Educational Expectations by Ethnicity and Sex

Source of variance	SS	df	MS	F
Sex	2.1642	1	2.1642	3.3174
Ethnicity	12.8017	1	12.8017	19.6234*
Sex x Ethnicity	0.4576	1	0.4576	0.7014
Within-cell	352.9309	541	0.6524	

*$p < .01$.

Occupational Aspirations

Desired levels. Based on the chi-square analysis, a significant difference was found between the Mexican-American group and the Anglo-American group on occupational aspirations (Table 6). An examination of respondents' replies for qualitatively differentiated categories of jobs reveals that the majority of both

TABLE 6

Occupational Aspirations by Ethnicity and Sex

Occupational level	Mexican American[a]				Anglo American			
	M[b]		F		M		F	
	N	%	N	%	N	%	N	%
1. High professional	27	18.367	18	11.765	37	25.874	13	11.111
2. Low professional	33	22.449	44	28.758	21	14.685	44	37.607
3. Glamor	21	14.286	30	19.608	24	16.783	32	27.350
4. Managerial, official	14	9.524	4	2.614	23	16.084	5	4.274
5. Clerical, sales	1	0.680	39	25.490	0	0.000	7	9.402
6. Skilled worker	35	23.810	5	3.268	23	16.084	4	3.419
7. Operative	6	4.082	4	2.614	4	2.797	0	0.000
8. Laborer	1	0.680	1	0.654	3	2.098	1	0.855
9. Housewife, other	0	0.000	0	0.000	0	0.000	6	5.128
No information[c]	9	6.122	8	5.229	8	5.594	1	0.855
Total	147	100.000	153	100.000	143	100.00	117	100.000

[a]$\chi^2 = 39.12$ $\underline{df} = 8$ $\underline{p} < .01$.

[b]$\chi^2 = 127.21$ $\underline{df} = 8$ $\underline{p} < .01$.

[c]Not included in χ^2 tabulations.

Mexican Americans and Anglo Americans indicated a desire for the high categories of occupation (1, 2, and 3). Approximately 60% of the Mexican Americans and 64% of the Anglo Americans selected the top three categories. At the other end of the scale, there were similarities between the two ethnic groups, as only about 5% of each group had desires for categories 7, 8, and 9. The differences between the two ethnic groups on occupational aspirations seemed to lie in categories 5 and 6. Mexican Americans showed a higher preference for these categories than did the Anglo Americans, 26% to 12%.

Intensity. No significant difference was found between Anglo Americans and Mexican Americans in desire to accomplish an occupational goal (Table 7). On the intensity scale explained in Chapter 3, intensity of aspiration was generally strong for both ethnic groups. As was the case in intensity of aspiration for education, Mexican Americans manifested a stronger desire to accomplish their occupational goals than did the Anglo Americans. The former group had a mean intensity score of 2.17 and the latter had a mean score of 2.26.

Occupational Expectations

Anticipated levels. A significant difference does exist between Anglos and Mexican Americans on job expectations, as shown in Table 8. The occupations that both groups expected to attain were not as concentrated as were occupational aspirations. As shown, the youths' expectations ranged more evenly over the entire

TABLE 7

Intensity of Occupational Aspirations by Ethnicity and Sex

Source of variance	SS	df	MS	F
Sex	11.0002	1	11.0002	5.6996*
Ethnicity	1.7664	1	1.7664	0.9152
Sex x Ethnicity	0.7049	1	0.7049	0.3652
Within-cell	1044.1270	541	1.9300	

*$p < .05$.

TABLE 8

Occupational Expectations by Ethnicity and Sex

Occupational level	Mexican American[a]				Anglo American			
	M[b]		F		M		F	
	N	%	N	%	N	%	N	%
1. High professional	14	9.524	6	3.922	34	23.776	11	9.402
2. Low professional	27	18.367	39	25.490	28	19.580	40	34.188
3. Glamor	9	6.122	12	7.843	10	6.993	15	12.821
4. Managerial, official	14	9.524	4	2.614	18	12.587	4	3.419
5. Clerical, sales	4	2.721	61	39.869	5	3.497	22	18.803
6. Skilled worker	40	27.211	7	4.575	23	16.084	4	3.419
7. Operative	5	3.401	3	1.961	13	9.091	0	0.000
8. Laborer	12	8.163	2	1.307	1	0.699	2	1.709
9. Housewife, other	0	0.000	8	5.229	0	0.000	14	11.966
No information[c]	22	14.966	11	7.190	11	7.692	5	4.274
Total	147	100.000	153	100.000	143	100.000	117	100.000

[a]$\chi^2 = 40.00$ $\underline{df} = 8$ $\underline{p} < .01$.

[b]$\chi^2 = 169.17$ $\underline{df} = 8$ $\underline{p} < .01$.

[c]Not included in χ^2 tabulations.

scale. Differences between the two groups were concentrated in the top three categories. About half of the Anglo-American group expected jobs in the higher areas, while approximately 36% of the Mexican Americans had similar expectations. The "low professional" category was high with both groups, showing little divergence from the category from student occupational goals. Categories 4, 5, and 6 showed about 15% of the Mexican Americans and 28% of the Anglo Americans selected these jobs. It can be generally concluded that Mexican Americans had lower job expectations than Anglo Americans. On the whole Anglo-American occupational aspirations and expectations were more similar than Mexican-American aspirations and expectations.

Certainty. An examination of the data in Table 9 reveals that there was no significant difference between the two ethnic groups on certainty of occupational expectations. Anglo Americans had a mean certainty score of 2.23 and Mexican Americans had a mean score of 2.31. In relation to the certainty scale used in the study, both groups fell between "sure" and "not very sure."

Anticipatory Goal Deflection

Anticipatory goal deflection, as indicated in Chapter 3, is an individual measure arrived at by comparing the respondent's aspiration with his expectation. This measure applies to both education and occupation.

Educational deflection. The data in Table 10 indicate that there was no significant difference between Anglo Americans and

TABLE 9

Certainty of Occupational Expectations by Ethnicity and Sex

Source of variance	*SS*	*df*	*MS*	*F*
Sex	0.4349	1	0.4349	0.3854
Ethnicity	0.7399	1	0.7399	0.6557
Sex x Ethnicity	0.4555	1	0.4555	0.4036
Within-cell	610.5396	54	1.1285	

TABLE 10

Nature of Anticipatory Deflection from Educational Aspirations by Ethnicity and Sex

Nature of deflection	Mexican American[a]				Anglo American			
	M[b]		F		M		F	
	N	%	N	%	N	%	N	%
None	90	61.224	94	61.438	104	72.727	75	64.103
Positive	12	8.163	10	6.536	7	4.895	8	6.838
Negative	44	29.932	45	29.412	32	22.378	33	28.205
No information[c]	1	0.680	4	2.614	0	0.000	1	0.855
Total	147	100.000	153	100.000	143	100.000	117	100.000

[a]$\chi^2 = 4.48$ $\underline{df} = 2$ $\underline{p} > .01$

[b]$\chi^2 = .69$ $\underline{df} = 2$ $\underline{p} > .01$

[c]Not included in χ^2 tabulations.

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Mexican Americans on the goal deflection measure. The majority of both groups, about two-thirds, showed no deflection at all. Whenever deflection occurred, difference between aspirations and expectations, it tended to be negative; only about 6% of either group reflected positive deflection. Mexican Americans did show higher negative deflection than Anglo Americans, 33% to 21%.

Occupational deflection. The nature of deflection from occupational goals was very similar to the deflection from educational goals. The data shown in Table 11 do not reveal any significant differences between the two ethnic groups. Slightly more than half of all respondents showed no deflection at all. Wherever it did exist, it tended to be negative. Of the Mexican Americans, 29% showed negative deflection as compared to 23% of the Anglo Americans.

Sex

Educational Aspirations

Desired levels. The data indicate that a significant difference existed between males and females on the level of education desired by each group (Table 2, p. 28). Males had a mean educational aspiration score of 5.51 as opposed to 5.04 for females. In the Newman-Keuls analysis, significant differences were found to exist between Anglo males and Mexican-American and Anglo females. Anglo males had the highest aspirations of any group in education with a mean score of 5.68. As seen in Table 2, the interaction effects were not significant; therefore, it can be assumed

TABLE 11

Nature of Anticipatory Deflection from Occupational Aspirations by Ethnicity and Sex

Nature of deflection	Mexican American[a]				Anglo American			
	M[b]		F		M		F	
	N	%	N	%	N	%	N	%
None	74	50.340	74	48.684	81	56.643	63	53.846
Positive	11	7.483	17	11.184	21	14.685	17	14.530
Negative	40	27.211	46	30.263	28	19.700	31	26.496
No information[c]	22	14.966	15	9.868	13	9.091	6	5.128
Total	147	100.000	152	100.000	143	100.000	117	100.000

[a]$\chi^2 = 5.18$ $\underline{df} = 2$ $\underline{p} > .01$

[b]$\chi^2 = 1.31$ $\underline{df} = 2$ $\underline{p} > .01$

[c]Not included in χ^2 tabulations.

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that educational aspiration levels did not differ significantly as ethnicity varied across sex. While there was a significant statistical difference between sexes, both held generally high aspirations for education.

Intensity. On the measure of intensity of aspiration for education, the data do not reveal a significant difference between males and females (Table 3, p. 30). Females had slightly higher means than did males, 2.37 to 2.62. A score of 1 on the intensity scale signifies the strongest intensity possible. Both groups apparently valued education highly.

Educational Expectations

Anticipated levels. Data on the respondents indicate that a significant difference existed on educational expectations of males and females (Table 4, p. 31). Males had a mean expectation score of 5.25 and females a mean expectation score of 4.70. In comparison to educational aspirations, males were still maintaining a desire to receive some education beyond two years in college, while the females had fallen into the category of expecting to graduate from high school and getting some additional training. The most significant difference between means was between Anglo males and Mexican-American females. The Newman-Keuls analysis also revealed significant differences between Anglo males and Anglo females and between Mexican-American males and Mexican-American females. As in educational aspirations, Anglo-American males had the highest educational expectation (5.43) and Mexican-American females the lowest (4.54).

Certainty. There was no significant difference between males and females as to their certainty of achieving educational expectations (Table 5, p. 32). Males had a mean score of 2.08 and females, 2.23. Individual means were: Mexican-American males, 2.21; Anglo-American males, 1.96; Mexican-American females, 2.39; and Anglo-American females, 2.03. The data show that interaction between sex and ethnicity was not significantly different; therefore, it can be assumed that certainty of educational expectation did not differ significantly as ethnicity varied with sex.

Occupational Aspirations

Desired levels. The chi-square analysis performed on the occupational aspirations of males and females showed highly significant differences (Table 6, p. 33). Although there were differences in the job aspirations of males and females, both groups showed high aspirations. In fact, females selected the top three categories by a larger proportion than males; two-thirds of the females selected categories 1, 2, and 3, while only about half of the males made such selections. The differences between the occupational aspirations of both groups lay in the individual categories. Category 5, "clerical and sales," was selected by 17% of the females, but only 0.3% of the males selected this category. The "skilled worker" category was preferred by 20% males to 3.3% females. The females, on the other hand, were attracted to the glamor occupations, since about one-fifth of them made

this selection as compared to one-sixth of the males. The "high professional" and "managerial, official" categories were selected by approximately 35% of the males, but by only 14% of the females. Overall, different occupations seemed to be defined as "men only" or vice versa. Occupational aspirations appeared to be defined by tradition.

Intensity. There was a significant difference between males and females on intensity of aspiration for occupational goals (Table 7, p. 35). The difference between means was slight, 2.08 to 2.35 for males and females, respectively. Males appeared to be slightly more intense on accomplishing their educational goal than females.

Occupational Expectations

Anticipated levels. A significant difference was found to exist between males and females on occupational expectations, as noted in Table 8 (p. 36). In relation to occupational aspirations, the selections were not as concentrated at the top three levels but were more evenly divided among the nine categories. Differences still existed in the "high professional" and "low professional" categories, with males showing more preference for the "high professional" and females for the "low professional." Of the males, 16% selected category 1 compared to the selection of this category by 6.5% of the females. Females maintained a preference for category 2 by a 30% count. It should be noted that the largest percentage of females, 31.9%, really expected

jobs in the "clerical, sales" category. As was the case in occupational aspirations, the individual's occupational expectations appeared to be highly influenced by tradition.

Certainty. On the measure of certainty of occupational expectations, no significant difference between sexes was found (Table 9, p. 38). Mean scores were 2.24 for males and 2.31 for females.

Anticipatory Goal Deflection

Educational deflection. On the measure of deflection from educational goals, no significant differences were revealed in the analysis (Table 10, p. 39). Approximately two-thirds of both groups showed no deflection, i.e., their expectations were equal to their aspirations for education. A small percentage (7%) of each group held positive deflection and approximately 25% of the respondents held negative deflection.

Occupational deflection. There were no significant differences between males and females on anticipating goal deflection for occupation (Table 11, p. 41). The majority of both sexes had no deflection at all. Positive deflection was held by approximately one in 10 of each group. Negative deflection in occupation was held by about one-fourth of male and female respondents.

Grade Level

Educational Aspirations

Desired levels. The data reveal that there was a significant difference in the levels of educational aspirations for sophomores

and seniors (Table 12). Sophomores had a mean aspiration level of 5.04 and seniors, 5.52. The Newman-Keuls analysis showed that a significant difference existed between sophomores in vocational programs and all other students, whatever programs they might have been in. Sophomores in vocational programs had the lowest aspiration of any group, 4.03, and seniors in academic programs the highest, 6.21. When both grades as a whole are considered, their aspirations were generally high. Sophomores and seniors all aspired to some type of education beyond the junior college level. Interaction effects were not significant; therefore, it can be assumed that the educational aspiration level did not differ significantly as the program varied across grade level or vice versa.

TABLE 12

Educational Aspirations by Program and Grade Level

Source of variance	SS	df	MS	F
Grade	16.4608	1	16.4608	9.4416*
Program	165.2887	2	82.6443	47.4034*
Grade x Program	7.2571	2	3.6285	2.0813
Within-cell	939.7065	539		

*$p < .01$.

Intensity. No significant difference was found in intensity of educational aspirations between sophomores and seniors

(Table 13). Both grade levels held fairly strong desires to accomplish their educational aspirations. The mean intensity scores were 2.44 for seniors and 2.56 for sophomores.

TABLE 13

Intensity of Educational Aspirations by Program and Grade Level

Source of variance	SS	df	MS	F
Grade	5.6728	1	5.6728	1.4456
Program	25.4846	2	12.7423	3.2471
Grade x Program	15.1599	2	7.5800	1.9316
Within-cell	2115.1199	539	3.9242	

Educational Expectations

Anticipated levels. On the measure of educational expectations, seniors and sophomores did not differ significantly (Table 14). The means were 4.80 and 5.17 for sophomores and seniors, respectively. Both groups were still expecting to attend an educational program after graduation from high school although sophomores, with a mean score of 4.80, were expecting to graduate from high school and then complete some technical or vocational program after graduation. Sophomores did not expect to complete two years in college.

Certainty. Sophomores and seniors were not significantly different on their certainty of expectation scores (Table 15). The two grade levels had almost identical mean scores, sophomores, 2.15 and seniors, 2.16.

TABLE 14

Educational Expectations by Program and Grade Level

Source of variance	SS	df	MS	F
Grade	4.7342	1	4.7342	2.6992
Program	178.1303	2	89.0651	50.7804*
Grade x Program	1.3170	2	0.6585	0.3754
Within-cell	945.3677	539	1.7539	

*$p < .01$.

TABLE 15

Certainty of Educational Expectations by Program and Grade Level

Source of variance	SS	df	MS	F
Grade	0.7705	1	0.7705	1.1586
Program	4.8013	2	2.4006	3.6098
Grade x Program	0.7238	2	0.3619	0.5442
Within-cell	358.4536	539	0.6650	

Occupational Aspirations

Desired levels. According to the chi-square analysis, there was a significant difference between sophomores and seniors on occupational aspirations (Table 16). Even though there was a significant difference, it is important to note how similar the aspirations of both groups were. If the scale were collapsed into three categories, very few differences would be noted. For example, the top three categories, which could be labeled "high" aspirations, would find about 58% of the sophomores and 59% of the seniors making such selections. Therefore, about three-fifths of all respondents held high occupational aspirations. The next three categories (4, 5, and 6) could be labeled "intermediate," and here an almost identical percentage (28%) of sophomores and seniors was present. The bottom three categories might be labeled "weak" aspirations, with approximately 4% of the sophomores and 5% of the seniors making such selections. The category showing the largest difference in terms of percentage selectivity was number 6; 13% of the sophomores made such a selection as compared to 5% of the seniors.

Intensity. There was no significant difference between sophomores and seniors on their intensity of occupational aspirations, as Table 17 shows. Both groups held relatively strong desires for their occupational goals. Sophomores had a mean score of 2.23 and seniors had a mean score of 2.19.

TABLE 16

Occupational Aspirations by Program and Grade Level

Occupational level	General[a]				Academic				Vocational			
	10th[b]		12th		10th		12th		10th		12th	
	N	%	N	%	N	%	N	%	N	%	N	%
1. High professional	24	13.953	9	6.716	30	37.037	30	28.302	1	3.448	2	7.692
2. Low professional	34	19.768	41	30.597	15	18.519	40	37.735	4	13.793	6	23.077
3. Glamor	37	21.512	25	18.657	16	19.753	19	17.925	6	20.690	0	0.000
4. Managerial, official	9	5.233	16	11.940	4	4.939	9	8.491	0	0.000	6	23.077
5. Clerical, sales	22	12.791	15	11.194	5	6.173	1	0.943	5	17.241	2	7.692
6. Skilled worker	21	12.209	17	12.687	4	4.938	4	3.774	12	41.379	7	26.923
7. Operative	4	2.326	4	2.985	0	0.000	1	0.943	1	3.448	2	7.692
8. Laborer	3	1.744	1	0.746	0	0.000	1	0.943	0	0.000	1	3.846
9. Housewife, other	2	1.163	4	2.985	0	0.000	0	0.000	0	0.000	0	0.000
10. No information[c]	16	9.302	2	1.493	7	8.642	1	0.943	0	0.000	0	0.000
Total	172	100.000	134	100.000	82	100.000	106	100.000	29	100.000	26	100.000

[a] $\chi^2 = 94.03$ $\quad$ df = 16 $\quad$ $p < .01$

[b] $\chi^2 = 27.00$ $\quad$ df = 8 $\quad$ $p < .01$

[c] Not included in χ^2 tabulations.

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TABLE 17

Intensity of Occupational Aspirations by Program and Grade Level

Source of variance	SS	df	MS	F
Grade	0.4548	1	0.4548	0.2360
Program	16.4099	2	8.2049	4.2570
Grade x Program	5.4793	2	2.7396	1.4214
Within-cell	1038.8723	539	1.0274	

Occupational Expectations

Anticipated levels. There was no significant difference between the two grade levels on occupational expectations (Table 18). If the scale were collapsed as was done for occupational aspirations, the similarities would be obvious. The top three categories would still be the first preference for the largest percentage of each group. Of the sophomores and seniors, respectively, 42% and 47% had "high" occupational expectations according to the collapsed scale. About an equal percentage of each grade level selected the "intermediate" and "weak" categories on the collapsed scale. The selection of respondents on occupational expectations was not as concentrated at the top as were their aspirations, but were more evenly spread throughout the nine categories.

Certainty. There was no significant F value for the certainty of occupational expectation measure, as Table 19 indicates.

TABLE 18

Occupational Expectations by Program and Grade Level

Occupational level	General[a]				Academic				Vocational			
	10th[b]		12th		10th		12th		10th		12th	
	N	%	N	%	N	%	N	%	N	%	N	%
1. High professional	8	4.651	7	5.224	27	33.333	21	19.811	0	0.000	0	0.000
2. Low professional	33	19.186	26	19.403	18	22.222	48	45.284	3	10.345	5	19.230
3. Glamor	18	10.465	11	8.209	9	11.111	5	4.717	2	6.897	0	0.000
4. Managerial, official	14	8.139	8	5.970	4	4.939	7	6.604	1	3.448	4	15.385
5. Clerical, sales	34	19.767	35	26.120	6	7.407	9	8.491	6	20.690	1	3.846
6. Skilled worker	24	13.953	20	14.925	5	6.173	5	4.717	12	41.379	8	30.769
7. Operative	11	6.395	3	2.239	1	1.235	1	0.943	2	6.896	3	11.538
8. Laborer	4	2.326	7	5.224	1	1.235	1	0.943	1	3.448	2	7.692
9. Housewife, other	9	5.233	7	5.224	0	0.000	4	3.774	1	3.448	1	3.846
10. No information[c]	17	9.984	10	7.463	10	12.346	5	4.717	1	3.448	2	7.692
Total	172	100.000	134	100.000	81	100.000	106	100.000	29	100.000	26	100.000

[a] $\chi^2 = 190.53$ $\underline{df} = 16$ $\underline{p} < .01$

[b] $\chi^2 = 13.66$ $\underline{df} = 8$ $\underline{p} < .01$

[c] Not included in χ^2 tabulations.

The means for both groups were almost identical, i.e., 2.28 for sophomores and 2.26 for seniors.

TABLE 19

Certainty of Occupational Expectations by Program and Grade Level

Source of variance	SS	df	MS	F
Grade	0.4387	1	0.4387	0.3909
Program	3.0625	2	1.5313	1.3644
Grade x Program	1.5741	2	0.7871	0.7013
Within-cell	604.9075	539	1.1223	

Anticipatory Goal Deflection

Educational deflection. On the matter of anticipatory deflectuib from educational goals, there was no significant difference between sophomores and seniors (Table 20). Two-thirds of all respondents showed no deflection at all, that is, their educational expectations were the same as their aspirations. Whenever a deflection occurred, it was negative. About 25% of all respondents showed negative deflection.

Occupational deflection. No significant difference was found in the analysis of goal deflection by grade level (Table 21). More than 50% of all students in both grades had no deflection in their occupational goals at all. A small percentage, about 10%, held positive deflection in the two grade levels. As was the case in goal deflection for educational aspiration, about 25% had lower expectations than aspirations.

TABLE 20

Nature of Anticipatory Deflection from Educational Aspirations by Program and Grade Level

Nature of deflection	General[a]				Academic				Vocational			
	10th[b]		12th		10th		12th		10th		12th	
	N	%	N	%	N	%	N	%	N	%	N	%
None	107	61.850	82	60.741	60	72.289	77	71.296	22	75.862	17	62.963
Positive	45	8.671	7	5.185	6	7.229	3	2.778	3	10.345	1	3.704
Negative	49	28.324	45	33.333	16	19.277	27	25.000	4	13.793	9	33.333
No information[c]	2	1.156	1	0.741	1	1.205	1	0.926	0	0.000	0	0.000
Total	173	100.000	135	100.000	83	100.000	108	100.000	29	100.000	27	100.000

[a]$\chi^2 = 6.61$ $\underline{df} = 4$ $\underline{p} > .01$

[b]$\chi^2 = 5.87$ $\underline{df} = 2$ $\underline{p} > .01$

[c]Not included in χ^2 tabulations.

TABLE 21

Nature of Anticipatory Deflection from Occupational Aspirations by Program and Grade Level

Nature of deflection	General[a]				Academic				Vocational			
	10th[b]		12th		10th		12th		10th		12th	
	N	%	N	%	N	%	N	%	N	%	N	%
None	80	46.243	67	49.630	52	62.651	60	56.075	17	58.621	17	62.963
Positive	20	11.561	15	11.111	7	8.434	19	17.757	3	10.345	1	3.704
Negative	52	30.058	42	31.111	12	14.458	23	21.495	8	27.586	7	25.926
No information[c]	21	12.139	11	8.148	12	14.458	5	4.673	1	3.448	2	7.407
Total	173	100.000	135	100.000	83	100.000	107	100.000	29	100.000	27	100.000

[a] $\chi^2 = 12.11$ $\quad df = 4$ $\quad p > .01$

[b] $\chi^2 = 0.48$ $\quad df = 2$ $\quad p > .01$

[c] Not included in χ^2 tabulations.

School Program

Educational Aspirations

Desired levels. The analysis on educational aspirations of students in the different curricular programs (general, academic, and vocational) showed a highly significant difference among the three groups (Table 12, p. 46). There was a wide gap in the means of the three groups. Respondents in the general program had a mean educational aspiration level of 4.89; academic program students had a mean aspiration level of 6.14; and vocational program students had a mean aspiration level of 4.44. Significant differences were noted between the sophomores in a vocational program and all other students, regardless of grade or program. Sophomores in the vocational program had the lowest mean, 4.03, of any group. Interaction effects were not significant; therefore, it can be assumed that educational aspiration levels did not differ significantly as program varied across grade level or vice versa.

Intensity. No significant difference was found among the respondents in the different programs (Table 13, p. 47). The three groups were very similar in their intensity to achieve their educational goals. The general curricula group reported a mean score of 2.66; the academic group had a mean score of 2.15; and the vocational group had a mean score of 2.80.

Educational Expectations

Anticipated levels. There was a significant difference among the different programs with regard to educational expectations (Table 14, p. 48). Means reported were 4.56, 5.89, and 4.16 for general, academic, and vocational programs, respectively. As was the case in educational aspirations, the Newman-Keuls analysis revealed that means for respondents in the sophomore-vocational cell were significantly different from all other grade-program combinations except senior-vocational. Although educational expectations were lower than educational aspirations, it is important to note that regardless of school program some post-high-school education or training was expected.

Certainty. A significant difference did not exist among the programs on the certainty measure (Table 15, p. 48). The means were 2.27, 1.99, and 2.07 for the general, academic, and vocational groups in that order. It could be that the academic and vocational groups were "sure" that they would get the education they expected.

Occupational Aspirations

Desired levels. Occupational aspiration levels did differ significantly by program (Table 16, p. 50). The academic group's aspirations were much higher than those of either the general or vocational groups. Approximately 80% of the respondents in the academic category aspired to jobs in the top three categories, so four out of every five in this group had "high" aspirations. On the other hand, about half of the respondents in the general

curricula held "high" aspirations, but only a third of the vocational group aspired to the top three categories. The general curriculum respondents were well spread out through the nine occupational categories. In contrast to the academic group, the vocational group was concentrated at the middle of the occupational scale. It is important to note that almost 50% of the respondents in the vocational curriculum had aspirations in the "clerical, sales and skilled worker" categories (5 and 6). The aspirations, in general, of vocational respondents were "low" and very "high" for the academic group.

Intensity. No significant difference was found on the intensity of educational aspirations among the different types of programs (Table 17, p. 51). The means for the general, academic, and vocational respondents were 2.31, 2.17, and 1.78, respectively. It should be noted that even though educational aspirations for the vocational group were the lowest, they maintained the strongest desires to achieve their educational goals.

Occupational Expectations

Anticipated levels. The data reveal a highly significant difference in the occupational expectations of the three groups (Table 18, p. 52). The differences appeared to exist in the top three categories where the percentages of respondents were 36.4, 66.2, and 17.6 for general, academic, and vocational in that order. The vocational group, in fact, had no student who expected a high professional job. The middle three categories were selected by

47.8% of the respondents in the general curriculum, 19.6% of the academic, and 58% of the vocational. In comparing occupational aspirations with expectations, the vocational respondents seemed to expect and aspire to the same occupation, as "low" as they may be.

Certainty. No significant difference was noted in certainty of occupational expectation among the three levels of school programs (Table 19, p. 53). The means ranged from 2.36 for the general level to 2.13 for the academic level, with the vocational group in the middle with a mean score of 2.29.

Anticipatory Goal Deflection

Educational deflection. No significant difference was shown on the deflection from educational goals (Table 20, p. 54). Over 60% of all respondents held no deflection at all, regardless of school program. As was the case in the other deflection measures, a few held positive deflection and about one-fourth of all respondents held negative deflection.

Occupational deflection. Goal deflection from occupational aspirations did not differ significantly among the three program levels (Table 21, p. 55). A majority of all respondents still showed no deflection from their occupational goals. The academic group as a whole showed less negative deflection than the other two groups, with less than one-fifth in that category. Approximately 30% of the respondents in the general group held negative deflection, with the vocational group close behind at about 26%.

Chapter 5

SUMMARY, CONCLUSIONS, IMPLICATIONS

This chapter will present a summary of the study, including the purpose, procedures, and findings. Conclusions, based on the study findings, are discussed. The last part of the chapter covers implications also based on the study findings.

Summary and Conclusions

Purpose and Procedures

The primary purpose of this study was to conduct a comprehensive survey of the educational and occupational aspirations and expectations of El Paso high school students. Specifically, the general objective was to determine the educational and occupational preferences of high school students in the El Paso area.

Data for this study were obtained from high school sophomores and seniors in the El Paso and Ysleta school districts of El Paso, Texas. An approximate 5% sample of seniors and sophomores was selected for the study. Two methods of selecting students were used: (a) A simple random list of numbers, given to the school, was used to select students from the school's sophomore and senior lists; and (b) classes were selected according to the criterion that classes chosen were required courses for either all seniors or all sophomores. In almost all classes that were chosen, the students had been randomly selected by computer.

Information on the respondents was gathered during February and early March of 1973. Data were acquired through a group-administered questionnaire. The student groups usually varied in size from 20 to 55. The site for administering the questionnaire was either a classroom where the students met for their assigned classes or the cafeteria when the group was composed of all students from the particular school.

The Kuvleskey-Bealer paradigm was utilized to investigate educational and occupational aspirations and expectations. A distinction was made between aspirations (the desires of the individual for attainment of a particular goal, such as education or occupation, in this study) and expectations (the individual's estimation of his probable attainment in reference to a particular goal area. The divergence between aspirations and expectations, anticipatory goal deflection, was also used for analyzing the respondents' answers. Intensity of aspiration was used to measure the strength of a person's desire to achieve a certain status area. Finally, certainty of expectation was utilized to measure an anticipated level of a status area.

The following dimensions of educational and occupational status orientations were studied:

A. Educational aspirations

1. Desired levels

2. Intensity of aspirations

B. Educational expectations

1. Anticipated levels

2. Certainty of expectations

C. Occupational aspirations

1. Desired levels

2. Intensity of aspirations

D. Occupational expectations

1. Anticipated levels

2. Certainty of expectations

E. Anticipatory goal deflection

1. Nature of deflection--education

2. Nature of deflection--occupation

Statistical Analysis

Two-way analysis of variance was first used with ethnicity and sex and then with grade and high school program to detect significant differences and interactions among the classifications on the different variables. Analysis of variance was used for all the variables except occupational aspirations, occupational expectations, and anticipatory goal deflection. Chi-square analysis was used for these last three variables because of the categorical nature of the data.

Hypotheses and Findings

Four of the major hypotheses will be discussed in the same order as they were presented in Chapter 4. (Additional descriptive tables are presented in Appendix C.)

Ethnicity. The findings which are summarized in Table 22 show no statistically significant differences were found between Mexican Americans and Anglo Americans on intensity of occupational aspirations, certainty of occupational expectations, and goal deflection for education and occupation.

TABLE 22

Description of Status Orientation Relationships and Summary of Analysis of Variance and Chi-Square Significance for Mexican Americans and Anglo Americans

Table	Dimension	p at .01	Nature of ethnic difference
2	Educational Aspirations	S*	A > MA
3	Educational Aspirations--Intensity	S*	MA > A
4	Educational Expectations	S*	A > MA
5	Educational Expectations--Certainty	S*	A > MA
6	Occupational Aspirations	S**	Similar
7	Occupational Aspirations--Intensity	NS*	None
8	Occupational Expectations	S**	Similar
9	Occupational Expectations--Certainty	NS*	None
10	Anticipatory Deflection--Education	NS**	None
11	Anticipatory Deflection--Occupation	NS**	None

*ANOVA.

**Chi-Square.

Mexican Americans had significantly different educational and occupational aspirations than those of the Anglo-American respondents. Even though educational aspirations were significantly different and somewhat lower for Mexican Americans, they were generally high for all respondents. Both groups maintained high

educational aspirations with desires of completing at least two years of college education. Very few anticipated dropping out or terminating their education with high school graduation (Appendix C, Table 26). It is interesting to note that while Anglo Americans had higher educational aspirations, Mexican Americans maintained a stronger intensity for their educational goals. This brings up the question as to the point of interpretation of the dimension of aspiration. Some students may interpret it as something like a "dream" which they might not think of accomplishing. Others may see aspirations in a more "realistic" light as goals which can be achieved. It seems that the problem is one of interpretation of the concept of aspiration. It appears that the Mexican American in this case interprets aspirations more "realistically."

As with aspirations, Mexican-Americans' expectations were lower than those of Anglo Americans in education and occupation. In occupational aspirations, there were differences in the individual categories, but overall there were about the same proportions of each group in selecting the "high" occupations. Very few of the two ethnic groups either aspired to or expected occupational jobs in the bottom three categories of the occupational scale.

Sex. Table 23 presents a summary of male-female status orientation relationships. The data reveal that females had lower educational aspirations and expectations than males. Both groups had aspirations of completing some post-high-school education of

at least two years of college, so it cannot be said that girls had "low" aspirations, only that they were lower than boys' aspirations. There seemed to be a greater disparity between the educational expectations of both sexes than between their aspirations. In educational expectations, boys still expected to attain at least two years of school school beyond high school, but girls expected only some training after high school graduation. Even though the role of women has changed in recent years, men and women still have different educational and occupational aspirations.

TABLE 23

Description of Status Orientation Relationships and Summary of Analysis of Variance and Chi-Square Significance for Males and Females

Table	Dimension	*p* at .01	Nature of sex difference
2	Educational Aspirations	S*	M > F
3	Educational Aspirations--Intensity	NS*	None
4	Educational Expectations	S*	M > F
5	Educational Expectations--Certainty	NS*	None
6	Occupational Aspirations	S**	F > M
7	Occupational Aspirations--Intensity	S*	M > F
8	Occupational Expectations	S**	Similar
9	Occupational Expectations--Certainty	NS*	None
10	Anticipatory Deflection--Education	NS**	Similar
11	Anticipatory Deflection--Occupation	NS**	Similar

*ANOVA.

**Chi-Square.

In looking at the data on occupational status orientations, one can discern differences between males and females. There seem to be certain occupations that are "defined" for men or woman. The "high professional" occupations appear to be the domain of men, although a few (11.4%) girls aspired and fewer (6.5%) expected to be in that category. Interestingly enough, a higher percentage of girls selected the "low professional" occupations than did boys (32% to 16%). The "clerical, sales" occupations seem to be for women only, and the "skilled worker" for "men only." The differences between the two appear to be a case, not of one having higher aspirations or expectations than the other, but of society's traditionally defined roles for men and women.

Grade. The summarized findings reported in Table 24 show statistically significant differences only in educational and occupational aspirations. Both seniors and sophomores maintained high educational aspirations, but seniors had a higher mean score of 5.52 as compared to 5.06 for sophomores. Even though there were statistically significant differences in the occupational aspirations of sophomores and seniors, there seem to be many similarities. When the scale is collapsed into three categories, an almost equal number of students is found in each category. Approximately 50-55% of all respondents fall into the first three categories, 28% in the middle three, and about 5% in the last three. Generally speaking, there were very few differences between sophomores and seniors on any of the measures taken.

TABLE 24

Description of Status Orientation Relationships and Summary of Analysis of Variance and Chi-Square Significance for Sophomores and Seniors

Table	Dimension	p at .01	Nature of ethnic difference
12	Educational Aspirations	S*	S > Soph
13	Educational Aspirations--Intensity	NS*	Similar
14	Educational Expectations	NS*	Similar
15	Educational Expectations--Certainty	NS*	Similar
16	Occupational Aspirations	S**	Similar
17	Occupational Aspirations--Intens	NS*	Similar
18	Occupational Expectations	NS**	Similar
19	Occupational Expectations--Certainty	NS*	Similar
20	Anticipatory Deflection--Education	NS**	Similar
21	Anticipatory Deflection--Occupation	NS**	Similar

*ANOVA.

**Chi-Square.

Program. The findings for school programs reveal that some highly significant differences existed among the three curricular programs (Table 25). The most significant differences were for educational aspirations and expectations and for occupational aspirations and expectations. Educational aspirations and expectations for the academic group were considerably higher than for the other two groups. The academic group had educational aspirations of at least graduation from college or university, while the vocational group aspired to some post-high-school training but only to the point of completing a technical-vocational program. It may be assumed that the brightest students were in the academic group;

then the differences in aspirations can be explained in terms of intelligence. The conclusion might then be drawn that the smartest students hold the highest educational aspirations. Sometimes this is not the case because some schools are more vocationally-centered than others and to say that "this" school has less intelligent students would be erroneous. Further research in the status orientations of people in different curricular programs seems appropriate. About the same conclusions that were drawn in reference to educational aspirations can be drawn in reference to occupational aspirations.

TABLE 25

Description of Status Orientation Relationships and Summary of Analysis of Variance and Chi-Square Significance for General, Academic, and Vocational Programs

Table	Dimension	p at .01	Nature of program difference
12	Educational Aspirations	S*	A > G > V
13	Educational Aspirations--Intensity	NS*	Similar
14	Educational Expectations	S*	A > G > V
15	Educational Expectations--Certainty	NS*	Similar
16	Occupational Aspirations	S**	A > G > V
17	Occupational Aspirations--Intensity	NS*	Similar
18	Occupational Expectations	S**	A > G > V
19	Occupational Expectations--Certainty	NS*	Similar
20	Anticipatory Deflection--Education	NS**	Similar
21	Anticipatory Deflection--Occupation	NS**	Similar

*ANOVA.

**Chi-Square.

Even though there were no significant differences on certainty of educational expectations among the three programs, it is interesting to note that the academic and vocational groups were more certain about their educational expectations. Perhaps these two groups have already made definite plans about their future education and jobs. The student in the general program is still feeling his way around and trying to make an occupational and educational decision. As in the other analyses, there were no differences in the nature of deflection. The ratios were approximately two-thirds, one-tenth, and one-fourth for no deflection, positive deflection, and negative deflection, respectively.

Implications

Theory and Research

The results on educational and occupational aspirations of Mexican Americans and Anglo Americans provide support for Merton's (1957) theory of social structure and anomie inculcation of high success goals of various kinds (educational and occupational in this study). Merton's contention was that inculcation of high success goals exists as a general pattern among differentiated segments of American society. Most students, regardless of ethnic background, held high aspirations for education and occupation. The findings that Mexican Americans have high social achievement goals squarely contradict some widely held stereotypes of Mexican Americans as being lazy, nonmotivated, and living only for today

and not tomorrow. Surely these findings support what Kuvleskey (1969) found in the Texas A&M studies and bring to question the sociological studies of Heller (1968), Madsen (1964), and Schwartz (1971) among others. Do Mexican Americans, as Heller and Madsen maintain, have low aspirations or expectations? Probably not. Most people, as Merton (1957) maintained, do have high aspirations regardless of ethnic or social background. Further research is needed on aspirations to investigate closely if differences are due to ethnicity or socioeconomic and other factors. The fact that these groups do not reach their aspirations may be due more to lack of opportunities, finances, and discrimination than to lack of motivation or desire.

The research findings of a Louisiana study (Mondart et al., 1970), which indicated that high school students develop strong occupational interests by the eleventh grade, are generally supported by the data in this study. Many students, sophomores and seniors, were certain about what occupations they hoped to pursue. Further longitudinal-type research is needed to evaluate the point in time when people do, in fact, make realistic occupational choices.

Along the lines of the Mondart study, a Texas study project found that a large number of youth's status projections went up (Kuvleskey, 1969). In the analysis for this study of sophomore and senior educational aspirations, educational aspirations did go up for seniors. If this is true, then it contradicts Ginzberg's

phase theory which contends that with age and maturity aspirations and expectations become more realistic.

Policy

From the data of this research an obvious conclusion may be made that educational and occupational aspirations and expectations are high for all students in El Paso. Not only do students desire some type of education beyond high school, they expect it. It is, then, the responsibility of post-high-school educational institutions to provide that training which is obviously needed.

Specifically, more than 90% of the students in this study indicated that they would take some courses or training beyond high school (Appendix C, Table 30). A comprehensive program is needed to meet the needs of these students. An educational institution must then be prepared to offer a varied course of study which would include training in technical-vocational areas plus regular college work. The traditional university can meet some of these demands. Approximately 17% of all students preferred the "high professional" occupations. These students could well be served by the college or university system. The rest, or approximately 75%, wanted jobs that would require some additional training beyond high school. The community college with its comprehensive program is in an excellent position to provide much of the training or education desired by the high school population.

Since such a large percentage of students desire and expect some type of educational training beyond high school and many cannot afford it, the community colleges and universities should promote programs that would help students achieve their desires. The schools would do well to promote scholarship programs, work-study programs, and loan programs, in order to enroll as many students as possible. Students have the desires and the motivation for high educational and occupational attainment. It is up to society and its educational institutions to help fulfill those desires.

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APPENDIX A

QUESTIONNAIRE

CONFIDENTIAL No. _____

EL PASO TEXAS YOUTH STUDY

This set of questions is part of a study of high school students in the United States. The purpose of this study is to learn more about what students think about their future and what they plan to do after they leave high school.

THIS IS NOT A TEST: There are no right or wrong answers. We are only interested in finding out your opinions about some important matters. No one in your school will ever see your answers. Special safeguards have been set up to make sure that your replies will be kept strictly confidential.

You do not have to answer any questions you do not want to answer. However, we hope that you will cooperate to make this a good scientific study by answering all the questions as frankly and honestly as you can. We appreciate your help very much.

1. How old are you today? (Circle the number above your age.)

1	2	3	4	5	6	7	8
13 or less	14	15	16	17	18	19	20 or more

2. Are you male or female? (Circle one number.)

1. Male 2. Female

3. What school grade are you in? (Circle the number above your grade.)

1	2	3	4
Ninth	Tenth	Eleventh	Twelfth

4. Where do you live? (Circle one number.)

1. City (over 2,500)
2. Town or village (under 2,500)
3. In the country, but not on a farm
4. On a farm

5. Do you have any physical handicaps? (Circle one number.)

1. Yes 2. No

6. What is your race? (Circle one number.)

1	2	3	4
American Indian	Ori-ental	Negro	Cauca-sian

7. Are you of Mexican-American origin? (Circle one number.)

1. Yes 2. No

---

8. What kind of program are you taking in school? (Circle one number.)

1	2	3	4
General	Academic or College Prep.	Vocational	Other (What? _____)

---

9. If you were completely free to choose any job, what would you most desire as a lifetime kind of work? (In answering this question, give an exact job. For example, do not say "work on the railroad," but tell us what railroad job you would like to have.) Write your answer in the box below.

ANSWER: [ ]

---

10. Listed below are a number of things that most young people look forward to. Rank them in order of their importance to you. For the one you think is most important, check number 1 in front of it; for the next most important one, check number 2, and so on until you have a number checked for each one. Read over the entire list before answering the question. (Check only one number beside each sentence and check each different number only once.)

Order of Importance to You 1	2	3	4	5	6	7	
___	___	___	___	___	___	___	Having lots of free time to do what I want.
___	___	___	___	___	___	___	To develop my mind and get all the education I want.
___	___	___	___	___	___	___	To earn as much money as I can.
___	___	___	___	___	___	___	Getting the job I want most.
___	___	___	___	___	___	___	Living in the kind of place I like best.

Order of Importance to You

1	2	3	4	5	6	7	
___	___	___	___	___	___	___	Having the kind of house, car, furniture, and other things like this I want.
___	___	___	___	___	___	___	To get married and raise a family.

CHECK YOUR ANSWERS! <u>You should have each number checked only once and a single number should be checked for each statement</u>.

---

11. What kind of job do you really expect to have most of your life? (Write your answer in the box below. Please give an <u>exact</u> job!)

ANSWER: [ ]

---

12. How sure do you feel that this will be the kind of work you <u>will do</u> most of your life? (Circle one number.)

I feel:	1	2	3	4	5
	Very sure	Sure	Not very sure	Uncertain	Very uncertain

---

13. If you could have as much education as you desired and were completely free to choose, which of the following would you do? (Circle only one number.)

1. Quit high school and never go to school again.
2. Quit high school and take some vocational training for a job.
3. Graduate from high school and never go to school again.
4. Graduate from high school and then complete a business, commercial, nurses' training, or some other technical school program.
5. Graduate from a junior college.
6. Graduate from a college or university.
7. Complete additional studies after graduating from a college or university.

---

14. What do you <u>really expect</u> to do about your education? (Circle only one number.)

1. Quit high school and never go to school again.
2. Quit high school and take some vocational training for a job.
3. Graduate from high school and never go to school again.
4. Graduate from high school and then complete a business, commercial, nurses' training, or some other technical program.
5. Graduate from a junior college.
6. Graduate from a college or university.
7. Complete additional studies after graduating from a college or university.

---

15. How sure are you that you will really achieve the education you expect? (Circle one number.)

I am: 1	2	3	4	5
Very sure	Sure	Not very sure	Uncertain	Very uncertain

---

16. How much effect do you think each of the following things will have in <u>keeping you from getting</u> the kind of job you desire?

Very much	Much	Some	Not at all	
___	___	___	___	1. My religion.
___	___	___	___	2. Can't afford to go to technical school or college.
___	___	___	___	3. The schools I have gone to.
___	___	___	___	4. Lack of parents' interest.
___	___	___	___	5. Ability to borrow money.
___	___	___	___	6. My race.
___	___	___	___	7. Don't want to move.
___	___	___	___	8. Good jobs are getting too scarce in the U.S.
___	___	___	___	9. Lack of good job opportunities in or near my community.
___	___	___	___	10. No technical school or college nearby.
___	___	___	___	11. Don't know enough about the opportunities that exist.
___	___	___	___	12. Have to help support my family.
___	___	___	___	13. Not smart enough.

---

17. Of the kind of places listed below, in which one would you most desire to live for the rest of your life? (Circle only one number.)

In a City	Near a City	Not near a City
1. Very large	3. In a town or village	6. In a town or village
2. Small	4. In the country but not on a farm	7. In the country but not on a farm
	5. On a farm	8. On a farm

---

18. From the kinds of places listed above, what type of place do you really expect to live most of your life? Place the number of this type of place in the following box:

[ ]

---

19. How sure are you that you will live in this kind of place? (Circle one number.)

I am:

1	2	3	4	5
Very sure	Sure	Not very sure	Uncertain	Very uncertain

---

20. How much money would you desire to make a year if you could have any amount you desired? (GIRLS: If you plan to marry, indicate the amount of money you would like your husband to make.) Place your answer in the following box:

[$ a year]

---

21. Do you want to go into military service? (Circle one number.)

1. Yes 2. No

---

22. What do you expect to do about military service? (Circle only one number.)

1. Quit high school and enlist.
2. Enlist right after high school.

3. Go to college and take officers' training.
4. Enlist in the Reserves or National Guard.
5. Not eligible--I have a physical disability.
6. Get out of going some way or other.
7. I am a girl and do not plan to enlist.

---

23. How sure are you that this what you will do? (Circle one number.)

I am:

1	2	3	4	5
Very sure	Sure	Not very sure	Uncertain	Very uncertain

---

24. What is the highest yearly income that you <u>really think</u> you will ever be able to make? (GIRLS: If you plan to marry, indicate what you think will be the highest yearly income your husband will ever make.) Place your answer in the following box:

$ a year

---

25. How sure are you that this will be the highest income you will ever make? (Circle one number.)

I am:

1	2	3	4	5
Very sure	Sure	Not very sure	Uncertain	Very uncertain

---

26. At what age would you like to get married?

---

27. How many children do you want? (Circle one number.)

1 2 3 4 5 6 7 8 or more

---

28. At what age do you really expect to get married? [ ]

---

29. a) Do you speak Spanish? (Circle one number.)

1. Yes 2. No

If you answered yes, you do speak Spanish, answer the following questions:

b) What language do you usually use when speaking with your parents? (Circle one number.)

1. English 2. Spanish 3. About the same amount of both

c) What language do you usually use when talking with your close friends outside of class? (Circle one number.)

1. English 2. Spanish 3. About the same amount of both

d) What language do you usually use when speaking with your close school friends outside of class? (Circle one number.)

1. English 2. Spanish 3. About the same amount of both

---

30. How many of the radio programs you listen to are broadcasted in Spanish? (Circle one number.)

1. None 2. Some 3. More-than-half 4. All

---

31. How many of the magazines and newspapers which you read are in Spanish? (Circle one number.)

1. None 2. Some 3. More-than-half 4. All

---

32. Where were your parents born? (Give the town and state.)

Mother _____

Father _____

---

33. (a) If you were to get additional schooling after you leave high school, which of the following types of colleges would you most likely go to: (Circle only one!)

1. A community or junior college
2. A small, private 4-year college
3. A large, private college
4. A small, state college or university
5. A large, state university

(b) If you can, give the name of the college or university you think you would probably go to in the box below:

---

34. (a) If you were to go to a college or university, would it be: (Circle only one!)

1. As close to home as possible
2. Within daily traveling distance of my home town or city
3. Somewhere else in Texas
4. Out of state

(b) Would it be: (Circle only one!)

1. Full time
2. Part-time -- regular
3. Once in a while
4. Don't know

---

35. (a) Whether you plan to go on to college or not, is there a good chance you might take some courses or training after you finish school? (Circle only one!)

1. Yes
2. Maybe
3. No
4. Not sure

(b) If you answered Yes or Maybe, please check those kinds of things listed below you might consider taking:

___ 1. Technical Vocational Courses - secretarial, accounting, mechanics, drafting and nursing

___ 2. Transfer courses (college level) - English, history, science, math, and Spanish

___ 3. Continuing education courses - hobbies, cooking, art, etc.

---

36. How would you be able to finance any schooling or training you might take after high school? (Circle all that apply.)

1. By working while I'm in school or taking courses
2. By working in the summer
3. My parents or relatives will pay for me
4. By getting a loan
5. By getting a scholarship
6. I already have the money for that
7. Others: _____

---

37. Designate the geographical area in which you reside. (Circle one.)

1. South
2. East
3. Northeast
4. Northwest

---

38. What kind of courses or programs would you like to see a community college in this area offer? Answer in your own words below.

_____
_____
_____
_____

No _____

As we mentioned before, your answers to those questions are already confidential. No information about particular persons will be given to your school or anyone else. However, we will need your name and address so that we can locate and contact you several years from now. Please give us the following information!

PLEASE PRINT

(a) Your present address

First name	Middle initial	Last name

Street address

City or town	County	State

Telephone number

(b) Name and Address of relative or friend (living at a different address from the one you gave above) who will always know where you are living if you should move in the next few years.

First name	Middle initial	Last name

Street address

City or town	County	State

Telephone No.

THANK YOU FOR HELPING US!

APPENDIX B

NEWMAN-KEULS ANALYSIS

Newman-Keuls Analysis of Differences Between Means

Compare Mean A-B	Mean A-B	Difference	Q^a	R	DF
2.- 1.	1.- 2.	0.8295	6.6655*	4	541
2.- 1.	1.- 1.	0.4844	3.8921*	3	541
2.- 1.	2.- 2.	0.4245	3.4112*	2	541
2.- 2.	1.- 2.	0.4050	3.2543	3	541
2.- 2.	1.- 1.	0.0599	0.4809	2	541
1.- 1.	1.- 2.	0.3451	2.7734	2	541

[a]If Q exceeds the values in studentized range statistics tables, then difference between means is significant.

APPENDIX C

DESCRIPTIVE TABLES

TABLE 26

Educational Expectations by Ethnicity and Sex

Educational level	Mexican American				Anglo American			
	M		F		M		F	
	N	%	N	%	N	%	N	%
1	0	0.000	0	0.000	0	0.000	3	2.564
2	5	3.401	4	2.614	6	4.196	1	0.855
3	14	9.524	15	9.804	12	8.392	14	11.966
4	51	34.694	77	50.327	29	20.280	34	29.060
5	5	3.401	8	5.229	5	3.497	6	5.128
6	47	31.973	31	20.261	51	35.664	45	38.462
7	24	16.327	15	9.804	40	27.792	[illegible]	11.111
No information	1	0.680	3	1.961	0	0.000	1	0.855
Total	153	100.000	153	100.000	143	100.000	117	100.000

TABLE 27

Educational Aspirations by Ethnicity and Sex

Educational level	Mexican American				Anglo American			
	M		F		M		F	
	N	%	N	%	N	%	N	%
1	0	0.000	0	0.000	0	0.000	0	0.000
2	3	2.041	6	3.922	3	2.098	3	2.564
3	11	7.483	13	8.497	4	2.797	9	7.692
4	48	32.653	61	39.869	36	25.175	36	30.769
5	4	2.721	6	3.922	5	3.497	2	1.709
6	39	26.531	42	27.451	41	28.671	40	34.188
7	41	27.891	23	15.033	54	37.762	27	23.077
No information	1	0.680	2	1.307	0	0.000	0	0.000
Total	147	100.000	153	100.000	143	100.000	117	100.000

TABLE 28

Educational Aspirations and Expectations of El Paso High School Students

Educational level	Aspirations		Expectations	
	N	%	N	%
1	0	0.000	3	0.526
2	16	2.807	17	2.982
3	38	6.667	56	9.825
4	184	32.281	195	34.211
5	17	2.982	24	4.211
6	163	28.598	175	30.702
7	149	26.140	95	16.667
No information	3	0.526	5	0.877
Total	570	100.000	570	100.000

TABLE 29

Type of Program That Students Might Consider Taking by Ethnicity and Sex

Program	Mexican American				Anglo American				Total population	
	M		F		M		F			
	N	%	N	%	N	%	N	%	N	%
1. Technical-Vocational	74	50.340	85	55.556	64	44.755	50	42.735	279	48.947
2. Transfer (College Parallel)	23	15.646	15	9.804	31	21.678	19	16.239	90	15.789
3. Continuing Adult Education	15	10.204	18	11.765	13	9.091	20	17.094	68	11.930
4. Programs 1 and 2	3	2.041	5	3.268	5	3.497	2	1.709	15	2.632
5. Programs 1 and 3	0	0.000	4	2.614	1	0.699	8	6.838	13	2.281
6. Programs 2 and 3	1	0.680	0	0.000	3	2.098	1	0.855	5	0.877
7. Programs 1, 2, and 3	3	2.041	2	1.307	2	1.399	1	0.855	8	1.404
8. No information	28	19.048	24	15.686	24	16.783	16	13.675	92	16.140
Total	147	100.000	153	100.000			117	100.000		

TABLE 30

Post-High-School Chance of Further Courses or Training by Ethnicity and Sex

Intention	Mexican American				Anglo American				Total population	
	M		F		M		F			
	N	%	N	%	N	%	N	%	N	%
1. Yes	77	52.381	76	49.673	86	60.140	74	63.248	317	55.614
2. Maybe	44	29.932	55	35.948	38	26.573	29	24.786	172	30.175
3. No	11	7.483	9	5.882	11	7.692	5	4.274	36	6.316
4. Not sure	10	6.803	8	5.229	6	4.196	9	7.692	33	5.789
5. No information	5	3.401	5	3.268	2	1.399	0	0.000	12	2.105
Total	147	100.000	153	100.000	143	100.000	117	100.000	570	100.000

TABLE 31

Post-High-School Institutions Preferred by Students Based on Ethnicity and Sex

Educational institution	Mexican American				Anglo American				Total population	
	M		F		M		F			
	N	%	N	%	N	%	N	%	N	%
1. Community college	35	23.810	61	39.869	20	13.986	29	24.786	147	25.789
2. Small private 4-year college	8	5.442	11	7.190	12	8.392	5	4.274	37	6.491
3. Large private college	7	4.762	4	2.614	8	5.594	3	2.564	22	3.860
4. Small state college or university	43	29.252	39	25.490	45	31.469	45	38.462	175	30.702
5. Large state university	48	32.653	33	21.569	53	37.063	33	28.205	171	30.000
6. No information	6	4.082	5	3.268	5	3.497	2	1.709	18	3.158
Total	147	100.000	153	100.000	143	100.000	117	100.000	570	100.000

TABLE 32

Institution-Geographic Location Preferred by Ethnicity and Sex

Geographic location	Mexican American				Anglo American				Total population	
	M		F		M		F			
	N	%	N	%	N	%	N	%	N	%
1. Close to home as possible	64	43.537	74	48.366	39	27.273	36	30.769	215	37.719
2. Daily traveling distance of home town or city	31	21.088	43	28.105	19	13.287	26	22.222	122	21.404
3. Somewhere else in Texas	20	13.605	14	9.150	39	27.273	29	24.786	104	18.246
4. Out of state	26	17.687	20	13.072	43	30.070	24	20.513	116	20.351
5. No information	6	4.082	2	1.307	3	2.908	2	1.709	13	2.281
Total	147	100.000	153	100.000	143	100.000	117	100.000	570	100.000

TABLE 33

Total Number in Cells in Ethnicity and Sex in Analysis of Variance Computations

Mexican American		Anglo American	
M	F	M	F
140	148	141	116

TABLE 34

Total Number in Cells in Grade and School Program in Analysis of Variance Computations

Program	10th Grade	12th Grade
General	169	131
Academic	83	107
Vocational	29	26

TABLE 35

Number of Respondents Classified into Actual Categories for Occupational Aspirations

Occupational categories	Number of respondents
High Professional	
Lawyer	20
Doctor, surgeon	42
Dentist	5
Scientist	11
Veterinarian	7
Biochemist	3
Clinical psychologist	8
Nuclear physicist	3
Minister	1
Computer designer	2
Professor	1
Low Professional	
Teacher	39
Electronics technician	1
Dietician	1
Pharmacist	2
Engineer	13
Social worker	10
Registered nurse	18
Legal secretary	5
Accountant	11
Laboratory technician, x-ray	4
Medical technician	4
Interior decorator	12
Commercial artist	3
Mortician	1
Computer programmer	4
Clergyman	2
Journalist	7
Architect	13
Glamor	
Entertainer	6
Professional sportsman	3
Airline hostess	18
Artist	4
Musician	7
Astronaut	1

TABLE 35 (continued)

Occupational categories	Number of respondents
Model	15
Pilot	9
Writer	2
Photographer	5
Race car driver	2
Managerial, Official	
Owner, manager, or official of company	14
Government official	8
Ranger, warden	4
Businessman	3
Owner	11
Government worker	7
F.B.I.	4
Farm or ranch owner or manager	4
Clerical, Sales	
Clerk	2
Secretary	38
Clèrical work	3
Cashier	5
Bookkeeper	2
Receptionist	3
Stenographer	1
Medical secretary	3
Military Service	
Officer	7
Enlisted	6
Skilled Workers	
Beautician	5
Mechanic	24
Electrician	7
Welder	3
Practical nurse	13
Machinist	2
Policeman	14
Carpenter	3
Printer	3
Painter	3

TABLE 35 (continued)

Occupational categories	Number of respondents
Operative	
Truck driver	3
Telephone operator	2
Bus driver	1
Laborer	
Construction	2
Cook	1
Teacher aide	2
Farm worker	1
Housewife, Other	14
No Information	29

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ABSTRACT: THIS REPORT DESCRIBES THE DEVELOPMENT OF A MOBILE WELDING INSTRUCTIONAL UNIT TO PROVIDE TRAINING IN WELDING TO ADULT WORKERS IN NORTH DAKOTA. PROJECT OBJECTIVES WERE TO PROVIDE SHORT TERM INSERVICE UPGRADING OR RETRAINING EDUCATION FOR PERSONS EMPLOYED AS WELDERS OR FOR UNEMPLOYED OR UNDEREMPLOYED ADULTS. PROCEDURES INVOLVED DEVELOPING A BUDGET, A STRUCTURAL PLAN AND SPECIFICATIONS, AND BUILDING AND TESTING THE WELDING LABORATORY. THE REPORT DESCRIBES THE INSTRUCTIONAL UNIT AND EQUIPMENT, AND PROVIDES INFORMATION ABOUT STAFF, BUDGET, PUBLICITY, AND SCHEDULING. BUILDING PLANS AND USER REQUEST FORMS ARE ATTACHED TO THE REPORT. (NJ)

INSTITUTION NAME: NORTH DAKOTA STATE SCHOOL OF SCIENCE, WAHPETON.

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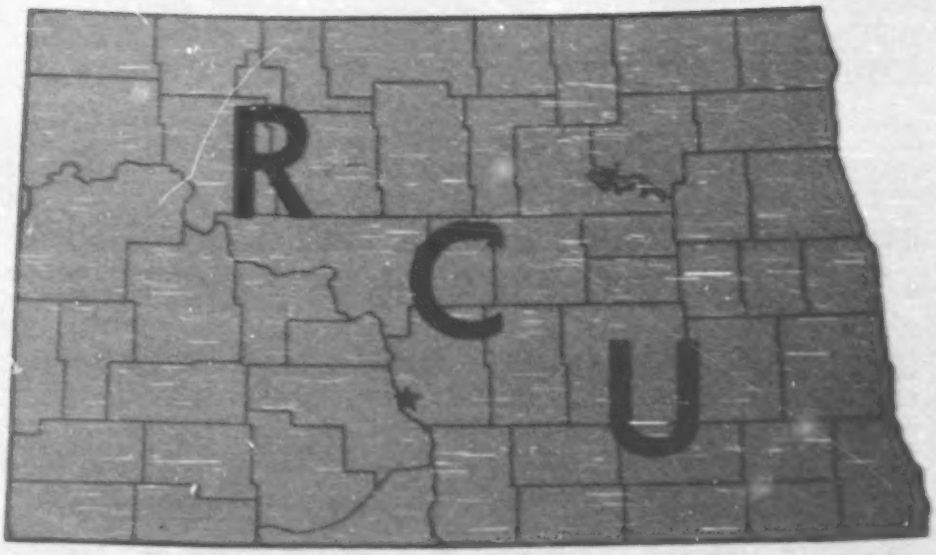
VT 103 2 2

MOBILE WELDING INSTRUCTIONAL LABORATORY



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FINAL REPORT

MOBILE WELDING INSTRUCTIONAL LAB

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NORTH DAKOTA STATE SCHOOL OF SCIENCE

WAHPETON, NORTH DAKOTA

June 30, 1976

in cooperation with

NORTH DAKOTA STATE BOARD

FOR VOCATIONAL AND TECHNICAL EDUCATION

Bismarck, North Dakota

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ABSTRACT

The North Dakota State Board for Vocational Education determined that a Mobile Welding Instructional Lab was needed to provide welding training in North Dakota. The prime purpose of a mobile laboratory is to provide upgrading training for persons employed as weldors.

The North Dakota State School of Science was authorized and funded to develop and implement use of the unit. The unit will have been in use about three months as of the date of this report. The first year of use will assist in the development of a pattern of efficient use of the unit. It will also serve to provide necessary input to the development and use of future mobile labs for other vocational programs.

INTRODUCTION

The North Dakota State Board for Vocational and Technical Education determined that a Mobile Welding Instructional Lab was needed to provide training at sites where training facilities did not exist or to supplement existing facilities as needed.

PLANNING GRANT

A planning grant of $2,000 was awarded to the North Dakota State School of Science. The planning grant enabled the college to research a plan, develop a budget and draw specifications for a mobile welding laboratory.

PROCEDURE

The Trades Division of the college developed a budget, developed a plan and prepared specifications for a Mobile Welding Instructional Lab. The plan appears as Attachment A. The college purchasing officer developed bid specifications. The bid was awarded to M.O.V.E., Inc. of Benton, Arkansas.

Designated faculty were in periodic contact with the builder and conducted on-site inspections at the two-thirds and final building stages.

While the anticipated delivery date was November 1, 1975, the actual delivery date was February 10, 1976.

After delivery, additional work was needed to make the unit ready for instruction. Slow delivery of essential parts required an additional wait of five weeks before it was indeed ready for instruction.

The unit was tested for performance while on campus.

The first use for inservice instruction was in Fargo, North Dakota on March 24.

MOBILE WELDING INSTRUCTIONAL UNIT

The unit is 14 feet by 60 feet. It has a total of sixteen wheels to support this heavy unit properly so the frame will not be damaged.

The mobile welding lab has ten welding stations as well as essential support equipment.

Each welding station includes: oxy acetylene welding and cutting, stick electrode arc welding, arc air cutting, Heli-arc (TIG), and wire fed (MIG) at five stations. All equipment is of industrial quality.

The unit includes pipe beveling equipment, automatic cutting torches, approved AWS guided bend testing equipment, a power shear and other essential support equipment.

The unit is air conditioned, electrically heated and has proper venting. A classroom facility is also provided with all the necessary teaching aids.

The college has secured the use of a donated 8 foot by 38 foot semitrailer van which will be used as a support unit.

This unit will be used for storage of materials and eventually for an instructional unit for selected operations.

BUDGET

The budget approved for the first year of operation was:

$22,198	Salary and fringe benefits
8,200	Travel and per diem
250	Supplies
82,813	Unit and equipment
2,145	Transportation of unit
500	Insurance
800	Maintenance and miscellaneous
150	Communication
$117,056	Total approved

Because of the late arrival of the unit and several essential adjustments, modifications will be made to the initial budget figures.

Future budgets will provide for cost of energy, cost of power hook ups, and support unit costs.

Income from charges to students will reduce the amount of actual reimbursement claimed.

CONSULTING COMMITTEES

Two consulting committees serve the unit.

The Technical Consulting Committee which serves the college welding program also serves as the Unit Advisory Committee.

A Site Selection Consulting Committee was convened to assist in establishing guidelines for scheduling use of the unit.

In each case, the committee is representative and was directed to consider the welding area and the needs of North Dakota as recommendations were made.

The committees have provided enthusiastic help and have pledged continuous support.

STAFF

A qualified instructor was employed as a part of the college welding faculty. It is anticipated that additional staff will be employed, if needed, to meet demands which exceed the time available for one instructor.

Users who wish to provide their own instructor may do so upon requesting and receiving approval from the Director of Continuing Education at the North Dakota State School of Science.

PUBLICITY

Brochures were developed and distributed to potential users of the lab.

The college news bureau prepared news releases which were distributed to news media including specialized publiciation.

An open house was scheduled which attracted many visitors.

The consulting committees have discussed use of the unit with other groups with which they are involved.

The North Dakota State Board for Vocational Education has provided publicity through radio announcements.

SCHEDULING

Scheduling use of the unit will be done through the Continuing Education Division of the college in direct consultation with the state Supervisor of Trade, Industrial and Health Education of the Vocational Board. Consideration will be given to the intent of the unit and to recommendations of the Site Selection Consulting Committee.

Scheduling considers the objectives of the unit which include:

1. To provide short term inservice upgrading and/or retraining education for persons employed as weldors who need specialized short term inservice training to meet specific job needs.

2. To provide welding training for adults who are underemployed, unemployed and for minorities who require welding training for a specific job.

3. To provide a weldor with enough skill and knowledge so that he will have immediate value to his employer.

4. To provide specialized and supplemental welding training programs which will meet the welding needs of North Dakota by offering welding instruction at locations convenient to those who need instruction.

5. To qualify weldors for jobs which require certification or for code welding.

Numerous factors must be considered as a move to a site is contemplated. The factors include items such as:

1. Number of persons needing training

2. Length of training

3. Type of training needed

4. Urgency of training

5. Available electric power

6. Available space for parking of unit and support unit

7. Location of proposed training versus present location of unit

8. Securing a competent mover

9. Housing for staff

10. Road conditions

11. Availability of practice materials

Potential users are required to complete a request form. This appears as Attachment B.

A representative of the college will meet with potential users to validate need, to develop curriculum and to inspect the proposed site.

Individual training programs will be developed to meet the needs of each group who requires training.

As potential users become aware of the unit, the Advisory Committee members feel that demands for use will exceed availability of the unit. It should be noted that if needs exist and if staff, students and finances are available, the unit could be used on a two or three shift per day basis.

PROBLEMS

The unit is the first of a kind. Every action is a new experience. Each first use reveals problems which cannot be solved by experience because experience is not available.

The challenge of satisfying the needs of several users during the same time period causes time demands.

Administration of a mobile unit is different than as activity on a campus. Flexibility in methods of administration is essential.

Consulting committees agree that all involved must be patient and understanding as the various problems of implementing use of the unit occur.

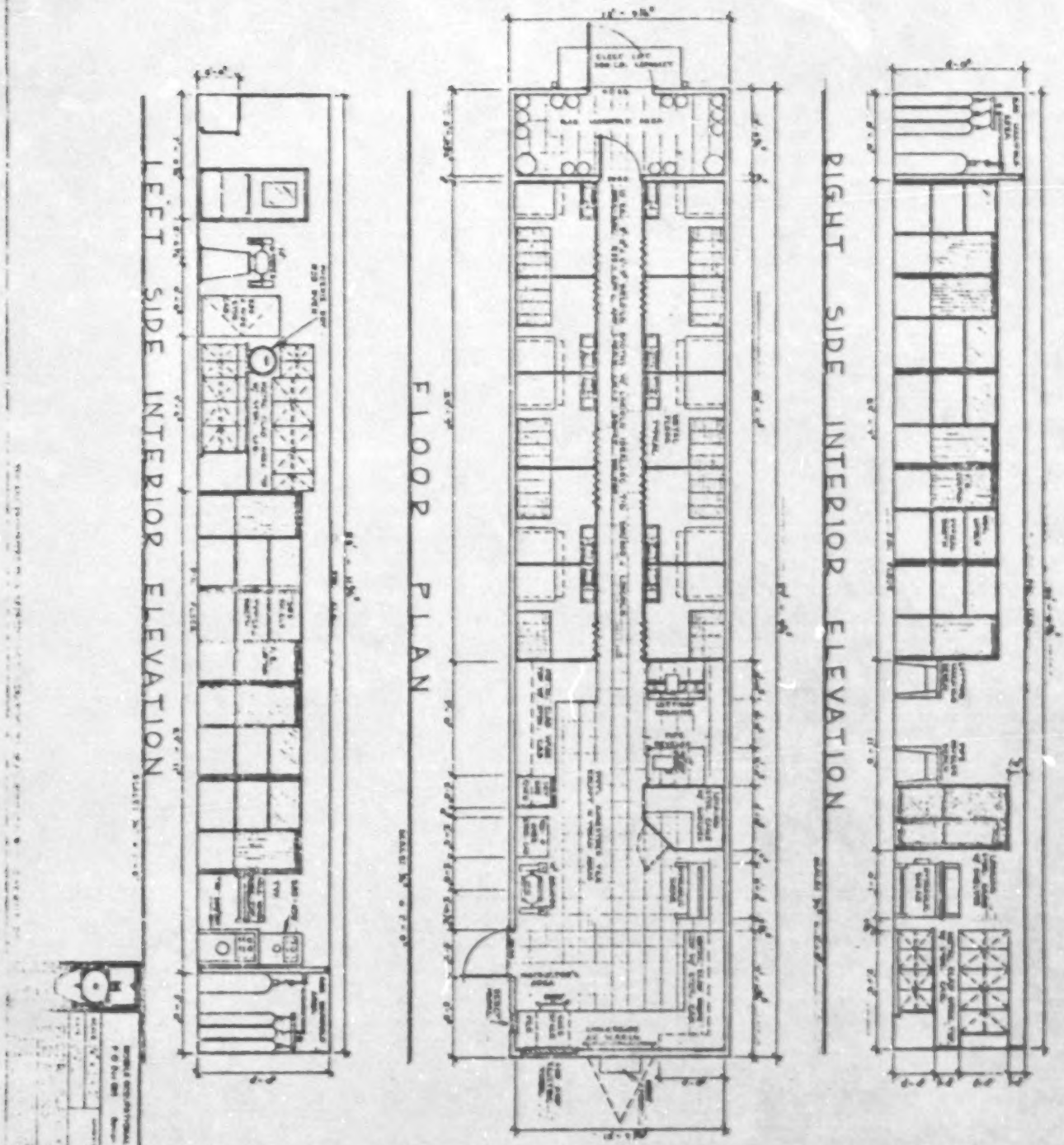
CONCLUSION

The Mobile Welding Instructional Lab is available to serve welding training needs of adult workers as needed and where needed in North Dakota.

Potential users have a responsibility to take advantage of the unit and to assist in effective use of the unit.

The unit was developed to serve needs of users. It is ready for use.

BEST COPY AVAILABLE



North Dakota State School of Science

"A STATE SUPPORTED COMPREHENSIVE COLLEGE SERVING ALL OF NORTH DAKOTA"

TELEPHONE 701 671-1130
WAHPETON, NORTH DAKOTA 58075

Thank you for your request to use the Mobile Welding Instructional Laboratory. Please read the following general information before you respond to the questions or statements which appear in the "information requested" portion of this correspondence.

The completed form should be sent to: Mobile Welding Instructional Lab, North Dakota State School of Science, 708 Dakota Avenue, Wahpeton, ND 58075. Telephone: 671-3802.

1. The primary purpose of the unit is to retrain or upgrade persons employed as weldors.

2. The unit is designed for statewide use and must be used at needed locations throughout the state.

3. The tentative minimum time the unit shall be used in an area is four weeks. The maximum time will vary with the needs at a site and needs at other sites.

4. Prior to submitting the information requested, training facilities at local schools should be investigated. The unit is not intended to replace any existing training. It is available to provide training in locations where training is not available or existing training facilities are so busy that all the needs cannot be met.

5. Lead time for planning is necessary. When all users in an area are identified, one of our faculty will meet with the users to determine content and length of training needed by each group in an area.

Scheduling hours of use of the unit will be developed at this planning meeting. We anticipate the possibility of day, evening and weekend instruction.

The instructor/coordinator for the unit is Mr. Ron Pfaff. He will instruct as well as supervise other instructors who may qualify to instruct if demands for use exceed the use of one instructor.

If the demands for instruction per day exceed eight hours or 40 hours per week, can you suggest other instructors? Please list names and addresses.

Names and addresses of potential instructors:

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

6. We strongly encourage you to call a meeting of all possible users in your area as the information part of this correspondence is completed.

7. Persons receiving instruction will be required to furnish their own welding helmet, safety glasses, acetyelene goggles, lighter, pliers, leathers and gloves.

8. Costs will be calculated on a per student hour basis. Costs will be determined when the type of welding instruction for a group has been decided. Costs will include cost of all power, all welding supplies and a maintenance charge.

INFORMATION REQUESTED

Please respond to the following requests for information. The responses will aid the Site Selection Committee in decision making.

Your Name: _____

Your Business Name: _____

Mailing Address: _____

_____

Telephone: _____

1. Please complete attachement A in as much detail as possible.

2. What is the preferred time of the year when you need the unit in your area? Be specific. Give several choices.

_____

_____

_____

3. Will an area firm be able to donate metals for practice welding? If yes, please state name of firm and contact person.

_____

_____

_____

_____

4. Donated space for the unit is required. An acceptable location requires the following:

   a. The unit is large. The access must be easy and free of obstacles to allow manuvering room for the unit and delivery vehicle. Space is also needed for a storage vehicle and for parking. A hard surface parking area is preferred. Soft ground is not ideal for parking a unit of this size.

   b. Access to nearby bathroom facilities during hours of operation is a must.

c. Access to three phase overhead power is needed. Your local power supplier should be contacted. The unit requires a three phase 120/240 volt four wire delta overhead service with 150 KVA of transformer capacity. The unit has an 800 amp main entrance (600 amps for welders and 200 amps for heating, lights, and air conditioning) with 2-500 MCM copper conductors per phase on the overhead service mast. Three current transformers and a meter are permanently mounted on the unit for metering purposes.

d. Please list name, address and phone of firm or person who will donate space.

_____

_____

_____

_____

e. Please list name address and phone of electrical power supplier.

_____

_____

_____

_____

_____

f. If the electrical requirements are not available at a site, please get an estimate from the electrical supplier as to cost of providing the needs stated in 4.c.

8 008 950

ATTACHMENT A

Type of Welding Training (such as arc, TIG, MIG, upgrading, certification)	Number to be trained	Hour estimate of training needed	What percent are employed full time?	What percent are available for daytime training?	What percent are available for only weekend training?	What percent have had formal in school welding training?

Attachment A (Continued)

Please list name of contact person, business name, business address, and telephone number of those firms or agencies who wish to use the unit and data for whom is listed on this attachment.

ACCESSION NUMBER: VT103287

PUBLICATION DATE: JUN72

TITLE: A PILOT PROJECT TO DEVELOP, INITIATE AND EVALUATE A POST-SECONDARY PROGRAM IN OCEANIC AND MARINE TECHNOLOGY. FINAL REPORT.

DESCRIPTOR: *MARINE TECHNICIANS; *CURRICULUM DEVELOPMENT; *PROGRAM DESCRIPTIONS; *POST SECONDARY EDUCATION; OCEANOLOGY; *PILOT PROJECTS; TECHNICAL EDUCATION

EDRS PRICE: MF AND HC AVAILABILITY WILL BE ANNOUNCED IN VOL. 10, NO. 2.

DESCRIPTIVE NOTE: 74P.; PAGES 55 THROUGH 59 CONTAINING PHOTOGRAPHS OF PROJECT ACTIVITIES AND PAGE 68 CONTAINING A COPYRIGHTED JOURNAL ARTICLE WERE REMOVED. THEY ARE NOT INCLUDED IN THE PAGINATION.

ABSTRACT: COVERING THE TIME PERIOD FROM SEPTEMBER 1971 TO JUNE 1972, THIS FINAL REPORT DESCRIBES A PILOT PROJECT TO DEVELOP, INITIATE, AND EVALUATE A POSTSECONDARY EDUCATION PROGRAM IN OCEANIC AND MARINE TECHNOLOGY AT BRAZOSPORT COLLEGE IN LAKE JACKSON, TEXAS. PART I CONSISTS OF BACKGROUND DATA; PART II, THE RESEARCH PROJECT SUMMATION AND FINAL REPORT; AND PART III, A PHOTOGRAPHIC ANNEX. PART I CONTAINS INFORMATION CONCERNING THE COLLEGE FACILITIES, PERSONNEL, CURRICULUM, DESCRIPTION OF COURSES, COURSE OUTLINES, CLASS AND LABORATORY SCHEDULES, TEXTBOOK LISTS, TEACHING OBJECTIVES, LIST OF GUEST SPEAKERS AND PROSPECTIVE AREA EMPLOYERS, FORMS PERTAINING TO THE SUMMER PRACTICUM, AND SAFETY RULES AND PROCEDURES. PART II SUMMARIZES THE PROJECT OBJECTIVES; DESCRIBES PROCEDURES AND METHODS; AND PRESENTS THE FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS. ACCOMPLISHMENTS INCLUDED DEVELOPMENT OF THE CURRICULUM, SELECTION OF EQUIPMENT, RECRUITMENT OF 34 STUDENTS, IMPLEMENTATION OF THE PROGRAM INCLUDING THE USE OF TWO TRAINING VESSELS, AND SUMMER PLACEMENT IN MARINE-RELATED INDUSTRIES. IN EVALUATION OF THE FIRST YEAR, IT WAS CONSIDERED THAT THE BEHAVIORAL OBJECTIVES WERE ACHIEVED AND THE RESEARCH PROJECT WAS HIGHLY SUCCESSFUL. APPENDED IS A FINAL SECTION OF NEWSPAPER CLIPPINGS AND LETTERS OF SUPPORT. (NJ)

INSTITUTION NAME: BRAZOSPORT COLL., LAKE JACKSON, TEX. DEPT. OF OCEANIC AND MARINE TECHNOLOGY.

SPONSORING AGENCY NAME: TEXAS EDUCATION AGENCY, AUSTIN.

VT103 287

BRAZOSPORT COLLEGE

DEPARTMENT OF

OCEANIC & MARINE TECHNOLOGY

FINAL REPORT TO

Texas Education Agency

JUNE 1972

C4 008 955
VT 103 287

FORWARD

A final report covering the Brazosport College, Texas Education Agency Research Project conducted by the Department of Oceanic and Marine Technology during the period of September 1, 1971 to June 30, 1972 is forwarded herewith. The Research Project was designed to develop, initiate and evaluate a post-secondary educational program in Oceanic and Marine Technology.

The final report to the Texas Education Agency, Division of Research will embrace the following considerations: (1) Program objectives; (2) Program procedures; (3) Research project findings; (4) Investigator's conclusions, recommendations and (6) Relevant supporting information.

The Final Report consists of Part I, background data relevant to the conduct of the research project, Part II, the research project summation and final report, and Part III, photographic annex.

Edward D. Middleton, Director
Oceanic and Marine Technology
Brazosport College

ACKNOWLEDGEMENTS

The following individuals are recognized for their contributions and assistance in conjunction with the concept and development of the Oceanic and Marine Technology Program.

Dr. J. R. Jackson, President, Brazosport College

Dr. W. A. Bass, Vice President, Academic Affairs

Col. Franz Ross, Consultant, Executive Director, Shrimp Producers Information Center, Port Charlotte, Florida

Curriculum Advisory Committee Members:

Mr. Roger Hoss - Owner, Sea Hoss Marine Enterprises

Mr. W. W. Gore - Owner, Western Seafood

Mr. Buster Curry - Vice President, First Freeport National Bank

Mr. F. T. Ainsworth - Manager, U.S. Area Marine Distribution & Traffic, Dow Chemical Company

Mr. Joe L. Williams - Owner, Williams Diesel & Supply

BRAZOSPORT COLLEGE
DEPARTMENT OF OCEANIC AND MARINE TECHNOLOGY
FINAL REPORT TO TEXAS EDUCATION AGENCY
JUNE, 1972

A PILOT PROJECT TO DEVELOP, INITIATE AND EVALUATE
A POST-SECONDARY PROGRAM IN
OCEANIC AND MARINE TECHNOLOGY

BRAZOSPORT COLLEGE
500 COLLEGE DRIVE
LAKE JACKSON, TEXAS 77566

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BRAZOSPORT COLLEGE - ORGANIZATIONAL INFORMATION

BOARD OF REGENTS

Dr. W. D. Nicholson - Chairman

Mr. Ralph Buell - Vice Chairman
Mr. D. V. Collins
Mr. M. S. Johnson
Mrs. Frances Landsborough
Dr. B. R. Mayse
Dr. J. A. Stewart
Mr. V. S. Sumerford
Mr. J. L. Wilson

ADMINISTRATION

Dr. J. R. Jackson - President
Dr. W. A. Bass - Vice President, Academic Affairs
Dr. W. G. McAlexander - Dean Of Students
Mr. Jack Maris - Business Manager
Mr. Truman T. Isbell - Director of Occupational Education
Mr. Robert S. Montgomery - Coordinator of Evening Programs
Mr. John Dunn - Director of Instructional Resources
Mr. L. Jay Williams - Director of College Information
Mr. James Barta - Registrar

COUNSELORS

Mr. George Barnett
Mr. J. Huntley Kenesson
Mrs. Loretta Senterfitt

CURRICULUM ADVISORY COMMITTEE

Roger Hoss - Owner, Sea Hoss Marine Enterprises
W. W. Gore - Owner, Western Seafood
Buster Curry - Vice President, First Freeport National Bank
F. T. Ainsworth - Manager, U.S. Area Marine Distribution and Traffic, Dow Chemical Company
Joe L. Williams - Owner, Williams Diesel and Supply

INTRODUCTION

With three fourths of the world existing as ocean and with only approximately six percent of the ocean floor having been explored by man, it is strikingly evident that the world's oceans pose a dramatic challenge and a nearly limitless solution to some problems in the realm of humanity.

With such realizations, the interest in the sea and its resources has been steadily and rapidly increasing throughout the world population.

National and state interests in this "hydrosphere" has run apace, until today promises exciting opportunities in career fields allied with ocean science and technology in the years immediately ahead. These career fields promise to be both personally and financially rewarding.

While many centers for the study of and the promulgation of marine science have been established, and while marine science has made tremendous forward strides on all fronts, the utilization of the sea, its resources and associated vehicles and equipment, as opposed to the knowledge embodied by marine science, has been lagging in the background.

Along with burgeoning activities in oceanography, comes a vital demand for the development of supporting technology and the production of skilled oceanic and marine technicians.

Off-shore industry, marine petro-chemical operations, sports and recreational water activities, commercial fisheries, oceanographic exploration and research companies and many others are searching for trained man-power in the area of vessel and equipment operations, in order to cope effectively with the tremendous growth of marine technology now in progress.

With this picture and these needs in mind, Brazosport College has established a new program in Oceanic and Marine Technology. This program will train young people for ocean-associated careers with industry.

FACILITIES AT BRAZOSPORT COLLEGE

GENERAL: The college plant is unique in that its 215,000 square feet of floor space is all under one roof. All classrooms, offices, library, student activity room, snack bar, little theatre, gymnasium, and science laboratories are air conditioned. An especially interesting feature is the integration of academic and occupational educational facilities. Shops, classrooms, and laboratories are dispersed in such manner that students enrolled in academic and occupational courses mingle. It is believed that by bringing students together who are pursuing different educational and vocational goals, a better understanding and appreciation of each other will be achieved in a natural manner.

The college is bounded on two sides by the winding, historic Oyster Creek. The facility is located on 156 acres of beautiful naturally landscaped land. It is ideally located in that it is easily accessible from Freeport, eight miles from Angleton, two miles from Lake Jackson, Clute, Richwood, and Lake Barbara. It is only eleven miles from Brazoria, nineteen miles from Sweeny. It is accessible from Highway 288, Highway 332 and County Road 288.

Adequate hard surfaced parking space is provided and additional space is available for future needs.

The first building program provides for 1,100 full-time student equivalents. Water, sewer, utilities, library space and offices for an enrollment of 2,000 FTSE is included in the first building program. A master plan for a campus to adequately care for 4,500 FTSE has been prepared and will facilitate future expansion.

SPECIFIC: In addition to regular classroom availability as required, specifically designated laboratory and office spaces were assigned to the project. Regular classrooms average 576 square feet in area and were utilized on a flexible basis; i.e. drafting classroom equipped with drafting tables and stools were available for navigation classes, electronics laboratory and classrooms for marine electronics, etc., contingent upon project needs and classroom-laboratory availability.

Office space specifically assigned to the project was programmed at 96 square feet and laboratory-bay areas at 3,072 square feet.

Equipment in the categories of navigational, seamanship, fisheries, engineering, marine electronics, diving, firefighting, furniture and text and reference material were available to the project.

STATEMENT OF NEED

The technical-Vocational Advisory Committee of Brazosport College placed a high priority on an Oceanic and Marine Technology program. This priority was based on a survey of persons involved in local marine enterprises, and indicated an immediate need of 150-200 trained people at that time (1968) in the local marine enterprises. The committee feels that at this time (1972), the need is as great if not greater than at that time

To substantiate the survey of local marine interests, the firm of Industrial Consultants of Port Charlotte, Florida, was retained to do a study of the need for trained personnel in the marine field for the Gulf Coast. This firm was retained because they already had a comprehensive study of the shrimping industry underway and our needs could be met by this group with little additional effort.

The report of Industrial Consultants stated that the single major problem for the shrimping industry was "an extreme shortage of qualified captains/crewmen and the costly turnover rate" of these personnel.

The situation of the shrimping industry can be extended to other parts of the marine interests of the Texas Gulf Coast. The following quote from the Industrial Consultants report points up other effects of this shortage.

> The shortage of qualified personnel in all industries that use small vessels results in a chain reaction that adversely affects other industries. As an example, the answers to queries directed to several ship-building firms indicated that if trained crewmen were available there would be a considerable increase in small vessel construction. This includes not only fishing vessels, but yachts, river tug boats, off-shore supply vessels, in fact, every area of small vessel (200 tons and under) construction.

It appeared obvious to us that a great need existed. Our continued involvement with persons in this field only increases our awareness of the needs.

BRAZOSPORT COLLEGE

OCEANIC AND MARINE TECHNOLOGY

Operational Summary 1971-72

OBJECTIVES:

1. To train students to be vessel operators, i.e. Masters (captains), Mates, Able Seamen, Deckhands, Engineers, Tankermen.

2. Prepare students for examinations for U.S. Coast Guard Marine License to 1,000 tons for Masters, 10,000 HP Diesel for Engineers.

3. To train students to be marine technologists in the utilization of specialized equipment pertaining to specialized vessel operations.

4. Prepare students for employment with marine related businesses and industries.

ACCOMPLISHMENTS DURING THE PAST TWELVE MONTHS:

1. Program planning and initiation (develop curriculum, selection of equipment, etc.)

2. Student recruitment to 34 full time students with 4 students enrolled in some courses the first semester. Enrollment of 30 full time students and 3 part time the second semester.

3. Program implementation, including use of 65 foot steel hull diesel training vessel and 130 foot industrial type vessel.

4. U.S. Coast Guard initiated administrative procedures for the Oceanic and Marine Technology class to obtain basic mariner's document, i.e. deckhands, oilers and wipers.

5. One student successfully passed examination for license and was awarded 100 ton Master's License the second semester.

6. Students have been placed in marine related industries in order to undergo the Summer Industrial Practicum

SUMMARY:

Thirty-four full time students enrolled in the first semester program, thirty in the second semester program.

It is anticipated that forty freshmen and twenty sophomore students will enroll for the 1972-73 program.

PERSONNEL

NAME: Mr. Truman T. Isbell

POSITION: Directs technical-vocational programs for Brazosport College

TITLE: Director, Technical-Vocational Studies

EXPERIENCE: M.S. Degree Texas A&M University, Industrial Education; post graduate work University of Illinois; three years vocational machine tool experience; ten years teaching experience, technical and vocational subjects in junior and senior college; five years administration public school; four years administration state agency and junior college in technical vocational education; four years manufacturing research and development and administration with aerospace industry.

RESPONSIBILITY: Mr. Isbell's responsibilities within the project entailed overall supervisory, advisory and support duties.

NAME: Edward J. Middleton, Jr.

POSITION: Directs and coordinates the Oceanic and Marine Technology program at Brazosport College.

TITLE: Coordinator, Oceanic and Marine Technology

EXPERIENCE: Mr. Middleton graduated from the U.S. Coast Guard Academy with a bachelor of Science degree in Marine Engineering and has done graduate work at George Washington University and Incarnate Word College. He served in all deck officer positions, to include second in command, aboard destroyer escort type vessel with the U.S. Navy and Coast Guard during World War II in trans-Atlantic and trans-Pacific operations. Served as Air-Sea Rescue

Controller in New York and Boston and commanded three U.S. Coast Guard vessels in Gulf waters; he directed ocean terminal and port operations in the Far East and served as Deputy Chief Marine Division and as Chief of Navigation and Seamanship at the U.S. Army Transportation Center. Also was assigned as vessel inspector in Marine Maintenance and Repair activity. He taught oceanography and Ocean Engineering for 2 1/2 years and directed a SCUBA diving school.

RESPONSIBILITY: Mr. Middleton's responsibilities within the program entailed proposal development and implementation and coordination of the project. He devotes one hundred percent of his full time duties to the project and this commitment has been one hundred percent assured by Mr. Middleton and the President of Brazosport College.

RESEARCH PROJECT IN OCCUPATIONAL EDUCATION

Submitted to the Division of Occupational Research and Development,
Department of Occupational and Technical Education,
Texas Education Agency

TITLE OF PROJECT:	A Pilot Project to Develop, Initiate and Evaluate a Post-Secondary Program in Oceanic and Marine Technology
APPLICANT ORGANIZATION:	Brazosport College 500 College Drive Lake Jackson, Texas 77566
PROPOSAL DEVELOPED BY:	E. D. Middleton, Jr., Director Oceanic and Marine Technology (713) 265-6131
DIVISION DIRECTOR:	Truman T. Isbell, Director Technical-Vocational Studies (713) 265-6131
PROPOSAL SUBMITTED BY:	J. R. Jackson, President Brazosport College (713) 265-6131
CONTRACTING OFFICER:	Jack Maris, Business Manager Brazosport College (713) 265-6131
DURATION OF PROJECT:	September 1, 1971- June 30, 1972

OCEANIC AND MARINE TECHNOLOGY

First Year
(Certificate Program or First Year of Degree Program)

First Semester

Course Number	Description	Credit	Hours Lect.	Lab.
Ocean. 102	Oceanograpny I	2	2	0
Ocean. 104	Seamanship I	4	2	4
Ocean. 124	Navigation I	4	2	4
Ocean. 103	Oceanic and Marine Tech I	3	2	2
Ocean. 123	Marine Engineering Tech I	3	2	3

Second Semester

Ocean. 114	Seamanship II	4	2	4
Ocean. 134	Navigation II	4	2	4
Ocean. 113	Oceanic and Marine Tech II	3	0	6
or				
Ocean. 133	Marine Industrial Applications			
Elect. 133	Marine Electronics	3	2	3
Math. 173	Technical Math I	3	3	0

Summer Semester

Ocean. 106 Oceanic and Marine Tech III (240 Contact Hours; 6 Cr. Hrs.)
(6 week commercial-industrial practicum)

At the completion of the first year, student is eligible for a certificate and qualified for immediate employment in industry; he will also have prepared for U.S. Coast Guard examinations; continuation in the program for the second year will lead to an Associate of Applied Science Degree; the summer semester is encouraged for certificate program students and required in the degree program.

Note: Athletic program to be integrated.

Second Year

(Degree Program)

First Semester

Course Number	Description	Credit	Hours Lect.	Lab.
Ocean. 202	Oceanography II	2	2	0
Ocean. 203	Seamanship III	3	1	4
Bus. 113	Business Communication	3	3	0
Bus. 246	Marine Economics	3	3	0
Math. 183	Technical Math II	3	3	0
Phy. 204	Technical Physics I	4	3	3

Second Semester

Ocean. 213	Seamanship IV	3	2	2
Ocean. 223	Marine Engineering Tech II	3	2	3
Ocean. 244	Oceanic and Marine Tech IV	4	3	3
or				
Ocean. 254	Marine Industrial Applications II			
Phy. 214	Technical Physics II	4	3	3
Ocean. 263	Marine Resources	3	3	0

OCEANIC AND MARINE TECHNOLOGY

Course Descriptions

Ocean. 102, 202	OCEANOGRAPHY I, II - An introduction to Oceanography, with emphasis on practical implications of ocean science; course will be oriented toward practical aspects of Oceanic and Marine Technology (2-0) (2-0)
Ocean. 124, 134	Navigation I, II - The mariners' compass, aids to navigation, government publications, the nautical chart, piloting -- dead reckoning, tides and currents, position determination, electronic and celestial navigation. (2-4) (2-4)
Ocean. 104, 114, 203, 213	SEAMANSHIP I, II, III, IV - Basic shipboard familiarization and terminology, definitions, safety precautions, personal conduct, emergency drills and procedures. Philosophy of seamanship, dress, objectives, marlinspike seamanship, vessels, ship handling, rules of the road, meteorology, first aid, deck gear duties of able seamen and life-boat men. (2-4) (2-4) (1-4) (2-2)
Ocean. 123, 223	OCEANIC AND MARINE ENGINEERING TECHNOLOGY I, II - Marine power plants and machinery; internal combustion engine, diesel engine operation, maintenance, testing, timing and overhaul. Basic principles of diesel designs in common use, including fuel systems, combustion chambers, piston and linear assemblies, shafting, cooling and lubrication systems; hydraulics; pumps and auxiliaries. (2-3) (2-3)
Ocean. 103	OCEANIC AND MARINE TECH I - A survey of career opportunities available in ocean and marine enterprises and industry; an introduction to ocean and marine resources and a consideration of the scientific and technical skills required in efficient and gainful use and management of these resources. (2-2)
Ocean. 122, 254	MARINE INDUSTRIAL APPLICATIONS I, II (Industrial support, hazardous cargo) - An introduction to commercial and industrial needs in the realm of marine technology. Intra-coastal and inland waters; off-shore mineral and oil operational supports; handling and storage of hazardous cargo; vessel, port and plant security; petro-chemical cargo handling and storage; considerations pertaining to solid, liquid and gaseous cargo; fire fighting and damage control; operation of dry and wet cargo vessels. (0-6) (3-3)
Ocean. 113, 244	OCEANIC AND MARINE TECH II, IV - Introduction to commercial fisheries, Fishing gear, to include detailed study of bottom and mid-water trawls and other dragging gear. Detailed study of the purse seine, gill net, trap and longline. Emphasis on the construction, repair and use of the various designs and arrangements of each; a consideration of other fishing methods. Fish technology related to preservation and processing of fish catch afloat and ashore; plant sanitation and quality control Refrigeration, storage. (3-3) (0-6)

Ocean. 106	OCEANIC AND MARINE TECHNOLOGY III (Industrial Training Period) - During the Summer session following the first year and preceding the second year of the program, students participate in a supervised program of industrial application. Six weeks (full time) required aboard commercial vessels participating in the program. Complete records of the vessels and their equipment, a daily log maintained by the students and reports from the captains will measure student performance. A definite schedule of assignments will be completed by students during this period.
Ocean. 263	MARINE RESOURCES - A survey of the potentials of national and world-wide marine resources, to include fisheries, petro-chemical and mari-cultural.(3-0)
Bus. 113	BUSINESS COMMUNICATION - This course deals with effective communications in business, spelling paragraphing, planning. (3-0)
Bus. 246	MARINE ECONOMICS (Directed toward practical marine applications) Development and application of economic theory underlying the production, distribution and exchange of goods and services. Utilization of resources, production, determination of value and prices, monetary and banking theory, national income anaylsis stabilization. (3-0)
Elect. 133	FUNDAMENTALS OF MARINE ELECTRONICS - Ships wiring, communications, depth and fish finders, radar, sonar, loran, decca, RDF, noise control, siting, maintenance and repair.(2-2)
Math. 173	TECHNICAL MATHEMATICS I - Fundamentals of algebraic operations, properties of the set of real numbers, functions and graphs and systems of linear equations. The applications of these principles to practical marine technology is stressed.(3-0)
Math. 183	TECHNICAL MATHEMATICS II - A continuation of Math. 173. More advanced algebra and logarithms, curve sketching and non-linear empirical equations. Numerical trigonometry of the right triangle. Application of these concepts to practical marine situations is stressed. (3-0)
Phy. 204	TECHNICAL PHYSICS I (Work, Energy, & Power) - Instruction includes such topics as statics, forces, center of gravity and dynamics. Units of measurements and their applications are a vital part of this course. Emphasis will be on practical marine applications. (3-3)
Phy. 214	TECHNICAL PHYSICS II (Electricity, Fluids, & Air) - A study of the applications of fluids and air. Also included are basic theories of electricity, methods of production and transmission and transforming of electricity. Applications of these concepts to practical marine situations are stressed. (3-3)

BRAZOSPORT COLLEGE
OCEANIC AND MARINE TECHNOLOGY

Course Outline

OCEANOGRAPHY

First Semester

Oceanography and the Mariner

Treasure from the Sea

Biological Oceanography

Dangerous Sea Life

The Titanic -- 50 Years Later

Natural Phenomena

Underwater Disturbances

Peru Current

Water Density and its Applications

The Gulf Stream

Second Semester

Geological Oceanography

Ocean Waves

Survival at Sea

Navigational Hints

Fisheries Vessels and Gear

Ships - of - Opportunity

Ocean Station Vessels

The Distribution of Discolored Water

Ocean Cables and Deep-Sea Trawlers

Collisions -- 1969

SEAMANSHIP

First Semester

Safety: Emergency Drills
- First Aid and Medical Aspects, Resuscitation

Definitions; Nautical Terminology; Vessel Nomenclature

The Vessel
- Classification
- Vessel Construction
- Damage Control and Hull Preservation
- Aids to Navigation; Buoyage, Lights, Day Markers, Ranges

Rules of the Road
- Principles and Applications
- Basic Rules, Inland and Ocean Waters
- Lights and Shapes of Identification
- Fog Signals, Rules
- Steering and Sailing Rules
- Passing Signals, Etc.

Swimming, Water Safety, Life Saving

Rope and Cordage

Knotting and Splicing

Vessel Handling (Single, Twin, Multiple Propeller)
- Propulsion and Steering
- Navigation
- Ships Boats and Fishing Craft

Shipboard Cooking; Supply and Storage

Second Semester

Communications
SCUBA (BASIC)
Ground Tackle, Anchoring and Mooring
Shiphandling
- General Principles of Ship Control
- Docking and Mooring
- Towing and Salvage
- Boat Handling and Helicopter Operations
- Ice Seamanship

Weather
- Oceanography
- Atmosphere and its Circulation
- Clouds, Thunderstorms, Stability and Fog
- Weather Elements, Instruments, and Reports
- Weather of the Middle Latitudes
- The Tropical Cyclone
- Sail and Sailing
- Fire Fighting and Damage Control
- Mechanical Weight Lifting; Appliances aboard ship; deck machinery

NAVIGATION

First Semester

Introduction to Navigation
The Earth and Its Coordinates
Chart Projections and Chart Interpretation
Navigational Publications
The Sailings
Aids to Navigation
Dead Reckoning and Current Sailing
Currents and Tides
Compasses
The Navigator's Instruments
Elements of Piloting
Tactical Characteristics in Piloting
Graphic Solution for Relative Motion Problems
The Piloting Team
The Practice of Piloting
Radar Navigation
Electronics
Basic Electronic Navigation Systems
Navigational Astronomy
Introduction to Celestial Navigation
Identification of Celestial Bodies
The Marine Sextant: Its use, Adjustment, and Corrections
Time
Almanacs

Second Semester

Sight Reduction
Celestial Lines of Position
The Complete Celestial Solution
Celestial Navigation: Special Cases and Phenomena
Compass Error at Sea
The Practice of Navigation at Sea
Omega Navigation System
Loran C and D
Electronic Systems for Hydrographic Surveying
Radio Astronomy for Navigation
Doppler Navigation
Inertial Navigation
Satellite Navigation
Advanced Celestial Observing Instruments
Navigational Computers
Lifeboat Navigation
Bethymetric Navigation
Polar Navigation
Optimum Track Ship Routing
Air Navigation
Space Navigation
Abbreviations and Symbols - Metric Conversion Table
Nautical Chart Symbols and Abbreviations

ENGINEERING

First Semester

What a Diesel Engine is

Distinguishing Features of Diesel Engines

Basic Construction of a Diesel Engine

Basic Terms of Physics and Engineering

Heat and Combustion

Oil and Gaseous Fuels

Engine Power and Fuel Consumption

Engine Rating and Performance

Engine Types

Sationary Parts - Frames, Cylinders, and Heads

Major Moving Parts

Valve Gear, Scavenging, and Supercharging

Injecting Fuel

Burning the Fuel

Lubricating the Diesel

Governing

Typical Diesel Engines

High Compression Gas-Burning Engines

Auxillary Systems

Operation and Maintenance

ELECTRONICS

What is electricity?

Fundamental concepts of electricity

Electrochemistry

Batteries

Electrical Units and Ohm's Law

Direct current series and parallel circuits

Electrical conductors and wiring techniques

Electromagnetism and magnetic circuits

Introduction to alternating - current electricity

Basic electrical indicating instruments

Generators and transformers alternating current

Alternating - current motors

Direct current generators

Direct current motors

BRAZOSPORT COLLEGE
OCEANIC AND MARINE TECHNOLOGY
CLASSROOM AND LABORATORY SCHEDULES
1971-72

FIRST SEMESTER:

The class of 34 men was sub-divided into Shore Laboratory Group Nos. 1 and 2; lab groups were further sub-divided, i.e. Shore Lab Group No. 1 into ship lab groups ALPHA (A) and BRAVO (B), Shore Lab Group No. 2 into Ship Lab Groups CHARLIE (C) and DELTA (D). A 65 foot vessel was used in ship lab operations.

DAY	SEA-GOING TIME	CLASS GROUPS
Monday	0600-1200	Ship Group A at Sea
	1200-1800	Ship Group B at Sea
	0800-1200	Shore Group 2 in lab (main campus)
Tuesday	0800-0900	Oceanography, all students (classroom)
	0900-1000	Seamanship; all students (classroom)
	1000-1100	Navigation; all students (classroom)
	1100-1200	Oceanic and Marine Technology; all students (classroom)
Wednesday	0600-1200	Ship Group C at Sea
	1200-1800	Ship Group D at Sea
	0800-1200	Ship Group 1 in lab (main campus)
Thursday	0800-0900	Oceanography; all students (classroom)
	0900-1000	Seamanship; all students (classroom)
	1000-1100	Navigation; all students (classroom)
	1100-1200	Oceanic and Marine Technology (classroom)
Friday	0800-1000	Marine Engineering; all students (classroom)
	1000-1200	Engineering Lab; Shore Group 2
	1200-1400	Engineering Lab; Shore Group 1 (engineering lab)

SECOND SEMESTER

A 130 foot training vessel was used in addition to the 65 foot vessel on Tuesdays and Thursdays from 6:00 a.m. to 6:00 p.m. (weather permitting). The fisheries technology lab was held on Tuesdays and Thursdays from 9:00 to 11:00 a.m. and 2:00 to 4:00 p.m. The groups were assigned to the labs as follows:

DAY	SEA-GOING TIME	CLASS GROUPS
Monday	0800-1000	Seamanship II; all students (classroom)
	1000-1100	Marine Technology II; all students (classroom)
	1100-1200	Technical Math I; all students (classroom)
Tuesday	0600-1800	Ship Groups A and B at sea; 130 foot vessel
	0600-1200	Ship Group C at sea; 65 foot vessel
	1200-1800	Ship Group D at sea; 65 foot vessel
	0900-1100	Group D in fisheries technology lab (main campus)
	1400-1600	Group C in fisheries technology lab (main campus)
Wednesday	0800-1000	Navigation II; all students (classroom)
	1000-1100	Marine Technology II; all students (classroom)
	1100-1200	Technical Math I; all students (classroom)
Thursday	0600-1800	Ship Groups C and D at sea 130 foot vessel
	0600-1200	Ship Group A at sea 65 foot vessel
	1200-1800	Ship Group B at sea 65 foot vessel
	0900-1100	Group B in fisheries technology lab (main campus)
	1400-1600	Group A in fisheries technology lab (main campus)
Friday	0800-1100	Marine Electronics; all students (classroom)
	1100-1300	Marine Electronics lab, all students (classroom)

BRAZOSPORT COLLEGE
OCEANIC AND MARINE TECHNOLOGY
TEXTBOOKS 1971-72

BOOK	COURSE
NAVIGATION AND PILOTING by Dutton	Navigation I (Ocean. 124) Navigation II (Ocean. 134)
SCIENCE AND THE SEA, VOL. I by Barther	Oceanography I (Ocean. 102)
SCIENCE AND THE SEA, VOL. II by Van de Ree	Oceanography I (Ocean. 102)
PILOTING, SEAMANSHIP AND SMALL BOAT HANDLING by Chapman	Seamanship I (Ocean. 104) Seamanship II (Ocean. 114)
DIESEL AND HIGH COMPRESSION GAS ENGINES by Kates	Marine Engineering Tech. I (Ocean. 123)
BASIC REFRIGERATION by King	Marine Electronics (Elect. 133)
ARITHMETIC: A MODERN APPROACH by Keedy-Bittinger	Technical Mathematics (Math. 173)

EXPERIENCES AND TEACHING OBJECTIVES IN VESSEL OPERATIONS:

THE BASIS OF OCEANIC AND MARINE TECHNOLOGY

1. Deck Hand: The student will maintain the vessel through ship house-keeping procedures of scraping and removal of corrosive surfaces, primer touch up and painting, general cleaning and preserving; specific actions will include sweeping, wiping, washing-down, scraping, sanding, buffing, touch-up, priming and painting. The student will handle and manipulate mooring ropes and lines, handle and manipulate cables, operate deck machinery, handle anchors, operate fire-fighting equipment, operate life rafts and related life-saving equipment, operate all safety and emergency equipment with which he has concern.

Fueling Ship

2. Student Mate: The student will keep the deck log books, handle the steering of the ship, monitor and coordinate communications devices such as blinker, flags, radio and pyro-technics; he will assist the student Captain in the execution of the Captain duties at sea and in port.

At the Helm

3. Student Engineer: The student will keep all engineering log books, perform pre-operation and post-operation checks on main engines and auxiliaries; be responsible for cleanliness and maintenance of all engineering spaces and equipment aboard the ship. Engine check will include lubricant oil level checks, electrical checks, battery checks, fuel and water level checks and related items.

Diesel Engineering Laboratory

4. Additional Experiences: Each student will be provided experiences with the objective of making it possible for him to: (1) conduct emergency drills aboard the ship, such as fire drill, man over-board drill, collision drill and abandon ship drill, (2) dock and undock vessel, (3) navigation of a ship, and (4) become proficient in the use of binoculars, LORAN sets, radio equipment, depth finders, radio direction finders, RADAR, etc.

LORAN Reading

Fisheries Technology Class

GUEST SPEAKERS 1971-72

In order to familiarize the students with current opportunities in the marine industry, guest speakers were invited to lecture to the class throughout the fall semester. The following is a list of guest speakers from various industries who lectured to the department.

SPEAKER	COMPANY	SUBJECT
Mr. Dan Crissman Mr. Cliff Phillips Mr. Zane Baker	Western Geo-physical Houston, Texas	"Oil and Mineral Exploration
Mr. Houston Childers	Commercial Diving School Houston, Texas	"Salvage Operations"
Dr. Dorthea Mangum	Angleton High School Angleton, Texas	"Marine Biology"
Captain Ed Wilcox	Navigation Associates Houston, Texas	"U.S. Maritime Service"
Captain Philbrick	Texas Maritime Academy Galveston, Texas	"Texas Maritime Academy"
Mr. W. R. Rochell	Brown & Root Company Houston, Texas	"Marine Pipelines"
Mr. Jerry Mahoney	Baker-Lyman Houston, Texas	"Magnetic Compasses"
Mr. Ron Anderson	Brown & Associates Houston, Texas	"Maps, Charts, and Treasure Hunting"
Dr. John Wilson	Dow Chemical Company Freeport, Texas	"Oceanography"
Dr. H. G. Love	Marine Bio-medical Institute Galveston, Texas	"Marine Injuries"
Dr. Ed Beckman	Marine Bio-medical Institute Galveston, Texas	"Hyperbaric Medicine"
Mr. Denny Bowman Dr. Bob Feinstein	Marine Bio-medical Institute Galveston, Texas	"Oceanography of the Galapogos Islands"
Dr. Wendell Pierce	Dentist Houston, Texas	"Sunken Vessel Diving"

During the second semester, students were given the opportunity to be on actual industrial vessels and receive "hands on" experience. Consequently, by having the opportunity to hear guest speakers from various marine fields the first semester, and by having the opportunity to work with actual industrial vessels, Oceanic and Marine Technology students could better make decisions toward future career patterns and choices.

PROSPECTIVE EMPLOYERS OF OCEANIC AND MARINE TECHNOLOGY STUDENTS

Several marine industries have indicated a strong interest in employing Oceanic and Marine Technology students for summer work. The following marine career fields are represented by prospective student employers for Oceanic and Marine Technology students.

Off-shore Oil and Mineral	Dearborn Marine Service Incorporation Freeport, Texas
Ocean Exploration (Seismic)	Western Geo-physical Company Galveston, Texas
Oceanography	Texas A&M University, Department of Civil Engineering College Station, Texas
Oceanography	Dow Chemical Company, Texas Division Freeport, Texas
Tug boat, Tug boat barge Operations (Inland waterways)	Brown and Root Company, Jackson Marine Houston, Texas
Fisheries	Western Seafoods Company Freeport, Texas
Fisheries	Sea Hoss Marine Enterprises Freeport, Texas
Charter Boats	Muchowich Party Boats Freeport, Texas
Charter Boats	Freeport Party Boats Freeport, Texas
Marine Shore Support	Bridge Harbor Marina Freeport, Texas
Diving and Salvage	Yokley Enterprises Houston, Texas
Ocean Engineering	Horvitz Laboratories Houston, Texas

TO: Dr. Jackson

FROM: E. D. Middleton

Inter-Office Communication

DATE: June 26, 1972

RE: Summer Industrial Practicum

Oceanic and Marine Technology students at Brazosport College are employed with the following marine industries during the Summer Industrial Practicum:

Student	Address	Industry
Ray Arceneaux	Rt. 2, Box 317, Brazoria	Shrimp Boat DREADNAUGHT, Gulf
Robert Bieber	1431 Kingstree, Houston	USCG, Active Duty, California
John Blomshield	716 Northridge, Angleton	Dearborn Marine, Gulf
Robert Clemens	5432 Briar, Houston	Jackson Marine, Brown & Root Gulf
Jack Danford	213 Van Winkle, Lake Jackson	Western Geo-physical, Galveston
William David	1902 W. 8th, Freeport	Dearborn, TELEDEX IV, Virginia, Connecticut, North Atlantic
Steve Deal	1810 Westshire, Houston	Charter Boat, MISS CHERI, Muchowich Party Boats
Brad Gable	338 Doddridge, Corpus Christi	Charter Boat, Muchowich Party Boats
Mike Guthrie	707 N. Ave. F, Freeport	Dearborn Marine, CAPTAIN CARL
John Hall	3417 Montrose, Houston	Horvitz Laboratories, Engineer on off-shore vessel
Thomas Mayfield	302 Tanglebriar, San Antonio	Western Geo-physical, M/V WESTERN GULF, Nova Scotia
Samuel Mundorff	213 Skinner, Freeport	Shrimp Boat, PODUNK QUEEN
George McGrath	211 Laurel, Lake Jackson	Standby for Fisheries
Garrison Milbery	111 Holly, Lake Jackson	Clerk, Ship Supply Store
James Nelick	115 Terrance Rd., Lawrence, Kan.	Standby for Fisheries
Cynthia Orlea	1000 Meadow, Angleton	Standby for Fisheries (Administration)
Robert Patterson	Rt. 1, Box 42B, Brazoria	Fish & Wildlife Commission M/V SCAMP
Steve Philpot	1435 Oakstream, Houston	Dearborn Marine, M/V MISS FREEPORT
Richard Rodriguez	4130 Bluebonnet, Houston	Fish & Wildlife Commission M/V SCAMP
Harvey Spiller	Rt. 2, Freeport	Muchowich Party Boats, Charter Boat
Rick Weber	3721 Xanthus, Tulsa, Oklahoma	Captain of Charter Boat, LAURIE G
James Wheatley	2231 Partwood, Harlingen	Western Geo-physical
James Yokley	7345 Sims Dr., Houston	Yokley Enterprises, Diver

Fisheries (shrimp) season opens approximately July 1, 1972. It is anticipated that fisheries-oriented students will be employed by mid July.

Respectfully submitted,

E. D. Middleton, Director
Oceanic and Marine Technology

EDM:dl

SUMMER INDUSTRIAL PRACTICUM

The following forms are now being used by the students who are participating in the Summer Industrial Practicum. Reports are required to be submitted to the director at the end of the third week and sixth week of the term. In addition to the reports, a log of daily experiences and activities should be kept by the students and be remitted when they return from the various marine industries.

BRAZOSPORT COLLEGE
500 College Drive
Lake Jackson, Texas 77566

Dear Student:

For the purpose of accreditation, the Summer Industrial Practicum must be formalized by the use of written reports. The enclosed format will be used to report the necessary information needed for the Director.

This completed form should be mailed at the end of the first three weeks and at the end of the first six weeks of the Summer Industrial Practicum. A final report should be remitted at the termination of the Practicum. Self addressed, stamped envelopes are enclosed herewith for the purpose of prompt remittance. Any additional comments or suggestions would be helpful for future development of the Oceanic and Marine Technology program.

A personal log of daily experiences and activities will be an additional requirement to be remitted at the termination of the Practicum.

Please supply the Employer's Report to the captain or chief engineer with whom you will be working.

The attached "Experiences and Training Objectives" will be applicable to the student participating in the Practicum.

Sincerely,

E. D. Middleton, Director
Oceanic and Marine Technology

dl

Attachments: Students' Reports
Employers' Report
"Experiences and Training Objectives"

BRAZOSPORT COLLEGE
OCEANIC AND MARINE TECHNOLOGY
500 COLLEGE DRIVE, LAKE JACKSON, TEXAS

Confidential Report for Oceanic and Marine Technology Students Participating in the Summer Industrial Practicum

STUDENT:

CURRENT MAILING ADDRESS:

EMPLOYER:

IMMEDIATE SUPERVISOR:

STUDENT'S POSITION OF EMPLOYMENT

TYPE OF WORK PERFORMED:

NAME OF VESSEL (OR MARINE OPERATION) AND DESCRIPTION:

TYPE OF INSTALLATION AND DESCRIPTION:

LENGTH AND WEIGHT OF VESSEL:

HORSE POWER:

TYPE OF PROPULSION:

TYPE HULL:

PLEASE ADD ANY REMARKS WHICH YOU FEEL WOULD BE HELPFUL INFORMATION CONCERNING YOUR WORK EXPERIENCES. (DAILY SCHEDULE ETC.). ATTACH ANY PHOTOGRAPHS TO ADD TO YOUR REPORTS.

BRAZOSPORT COLLEGE
500 College Drive
Lake Jackson, Texas 77566

Dear Sir:

In order that I may know the activities and performance of work of the Oceanic and Marine Technology students participating in the Summer Industrial Practicum, please fill out the attached confidential information report.

It is requested that students participate in as many of the following activities aboard vessels as is practicable and appropriate to deck or cargo operations, engineroom work, fisheries and gear and equipment handling. The attached "Experiences and Training Objectives" should be applicable to the students.

I thank you for your cooperation.

Sincerely,

E. D. Middleton, Director
Oceanic and Marine Technology

EDM:dl

Attachments: Report Form
"Experiences and Training Objectives"

BRAZOSPORT COLLEGE
OCEANIC AND MARINE TECHNOLOGY

EMPLOYER'S CONFIDENTIAL REPORT OF
OCEANIC AND MARINE TECHNOLOGY STUDENTS EMPLOYED
DURING THE SUMMER INDUSTRIAL
PRACTICUM

NAME OF STUDENT:

TYPE POSITION OF WORK:

PERFORMANCE OF WORK:

ATTITUDE:

APPEARANCE:

SAFETY

The practice of safety in the OMT classroom and laboratory has been a part of the instruction the entire year. The following safety rules have been proposed and are required to be pursued by each student.

GENERAL:

Be alert; stay aware of your surroundings at all times, on all sides, over-head and below you, assume initiative and responsibility.

Keep sparks, open flame and smoking materials away from flammable or explosive material (at least 100 ft.)

Keep all areas and all equipment clean and free of debris, dirt and/or loose objects.

Lash or tie down all loose, moveable or portable items when preparing a vessel for sea.

Wipe or mop up all spills or leaks of oil and gasoline immediately upon observation.

Be familiar with all emergency ship-board drills: fire, collision, man-overboard, abandon ship, enemy attack, nuclear attack, gas attack, storm, to include hurricane, tornado, typhoon, cyclone and water-spout.

Know your station and duties for all emergency drills or actual emergency situations. Keep calm as a first step in all emergency situations.

Operate on the "buddy system" at all times; be responsible for the where abouts and safety of at least one or two designated friends or "buddies" at all times. If he or she should become injured or missing, report this information to your nearest instructor immediately.

Know the location of all emergency equipment or gear in your area; i.e. fire hoses, fire extinguishers, fire axes, damage control equipment, life jackets, life rafts, life rings, life boats, flashlights and lanterns, hand tools, including cutting tools and pry or crow bars; first aid kits, fellow students with first aid or medical experience or skills.

Know rules for handling, stowing and moving hazardous cargo or material.

Be familiar with fire-fighting and damage control.

Be ever alert for other vessels' approach from any angle, especially from behind or astern of your vessel.

Be ever alert for "dangers from above", i.e. hooks or blocks of over-head cranes, derricks, booms or other hoisting equipment; be alert to presence of over-head weights, cargo drafts or loads; low head clearance on ladders or through hatches.

Be alert to hazards underfoot, i.e. openings in the deck, open hatches, scuttles and other accesses, projections on deck, deck cleats and fittings, open beights or loops of line, rope or chain, raised deck areas associated with doors, hatches and other access fittings, hatch and other access coamings.

Keep clear of moving parts, rods and gears, particularly with respect to your appendages, i.e. arms, legs, feet, fingers, toes and hair (short hair recommended), stay clear of engine moving gears, rods and parts; keep body inboard of rails aboard ship; do not place hands on gunwales, rail or rub-strakes of boats or ships.

Remember well (NB); "one hand for the ship, one hand for yourself", in other words: "hang on".

Wear appropriate clothing, light rain gear for rain, warm "layer-type" or laminated light clothing (insulating) for cold; avoid loose or dangling items of clothing.

When strain is being placed upon rope, line or cable in operations, be aware that a breaking or parting rope, line or cable could slice you into two parts; keep clear or protected from this possibility, stand away and behind solid objects when possible in this situation.

Keep a firm stance on decks of ships in event of heavy seas causing rolling, pitching yow, heaving and other sea-way action; wear deck shoes or other type shoes with good grip on wet or slippery decks and which can be kicked off rapidly in case you fall over-board.

Take out some form of student life insurance to protect you and your loved ones in the event of injury or death.

Do not fear, but respect the awesome power and force of the ocean sea; remember well (NB) the sea is unmercilessly unforgiving of human error; while the sea is huge and powerful, 3/4 of the globe, is nearly omnipotent, it will yield to men, women and science and can provide challenge, jobs, livelihood, education, and fun!

These safety rules, regulations and guidelines apply to the Oceanic and Marine Technology Department of Brazosport College and will be posted conspicuously on bulletin boards in classrooms, laboratory and training vessel or vessels of this Department.

Wear life jackets when operating on deck in heavy seas or stormy weather.

In the event of man (or girl) overboard: (1) Keep calm; (2) throw life ring, life jacket or other floatable, buoyant object to person immediately; if on wheel or as captain, place rudder hand over to turn vessel so that propellars will be "kicked" away from person in water (i.e. overboard starboard; designate a person or bridge to keep individual in sight; turn to pick up individual in water. Use line, boat hooks and man-power to rescue.

When involved or participating in special training operations, such as diving, fire fighting, swimming, fisheries operations and similar specialized training activities, observe strictly safety rules and regulations pertaining to these specialized activities.

If you have questions concerning these safety rules and regulations, contact your instructor immediately.

Safety Rules and Procedures - continued

It is impossible to formulate and publish safety rules and regulations to cover all possible danger, or emergencies -- therefore: stay alert, keep cool and take advantage of all learning opportunities.

Feel free to communicate with your instructors and with the Director, Oceanic and Marine Technology program at all times, 24 hours per day.

BRAZOSPORT COLLEGE
OCEANIC AND MARINE TECHNOLOGY
SAFETY

Studies of accident cases on board ships over a long period of years reveals that most accidents (around 95%) were preventable.

Also the record shows that most accidents were caused by failure of the human element-failure not only of the individuals who were injured but also on the part of those charged with the responsibility of supervising them. Only a small percentage were really caused by some type of mechanical failure.

It is clear, therefore, that the human factor must be emphasized as the controlling element in all accident prevention on board all vessels. It governs in the promotion of safety work, in its development, execution and in the success or failure of every safety program. Many of the primary causes of accidents on board vessels may be classified as follows:

1. Faulty or inadequate supervision
2. Unsafe equipment or materials
3. Unsafe conditions
4. Personal action or characteristics of accident victim
5. Improper safety planning

Prevent accidents by: Instruction, inspection, and supervision

It is always urged by companies that their officers familiarize themselves with the entire contents of safety in order to have a comprehensive grasp of all the safety problems on board a ship. A little or limited safety knowledge may be worse than none at all.

The subjects discussed in this paper are some of those which are sufficiently broad in their nature and scope as to cover all sizes of vessels and more than one department on a ship.

BELTS, SAFETY

Safety belts, also known as rigging belts, should be worn by all men. working aloft, over the side, on stagings or in places involving possible falls. Safety belts are now standard equipment but still are not used on board ship nearly as much as they should be. When men are working over the side, a safety belt will prevent a possible drowning accident. Make certain that there is never too much slack in the line. When men are working in tanks or other spaces where they may be subject to asphxiation, a safety belt with harness and lanyard should be worn so that the man can be lifted out vertically if he collapses. Lanyards should be kept reasonably taut in order to prevent a man from falling and bringing up with a heavy jerk. Safety belts and lifelines should be carefully inspected before each is used. They should be snugly fitted and the strap securely buckled.

BIGHTS

Men should always stand clear of bights when running lines and when placing lines on the bitts. Instruct and supervise men in standing clear of bights at all times, especially green men.

RADAR

When men are working aloft on the radar, the following precautions should be observed:

1. Do not perform such work while the ship is underway
2. Use the boson chair with the proper rigging on work done on the mast and ladder instead of hooking on to the ladder rung.
3. Inspect all gear before using.
4 Notify the Chief Engineer before the men go aloft

SHACKLE

All shackles and gear should be examined before each cargo operation or when used by the crew when working. Shackles with screws may be a hazard due to pins working loose, unless well seized with wire. It is strongly recommended for safety that shackles used in connection with blocks on cargo falls, guys and boom topping lifts should be of a safety type with lock nuts and pins. When using a shackle during rigging of a boson chair never allow the pin to ride on the stay, it may cause the pin to unscrew.

WINCHES

Serious injuries have occurred to men trying to oil deck winches while in operation and through failing to notify the winch operator to secure and take his hand off the throttle, before oiling the winch. When winches are equipped with locking pins, they should be used to prevent the winch from turning over by accident.

DRILLS: FIRE AND EMERGENCY

The quick and safe execution of all drills on board ship is of great importance. The Master should make a safety study of the conduct of drills. He should note and correct any unsafe practices. When using portable fire extinguishers, men should be cautioned to stand upwind to prevent chemicals from being sprayed or blown into their eyes. Observe how men working when launching lifeboats in order to prevent anyone from slipping, falling or being pushed overboard. See that the men wear their jackets during these drills. Drills should not only test equipment, but should also instruct, train and test the crew in their knowledge and use of all safety equipment.

GOGGLES

Safety goggles should be provided at appropriate locations for the safe protection of eyesight. See that the goggles are worn over the eyes not over the forehead.

HAND PROTECTION

Gloves of suitable material should be worn to protect hands against possible injury when handling materials such as acids, caustics, wire, etc. Never use gloves when working with moving machinery or when climbing ladders.

BITTS

Make lines fast to bitts not to capstans or gypsy heads.

BLOCK AND TACKLE

Always inspect blocks and tackle before using them. Also inspect pad eyes, rings and other fittings to which this gear is to be made fast. Over estimate possible strains rather than under estimate them. Use block and tackle to lift heavy gear. This prevents hernias, crushed arms, hands, and backs. Beware of heat, oil and acid burns on rope. Always inspect rope before using, you may save lives by doing so.

BOATSWAIN'S CHAIR

The chair should be rigged under officer supervision by the men who will use them. It is very important that each man using the chair know how to rig it and make the necessary hitch for lowering themselves. Do not trust green men to know how to make hitches and rig gear. Makeshift rigs, like the use of "meathooks", are almost certain death traps. In general, a man should never hook or shackle his Boson chair to a rung of a ladder or handrail. Not only may the rung be in a weakened condition and carry away, but the frequent changing from one rung to another has proven to be very hazardous. Use a tailblock with gantline and let the man lower himself. When slushing the rigging, do not permit the shackle pin to ride on the stay. A safety belt, secured to the tackle, should be provided to prevent a man from falling out of the chair. Lifelines must not be too slack. Study the situation and then act for safe performance of the work.

HOOKS

All open hooks should be moused for safety. Discard hooks that have opened up. Use shackles, instead of open hooks, if practicable.

MOORING LINES

Equip mooring lines with beckets for use as hand gripes on the eyes of ropes and wires. This will prevent fingers from getting jammed when placing mooring lines on bollards and bitts, also in letting go lines. Take sufficient turns with mooring lines around gypsyheads to hold the strain and prevent slipping. Have the men who are handling the lines to stand in a safe position, clear of all bights. Always make mooring lines fast to bitts, not gypsyheads. When loading or discharging alongside a dock, attend mooring lines frequently for tautness or slackness, particularly when passing ships approach you.

PAINTING

When painting ship, observe safe practices for overside operations. When painting aloft see that all gear, gantlines, boatswain's chair, etc., are in good condition, well rigged and properly secured. The preferable way to paint a mast ladder is to use a tailblock with a gantline, boatswain chair and let the man lower himself. However, it is very important that each man using the boson's chair should know how to rig and make the necessary hitch for lowering himself under proper supervision. When painting closed areas, make certain there is sufficient ventilation. When spray painting, use respirators and goggles if practible.

HANDRAILS

Rig a temporary rope or chain guard rail when hand rails have been removed for any purpose, in order to prevent slipping and falling accidents. Keep rope or chain rails taut. Oily, slippery rails are hazards; keep them clean.

ILLUMINATION

Adequate illumination should be provided at all times, especially at gangways, in work areas, on deck and over the side when working cargo at night. Inspect all portable lighting equipment for defects before using. Insure that the insulation is not broken. Lighting cable should be rigged so as to avoid tripping and falling hazards.

INEXPERIENCED MEN

The first safety rule of all is that responsible heads of departments on board vessels should prepare themselves thoroughly in the basic principles of safety work and then should take upon themselves the responsibility for instructing their men. Constant training of green men is necessary for safety and efficiency. Otherwise accidents which might have been prevented by proper safety instruction and supervision will occur invariably.

INSPECTION

It is fundamental that all gear and equipment should be inspected before using. It is fundamental for safety that there should be frequent inspection of cargo spaces, living quarters, etc., for the purpose of accident and fire prevention.

INDIVIDUAL SAFETY PROTECTION

The highest moral obligation rests on all hands on board ship to prevent personal injuries to fellow men. The leading cause of accidents is failure to the human element - man failure. A well trained crew is a great safeguard against accidents, "if you take an interest in your men, they will take an interest in you." When men are working dangerous positions such as aloft or over the side, supervise for safety. Take an interest in their safety.

ROPE

Inspect rope for defects such as burns, kinks, abrasions, wear, etc., before using them. Inspect and test rope used for stagings, boson chairs before using them. You may save lives by this safe practice.

SPLICING

When splicing wire or rope the spike point should always be away from the body not toward.

DECKS

The prevention of tripping, slipping and falling accidents on deck requires a combination of safety education and a stimulation of mental alertness among personnel. It is sometimes helpful to use white aluminum or luminescent paint on deck objects in order to catch the eye of those not on the alert. Safety "color coding" also provided helps to cut down on accidents, along with signs painted in the danger area. When expecting heavy seas, rig suitably lifelines fore and aft on the lee side. If the ship is swinging around to any extent, rig lifelines on both sides of the ship with instructions to use the lee side. When shipping "green sea" on deck warn all hands and rope off the dangerous areas if practicible. In emergencies, if men must go out on deck adjust course and speed clear in the vicinity of hold ladders. Suitable guards should be placed near all open manholes or other openings in the deck, to prevent falling accidents.

Deck cargo should be well stowed and properly secured. It should be provided with safe walkways having double lifelines and walkways should be illuminated at night. Ample headroom should be provided at the ends of the deck cargo adjacent to the house in order to prevent head injuries.

FACTORS OF SAFETY

Each Master and Mate should study the factors of safety involved in each operation. The factors of safety apply to practically every type of operations on board ship, rope, wires, slings, stagings, etc., strong enough to stand the weight to which it is to be subjected.

OILY RAGS OR WASTE

Spontaneous combustion may be caused by oily rags or waste. For safety, provide metal containers for the disposal of oil material such as waste, paint rags, etc., and empty the containers daily.

The conservation of human life by preventing personal injuries should be a seaman's greatest efforts and objectives. Each Master. Officer and man on board ship has personal responsibility for safety, not only of the ship, but his shipmates, as well.

SAFETY MEETINGS WITH UNLICENSED PERSONNEL

All hands should be invited and encouraged to attend these meetings. The larger the turn out, the more effective will be the results and the greater the interest in safety which will be developed among the crew.

The agenda for these meetings should be parallel to that of the program set up by the Staff Safety Committee. It should include studies of specific jobs to develop safe practices; discussion of shipboard safety and items in publications or correspondence, in matters over which the men have control.

Approximately half of each meeting should be devoted to instruction and training in the use of items of safety gear and equipment on board, such as the oxygen breathing apparatus, first aid, all purpose nozzles, etc. Also such topics as individual behavior, what to do on the discovery of fire, man overboard, shock, etc., should be stressed during this half of the meeting. The high point should be on the stimulation of safety consciousness by all hands.

These meetings with the unlicensed crew are an essential part of a complete safety program on board ship. To get the best results out of them, the officers in charge of them must plan the meeting in advance, very carefully. They will often find such meetings a challenge to the capacity for leadership and handling men, in order to conduct a discussion which will be profitable and not one that will go off the bean into extraneous matters.

The scope of the meeting's activities should be made clear from the beginning. There should be no doubt but that safe practice recommendations not discussion are in order.

ACCIDENT INVESTIGATION

This is a very important part of every well balanced safety program. Its purpose is to discover the cause of the accident, the unsafe condition or unsafe practice that brought about the accident, so that proper action may be taken to prevent recurrence.

An accident should be considered as an indication of some weakness in the prevention program and a close study of all conditions and actions surrounding and leading up to the accident should disclose specifically what those weaknesses are. This will help the officer in recognizing potential accidents which they may have overlooked.

The purpose of the report is not to fix a blame. If the men get the idea that this is the case the men will withhold facts. On the other hand it is the responsibility of the Master and his officers to ascertain all the relevant true facts and to protect the ship against possible false and fraudulant claims. Beware of what is called the "sea lawyer."

PROJECT CONCEPT

The research project envisioned utilization of sea-going vessel, boat or ship as a floating laboratory in the training of students in the development of skills related to the operation, maintenance and repair of vessels of the off-shore industrial support (oil and mineral) category, fisheries vessels, intra-coastal and inland waterways, tug boats and tow boats, fire, yacht, salvage, research, exploration and port security type vessels.

This concept of the "floating laboratory" envisioned employment of a vessel (boat) as the principal training aid associated with the given program.

Principal teaching subjects are projected as follows: Navigation, including piloting, celestial and electronics, seamanship, diesel engines, emergency procedures, vessel house-keeping and other supporting marine subject areas. Complementing the vessel or on-board training phase, the land-side classroom and laboratory work will give the graduating student a salable combination of both practical, "hands-on" experience and formal, classroom educational skills.

ABSTRACT

TITLE OF PROJECT: A Pilot Project to Develop, Initiate and Evaluate a Post-Secondary Program in Oceanic and Marine Technology

APPLICANT ORGANIZATION: Brazosport College
500 College Drive
Lake Jackson, Texas 77566

PROJECT DIRECTOR: E. D. Middleton, Jr., Coordinator
Oceanic and Marine Technology

DURATION OF PROJECT: September 1, 1971 to June 30, 1972

PROJECT OBJECTIVES

The research project envisioned utilization of sea-going vessels (boat or ship) as floating laboratories in the training of students toward the development of skills related to the operation, maintenance and light repair of vessels of the off-shore industrial support (oil and mineral) category, fisheries vessels, intra-coastal and inland waterways, tug and tow boat, yacht, salvage, rescue, oceanographic exploration and research, and port security and patrol-type craft. The project embraced feasibility study or pilot activity to develop, initiate and evaluate a post-secondary program in Oceanic and Marine Technology.

PROCEDURES - METHODS

An average number of thirty-two students were enrolled in the Oceanic and Marine Technology program at Brazosport College studying technical, vessel operating skills in a classroom situation, augmented by guest lecture programs, field trips and multi-media techniques. Subject areas included seamanship, navigation, boat-handling, oceanography, diesel engines, ship maintenance, marine electronics, emergency drills and other marine related subject materials. Several training vessels served as floating laboratories for actual practice and implementation of classroom presentations.

UTILIZATION OF PROCEEDINGS

The utilization of the results of the project will be the projection of plans for the future development of the Oceanic and Marine Technology program. The preparation of this final report will describe the project and separate guidelines will be prepared for the implementation of this kind of program in other institutions.

RESEARCH PROJECT

TITLE: A PILOT PROJECT TO DEVELOP, INITIATE AND EVALUATE A POST-SECONDARY PROGRAM IN OCEANIC AND MARINE TECHNOLOGY

PROBLEM AND OBJECTIVES: The problem area of a need for a marine-oriented technology training program was established through various techniques of research and investigation. The findings of an independently operating consultant, from local marine industrial agencies and the intensive contact-development during the start-up phases of the over-all program have all accentuated the pressing need for qualified vessel operators to the 1,000 ton and 10,000 horse-power diesel size category. Additional research and review of available literature and professional publications reinforces the concept of existing need for skilled man-power in the marine technician brackets. In summary, the problem: A need for operators of vessels up to 1,000 tons and 10,000 horse-power, who have specific skills and competence in Oceanic and Marine Technology.

DESCRIPTION OF ACTIVITIES (PROCEDURES - METHODS): The over-all procedures for the implementation of the program were very heavily oriented toward practical, or "hands-on," experiental type teaching techniques. Technical training was conducted aboard a vessel and on the land area under a laboratory concept. The land area training served as the complement to the water, on-board training. It is contemplated that mock-up vessel layouts or "land-ships" will be utilized during future shore phases. The laboratory periods alternated with classroom periods and the entire program consisted of integrated practical work and formal class work procedure. Students aboard the training vessels rotated through the various, key duty assignments during this phase of laboratory training. At various times the students experienced technical, "hands-on" training - captain, helmsman, engineer, navigator and deck hand.

In considering the "procedures-methods" aspects of the Oceanic and Marine Technology Program, the following general conceptual categories are elsewhere treated upon in this report, namely: Program Objectives, Program Background, Basic Problem of Address, General Concept of Program and various aspects of procedural methodology.

Although general procedural-methods have been elsewhere considered, it is relevant that this particular conceptual area be further analyzed.

With this analysis in mind, the following aspects of development in this area may be iterated: (1) Student Recruitment or Procurement; this particular "aspect area" entails presentation of program objectives to the prospective student, counseling toward career objectives on an individual basis, housing location assistance if indicated as desirable, job-finding assistance, as required, and general individual attention to the student from faculty persons.

Further aspects of program development have and will include program curriculum development, formulization of course syllabi and lesson plans and general integration of formal effort toward actual contact hour presentation; textbook analysis and selection; instructor reference text analysis and selection; selection of competent and enthusiastic instructors, both on a part-time and a full-time basis, contingent upon student enrollments; equipment of all categories in the marine enviromental concept, such equipment to be leased, loaned, donated or purchased.

Within the realm of equipment requirements, are those items necessary for the effective teaching of subject areas outlined previously; i.e. Oceanography, Navigation, Seamanship, Marine Technology and Marine Engineering. Further considerations involved in procedure-methods categories involve audio-visual

materials and equipment, training aids of various types and uses, boat or vessel utilization, field trip planning scheduling, guest speaker invitation and coordinating, instructional texts and references, various organizational and operational considerations in the realm of over-all administrative and operational applications. Included in these zones of concept and application are such topical brackets as personnel procurement, orientation, training and supervision, information monitoring, collecting and application of data, actual operational applications, orientation and training programs for personnel development and technique application, material and supply identification, requisitioning and procurement, physical handling and storage, operation and maintenance, repair and replacement, as necessary.

Special programs are to be considered in the general category of fire fighting and damage control, diving, submersible operations, public relations, classroom and laboratory allocations.

FINDINGS, CONCLUSIONS, RECOMMENDATIONS

As a result of completing the first year pilot research project, it is considered that primary behavioral teaching objectives have been achieved to a high degree. Students who have successfully completed the first year program are now capable of navigating, steering, mooring, docking, anchoring and maneuvering commercial vessels up to 130 feet in length. These students are able to perform pre-operational, operational and post-operational tasks related to diesel engine main propulsion power plants and auxiliaries aboard ship. The students are able to operate effectively the electronic equipment aboard ship to include radar, radio, radio-telephone, fathometers, LORAN, automatic pilot and other associated equipments. Students are capable of performing preventive maintenance aboard ship.

Students will be able to direct, conduct and participate in emergency drills and in actual emergency situations. These situations would include fire, man-overboard, abandon ship and collision, both drill and actual.

During the first year program, primary reliance was placed on shipboard installation for student hands-on access to equipment. Equipment requisitioning was on a conservative, low-profile level during this first year since student in-put was a relatively unknown factor. Fifteen students were considered a mandatory minimum in-put for program start-up, and thirty-four actually registered for the beginning program.

It is contemplated that equipment and supplies will be provided in full complement to support the second year of operation, with sixty full time students on hand, as a planning factor.

Equipment in support of program operations would include: (1) Navigational equipment such as sextants, parallel rules, dividers, charts, chart measurers, chronometers, peloruses, stop-watches and binoculars; (2) marine cut-away engine and machine components, diesel and gasoline engines, injector sets, testing stands and devices; (3) seamanship equipment: fiber, nylon and composition rope and line, wire rope and cable, blocks and tackles, various types of cordage, ship's boat equipment and mooring devices, signal and communications lights, flags and keys and tools for marlinspike seamanship; (4) radio telephones, fathometers or depth finders, radar sets, radio direction finders and LORAN equipment; (5) other categories of equipment would include oceanographic instruments, diving equipment and fisheries technology equipment.

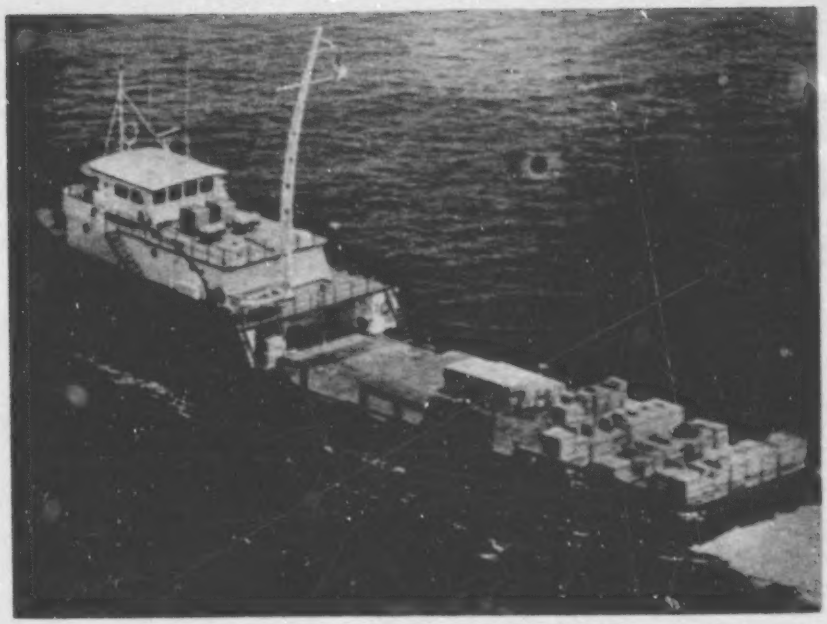
During the college year 1971-72, thirty-four students registered for the first semester and thirty students registered for the second semester. Twenty-five students successfully completed the first year (first and second semesters) of the program. These students are currently engaged in the Summer Industrial Practicum with Marine Industry. Several of the students entering the program were eliminated from the program for reasons such as marriage, draft, academic failure, lack of adaptability, career indecisiveness, financial reasons, and job requirements.

It is felt that the first year of operations, embracing the time-frame of the research project, was highly successful. Recommendations are that the program be continued as planned for the future, with only modification to the first year of operation being that of employment of additional full-time instructors.

It is planned that two additional full-time instructors will be employed in the program, effective with the Fall Semester, 1972-73.

APPENDIX

PAGES 55 THROUGH 59 CONTAINING PHOTOGRAPHS OF PROJECT ACTIVITIES WERE REMOVED FROM THIS DOCUMENT PRIOR TO ITS BEING SUBMITTED TO THE ERIC DOCUMENT REPRODUCTION SERVICE.



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Reading & Bates Offshore Drilling Co. Self-elevating with three legs	C. E. Thornton 18,000'	110'	Auxerap, Red Sea
Reading & Bates Offshore Drilling Co. Self-elevating with three legs and tender	W. D. Kent 18,000'	150'	Aramco, Saudi Arabia, Arabian Gulf
Royal Dutch/Shell Self-elevating with eight legs	Seashell 15,000'	120'	Shell Qatar, Arabian Gulf
Southeastern Drilling International, S.A. Self-elevating with eight legs	Sedco-Qusto 15,000'	100'	Qatar Oil Co., Qatar, Arabian Gulf
U.S.S.R. Self elevating	Apsheron 5,900'	50'	Self, Caspian Sea
U.S.S.R. Self-elevating with four legs	Chazar 20,000'	240'	Self, Caspian Sea

AFRICA

16 working; 3 idle

OWNER	NAME	WATER DEPTH	OPERATOR AND LOCATION
Atwood Oceanics, Inc. Drilling barge	Shiloh 20,000'	600'	Elf, Congo
FORAMER Self-elevating with five legs	Ile de France 20,000'	280'	Shell, Port Gentil, Gabon, rigging up
Global Marine Inc. Floating vessel, self-propelled	Glomar II 25,000'	600'	Mobil, Cameroon
Global Marine Inc. Floating vessel, self-propelled	Glomar IV 25,000'	600'	Shell-Oil Co., Gabon
Loffland Bros. Co. Self elevating with three legs	Ocean Master II Rig 10 25,000'	300'	Mobil, Nigeria
The Offshore Co. Self elevating with 14 legs	Mobile Unit No. 52 20,000'	100'	Shell BP, Nigeria
The Offshore Co. Self-elevating with three legs	Meteorite 5,500'	100'	Available, Nigeria
The Offshore Co. Self-elevating, shipshape, self-propelled with four legs	Offshore Mercury 20,000'	250'	Aquitaine, Mozambique
Reading & Bates Offshore Drilling Co. Self elevating with three legs	Mr. Jack 25,000'	300'	Gulf, Cabinda, Angola
Reading & Bates Offshore Drilling Co. Self elevating with 12 legs	Mr. Louie 20,000'	150'	Gulf, Nigeria
Royal Dutch/Shell Self elevating with four legs	Cavorio-1 14,000'	30'	Shell-BP, Inland Nigeria
SEDCO Inc. Semisubmersible with three columns	SEDCO 135 25,000'	600'	Texaco, Ghana
Southeastern Drilling Co. of Nigeria Ltd. Semisubmersible with three columns	SEDCO 135D 25,000'	600'	Shell/BP, Nigeria
Storm Drilling Co. Self-elevating with three legs	Stormdrill VII 25,000'	250'	Elf-ERAP, Cameroons & Gabon
Transworld Drilling Co., Ltd. Semisubmersible with four battles	Rig 46 20,000'	70'	Gulf, Nigeria

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SUMMER INTERNS — MARINE TECHNOLOGY
Students in Oceanic & Marine Technology available May-August 1972 midway to associate degrees of Applied Science, Marine Technology will have practical working knowledge of: deck seamanship; piloting; celestial navigation; marine industry; oceanography; diesel engine operation, disassembly, assembly, maintenance & repair; refrigeration; electric generators & motors; Loran; fathometers; radio direction finding; radar plotting; sonar; Decca; doppler; inertial and satellite navigation systems; ship handling; docking, emergency procedures; marine fire fighting; salvage & commercial diving.
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Faculty members get A&M awards

Truman T. Isbel and Edward "Ned Middleton, both on the staff at Brazosport College, are recipients of Texas A&M University's Sea Grant Merit Awards.

The honors went to Isbel, director of technical and vocational education, and Middleton, director of oceanic and marine technology, for their efforts in promoting marine affairs.

Brazosport College, a member of A&M's Sea Grant Program, is currently training two-year students, providing manpower for research ships and is involved in ventures related to marine resources development and coastal zone management.

Capt. Middleton speaks to BC Faculty Ladies

The Brazosport College Faculty Ladies Club held its regular monthly meeting on March 28 at the Brazosport Savings and Loan office here.

Guest speaker Capt. Ned Middleton, head of the Oceanic and Marine Technology Dept. of Brazosport College, explained the department's program to the approximately 25 persons present.

A report on the club's bake sale, held early in March, indicated a profit of about $115. The meeting concluded with a progress report on the club's project, and announcement of a banquet to be given by Roland Travis for the faculty, their wives and husbands, April 15 at the college.

25 O.M.T. STUDENTS GET "Z" CARDS

Twenty-five Oceanic and Marine Technology students recently received their Z-cards. The card is in reality an Ordinary Seaman's license.

Pictured on the right us Thomas Mayfield and Ensign Ellard, of the United States Coast Guard. Ellard is administering the oath preparatory to the issuance of the Z card.

O.M.T. students are nearly all assigned to their summer jobs. Among other places, students will be working in east Africa, in New Foundland, and on the Gulf of Mexico. Several students will be attached to Brown and Root and Western Geophysical for the summer.

BAR-C ORGANIZED

The Bar C (Brazosport College Agriculture and Rodeo Club) has recently been organized on campus.

For some time, students have been trying to organize both an agriculture and rodeo club. Finally, according to Lloyd Persons, the two groups combined interests and the Bar C resulted.

Approximately 30 members have attended the three meetings since organization.

Club officers include: Ray Setzer, President, Larry Donnelly, Vice Pres., rodeo, Lloyd Persons, Vice Pres., agriculture, Secretary Pam Jackson, Treasurer Kathy Faulkner, Reporter Sammy Krolczyk, Sentinal Don Germany, and Student Senate Representative Curtis Karisch.

One of the clubs activities comming up soon includes a fund raising project to raise money for a horse show.

The next meeting of the Bar C will be on Tuesday, March 20. Everyone is invited to attend.

43 area school principals and administrators met at Brazosport College on Texas Independance Day for their regular monthly meeting.

SCHOLARSHIPS AVAILABLE

September, 1971, marked the start of a new scholarship program set up by the 62nd Texas Legislature requiring junior and senior colleges to set aside approximately 6% of tuition revenue as scholarship funds. Each school was allowed to set up a standard for awarding these scholarships.

At Brazosport College a committee composed of faculty and staff members interview applicants and decide who should get the awards. Criteria include full-time status, a "C" average (2.0 gpr), and not being on probation.

Scholarships can be renewed each semester provided students meet the criteria. During fall semester, this year, 15 students applied and received scholarships. There was money for many more.

Applications are available at the Dean of Students Office for fall and spring semesters. For additional information, contact the Dean of Students, or see one of the college Counselors.

O.M.T. STUDENTS RECOGNIZED

Four Oceanic and Marine Technology students at Brazosport College recently received special letters thanking them for their participation in the Flower Gardens Ocean Research Project.

John Blomsheild, James Wheatley, Ray Arceneaux, and Bill David spent five days on last month's exhibition helping scientists and divers study the reef area soon to be the site of the world's first permanent underwater habitat and America's first continental shelp laboratory.

The project includes a laboratory to be built on the bottom of the Gulf of Mexico, 135 miles southeast of Galveston, in 100 ft. of water. Also part of the project is the construction of a laboratory platform on the surface, over the flower gardens, that will contain classrooms, laboratories, sleeping and living quarters, life support equipments, and a landing pad for helicopeters.

The project is currently taking 2-4 O.M.T. students on each trip.

Center for Marine Resources • Texas A&M University • A Sea Grant College

April 6 Proclaimed Sea Grant College Day

Everyone is invited to attend SEA GRANT COLLEGE DAY ceremonies Thursday, April 6, of Environmental Education Week.

Over 40 state and 15 federal agencies have been invited to participate in the activities. The Honorable **Ray Lemmon**, State Representative will be the guest speaker at the luncheon in the Memorial Student Center.

Dedication ceremonies begin at 9:30 a.m. at the new Engineering Center on campus, during which time certificates for special services leading to the naming of Texas A&M as a Sea Grant College will be presented.

Two seminars are scheduled for the afternoon. **Robert Abel**, director of the National Sea Grant Program, will speak on marine related occupations while **Alan Lohse**, senior scientist for Gulf Universities Research Consortium, will speak on public policy and problems of the coastal zone.

Chairing the planning committee is **Leatha Miloy**, head of the Department of Marine Resources Information. **Rosemary Boykin**, of the same department is co-chairman. Other members include **Jack Jones**, Texas Agricultural Extension Service; **David Woodcock**, College of Architecture and Environmental Design; **Kathryn Delaune**, Industrial Economics Research Division; **Robert Rucker**, landscape architect; **Lana Stephenson**, University Information; and **Buck Weirus**, Association of Former Students. ■

Search for the FOGG

★ • The 130-foot industrial work boat, *MV Miss Freeport*, leased by Brazosport College as a training vessel, was the vessel that found the missing tanker *V.A. Fogg*, which apparently exploded and sank in 90 feet of water 50 miles off the coast of Galveston. No students were aboard *Miss Freeport* which had been leased for rescue operations at the time.

★ • **Bobby Patterson**, a Brazosport College student who earned his Master's license for a 100-ton vessel under **Ned Middleton's** marine technology program, captained the *Scamp*, a vessel owned by a deep sea diving company that sent divers to investigate the wreckage of the *Fogg*. ■

$...The National Science Foundation has awarded Texas A&M University a $488,000 grant for operating the *R/V Alaminos*. The *Alaminos*, a 179-foot vessel, is the oceanography department's largest ocean-going vessel. ■

Urban Area Studies Form Center

A Center for Urban Problems has been established within the Texas Engineering Experiment Station. The Center plans to promote research proposals, offer short courses and present conferences and seminars. For further information contact Richard E. Thomas. (845-6431)

PAGE 68 CONTAINING AN ARTICLE ON THE PROGRAM PUBLISHED IN THE COPYRIGHTED JOURNAL "OFFSHORE" WAS REMOVED FROM THIS DOCUMENT PRIOR TO ITS BEING SUBMITTED TO THE ERIC DOCUMENT REPRODUCTION SERVICE.

LETTERS OF SUPPORT

CC

DEPARTMENT OF TRANSPORTATION
UNITED STATES COAST GUARD

Address reply to:

Officer in Charge
Marine Inspection
Room 201, Customhouse
Galveston, Texas 77550

5950
12 May 1972

Dr. J. R. Jackson, President
Brazosport Junior College
P. O. Drawer 995
Brazosport, Texas 77541

Dear Dr. Jackson:

On 10 January 1972, I visited Brazosport College, Brazosport, Texas as one member of a group of Coast Guard officers requested by our Headquarters in Washington, D. C. to review your program outline of the Oceanic and Marine Technology course and to make an on-site survey of the physical facilities. My overall impression of the facilities and your oceanic program at Brazosport College was most favorable.

The physical plant at Brazosport College is well designed and appears to be suitable for its intended purpose for many years to come. Likewise the curricula developed for the Oceanic and Marine Technology program has a careful balance between academic, technical, and practical training which should satisfy the educational needs of students interested in a maritime career and also further the development of professional seafarers.

Both the growing offshore oil industry and the expansive towing industry in this country sorely need a practical and academic program of the type you have developed to train their licensed and unlicensed personnel. Your Oceanic and Marine Technology program should encourage a sufficient number of suitable persons to make the sea their career and thus be of great benefit to these industries and to all concerned.

Sincerely,

J. I. McLEAISH
Commander, U. S. Coast Guard
Officer in Charge, Acting

Department of Transportation
UNITED STATES COAST GUARD

MAILING ADDRESS:
U.S. COAST GUARD (G-P-2/82)
400 SEVENTH STREET, SW
WASHINGTON, D.C. 20590
PHONE (202) 426-2240

5950-13

Mr. J. R. Jackson, President
Brazosport Junior College
P. O. Drawer 995
Brazosport, Texas 77541

Dear Mr. Jackson:

This is in reply to your letter of 20 August 1971 and the several telephone communications with Mr. Ned Middleton and officers of my staff concerning your request for approval and accreditation of your Oceanic and Marine Technology Program. You had requested approval of training school and training vessel time as creditable sea time for your students making application for U. S. Coast Guard certification and licensing in both deck and engine categories.

On 9 August 1958 Public Law 85-672 was passed which became codified as 46 United States Code 1381, et seq. This law declared it our national policy to foster the merchant marine by assisting and cooperating with the states and territories in the operation of maritime academies or colleges for the training of merchant marine officers. Within the context of this statute, and as Brazosport College is supported by the Texas Education Agency, general approval is granted of your program to provide higher trained persons for service aboard United States flag vessels. Accreditation, as understood in its usual sense, is not given by the U. S. Coast Guard as this is a function reserved to educational bodies or societies.

Your application and the descriptive literature describing the course of study have been reviewed. The course descriptions have not mentioned the total amount of sea experience that a student would gain while enrolled. Within the intent of Title 46 Code of Federal Regulations 310.3 the minimum period of training shall be three years of which six months shall have been in cruise status to establish eligibility to be examined for a license to serve on inspected vessels of the United States as third mate or third assistant engineer.

Lesser licenses for which graduates of your two-year course of instruction might qualify will be the subject of further exploration. I have designated a member of my staff, Captain J. V. Caffrey, Chief, Merchant Vessel Personnel Division, to be my direct representative in working with you to determine what specific approvals as to certificating and licensing are warranted by virtue of graduation from Brazosport Junior College.

Sincerely,

W. F. Rea, III
Rear Admiral, U. S. Coast Guard
Chief, Office of Merchant Marine Safety

SEA GARDEN CORPORATION

P. O. BOX 951
BROWNSVILLE, TEXAS

May 3, 1971

Mr. Truman Isbell, Director
Brazosport College
Brazosport, Texas

Dear Mr. Isbell:

It has come to my attention that Brazosport College will be conducting a training program, Marine Technology In Its Various Forms.

It gives me a great deal of pleasure and satisfaction to know that this program will be introduced at Brazosport College next fall. The commercial fisheries of the United States and the Texas Area especially, will profit greatly by the teaching of the different techniques used in the fishing and shrimping industry along the Texas Coast.

This company is anxiously looking forward to the early availability of some of the students in an on-the-job training capacity.

Again let me say that it is gratifying to know that this program is in capable hands and will move forward in your college next fall.

Sincerely,

Will Hardee

Will Hardee

WH/11

April 27, 1972

Mr. Ned Middleton
Director of Oceanic and Marine
Technology Program
Brazosport College
Brazosport, Texas

Dear Mr. Middleton:

Please provide for our files any information you have available on your Oceanic and Marine Technology Program.

We would also appreciate being kept current on the activities of the Program.

Thank you.

Sincerely,

BENJAMIN FOX CONSTRUCTION INC.

Jon L. Kimball
ab.

Jon L. Kimball
President

JLK/ab

BENJAMIN FOX CONSTRUCTION INC.
2970 INDEPENDENCE ROAD, CLEVELAND, OHIO 44115 • (216) 421-2929

C O P Y

SHRIMP PRODUCERS INFORMATION CENTER, INC.

214 Sunny Dell Plaza

Port Charlotte, Florida 33950

C O P Y

SUBJECT: Proposed College Program in Marine Technology, Brazosport College, Brazosport, Texas.

Realizing the shortage that exists within the shrimp industry of competent small vessel captains, this company sincerely recommends the initiation of a program designed to produce potential shrimp vessel captains. We would like to officially request that graduates of this program be referred to us for employment. To the extent possible, we will support the program by hiring eligible students for summer work aboard our vessels.

The Liberty Fish & Oyster Company
Name of Company

/s/ John A. Mehos, Vice President
Signature of Executive Officer

April 30, 1971
Date

C O P Y

Liberty Corporations, Galveston, Texas 77550

P. O. BOX 267 PHONE SO 2-8661 7th AND WHARF

THE LIBERTY FISH & OYSTER COMPANY
Famous "Liberty Brand Shrimp" from our own Gulf Fleet.

LIBERTY WAYS
Modern Dry Docks, Machine Shop, Carpenter Shop for any and all Boat Repairs.

LIBERTY ICE & COLD STORAGE CO., INC.
Modern Freezers for Quality Packing and Freezing Shrimp. Dockside Icing Facilities.

LIBERTY MARINE SERVICE STATION
Gulf Oil, Gasoline, Diesel Fuel. 24 Hour Service.

April 30, 1971

Brazosport College
Brazosport, Texas

Gentlemen:

Colonel Franz Ross has kept me informed concerning the prospective Marine Technology Program which is to be instituted beginning in the Fall of 1971 and I am writing this letter to express my appreciation for your interest in making such a program possible.

During some twenty years in the shrimp industry, I have served as Past-President of the Texas Shrimp Association and the Shrimp Association of The Americas. I also served for seven years on the American Fisheries Advisory Committee in the Department of Interior, and in many other fisheries organizations.

In the course of my activity, I have done as much as I could to encourage training programs, knowing full well that the industry is suffering tremendously from a lack of capable and efficient personnel on the vessels. While a number of training schools have materialized in Gulf of Mexico ports, to date they have not proved effective despite the considerable money and time spent. From my discussions with Colonel Ross and others, and from an examination of the outline he sent me recently, I am confident that the concept of your program will be far more effective than any we have had in the past and I most certainly will do everything I can to help make it a success. I have already indicated our willingness to participate and shall encourage others to do so.

Sincerely yours,

THE LIBERTY FISH & OYSTER COMPANY

John A. Mehos/hcm

John A. Mehos
Vice-President

JAM/hcm
Encl.

70

SHRIMP PRODUCERS INFORMATION CENTER, INC.

214 Sunny Dell Plaza
Port Charlotte, Florida 33950
Tel. No. 813 – 625-5289 P. O. Box 2473

John A. Mehos, President
Captain John Ferguson, Treasurer
William R. Neblett, Secretary
Franz H. Ross, Executive Director

April 2, 1971

Mr. E. D. Middleton, Jr., Coordinator
Oceanic and Marine Technology
Brazosport College
P.O. Box 955
Brazosport, Texas 77541

Dear Ned:

I have read with interest the proposed content for the brochure and the course outline. My own experience leads me to suggest that the content of the brochure should be modified in such a way that it emphasizes early in the verbiage the fact that the course is designed to produce fish boat captains, tug boat captains, etc. Whether we like to accept it or not, oceanography as a calling has been terrifically over-played and the conduct of so many courses has resulted in flooding the market with so-called oceanographers for whom there are no jobs. I am afraid that the emphasis on oceanography, hydrography, etc., will have a tendency to dilute the interest of fishing fleet owners and from a practical standpoint this is an area in which I believe the most vacancies exist.

I do not in any way mean to imply that the other callings should be deleted. But I recommend that the early paragraphs immediately bring out the fact that a program is being developed that will provide well qualified potential small vessel captains. Then in later paragraphs expand to include other callings.

The course descriptions and the certificate program I think are well designed and worded. There is one area that I would suggest modifying. Technical Physics. Dr. Sainsbury told Mr. Isbell and myself about the unfortunate experience they had in attempting to teach regular college physics. This was initially required by the University of Rhode Island. However, because of the problems with the students, Dr. Sainsbury found it necessary after the first year to "sell" the university on the idea of substituting a practical physics course for the technical physics course. The technical physics course was

reduced to that which directly pertained to the field for which students were being prepared --- electrolysis, the action of salt on metal, etc. I suggest that you contact Dr. Sainsbury if you need more detailed information.

Consideration might also be given to emphasizing the fact that mathematics and physics courses are practical courses designed to teach the potential small vessel captain what he needs to know.

I am inclosing a draft of a letter that, with your approval, we can send out from this office. This letter will be sent to those firms that were starred on the list that I sent you. In order to save time, I would appreciate your contacting me by phone and advising of any recommended modifications, changes, etc.

Under separate cover, we are forwarding a package that includes additional course material, reference books, etc.

You are certainly to be commended on the way that you have attacked this problem and the evident success that you are having in developing the program.

Sincerely yours,

Franz H. Ross, Sr.
Executive Director

Incls.
FHR/abr

NATIONAL SHRIMP PROCESSORS, INC. Texas & Florida
MAIN OFFICE
AREA CODE 512 — 546-3131
P. O. BOX 2259 — BROWNSVILLE, TEXAS 78520

May 10, 1971

Mr. Truman Isbell,
Director Vocational Training,
Brazosport College,
Brazosport, Texas

Dear Mr. Isbell;

I have recently had occasion to voice my support for your proposed college program on Marine Technology, and while my company is not directly involved with boat operations, you have my unqualified support. I realize the great need for this type of course and hope your efforts will be successful.

If there is anyway our company can cooperate in the field of sanitation, microbiology, product handling, etc, etc, please be assured of our interest.

Sincerely,

L. T. Hodgson

Lionel T. Hodgson,
Vice Pres. & Gen'l Mgr.

cc; Mr. Franz H. Ross Sr.,
Exective Director,
Shrimp Producers Info. Center,
Port Charlott, Fla.

dearborn
MARINE SERVICE CORPORATION
P. O. BOX 1031 • FREEPORT, TEXAS 77541

May 18, 1971

Dear President Jackson:

I have noted with pleasure the inception of the Oceanic and Marine Technology program at Brazosport College. Involved, as I am in directing the world-wide, off-shore operations of a 40 vessel fleet, I am uniquely conscious of the urgent need for formally-trained men in the area of boat operations, both deck and engine.

Your Brazosport College program promises to effectively alleviate the current shortage of skilled boat operators and of those men capable of successfully passing U.S. Coast Guard Licensing examinations.

My company will be pleased to support your program in any way possible and will anticipate employment of your Marine Technology graduates as they complete their training.

With appreciation for your far-sighted programming of marine-oriented courses.

Sincerely,

Eddie Dyer

Eddie Dyer
President

ED/sw

CABLE ADDRESS: OCEANS TELEX: 089-478 OCEANS WSH TELEPHONE: 301-948-8343

OCEAN SCIENCE and ENGINEERING, INC.
OCEAN SCIENCE & ENGINEERING BUILDING
3 CHOKE CHERRY ROAD
ROCKVILLE, MARYLAND 20850

17 April 1972

Mr. Ned Middleton
Director, Oceanic and Marine Technology Program
Brazosport College
Brazosport, Texas

Dear Mr. Middleton:

The April 1972 issue of OFFSHORE contains an interesting article regarding your training program for marine technicians. Please provide all available information regarding your facility, curriculum, number of students, etc. so that we may determine the suitability of your people to our needs.

Thank you for your attention to this matter.

Sincerely yours,

OCEAN SCIENCE AND ENGINEERING, INC.

Henry F. Cygan, Jr.
Manager, Ship Operations

CC 008 956

ACCESSION NUMBER: VT103302

TITLE: OCCUPATIONAL-TECHNICAL CURRICULUM DEVELOPMENT TV STUDY.

DESCRIPTOR: *STATE OF THE ART REVIEWS; *CURRICULUM EVALUATION; *VOCATIONAL EDUCATION; *TELECOURSES; TELEVISION CURRICULUM; PROGRAM EVALUATION; PROGRAM EFFECTIVENESS; *FEASIBILITY STUDIES

EDRS PRICE: MF AND HC AVAILABILITY WILL BE ANNOUNCED IN VOL. 10, NO. 2.

DESCRIPTIVE NOTE: 47P.; RELATED DOCUMENTS VT 103 207 AND VT 103 208 IN THIS ISSUE.

ABSTRACT: THIS REPORT PRESENTS THE RESULTS OF A STUDY TO INVESTIGATE THE DESIRABILITY AND FEASIBILITY OF OFFERING OCCUPATIONAL-TECHNICAL COURSES ON TELEVISION. SECTION I PROVIDES A REVIEW OF VARIOUS EXPERIMENTS AND STUDIES ON THE EFFECTIVENESS OF TELEVISION INSTRUCTION IN OCCUPATIONAL-TECHNICAL COURSES. A REPRESENTATIVE SAMPLING OF COLLEGES OFFERING TELEVISION IN OCCUPATIONAL-TECHNICAL COURSES IS PROVIDED ALONG WITH A DISCUSSION OF TELEVISION INSTRUCTION AS A PACKAGE, PRE-PRODUCTION TESTING, LIMITATIONS OF TELEVISION TEACHING, ATTITUDES TOWARD TELEVISION INSTRUCTION, ANIMATION AND DRAMATIZATION, LECTURE-INTERVIEW-PANEL DISCUSSION, AND ADDITIONAL TECHNIQUES. SECTION II PRESENTS THE EVALUATION RESULTS OF PILOT DEMONSTRATIONS OF THREE TELEVISION COURSES: COMPUTER SCIENCE FORTRAN PROGRAMMING, FUNDAMENTALS OF CRIMINAL INVESTIGATION, AND RADIOGRAPHIC POSITIONING. IN SECTION III, THE RESULTS OF THE DALLAS COUNTY COMMUNITY COLLEGE DISTRICT TELEVISION EVALUATION FOR 1974-75 ARE PRESENTED ALONG WITH SOME ADDITIONAL STATISTICS AND RECOMMENDATIONS AND REVISIONS. A BIBLIOGRAPHY IS ALSO INCLUDED. (NJ)

INSTITUTION NAME: TEXAS EDUCATION AGENCY, AUSTIN. DIV. OF OCCUPATIONAL RESEARCH AND DEVELOPMENT.; DALLAS COUNTY COMMUNITY COLL. DISTRICT, TEX.

VT 103 302

OCCUPATIONAL TECHNICAL CURRICULUM DEVELOPMENT TV STUDY

PROJECT DIRECTOR - Lyndon McClure

Developed Jointly By the Division of Occupational Research and Development, Department of Occupational and Technical Education, Texas Education Agency and The Dallas County Community College District, Dallas, Texas.

Project Numbers - 42309075, 42301442.

OCCUPATIONAL-TECHNICAL

CURRICULUM DEVELOPMENT TV STUDY

DEVELOPED JOINTLY BY:

The Division of Occupational and Technical Education, Texas Education Agency

and

Dallas County Community College District
Dallas, Texas

PROJECT NUMBERS: 42309075, 42301442

046 802 32

ACKNOWLEDGEMENT

Special recognition in the development and implementation of this study goes to the following individuals.

- Travis Linn - Assistant to the Chancellor
- Ted Pohrte - Instructional Development Specialist
- Bette Plog - Instructor, Computer Science
- Mary Watts - Division Chairperson, Allied Health
- Pat Schuster - Instructor, Police Science

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OCCUPATIONAL-TECHNICAL TV

The Dallas County Community College District operates an Instructional Television Center (ITV) which includes producers, resource and instructional design specialists, production assistants, writers and a filmmaker. The center contracts with KERA-TV Channel 13 for studio services, video-tape services and graphics.

Four telecourses are presently being offered: Man and Environment, English 101, American Government and Introduction to Psychology. Each telecourse offers three hours of college credit upon successful completion. The courses, and the credit, are equivalent to that offered on campus.

In addition to the four courses mentioned above, the following courses will be added in the fall of 1975:

History of Science (Based on Ascent of Man)

Anthropology (Developed by Coast Community College District)

Consumer Finance (Developed by the University of Wisconsin)

English Literature (Developed by the DCCCD)

Introduction to Business (Developed by the DCCCD)

Enrollment in 1974-75 has averaged 950 students per course per semester in Dallas County. Other institutions in the North Texas area, Tarrant County Junior Colleges, Weatherford College, McLennan Community College, Hill Junior College and Navarro Junior College have offered the same courses in a cooperative arrangement and their combined enrollment equals the Dallas County enrollment.

The telecourses combine televised lessons (offered at a variety of times each week to fit a students personal "prime time"), related reading and assignments, and four to six on-campus sessions for orientation, discussion and examination.

Since the Dallas County Community College District presently offers 54 Occupational-Technical programs with an enrollment of over 8,000 students, the question was posed: What Occupational-Technical courses would be desirable and feasible to offer on television?

Additional questions related to the televising of Occupational-Technical courses were:

1. Have other educational institutions televised Occupational-Technical courses?
2. What are some problems involved in the televising of such courses?
3. What would be the costs of development and production?
4. What would be the potential enrollment?
5. What Occupational-Technical courses would be desirable and feasible to offer on broadcast television?

On the basis of the district's television experience and the need to know the answers to these questions, a proposal was submitted to the Texas Education Agency.

The proposal was funded and the project began May 1, 1973.

The initial phase of the project involved the research of literature on the subject and visits with various institutions involved in instructional

television.

The information obtained from the institutions, organizations and literature included:

1. A listing of Occupational-Technical courses presently being offered
2. Courses that were attempted and failed
3. Formats that were tried and their relative success
4. Cost of development for the institution
5. Student reaction to the television lessons
6. Identification and listing of resources
7. Types of student homework and study material
8. Methods for course evaluation and feedback

Section I of this report provides a brief review of various experiments and studies conducted in the United States and several foreign countries on the effectiveness of television instruction of Occupational-Technical courses.

SECTION I
Experiments and Studies of Occupational-Technical TV Instruction

There are certain areas where television would appear to be least effective in instruction. They are: (1) courses requiring "hands on" practice by the student and (2) courses requiring interaction between the student and teacher. However, evidence from many counties where a variety of subject matter has been taught indicate that "no significant differences" have occurred between conventional teaching and television teaching.[1] According to

William H. Allen of the University of Southern California; there is little doubt about the effectiveness of films in teaching perceptual motor skills.[2] Allen cites the work of Abram Vandemeer who studied the use of eight U.S. Office of Education films in the training of lathe operators over a long period and found that the use of films cut the working time, resulted in a reduction of the period of trial-and-error learning, and produced more factual information on machine operation. Vandemeer concluded that films are probably more effective in teaching the more complex skills than the simple ones.

It should be noted that in most of the studies reported here, there appears to be little if any difference between learning from television and learning from film. Such being the case, studies concerning the use of film and/or television will be included in this report.

Where differences do exist between a film and a television presentation, it is usually one of quality. Films provide a better quality picture generally than does television, and where high resolution is important in the learning process, films are superior. This is borne out by the work of Lonigro and Eschenbrenner, to be reported on later.

Additional studies establishing the effectiveness of television/film instruction of skilled perceptual motor acts include the work of Jasper as reported by Allen.[2] Jasper was concerned with the effects of a number of variables on learning the assembly of the breechblock of the 40mm anti-aircraft gun by naval trainees. An experimental film was able to teach 98 percent of the men how to handle the breechblock.

After having conducted a series of experiments at Yale University,

Mark A. May states: "It is obvious that in learning to perform manual tasks, visual or audio-visual presentation should be more effective than merely being told how to do it or given printed instructions in how to perform it . . ."[3]

Having worked successfully with instructional television at Pennsylvania State University, Leslie P. Greenhill says: " . . . the flexibility and reach of television make it a potentially excellent medium for teaching a wide variety of perceptual motor skills . . . Many possibilities for future exploration and study suggest themselves in the development of reading proficiency in high school children and adults, the teaching of trouble shooting for repairmen, the teaching of assembly skills, even the teaching of improved driving habits for car owners."[4]

The effectiveness of television-taught courses has been verified repeatedly throughout the nation. Pasework (1957) compared the teaching of a beginning course in typewriting by television and by conventional methods. The television-taught students learned to type significantly faster and somewhat more accurately.[1] Boone (1954) reported that Naval Academy midshipmen receiving instruction on electronics from television scored significantly higher than did students taught in a traditional manner.

Chu and Schramm made 26 comparisons of skills subjects taught via television and taught via the conventional method. Ninety-six percent of the TV-taught groups did as well or better than the conventional groups. Their conclusion was that there is no general area where television cannot be used efficiently to teach the students.[1]

One type of learning may conceivably be aided by film or television instruction. This is the learning of a skill that requires the manipulation of a particularly small object. It would seem that if the intricate components of the object can be magnified on film or television, the pupil will be able to recognize and manipulate them more easily.[1]

A study by LeMaster (1962) suggested that high school boys could be taught manipulation skills more effectively by filmed demonstrations.[1]

Lonigro and Eschenbrenner (1973) have attempted to determine the effectiveness of various types of media in the learning process. Their analysis of the effectiveness of television in instruction is especially interesting. According to the chart developed by Lonigro and Eschenbrenner to rate the effectiveness of television instruction, television is highly proficient for teaching principles, concepts and rules; partially proficient for teaching factual information, multiple discriminations and procedures; and low in proficiency for teaching the performance of skilled perceptual motor acts.

It is important to point out that in several of the studies television has carried the entire weight of teaching and as pointed out by Lonigro and Eschenbrenner television is not that effective. This point is further substantiated by Chu and Schramm as expressed in this statement: "Almost nowhere in the world is television now being used seriously to carry the <u>entire</u> weight of teaching; it is always combined with classroom teaching, or supervised learning groups, or some other device to stimulate and direct learning at the receiving end. What the results do seem to mean is that

television is not essentially subject bound . . . Where demonstrations are needed or where expert teaching needs to be shared widely, it is strong. Where learning requires continuing interchange between student and teacher, it is not strong."[1]

It is apparent that television is an effective and efficient tool of instruction. There are certain limitations in its use, but the evidence is strong that in many countries television has been effective in teaching all age levels and a wide variety of subject matter.

TV Colleges and Courses

The pioneer in open-circuit television instruction is Chicago TV College, established in 1956 to test the feasibility of offering two-years of college on open-circuit television to home viewers. Initially Chicago TV College was concerned primarily with offering courses that led to the Associate of Arts degree, recently however, occupational courses have been added to the TV curriculum.

James J. Zigerell, Executive Dean of the Chicago TV College asserts that when cable television (CATV) becomes more widespread in Chicago, more specialized technical-occupational courses will be offered via the TV College. Presently, technical courses requiring hands-on follow-up are not deemed economically feasible for open-circuit broadcast. Zigerell believes that credit

enrollments would be too small--although many working technicians would watch on a non-credit basis to update themselves.

Leadie M. Clark, Assistant Superintendent of Instruction at Los Rios Community College District in California, agrees with Zigerell that cable television will be a means through which a tremendous amount of instruction can be done, and the occupational-technical area will have an extraordinarily high priority.

George Conger, Sante Fe Community College in Florida, contends that with the movement of Nursing Associations toward requiring RN's to return to school every so often in order to remain active in the profession, television courses could be one solution.

Delta College, University Center, Michigan, offers such courses as: refresher training for nurses, TV high school, From Nine to Five (designed for upgrading new secretaries), and Supervisory and Management Training (Approximately 15,000 managers have participated in these courses).

At the Colorado Mountain College in Leadville, Colorado, A. D. Anderson, Director of Occupational Education, plans to initiate some video tape instruction in the area of fundamental electronics and appliance repair. In this instance of television instruction, the tapes will be used for closed circuit TV as opposed to cable broadcast.

An example of television instruction in the private sector is provided by Texas Instruments in Dallas, Texas. Edward Morrett, Marketing Manager of the Learning Center for Texas Instruments is now in the process of developing an entire 2-year curriculum in electronics. Texas Instruments has produced

one course entitled "Understanding Semiconductors," and it is now being sold to educational institutions and private businesses. Graphics, camera shots and demonstrations were used effectively as teaching aids.

The Nebraska Educational Telecommunications Center located on the University of Nebraska campus at Lincoln, Nebraska is the center of the Nebraska Educational Television Network. The "Center," one of the most comprehensive operations of its type in the United States, is capable of producing, duplicating and distributing every form of instructional technology: broadcast television, closed circuit television, television cassettes, color and black and white films, filmstrips, photographs, all forms of arts and graphics, as well as printed materials. In addition the University of Nebraska co-sponsors with the Department of Health, Education and Welfare a "University Without Walls." It is termed the S.U.N. (State University of Nebraska) project. It is the intent of the S.U.N. project to develop and offer first and second year college courses for credit through telecommunication and regional Resource Centers such as high schools, libraries, private and public colleges and universities. Each televised lesson departs from the traditional lecture technique and instructs creatively with dramatic vignettes, true to life situations and graphic examples. The lessons are divided into parts called modules: study guide syllabus (including textbook material), television, audio cassette, newspaper, learning kit and testing.

A recent development among community colleges offering television courses is the Television Consortia. In an effort to share resources more efficiently, individual colleges, and college districts have entered into

agreements whereby courses developed by one college are made available on a lease or rental system to other colleges in the consortia. In California alone there are presently seven consortia involving more than forty five Community Colleges.

The author has not attempted to list all the colleges offering television instruction, but has instead attempted to provide a representative sampling of colleges offering television courses in the occupational-technical curriculum. The evidence is growing that television instruction, at one time out of favor among educators, is having a rebirth. However, a comparison between television instruction of the 1950's and early sixties and that being developed now can show the reason for this rebirth.

Television instruction even though carefully planned, budgeted and used appropriately still cannot stand alone. Television must be part of a package in order to be an effective educational tool.

TV Instruction as a Package

Godwin Chu and Wilbur Schramm provide some insight into what often happens when school systems engage in television instruction.[1] Very seldom do schools provide enough lead time for setting up an instructional system. Financing, delivering and operating the hardware comes first, followed by the development of the software.

According to several television instructors, there needs to be a lot of lead time to plan a course. It would be best to begin planning twelve months in advance and tape all the programs prior to the start of the next year.

Inadequate attention is given to methods and content of television teaching. Typically there is seldom enough time to review the curriculum and methods of teaching when gearing up for television instruction. But there is an unequalled opportunity to review what is to be taught, against the goals and objectives of the system, and to review and recast the methods of teaching that have grown up over the years.[1]

The crux of the problem is to determine whether the effectiveness of a course in terms of the educational needs of students is improved by its adaptation to television. Adaptation of courses to television and of television to courses should be proposed, justified and defended in terms of improvement of the courses as one part of the academic and personal development of students. In this connection it would seem that television has many possibilities for the effective presentation of a wide variety of learning experiences: close-ups of small objects, models, demonstrations, motion and still pictures, charts, guest speakers and panel discussions.[7]

Too little attention is given to mastering the skills of effective teaching by television. A classroom teacher, without previous experience in using television, needs to learn a great deal about the medium. He needs to observe himself as a television teacher and to make maximum use of feedback from pupils and other teachers and to do a great deal of preparation so as to make his broadcast more than a talking face. He needs to gather visuals, to arrange demonstrations, interviews and develop other variety-producing devices.[1]

The development of an effective television course might follow the

pattern as described by Leslie Greenhill.[4] The first step would be to define course and lesson objectives in terms of detailed descriptions of desired terminal behavior of students, followed by building, testing and refining adequate measures of student performance. The next step would involve the selection of content and presentation methods which appear to be appropriate to the stated objectives, and recording these on video tape. At this time it would be appropriate to expose students to the televised course and administer the criterion test or tests. On the basis of an analysis of test performance and on the basis of interviews with students, modifications could be made in the original lessons and revised versions could be recorded. Finally, a comparison could be made of the effects of the original version and the revised version on the performances of students randomly assigned to the two treatment groups.

Too little time and money are allotted to training for the instructional use of television. It has often been noted that the personnel of instructional broadcasting consists largely of educators who do not fully understand television. The product most needed is the combined broadcaster - educator.[1]

The questions occur: what makes for an effective television course? What are some things to avoid and are there guidelines that can be followed? Charles F. Hoban of the University of Pennsylvania states ". . . an audience responds to a film and learns from it more effectively when (a) the audience becomes involved in the subject presented on the screen; (b) the story of the film is told visually, and verbalization at an optional level is integrated

with the visual presentation; (c) crucial sequences are repeated in the film; (d) the rate of development is adjusted to the rate of learning of the audience; and (e) the audience is oriented to the story or task presented in the film . . . any or many of these factors, if improperly employed in a film may interfere with learning rather than facilitate or contribute to it. Too much talking, irrelevant introductions, unwieldly audience participation, fast rate of development, high density of facts, a too-literal representation which obscures the audience's perception of the crucial cues -- all appear to detract from the effectiveness of films in instruction."

"The degree of specificity with which the producer describes the attitudes he wishes to engender, states the points of information he is trying to convey, or defines the objective he intends to accomplish, is related to the accuracy with which predictions can be made concerning the effects of his film on a given audience."[5]

Relating more specifically to occupational-technical television courses, Mark May of Yale University contends that a visual presentation is much more helpful for cueing the correct manual responses than a verbal description. According to May, "If the task is to perform a sequence of acts, such as knot tying or assembling the parts of an automobile ignition distributor, the responses required by the demonstration are also different from those required by verbal learning tasks." Before any useful statement can be made about the roles of visuals and verbals in motivating cuing and reinforcing acquisition responses it is necessary to know what kinds of responses are being considered and the conditions on which they depend. For example, if

the task is to acquire a perceptual - motor skill, or to memorize a list of names or verses of poetry, or to form a new concept, a number of repetitions or amounts of practice may be required, but if the task is to understand an explanation or to grasp a principle, a single presentation may be sufficient.[3]

According to Leslie P. Greenhill of Pennsylvania State University "In teaching some skills it is undoubtedly necessary to provide for concurrent practice by the learner. To achieve this, a demonstration is presented in a series of steps and time is allowed for the learners to perform each step on their equipment before the next step is shown over television. Some of the early film research studies testified to the efficiency of this method if the rate of development of the presentations was slow enough to permit the learners to alternate attention between the demonstration of film and their own performance.[4]

Pre-Production Testing

Perhaps the most effective method to assure that a television course will meet the students needs is pre-production testing.

In a classroom situation there is two-way communication: questions may be asked about misunderstood or misinterpreted portions of the original message and as a result misinterpretations may be corrected. A television course can in a sense have this two-way communication via pre-production testing. There is a need for pre-production testing when (1) the target audience is specified, (2) the content is complex and (3) no precedent exists for content or method.

"The crucial decision of when to introduce the test is resolved to one of determining the earliest stage in production at which a sufficiently representative model of the finished film can be provided for the test audience. Experience has demonstrated that, in most cases, the story board is the earliest form with which persons unaccustomed to thinking in cinematic terms can make judgments . . ."[6]

"The basic task of the pre-production tester is to provide a model which in as many of its significant aspects as possible, will faithfully resemble the finished product.

Even if it were possible, it would be impractical for a producer to test all of the persons in his target audience; instead, he resorts to a sampling procedure to obtain a small group which resembles the target audience . . . If the model does not resemble the target audience in the characteristics deemed important, the result of the test will have little value."

Additional factors to consider when selecting a course to be offered by television include: (1) There should be a clear need for television in terms of numbers of students to be served either now or in the near future, or in terms of shortages of competent faculty members either now or in the foreseeable future, (2) The instructor who will teach the course should be a thoroughly competent teacher, and one who is personally interested in experimenting with his course on television, (3) There should be some possibility of improving the quality of the instruction, (4) It should be feasible to schedule the course on television.[7]

The crux of the problem is to determine whether the effectiveness of a course in terms of the educational needs of students is improved by its adaptation to television. Adaptation of courses for television implies much more than applying many of the production techniques of professional television, radio and drama. Adaptation of courses to television and of television to courses should be proposed, justified and defended in terms of improvement of the courses as one part of the academic and personal development of students. In this connection it would seem that television has many possibilities for the effective presentation of a wide variety of learning experiences: close-ups of small objects, models, demonstrations, motion and still pictures, charts, guest speakers and panel discussions.

It is very difficult to adapt existing courses to television. Established courses are not easily modified. Furthermore, experienced teachers find that their courses become strongly integrated as personal habit systems and hence they are difficult to change. The best possible approach in some areas may be the planning and developing of new courses with the view to presenting them over television and taking full advantage of the medium.[7]

Another important factor to consider as Carpenter and Greenhill noted earlier is the necessity of good basic instruction if television is to be an effective means of meeting the educational needs of students. A skillful studio teacher is the best learning aid that could be combined with television. There are very real doubts that humor contributes to learning from television, or that dramatic production is any more effective than lectures or discussions, or even that animation contributes to learning except in situations where it

clearly calls attention to the items to be learned. But the basics always seem to work, in television teaching as in other teaching.[1]

On the other hand there is reason to think that, in some circumstances at least students may like color better than black and white, they may enjoy animation, they may appreciate the change of pace to dramatic presentation, and so forth, it may be necessary, with the television teacher deprived of instant feedback from her audience and with the audience deprived of the opportunity to ask a question or interrupt the exposition, to do a little extra in order to maintain interest, even though the extra things may not themselves contribute directly to learning. Similarly, it may be necessary to go to special efforts in order to keep the students active and responding during the television lesson.

There is good reason to ask whether television should now adopt as a standard practice, wherever possible, the pretesting and revising of televised lessons.

One of the chief residues of the last ten years of activity with programmed instruction is a mountain of evidence that more effective learning experiences can be developed by testing materials on students, revising, testing again, and so on. A procedure like this may have to become standard practice as a substitute for the swift feedback and the intimate knowledge of a class that the classroom teacher has and the television teacher does not have.

In the Chicago TV College comparisons were made among students taught face to face and students taught by television at home. Where

significant differences were found, the TV at-home students did better than the others. Because the at-home student cannot benefit from the motivating sources of "social support" and competition engendered by the classroom, the lack of these factors would seem to work against viewing at home. However, there are other factors that may be operating in favor of viewing at home. For instance, the students may feel they have been picked out as guinea pigs, and may react by working doubly hard, particularly if the program is of a short duration. This is generally known as the Hawthorne effect. Or the pressure for passing the course may be sufficiently great so that the students put in extra work to offset the disadvantage of viewing at home. Then, there is the possibility that those students who voluntarily enroll in home TV courses may be different from the regular school students to begin with.[1]

Limitations of Television Teaching

The television teacher, forced to talk to a camera and not directly to his students, will not be able to perceive the reactions of his audience. He will not be able to tell whether he is going too fast or too slow, where he should elaborate, or whether his lecture is getting through to the students at all.

From the students viewpoint, learning from television means he is unable to raise questions, to ask for clarification, or to benefit from the free discussion with the instructor and other students. In other words, he

is unable to benefit from certain important elements of classroom teaching.

If we regard learning as a continuous process of reinforcing the correct responses, evidently instructional television does not provide an ideal learning situation even though the student thinks he has no questions and needs no clarification. This is because the responses the student is making may not be correct. In as much as feedback to the television teacher is slow if not totally absent, these wrong responses may have been inadvertently reinforced before the teacher had a chance to correct them. This would make for inefficient learning.

The lack of opportunity for students to raise questions and participate in free discussion would seem to reduce the effectiveness of learning from instructional television, particularly if the students are fairly advanced and the material is relatively complicated.

If a student being taught by instructional television can be given immediate knowledge of whether he has responded correctly, he will learn more . . . the longer the delay, the lower the rate of learning.[1]

Practice, whether by overt or covert response, will improve learning from instructional television if the practice is appropriate to the learning task and if the practice does not constitute an interference. A learning situation involves both stimulus and response. In learning from television, the major stimulus is the message coming from the screen. The student can respond in a number of ways, for instance, by thinking about the message, making association between the concepts, rehearsing the information given, or practicing the skill demonstrated.

Given favorable conditions, pupils can learn from any instructional media that are now available.

Chu and Godwin have pointed out that the results of most studies of television instruction call for simplicity of presentation, clear organization of material, motivation of the learners, and knowledge of results and practice. The reports also strongly urge that learning can be improved by testing and revising programs.

Attitudes Toward TV Instruction

As in most innovative programs designed to improve the educational process, there will be some educators opposed to the change. This opposition to change is apparent in many of the places where television instruction has been utilized, but not to the extreme that occurred at Compton Junior College, Compton, California. Opposition at Compton became so intense that the chief executive lost his job and the television project was abandoned. There are a great number of cases where there has been less than full cooperation from classroom teachers, and unfavorable reports have been made by conventionally trained teachers and administrators on unconventional innovations.[1]

Teachers and pupils are more favorable toward the use of instructional television in elementary school than in secondary school and college. It seems that television is less happily received at academic levels where students have had a number of years of face-to-face teaching, have become accustomed to being able to question or discuss at any time, and have become

more articulate and verbal than in secondary school and college.

Administrators are more likely to be favorable toward instructional television than are teachers. Voluntary home students of televised college classes tend to be more favorable toward learning by television than are the students who take these same televised courses in the classroom.

Among the factors that determine teacher's attitudes toward instructional television are (a) how they perceive the degree of threat to the classroom teacher; (b) how they estimate the likelihood of mechanized instruction replacing direct contact with students; (c) how they estimate the effectiveness of instructional television; (d) the difficulties they see in the way of using modern techniques; (e) how conservative they are, and whether they trust or distrust educational experimentation.[1]

Instructional television works best when it is made an integral part of instruction . . . It seems to work best when it is applied to a problem of sufficient size to justify its use and encourage teachers to join in wholeheartedly, and administrators and financial controllers to give it the support it needs; and when it is used in sufficient size to bring down the unit costs, and to make its impact visible. It works best when it is planned and introduced carefully as part of a teaching-learning system rather than a branch grafted on to what is already there.

Beyond those larger considerations, the research seems to suggest that effective use of television grows out of attention to the basic requirements of good teaching, rather than to any fanciness that might be peculiar to television. The qualities that emerge from the research . . . puzzling and

contradictory though some of those findings are . . . qualities like simplicity, good organization, motivation, practice, knowledge of results, rest pauses at appropriate points, cues that direct the pupil to the essential things he is to learn, and so forth.[11]

Animation and Dramatization

Several studies have attempted to discover the effects of animation, dramatic presentation, humor etc. on instructional television. There is no consistent evidence to suggest that either humor or animation significantly contributes to learning from instructional television. However, in an experiment conducted by Lumsdaine, Sulzer, and Kipstein (1951) air force trainees viewed a film about the micrometer either in an animated version or in a non-animated version. There were other variations, such as the effects of pretesting, number of examples of micrometer reading, and viewing of follow up supplementary films. Regardless of these variations, the group that saw the animated film learned significantly more than the group that saw the non-animated film.[1]

It seems that the effects of animation, if any, are not at all extensive. Perhaps it is only when the students are bored by an uninteresting lesson, something as dull as the reading of a micrometer, that animation will help break the monotony and improve learning.

There is insufficient evidence to suggest that dramatic presentation

will result in more learning than will expository presentation in instructional television. In a study conducted in 1951, Rock, Duva and Murray found that army reservists taught by direct narration seemed to learn and retain more than those taught by dramatization.

Lecture-Interview-Panel Discussion

Students are likely to acquire the same amount of learning from instructional television whether the materials are presented as a lecture, or in an interview, or in a panel discussion. In 1956 Brandon had three speakers, each presenting one of three different topics in three formats: as a lecturer, as an expert being interviewed, and as a panelist in a discussion with another panelist and a moderator. From the nine 10-minute segments, 18 half-hour television programs were prepared, each featuring three speakers and three formats in different combinations. In the course of the whole experiment, the interview and discussion formats were found consistently more interesting to the students than the lecture presentation. However, no significant differences were found in the amount of information learned from any of the presentation formats. Thus it seems that the formats of presentation make little difference to the amount of learning from instructional television, although interview and discussion tend to be more interesting.

Additional Techniques

-Inserting questions in a television program does not seem to improve learning, but giving the students a rest pause does.

-There is no clear evidence to suggest whether eye-contact in television instruction will effect the amount of learning.

-Problem-solving instruction on television is more effective than lecturing where the materials taught involve the solving of a problem.

-Practice, whether by overt or covert response, will improve learning from instructional television if the practice is appropriate to the learning task, and if the practice does not constitute an interference. In an experiment reported by Ash and Jasper (1953), overt practice was actually found to be detrimental to learning. The task to be learned was the assembly of an antiaircraft gun breechblock. The film showed a step by step assembly of the breechblock, either at a rapid pace or at a slow pace. The rapid version ran three minutes, the slow version four and a half minutes. For each version, some of the Navy trainees were told to follow the correct assembly by working with an actual breechblock in their hands while viewing the film. This is the participation treatment. Others were told to wait until the film was over. After the film, all trainees went to tables in the viewing room and assembled an actual breechblock.

Their performance was scored by the amount of time required, as well as by a pass-fail score. It was found that with the slow film, participation resulted in significantly greater learning than no participation. But with the fast film, participation actually interfered with learning, and the no-participation group did better.

In the experiment by Ash and Jasper, the Navy trainees in the participation group were instructed to practice assembling the breechblock at the

same time as the film was being shown. In other words, they would not be able to pay full attention to the fast film. It is hardly suprising that these trainees did not learn the task well.[1]

In the United States and Britain, correspondence courses in technical education have been looked upon as a poor substitute for the classroom, however in certain other countries with scattered populations such as Australia and New Zealand, or in countries desiring to train vast numbers of workers in a short time span, like the USSR and Poland, technical education by correspondence is an established method.

Occupational- technical education can be defined in a number of ways. It can include a degree course in engineering, or training as a laboratory technician, or an apprenticeship in a skilled manual job. In some places occupational-technical education includes secretarial and other commercial courses. Even with this variety of course work, it is always possible to identify the theoretical and teach it as a body of knowledge. The practical or "hands on" work can be tackled in several different ways.

The most widely used method is to teach the theory outside of the laboratory via correspondence and/or television instruction. The practical "hands on" experience can be gained in short intensive sessions at weekend or vacation schools.

In the USSR, it takes six years to complete a technical degree and in the first three years the student is entitled to thirty days paid leave a year and forty days in each of the following years. This leave is intended to give him the opportunity to go to consultation centers for advice and practical

work. The centers are located in factories, on university campuses or are taken to remote areas via a mobile center. In addition, television is used to demonstrate practical work for a whole range of courses: one channel is set aside purely for educational broadcasting.[8]

Obviously, in a country where there is state control over industry, it is much easier to insist that employers release students for short periods, or to demand that they put their laboratory facilities at the disposal of students. However, in most countries, employers recognize that it is in their own interests to have highly trained personnel and their cooperation could be more closely sought than it is at present. Some features of the Soviet system are used elsewhere. For example, the Open University in Britain uses television, together with short, compulsory courses to teach practical work though students do not receive paid leave to attend them.

Some of these methods are just as applicable to other areas of technical teaching. The Technical Correspondence Institute in New Zealand arranges with employers for students to be released for short periods of laboratory work each year. In the long run, the theory which an apprentice studies in his correspondence course is applicable to his trade, though perhaps in the short term his everyday work may not illustrate exactly the point he has reached in his course.

In some situations, the problem may not be how to give students enough opportunity to carry out the practical work, but rather the other way round: how to provide people, who have already picked up a working knowledge of a trade, with a theoretical training which will make them into

better practitioners. The problem was posed this way round in Venezuela and the reason why motor mechanics was chosen as the first technical training course to be offered by correspondence was precisely because there were many people practicing this trade who had never learned the theory involved. A situation of this kind no doubt exists in many places, especially in the building trade and similar skilled manual occupations. In these cases, correspondence courses may be just the answer because they have the great advantage that people can remain in their jobs while studying.

According to the director of the Center for Instructional Television in France, B. Pagney, "We try to make correspondence instruction responsive to the modest role which we believe it should play in this matter. It cannot act as a medium of professional training on its own; this is fundamental, it is not a proposition, but a demonstrable fact. There cannot be, it seems to us, professional training by correspondence alone. On the other hand . . . correspondence instruction must play a very important role in this training." [6]

The instructional design for television programs in Poland involves including the whole course in the written manuals which the students have to buy from the State Press for Scientific Literature, together with books of exercises. The television programs, however, made no attempt to cover the whole syllabus. They covered between 30% and 80% of the material in different courses and the main aim was to elucidate the points which students found particularly difficult. They concentrated especially on mathematics and physics but also on knotty points in chemistry, electronics and civil engineering. The topics were chosen by the Ministry of Education, which

then delegated top university scientists to prepare the programs in conjunction with the television technicians.

The programs were centered mainly on the lecturer's talk but they also provided the opportunity to demonstrate practical work to go through problems step by step and generally give illustrative material which did not appear in the printed manuals.

The students who found the broadcasts most helpful were those who did some work on the topic beforehand and then followed up with further work soon afterwards. This illustrates once again that the programs were not intended to outline the whole course but rather to concentrate on difficult points. There was a positive correlation between those who used the broadcasts in this constructive way and those with the better examination results.

Although the majority of the students felt that the broadcasts were satisfactory, there were some criticisms made. The time of the broadcasts did not suit everyone. Many of the lecturers, although experts in their own fields, had had little experience of lecturing on television and did not always receive enough guidance about this. The result was that often they spoke far too quickly and presented more material than could really be digested by students in a thirty minute lecture. Perhaps the most persistent complaint, however, was that the broadcasts did not always coincide with the point reached in the written material.

It is important to point out that in several of the countries television has carried the entire weight of teaching and television is not that effective.

Where television has been effective: It is always combined with classroom teaching, supervised learning groups or home study material.

The studies also indicate that . . . where demonstrations are needed or where expert teaching needs to be shared widely, television is strong. Where learning requires continuing interchange between student and teacher, it is not strong.

It is apparent that television is an effective and efficient tool of instruction. There are certain limitations in its use, but the evidence is strong that in many countries television has been effective in teaching all age levels and a wide variety of subject matter.

SECTION II

The second phase of the project involved the selection of the occupational-technical courses that were to become the television pilots. A questionnaire was submitted to each of the occupational-technical instructors in each of the colleges. Thirty instructors showed interest in the project and listed the courses they felt would be adaptable for television. The courses selected as potential television courses were chosen on the basis of the following criteria: (1) the courses should involve the teaching of skilled perceptual motor acts and have audience appeal (2) the courses should be in new and growing programs and (3) the courses should reflect a variety of learning techniques.

Three occupational-technical courses, meeting this criteria, were selected. The courses were "Introduction to Computer Science," Radiographic Positioning," and "Criminal Investigation." In each of the three courses,

two lessons were developed: Each lesson becoming a fifteen minute module.

Two DCCCD Administrators were involved in the development of the project, in addition to the Project Director. They were the Assistant to the Chancellor - Travis Linn, and the District's Instructional Development Specialist - Ted Pohrte.

Linn's role was essentially one of facilitation and general supervision, with particular emphasis in the area of television production. Early in the project, as the most appropriate subjects for experimentation were being selected, he provided advice regarding the television production aspects of each potential subject, potential production problems, etc.

As an administrator, he also exercised general oversight of budget, contractual arrangements, work schedule and the like. However, actual management of the project was the responsibility of the Project Director.

Linn negotiated for television production services and consulted with faculty members regarding television production preparation and techniques. In some cases, he actually took part in the productions by appearances on camera or on the audio portions of the programs.

Pohrte, as Instructional Development Specialist, brought to the project experience and expertise in the application of learning objectives to mediated instruction which had been developed in the production of other courses.

Pohrte met with faculty members from time to time during the production of the courses, assisting them in the design of the instruction, the drawing and wording of learning objectives, and particularly in the designing and working of the (printed) study guide elements of the courses. He also served as editor of the study guides.

The pilots were completed in June of 1974 and were tested in the classroom during the 1974-75 academic year.

Computer Science Fortran Programming
Bette Plog - Instructor

The evaluation of the Computer Science Fortran Programming pilot occurred in the Fall of 1974 at El Centro College. Two weeks were allowed for the presentation of the pilot. Two groups were established: A control group of six persons who viewed the pilots via TV in the Learning Resources Center; and a similar sized class group that received traditional classroom instruction.

Two forms of testing for proficiency were given: the programming lesson assignment at the conclusion of Lesson 1; and a written comprehensive exam at the conclusion of the assigned lab work and Lesson 2.

The programming assignment was graded in the following manner: (✓+, no errors; ✓, 1 error; ✓-, 2 errors; more than 2 errors was unacceptable)

TV Group Scores		Class Group Scores	
✓+	4	✓+	4
✓	1	✓	2

1 did not attempt the assignment

The comprehensive exam produced the following results:

TV Group Scores

90-100	2	4 of these students scored at the same level as on previous tests

TV Group Scores (continued)

80-89	3	1 scored slightly lower
70-79	1	1 scored a letter grade higher

The student who did not attempt the programming assignment did use his Study Guide and took the Pre and Post tests and scored 84 points, his grade level for previous tests.

Class Group Scores

90-100	3	3 of these students scored at the same level as on previous tests
80-89	1	1 scored slightly lower
70-79	1	1 scored slightly higher
60-69	1	1 scored a letter grade higher

The TV group was instructed to view each lesson two times.

4/6 viewed Lesson 1 twice	3/6 viewed Lesson 2 twice
1/6 viewed Lesson 1 twice	1/6 viewed Lesson 2 once
1/6 did not view Lesson 1 at all	1/6 did not view Lesson 2 at all

The TV group was also asked to evaluate each lesson. While both lessons received favorable responses on the majority of questions, Lesson 2 seemed to be more favorably received. The instructor felt this was due to the more technical nature of Lesson 1.

Based upon these evaluations, the following conclusions were drawn:

1. Considering the fact that only one of the twelve students participating in the study were Computer Science majors and had previous knowledge of the subject, the results were generally better than expected.

2. Based on test grades, students in the TV group performed as well as they had previously under traditional teaching methods.
3. A carefully designed study guide, free of typographical errors is an essential element. Quality reproduction of computer listings is also essential.
4. The production of high quality telecourses requires knowledge of some of the technical aspects in order to produce effective instruction.
5. The readability level of the study guide should be carefully evaluated.

Fundamentals Of Criminal Investigation
Pat Schuster - Instructor

The pilots developed for Fundamentals Of Criminal Investigation were evaluated once in the Fall of 1974 and again in the Spring of 1975.

Twenty two persons were involved in the evaluation in October. They were divided into two groups of 11 each by random selection.

Group I was given the study guide and told to read Chapters 31 and 32 in Fundamentals Of Criminal Investigation by O'Hara. They then viewed the taped program on closed circuit TV. They were given no information from the instructor concerning the content of the lesson.

Group II was told to read Chapters 31 and 32 in Fundamentals Of Criminal Investigation. They then received a lecture by the instructor and an in class demonstration.

The grades for the two groups were as follows for those who attended all the scheduled meetings:

GROUP I	GROUP II
100	100
100	100
100	88
92	80
89	64
84	
77	

On February 25, 1975, both sections of Criminal Investigation were randomly divided. One half viewed the TV program on February 27, 1975 and worked the study guide. The remaining half received a classroom lecture on March 4, 1975.

On March 6, 1975, a test was given to both groups with a total of 42 persons completing the project. The breakdown of the scores and the means of each group were as follows:

TV	LECTURE
72	100
92	80
100	72
80	96
60	100
80	92
64	100
88	100
76	92
96	100
84	68
80	48
100	100
64	80
100	64
96	60
88	76
56	80
84	44
96	100
	96
	80
Mean 82.800	Mean 83.090

Radiographic Positioning
Mary Watts - Instructor

The Radiographic Positioning pilots were evaluated in the Fall of 1974 and again in the Spring of 1975. In both instances the timing of the evaluation occurred out of regular sequence. As a result, the evaluation might not reflect the true value of the presentation.

Both Fall and Spring TV groups responded to a questionnaire designed to test the effectiveness of the pilots. The results of the questionnaire are as follows:

1. The TV Program for this lesson was helpful in studying this lesson.
   10% - strongly agree
   70% - agree
   20% - uncertain, no opinion

2. The TV Program for this lesson caught and held my attention very well.
   20% - strongly agree
   50% - agree
   15% - uncertain
   15% - disagree

3. On the whole, I was very impressed by the technical or professional quality of the TV Program.
   20% - strongly agree
   60% - agree
   10% - uncertain
   5% - disagree
   5% - strongly disagree

4. On the whole, the TV Program was very helpful in preparing me for the test and assignment.
   10% - strongly agree
   10% - agree
   20% - uncertain
   40% - strongly disagree

5. The learning objectives stated in the Study Guide were on the whole very useful to me.
   10% - strongly agree
   70% - agree
   10% - uncertain
   10% - disagree

6. The supplementary material was very helpful in achieving the learning objectives of this lesson.
   5% - strongly agree
   50% - agree
   40% - uncertain
   5% - disagree

7. The supplementary material was easy to understand.
   15% - strongly agree
   40% - agree
   5% - uncertain
   40% - disagree

8. The methods of presentation of the subject matter were very appropriate for me.
   5% - strongly agree
   70% - agree
   5% - uncertain
   10% - disagree
   10% - strongly agree

9. On the whole this lesson was well designed to help me accomplish the learning objectives.
   2% - strongly agree
   60% - agree
   30% - uncertain
   6% - disagree
   2% - strongly disagree

10. In my opinion this lesson is an important one in this course.
    40% - strongly agree
    50% - agree
    5% - uncertain
    5% - disagree

11. I believe I learned a lot, considering the time I spent on this lesson.
    30% - strongly agree
    5% - agree
    30% - uncertain
    30% - disagree
    5% - strongly disagree

The students felt they learned better in the traditional manner with the instructor showing the student how to do the positioning. They liked the personal touch of the instructor and felt they could ask for more details. They

felt the instructor demonstration was more like "a real-life situation in the hospital."

The instructor felt that the TV presentation should have been slowed down and the learning objectives should have been flashed on the screen.

The students found it difficult to maintain interest in the TV presentation and were evenly divided concerning the value of the presentation in preparing them for the test.

SECTION III
Telecourse Evaluation Results

In addition to the results of the pilot demonstrations in Computer Programming, Criminal Investigation and Radiographic Positioning, the Dallas County Community College District television evaluation results of 1974-75 have been included. They are:

1. The overwhelming majority of telecourse students consider the telecourse to be an academically respectable and useful way to earn college credit.
2. While this mode of learning is suitable for a large percentage of students in the district, it is not well suited to all students; particularly those with serious learning disabilities.
3. Based on final grades, students enrolled in telecourses performed about as well as their counterparts in the classroom.
4. The attrition rate (percent of twelfth-day enrollees failing to earn at least a passing grade in the telecourses) for all telecourse students was approximately the same as the corresponding rate for

all on-campus students.

5. All elements used in a given telecourse are important, but their close and logical integration is a key aspect of course structure.

6. A carefully designed study guide appears to be the single most important element.

7. A well written textbook having a readability level between 10th and 12th grade seems to be a useful source of subject matter content--facts and concepts.

8. Well-designed, professionally-produced television programs, of 30-minute duration, are particularly effective in reinforcing key ideas, stimulating interest in consciencious study and causing changes in attitudes (achievement of affective learning goals).

9. Because there is far less face-to-face contact between instructor and student, than in classroom instruction, the quality of that contact is of great importance. The telecourse campus instructor, together with all other personnel involved, assumes a more critical role than usual. Personnel attitudes and learning management procedures are even more important than is traditional for on-campus courses.

10. Traditional roles and conventional wisdom in higher education appear to be of diminished relevance and usefulness in the development and operation of highly effective telecourses. An instructor who may be very effective in a traditional classroom setting may not be sufficiently effective on camera. Historically, college instructors have usually not only had full responsibility for all course elements, but

also frequently produced all elements themselves. The production of high quality telecourses, however, requires a depth and breadth of expertise rarely possessed by a single individual. In other words, a team of professional specialists and skilled technicians are essential to effective instruction by open-circuit television.

11. Frequent evaluation and revision are necessary to enhance learning significantly for telecourse students on a continuing basis.

Additional Statistics

Some useful and interesting statistics are beginning to emerge from various surveys conducted during the Fall of 1974.

1. About two-fifths of the students watch each telecourse program more than once.
2. More than 70% feel they have learned at least as much by telecourse as in classroom-taught courses.
3. About two-thirds of the students were taking on-campus courses in addition to telecourses.
4. Over one-third of all telecourse students were carrying 12 credit hours or more.
5. Of those students who responded to a questionnaire, when asked for their opinion of DCCCD telecourses: 30% were strongly favorable; 37% were favorable; 18% were neutral; 5% disliked them; Less than 1% strongly disliked them; and about 9% did not offer an opinion.
6. About two-fifths indicated they would like to earn a 2-year degree

entirely by telecourses; about one-third, the 4-year degree.

7. A general description of telecourse students includes these facts: about half of them are professionals and white collar workers; about 2/3 of them have from 1 to 60 hours of college credit; about 4/5 of them are working toward a degree (2-year, 4-year, or other); over half of them are between 20 and 40 years old; over 2/3 of them have annual total-household incomes in the $10,000 and up range, with over 2/5 in the $15,000 and above bracket; about 9/10 class themselves ethnically as white; over 1/4 were receiving veterans' benefits; and the ratio of males to females was approximately 4 to 5.

8. Production costs for thirty half-hour English 101 lessons totaled $90,000; Government 201, $85,000. Total production costs for new courses are estimated to exceed $100,000. Air time costs run $150 per hour on KERA-TV Channel 13.

Recommendations and Revisions

Based on the results of the Dallas County Community College District's involvement in televising college credit courses and the information obtained via the Occupational-Technical TV study, the following revisions and actions have been taken or are under consideration:

1. Course management procedures and ITV Center functions and relationships vis-a-vis the colleges of the district have been reviewed and changes made which appear to be serving students much more effectively.

2. Internal procedures of the ITV Center, particularly the Hotline operation, have been substantially improved by adding additional lines and operators, and by keeping operators better informed.

3. A comprehensive telecourse procedures handbook has been developed for the district which includes detailed administrative procedures and information, future plans, and program goals and philosophy. Supplements specifically designed for admissions and counseling personnel, Test Center personnel, and telecourse developers are now being prepared.

4. One of the most nagging concerns is the attrition rate which, while not significantly worse than the on-campus rate, is unacceptable; corrective actions in operation or under consideration are:

   - more accurate and complete telecourse information for potential students at the time of enrollment,
   - more and better-informed pre-enrollment counseling,
   - diagnostic testing of all enrollees in English 101,
   - better use of orientation sessions in counseling enrollees,
   - closer and more frequent follow-up with students exhibiting performance deficiencies,
   - more use of counseling and diagnostic testing services during the semester,
   - improved course management procedures,
   - improved television programs,
   - up-graded and substantially revised study guides,

- careful attention to readability levels of all print materials,
- improved integration and coordination of all course elements (particularly closer agreement between learning goals and all the instructional elements of course),
- improved validity and reliability of examinations,
- better use of newsletters and hotline service,
- better orientation of all personnel involved with telecourse students,
- more complete and accurate evaluations of the instructional system.

5. Since the study guide is the key element in the telecourse, it is especially important to be constantly alert to ways in which it might be made more useful to students; substantial changes are being made in the Writing for a Reason (English Composition) and American Government guides.

6. Evaluative data and recommendations have been solicited from TCJC and the other colleges using the telecourses--TCJC personnel involved with the telecourses have been particularly helpful and their recommendations are being seriously considered and incorporated where possible.

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TITLE: PLANNING STUDY TO DETERMINE THE CAREER EDUCATION NEEDS OF AREA ONE.

DESCRIPTOR: *NEEDS ASSESSMENT; *EDUCATIONAL NEEDS; *CAREER EDUCATION; *SURVEYS; CURRICULUM EVALUATION; EDUCATIONAL PLANNING; ATTITUDES; ELEMENTARY SECONDARY EDUCATION; TABLES (DATA); QUESTIONNAIRES

IDENTIFIER: IOWA MERGED AREA I

EDRS PRICE: MF AND HC AVAILABILITY WILL BE ANNOUNCED IN VOL. 10, NO. 2.

DESCRIPTIVE NOTE: 115P.; PORTIONS OF THE TABULAR MATERIAL MAY NOT REPRODUCE WELL. BEST COPY AVAILABLE.

ABSTRACT: THE BASIC PURPOSE OF THIS STUDY WAS TO DETERMINE THE NEED FOR CAREER EDUCATION EXPERIENCES FOR ALL STUDENTS WITHIN MERGED AREA I OF NORTHEAST IOWA. DATA TO HELP DETERMINE THIS NEED WERE OBTAINED BY THE FOLLOWING METHODS: ATTITUDE SURVEYS OF ADMINISTRATORS, TEACHERS, TWELFTH GRADE STUDENTS, AND PARENTS; MID-CAREER SURVEYS OF A RANDOM SAMPLE OF ADULTS; ANALYSIS OF SECONDARY VOCATIONAL CURRICULUMS; SURVEYS TO OBTAIN GRADUATE FOLLOWUP AND DROPOUT INFORMATION; SURVEY TO DETERMINE INFORMATION ON LABOR DEMAND AND CURRENT EMPLOYMENT; ADMINISTRATOR INTERVIEWS; SURVEY OF STUDENT INTERESTS IN VOCATIONAL AREAS; ENROLLMENT PROJECTIONS; SOCIAL AGENCY SURVEYS; POPULATION NEEDS PROFILE; AND SURVEY OF CURRENT VOCATIONAL OFFERINGS. THE REPORT OUTLINES PROCEDURES FOR GATHERING INFORMATION RELATED TO CAREER EDUCATION NEEDS WITH THE RESULTS PRESENTED IN TABULAR FORM. RESULTS OF THE NEEDS ASSESSMENT STUDY SUGGESTED THE EXISTENCE OF A NEED FOR MORE CAREER EDUCATION OFFERINGS FOR SCHOOL DISTRICTS WITHIN MERGED AREA I. THE APPENDIX CONSISTS OF THE ADVISORY COMMITTEE MEMBERSHIP LIST, SURVEY FORMS AND QUESTIONNAIRES, SUMMARIES OF THE LABOR SUPPLY AND DEMAND SURVEY, THE STUDENT INTEREST SURVEY, THE GRADUATE FOLLOWUP SURVEY, AND MINUTES OF THE CAREER PLANNING GROUP MEETINGS. (NJ)

INSTITUTION NAME: NORTHEAST IOWA AREA 1 VOCATIONAL-TECHNICAL SCHOOL, CALMAR.

VT 103 307

PLANNING STUDY TO DETERMINE THE CAREER EDUCATION NEEDS OF AREA ONE

N.E. Iowa Area One Voc-Tech School
Calmar, Iowa

September 1974

CE 008 915
VT 103 307

Acknowledgments

The Study and the resulting progress on the Cooperative Secondary Career Education Project was made much easier due to the efforts of many individuals. Area One Vocational-Technical School would like to acknowledge the help of: Dr. Ralph Van Dusseldorp, University of Iowa; Dr. Carl Larson, Iowa Central Community College, Fort Dodge; Dr. Kenneth Wold, Iowa Department of Public Instruction, Des Moines; Father Russel Bleich, Dubuque Archdiocese; the Merged Area One local Superintendents, Principals and staff, and the Career Education Needs Assessment Advisory Group. Without their cooperation, completion of the study would have been difficult.

I. Introduction

This document was produced by Area One Vocational-Technical School in cooperation with Dr. Ralph Van Dusseldorp, University of Iowa, who served as project consultant. The basic purpose of the study is to determine the need for career education experiences for all students within Merged Area I.

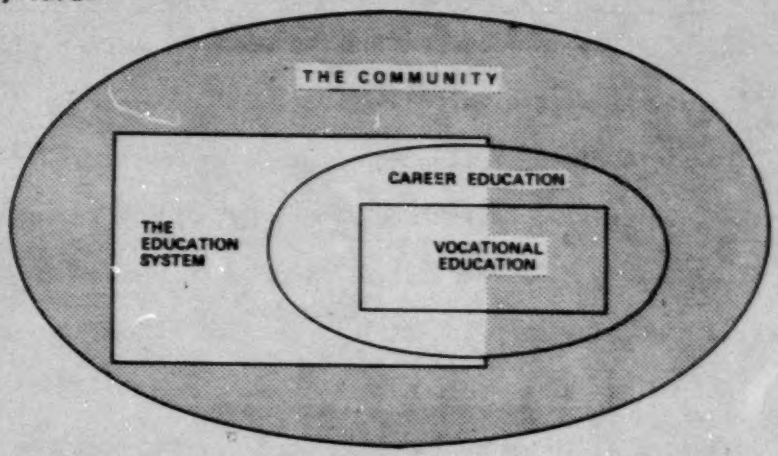
Merged Area I consists of the following counties in Northeast Iowa: Howard, Winneshiek, Allamakee, Chickasaw, Fayette, Clayton, Delaware, and Dubuque. This area consists of 4,857 square miles and 221,527 people, according to the 1970 census. There are 27 community school districts serving 45,988 students with a faculty of 2,800. The parochial schools number 44 with a total of 14,678 students.

The primary motivational force behind this study was Merged Area I trying to meet its obligations to the local school districts in Area I. Iowa school law 280A.1 Statement of Policy concerns the role of the vocational-technical school in secondary education. The vocational-technical school should provide:

> "Programs for all students of high school age who may best serve themselves by enrolling for vocational and technical training while also enrolled in a local high school, public or private."
>
> "Vocational and technical training for persons who are not enrolled in a high school and who have not completed high school."

Career Education is defined by the Iowa State University project on Career Education as "the sequence of career development experiences beginning in early childhood and continuing through adult life which prepare the individual for present and future career opportunities. These experiences are offered through various programs, services, and activities which are designed and implemented to assist youth and adults in developing attitudes and occupational competencies and in gaining employment which will result in meaningful career development."

Career Education may be understood also through the following model, according to "Career Education: A Handbook for Implementation", U.S. Office of Education, 1972.



CAREER EDUCATION PLANNING MODEL

It is anticipated that we will be able to follow guidelines established by the Iowa State Department of Public Instruction in terms of a CAREER EDUCATION PLANNING MODEL:

People Needs → ← Available Resources

Alternatives ↔

Policies and Practices
Laws and Statutes ↔

Objectives ↔

Plan ↔

Evaluation ↔

An Advisory Committee was organized within Area One for the Career Education Needs Assessment Study. These individuals met in November 1973, for initial discussion on the needs assessment study. The advisory members served as a liaison between their school and community for the questionnaires and surveys going out from Area One. They served as resource people for questions that came up during the study and also added much input during the study on an individual basis (Appendix 1).

Also serving an advisory capacity to the needs assessment study was the Area One Career Education Coordinating Committee consisting of the following local superintendents: Wayne Burns (Decorah), Max Clark (Area One), Loren Englund (South Winneshiek), Dr. Ramon Green (Starmont), and Dr. Garland Wessels (Dubuque). The coordinating committee met periodically throughout the length of the study and provided practical information on conducting the needs assessment (Appendix 2).

II. Description of Study

A. Objectives

1. Identify the scope and direction of Career Education programs presently being offered at schools within Area One.

2. Identify the need for career awareness, exploration, preparatory, and supplementary opportunities for K - Adult individuals of Area One.

3. Establish the extent of need for career awareness, exploration, preparatory, and supplementary opportunities for clients of the various social agencies of Area One.

4. Develop alternative means of meeting the needs and determine the costs of the alternatives.

5. Determine the priorities for the development of career programs at Area One Vocational Technical School.

The purpose of the study is to establish the extent of need for career education exploratory and preparatory opportunities within Merged Area I.

B. Data Used in Study

The information gathered to help determine this need is as follows:

1. Attitude Survey - Questionnaires to administrators, teachers, 12th grade students, and parents. (Appendix 3)

2. MID - Career Survey administered to adults within the area.

3. Curriculum Analysis of secondary school curricula.

4. Student Characteristics - Survey which included graduate follow-up and drop-out information.

5. CENIS - Survey provided by the Department of Public Instruction which included labor demand and current employment.

6. Administrator Interviews which were conducted by Area One Vocational Technical School with all community school districts in the merged area including parochial high schools.

7. Student Interest Survey - Provided by CENIS through the Department of Public Instruction.

8. Enrollment Projections - Provided by the Department of Public Instruction.

9. Social Agency - Questionnaires which were sent out to social agency personnel in the merged area.

10. Financial Information which utilized Annual Reports prepared by respective School District Secretaries.

11. Population Needs Profile including unemployment and low-income.

12. Vocational offerings provided by the Area One Vocational Technical School.

13. Drop-out Analysis provided by the Department of Public Instruction.

14. Population Needs Profile provided by the Department of Public Instruction.

III. Presentation of Data

A. Attitude Survey

An instrument with 14 items was submitted to the following population groups (Appendix 4).

Administrators and guidance personnal

Full-time teachers in grade K-12

Senior high school students

Parents (one parent of each 12th grade student)

Each of the four groups used the same basic instrument with modifications applicable to each respective group. In analyzing the instrument, it should be noted that

> Statements 1-3 deal with those learning activities involved with the Self as a basic component of career education. Statements 4-9 deal with those aspects of the World of Work and statements 10-12 deal with Career Planning. Statement 13 deals with Skill Building while statement 14 deals with respondents' feelings on the variety of vocational courses offered at their school.

All instruments for the different population groups used the same order of statements.

The basic purpose of the Career Education Attitude Survey was to discover present attitudes about career education from the four population groups. This information will provide assistance in developing career education goals for individual school systems desiring to implement career education in their local programs.

Specific objectives of the four-part career education attitude instrument include the following:

1. Identify parental expections of the school systems in their community in terms of the basic components of career education.
2. Determine how students feel about what the school has offered in terms of career education.
3. Determine what teachers feel they are offering through courses that are taught in the local school system in terms of career education.

4. Determine what counselors and administrators feel the school is providing in terms of career education.

A tabulation of those completing the assessment follows:

Number of schools completing the survey	27
Number of teachers	773
Number of Administrators	193
Number of High School Seniors	2,094
Number of parental responses	628

Of importance in understanding the Career Education Attitude Survey is the nature of the 14 basic questions. The teachers were asked 14 questions with the preface My course provides activities that...etc. Parents were asked the same 14 questions with the preface Our School provides activities...etc. Students were asked the same 14 questions with the preface My school has provided activities that...etc. Administrators were also asked the same 14 questions with the preface Our school has provided activities...etc.

The responses in Table 1 were grouped on a percentage basis into two categories: (1) strongly agree and agree, and (2) disagree and strongly disagree. Questionnaires used may be found in (Appendices 5, 6, 7, 8). A summary of results by question follows:

1. Seventy percent of the students and 80% of the parents felt the schools were adequately helping students develop healthy values and all four of the survey groups felt the schools should be developing this value.

2. Approximately 59% of the students and 70% of the parents indicated in their response that the schools were helping students develop positive feelings about themselves. The four survey groups felt the schools should be involved with helping students develop positive feelings.

3. In regard to helping students develop vocational interests, 84% of the administrators, 70% of the teachers, 59% of the students and 73% of the parents felt that the schools were doing a satisfactory job. The administrators, students, and parents felt the schools should be assuming this responsibility.

4. Seventy-seven percent of the administrators, 50% of the students and 67% of the parents felt the schools are adequately helping students choose careers. The greater percentage of the administrators, students, and parents felt the school should be concerned with helping students choose careers.

5. Almost 50% of the parents and students felt the school was adequately helping students learn to make proper use of leisure time. All four groups felt the schools should be involved in education for leisure time activities.

6. Forty-five percent of the students and 65% of the parents indicated that the schools were doing an adequate job in providing activities which help students learn about the world of work. All four survey groups felt that teaching the World of Work was a responsibility of the school.

7. In reference to helping students develop a positive attitude toward work, 55% of the students and 56% of the parents felt the schools were adequately performing this function. There was agreement with all four groups that this should be the responsibility of the school.

8. Fifty-two percent of the students and 58% of the parents felt that the schools were adequately developing an appreciation for the dignity and value of work. As in many of the other questions, all four groups agreed that the schools should be providing these activities.

9. Concerning the schools providing activities which help the students understand the economic nature of the nation, 79% of the administrators, 53% of the teachers, 62% of the students and 66% of the parents felt the schools were meeting this educational goal. All four survey groups felt the schools should be providing these activities.

10.& 11. Since both questions are similar, they will be interpreted collectively. In both questions, 50% of the students felt they were being provided activities which help them plan or select a career. The administrators, students and parents felt the school should provide activities related to planning and selecting careers.

12. Sixty-four percent of the students and 68% of the parents indicated that the schools were doing an adequate job in providing experiences concerning the relationship between education and work. All four of the survey groups agreed that the school should be teaching be teaching this relationship.

13. Sixty-four percent of the students indicated they felt the schools provided adequate activities which helped them to learn skills to be used in their chosen field. All four groups felt that the schools should provide these activities.

14. When asked whether their school offered a satisfactory variety of vocational courses leading to employment, 43% of the administrators, 45% of the teachers, 53% of the students, and 61% of the parents felt their school was indeed offering this variety of courses. All four groups felt that the school should offer a variety of vocational courses to their students.

Of the 14 attitudinal factors, 76% of the administrators and counselors either "strongly agreed" or "agreed" that their school was acheiving these and 96% felt these characteristics should be the responsibility of the school.

Fifty-five percent of the students either "strongly agreed" or "agreed" that the 14 stated factors were present in their school while 92% agreed that these should be the responsibility of the school.

Sixty-six per cent of responses from parents were positive, indicating satisfaction with what the schools were doing. Ninety-two percent of responses from parents, however, indicated that these factors should be the responsibility of the school.

Seventy-two percent of the responses from teachers were either "strongly agree" or "agree" and 86% of the teacher responses indicated the schools should be trying to accomplish the 14 stated attitudinal factors.

In summary, respondents are in agreement that schools should provide activities in all fourteen of the career education areas. They do not feel that the schools are doing as much as they should in any of the areas. The greatest need, as indicated by discrepancies between what the schools are doing and what they should be doing, is for a more satisfactory variety of vocational courses.

B. Mid Career Educational Needs Survey

The Mid-Career Survey was administered to a random sample of adults in Merged Area I (Appendix 9). Objectives of this survery were to determine the following:

Table 1

CAREER EDUCATION ATTITUDE SURVEY

		(n=193) Administrators %		(n=1773) Teachers %		(n=2094) Students %		(n=628) Citizens %		Total %	
		SA & A	D & SD	SA & A	D & SD	SA & A	D & SD	SA & A	D & SD	SA & A	D & SD
1. Develop healthy Values	Does	93.2	6.8	96.9	3.1	70.2	29.8	81.5	18.5	82.8	17.2
	Should	100.0	0.0	98.7	1.3	94.5	5.5	93.2	6.8	96.1	3.9
2. Positive feelings about self	Does	88.0	12.0	95.3	4.7	58.9	41.1	70.2	29.8	75.3	24.7
	Should	100.0	0.0	99.0	1.0	93.6	6.4	92.2	7.8	95.7	4.3
3. Develop vocational interests	Does	83.8	16.2	69.7	30.3	58.8	41.2	72.9	27.1	65.8	34.2
	Should	98.4	1.6	86.1	13.9	94.1	5.9	94.0	6.0	91.4	8.6
4. Help in choosing careers	Does	76.8	23.2	59.6	40.4	49.4	50.6	67.0	33.0	56.6	34.4
	Should	95.2	4.8	81.6	18.4	92.5	7.5	93.2	6.8	88.9	11.1
5. Proper use of leisure time	Does	73.0	27.0	80.2	19.8	53.3	46.7	52.5	47.5	64.1	35.9
	Should	100.0	0.0	90.8	9.2	93.6	6.4	89.5	10.5	92.3	7.7
6. Learn about the world of work	Does	80.3	19.7	78.1	21.9	45.1	54.9	64.8	35.2	61.5	38.5
	Should	98.4	1.6	89.4	10.6	83.0	17.0	94.0	6.0	87.5	12.5
7. Positive attitudes toward work	Does	78.4	21.6	90.5	9.5	54.5	45.5	56.3	43.7	69.3	30.7
	Should	99.5	0.5	96.8	3.2	92.6	7.4	93.2	6.8	94.5	5.5
8. Appreciate dignity and value of work	Does	73.2	26.8	87.9	12.1	51.6	48.4	57.7	42.3	66.9	33.1
	Should	100.0	0.0	95.7	4.3	91.7	8.3	92.1	7.9	93.6	6.4
9. Understand economic nature of nation	Does	78.7	21.3	52.2	47.8	61.2	38.8	66.0	34.0	59.3	40.7
	Should	97.4	2.6	71.5	28.5	91.7	8.3	92.5	7.5	84.8	15.2
10. Help plan careers	Does	71.4	28.6	47.5	52.5	49.3	50.7	72.1	27.9	52.8	47.2
	Should	94.1	5.9	68.0	32.0	92.6	7.4	94.2	5.8	84.2	15.8
11. Help select careers	Does	70.8	29.2	44.3	55.7	46.8	53.2	68.2	31.8	49.9	50.1
	Should	89.4	10.6	74.1	35.9	91.9	8.1	93.0	7.0	82.2	17.8
12. Learn about relationships between education and work	Does	79.6	20.4	80.7	19.3	64.0	36.0	67.6	32.4	71.3	28.7
	Should	100.0	0.0	91.5	8.5	94.4	5.6	93.3	6.7	93.4	6.6
13. Learn career skills	Does	79.9	20.1	80.4	19.6	63.2	36.8	75.2	24.8	71.8	28.2
	Should	94.7	5.3	88.6	11.4	94.1*	5.9	93.1	6.9	92.0	8.0
14. Variety of vocational courses	Does	43.1	56.9	44.9	55.1	52.7	47.3	60.7	39.3	50.7	49.3
	Should	84.7	15.3	77.9	22.1	94.2	5.8	91.7	8.3	87.7	12.3
TOTAL	Does	76.4	23.5	72.0	27.9	55.6	44.3	66.6	33.3		
	Should	96.5	3.4	86.4	14.3	92.4	7.5	92.8	7.2		

1. Age of respondents
2. Employment of respondent
3. Geographic area of the respondent by school district
4. High school and post high school educational levels
5. Number of years employed
6. Relative job satisfaction and reasons for non satisfaction
7. Additional training needs of respondent
8. Evening class or full-term day class needs of respondent

Findings (See Table 2):

A Total of 1566 surveys were returned and categorized in order of school districts.

Questions 10 and 11 which refer to changing jobs and additional training, have implications for short-term vocational preparatory courses that could be offered. Seventy percent of the respondents indicated a willingness to attend evening classes for vocational training, and 21% said they would attend classes on a daily basis.

The survey was distributed to high school seniors who submitted the instrument to their neighbors for completion.

The survey was also distributed by Adult Education Coordinators to Adult Education students within Area One (Appendix 10).

C. Career Education Needs Information System

CENIS information was obtained from the Iowa State Department of Public Instruction. Appendices 11 - 18 include an explanation of the CENIS Study while Appendices 19 - 32 summarize the occupational areas specifically for Area One.

A summary by occupational cluster of Area One Labor Demand according to CENIS is given in Table 3.

Table 2

Mid-Career Survey Summary
(Summary in Percentage)

Sex: Male 42 Female 58

Marital Status: Single 18 Married 82

Employed: Yes 68 No 32

Retired: Yes 13 No 87

H.S. Grad.: Yes 78 No 22

College 4 yrs: 37

College 2 yrs: 10

Trade School: 7

Voc-Tech School: 14

Bus & Ind.: 6

Military: 7

Other: 19

Present Job - Under 1 year.: 13
1 - 5 years: 31
6 - 10 years: 16
11 - 20 years: 18
Over 20 years: 23

Trained: College: 19
Military: 1
Trade school: 3
Voc-Tech: 6
Bus & Ind: 3
None: 68

Satisfied: Yes 82 No 18

Why Not?: Financial: 49
Promotion Opp. 9
Dull: 25
Other: 16

Evening Class: Yes 70 No 30

Day Class: Yes 21 No 79

Respondents by Age

1 - 20:	9
21 - 30:	22
31 - 40:	22
41 - 50:	25
51 - 60:	12
61 - up:	10

Table 3

Occupation	1973 Labor Demand	1973 % of Total	1975 Labor Demand	1975 % of Total	1977 Labor Demand	1977 % of Total
Agriculture	36	2.2	73	3.1	73	2.3
Distribution	268	16.6	454	19.2	596	18.7
Health	351	21.7	381	16.1	468	14.7
Home Economics	36	2.2	30	1.3	33	1.0
Office	239	14.8	364	15.4	518	16.2
Technical	-23	-1.4	13	0.5	39	1.2
Trade & Industrial	708	43.8	1,055	44.5	1,464	45.9
	1,615	100.0	2,370	100.0	3,191	100.0

Source: CENIS, Iowa State Department of Public Instruction, 1972

D. Student Interest

Another part of the CENIS project was to determine student interest in specific vocational areas. Results for Area One are listed in Tables 4 - 7.

It is interesting to note that when comparing labor needs and student interest, many times one significantly exceeds the other (Table 8).

E. Student Follow-up

The Department of Public Instruction conducted a follow-up study of 1972 high school graduates. Table 9 reveals follow-up data for graduates from high schools within Area One.

Follow-up of these graduates indicated that almost 45% of the graduates attended a post secondary educational institution with the majority of students going to area schools, state four-year institutions and private four-year institutions. Of those graduates going into employment directly after high school, clerical, sales, farm-related, and service occupations accounted for most of the occupational areas.

Table 4

Occupations chosen most frequently by students and/or needed by employers (occupation included in list if choice or demand is 25 or more).

Occupation	All Students	Post Secondary Plans: Less Than 4 Yrs. College	Post Secondary Plans: No College	Projected 1975 Need
Agriculture - Total	738	86	383	73
General Agriculture	64	13	27	*
Farm Hand, General	274	13	241	5
Animal Husbandryman	29	7	7	0
Farm Manager	41	0	27	2
Veterinary Asst.	36	0	13	0
Farm Equip. Mechanic	29	13	13	19
Park Foreman	31	0	7	0
Conservation Officer	72	13	33	*
Forester	39	7	0	*
Wildlife Game Keeper	89	13	13	*
Distributive - Total	928	277	338	268
Account Executive	31	7	7	2
Clothes/Acc. Salesperson	49	0	20	27
Cashier/Checker	35	7	20	15
Buyer, Asst. Buyer	43	27	0	3
Retail Store Manager	70	27	13	7
Salesperson, Fabrics	28	7	7	10
Salesperson, General	52	20	27	87
Salesman, Industrial Prod.	*	*	*	31
Business Manager	46	20	7	*
Director, Recreation	52	20	0	0
Airline Stewardess	160	87	67	*
Industrial Truck Operator	*	*	*	28
Tractor-Trlr Truck Driver	66	0	54	69
Light Truck Driver	33	0	20	35
Health - Total	612	321	123	381
Hospital/Health Worker	44	27	0	*
Dental Assistant	48	33	7	8
Dental Hygienist	27	0	0	*
Med. Lab. Asst.	65	13	7	6
Nurse, General	24	13	7	83
Nurse, Licensed Practical	133	134	7	58
Nurse Aide/Orderly	59	7	54	206
Occupational Therapy Aid	31	20	7	*
Radiologic Technician	63	33	7	4
Child Care Attend./Asst.	52	7	13	*
Home Economics - Total	44	0	33	30
Housekeeper, Inst.	35	0	33	26

Table 4 (cont.)

Occupations	All Students	Post Secondary Plans: Less Than 4 Yrs. College	Post Secondary Plans: No College	Projected 1975 Need
Office - Total	960	368	679	364
Business Worker	73	27	40	*
Bookkeeper	68	27	20	68
Cashier	39	0	20	56
Programmer	43	40	0	1
General Office Clerk	39	13	27	57
Receptionist	98	33	60	14
Legal Secretary	48	33	0	2
Medical Secretary	85	54	13	1
Secretary	298	120	161	45
Clerk-Typist	35	0	47	2
Technical - Total	140	34	27	13
Airplane Pilot	52	13	13	*
Electronics Mechanic	32	7	7	*
Trade and Industrial - Total	1,993	485	1,018	1,055
Factory Worker	216	7	221	*
Auto Body Repairman	68	20	27	9
Auto Mechanic	58	7	40	25
Auto Svc. Station Mech.	199	94	80	-1
Interior Decorator	76	33	7	0
Photographer	62	27	13	2
Construction Worker	138	20	107	*
Maintenance Worker	38	7	33	12
Carpenter	80	7	33	57
Electrician	35	7	13	5
Operating Engineer	44	7	33	49
Bricklayer	19	13	7	112
Diesel Mechanic	31	20	7	30
Draftsman, Architectural	43	20	20	6
Announcer, Radio & TV	27	7	0	0
Die-casting Mech. Oper.	*	*	*	59
Prod. Mach. Oper.	*	*	*	110
Woodworking Mach. Oper.	*	*	*	28
General Machinist	35	7	33	17
Welder, Arc	41	7	47	0
Welder, Combination	40	20	13	15
Repair Welder	35	7	7	1
Construction Welder	29	0	27	*
Tool & Die Maker	29	0	27	24
Cosmetologist	157	100	47	13
Policeman	69	20	7	2
Cook	54	13	27	77
Waiter/Waitress	54	0	20	87
Motorcycle Repairman	34	7	13	1

Table 4 (cont.)

Occupations	All Students	Post Secondary Plans: Less Than 4 Yrs. College	Post Secondary Plans: No College	Projected 1975 Need
Other - Total	2,811	621	258	*
Veterinarian	96	0	7	*
Journalist	46	13	7	*
Designer/Entertainer	32	7	0	*
Professional Musician	60	0	13	*
Professional Athlete	27	0	7	*
Fashion/Photo Model	27	7	27	*
Artist/Painter	116	47	27	*
Business Administrator	51	27	0	*
Certified Public Acct.	51	47	0	*
Psychologist	52	7	0	*
Medical Doctor	99	0	0	*
Reg. Prof. Nurse	316	247	0	*
Physical Therapist	64	7	7	*
Sec. School Teacher	225	13	0	*
Elem. School Teacher	153	7	0	*
Spec. Educ. Teacher	44	7	7	*
Home Economist	35	0	7	*
Lawyer/Attorney	60	0	0	*
Diplomat/Foreign Service	26	13	0	*
Comm./Soc. Svc. Worker	80	7	13	*
Private/Public Svc.	55	27	7	*
Homemaker	188	20	67	*
Bartender	49	0	0	*
Military Serviceman	25	0	0	*
Electrical Engineer	33	13	0	*
Mechanical Engineer	30	0	0	*
Scientist/Engineer	43	0	0	*
Biologist	31	7	0	*

*Occupation not included in survey

Note: It should be remembered in interpreting this Table that self employed persons are, in general, not included in the labor needs column. Thus the needs in some occupations are not accurately reflected. Examples exist in several of the agriculture occupations, many of which involve primarily self-employment.

Source: CENIS, Iowa State Department of Public Instruction, 1973

Table 5

Projected Choices of Occupations by Area One High School Graduates Compared to Graduates Statewide*

Occupation	Area One Number	Area One %	State Number	State %
Agriculture	738	9.0	9,172	9.5
Distributive	928	11.3	9,873	10.3
Health	612	7.4	6,756	7.0
Home Economics	44	0.5	700	0.7
Office	960	11.7	12,536	13.0
Technical	140	1.7	1,785	1.9
Trade & Industrial	1,993	24.2	20,228	21.0
Other	2,811	34.2	35,135	36.5
Total	8,226	100.0	96,183	100.0

Source: CENIS, Iowa State Department of Public Instruction, 1973

*The occupational choices are projections based on a sample taken in 1973.

Table 6

Occupational Choices of Area One High School Students Compared with Graduates Statewide who Expressed Intent of Going to College Less than 4 Years*

Occupation	Area One Number	Area One %	State Number	State %
Agriculture	86	3.9	2,268	9.0
Distributive	277	12.6	2,693	10.7
Health	321	14.6	3,172	12.6
Home Economics	0	0.0	41	0.2
Office	368	16.8	4,889	19.4
Technical	34	1.6	723	2.9
Trade & Industrial	485	22.1	5,753	22.8
Other	621	28.3	5,671	22.5
Total	2,192	100.0	25,210	100.0

Source: CENIS, Iowa State Department of Public Instruction, 1973

*Figures are projections based on a sample of first choices of occupations of high school juniors and seniors during the 1972-73 school year.

Table 7

Occupational Choices of Area One High School Students compared with Graduates Statewide Who Expressed the Intent of Seeking Full-time Employment Upon Graduation from High School*

Occupation	Area One Number	Area One %	State Number	State %
Agriculture	383	13.4	3,098	12.6
Distributive	338	11.8	3,313	13.5
Health	123	4.3	1,292	5.2
Home Economics	33	1.2	257	1.0
Office	679	23.7	4,621	18.8
Technical	27	0.9	282	1.1
Trade & Industrial	1,018	35.6	8,918	36.2
Other	258	9.0	2,837	11.5
Total	2,859	100.0	24,618	100.0

Source: CENIS, Iowa State Department of Public Instruction, 1973

*Figures are projections based on a sample of first choices of occupations of high school juniors and seniors during the 1972-73 school year.

Table 8

For the following occupations, student choice significantly exceeded the need:

Occupation	Choice	1975 Need
Account Executive	31	2
Clothes/Acc. Salesperson	49	27
Cashier/Checker	35	15
Buyer/Asst. Buyer	43	3
Retail Store Manager	70	7
Director, Recreation	52	0
Dental Asst.	48	8
Med. Lab. Asst.	65	6
Nurse, Licensed Practical	133	58
Radiologic Technician	63	4
Programmer	43	1
Receptionist	98	14
Legal Secretary	48	2
Medical Secretary	85	1
Secretary	298	45
Clerk-Typist	35	2
Auto Body Repairman	68	9
Auto Mechanic	58	25
Auto Svc. Station Mech.	199	-1
Interior Decorator	76	0
Photographer	62	2
Maintenance Worker	38	12
Electrician	35	5
Draftsman, Arch.	43	6
Announcer, Radio & TV	27	0
General Machinist	35	17
Welder, Arc	41	0
Welder, Combination	40	15
Cosmetologist	157	13
Policeman	69	2
Motorcycle Repairman	34	1

For the following occupations, need significantly exceeded student choice:

Occupation	Choice	Need
Salesperson, General	52	87
Nurse, General	24	83
Nurse Aid/Orderly	59	206
Cashier	39	56
General Office Clerk	39	57
Bricklayer	19	112
Cook	54	77
Waiter/Waitress	54	87

Source: CENIS, Iowa State Department of Public Instruction, 1973

Table 9

Follow-up of 1972 Area One High School Graduates

TYPE OF INSTITUTION/PROGRAM	IN STATE M	IN STATE F	OUT OF STATE M	OUT OF STATE F	TOTAL	% OF GRAND TOTAL ITEMS 1-28
1. 4-year college, private	131	132	22	30	315	9.6
2. 4-year college, public	202	181	21	18	422	12.8
3. Area schools (Area Community Colleges and Area Vocational/ Technical Schools)	227	241	0	0	468	14.2
4. Community or Junior Colleges, private	22	15	3	3	43	1.3
5. Community or Junior Colleges, public	0	0	7	12	19	0.6
6. Business, trade, tech school (private)	14	38	17	21	90	2.7
7. Business, trade, tech school (public)	0	0	4	8	12	0.4
8. Nursing (other than univ., area school or comm. college)	9	34	1	14	58	1.8
9. Other special schools	0	16	5	5	26	0.8
10. Apprenticeship training	7	1	0	0	8	0.2
11. TOTALS (ITEMS 1-10)	612	658	80	111	1461	44.4
TYPE OF EMPLOYMENT						
12. Professional, technical, managerial	25	6	2	1	34	1.0
13. Service occupations	99	85	3	23	212	6.4
14. Farm, fish, forest, related processing	231	36	1	1	269	8.2
15. Clerical and sales	64	203	5	20	292	8.9
16. Processing occupations	57	48	6	0	111	3.4
17. Machine trades	54	24	1	1	80	2.4
18. Bench work	68	37	1	2	108	3.3
19. Structural work	90	1	1	0	92	2.8
20. Miscellaneous	55	22	1	0	78	2.4
21. TOTALS (ITEMS 12-20)	743	462	21	48	1274	38.7
22. Homemaker only	0	163	0	8	171	5.2
23. Active military service	87	7	76	18	188	5.7
24. Deceased	4	2	0	0	6	0.2
25. Institutionalized	1	0	0	0	1	0.0
26. Unemployed	22	27	1	0	50	1.5
27. Unknown	68	70	1	2	141	4.3
28. TOTALS (ITEMS 22-27)	182	269	78	28	557	16.9
29. GRAND TOTALS (ITEMS 11, 21, 28)	1537	1389	179	187	3292	100.0

Source: Department of Public Instruction, 1973

If this trend continues, it would seem logical that the area school attempt to serve those graduates interested in these occupational areas for initial training or on-the-job experiences.

F. Curriculum Analysis

The basic curriculum information was supplied by the Department of Public Instruction and redistributed to the local high schools for categorization. Principals were asked to categorize all courses they considered to be "vocational" (Appendix 33). A vocational course was defined as "those courses or series of courses designed to provide job-entry skills (or qualifications) leading to gainful employment upon graduation."

After reviewing the data in Table 10, it can be concluded that little is being offered in distributive education and health education. Some schools in larger communities, however, have comprehensive distributive education programs. Curriculum emphasis is largely college preparatory.

G. Administrator - Counselor Interviews

Interviews were conducted within each school district which included the superintendent, high school principal, counselor and a representative from the Area One Vocational-Technical. Suggested areas for discussion were sent out to superintendents two weeks prior to scheduling interviews. Suggested areas for discussion were as follows:

1. If the Area One Vocational-Technical School were to begin serving the high school student, how best might this be done?
2. What courses would you recommend for students?
3. What students would take the courses? Freshman, Sophomore, Junior, Senior? How many in a year?
4. Where should the courses be held?
5. How would the student get there?
6. What is your recommendation for financing such a program?

7. What do you feel is the maximum distance a student should travel to these vocational courses?

8. When should courses be held? All year, concentrated more in one 9-week period, or one semester?

The interviews revealed felt strengths and weaknesses within each community school in terms of curricular offerings. Much discussion centered around the local area school possibly offering courses for high school students while they were still enrolled in high school. It is safe to say that all schools felt a willingness to cooperate in an effort to provide career education experiences for their students.

The interview was probably one of the most productive components of the Career Education Needs Assessment Study. It gave local school personnel a chance to vent thoughts on what they felt should be done in cooperation with the area school. Personnel from Area One were enlightened regarding what is currently being offered in local schools as well as future needs projected by local school administrators.

H. School Enrollment

The following enrollment and population data were compiled:

Actual enrollments for grades K-12 for the 1973-74 and 74-75 academic years are found in Table 11.

Actual enrollments for 1968-69 thru 1973-74 and projections for 1974-79 are given in Table 12.

Table 13 illustrates school district population by districts and counties.

Table 14 lists the private schools in Merged Area One and their student populations.

Map showing locations of public and parochial high schools is given in Table 15.

Table 16 provides information regarding Area One Vocational-Technical School enrollments from 1967-68 through 1972-73.

Pre-school population by school district is given in Table 17.

Table 10

CURRICULUM ANALYSIS

	1 - Ag Occupations	2 - Distributive Occupations	3 - Health Occupations	4 - Home Economics	5 - Office Occupations	6 - Trades & Industrial	7 - Other Vocational
Allamakee	Ag I/Animal Sc Ag II/Plant Sc Ag III/Ag Mec Ag IV/Farm Manag Ag Sup/Business Work Rel Exper	Sales Distrib Educ Office Educ Work Re Exper		Clothing I Clothing II Foods I Home Econ I Housing Living-Family	Accounting I Business-Gen Office Practice Record Keeping Shorthand I Steno/Sec Relat Typing I Typing II Work Rel Exper	Mech-Power Shop I-Gen Carpentry Work Rel Exper Drafting I Drafting II Metals I Woodwork-Mach Trade & Ind	Eng-Voc Spec Educ
Aquin				Adult Living Bachelor Survival Cloth/Textiles Clothing II Foods Nutrition Living-Family Sewing/Basic	Bookkeeping I Business-Gen Office Practice Typing I Typing-Personal		English I English II English III English IV Dramatics Latin I Latin II French I French II French III Algebra I Math I/Gen Math II/Gen Geom-Plane Math-Function Science Biology Chem I Physics I Physical Sc Economics I Geography I Hist I-Amer History I W Gov I-Amer Religion Religion II Religion III Religion IV

Source: Department of Public Instruction, 1973

Table 10 (continued)

CURRICULUM ANALYSIS

	1 - Ag Occupations	2 - Distributive Occupations	3 - Health Occupations	4 - Home Economics	5 - Office Occupations	6 - Trades & Industrial	7 - Other Vocational
Beckman		Art I Art II		Clothing I Clothing II Foods I Foods II Homemaking-Boys House/Home Furn	Bookkeeping I Bookkeeping II Business Eng II Office Practice Sec Training Shorthand I Typing II Typing-Personal Typing-Voc Journalism I	Electricity Electricity-Adv Shop I-General Carpentry Drawing-Shop Welding Woodworking I Woodworking II Woodworking-Adv	
Central Clayton	Ag I/Animal Sc Ag II/Plant Sc Ag III/Ag Mec Ag IV/Farm Manag Ag V		Health Occup	Cloth/Textiles Foods/Nutrition House Decorating Textile/Design Food Serv-Career	Office Practice	Electricity Mech-Power Building Trades	
Decorah Community	Ag III/Ag Mec Ag IV/Farm Manag	Distrib Prob Distrib Procad Dist Ed On Job	Biology I Chem I	Bacheler Survival Home Econ I Home Econ II Homemaking-Adv Hmkg Seminar	Bookkeeping I Business Typing Shorthand I Steno/Sec Relat Typing-Personal Office Ed/Prob On Job/Office Ed	Machine Prac Market/Adver Electricity Ind Arts I Ind Arts II Mech-Power Math-Consumer Metals I Welding	Bookkeeping Business I Bus-Person Communicat Journalism Write I-Cr Driver Ed Spec Educ
Dubuque		Distrib Educ Dist Ed On Job		Cloth/Textiles Food Nutrition Home Manag Home Econ I House/Home Furn	Office Educ On Job/Office Ed	Graphic Arts Mech-Power Mech II-Auto Carpentry Electronics I Shop-Machine Welding	

Source: Department of Public Instruction, 1973

Table 10 (continued)

CURRICULUM ANALYSIS

	1 - Ag Occupations	2 - Distributive Occupations	3 - Health Occupations	4 - Home Economics	5 - Office Occupations	6 - Trades & Industrial	7 - Other Vocational
Eastern Allamakee				Cloth/Textile Child Devel Foods/Nutrition Living-Family	Bookkeeping I Shorthand I Typing I Typing II	Ind Arts I Ind Arts II Ind Arts III	
Edgewood-Colesburg	Ag I/Animal Sc Ag II/Plant Sc Ag III/Ag Mec Ag IV/Farm Manag			Home Econ I Home Econ II Home Econ III Homemaking-Gen	Bookkeeping I Business Law I Office Practice Record Keeping Shorthand I Shorthand II Typing II Typing III Typing-Personal	Ind Arts I Ind Arts II Ind Arts III Ind Arts IV	
Fayette				Home Econ I Home Econ II Home Econ III	Bookkeeping I Business-Gen Business Law I Office Practice Shorthand I Typing I	Ind Arts I Ind Arts II Ind Arts III	Art I Art II Art III Journalism Music Appr Music Theo Music-Voca Econ-Cons. Econ Prob
Fredericksburg	Ag I/Animal Sc Ag II/Plant Sc Ag III/Ag Mec Ag IV/Farm Manag			Home Econ I Home Econ II	Bookkeeping I Business Arith Business English Business Law I Machine Prac Sec Training Typing I Typing II		Economics I

Source: Department of Public Instruction, 1973

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Table 10 (continued)

CURRICULUM ANALYSIS

	1 - Ag Occupations	2 - Distributive Occupations	3 - Health Occupations	4 - Home Economics	5 - Office Occupations	6 - Trades & Industrial	7 - Other Vocational
Garnavillo	Ag I/Animal Sc Ag II/Plant Sc Ag IV/Farm Manag Ag Resources Horticulture			Home Econ I Home Econ II Home Econ III	Accounting Office Practice Record Keeping Typing I	Ag Mechanics Coop Time	
Guttenberg	Ag Gen Ag Mechanics Ag Products Ag Sup/Business Farm Manag			Clothing I Clothing II Child Develop Foods Nutrition Home Econ I Housing	Bookkeeping I Business Arith Business English Office Practice Shorthand I Typing I	Electricity Ind Arts I Mech-Gen Auto Carpentry Engine-Small Drafting I Metals I Welding Woodworking I Woodworking-Adv	
Howard-Winneshiek	Ag I/Animal Sc Ag II/Plant Sc Ag A.O.E.E. Ag Engineering Ag Machinery Ag/Shop I Animal Sci II Beef and Swine Farm Management Horticulture Horticulture II Construction Engines-Small	Distrib Educ		Bachelor Survival Cloth & Textile Foods Nutrition Home Manage/Gen House/Home Furn Living-Family	Bookkeeping I Office Practice Record Keeping Sec Training Shorthand I Typing I Journalism	Electricity Ind Arts I Mech Draw Shop I-Gen Electrician Radio I Radio/TV Repair Metals I Wood-Machine	Art I Art II Art III Business Law
Leo				Home/Family Living-Family Personal Growth	Bookkeeping I Business English Office Practice Shorthand I Typing I Typing II		

Source: Department of Public Instruction, 1973

Table 10 (continued)

CURRICULUM ANALYSIS

	1 - Ag Occupations	2 - Distributive Occupations	3 - Health Occupations	4 - Home Economics	5 - Office Occupations	6 - Trades & Industrial	7 - Other Vocational
M-F-L	Ag I/Animal Sc Ag II/Plant Sc Ag III/Ag Mec Farm Management			Home Econ I Home Econ II Home Econ III Home Econ IV	Bookkeeping I Business-Gen Business Law I Business Typing Office Practice Sec Training Shorthand I Typing I Typing II	Ind Arts I Drafting I Metals I Woodworking I	
Mar-Mac	Ag-Special Ag Animal Sci Horticulture Soil and Crops			Home Econ I Home Econ II Home Econ III	Bookkeeping I Office Practice Typing I	Ind Arts I Ind Arts II Ind Arts III Engines-Small Engineering Welding	Coop Time
New Hampton	Ag-Business Ag Products Farm Management Livestock			Clothing I Foods I Home Econ I Living-Family Tailoring	Bookkeeping II Office Procedure Sec Training Shorthand I Typing I	Electricity Mech-Adv Power Mech-Gen Auto Plastics Draft/Draw-Adv Metals I	
North Fayette	Ag I/Animal Sc Ag II/Plant Sc Ag III/Ag Mec Ag IV/Farm Manag Ag Rel/Coop	Sales Distrib Prob Dist Ed On Job		Home Econ I Home Econ II Home Econ III Homemaking-Boys	Accounting I Business Arith Business English Business Law I Office Clerk-Gen Office Problems Shorthand I Steno/Sec Relat Typing I Typing II On Job/Office Ed	Electricity Ind Arts IV Mech Draw Mech-Gen Auto Metals I Woodworking I	
North Winneshiek	Ag I/Animal Sc Ag II/Plant Sc Ag III/Ag. Mec Ag. IV/Farm Manag			Cloth/Textiles Home Econ I House/Home Furn	Bookkeeping I Office Practice Shorthand I Typing I Typing II		Ind. Arts I Ind. Arts II Shop III - G Shop IV - Ga

Source: Department of Public Instruction, 1973

Table 10 (continued)

CURRICULUM ANALYSIS

	1 - Ag Occupations	2 - Distributive Occupations	3 - Health Occupations	4 - Home Economics	5 - Office Occupations	6 - Trades & Industrial	7 - Other Vocational
Notre Dame					Bookkeeping I Typing I English I English II Economics I		Business Law Speech I Algebra I Algebra II Math I - Gen Geom-Plane
Oelwein	Ag Resources Farm Management	Sales Distrib Prob Dist Ed On Job		Cloth/Textiles Cloth/Tex II Child Develop Foods Nutrition Food Nutrition II House Decorating	Typing II Office Ed/Prob On Job/Office Ed	T & I Prob T & I/On Job	
Postville	Ag I/Animal Sc Ag II/Plant Sc Ag III/Ag Mec Ag IV/Farm Manag Ag Rel/Coop			Home Econ I Home Econ II Home Econ III Home Econ IV	Bookkeeping I Business-Gen Business Law I Office Clerk-Gen Shorthand I Typing I Typing II	Ind Arts I Ind Arts II Ind Arts III Shop IV-Gen	Art I Art II
Riceville	Ag I/Animal Sc Ag II/Plant Sc Ag III/Ag Mec Ag IV/Farm Manag			Cooking-Adv Foods II Foods-Adv Home Manag Sewing-Adv	Bookkeeping I Business-Gen Business Law I Office Machines Sec Training Shorthand I Typing I Typing II Typing III	Electronics I Woodworking I Woodworking II	
South Winneshiek	Ag I/Animal Sc Ag II/Plant Sc Ag III/Ag Mec Ag IV/Farm Manag	Ag-Business Electricity Ind Arts I Ind Arts II		Drawing/Art Cloth/Textiles Child Develop Foods Nutrition	Bookkeeping I Business Machines Office Practice Shorthand I	Electricity Mechanical Drw Mech-Gen Auto Math-Consumer	Art I Art II Art III Art IV

Source: Department of Public Instruction, 1973

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Table 10 (continued)

CURRICULUM ANALYSIS

	1 - Ag Occupations	2 - Distributive Occupations	3 - Health Occupations	4 - Home Economics	5 - Office Occupations	6 - Trades & Industrial	7 - Other Vocational
South Winn. (cont'd)	Ag-Business	Mechanical Draw Mech-Gen Auto Math-Consumer Construction Electronics I Metals I Welding		Home Econ I Home Econ II House/Home Furn Living-Family	Shorthand II Typing I Typing-Personal		Drawing/Ar Paint/Oil Art-Other
Starmont	Ag I/Animal Sc Ag II/Plant Sc Ag III/Ag Mec Ag IV/Farm Manag Ag Mechanics Ag-Other			Home Econ I Home Econ II	Bookkeeping I Business-Gen Office Procedure Record Keeping Shorthand I Shorthand-Mach Typing I Typing II	Electricity Ind Arts I Mech-Gen Mech-Gen Auto Drafting I Radio/TV Repair Printing Metals I Woodworking I	Art-Indivi Journalism
Turkey Valley Community			Biology II	Home Econ I Home Econ II Home Econ III	Bookkeeping I Office Procedure Shorthand I Typing I Typing II	Ind Arts I Ind Arts II Ind Arts III Ind Arts IV	Business Law
Valley	Ag I/Animal Sc Ag II/Plant Sc Ag III/Ag Mec Ag IV/Farm Manag				Bookkeeping I Business English Business-Gen Office Practice Shorthand II Typing II		
Wahlert				Home Econ I Home Econ II Home Econ III	Bookkeeping I Office Practice Sec Training Shorthand I Typing II	Ind Arts I Ind Arts II Drafting I Drafting II	

Source: Department of Public Instruction, 1973

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Table 10 (continued)

CURRICULUM ANALYSIS

	1 - Ag Occupations	2 - Distributive Occupations	3 - Health Occupations	4 - Home Economics	5 - Office Occupations	6 - Trades & Industrial	7 - Other Vocational
West Central	Ag I/Animal Sc Ag II/Plant Sc Ag III/Ag Mec Ag IV/Farm Manag			Clothing-Adv Foods-Adv House Decorating House/Home Furn Living-Family	Bookkeeping I Office Practice Shorthand I		
West Delaware			Nursing	Cloth/Textiles Clothing-Adv Child Develop Foods/Nutrition Home Econ I House/Home Furn	Bookkeeping I Business Law I Merchandising Notehand Office Practice Record Keeping Sales Typing I Typing II	Electricity Ind Arts III Mech-Power Mech-Gen Auto Mech II-Auto Repair-Home Shop I-Gen Ind Arts-Other Drafting I Drafting II Metals I Metals II Woodworking II	Coop Time
Western Dubuque	Ag-Business Ag Mechanics Ag Power Ag Rel/Coop Ag Tech Ag Animal Sci Horticulture Soil & Crops			Cloth/Textiles Home Econ I Home Econ II Living-Family	Bookkeeping I Business-Gen Business Law I Office Procedure Record Keeping Shorthand I Typing I Typing-Personal Office Educ	Ind Arts I Ind Arts II Mech-Gen Auto Metal Tech Drafting-Mech Drawing-Arch Circuits-Solid Electronics II Elec/Electr Other Printing Wood Technology	

Source: Department of Public Instruction, 1973

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Table 11

ACTUAL ENROLLMENT FOR 1973-74 - K-8 & 9-12 - PUBLIC SCHOOLS ONLY

SCHOOL	K	1st	2nd	3rd	4th	5th	6th	7th	8th	K-8th	9th	10th	11th	12th	9-12
Allamakee	191	146	166	162	185	167	171	213	211	1612	217	186	169	168	740
E. Allamakee	63	61	71	69	65	85	81	83	82	660	77	74	58	72	281
Postville	56	68	64	76	85	75	81	70	94	669	81	71	94	80	326
Fredericksburg	40	39	43	36	52	46	46	32	47	381	44	38	36	37	155
New Hampton	161	142	162	150	144	166	150	183	165	1423	194	172	186	181	733
Central Clayton	76	55	68	68	65	77	76	96	88	669	102	109	85	101	397
Garnavillo	39	39	30	44	43	41	53	50	54	393	53	52	47	30	182
Guttenberg	76	78	49	50	58	76	68	63	61	579	91	65	77	62	295
Mar-Mac	38	29	39	35	46	47	49	42	38	363	35	46	39	34	154
M-F-L	53	55	58	64	64	70	78	87	79	608	85	84	83	95	347
Starmont	81	83	92	95	88	104	114	113	100	870	120	104	111	85	420
Edgewood-Colesburg	70	61	63	68	58	81	59	64	61	585	67	66	65	68	266
Maquoketa Valley	97	89	69	97	105	99	104	106	115	881	135	101	117	90	443
West Delaware	177	149	170	175	172	182	197	218	229	1669	221	221	214	208	864
Dubuque	1330	858	811	849	877	931	884	880	852	8272	1211	1020	1020	895	4147
Western Dubuque	440	285	134	152	273	179	193	222	239	2117	271	202	229	199	901
Fayette	19	27	24	29	24	32	38	38	34	265	40	31	41	26	138
North Fayette	91	97	123	109	112	125	117	124	136	1034	117	120	111	104	452
Oelwein	137	158	181	174	181	188	181	239	211	1650	224	194	190	187	795
Turkey Valley	92	59	64	52	67	65	83	136	118	736	121	115	112	110	458
Valley	53	47	55	60	52	70	70	65	71	543	63	70	48	59	240
West Central	41	45	42	43	47	55	47	50	66	436	51	50	61	48	210
Howard-Winneshiek	162	136	169	160	162	165	202	195	193	1544	162	177	180	184	703
Riceville	62	58	64	65	71	77	78	88	72	635	88	65	85	72	310
Decorah	122	151	151	151	138	131	148	180	149	1321	177	162	129	157	625
North Winneshiek	36	46	28	48	37	45	47	50	56	393	48	45	36	46	175
South Winneshiek	80	33	28	38	40	43	52	68	56	438	133	114	127	111	485
Leo (Holy Cross)											55	46	33	44	178
Beckman (Dyersville)											140	128	143	123	534
Aquin (Cascade)											69	68	66	36	239
Wahlert (Dubuque)											500	437	472	449	1858
Notre Dame (Cresco)											26	36	31	34	127
St. Joseph (Farley)											33	37	40	35	145

Source: Department of Public Instruction, 1973

Table 11

REPORT EN11 — ENROLLMENT IN IOWA PUBLIC SCHOOL DISTRICTS FOR 1974-75 — 03/20/75 PAGE 1

BY MERGED AREA

CO DIST SCHL NAME	MAREA	TP OK T	TK 0 F	T1 0 T	T2 0 T	T3 0 T	T4 0 T	T5 0 T	T6 0 T	T7 0 T	T8 0 T	T9 0 T	T1 00 T	T1 01 T	T1 02 T	TE OU T	TJ OU T	TS OU T	TE OS TE	TJ OS TE	TS OS TE	TT OO TT
03 0135 000 ALLAMAKEE COMM SCH DIST	01		131	171	123	160	151	179	142	185	210	201	210	176	153				15	18	19	2264
03 1972 000 EASTERN ALLAMAKEE COMM	01		48	56	55	67	68	61	83	79	80	78	75	70	54				7			883
03 5316 000 POSTVILLE COMM SCH DIST	01		56	50	65	61	74	85	76	77	65	95	77	68	95	11						955
19 2349 000 FREDERICKSBURG COMM	01		30	45	39	42	34	53	41	48	33	46	40	38	33				24		8	554
19 4662 000 NEW HAMPTON COMM	01		137	131	135	154	148	148	167	151	184	193	190	168	177						2	2085
22 1080 000 CENTRAL CLAYTON COMM	01		73	73	57	73	73	67	82	79	99	86	101	103	85							1051
22 2394 000 GARNAVILLO COMM SCH DIST	01		21	45	28	26	42	40	37	68	47	50	52	51	42				22	8	10	569
22 2763 000 GUTTENBERG COMM SCH DIST	01		60	52	71	48	51	64	76	71	66	89	88	65	72				5		5	883
22 4095 000 MAR-MAC COMM SCH DIST	01		37	31	30	41	36	47	44	48	40	38	30	39	36				4	1		562
22 4419 000 M-F-L COMM SCH DIST	01		51	50	50	61	57	63	69	80	87	79	84	79	78							896
22 6175 000 STARMONT COMM SCH DIST	01		79	82	86	97	93	84	105	118	107	101	113	102	108				2		1	1280
28 1989 000 EDGEWOOD-COLESBURG COMM	01		55	61	57	60	68	61	82	62	65	60	65	63	60					3		822
28 4043 000 MAQUOKETA VALLEY COMM	01		92	97	69	67	98	98	103	114	104	116	133	94	108							1293
28 6950 000 WEST DELAWARE CO COMM	01		177	145	143	168	169	171	172	224	217	221	214	213	201				13	5	7	2460
31 1863 000 DUBUQUE COMM SCH DIST	01		1375	766	778	795	418	854	988	896	853	1197	1132	964	938			12	139	67	66	12572
31 6961 000 WESTERN DUBUQUE CO COMM	01		443	186	142	136	251	150	184	214	221	301	290	235	248				36			3037
33 2223 000 FAYETTE COMM SCH DIST	01	20	24	20	25	24	29	29	32	33	35	37	41	27	39				4		2	421
33 4774 000 NORTH FAYETTE CO COMM	01		99	90	90	120	106	110	124	121	120	137	119	116	109				6	6	6	1479
33 4869 000 DELWEIN COMM SCH DIST	01		152	133	151	181	177	173	148	208	242	207	220	183	190				10	13		2428
33 6509 000 TURKEY VALLEY COMM	01		94	60	56	69	53	68	66	129	138	118	121	110	110				6			1203

Source: Department of Public Instruction, 1974

CO DIST SCHL	TP OK T	TR 0 T	T1 0 T	T2 0 T	T3 0 T	T4 0 T	T5 0 T	T6 0 T	T7 0 T	T8 0 T	T9 0 T	T1 09 T	T1 01 T	T1 02 T	TE 0U T	TJ UU T	TS 0U T	TE 05 TE	TJ 05 TE	TS 05 TE	TT 00 TT
NAME	M A M E A																				
33 6591 000 VALLEY COMM SCH DIST	01	49	53	47	56	59	54	47	66	67	69	64	67	52							765
33 6943 000 WEST CENTRAL COMM	01	52	87	82	90	42	46	57	66	53	67	50	52	60				1			789
45 3029 000 HOWARD-WINNESHIEK COMM	01	168	124	129	167	168	169	172	226	198	191	159	173	140				13	9	11	2257
45 5500 000 DICEVILLE COMM SCH DIST	01	53	63	54	59	65	70	72	76	86	72	88	65	80							903
96 1630 000 DECORAH COMM SCH DIST	01	130				160	134	133	181	168	151	167	165	125	301			11	10	13	1899
96 4787 000 NORTH WINNESHIEK COMM	01	33	46	40	20	47	33	44	63	58	95	45	37	36				2	2	2	534
96 6300 000 SOUTH WINNESHIEK COMM	01	81	27	29	25	31	41	41	72	71	122	134	110	125				9			913

Table 11 (continued)

Table 12

ACTUAL ENROLLMENT FOR 1968-69 THRU 1973-74
AND
PROJECTIONS FOR 1974-75 THRU 1978-79

YEAR	K	1ST	2ND	3RD	4TH	5TH	6TH	7TH	8TH	9TH	10TH	11TH	12TH	K-12
68-69	4906	3377	3192	3147	3185	2815	2954	3164	3143	3498	3451	3469	3251	43552
69-70	4748	3489	3292	3319	3369	3293	2963	3406	3547	3822	3707	3492	3471	45918
70-71	4591	3487	3350	3380	3484	3390	3452	3414	3530	3878	3899	3585	3367	46807
71-72	4348	3394	3176	3419	3568	3434	3395	3799	3455	3966	3880	3742	3443	47019
72-73	4177	3258	3099	3271	3592	3519	3553	3689	3723	3942	3958	3833	3650	47264
73-74	3883	3094	3018	3119	3311	3422	3467	3755	3677	4228	3754	3751	3509	45988
								PROJECTIONS						
74-75	3662	2863	2865	3086	3278	3303	3512	3894	3877	4234	4263	3649	3600	46086
75-76	3896	2730	2665	2949	3250	3242	3387	3916	3970	4431	4233	4125	3492	46286
76-77	3500	2904	2519	2726	3145	3191	3297	3750	3963	4564	4401	4091	3935	45986
77-78	3381	2605	2675	2583	2870	3051	3261	3628	3793	4585	4522	4265	3900	45119
78-79	3232	2521	2416	2741	2712	2805	3110	3605	3689	4398	4538	4362	4046	44175

The enrollment and census data used to compile this table was provided by the local districts. Elementary and Junior High ungraded and special education pupils have been distributed equally through Grades K-8. Senior High ungraded, Special Education, and Post High pupils have been distributed equally through Grades 9-12.

45988 = Actual Enrollment Grades K-12 for the 1973-74 School Year.

47521 = Projected Enrollment Grades K-12 for the 1973-1974 School Year made by the Department of Public Instruct

3.33 = Percent of Error--Projection to Actual.

Source: Department of Public Instruction, 1973

Table 13

SCHOOL DISTRICT POPULATION
1970 Census Data

Allamakee County	
Allamakee	14,968
Eastern Allamakee	4,500
Postville	5,000
Chickasaw County	
Fredericksburg	2,100
New Hampton	7,500
Clayton County	
Central Clayton	5,000
Garnavillo	2,500
Guttenberg	4,000
M-F-L	4,000
Mar-Mac	2,500
Starmont	5,955
Delaware County	
Edgewood-Colesburg	3,200
Maquoketa Valley	4,935
West Delaware	9,600
Dubuque County	
Dubuque	73,000
Western Dubuque	22,500
Fayette County	
Fayette	2,400
North Fayette	6,200
Oelwein	11,000
Valley	3,635
West Central	2,606
Howard County	
Howard-Winneshiek	11,780
Riceville	2,870
Winneshiek County	
Decorah	11,100
North Winneshiek	1,914
South Winneshiek	3,500
Turkey Valley	4,500

Source: Department of Public Instruction, 1973

Table 14

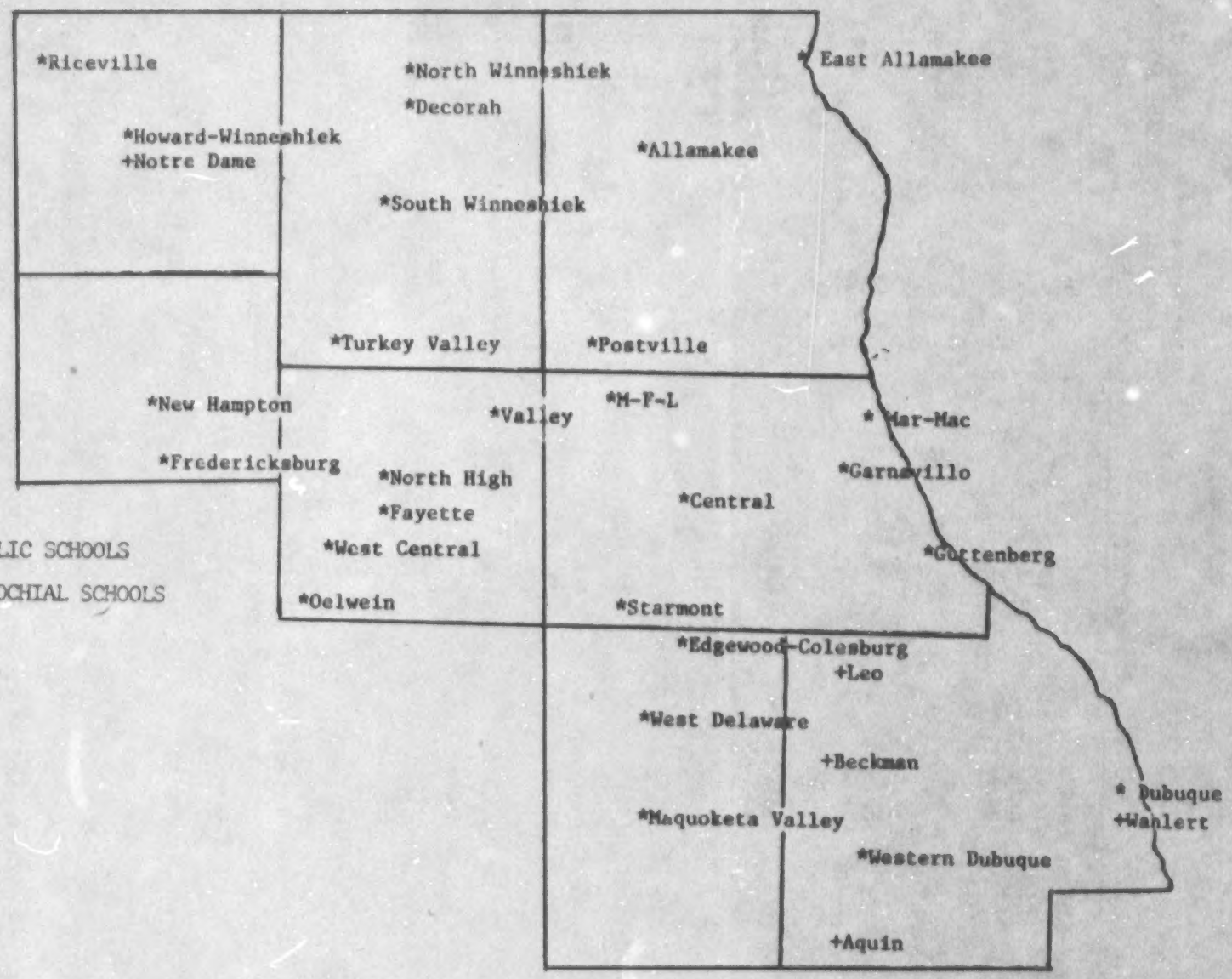
ACTUAL ENROLLMENT FOR 1973-74
PRIVATE SCHOOLS ONLY

County	School	Location	Grades	Total Enrollment
Allamakee	St. Patrick	Waukon	1-6	132
Dubuque	St. Joseph	Dubuque	1-8	555
Dubuque	St. Columbkilles	Dubuque	1-8	791
Dubuque	Holy Trinity	Dubuque	1-8	352
Dubuque	St. Raphael Cathedral	Dubuque	1-8	150
Dubuque	St. Anthony	Dubuque	1-8	710
Dubuque	Holy Ghost	Dubuque	1-8	939
Dubuque	Nativity	Dubuque	1-8	619
Dubuque	St. Marys	Dubuque	1-8	457
Dubuque	Sacred Heart	Dubuque	1-8	579
Dubuque	St. Patrick	Dubuque	1-8	298
Dubuque	St. Joseph-Key West	Dubuque	1-8	221
Dubuque	Wahlert	Dubuque	9-12	1858
Dubuque	Resurrection	Dubuque	1-8	553
Dubuque	Balltown-Sherrill	Sherrill	1-6	173
Dubuque	St. Cath. & Donatus	Dubuque	1-8	146
Dubuque	St. Paul	Worthington	1-6	130
Dubuque	St. Boniface	New Vienna	1-6	138
Dubuque	St. Francis Xavier	Dyersville	1-6	520
Dubuque	Aquin	Cascade	9-12	241
Dubuque	St. Peter & Paul	Dyersville	1-6	103
Dubuque	Leo	Holy Cross	9-12	176
Dubuque	Beckman	Dyersville	7-12	859
Dubuque	Aquin Elementary	Cascade	1-8	555
Dubuque	Farley-Bankston	Farley	2-8	273
Dubuque	St. Joseph	Farley	9-12	145
Dubuque	Epworth-Peosta-Placid	Epworth	1-8	233
Dubuque	Rickardsville-Holy Cross-Luxemburg	Holy Cross	2-8	342
Chickasaw	St. Joseph	New Hampton	1-8	187
Chickasaw	Jerico Lutheran	Lawler	K 2-4	11
Chickasaw	Saude Lutheran	Lawler	5-8	12
Clayton	St. Mary	Guttenberg	1-8	273
Delaware	St. Joseph	Earlville	2-6	88
Delaware	St. Marys	Manchester	1-6	220
Fayette	Sacred Heart	Oelwein	K-6	177
Fayette	St. Luke	St. Lucas	1-6	123
Howard	Holy Trinity	Protivin	1-6	95
Howard	St. Joseph	Cresco	1-6	253
Howard	Notre Dame	Cresco	7-12	185
Winneshiek	St. John	Fort Atkinson	1-6	80
Winneshiek	St. Benedict	Decorah	1-8	164
Winneshiek	St. Aloysius-St. Mary	Calmar	1-8	227
Winneshiek	DeSales	Ossian	1-8	211
Winneshiek	St. Wenceslaus School	Spillville	1-6	124

Source: Department of Public Instruction, 1973

Table 15

PUBLIC & PAROCHIAL HIGH SCHOOLS



*PUBLIC SCHOOLS

+PAROCHIAL SCHOOLS

Table 16

AREA I
VOCATIONAL TECHNICAL ENROLLMENT

- HEADCOUNT ONLY -

YEAR	TERM	HEADCOUNT	CHANGE WITH QTR. IMMEDIATELY PRECEDING	CHANGE WITH SAME QUARTER A YEAR AGO
1967-68	Fall	170	N.A.	N.A.
	Winter	N.A.	N.A.	N.A.
	Spring	N.A.	N.A.	N.A.
	Summer	N.A.	N.A.	N.A.
1968-69	Fall	339	N.A.	99.4%
	Winter	309	-8.8%	N.A.
	Spring	320	+3.6%	N.A.
	Summer	208	-35.0%	N.A.
1969-70	Fall	454	+118.3%	+33.9%
	Winter	423	-6.8%	+36.9%
	Spring	425	+0.5%	+32.8%
	Summer	291	-31.5%	+39.9%
1970-71	Fall	531	+182.5%	+17.0%
	Winter	512	-3.6%	+21.0%
	Spring	485	-5.3%	+14.1%
	Summer	341	-29.7%	+17.2%
1971-72	Fall	515	+151.0%	-3.1%
	Winter	505	-2.0%	-1.4%
	Spring	489	-3.2%	-4.5%
	Summer	240	-50.9%	-29.6%
1972-73	Fall	827	+244.6%	+60.6%
	Winter	823	-0.5%	+63.0%
	Spring	848	+3.0%	+73.4%

Source: Department of Public Instruction, 1973

Table 17

IOWA PUBLIC SCHOOL CENSUS DATA
Pre-School Age

	Under One Year (1)	One Year (2)	Two Years (3)	Three Years (4)	Four Years (5)	Five Years (6)	Total (7)
Allamakee County							
Allamakee	139	143	150	148	163	143	886
Eastern Allamakee	27	44	44	37	64	43	259
Postville	30	47	54	51	52	57	291
Chickasaw County							
Fredericksburg	34	33	26	19	41	22	175
New Hampton	131	117	130	133	150	154	815
Clayton County							
Central Clayton	47	51	53	60	72	43	326
Garnavillo	22	23	35	27	30	37	174
Guttenberg	70	67	77	58	83	98	453
Mar-Mac	26	32	38	34	36	39	205
M-F-L	48	43	63	43	51	55	303
Starmont	64	65	79	71	78	78	435
Delaware County							
Edgewood-Colesburg	56	47	60	66	63	68	360
Maquoketa Valley	72	52	83	74	90	71	442
West Delaware	120	143	171	167	184	172	957
Dubuque County							
Dubuque	844	1,104	1,264	1,211	1,231	1,405	7,059
Western Dubuque	322	325	425	386	443	462	2,363

Source: Department of Public Instruction, June 1972

Table 17 (continued)

IOWA PUBLIC SCHOOL CENSUS DATA
Pre-School Age

	Under One Year (1)	One Year (2)	Two Years (3)	Three Years (4)	Four Years (5)	Five Years (6)	Total (7)
Fayette County							
Fayette	19	17	19	19	16	25	115
North Fayette	46	54	88	94	85	86	453
Oelwein	115	110	141	134	137	164	801
Turkey Valley	69	62	70	90	74	97	462
Valley	32	38	38	53	45	56	262
West Central	35	37	27	43	41	42	225
Howard County							
Howard-Winneshiek	117	132	157	160	163	161	890
Riceville	42	36	48	60	52	53	291
Winneshiek County							
Decorah	97	95	101	93	104	129	619
North Winneshiek	26	24	35	30	35	35	185
South Winneshiek	72	73	80	86	80	92	483
Area Totals	2,722	3,014	3,556	3,447	3,663	3,887	20,289

Source: Department of Public Instruction, June 1972

43

I. Dropout Analysis

An analysis of the school dropout profile was conducted because cooperative career education offerings may be an influential factor in determining whether a student stays in school. This information may also be relevant to the Area One Vocational-Technical School in terms of possible recruitment.

Information gathered from the Department of Public Instruction is listed in Tables 18-25.

There appears to be a positive relationship between school district population and percent of dropouts, with the larger schools having the most dropouts. Merged Area One is lower than the State average but Dubuque County exceeds the State dropout rate in both 1972 and 1973.

J. Social Agency Survey

Part of the Study was a questionnaire sent to all social agency employees within Merged Area One asking what they felt were the career education needs of their clients and how the Area One Vocational-Technical School could best serve their clients (Appendices 34 - 35). Thirty-seven responses were returned. Questions asked the social agency personnel and results follow:

1. What type of client do you deal with? Low income, underemployed, elderly, health aide and handicapped persons.

2. How in the past has Area One Vocational-Technical School been helpful to your clients? John Carver and Mavis Young very helpful. Offering of courses pertaining to health care, and other special classes relating to needs of the people. GED program, Main-Stream, and M.D.T.A. programs very helpful.

3. Of your clients benefiting from the Area One experience, what programs or services benefited them most? Family living, Clerical, Trade programs, Health, and "how to do" classes very beneficial. All of great need.

Table 18

FISCAL 1972 DROPOUT SURVEY
By State, K-12 Enrollment Categories and Merged Areas

	DROPS MALE	DROPS FEMALE	TOTAL DROPS NUMBER	TOTAL DROPS PERCENT	ENROLLEES NUMBER	ENROLLEES PERCENT	DROPOUT RATE
State of Iowa	4,393	3,481	7,874	100.0	307,432	100.0	2.56
K-12 Enrollment Category							
200-499	165	128	293	3.7	22,506	7.3	1.30
500-749	233	195	428	5.4	32,218	10.5	1.32
750-999	240	212	452	5.7	29,938	9.7	1.50
1000-1499	304	213	517	6.6	31,747	10.3	1.62
1500-1999	229	202	431	5.5	23,657	7.7	1.82
2000-2999	514	412	926	11.8	39,984	13.0	2.31
3000+	2,708	2,119	4,827	61.3	127,416	41.4	*3.78
Merged Area							
I	309	253	562	7.1	22,160	7.2	2.53
II	181	147	328	4.2	16,046	5.2	2.04
III	86	57	143	1.8	9,416	3.1	1.51
IV	57	48	105	1.3	7,899	2.6	1.32
V	147	134	276	3.5	19,522	6.4	1.41
VI	132	73	205	2.6	11,667	3.8	1.75
VII	328	259	587	7.5	22,900	7.4	*2.56
IX	530	396	926	11.8	29,888	9.7	*3.09
X	439	356	795	10.1	33,504	10.9	2.37
XI	1,036	796	1,832	23.3	58,600	19.1	*3.12
XII	276	254	530	6.7	19,143	6.2	*2.76
XIII	345	277	622	7.9	20,463	6.7	*3.03
XIV	79	69	148	1.9	8,068	2.6	1.83
XV	266	186	452	5.7	16,784	5.4	*2.69
XVI	187	176	363	4.6	11,372	3.7	*3.19

*Equals or exceeds the State of Iowa dropout rate of 2.56

Source: Department of Public Instruction, 1972

Table 19

FISCAL 1973 DROPOUT SURVEY
By State, K-12 Enrollment Categories and Merged Areas

	DROPS MALE	DROPS FEMALE	TOTAL DROPS NUMBER	TOTAL DROPS PERCENT	ENROLLEES NUMBER	ENROLLEES PERCENT	DROPOUT RATE
State of Iowa	4,941	3,561	8,502	100.0	310,269	100.0	2.74
K-12 Enrollment Category							
200-499	154	113	267	3.1	23,956	7.7	1.11
500-749	239	167	406	4.8	31,118	10.0	1.30
750-999	318	205	523	6.2	32,414	10.4	1.61
1000-1499	320	199	519	6.1	30,450	9.8	1.70
1500-1999	247	173	420	4.9	21,236	6.8	1.97
2000-2999	606	423	1,029	12.1	42,794	13.8	2.40
3000+	3,057	2,281	5,338	62.8	128,301	41.4	*4.16
Merged Area							
I	277	230	507	6.0	22,910	7.4	2.21
II	207	120	327	3.8	16,008	5.1	2.04
III	92	54	146	1.7	9,397	3.0	1.55
IV	31	33	64	.8	7,765	2.5	.82
V	172	99	271	3.2	19,457	6.3	1.39
VI	109	85	194	2.3	11,706	3.8	1.65
VII	417	275	692	8.1	22,888	7.4	*3.02
IX	671	480	1,151	13.5	30,261	9.7	*3.80
X	529	353	882	10.4	34,145	11.0	2.58
XI	1,107	806	1,913	22.5	59,634	19.2	*3.20
XII	370	349	719	8.5	18,872	6.1	*3.80
XIII	378	260	638	7.5	20,993	6.8	*3.03
XIV	78	65	143	1.7	8,144	2.6	1.75
XV	267	179	446	5.2	16,640	5.4	2.68
XVI	236	173	409	4.8	11,449	3.7	*3.57

*Equals or exceeds the State of Iowa dropout rate of 2.74

Source: Department of Public Instruction, 1973

Table 20

FISCAL 1972 DROPOUT SURVEY

County No.	County Name	Drops Male	Drops Female	Drops Total	Enrollees	Dropout Rate
03	Allamakee	25	8	33	2,020	1.63
19	Chickasaw	11	11	22	1,723	1.27
22	Clayton	25	19	44	2,648	1.66
28	Delware	26	14	40	2,387	1.67
31	Dubuque	175	158	333	6,849	*4.86
33	Fayette	22	30	52	3,516	1.47
45	Howard	17	10	27	1,599	1.68
96	Winneshiek	12	8	20	1,865	1.07

*Equals or exceeds the State of Iowa dropout rate of 2.56

Source: Department of Public Instruction, 1972

Table 21

FISCAL 1973 DROPOUT SURVEY

County No.	County Name	Drops Male	Drops Female	Drops Total	Enrollees	Dropout Rate
03	Allamakee	16	13	29	2,031	1.42
19	Chickasaw	12	10	22	1,749	1.25
22	Clayton	34	20	54	2,735	1.97
28	Delaware	20	14	34	2,399	1.41
31	Dubuque	140	134	274	7,282	*3.76
33	Fayette	31	26	57	3,689	1.54
45	Howard	10	6	16	1,607	.99
96	Winneshiek	18	12	30	1,862	1.61

*Equals or exceeds the State of Iowa dropout rate of 2.74

Source: Department of Public Instruction, 1973

STATE OF IOWA

DROPOUTS: TOTALS AND PERCENTS BY GRADE
A FIVE-YEAR COMPOSITE
FY 1969 - FY 1973

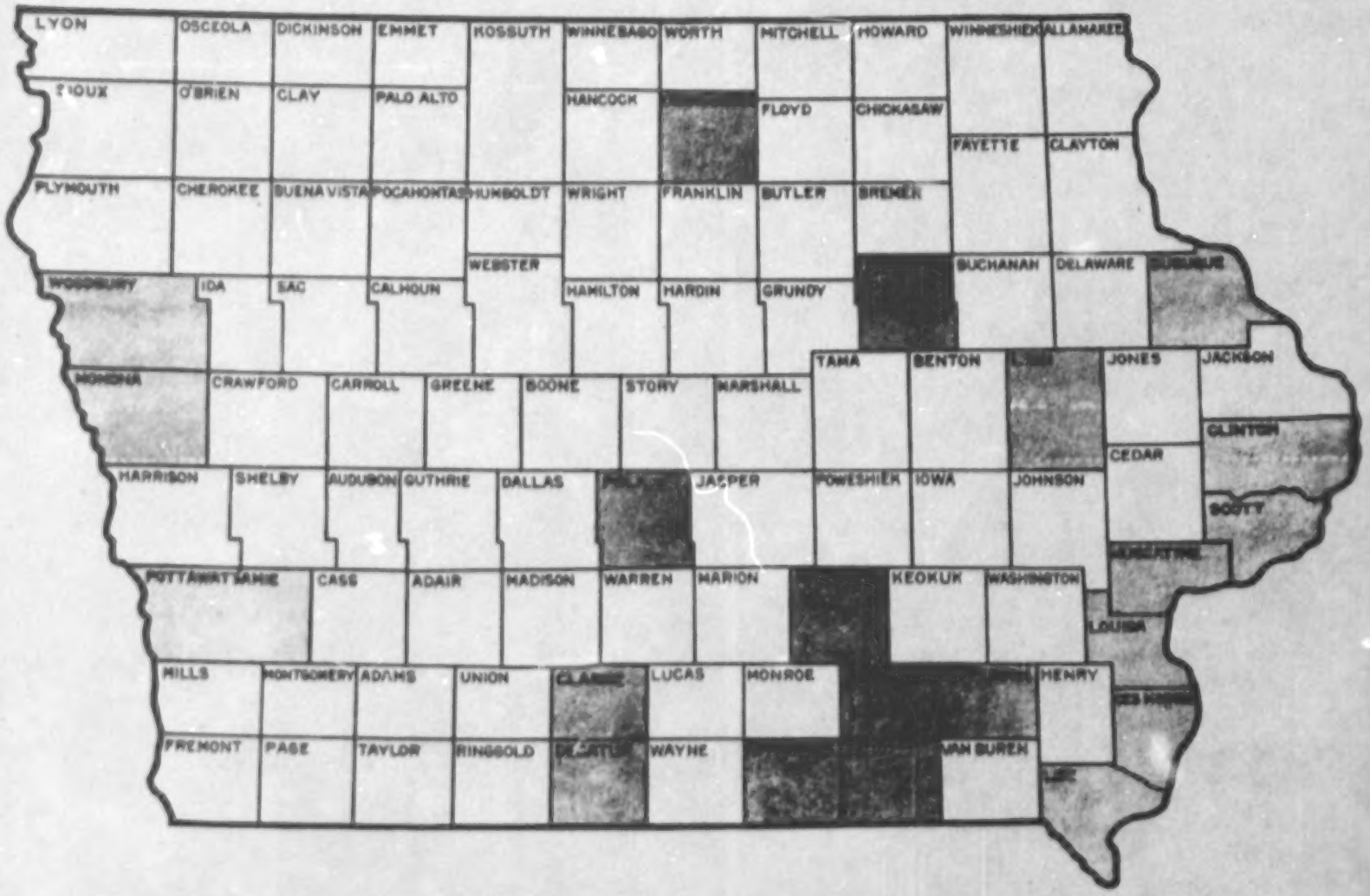
GRADE	FISCAL YEAR 1969 DROPOUTS	FISCAL YEAR 1969 PERCENT	FISCAL YEAR 1970 DROPOUTS	FISCAL YEAR 1970 PERCENT	FISCAL YEAR 1971 DROPOUTS	FISCAL YEAR 1971 PERCENT	FISCAL YEAR 1972 DROPOUTS	FISCAL YEAR 1972 PERCENT	FISCAL YEAR 1973 DROPOUTS	FISCAL YEAR 1973 PERCENT
7	60	.12	199	.27	84	.16	61	.11	60	.11
8	198	.49	267	.54	206	.40	187	.37	156	.29
9	879	1.89	1,042	2.06	1,088	1.99	1,080	1.90	1,110	2.16
10	1,725	3.69	2,194	4.29	2,246	4.36	2,205	4.28	2,247	4.35
11	2,131	4.55	2,754	5.81	2,392	4.90	2,562	5.20	2,843	5.79
12	1,798	4.04	1,961	4.18	1,679	3.65	1,792	3.85	2,040	4.39
OTHER	65	5.17	99	4.99	58	1.60	67	1.65	46	1.01
TOTAL	6,856	2.45	8,384	2.86	7,667	2.52	7,874	2.56	8,588	2.74

Source: Department of Public Instruction, 1973

Table 22

Table 23

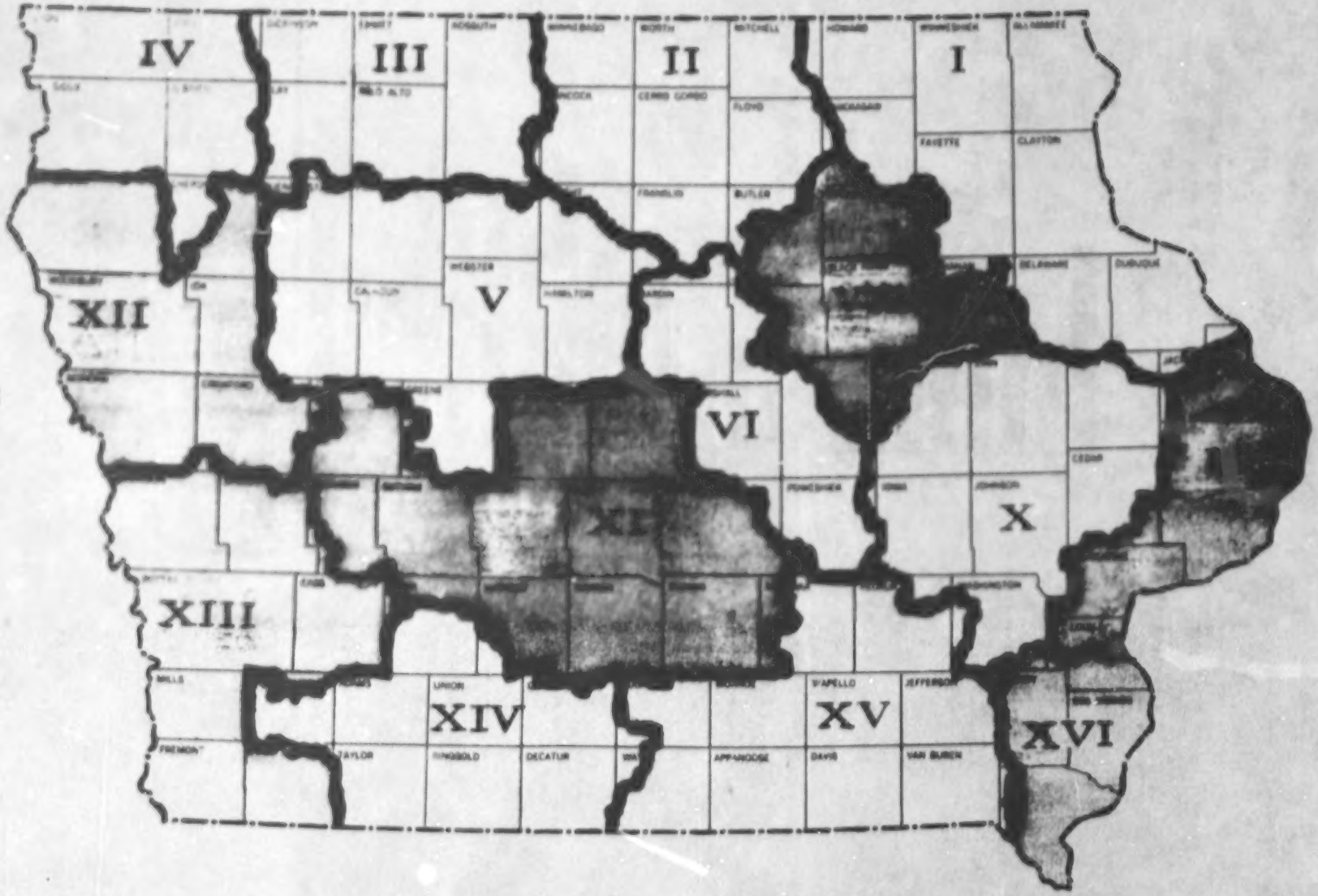
Iowa Counties Whose FY 1973 Dropout Rate Equals Or Exceeds
The FY 1973 Statewide Dropout Rate of 2.74



Source: Department of Public Instruction, 1973

Table 24

Iowa's Merged Areas Whose FY 1973 Dropout Rate Equals or Exceeds
The FY 1973 Statewide Dropout Rate of 2.74

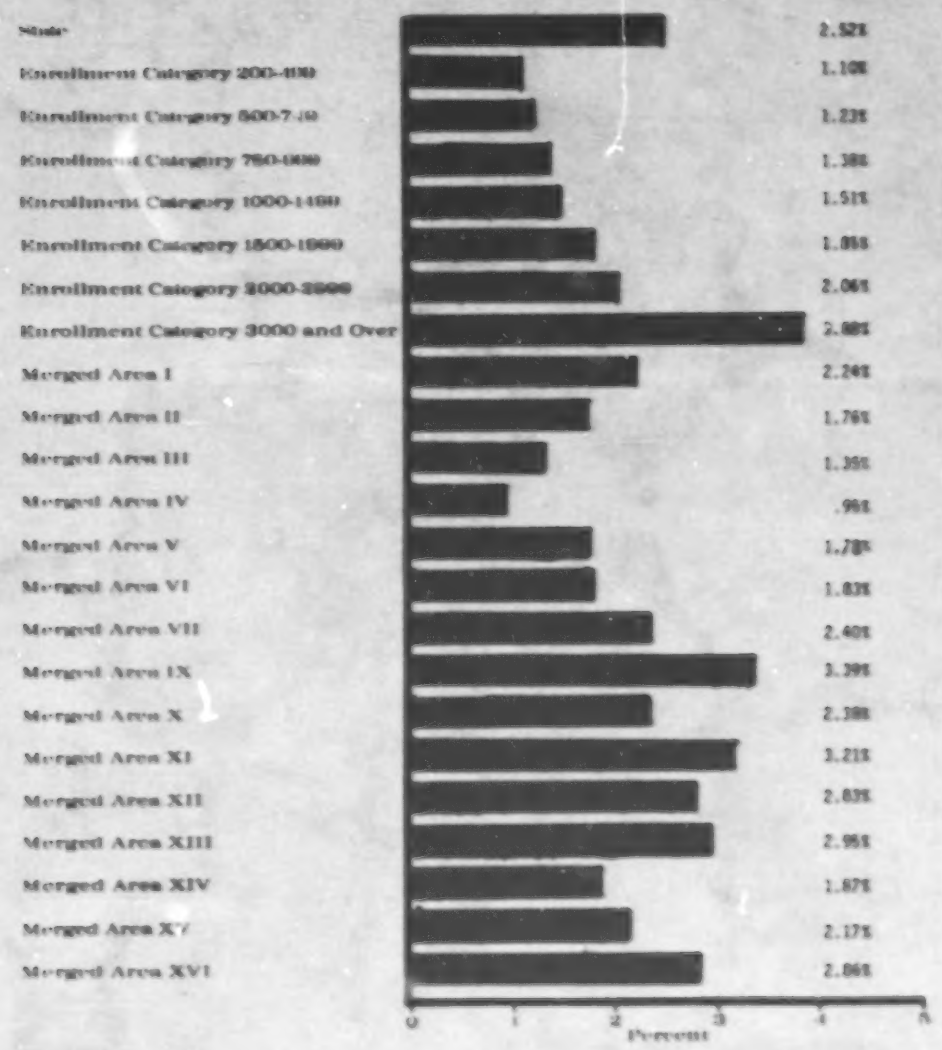


Source: Department of Public Instruction, 1973

Table 25

FISCAL 1971 SECONDARY SCHOOL DROPOUT RATE

A COMPARISON: STATE, ENROLLMENT CATEGORIES, MERGED AREAS



Source: Department of Public Instruction, 1971

4. What services could Area One Vocational-Technical School offer to better accommodate your clients? Budgeting and consumer buying, financial assistance classes. Training facilities for mentally deficient, and teaching disabled citizens. Expand nursing program. Cooperation between Extension Office and Area One, resulting in non-duplication of programs.

5. Other Comments? Spread class to different locations, thus cutting down on transportation. Extension Home Economists to coordinate programs. Short term courses.

K. Population Needs Profile

The make-up of the population of Merged Area One is considered an integral part of this study. The Department of Public Instruction has compiled the following information from the 1970 Census concerning population characteristics of Merged Area One: Population Needs Profile; Individuals Receiving Public Assistance By Category; Number and Percentage of Low-Income Individuals; and Unemployment Data (Tables 26-31).

The reader can observe in terms of the collected data, that Area One has practically no minority population and an unemployment rate of 3.2% which is lower than the state average of 3.5%. Chickasaw and Howard counties experienced unemployment rates considerably higher (4.5% and 4.7%) than the State average (3.5%). Area One had a median family income of $7,828 and the State average was $9,018. The percentage of families below the poverty level was 11.4% in Area One while the State exhibited an 8.9% level.

According to the 1970 Census, an average of 40% of the Merged Area One population over 25 years of age have completed 8th grade but not high school. An average of 10% of the population over 25 have less than an 8th grade education. The average percentage of the Area One population over 25 years of age who have not completed high school is 50% (Table 32).

POPULATION MEDIA PROFILE

Geographical Area	Population Total	% Black	% Span. Am.	% Other Races	Employment No. Civilian 16+ Yrs.	Unemployment 16 Years and Over Total No.	Total Rate	Black No.	Black Rate	Span. Am. No.	Span. Am. Rate	Other Races No.	Other Races Rate	Civilian Labor Force 16+ Y.o.	Unemp. Force Work
AREA I	200,000	.1			79,283	2,545	3.2	0	0	0	0	11	0	81,898	78
COUNTIES															
Allamakee	14,968	.0	.0	.0	5,447	181	3.2	0	0.	0	0.	0	0.	5,608	0
Chickasaw	14,989	.0	.0	.1	4,907	231	4.5	0	0.	0	0.	0	0.	5,136	0
Clayton	20,606	.0	.0	.1	7,374	263	3.7	0	0.	0	0.	0	0.	7,637	13
Delaware	18,770	.0	.0	.2	6,392	125	1.9	0	0.	0	0.	0	0.	6,517	4
Dubuque	90,889	.2	.2	.1	33,408	914	2.7	0	0.	0	0.	11	26.2	34,322	6
Fayette	25,898	.2	.4	.0	9,635	364	3.8	0	0.	0	0.	0	0.	9,999	28
Howard	11,442	.0	.0	.2	3,902	196	4.7	0	0.	0	0.	0	0.	4,157	11
Winneshiek	21,750	.0	.2	.1	8,138	272	3.2	0	0.	0	0.	0	0.	8,410	9
CITIES - 75,000 Plus															
None															
CITIES - 2,500 - 75,000															
Cresco	3,927	.0	.0	.3	1,428	96	6.2	0	0.	0	0.	0	0.	1,520	11
Decorah	7,458	.7	.4	.1	2,156	79	2.4	0	0.	0	0.	0	0.	2,235	0
Dubuque	62,309	.2	.2	.1	23,879	687	2.8	0	0.	0	0.	11	26.2	24,566	0
Oyersville	3,437	.0	.0	.0	1,247	55	3.8	0	0.	0	0.	0	0.	1,402	0
Manchester	4,841	.0	.0	.1	1,737	56	3.2	0	0.	0	0.	0	0.	1,743	0
New Hampton	3,621	.0	.0	.0	1,298	48	3.6	0	0.	0	0.	0	0.	1,346	5
Oelwein	7,735	.0	1.4	.0	2,701	113	4.0	0	0.	0	0.	0	0.	2,814	11
Waukon	3,083	.0	.0	.0	1,688	59	3.4	0	0.	0	0.	0	0.	1,727	5
West Union	2,624	.0	.0	.2	1,068	23	2.1	0	0.	0	0.	0	0.	1,091	0
STATE TOTAL	2,824,376	1.2	.6	.2	1,088,340	39,083	3.5	937	6.0	359	5.8	131	5.4	1,127,433	1,898

Source: Department of Public Instruction, May 1973

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LE

r ate	Other Races No.	Other Races Rate	Civilian Labor Force 16+ Yrs.	Unemp. Farm Work	Pop. 16-21 Not in School Unemp. or not in Labor Force	% Labor Force Partic. 16+	% Working in Co. of Res.	Median Fam. Income 1969 Dollars	% Fam. Below Pov. Level	No. Unemp. Male Fam. Heads Below Pov. Level	No. Fam. with Public Assist.	No. Vietnam Veteran
0	11	0	81,848	78	2,433	56.3	83.2	7,828	11.4	61	1,484	4,168
0.	0	0.	5,648	5	120	55.1	86.5	6,697	15.6	7	174	292
0.	0	0.	5,138	5	134	52.3	76.9	7,700	13.4	10	115	280
0.	0	0.	7,657	13	246	54.2	81.1	7,120	14.7	0	161	379
0.	0	0.	6,517	4	229	55.0	81.0	7,819	15.0	4	100	354
0.	11	26.2	34,322	5	1,161	59.2	92.0	10,168	7.6	6	495	1,934
0.	0	0.	9,999	26	211	53.9	79.1	7,790	12.8	9	197	430
0.	0	0.	4,157	11	157	52.8	86.5	7,202	16.5	4	71	151
0.	0	0.	8,410	9	175	55.5	90.8	7,762	10.5	21	171	339
0.	0	0.	1,520	11	64	50.3	92.0	7,541	15.5	0	23	36
0.	0	0.	3,235	0	26	53.7	94.3	8,418	9.4	6	97	89
0.	11	26.2	24,566	0	824	59.4	92.2	10,454	6.0	6	383	1,219
0.	0	0.	1.452	0	30	61.7	83.4	9,658	6.2	0	17	128
0.	0	0.	1,763	0	52	54.0	87.1	8,571	9.8	0	31	72
0.	0	0.	1.346	5	14	52.3	83.4	8,798	9.8	5	30	66
0.	0	0.	2,814	11	83	52.2	81.4	8,273	9.2	5	69	103
0.	0	0.	1,727	5	39	60.0	88.3	7,520	8.0	0	60	35
0.	0	0.	1,091	0	15	58.3	86.0	8,302	11.5	0	43	24
5.8	131	5.4	1,127,433	1,698	37,391	57.6	83.2	9,018	8.9	975	23,426	58,116

Table 26

Table 27

POPULATION NEEDS PROFILE SUPPLEMENT I

Individuals Receiving Public Assistance - By Category

Merged Areas and Counties	Old Age Assistance	Aid to Dependent Children	Aid to Blind	Aid to Disabled	Total
Area I	1,036	4,309	68	178	5,591
Allamakee	91	294	6	4	395
Chickasaw	67	224	7	11	309
Clayton	143	353	6	18	520
Delaware	99	361	6	18	484
Dubuque	241	2,170	26	73	2,510
Fayette	153	566	9	26	754
Howard	128	186	2	8	324
Winneshiek	114	155	6	20	295
Area II	514	2,485	30	74	3,103
Cerro Gordo	191	1,187	16	24	1,418
Floyd	102	363	9	14	488
Franklin	60	263	3	4	330
Hancock	39	188	2	9	238
Mitchell	41	187	0	4	232
Winnebago	47	149	0	10	206
Worth	34	148	0	9	191
Area III	341	1,731	27	105	2,204
Clay	84	453	9	23	569
Dickinson	55	245	3	15	318
Emmet	50	291	3	8	352
Kossuth	72	393	7	16	488
Palo Alto	80	349	5	43	477
Area IV	247	657	6	35	945
Lyon	50	119	0	6	175
O'Brien	81	204	4	16	305
Osceola	30	108	1	2	141
Sioux	86	226	1	11	324

Data Source: Publication "Monthly Public Assistance Statistical Report, February 1973, (latest available information), prepared by the Iowa Department of Social Services.

Source: Department of Public Instruction, 1973

Table 28

POPULATION NEEDS PROFILE SUPPLEMENT II

Number and Percentage of Low Income Individuals

Merged Areas and Counties	Total Population	Number of Low Income Individuals	% of Total Population
Area I	220,020	34,036	15.5
Allamakee	14,968	3,133	20.9
Chickasaw	14,969	3,014	20.1
Clayton	20,606	4,104	19.9
Delaware	18,770	3,874	20.6
Dubuque	90,609	8,911	9.8
Fayette	26,898	4,325	16.1
Howard	11,442	2,628	23.0
Winneshiek	21,758	4,047	18.6
Area II	130,743	15,381	11.8
Cerro Gordo	49,335	4,259	8.6
Floyd	19,860	2,227	11.2
Franklin	13,255	1,824	13.8
Hancock	13,227	1,827	13.8
Mitchell	13,108	2,315	17.7
Winnebago	12,990	1,591	12.2
Worth	8,968	1,338	14.9
Area III	81,273	11,025	13.6
Dickinson	12,565	1,707	13.6
Clay	18,464	2,231	12.1
Emmet	14,009	1,720	12.3
Kossuth	22,937	3,379	14.7
Palo Alto	13,298	1,988	15.0
Area IV	67,413	10,274	15.2
Lyon	13,340	2,556	19.2
O'Brien	17,522	2,348	13.4
Osceola	8,555	1,218	14.2
Sioux	27,996	4,152	14.8

Data Source: Iowa Revenue Service, through a contract with CAMPS agencies: Data in this report based on Iowa State Income Tax returns for 1973. Low income levels derived by applying poverty guidelines developed by the Manpower Administration of the U.S. Department of Labor.

Source: Department of Public Instruction, 1973

Table 29

POPULATION NEEDS PROFILE SUPPLEMENT III

Work Force Data

Merged Areas and Counties	Annual Average 1971		
	Work Force	Unemployment	Unemployment Rate
Area 1	94,710	4,350	4.6
Allamakee	7,240	300	4.2
Chickasaw	5,780	280	4.9
Clayton	8,590	370	4.3
Delaware	7,020	390	5.6
Dubuque	41,200	1,800	4.4
Fayette	10,770	530	4.9
Howard	4,730	240	5.1
Winneshiek	9,380	440	4.7
Area II	59,300	2,280	3.8
Cerro Gordo	22,260	920	4.1
Floyd	8,830	400	4.5
Franklin	6,020	220	3.7
Hancock	5,410	170	3.2
Mitchell	5,310	260	4.8
Winnebago	7,890	160	2.1
Worth	3,580	150	4.2
Area III	35,760	1,290	3.6
Clay	8,420	300	3.6
Dickinson	5,820	220	3.8
Emmet	6,330	200	3.2
Kossuth	9,630	350	3.6
Palo Alto	5,560	220	3.9
Area IV	26,410	830	3.1
Lyon	4,600	160	3.4
O'Brien	7,030	200	2.9
Osceola	3,680	160	4.3
Sioux	11,100	310	2.8

Data Source: Annual Manpower Planning Report for FY 1974, Iowa Employment Security Commission

Source: Department of Public Instruction, 1973

1970 Census Data

LOW INCOME INDIVIDUALS BY SCHOOL DISTRICT

Merged Area	School Name & District No.	District Population	Low Income Individuals			
			Farm	Non-Farm	Combined	% Low Income
I	Allamakee (Waukon) - 0135	9,220	302	402	704	8
	Central Clayton (Elkader) - 1080	4,479	160	214	374	8
	Decorah - 1638	10,608	196	364	560	5
	Dubuque - 1863	75,057	158	2,534	2,692	4
	Eastern Allamakee (Lansing) - 1972	3,116	81	188	269	9
	Edgewood-Colesburg - 1989	3,314	146	110	256	8
	Fayette - 2223	2,532	45	109	154	6
	Fredericksburg - 2349	2,112	63	67	130	6
	Garnavillo - 2394	1,944	94	65	159	8
	Guttenburg - 2763	4,003	76	193	269	7
	Howard-Winneshiek (Cresco) - 3029	11,256	482	416	898	8
	Maquoketa Valley (Delhi) - 4043	5,259	203	193	396	8
	Mar-Mac (McGregor) - 4095	2,177	39	117	156	7
	MFL (Monona) - 4419	*INA	158	128	286	INA
	Nashua - 4599	3,543	90	118	208	6
	New Hampton - 4662	8,195	261	358	619	8
	North Fayette Co. (West Union) - 4774	*INA	156	232	388	INA
	North Winneshiek (Decorah) - 4787	2,241	119	56	175	8
	Oelwein - 4869	10,863	110	466	576	5
	Postville - 5310	3,759	104	134	238	6
	Riceville - 5508	3,329	155	115	270	8
	South Winneshiek (Calmar) - 6100	5,656	209	175	384	7
	Starmont (Strawberry Point) - 6175	5,134	185	171	356	7
	Turkey Valley (Jackson Junction) - 6509	3,995	184	139	323	8
	Valley (Elgin) - 6591	3,203	116	107	223	7
	West Central (Maynard) - 6943	2,462	92	90	182	7
	West Delaware Co. (Manchester) - 6950	9,305	245	355	600	6
	Western Dubuque Co. (Farley) - 6961	19,164	663	675	1,338	7
	TOTALS	215,926	4,892	8,291	13,183	6

Table 30

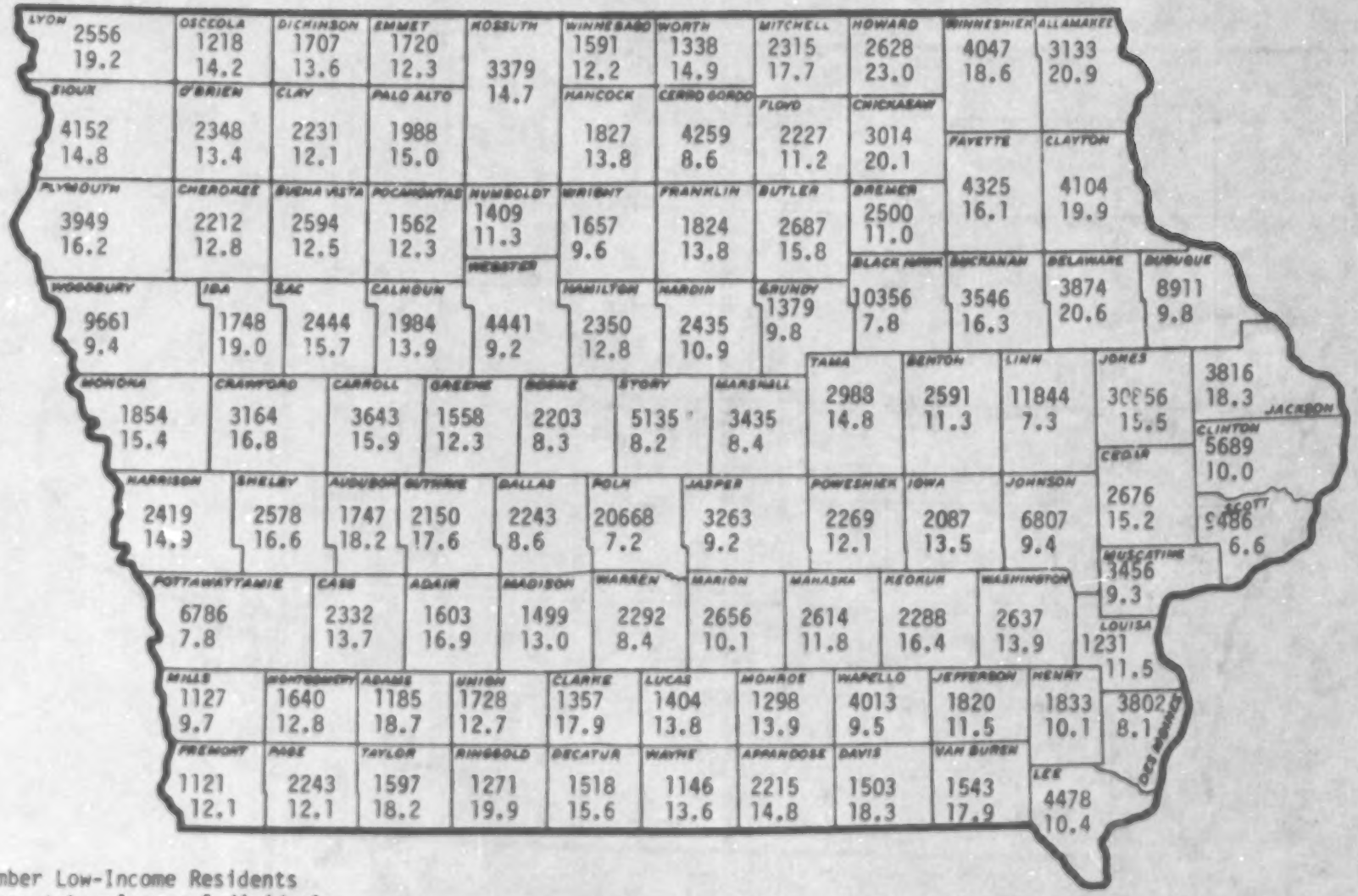
* Population information unavailable.

Source: Department of Public Instruction, 1973
1970 Census Data

Table 31

LOW-INCOME INDIVIDUALS

BY COUNTY - 1971



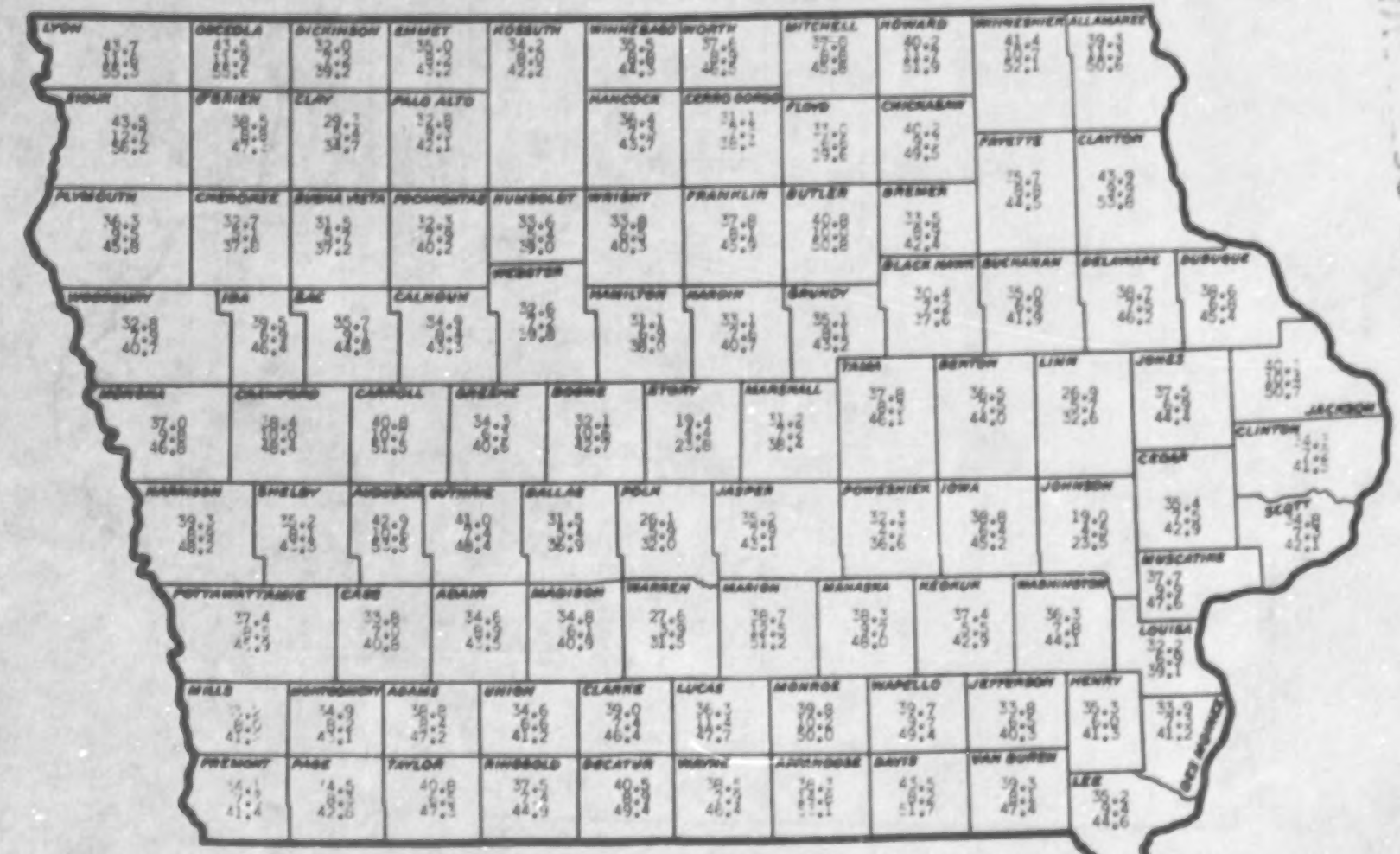
Number Low-Income Residents
Percent Low-Income Individuals

Data furnished by the Office for Planning and Programming, 1973
Statewide Population (County) 2,824,376, Statewide Low-Income 336,055 11.9%

State of Iowa
DEPARTMENT OF PUBLIC INSTRUCTION
Robert D. Benton, Ed.D., State Superintendent
Des Moines, Iowa 50319

As Reported by the 1970 Census

Table 32



The top number indicates percentage of population over 25 years of age who have completed 8th grade but not high school. The middle number indicates percentage of population over 25 years of age with less than an eighth grade education. The lower number indicates percentage of population over 25 years of age who have not completed high school.

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L. Post Secondary Vocational-Technical Offerings

The Area One Vocational-Technical School currently offers 22 preparatory vocational-technical programs at the North Center and 12 programs at the South Center (Table 33).

These program offerings become important in relation to student interest and labor demand data given elsewhere in this study. When alternatives are developed as a result of this study, the possibility or providing opportunities for high school students to enroll in given post secondary programs should be considered.

In addition, articulation linkages become important between post secondary offerings and secondary career education programs which may develop in the future.

With regard to future Area One post secondary offerings, the following projected preparatory career education programs are presently anticipated based upon CENIS labor demand data, as well as indications received from local surveys and advisory groups (not listed in terms of priority):

Food Distribution
Retail Marketing
Respiratory Technician
Legal Secretary
Medical Secretary
Electronics Technician
Heavy Truck Mechanic
Graphic Arts
General Machinist
Mechanical Technology
Industrial Equipment Mechanic
Marketing Management
OSHA Safety Technician

As a result of the Needs Assessment Study, the Area One Vocational-Technical School made the decision to explore the possibility of entering into joint agreement with local schools to make various career education offerings available.

Table 33

Northeast Area One Vocational-Technical School
Full-time Day Course Offerings

North Center - Calmar

Accounting Specialist
Agri-Business
Associate Degree Nursing
Auto Body Repair
Auto Mechanics
Bookkeeping-Accounting
Bricklaying
Building Materials Management
Carpentry
Construction Technology
Cosmetology
Electrician
Farm Implement Mechanics
Farm Management
General Clerical
Interior Decoration
Licensed Practical Nurse
Plumbing and Heating
Production Agriculture
Retail Marketing
Secretarial
Welding

South Center - Dubuque

Accounting Specialist
Associate Degree Nursing
Auto Mechanics
Bookkeeping-Accounting
Child Care
Dental Assistant
General Clerical
Heating and Air Conditioning
Licensed Practical Nurse
Producation Agriculture
Secretarial
Welding

Source: Area One Voc-Tech School, 1974

It was decided to experiment with a 90-hour Exploratory Cosmetology program during the Spring Semester of the 1974-75 school year. The program served 14 students, 7 from New Hampton Community Schools and 7 from Turkey Valley Community Schools.

While the Cosmetology course was in session, plans were made to explore other possible secondary career offerings needed in the merged area. Consequently secondary career planning groups were formed as follows:

Group 1

Howard Winneshiek
Notre Dame
Riceville
Decorah
South Winneshiek
North Winneshiek
New Hampton
Turkey Valley
Fredericksburg

Group 2

Allamakee
Eastern Allamakee
Postville
M-F-L
Mar-Mac
Central Elkader
Garnavillo
Guttenburg

Group 3

Fayette
North Fayette
Valley of Elgin
West Central
Oelwein
Starmont
West Delaware
Edgewood-Colesburg
Maquoketa Valley

Group 4

Western-Dubuque
Beckman
Leo
Acquin
Dubuque
Wahlert

The objectives of these meetings were to (1) determine cooperative needs in relation to possible programming; (2) determine facilities based on availability; and (3) determine methods of finance.

The minutes of the four group meetings are attached in appendices 36, 37, 38, and 39.

Summary of Suggested Cooperative Curriculum Areas
by Interested Schools

Cosmetology (5)	Fredericksburg, Turkey Valley, New Hampton, Howard Winneshiek and South Winneshiek
Health Occupations (7)	Fredericksburg, Turkey Valley, New Hampton, Howard Winneshiek, South Winneshiek, Dubuque, West Dubuque, West Central, Starmont, Maquoketa Valley, West Delaware, North Fayette, Edgewood-Colesburg, Guttenburg, Mar-Mac, Eastern Allamakee, and M-F-L
Distributive Education (2)	South Winneshiek and Turkey Valley
Carpentry (15)	Fredericksburg, Turkey Valley, New Hampton, Howard Winneshiek, South Winneshiek, Riceville, West Central, Starmont, Maquoketa Valley, West Delaware, North Fayette, Edgewood-Colesburg, Garnavillo, M-F-L, and Postville
Auto Mechanics (17)	Fredericksburg, Turkey Valley, New Hampton, Howard Winneshiek, South Winneshiek, Riceville, Dubuque, West Dubuque, West Central, Starmont, Maquoketa Valley, West Delaware, North Fayette, Edgewood-Colesburg, Guttenburg, M-F-L, and Postville
Agriculture Education (4)	Turkey Valley, Dubuque, Western Dubuque, and Eastern Allamakee
Advanced Accounting (1)	Garnavillo
Food Preparation (1)	Garnavillo
Advanced Foreign Language (1)	Guttenburg
Ecology (1)	Guttenburg
Child Care (1)	Mar-Mac

As a result of the group meetings described earlier, two classes are scheduled to begin in the fall of 1975 serving approximately 70 students. A Building Construction preparatory course will be conducted in cooperation with Edgewood-Colesburg, Maquoketa Valley and Starmont Community Schools. A duplex structure will be built in Edgewood with students in Maquoketa Valley and Starmont traveling to Edgewood.

An exploratory Agriculture course will be offered at Eastern Allamakee and Turkey Valley Community Schools. To make this possible, Area One instructors will offer instruction in the facilities of the two participating schools. Neither the Eastern Allamakee Community School District or the Turkey Valley Community School District has an agricultural course within their school curriculum.

The Area One Vocational-Technical School has made an effort to remain sensitive to the needs of special interest groups in regard to the establishment of joint secondary career education offerings. (Appendix 40)

It is felt that both courses will be meeting needs that are not currently being met by the participating schools. It is anticipated that preliminary work will be done during the 1975-76 academic year to identify additional joint offerings needed in Merged Area One, depending upon the interest and requests from respective local community schools.

M. Alternative Methods of Attempting to Meet Identified Needs

Determining methods of meeting the career education needs of students within Merged Area One was one of the prime objectives of the study.

Throughout the study, meetings were held with key community school administrators and an assessment of their thoughts on alternative methods of meeting career education needs was conducted. Suggested alternatives along with possible advantages and limitations follows:

(1) Make it possible for high school students to slot into the regular full-time classes on the Area One campuses at Calmar and Dubuque. This could be accomplished during prime time (8:15 to 3:15) or at the conclusion of the regular Area One Vocational-Technical day. It was suggested that students take a block of course work that would be transferable if they wish to attend Area One or another area school in Iowa upon completion of their high school program.

Advantages

A. There would be certified instructors teaching preparatory programs. Existing facilities might be available during the regular school day.
B. Facilities and equipment would be available without additional purchases.
C. Course credit might be more transferable.

Limitations

A. The shop facilities at the Area One Vocational-Technical School are heavily used during prime time (8:15 - 3:15).
B. During prime time, the Area One instructors are teaching a full load.
C. Only sixteen of thirty-two high schools in Area One would be within 30 miles of the two present attendance centers.
D. Students would be limited to courses already being offered at Area One Vocational-Technical School.

(2) Purchase mobile vans to travel Area One, furnished with the necessary materials and equipment to offer preparatory or exploratory courses. The thought behind this suggestion was that this would eliminate extensive student travel and that all school districts would, at some time, have available to their students the same curricular offerings as other schools. It would be fairly equitable. This particular suggestion was popular with small schools on the edge of the merged area who envisioned a great deal of travel with any cooperative plan. Auto Mechanics, Machine Shop and Data Processing were the three subject areas mentioned in a discussion of this alternative plan.

Advantages

A. The mobile van would periodically get within a reasonable distance of each school in Merged Area One.
B. Should avoid duplication of expensive equipment purchases by the local schools.

Limitations

A. The expense of equiping and operating the vans might be unrealistic.
B. Depending upon the number of vans in use, it may be a considerable length in time before each section of the area would have a particular subject area in their location.

(3) The suggestion was made that Area One instructors would serve local community schools as consultants to local instructors teaching in the same vocational area. The thought was that the local high school instructors, in many cases, may not have sufficient occupational background in the subject taught. With periodic consultations and demonstrations, an on-going inservice program could be established with high school students profiting from the plan.

Advantages

A. Experts in the field could serve as consultants to instructors who have less occupational experience.
B. No student travel involved.
C. It would not necessarily be an expensive program.

Limitations

A. The assistance provided would be limited to the occupational background of instructors presently employed at Area One.
B. The consultant's time might be inadequate if all the high schools requested said consultative services.

(4) One of the most popular suggestions was the employment of a Career Education Consultant to serve the local school districts. This person would help the local school develop short- and long-range plans for career education curricula on a K-12 basis. This suggestion was prompted by a felt need expressed by local administrators to offer career education experiences on a K-12 basis and also to meet Department of Public Instruction guidelines.

Advantages

A. This individual could help local administrators develop guidelines in implementing career education curricula on a K-12 basis.
B. Distributed over the merged area the cost might be quite reasonable.

Limitations

A. This alternative would not provide an preparatory experiences for the secondary student.

(5) The possibility of establishing several career centers within Merged Area One was discussed at length. These centers would be situated geographically to serve several school districts with minimal student travel. The centers might be located in structures independent of local schools or possibly housed in existing facilities of specific local school districts. The participating schools would determine the courses offered at each center with the emphasis placed on courses not presently offered at the community school.

Advantages

A. With the establishment of several centers, most schools would have the opportunity to participate.
B. The participating schools would determine the curriculum offered.
C. The centers would be established at centralized locations in order to cut down extensive student travel.
D. Where necessary the centers would be established apart from a local high school so as not to disrupt scheduling and facility usage within that school.
E. The alternative would be financially desirable to many local schools in that they would not have to hire a full-time instructor for a limited number of students.
F. Students enrolled in preparatory courses would be taught by an occupationally-experienced individual.

Limitations

A. Student travel to the designated center would be required.
B. A quota might be necessary which would limit the number of students attending from each school.

IV. Limitations

It became apparent that a need exists to better define "exploratory" and "preparatory" terms due to confusion experienced during the study.

While the study presents certain information relative to career education needs, the delivery system to meet these needs remains to be identified.

Preparatory career offerings are frequently not offered at the secondary level due to financial considerations and the study did not attempt to identify the adequacy of present funding support for such offerings.

V. Dissemination of Study

Participating school districts and social agencies in Merged Area One will be provided with copies of this document. Additional copies will be available from the Department of Public Instruction, Career Education Division, Des Moines, Iowa.

VI. Conclusions

The Study suggests a need for more career education offerings for school districts located within Merged Area One. A tremendous amount of interest was exhibited by local school administrators in the possibility of offering expanded career education experiences to their students on a cooperative basis. The prevailing attitude was to "do the best we can afford for the kids."

As a result, the Area One Vocational-Technical School has assumed responsibility as a facilitator for implementation of a cooperative secondary career education project. A proposal was written and presented to Area One Superintendents in September of 1974.

It appears that, at the time of this writing, there will be a cooperative offering of career education experiences to secondary students in Area One beginning March 1975 on a limited basis; and on September 1975 several vocational centers may be established throughout Merged Area One.

APPENDIX

Appendix 1

Determining the Career Education Needs for Merged Area One

Advisory Committee

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Appendix 2

Northeast Area One
Vocational-Technical School
Calmar, Iowa

TO: Area One Superintendents

SUBJECT: Area One Career Education Coordinating Committee Report

The Area One Career Education Coordinating Committee met Monday, October 29, 1973, at Starmont to discuss a proposed Area One study of career education needs in the twenty-seven school districts comprising the Area One District. Members in attendance at the meeting included Superintendents Ramon Green, Wayne Burns, Garland Wessels, Loren Englund, and Max Clark. Also present were Arden Johnston, Noel Koranda, and Darwin Schrage.

It was announced that the K-Adult Career Education planning grant, previously reviewed by committee members, was approved for implementation by the Department of Public Instruction. The study is projected to be underway by mid-November 1973 and completed June 30, 1974. The primary objectives of the planning study are summarized below:

1. Assess current career offerings at all levels, K-Adult.

2. Identify career education needs K-Adult.

3. Determine appropriate delivery system to meet identified needs.

In addition to providing information needed in the study, it is felt that the investigation may provide useful information to each individual district. Arrangements are being made for consultative services with one of the state universities for the purpose of gathering and analyzing needed information. An advisory committee is being organized which will include individuals from the following categories: school districts, business and industry, referral agencies, and agriculture. A meeting of the advisory committee will be held in the near future to review the planning study prior to implementation.

If this study is to be meaningful, a great deal of cooperation will be needed on the part of everyone involved. Each school district will be asked to provide information for this study. If you wish additional details, please contact me at your convenience.

Max R. Clark
Chairman
10/30/73

Four-part K-12 Career Education Attitude Inventory

Does the school provide:

1. activities which help students develop a healthy value system.
2. activities which help students develop positive feelings about themselves.
3. activities which help students develop vocational interests.
4. activities that helped students in choosing careers in line with their own abilities, interests, and goals.
5. activities which help students learn to make proper use of their leisure time.
6. activities which help them learn about the world of work.
7. activities which help students develop positive attitudes toward work.
8. activities which teach students to appreciate the dignity and value of work.
9. activities which help students understand the economic nature of the nation.
10. activities which help students plan careers.
11. activities which help students select careers.
12. activities which help students learn about the relationship between education and work.
13. activities which help students learn skills that they will be able to use in their chosen careers.
14. a satisfactory variety of vocational courses leading to employment.

KEY:
Teacher-My course provides
Parent-Our school should provide
Administrator-Our school provides
Student-My school has provided

Appendix 4

Parochial and Public School Survey Population
1973-74 School Year

		Total Professional Staff	Administration	Seniors
Winneshiek				
	Decorah	111	17	166
	North Winneshiek	43	6	47
	South Winneshiek	63	9	112
	Parochial	35	4	
Allamakee				
	Waukon	121	18	177
	East Allamakee	46	6	34
	Postville	62	9	84
	Parochial	12	2	
Howard				
	Howard-Winneshiek	136	19	199
	Riceville	63	9	73
	Parochial	26	4	
Chickasaw				
	New Hampton	107	15	185
	Fredericksburg	39	6	39
	Parochial	12	2	
Fayette				
	Oelwein	132	19	205
	North Fayette	80	12	107
	Turkey Valley	62	9	111
	Valley of Elgin	52	7	64
	Maynard	37	5	53
	Fayette	32	5	28
	Parochial	33	3	
Clayton				
	Starmont	77	11	93
	Elkader	66	9	103
	MFL	57	7	96
	Guttenberg	48	6	64
	Garnavillo	38	5	29
	Mar-Mac	35	5	36
	Parochial	10	2	
Delaware				
	Manchester	132	19	215
	Maquoketa Valley	73	11	95
	Edgewood-Colesburg	47	6	70
	Parochial	14	2	
Dubuque				
	Dubuque	753	100	958
	Western Dubuque	178	25	269
	Parochial	531	40	

Source: Department of Public Instruction, 1973-74 School Year

TEACHER QUESTIONNAIRE

Appendix 5

Major Teaching Assignment: _____

Course Code

School: _____

School Code (leave blank)

INSTRUCTIONS: Please respond to the statements below by circling one of the responses both before and after each statement. The column to the left of the statements is for your feelings about what your school presently Does. The column to the right is for your feelings about what your school Should do. In each case circle the A if you agree and the D if you disagree.

EXAMPLE:

DOES			SHOULD	
A	(D)	Our school has 100% athletic participation by all students.	(A)	D

* * * \

Appendix 6

ADMINISTRATOR QUESTIONNAIRE

Position Code

Position: _____

School Code (leave blank)

School or District: _____

INSTRUCTIONS: Please respond to the statements below by circling one of the responses both before and after each statement. The column to the left of the statements is for your feelings about what your school presently Does. The column to the right is for your feelings about what your school Should do. In each case circle the SA if you strongly agree, A if you agree, D if you disagree, SD if you strongly disagree.

EXAMPLE:

DOES		SHOULD
SA A (D) SD	Our school has 100% athletic participation by all students.	SA (A) D SD

DOES		SHOULD
SA A D SD	1. Our school(s) provide(s) activities which help students develop healthy values.	SA A D SD
SA A D SD	2. Our school(s) provide(s) activities which help students develop positive feelings about themselves.	SA A D SD
SA A D SD	3. Our school(s) provide(s) activities which help students develop vocational interests.	SA A D SD
SA A D SD	4. Through activities provided by our school(s), students are helped in choosing careers in line with their own abilities, interests, and goals.	SA A D SD
SA A D SD	5. Our school(s) provide(s) activities which help students learn to make proper use of their leisure time.	SA A D SD
SA A D SD	6. Our school(s) provide(s) activities which help students learn about the world of work.	SA A D SD
SA A D SD	7. Our school(s) provide(s) activities which help students develop positive attitudes toward work.	SA A D SD
SA A D SD	8. Our school(s) provide(s) activities which teach students to appreciate the dignity and value of work.	SA A D SD
SA A D SD	9. Our school(s) provide(s) activities which help students understand the economic nature of the nation.	SA A D SD
SA A D SD	10. Our school(s) provide(s) activities which help students plan careers.	SA A D SD
SA A D SD	11. Our school(s) provide(s) activities which help students select careers.	SA A D SD
SA A D SD	12. Our school(s) provide(s) activities which help students learn about the relationship between education and work.	SA A D SD
SA A D SD	13. Our school(s) provide(s) activities which help students learn skills that they will be able to use in their chosen careers.	SA A D SD
SA A D SD	14. Our school(s) provide(s) a satisfactory variety of vocational courses leading to employment.	SA A D SD

M____ F____ STUDENT QUESTIONNAIRE Appendix 7

_____
School

School Code (leave blank)

INSTRUCTIONS: Please respond to the statements below by circling one of the responses both before and after each statement. The column to the left of the statements is for your feelings about what your school presently Does. The column to the right is for your feelings about what your school Should do. In each case circle the SA if you strongly agree, A if you agree, D if you disagree, SD if you strongly disagree.

EXAMPLE:

DOES		SHOULD
SA A (D) SD	My school has 100% athletic participation by all students.	SA (A) D SD

DOES		SHOULD
SA A D SD	1. My school has provided activities which have helped me develop healthy values.	SA A D SD
SA A D SD	2. My school has provided activities which have helped me develop a positive feeling about myself.	SA A D SD
SA A D SD	3. My school has provided activities which have helped me develop my vocational interests.	SA A D SD
SA A D SD	4. Through activities provided by my school, I have been helped in choosing a career in line with my own abilities, interests, and goals.	SA A D SD
SA A D SD	5. My school has provided activities which have helped me learn about the world of work.	SA A D SD
SA A D SD	6. My school has provided activities which have helped me learn to make proper use of my leisure time.	SA A D SD
SA A D SD	7. My school has provided activities which have helped me develop positive attitudes toward work.	SA A D SD
SA A D SD	8. My school has provided activities which have taught me to appreciate the dignity and value of work.	SA A D SD
SA A D SD	9. My school has provided activities which have helped me understand the economic nature of the nation.	SA A D SD
SA A D SD	10. My school has provided activities which have helped me plan a career.	SA A D SD
SA A D SD	11. My school has provided activities which have helped me select a career.	SA A D SD
SA A D SD	12. My school has provided activities which have helped me learn about the relationship between education and work.	SA A D SD
SA A D SD	13. My school has provided activities which have helped me learn skills that I will be able to use in my chosen career.	SA A D SD
SA A D SD	14. My school has provided a satisfactory variety of vocational courses leading to employment.	SA A D SD

CITIZEN QUESTIONNAIRE

Appendix 8

School District

School Code

INSTRUCTIONS: Please respond to the statements below by circling one of the responses both before and after each statement. The column to the left of the statements is for your feelings about what your school presently Does. The column to the right is for your feelings about what your school Should do. In each case circle the A if you agree and the D if you disagree.

EXAMPLE:

DOES			SHOULD	
A	(D)	Our school has 100% athletic participation by all students.	(A)	D

* *

DOES				SHOULD	
A	D	1.	Our schools should provide activities which help students develop a healthy value system.	A	D
A	D	2.	Our schools should provide activities which help students develop positive feelings about themselves.	A	D
A	D	3.	Our schools should provide activities which help students develop vocational interests.	A	D
A	D	4.	Through activities provided by our schools, students should be helped in choosing careers in line with their own abilities, interests, and goals.	A	D
A	D	5.	Our schools should provide activities which help students learn to make proper use of their leisure time.	A	D
A	D	6.	Our schools should provide activities which help learn about the world of work.	A	D
A	D	7.	Our schools should provide activities which help students develop positive attitudes toward work.	A	D
A	D	8.	Our schools should provide activities which teach students to appreciate the dignity and value of work.	A	D
A	D	9.	Our schools should provide activities which help students understand the economic nature of the nation.	A	D
A	D	10.	Our schools should provide activities which help students plan careers.	A	D
A	D	11.	Our schools should provide activities which help students select careers.	A	D
A	D	12.	Our schools should provide activities which help students learn about the relationship between education and work.	A	D
A	D	13.	Our schools should provide activities which help students learn skills that they will be able to use in their chosen careers.	A	D
A	D	14.	Our schools offer a satisfactory variety of vocational courses leading to employment.	A	D

Appendix 9

AREA ONE VOCATIONAL-TECHNICAL SCHOOL
MID CAREER EDUCATIONAL NEEDS SURVEY

1. Your age ___ Sex ___ Marital status ___ Single ___ Married ___

2. Are you presently employed? ___ Yes ___ No Are you retired ___ Yes ___ No
If no, go to question #13.

3. Did you graduate from high school ___ Yes ___ No
If no, state highest grade completed ___

4. Did you attend: (Check those that apply)
2 year college ___ vocational-technical school ___
4 year college ___ business and industry school ___
trade school ___ military school ___

5. Exact title or name of job you now hold _____

6. Name of employer _____

7. Hours you work per week ___

8. Number of years employed at present job:
Under 1 year ___
1-5 years ___
6-10 years ___
11-20 years ___
Over 20 years ___

9. In your present position, were you trained at: (check one)
a college ___ vocational-technical school ___
trade school ___ business and industry school ___
military school ___ none ___
How long were you trained for present position:
No specific training ___ 2 years ___
2 months ___ 3 years ___
6 months ___ 4 years ___
1 year ___ Over 4 years ___

10. How many jobs have you held in the past 10 years? ____ (the number)

11. Are you basically satisfied with your present job..all things considered:
___ Yes ___ No If no, please check reason, 1. Financial ___, 2. Dull Job ___, 3. Promotion Opportunities ___, 4. Other _____

12. What would you like to do if you could change jobs? _____
_____

13 If you had the opportunity for additional training, what are the main areas or items you would like to receive training in? _____
_____
Would you be willing to attend evening classes. ____
Full term day classes. ____

14. If you could change jobs, would you rather be employed:
___ In another part of Iowa ___ On the West Coast
___ In the Midwest-outside Iowa ___ On the East Coast
___ In the South ___ In the Southwest
___ Present Area ___ Foreign Country

Appendix 10

AREA ONE VOCATIONAL-TECHNICAL SCHOOL
P. O. Box 400
CALMAR, IOWA 52132

TO: Local Adult Education Coordinators

FROM: Noel Koranda
Area I Vocational-Technical School

RE: Career Education - Adult Education Survey

Area One Vocational-Technical School has been awarded a grant from the Department of Public Instruction to assess the needs of the residents of Area One in terms of Career Education.

The study will include data collection on enrollment, finances, employment needs, student needs and a variety of questionnaires to students, teachers, administrators, parents, businessmen and local citizens.

Part of the study is what we call a Mid-Career Educational Needs Survey in which we would like to determine the employment needs and desires of individuals in a middle-age composite.

Could we have your cooperation in distributing these forms to the respective Adult Education teachers in your school district for completion by their adult students? It is anticipated that the information from the Mid-Career Educational Survey will be helpful in future Adult Education planning as well as being a part of the Career Education Study.

We have enclosed a stamped, self-addressed envelope for your convenience in sending back the completed forms.

Thank you for your cooperation!

Noel Koranda
Assistant Project Director
Career Education Needs Assessment
Area I Vocational-Technical School
Box 400
Calmar, Iowa 52132

R. Gene Gardner
Director, Adult & Continuing Education
Area I Vocational-Technical School
Box 400
Calmar, Iowa 52132

I. SUMMARY OF THE CENIS LABOR DEMAND SURVEY

The Career Education Needs Information System (CENIS) Labor Demand Survey was conducted during the late summer and fall of 1972 and culminated during the first quarter of 1973. Years of planning efforts on the part of individuals and agencies have preceded this cooperative effort to collect comprehensive statewide and area labor demand data directly from Iowa's employers.

A. Selection of Employers

1. An employer inventory was developed, including these components: (a) a listing from Iowa Employment Security Commission of all employers of four or more, subject to unemployment insurance regulations; (b) supplemental listings including nursing homes, custodial homes, hired farm workers, federal, state, county, and municipal governments, school districts, and establishments headquartered out of state with branches in Iowa. Employers were classified according to the Standard Industrial Classification system, and an occupational/industrial matrix was developed.

2. From the complete employer inventory, a representative sample was drawn for each of the 15 merged areas based on firm size, types of industries, and other statistical sampling techniques applied by the Iowa State Statistical Laboratory. Approximately 5,600 firms were sampled statewide, with area sample sizes ranging from 180 in Area IV, Sheldon to a high of 815 in Area XI, Des Moines.

B. Selection of Occupations

1. Several qualifications were applied to the choice of occupations to be included in the survey:

   a. Only those occupations requiring less than a baccalaureate degree were considered.

   b. Occupations currently being taught in area school or secondary school occupational training programs were included.

   c. Both declining and emerging occupations were selected, to the degree that they could be identified.

2. Tentative lists of occupations were developed and reviewed by DPI consultants, vocational-technical directors at secondary and area schools, and by such outside expert groups as the Iowa Development Commission, Employment Security Commission, Master Builders of Iowa, Center for Industrial Research and Service, Agricultural Education Department at Iowa State University, and similar groups.

3. Approximately 300 occupations were included in the final listing, ranging in skill level from low-training time occupations such as waitress to extremely technical jobs as exemplified by the Industrial Hygienist.

C. Survey Implementation

1. Employer Pre-Notification: News releases explaining the purpose and methods of the survey were prepared and disseminated to all pertinent employer organizations, with the request that appropriate articles be published in the associations' newsletters or house organs, for endorsement purposes, and to inform members of the pending survey.

2. Each of the fifteen merged area schools designated an individual to function as the survey coordinator for that institution and also assigned a sufficient number of staff members as interviewers to insure personal contact with each employer in the area sample.

3. Each participating employer received letters of notification of his selection in the area sample. The area school superintendent sent the notification and enclosed letters co-signed by the State Superintendent of Public Instruction and the Director of the Iowa Development Commission.

4. The survey instrument utilized was adapted from questionnaires previously used successfully in similar surveys. Eighteen categories of occupations were developed from the occupational-industrial matrix and pre-printed questionnaires were prepared accordingly, to minimize the number of questionnaires which one given employer would review.

5. Area school personnel personally interviewed each employer in the sample, obtaining general information for the Employer Data Sheet (type of business, total number of employees, etc.) and specific occupational details on the questionnaires.

6. Completed questionnaires were batched by the Area coordinators and dispatched to the Department of Public Instruction for hand editing and subsequent forwarding to the Iowa State Statistical Laboratory.

D. Analysis and Processing of Survey Results

1. Classification of survey entries: Entries on the survey instrument were classified according to Dictionary of Occupational Titles (DOT) codes and titles. In order to render the results more meaningful to educators, conversion tables were developed, relating DOT classification to Office of Education (OE) taxonomy titles and codes.

2. Responses from each area were examined and sample weights were assigned, taking into consideration the number and size of negatively-responding firms (out-of-business or refused to participate) and relating these data to the positive (usable) responses in building estimates for each survey entry.

3. After area and statewide estimates were established, various arrangements of data were developed in print out form, to serve as the base for further in-depth study and dissemination of survey results and implications.

E. Aids to Interpreting Survey Results

1. The following data-related factors should be recognized and considered when reviewing survey data.

a. Employer Exclusions

Although this survey is by far the most comprehensive inclusive investigation ever attempted in Iowa, certain exclusions still existed, as follows:

1. Farmers (farm owner-operators) were not included. Data from Iowa State University's Farmer Replacement Study will eventually be plugged into CENIS.

2. Self-employed workers were omitted unless they had voluntarily elected unemployment insurance coverage.

3. Some small employers (1-3 workers) were excluded, although over 4,500 of these firms had voluntarily elected to provide unemployment insurance for their workers and thus were encompassed by the survey.

4. Railroad workers were not included in the survey.

b. Data Collection Procedures

1. Time Frame -- Due to unforeseen problems and delays, data collection time ranged from July, 1972, to March 1973.

2. Data Collecting Staff

Workshops were held for the 15 area coordinators and for a minimum of two interviewers from each school. However, few, if any, of the interviewers possess prior interviewing experience.

3. Employer Participation

a. In most instances, each employer in the area sample was contacted by an area school representative and an Employer Data Sheet (name of firm, type of business, person contacted, total number of employees, etc.) was completed.

b. If the employer agreed to participate, the appropriate questionnaire(s) were completed.

c. If the employer declined to participate or if the firm was out of business or could not otherwise be located, this information was noted on the Employer Data Sheet to identify the nonrespondents and assist in weighting the sample when developing the employment estimates.

c. Quality of Employer Responses

1. The validity and reliability of employer responses were limited by two major factors: (1) their ability and (2) their willingness to predict future employment patterns in the surveyed occupations represented in a given employer's firm.

2. Many employers tended toward straight-line projections, indicating no significant change in employment anticipated during the time periods encompassed in the survey.

3. Larger employers, with more sophisticated planning sections, were more willing to make significant long-range predictions of work force changes.

4. Employer projections are always affected by economic factors, present or anticipated, which might influence their predictions, depending upon whether their outlook was pessimistic or optimistic at the time they were contacted.

2. Highlights from the CENIS Labor Demand Survey Results

a. More than 5,000 employers were contacted statewide.
b. Current statewide employment totaled 210,845.
c. Total statewide demand for 1973 equaled 32,287.
d. Total demand for 1975 was 49,817.
e. Total demand for 1977 was 60,885.
f. Survey estimates indicate an overall expansion rate of 12 percent for all surveyed occupations between 1972 and 1977.

II. SUMMARY OF THE CENIS LABOR SUPPLY SURVEY

Information on labor supply is confined to an indication of the number of individuals being prepared for work in the occupations encompassed in the CENIS investigation.

A. Sources of Supply

1. Career Education Trainees

Enrollment information for this section was extracted from the CE-4 files. Neither total enrollment nor estimated completions was used to indicate supply, since a fairly large number of program completions and terminations do not enter the field for which they were trained. In order to arrive at a more realistic estimate of anticipated supply, the placement ratio from the latest follow-up report was applied against the enrollment figure, e.g., if 2,000 students were enrolled and the placement ratio was 66 percent, a Career Education supply projection of 1,320 would be indicated. The total Career Education supply figure for all occupational areas for FY 1973 was 19,835.

2. Private Business and Industry Training

Data for this supply facet were extracted from the Labor Demand Survey. Employers contacted were asked to identify the numbers of workers enrolled in a formal (80 hours and up) training program for each occupation surveyed. Ninety-four (94) such trainees were identified.

3. MDTA Trainees

This information was obtained from records maintained by the MDTA units in the Department of Public Instruction and in the Iowa Employment Security Commission. A total of 321 MDTA trainees was included in the current survey.

4. Private School Trainees

Private schools offering occupational programs are surveyed annually to ascertain the number of enrollees and estimated completions for each occupation being investigated. In the current survey, 120 different private schools were contacted by mail, with 97 organizations responding. Follow-up contacts to identify out-of-business or otherwise inappropriate schools has reduced the number of contacts to 104. In the FY 1973 survey, a total of 6,637 private school enrollees were identified with 4,005 estimated completions indicated. Of this total, 2,659 private school students were included in the CENIS Labor Supply structure.

5. Total Supply

Data indicated here reflect the sum of the four supply components. The FY 1973 survey identified a total labor supply (occupational program trainees) of 22,909. No distribution of labor supply information has been made.

III. SUMMARY OF THE CENIS STUDENT INTEREST SURVEY

The CENIS Student Interest Survey was conducted early in calendar year 1973 on a sampling basis. Highlights of this survey include:

A. Development of Sample

The CENIS Student Interest Survey was designed to sample the occupational interests of approximately 15 percent of Iowa's eleventh and twelfth grade students. Each of the 15 area schools and community colleges coordinated the survey within its merged area. Statewide, 123 public and 15 private school districts participated with approximately 150 different high schools involved. Totally, 17,865 students were surveyed from a total population of 102,485, for a sample of slightly over 17 percent.

In establishing the sample, schools with junior-senior enrollments of 300 or more were randomly sampled within. Schools with less than 300 eleventh and twelfth graders were selected randomly. All juniors and seniors attending those schools were surveyed.

B. Occupational Areas Encompassed

Occupations surveyed corresponded with those encompassed in the CENIS Labor Demand Survey, but the coverage also included many professional occupations (requiring at least a baccalaureate degree). Students responded to a total of 206 occupational areas, divided into nine categories. The first entry in each category allowed the respondent to select a broad occupational area, while subsequent entries permitted more specificity. For example, in the category "Agriculture and Conservation Occupations," a broad area of "General Agriculture or Conservation Worker" is available, while more specific occupations such as "Farm Manager" or "Forester" also are furnished for the students with more well defined occupational choices. Space was provided for the student to write in other occupational choices not included on the list.

C. Other Information Gathered

In addition to first and second occupational choices, students also were asked to indicate the certainty of their first choice (very sure, fairly sure, not sure) and to identify their immediate plans after high school (full-time employment, military service, less than 4-year college, 4-year college/university, or none of these).

D. Survey Results

Both sample numbers and projected numbers are reflected for both the area and statewide reports. The sample number was derived by summing probability weights, based on the degrees of certainty of first and second choices. Weights were assigned so that the number represents actual individuals interested in the occupation.

The five most popular vocational areas selected and the statewide projected number of students interested were: (1) Secretaries, (2) Agricultural Production, (3) Transportation (primarily truck drivers), (4) Automotive Mechanics, and (5) General Merchandise (sales occupations).

Print outs of survey results have been delivered to each area school.

IV. SUMMARY OF THREE-YEAR FOLLOW-UP SURVEY

A. Design of Survey

This survey was designed to elicit statistical and attitudinal information from former vocational students at a period three years after they had left (completed or withdrawn from) the program. An advisory committee was organized with representatives from secondary and postsecondary schools, vocational programs, guidance and counseling activities, and private industry.

B. Survey Instrument

Follow-up surveys from other states were examined, various ideas adapted, and the resulting rough draft refined by the committee--then further modified after the field test.

C. Survey Implementation

A field-test survey was conducted early in 1972, with one high school (Perry) and one area school (Western Iowa Tech in Sioux City) participating. Subsequently, additional revisions were made to the instrument (a card-form, self-mailing device). Seven secondary school districts (Cedar Rapids, Des Moines, Correctionville, Humboldt, Saydel, South Winneshiek, and Villisca), and five area schools (Area VI, Marshalltown; Area VII, Waterloo; Area IX, Davenport; Area XIII, Council Bluffs; and Area XVI, Burlington) were selected to further pilot test the instrument and techniques. Coordinators were named for each participating school district and area school. Pilot schools were selected to obtain representation according to size and location. Surveys were conducted during the period from December, 1972, through February, 1973.

D. Survey Response

From 2,348 possible contacts, 1, 140 responses were received for an overall response rate of 49 percent, 438 of 870 secondary students responded for a rate of 50 percent, while 702 of 1,478 postsecondary responses were received for a 48 percent response rate. The highest individual response was 90 percent for a very small high school, while the lowest rate was 33 percent for a medium sized area school.

E. Survey Results

Processing of the pilot test questionnaires has not yet been accomplished by the Iowa State Statistical Laboratory. Future plans for this CENIS component will depend upon the analysis of the follow-up results.

V. DEVELOPMENT OF THE CENIS INTERFACE

A. Composition of the Interface

Data resulting from the four CENIS components have been processed by the Iowa State Statistical Laboratory and correlated to form an interface of pertinent information for each occupational area. Two versions of the CENIS Interface were developed, with print outs for each merged area and a statewide composite available for each report.

1. Interface Arranged by Taxonomy Order

Interface results are presented by taxonomy area, with one taxonomy often encompassing several specific DOT occupations. This arrangement was necessary because enrollments in career education are reported only by taxonomy number.

2. Interface Arranged in Descending Order by Net Demand

Taxonomy areas are presented in descending order according to net demand (labor demand for 1975 minus the total supply).

3. Highlights of Interface Report

a.	Total Labor Demand	49,817
b.	Total Labor Supply	22,909
c.	Total Net Demand	26,908
d.	Total Student Interest in occupational areas encompassed by CENIS	54,001
e.	Percentage of vocational students completing program	76%
f.	Percentage of former students available for work, employed in the occupation for which trained or a related occupation	53%
g.	Percentage of former vocational students continuing their education	18%

Appendix 19

Area 1 SUMMARY CZMIS LABOR DEMAND SURVEY

Taxonomy Number	Taxonomy Title	DOT Number	DOT Title	Full Time Empl	Cur. No. Emp.	Exp. Trng. Comp. 1975	Labor Demand 1975 Expn	1975 Repl	1975 Total Demand	1977 Expn	1977 Repl	1977 Total Demand	% Chg.*
01.0100	Agri. Production	421.881	Farm Hand, General	16	0	0	0	5	5	0	5	5	0
01.0101	Animal Science	429.228	Poultryman, Tech.Adv.	1	0	0	0	0	0	0	0	0	0
01.0104	Farm Business Mgmt.	409.168	Manager, Farm	15	0	0	2	0	2	2	0	2	13
			01.01 TOTALS	32	0	0	2	5	7	2	5	7	4
01.0201	Agr. Chemicals	424.883	Sprayer	5	0	0	0	3	3	0	2	2	0
01.0202	Feeds	529.138	Supt. Grain Elev.	5	0	0	0	0	0	0	0	0	0
01.0202	Feeds	520.885	Feed Mixer	32	0	0	1	2	3	4	3	7	13
01.0202	Feeds	096.128	Feed & Farm Mgmt. Adv.	8	3	0	5	5	10	6	5	11	75
01.0202	Feeds	262.358	Salesman, Grain & Feed	23	0	0	2	1	3	4	2	6	17
01.0202	Feeds	529.132	Custom Feed Mill Opr.	30	0	0	2	3	5	2	2	4	7
01.0299	Agr. Supplies/ Services, Other	356.874	Veterinary Asst.	2	0	0	0	0	0	0	0	0	0
01.0299	Agr. Supplies/ Services, Other	073.381	Veterinary Lab. Tech.	0	0	0	1	0	1	1	0	1	100
			01.02 TOTALS	105	3	0	11	14	25	17	14	31	16
01.0301	Agr. Power & Mchry.	624.281	Farm Equip. Mechanic	47	0	0	11	8	19	13	6	19	28
01.0301	Agr. Power & Mchry.	624.381	Farm Mch. Set-Up Man	23	0	0	6	6	12	7	4	11	30
01.0301	Agr. Power & Mchry.	289.358	Counterman, Farm Equipment Parts	13	0	0	0	2	2	0	1	1	0
			01.03 TOTALS	83	0	0	17	16	33	20	11	31	24
01.0401	Food Products	162.168	Buyer, Grain	1	0	0	0	0	0	0	0	0	0
01.0401	Food Products	162.158	Buyer, Livestock	21	0	0	0	5	5	0	3	3	0
			01.04 TOTALS	22	0	0	0	5	5	0	3	3	0
01.0505	Nursery Opr. and Mgr.	406.168	Nurseryman	2	0	0	0	0	0	0	0	0	0
01.0506	Turf Management	407.137	Greenskeeper	7	0	0	0	3	3	0	1	1	0
01.0506	Turf Management	407.138	Supt., Greens	3	0	0	0	0	0	0	0	0	0
01.0506	Turf Management	407.134	Park Foreman	3	0	0	0	0	0	0	0	0	0
			01.05 TOTALS	15	0	0	0	3	3	0	1	1	0
		GRAND TOTAL	AGRICULTURE	277	3	0	30	43	73	39	34	73	14

* Percent change compares the 1977 expansion figure with the full-time employment in that occupation at the time of the Survey (Fiscal Year 1973).

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Area 1 SUMMARY CENTS LABOR DEMAND SURVEY

Taxonomy Number	Taxonomy Title	DOT Number	DOT Title	Full Time Empl	Cur. No. Vac	Emp. Trng. Comp. 1975	Labor Demand 1975 Expn	1975 Repl	1975 Total Demand	1977 Expn	1977 Repl	1977 Total Demand	% Chg.
04.0100	Advertising Services	165.068	Public Rel. Spec.	1	0	0	0	0	0	0	0	0	0
04.0100	Advertising Services	164.068	Advertising Asst.	11	0	0	0	2	2	0	2	2	0
			04.01 TOTALS	12	0	0	0	2	2	0	2	2	0
04.0200	Apparel and Access.	263.358	Salesperson, Fashion Accessories	18	0	0	4	3	7	4	3	7	22
04.0200	Apparel and Access.	263.385	Salesperson, Men's Furnishings	28	2	0	6	4	10	6	4	10	21
04.0200	Apparel and Access.	263.458	Salesperson, Women's Garments	60	1	0	1	9	10	5	11	16	8
			04.02 TOTALS	106	3	0	11	16	27	15	18	33	14
04.0300	Automotive	280.358	Salesman, Auto.	84	0	0	6	2	8	-10	7	-3	-12
04.0300	Automotive	289.358	Counterman, Auto. Pts.	31	0	0	0	2	2	2	2	4	4
			04.03 TOTALS	115	0	0	6	4	10	-8	9	1	-7
04.0400	Finance and Credit	186.288	Loan Officer	61	0	0	6	6	12	7	5	12	11
04.0400	Finance and Credit	212.368	Teller	121	0	0	8	12	20	9	18	27	7
04.0400	Finance and Credit	168.168	Credit & Collect. Mgr.	17	0	0	0	0	0	0	2	2	0
			04.04 TOTALS	199	0	0	14	18	32	16	25	41	8
04.0500	Floristry	142.081	Floral Designer	11	1	0	2	0	2	2	0	2	18
			04.05 TOTALS	11	1	0	2	0	2	2	0	2	18
04.0600	Food Distribution	299.138	Dept. Head, Supmkt.	35	2	0	0	0	0	2	2	4	6
04.0600	Food Distribution	292.368	Salesman-Driver	45	2	0	-3	4	1	-3	5	2	-7
04.0600	Food Distribution	290-887	Salesperson, Food	22	0	0	10	0	10	10	6	16	45
04.0600	Food Distribution	299.468	Cashier/Checker	70	0	0	10	5	15	14	9	23	20
			04.06 TOTALS	172	4	0	17	9	26	23	22	45	13
04.0700	Food Services	310.868	Restaurant Hostess	30	0	0	0	9	9	4	15	19	13
			04.07 TOTALS	30	0	0	0	9	9	4	15	19	13
04.0800	General Misc.	263.458	Sales Person, Fabrics & Wmn Sew. Supplies	17	6	0	6	4	10	10	11	21	59
04.0800	General Misc.	289.458	Sales Person, Gen.	226	3	0	44	43	87	48	44	92	21
04.0800	General Mdse.	185.168	Retail Store Mgr.	68	0	0	3	4	7	5	3	8	7
04.0800	General Misc.	162.158	Buyer, Asst. Buyer	21	0	0	3	0	3	5	0	5	24
			04.08 TOTALS	332	9	0	56	51	107	68	58	126	20
04.0900	Hdwe., Bldg. Mater., Farm & Garden Sup.	277.358	Salesman, Farm & Garden Equip. & Sup.	7	0	0	0	1	1	0	1	1	0
04.0900	Hdwe., Bldg. Mater., Farm & Garden Sup.	277.358	Salesman, Tract. & Farm Implements	20	0	0	4	2	6	6	2	8	30

* Percent change compares the 1977 expansion figure with the full-time employment in that occupation at the time of the survey (Fiscal Year 1973).

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Appendix 21

Area 1 SUMMARY CENIS LABOR DEMAND SURVEY

Taxonomy Number	Taxonomy Title	DOT Number	DOT Title	Full Time Empl	Cur. No. Vac	Exp. Trng. Comp. 1975	Labor Demand 1975 Expn	1975 Repl	1975 Total Need	1977 Expn	1977 Repl	1977 Total Need	% Chg.*
04.0800	Hdwe., Bldg. Mater., Farm & Garden Sup.	276.358	Salesperson, Hdwe. & Bldg. Supplies	61	4	0	13	5	18	15	8	23	26
04.0900	Hdwe., Bldg. Mater., Farm & Garden Sup.	277.358	Salesperson, Lawn & Garden Supplies	3	0	0	3	0	3	5	0	5	167
			04.09 TOTALS	93	6	0	20	8	28	26	11	37	28
04.1000	Home Furnishings	270.358	Salesperson, Home Furnishings	50	0	0	3	2	5	7	3	10	14
			04.10 TOTALS	50	0	0	3	2	5	7	3	10	14
04.1100	Hotel & Lodging	320.137	Mgr., Lodging Facilities	4	0	0	0	0	0	0	0	0	0
04.1100	Hotel & Lodging	324.878	Bellman	12	0	0	0	0	0	0	1	1	0
			04.11 TOTALS	16	0	0	0	0	0	0	1	1	0
04.1200	Industrial Marketing	289.158	Sales Mgr., Indus.	8	1	0	-2	1	-1	-2	1	-1	-25
04.1200	Industrial Marketing	289.158	Mfg.'s Rep.	2	1	0	1	0	1	3	0	3	150
04.1200	Industrial Marketing	289.358	Salesman, Industrial Products	85	2	0	13	18	31	23	20	43	27
			04.12 TOTALS	95	4	0	12	19	31	24	21	45	25
04.1300	Insurance	186.168	Mgr., Trainee, Ins. Office	1	0	0	0	0	0	0	0	0	0
04.1300	Insurance	250.258	Salesman, Insurance	72	0	0	0	0	0	0	0	0	0
			04.13 TOTALS	73	0	0	0	0	0	0	0	0	0
04.1600	Petroleum	915.867	Serv. Sta. Attendant	66	0	0	4	16	20	14	27	41	21
04.1600	Petroleum	185.168	Manager, Serv. Sta.	10	0	0	0	0	0	0	0	0	0
			04.16 TOTALS	76	0	0	4	16	20	14	27	41	18
04.1700	Real Estate	250.358	Salesman Real Estate	7	0	0	0	0	0	0	0	0	0
			04.17 TOTALS	7	0	0	0	0	0	0	0	0	0
04.1800	Recreation & Tourism	195.168	Director, Recreation	2	0	0	0	0	0	0	0	0	0
04.1800	Recreation & Tourism	280.358	Salesperson, Sporting Goods	7	0	0	0	1	1	0	2	2	0
			04.18 TOTALS	9	0	0	0	1	1	0	2	2	0
04.1900	Transportation	905.883	Truck Driver, Heavy	193	0	0	0	21	21	5	26	31	3
04.1900	Transportation	922.883	Industrial Truck Opr.	173	2	0	13	15	28	25	14	39	14
04.1900	Transportation	906.883	Light-Truck Driver	58	2	0	25	10	35	31	19	50	53
04.1900	Transportation	905.883	Tractor-Trailer Truck Driver	146	9	0	30	39	69	33	37	70	23
04.1900	Transportation	255.258	Traffic Agent	7	0	0	0	0	0	0	0	0	0

*Percent change compares the 1977 expansion figure with the full-time employment in that occupation at the time of the survey (Fiscal Year 1973).

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Area 1 SUMMARY CEMIS LABOR DEMAND SURVEY

Taxonomy Number	Taxonomy Title	DOT Number	DOT Title	Full Time Empl	Cur. No. Vac	Sup. Trng. Comp. 1975	Labor Demand 1975 Expn	1975 Repl	1975 TOTL Demand	1977 Expn	1977 Repl	1977 TOTL Demand	% Chg.*
04.1900	Transportation	919.168	Dispatcher, Motor Vehicle	11	0	0	0	0	0	0	0	0	0
04.1900	Transportation	184.168	Manager, Traffic	3	0	0	0	1	1	0	1	1	0
			04.19 TOTALS	551	13	0	68	86	154	94	97	191	17
		GRAND TOTAL DISTRIBUTIVE		1947	40	0	213	241	454	285	311	596	15

* Percent change compares the 1977 expansion figure with the full-time employment in that occupation at the time of the survey (Fiscal Year 1973).

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Area 1 SUMMARY CEWIS LABOR DEMAND SURVEY

Taxonomy Number	Taxonomy Title	DOT Number	DOT Title	Full Time Empl.	Cur. No. Vac.	Emp. Trng. Comp. 1975	Other Demand 1975 Expn.	1975 Repl.	1975 Total Demand	1977 Expn.	1977 Repl.	1977 Total Demand	% Chg.*
07.0101	Dental Assisting	079.378	Dental Assisting	20	0	0	0	8	8	0	8	8	0
07.0103	Dental Lab. Tech.	712.381	Dental Lab. Tech.	12	0	0	0	4	4	0	4	4	0
			07.01 TOTALS	32	0	0	0	12	12	0	12	12	0
07.0203	Medical Lab. Assisting	078.381	Med. Lab. Assistant	17	0	0	4	2	6	6	4	10	35
			07.02 TOTALS	17	0	0	4	2	6	6	4	10	35
07.0301	Nursing	075.178	Nurse, General	223	3	0	19	64	83	24	65	89	11
07.0302	Practical Nursing	079.378	Nurse, Licensed Practical	157	5	0	19	39	58	52	44	96	33
07.0303	Nursing Assistance	355.878	Nurse Aid/Orderly	515	9	0	43	161	206	50	191	241	10
07.0305	Surgical Tech.	079.378	Operating Room Tech.	17	0	0	0	0	0	1	0	1	6
			07.03 TOTALS	912	17	0	83	264	357	127	300	427	14
07.0402	Physical Therapy	355.878	Physical Therapy Attend.	9	1	0	-1	1	0	0	1	1	0
			07.04 TOTALS	9	1	0	-1	1	0	0	1	1	0
07.0501	Radiologic Tech.	078.368	Radiologic Technician	29	0	0	2	2	4	3	2	5	10
			07.05 TOTALS	29	0	0	2	2	4	3	2	5	10
07.0701	Environmental Health Assistant	168.287	Environmental Health Assistant	3	0	0	1	0	1	1	1	2	33
			07.07 TOTALS	3	0	0	1	0	1	1	1	2	33
07.0902	Electrocardiograph Technician	078.360	Electrocardiograph Technician	2	0	0	0	0	0	0	0	0	0
07.0903	Inhalation Therapy	079.360	Inhalation Therapist	8	2	0	5	1	6	5	1	6	63
07.0904	Med. Asst.	079.368	Med. Asst.	2	0	0	0	0	0	0	0	0	0
07.0907	Med. Emergency Tech.	355.878	Med. Emergency Tech.	6	2	0	2	1	3	2	1	3	33
07.0908	Food Serv. Supervisor	079.588	Dietetic Tech.	13	0	0	2	0	2	2	0	2	15
			07.09 TOTALS	31	4	0	9	2	11	9	2	11	29
07.9900	Health Occup., Other	187.118	Health Care Admin.	1	0	0	0	0	0	0	0	0	0
			07.99 TOTALS	1	0	0	0	0	0	0	0	0	0
			GRAND TOTAL HEALTH	1034	22	0	98	283	381	146	322	468	14

* Percent change compares the 1977 expansion figure with the full-time employment in that occupation at the time of the survey (Fall Year 1973).

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Area 1 SUMMARY CRWIS LABOR DEMAND SURVEY

Taxonomy Number	Taxonomy Title	DOT Number	DOT Title	Full Time Empl	Cur. No. Vac	Emp. Trng. Comp. 1975	Labor Demand 1975 Expn	1975 Repl	1975 Total Need	1977 Expn	1977 Repl	1977 Total Need	% Chg.*
09.0202	Cloth. Mgt., Prod., and Service	309.878	Cloth. Maintenance Specialist	1	0	0	0	0	0	0	0	0	0
09.0203	Food Mgt., Prod., and Service	187.168	Food Establishment Mgr.	38	0	0	0	2	2	0	2	2	0
09.0203	Food Mgt., Prod., and Service	310.138	Kitchen Supervisor	15	1	0	0	3	3	0	3	3	0
09.0204	Home Furnish., Equip. and Service	278.258	Home Serv. Rep.	1	0	0	-1	0	-1	-1	0	-1	-100
09.0205	Inst. & Home Mgt. & Sup. Serv.	321.138	Housekeeper, Inst.	154	4	0	3	23	26	3	26	29	2
			09.02 TOTALS	209	5	0	2	28	30	2	31	33	1
		GRAND TOTAL	HOME ECONOMICS	209	5	0	2	28	30	2	31	33	1

* Percent change compares the 1977 expansion figure with the full-time employment in that occupation at the time of the survey (Fiscal Year 1973).

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Area 1 SUMMARY CERIS LABOR DEMAND SURVEY

Taxonomy Number	Taxonomy Title	DOT Number	DOT Title	Full Time Empl	Cur. No. Vac	Emp. Trng. Comp. 1973	Labor Demand 1975 Expn	1975 Repl	1975 Total Need	1977 Expn	1977 Repl	1977 Total Need	% Chg.*
14.0101	Accountants	160.288	Accounting Technician	102	0	0	5	8	13	10	12	22	10
14.0101	Accountants	160.288	Cost Estimator	35	0	0	1	3	4	1	4	5	3
14.0102	Bookkeepers	210.388	Bookkeeper	415	2	0	23	45	68	37	54	91	9
14.0103	Cashiers	211.462	Cashier	161	0	0	36	20	56	38	32	70	24
14.0104	Mach. Oper: Billing, Bookkeeping, & Compu	215.388	Office Mach. Oper.	58	1	0	1	11	12	2	7	9	3
			14.01 TOTALS	771	3	0	66	87	153	88	109	197	11
14.0201	Computer and Console Operator	213.382	Computer Operator	25	0	0	4	5	9	4	5	9	16
14.0201	Computer and Console Operator	213.138	Computer Operations Supervisor	16	0	0	1	1	2	4	1	5	25
14.0202	Peripheral Equipment Operator	213.582	Key-Punch Operator	76	1	0	5	12	17	7	12	19	9
14.0203	Programmers	020.188	Programmers	18	1	0	0	1	1	0	2	2	0
14.0204	Systems Analysts	012.168	Systems Analyst	9	0	0	0	0	0	0	1	1	0
14.0201	Duplicating Mach. Operator	207.782	Duplicating Mach. Operator	8	2	0	2	1	3	2	0	2	25
			14.02 TOTALS	152	4	0	12	20	32	17	21	38	11
14.0[illegible]	File Clerks	206.388	File Clerk	79	0	0	0	11	11	2	9	11	3
14.0[illegible]	General Off. Clerks	219.388	General Office Clerk	484	0	0	3	54	57	48	69	117	10
14.0303	General Off. Clerk	219.388	Statistical Clerk	19	0	0	0	2	2	0	3	3	0
14.0399	Filing, Off. Mach. & Gen. Off. Clerical	208.588	Transcribing Mach. Operator	3	0	0	0	0	0	0	0	0	0
			14.03 TOTALS	585	0	0	3	67	70	50	81	131	9
14.0401	Communications Systems Clerks & Oper.	235.862	Telephone Operator	54	0	0	1	10	11	1	12	13	2
14.0403	Mail & Postal Clerks	231.588	Mail Clerk	111	0	0	-15	18	3	-15	18	3	-14
14.0406	Receptionists & Information Clerks	237.368	Receptionist	67	0	0	-2	16	14	0	11	11	0
14.0499	Information Communication Occupa. Other	249.268	Survey Worker	2	0	0	0	0	0	-2	0	-2	-100
14.0499	Information Communication Occupa. Other	249.368	Library Asst.	21	0	0	0	2	2	0	0	0	0
			14.04 TOTALS	55	0	0	-16	46	30	-16	41	25	-6
14.0503	Ship. & Receiving Clerks	222.387	Ship. & Receiving Clerk	103	0	0	1	9	10	2	8	10	2
			14.05 TOTALS	103	0	0	1	9	10	2	8	10	2

* Percent change compares the 1977 expansion figure with the full-time employment in that occupation at the time of the survey (Fiscal Year 1973).

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Appendix 26

Area I SUMMARY CENIS LABOR DEMAND SURVEY

Taxonomy Number	Taxonomy Title	DOT Number	DOT Title	Full Time Empl	Cur. No. Vac.	Emp. Trng. Comp. 1975	Labor Demand 1975 Expan	1975 Repl	1975 Total Demand	1977 Expan	1977 Repl	1977 Total Demand	% Chg.*
14.0702	Secretaries	201.368	Legal Secretary	1	0	0	1	1	2	1	1	2	100
14.0702	Secretaries	201.368	Medical Secretary	19	0	0	1	0	1	1	2	3	5
14.0702	Secretaries	201.368	Secretary	388	1	0	8	37	45	23	44	67	6
14.0703	Stenographers	202.388	Stenographer	85	0	0	4	10	14	5	10	15	6
14.0703	Stenographers	202.388	Stenotype Operator	15	0	0	0	0	0	0	0	0	0
			14.07 TOTALS	508	1	0	14	48	62	30	57	87	6
14.0805	Off. Mgr. & Chief Clerks	169.168	Off. Supervisor	137	0	0	-1	6	5	2	7	9	1
			14.08 TOTALS	137	0	0	-1	6	5	2	7	9	1
14.0901	Clerk-Typists	209.388	Clerk-Typist	181	0	0	-6	8	2	6	15	21	3
			14.09 TOTALS	181	0	0	-6	8	2	6	15	21	3
		GRAND TOTAL OFFICE		2692	8	0	73	291	364	179	339	518	7

* Percent change compares the 1977 expansion figure with the full-time employment in that occupation at the time of the survey (Fiscal Year 1973).

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Appendix 27

Area 1 SUMMARY CENTS LABOR DEMAND SURVEY

Taxonomy Number	Taxonomy Title	DOT Number	DOT Title	Full Time Emp.	Cur. No. Voc.	Emp. Trng. Comp. 1975	Labor Demand 1975 Expn.	1975 Repl.	1975 Total	1977 Expn.	1977 Repl.	1977 Total	% Chg.*
16.0105	Chemical Technician	022.281	Chemical Technician	6	0	0	0	0	0	0	0	0	0
16.0106	Civil Technician	018.188	Surveyor	19	6	0	8	1	9	8	0	8	42
16.0106	Civil Technician	005.181	Civil Engineering Tech.	54	0	0	2	0	2	3	0	3	6
16.0107	Electrical Tech.	003.181	Electrical Tech.	3	0	0	0	1	1	0	1	1	0
16.0108	Electronic Tech.	003.181	Electronic Tech.	10	0	0	4	7	11	8	9	17	80
16.0108	Electronic Tech.	957.282	Control Room Tech, Radio & TV	12	0	0	0	0	0	6	4	10	50
16.0110	Environmental Control Tech.	955.782	Solid Waste Tech.	14	0	0	3	0	3	3	0	3	21
16.0111	Industrial Tech.	638.281	Industrial Maint. Mech.	66	0	0	9	13	22	13	13	26	20
16.0111	Industrial Tech.	012.280	Industrial Engineering Tech.	57	3	0	-48	2	-46	-44	0	-46	-81
16.0113	Mechanical Tech.	007.181	Mech. Engineering Tech.	3	0	0	2	1	3	3	1	4	100
16.0113	Mechanical Tech.	019.281	Quality Control Tech.	30	0	0	0	1	1	1	2	3	3
			16.01 TOTALS	274	9	0	-20	26	6	-1	30	29	0
16.0599	Home Ec-Related Tech., Other	195.208	Social Serv. Aid	3	1	0	1	1	2	1	0	1	33
			16.05 TOTALS	3	1	0	1	1	2	1	0	1	33
16.0602	Fire & Fire Safety Technician	168.168	Building Inspector	9	0	0	1	1	2	3	1	4	33
16.0699	Misc. Tech., Other	012.081	Indus. Safety Tech.	1	0	0	0	0	0	0	0	0	0
16.0699	Misc. Tech., Other	029.281	Lab. Food Tester	9	0	0	2	0	2	2	0	2	22
16.0699	Misc. Tech., Other	729.281	Educ. Media Tech.	1	1	0	1	0	1	3	0	3	300
			16.06 TOTALS	20	1	0	4	1	5	8	1	9	40
			GRAND TOTAL TECHNICAL	297	11	0	-15	28	13	8	31	39	3

* Percent change compares the 1977 expansion figure with the full-time employment in that occupation at the time of the survey (Fiscal Year 1973).

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Appendix 28

Area 1 [illegible]

Taxonomy Number	Taxonomy Title	DOT Number	DOT Title	Full Time Empl.	Cur. No. Vac.	Emp. Trend Comp. 1973	Other Demand 1978 Expn	1978 Repl	1978 Total Demand	1977 Expn	1977 Repl	1977 Total Demand	% Chg.
17.0100	Air Conditioning	620.281	Auto. Air-Cond. Mech.	4	0	0	0	0	0	0	2	2	0
17.0100	Air Conditioning	637.281	Air Cond. Mechanic	3	0	0	0	0	0	0	0	0	0
17.0101	Cooling	637.281	Refrigeration Mechanic	4	0	0	2	2	4	4	3	7	100
17.0102	Heating	869.281	Furn. Install. & Rpr.	11	0	0	8	0	8	10	0	10	91
			17.01 TOTALS	22	0	0	10	2	12	14	5	19	86
17.0200	Electrical Appl.	827.281	Elec. Appl. Servcmn.	9	0	0	1	1	2	2	1	3	22
17.0202	Gas Appliances	637.281	Gas Appl. Servicemen	3	0	0	1	0	1	1	0	1	33
			17.02 TOTALS	12	0	0	2	1	3	3	1	4	25
17.0300	Body & Fender	807.381	Auto. Body Rprmn.	48	0	0	6	3	9	0	5	5	0
17.0300	Body & Fender	845.781	Auto. Painter	8	0	0	0	0	0	0	0	0	0
17.0302	Mechanics	620.281	Auto. Mechanic	177	0	0	5	20	25	24	26	50	14
17.0303	Specialization, Other	620.281	Auto. Brake Mechanic	2	0	0	0	0	0	0	0	0	0
17.0303	Specialization, Other	620.281	Auto. Front End Align. Mechanic	11	2	0	6	0	6	6	4	10	55
17.0303	Specialization, Other	620.281	Auto. Transmis. Mech.	6	0	0	0	0	0	0	4	4	0
17.0303	Specialization, Other	620.381	Auto. Serv. Sta. Mech.	4	0	0	-1	0	-1	0	0	0	0
			17.03 TOTALS	256	2	0	16	23	39	30	39	69	12
17.0401	Aircraft Maintenance	621.281	Aircrft. & Eng. Mech.	2	0	0	0	0	0	0	0	0	0
			17.04 TOTALS	2	0	0	0	0	0	0	0	0	0
17.0701	Interior Decorating	142.051	Interior Decorator	2	0	0	0	0	0	0	0	0	0
17.0702	Window Display	298.081	Display Man	11	0	0	0	1	1	2	3	5	18
17.0703	Product Design	142.081	Industrial Designer	15	0	0	-9	0	-9	-9	0	-9	-60
			17.07 TOTALS	28	0	0	-9	1	-8	-7	3	-4	-25
17.0900	Comm. Photo. Occup.	143.062	Photographer	10	2	0	2	0	2	2	0	2	20
17.0901	Photo. Lab. & Dkrm. Occupations	976.381	Developer	8	0	0	0	0	0	0	0	0	0
			17.09 TOTALS	18	2	0	2	0	2	2	0	2	11
17.1000	Construction & Maintenance Trades	899.381	Bldg. Maintenance Man	80	2	0	4	8	12	7	5	12	9
17.1001	Carpentry	860.381	Carpenter	150	3	0	29	28	57	31	29	60	24
17.1001	Carpentry	860.381	Form Builder	47	0	0	2	2	4	12	2	14	26
17.1002	Electricity	824.281	Electrician	66	0	0	1	4	5	5	4	9	8
17.1003	Heavy Equipment	859.883	Operating Engineer	734	22	0	3	46	49	18	48	66	2
17.1003	Heavy Equipment	620.281	Construction Equip. Mechanic	55	0	0	5	7	12	6	4	10	11
17.1004	Masonry	861.381	Bricklayer	135	11	0	67	45	112	74	52	126	93
17.1005	Painting & Decora.	840.781	Painting	64	0	0	0	12	12	14	20	34	22

* Percent change compares the 1977 expansion figure with the full-time employment in that occupation at the time of the survey (Fiscal Year 1973).

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Appendix 29

Area I SUMMARY CDWIS LABOR NEEDS SURVEY

Taxonomy Number	Taxonomy Title	DOT Number	DOT Title	Full Time Empl.	Cur. No. Yrs.	Sup. Trng. Comp. 1973	Labor Needs 1976 Exps.	1976 Regl.	1976 Total Needs	1977 Exps.	1977 Regl.	1977 Total Needs	% Chg.
17.1007	Plumbing & Pipe-fitting	862.381	Plumber	80	2	0	4	17	21	4	17	21	5
17.1007	Plumbing & Pipe-fitting	862.381	Pipefitter	29	0	0	0	0	0	0	0	0	0
17.1009	Glazing	865.781	Glazier	10	0	0	0	2	2	4	2	6	40
17.1010	Roofing	866.381	Roofer	2	0	0	0	0	0	0	0	0	0
17.1099	Const. & Main. Trades, Other	801.781	Structural Steel Work.	18	0	0	1	1	2	1	2	3	6
17.1099	Const. & Main. Trades, Other	863.884	Siding Applicator	35	0	0	10	8	18	14	9	23	40
17.1099	Const. & Main. Trades, Other	299.381	Carpt. & Linol. Layer	10	0	0	0	0	0	0	0	0	0
17.1099	Const. & Main. Trades, Other	884.884	Cement Mason	22	1	0	1	0	1	1	0	1	5
			17.10 TOTALS	1517	41	0	127	180	307	191	194	385	13
17.1100	Custodial Services	382.884	Custodian	257	0	0	3	21	24	6	27	33	2
			17.11 TOTALS	257	0	0	3	21	24	6	27	33	2
17.1200	Diesel Mechanic	625.281	Diesel Mechanic	55	0	0	10	20	30	10	20	30	18
			17.12 TOTALS	55	0	0	10	20	30	10	20	30	18
17.1300	Drafting	001.281	Draftsman, Architect.	16	0	0	6	0	6	6	0	6	38
17.1300	Drafting	005.281	Draftsman, Structure	8	0	0	5	0	3	3	0	3	38
17.1300	Drafting	007.281	Draftsman, Mechanical	37	1	0	4	3	7	9	1	10	24
			17.13 TOTALS	61	1	0	13	3	16	18	1	19	30
17.1400	Electrical Occupa.	829.281	Electrician, Mainten.	27	2	0	5	6	11	6	6	12	22
17.1402	Lineman	821.361	Lineman	116	0	0	0	6	6	0	9	9	0
			17.14 TOTALS	143	2	0	5	12	17	6	15	21	4
17.1501	Communications	822.281	Comm. Equip. Repair.	1	3	0	3	0	3	3	0	3	300
17.1503	Radio/Television	720.281	TV & Radio Servcm.	11	3	0	4	0	4	7	3	10	64
17.1599	Electronics Occup., Other	159.148	Announcer, Radio & TV	8	0	0	0	0	0	0	0	0	0
17.1599	Electronics Occup., Other	184.168	Program Director, Radio & TV	1	0	0	0	0	0	0	0	0	0
			17.15 TOTALS	21	6	0	7	0	7	10	3	13	48
17.1601	Drycleaning	362.782	Dry Cleaner	4	0	0	1	0	1	1	1	2	25
17.1601	Drycleaning	369.884	Carpet & Upholstery Cleaner	2	0	0	0	0	0	0	0	0	0
17.1602	Laundering	369.884	Launderer	135	0	0	3	21	24	5	28	33	4

* Percent change compares the 1977 expansion figure with the full-time employment in that occupation at the time of the survey (Fiscal Year 1973).

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Appendix 30

Area 1 [illegible] LABOR DEMAND SURVEY

Taxonomy Number	Taxonomy Title	DOT Number	DOT Title	Full Time Empl	Cur. Ex. Tot	Sup. Trng. Comp. 1973	Labor Demand 1976 Expn	1976 Repl	1976 Total Demand	1977 Expn	1977 Repl	1977 Total Demand	% Chg.*
			17.16 TOTALS	141	0	0	4	21	25	6	29	35	4
17.1900	Graphic Arts Occup.	659.130	Print Shop Foreman	30	0	0	2	1	3	2	4	6	7
17.1901	Composition, Makeup & Typesetting	650.582	Phototypesetter Oper.	13	0	0	0	3	3	0	0	0	0
17.1901	Composition, Makeup & Typesetting	650.582	Linotype Operator	21	0	0	-3	0	-3	-3	2	-1	-14
17.1902	Printing Press Occup.	651.782	Offset Pressman	117	0	0	7	7	14	17	5	22	15
17.1902	Printing Press Occup.	651.782	Platen & Letter Press	7	0	0	0	1	1	0	2	2	0
17.1903	Lithography, Photo. & Platemaking	972.382	Photographer, Lithographic	11	0	0	0	0	0	0	3	3	0
17.1906	Bookbinding	977.781	Bookbinder	64	0	0	0	0	0	0	0	0	0
			17.19 TOTALS	263	0	0	4	12	18	16	14	32	6
17.2102	Watchmaking & Repair	715.281	Watch Repairman	1	0	0	0	0	0	0	0	0	0
			17.21 TOTALS	1	0	0	0	0	0	0	0	0	0
17.2301	Foundry.	518.381	Foundry Molder	3	0	0	0	0	0	0	0	0	0
17.2301	Foundry	518.381	Coremaker	3	0	0	0	0	0	0	0	0	0
17.2301	Foundry	514.884	Metal Pourer	3	0	0	0	0	0	0	0	0	0
17.2301	Foundry	514.782	Die-Casting Mach. Opr.	65	3	0	43	16	59	71	24	95	109
17.2302	Machine Shop	600.280	General Machinist	61	1	0	7	10	17	9	14	23	13
17.2302	Machine Shop	609.782	Tape Control Mach. Opr.	1	0	0	0	0	0	0	0	0	0
17.2302	Machine Shop	609.782	Electrical Discharge Machine Operator	1	0	0	0	0	0	1	0	1	100
17.2303	Machine Tool Operation	609.885	Production Mach. Oper.	535	0	0	56	54	110	-14	66	52	-3
17.2304	Metal Trades, Comb.	600.380	Mach. Set-up Oper.	69	0	0	4	2	6	10	3	13	14
17.2304	Metal Trades, Comb.	617.885	Punch Press Oper.	135	0	0	12	14	26	26	17	43	19
17.2304	Metal Trades, Comb.	617.280	Press Oper. Heavy Duty	5	0	0	0	0	0	0	0	0	0
17.2304	Metal Trades, Comb.	809.381	Fabricator-Assembler Metal Products	316	0	0	0	4	4	115	25	140	36
17.2305	Sheet Metal	804.281	Sheet Metal Worker	10	0	0	0	0	0	0	0	0	0
17.2306	Welding & Cutting	812.884	Welder, Combination	84	3	0	4	11	15	7	14	21	8
17.2306	Welding & Cutting	810.884	Welder, Arc	26	0	0	0	0	0	0	0	0	0
17.2306	Welding & Cutting	811.884	Welder, Gas	18	0	0	0	1	1	0	1	1	0
17.2306	Welding & Cutting	813.885	Welder, Resistance Machine	22	0	0	0	2	2	0	2	2	0
17.2306	Welding & Cutting	810.884	Welder, Inert Gas Shielded Arc	75	0	0	-3	20	17	4	20	24	5

* Percent change compares the 1977 expansion figure with the full-time employment in that occupation at the time of the survey (Fiscal Year 1973).

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Appendix 31

Area 1 SUMMARY CEMIS LABOR DEMAND SURVEY

Taxonomy Number	Taxonomy Title	DOT Number	DOT Title	Full Time Empl	Cur. No. Voc.	Sup. Trng. Comp. 1975	Labor Demand 1976 Expan	1976 Repl	1976 Total Demand	1977 Expan	1977 Repl	1977 Total Demand	% Chg.
17.2306	Welding & Cutting	816.782	Flame Cutting Mach. Operator	7	0	0	0	0	0	0	0	0	0
17.2306	Welding & Cutting	812.884	Repair Welder	2	0	0	0	1	1	0	0	0	0
17.2307	Tool & Die Making	601.280	Tool & Die Maker	92	2	0	14	10	24	25	13	38	27
			17.23 TOTALS	1533	9	0	137	145	282	256	199	453	17
17.2602	Cosmetology	332.271	Cosmetologist	36	0	0	4	9	13	4	15	19	11
			17.26 TOTALS	36	0	0	4	9	13	4	15	19	11
17.2700	Plastics Occupations	556.782	Plastics Inject. Mold. Mach. Oper.	39	0	0	3	4	7	9	5	14	23
17.2700	Plastics Occupations	690.885	Plastics Heat Sealing Mach. Oper.	2	0	0	0	0	0	0	0	0	0
			17.27 TOTALS	41	0	0	3	4	7	9	5	14	22
17.2801	Fireman Training	373.884	Fireman	71	0	0	0	1	1	3	3	6	4
17.2802	Law Enforce. Trng.	375.268	Policeman	52	2	0	2	0	2	5	3	8	10
			17.28 TOTALS	123	2	0	2	1	3	8	6	14	7
17.2901	Baker	313.781	Baker	35	0	0	-1	1	0	2	4	6	6
17.2901	Baker	313.884	Baker Helper	97	5	0	8	2	10	12	12	24	12
17.2902	Cook/Chef	313.381	Cook	231	0	0	12	36	48	14	42	56	6
17.2902	Cook/Chef	317.887	Cook Helper	240	3	0	2	27	29	6	29	35	3
17.2903	Meat Cutter	316.884	Meat Cutter	26	1	0	2	0	2	6	2	8	23
17.2904	Waiter/Waitress	311.878	Waiter/Waitress	228	10	0	13	74	87	17	79	96	7
			17.29 TOTALS	857	19	0	36	140	176	57	168	225	7
17.3100	Small Engine Repair, Internal Combustion	620.281	Motorcycle Repairman	3	0	0	0	1	1	0	1	1	0
17.3100	Small Engine Repair, Internal Combustion	624.281	Gasoline Eng. Rpmn.	2	0	0	0	0	0	0	0	0	0
			17.31 TOTALS	5	0	0	0	1	1	0	1	1	0
17.3399	Textile Production & Fabrication, Other	363.782	Steam Press Operator	4	0	0	0	1	1	0	1	1	0
17.3399	Textile Production & Fabrication, Other	787.782	Sewing-Machine Oper. All Around	313	0	0	4	16	20	7	16	23	1
			17.33 TOTALS	317	0	0	4	17	21	7	17	24	1
17.3500	Upholstering	780.381	Upholsterer	298	0	0	0	0	0	0	0	0	0
			17.35 TOTALS	298	0	0	0	0	0	0	0	0	0
17.3801	Millwork & Cabinet Making	806.884	Mobile Home Installer	1	0	0	0	0	0	0	0	0	0

* Percent change compares the 1977 expansion figure with the full-time employment in that occupation at the time of the survey (Fiscal Year 1975).

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Area 1 SUMMARY CENSUS LABOR DEMAND SURVEY

Taxonomy Number	Taxonomy Title	DOT Number	DOT Title	Full Time Empl.	Cur. Ex. Vac.	Sup. Trng. Comp. 1973	Labor Demand 1975 Expn	1975 Repl	1975 TOTAL Demand	Labor Demand 1977 Expn	1977 Repl	1977 TOTAL Demand	% Chg.
17.3601	Millwork & Cabinet Making	660.280	Cabinetmaker	18	0	0	8	0	8	8	0	8	44
17.3601	Millwork & Cabinet Making	662.782	Woodworking Mach. Oper.	126	4	0	16	12	28	16	8	24	13
17.3601	Millwork & Cabinet Making	763.884	Furniture & Mbw. Assembler	54	0	0	0	0	0	0	0	0	0
			17.36 TOTALS	199	4	0	24	12	36	24	8	32	12
17.9900	Trade & Industrial Occup., Other	609.684	Inspector, General	44	1	0	10	14	24	10	14	24	23
17.9900	Trade & Industrial Occup., Other	730.381	Piano Tuner	1	0	0	0	0	0	0	0	0	0
			17.99 TOTALS	45	1	0	10	14	24	10	14	24	22
		GRAND TOTAL	TRADE & INDUSTRIAL	6431	89	0	416	639	1055	678	786	1464	11

% Percent change compares the 1975 expansion figure with the full-time employment in that occupation at the time of the survey (Fiscal Year 1973).

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Appendix 33

TO: Secondary Principals
Area One

FROM: Noel Koranda
Area One - Calmar

RE: Career Education Needs Survey

Area One Vocational-Technical School is presently conducting a Career Education Needs Survey throughout Merged Area One. One of the components of the study is a curriculum analysis by school district.

An advisory committee meeting was held to provide input into the curriculum analysis. Those attending were:

Lee Arrowsmith	South Winn - Calmar
Craig Paul	Starmont - Strawberry Point
Bill Peck	Hempstead - Dubuque
Urban L. Langer	Wahlert - Dubuque
L. J. Guter	Wahlert - Dubuque
Darwin Schrage	Area One - Calmar
Noel Koranda	Area One - Calmar

Enclosed you will find a copy of the high school courses offered at your school. We need to determine which courses offered at your school you consider to be vocational. With the help of the advisory committee, we defined vocational courses as "those courses, or series of courses, designed to provide job-entry skills (Or qualifications) leading to gainful employment upon graduation".

Keeping in mind the definition of a vocational course, please number each vocational course in the following manner:

Category	Number
Ag Occupations	1
Distributive Occupations	2
Health Occupations	3
Home Economics	4
Office Occupations	5
Trades & Industrial	6
Other Vocational	7

For example: If the course is called Clothing and Textiles it probably would be marked 4. Please number only the vocational courses at your school.

If you have any questions, please call 319-562-3263, Ext. 36, Noel Koranda.

AREA ONE VOCATIONAL-TECHNICAL SCHOOL
P. O. Box 400
CALMAR, IOWA 52132

TO: Social Agency Personnel
Merged Area One

Area One Vocational-Technical is presently conducting a Career Education Needs Survey. One of the components of the study is to survey the Social Agencies within Area One in regard to their Career Education needs. We have developed the attached questionnaire which will give you an opportunity to express your views on what Area One has done for your clients and also what you would like to see Area One doing in regard to your clients.

Thank you for your contribution!

Sincerely,

Noel Koranda

Noel Koranda
Administrative Assistant

NK:al
Enc.

Appendix 35

CAREER EDUCATION NEEDS SURVEY
QUESTIONNAIRE

Agency _____

What type of client do you deal with? _____

_____

How in the past has Area One Vocational-Technical School been helpful to your clients? _____

_____

_____

Of your clients benefiting from the Area One experience, what programs or services benefited them most? _____

_____

_____

What services could Area One Vocational-Technical School offer to better accommodate your clients? _____

_____

_____

_____

Other Comments: _____

_____

_____

_____

_____

_____

_____

Appendix 36

MINUTES

Secondary Career Planning Group Meeting
Area One Vocational-Technical School
Administration Building
Calmar, Iowa

February 17, 1975
1:00 p. m.

The following individuals were present:

Gerald Linder	Principal	Fredericksburg
Ronald Donn	Principal	Turkey Valley
Milt Krumm	Principal	New Hampton
Larry Fain	Counselor	New Hampton
Wayne Kreitzer	Counselor	Crestwood
Dennis Brosdahl	Principal	Crestwood
Alvin Leuthauser	Superintendent	Howard-Winneshiek
Loren Englund	Superintendent	South Winneshiek
Lee Arrowsmith	Principal	South Winneshiek
Erlin Womeldorf	Counselor	South Winneshiek
Donald Morasch	Counselor	Riceville
Max Clark	Superintendent	Area One Vocational-Technical School
Darwin Schrage	Asst. Supt.	Area One Vocational-Technical School
Noel Koranda	Adm. Asst.	Area One Vocational-Technical School

Absent were representatives from Decorah and North Winneshiek.

After a welcome and opening remarks by Superintendent Clark, Noel Koranda gave a brief overview of the Career Education Needs Assessment Study, Phase I, involving Cosmetology in Decorah, and the proceedings of the Area One Superintendents Committee on Career Education.

Mr. Koranda gave an explanation of the Interest Survey that was recently administered to 10th and 11th graders in Area One. Results of the survey were distributed.

Mr. Koranda reviewed the Satellite Center Concept of serving high school students cooperatively between the local Community School and the Area Vocational School.

Mr. Schrage went into detail concerning the financing of Satellite Centers. An estimated cost of $460.00 per student per year for a two-hour block daily was used. It was determined that the local school district would have to pay the $460.00, but would be able to be reimbursed from the State of Iowa around $250.00 for the first year. March 15, 1975 was the date announced for getting the CE4 (financial data request) into the Department of Public Instruction.

Those attending the meeting brought up the following areas in which they would be interested in participating beginning September, 1975:

Cosmetology	(Preparatory Emphasis)
Health Occupations	(Preparatory and Exploratory Combination)
Distributive Occupations	(Preparatory)
Carpentry	(Preparatory)
Auto Mechanics	(Preparatory)
Agriculture Education	(Exploratory)

Note:

Almost all schools present expressed an interest in Cosmetology, Health Occupations, Carpentry, and Auto Mechanics, while Distributive Education seemed to be of interest only to South Winneshiek and Turkey Valley. Turkey Valley expressed interest in Agriculture Education.

Howard-Winneshiek expressed a concern about the scheduling difficulties for next fall.

New Hampton emphasized the importance of making the Phase I Cosmetology Program in Decorah a meaningful experience so the students would not become disinterested in the program.

Articulation with the Satellite Centers and Area One Vocational-Technical full-time programs was discussed. Hopefully students will be able to attain advance standing in Area One full-time programs. This is being studied at the present time by the Area One Staff.

School liability for transportation was discussed.

It was decided to keep the members of the group informed as to the outcome of the other group meetings to be held.

The meeting adjourned at 3:00 p.m.

Respectively submitted,

Noel Koranda
Recording Secretary

itf

Appendix 37

MINUTES

Secondary Career Planning Group Meeting
Western Dubuque High School
Administration
Epworth, Iowa

February 18, 1975
10:00 a.m.

The following individuals were present:

Dr. Arden Johnston	Secondary Education	Dubuque
Wayne Drexler	Superintendent	Western Dubuque
Ralph Buchman	Principal	Western Dubuque
Dr. Art Huinker	Curriculum	Western Dubuque
Max Clark	Superintendent	Area One Vocational-Technical School
Darwin Schrage	Asst. Supt	Area One Vocationa-Technical School
Noel Koranda	Adm. Asst.	Area One Vocational-Technical School

After a welcome and opening remarks by Superintendent Clark, Noel Koranda gave a brief overview of the Career Education Needs Assessment Study, Phase I, involving Cosmetology in Decorah, and the proceedings of the Area One Superintendents Committee on Career Education.

Mr. Koranda reviewed the Satellite Center Concept of serving high school students cooperatively between the local Community School and the Area One Vocational School.

Mr. Schrage went into detail concerning the financing of Satellite Centers. An estimated cost of $460.00 per student per year for a two-hour block daily was used. It was determined that the local school district would have to pay the $460.00, but would be able to be reimbursed from the State of Iowa around $250.00 for the first year. March 15, 1975 was the date announced for getting the CE4 (financial data request) into the Department of Public Instruction.

Those attending the meeting brought up the following areas in which they would be interested in participating beginning September, 1975:

Agriculture	(Preparatory Emphasis)
Health Occupations	(Preparatory Emphasis)
Auto Mechanics	(Preparatory Emphasis)

Note:

Western Dubuque indicated an interest in sending students to an Agriculture program that would be an extension of their regular Agriculture program now in existence. Dubuque Community also felt they could supply students to such a program.

Western Dubuque expressed interest in Health Occupations in cooperation with the Dyersville Hospital.

Both Western Dubuque and Dubuque Community have Auto Mechanics now, so the Satellite Program would be an extension of the regular program now being offered.

It was agreed that the program should start on a smaller scale and build from there. Hopefully, some utilization of the proposed Area One Vocational-Technical South Center Campus would be a reality for these two schools.

It was decided that the community schools would make contact with the parochial schools in their area and work out concerns regarding shared time, etc.

The meeting adjourned at 11:45 a.m.

Respectfully submitted,

Noel Koranda
Recording Secretary

itf

MINUTES

Secondary Career Planning Group Meeting
Starmont Community High School

February 18, 1975
1:00 p.m.

The following individuals were present:

Allen Edwards	Superintendent	West Central-Maynard
Dr. Ramon Green	Superintendent	Starmont
John Thomas	Superintendent	Maquoketa Valley
Fred Eyres	Counselor	Maquoketa Valley
Jim Goodman	Principal	West Delaware
Blair Beatty	Counselor	West Delaware
Don Stevenson	Co-op Coordinator	West Delaware
Gale Severson	Counselor	Starmont
James Boelman	Counselor	North Fayette
Don Mueller	Superintendent	North Fayette
Steve Story	Principal	North Fayette
Craig Paul	Principal	Starmont
Harold Overman	Superintendent	Edgewood-Colesburg
Max Clark	Superintendent	Area One Vocational-Technical School
Darwin Schrage	Asst. Supt.	Area One Vocational-Technical School
Noel Koranda	Adm. Asst.	Area One Vocational-Technical School

Absent from the Group Meeting were representatives from Fayette, Valley of Elgin, and Oelwein.

After a welcome and opening remarks by Superintendent Clark, Noel Koranda gave a brief overview of the Career Education Needs Assessment Study, Phase I, involving Cosmetology in Decorah, and the proceedings of the Area One Superintendents Committee on Career Education.

Mr. Koranda gave an explanation of the Interest Survey that was recently administered to 10th and 11th graders in Area One. Results of the survey were distributed.

Mr. Koranda reviewed the Satellite Center Concept of serving high school students cooperatively between the local community school and the Area Vocational School.

Mr. Schrage went into detail concerning the financing of Satellite Centers. An estimated cost of $460.00 per student per year for a two-hour block daily was used. It was determined that the local school district would have to pay the $460.00, but would be able to be reimbursed from the State of

Iowa around $250.00 for the first year. March 15, 1975 was the date announced for getting the CE4 (financial data request) into the Department of Public Instruction.

Those attending the meeting brought up the following areas in which they would be interested in particpating beginning September, 1975:

Auto Mechanics	(Exploratory)
Construction Cluster	(Exploratory and Preparatory)
Health Career	(Exploratory)

The following suggestions were made in addition to specific course offerings:

The employment of a resource person to travel from school to school assisting with development of the career education concept.

Implement a Broadcasting-Newspaper course at Area One in a full-time capacity.

All schools present at the meeting expressed an interest in an Alternative School concept for students who are not able to cope with the regular classroom.

The meeting was adjourned at 2:45 p.m.

Respectfully submitted

Noel Koranda
Recording Secretary

itf

MINUTES

Secondary Career Planning Group Meeting
Postville Community High School

February 28, 1975
1:00 p.m.

The following individuals were present:

Eldean Drewes	Principal	Postville
Vera Ebert	Counselor	Eastern Allamakee
Mike Fitzgerald	Counselor	Decorah
Joe James	Counselor	M-F-L
Harlan Strampe	Counselor	Central Elkader
Don Grove	Principal	Central Elkader
Jerry Siegrist	Counselor	Allamakee
D. J. Koopman	Counselor	Postville
Jack Dillon	Counselor	Granavillo
Bev Rutledge	Counselor	Mar-Mac
Dale Floyd	Counselor	North Winneshiek
Barry Shea	Counselor	Guttenberg
John Soloman	Superintendent	Guttenberg
Jay Fishback	Principal	Guttenberg
Darwin Schrage	Asst. Supt.	Area One Vocational-Technical School
Max Clark	Superintendent	Area One Vocational-Technical School
Noel Koranda	Adm. Asst.	Area One Vocational-Technical School

Noel Koranda opened the meeting with a brief overview of the Career Education Needs Assessment Study, Phase I, involving Cosmetology in Decorah, and the preceedings of the Area One Superintendents Committee on Career Education.

The 10th and 11th grade interest survey results were distributed with interpretations.

The satellite center comcept of serving high school students cooperatively between the local Community School and the Area Vocational School was discussed.

Mr. Schrage went into detail concerning the financing of satellite centers. An estimated cost of $460.00 per student per year for a two-hour block daily was used. It was determined that the local school district would have to pay the $460.00, but would be able to be reimbursed from the State of Iowa around $250.00 for the first year. March 15, 1975 was the date announced for getting the CE4 (financial data request) into the Department of Public Instruction.

Those attending the meeting brought up the following areas in which they would be interested in participating beginning September, 1975:

Garnavillo: Building Trades, Business, Food Preparation and Child Care and Guidance

Guttenberg: Auto Mechanics, Nursing Assistant Aid, Advanced Foreign Language, Ecology, and Athletic Training Course.

Mar-Mac: Nursing Aid, Health Occupations, and Child Care

Eastern Allamakee: Nursing Aid and Agriculture

M-F-L: Auto Mechanics, Carpentry, and Health

Postville: Auto Mechanics and Carpentry

Guttenberg brought up the suggestion of the area school possibly operating an entire class of Auto Mechanics from one school. The idea of working a cooperatively-sponsored program with industry was also mentioned.

The question of certification of instructors was discussed in regard to regulations of the Iowa High School Athletic Association.

The meeting adjourned at 3:00 p. m.

Respectively submitted,

Noel Koranda
Recording Secretary

itf

Appendix 40

Northeast Iowa Area D.E. - O.E. Meeting

June 5, 1975

A meeting was held on June 5 at Humphrey Dairy, West Union with DE and OE instructors from several northeast Iowa high schools and Area One personnel. Those present included Mr. Sanders (Oelwein), Vic Collings (Oelwein), Tom Farmer (Cresco), Pat Schrage (Oelwein), Lyle Evans (Cresco), Dan Reeder (Cresco), Dennis Wubbena (West Union), Jean Kaufman (West Union), Jim Kaufman (Area One), Joy Schmidt (Area One), Howard Bernatz (Area One), and Darwin Schrage (Area One).

The following summary represents significant areas discussed during the meeting:

1. A great deal of interest was expressed regarding the joint effort agreements between Area One and participating high schools to offer various career education programs. Several high school instructors were concerned about possible unnecessary duplication of facilities if centers were established near existing high school programs, the possible competition these programs could create for available training stations, and whether local high school administrators were always fully aware of the implications of proposed joint-effort agreements.

2. It was recommended that Area One consider the following in the development of future joint-effort agreements:

   a. Available facilities housing existing high school programs should be utilized prior to establishment of a vocational center in the immediate vicinity.

   b. The effect of proposed new joint-effort offerings upon available training stations should be carefully studied before making an implementation decision.

   c. Area One should suggest that local administrators invite a vocational program representative from their local school to accompany them to future joint-effort planning meetings (to improve the communication flow).

   d. Mail information regarding progress of proposed joint-effort considerations to vocational education personnel at the local school.

3. It was recommended that Area One host the next Northeast Iowa Distributive Education Conference.

4. It was recommended that Area One sponsor and host a Career Day for high school D.E., O.E., etc. to better acquaint prospective students with Area One programs and facilities.

5. It was recommended that Area One's Retail Marketing Program permit students to achieve a degree of specialization for students entering with high school D.E. background.

It was indicated by Area One personnel that the previous recommendations and concerns would be considered and implemented where possible. In addition, the desire was expressed by Area One for a cooperative effort by secondary and post secondary instructors in the articulation of secondary and post secondary distributive education curricula.

The meeting concluded with an apparent concensus that further dialogue of this nature would be beneficial to all concerned.

Darwin L. Schrage, Director
Career Education
6/9/75

nle

CE 008 975

ACCESSION NUMBER: VT103310

PUBLICATION DATE: 01MAR76

TITLE: CHANGING TRENDS IN THE PLANS OF HIGH SCHOOL SENIORS. COMPARISONS OF THE EDUCATIONAL, EMPLOYMENT AND OCCUPATIONAL PLANS OF SENIORS IN INDIANA HIGH SCHOOL CLASSES OF 1966, 1969, 1972 AND 1975. FINAL REPORT.

PERSONAL AUTHOR: LISACK, J.P.

DESCRIPTOR: PROGRAM DESCRIPTIONS; *GRADE 12; *COMPARATIVE ANALYSIS; *CAREER CHOICE; *STATE SURVEYS; *CAREER PLANNING; EDUCATIONAL TRENDS; SECONDARY EDUCATION

IDENTIFIER: INDIANA

EDRS PRICE: MF AND HC AVAILABILITY WILL BE ANNOUNCED IN VOL. 10, NO. 2.

DESCRIPTIVE NOTE: 11P.; RELATED DOCUMENT VT 103 309 IN THIS ISSUE.

ABSTRACT: THIS FINAL REPORT DESCRIBES A PROJECT TO IDENTIFY AND TRACE THE TRENDS OR CHANGES IN THE CHARACTERISTICS AND CAREER PLANS OF INDIANA HIGH SCHOOL SENIORS FOR THE CLASSES OF 1966, 1969, 1972, AND 1975. DATA GATHERED FROM APPROXIMATELY 186,000 SENIORS ARE PRESENTED IN TABULAR FORM WITH NARRATIVE HIGHLIGHTS OF THE FINDINGS IN A SUPPLEMENTARY PUBLICATION. DATA INCLUDE THE FOLLOWING AREAS: SEX, RACE, PROGRAM TYPE, HEAD OF HOUSEHOLD CHARACTERISTICS, EDUCATIONAL PLANS, FACTORS RELATED TO CAREER CHOICE, REASONS FOR DELAY OR DICONTINUANCE OF FURTHER EDUCATION, AND EDUCATIONAL PROGRAMS DESIRED BUT NOT AVAILABLE LOCALLY. SOME OF THE MORE SIGNIFICANT FINDINGS ARE PRESENTED IN THE REPORT. TRENDS WITHIN THE LAST TEN YEARS INCLUDE: A DECREASE IN COLLEGE PREPARATORY ENROLLMENT, GRADE INFLATION, A DECREASE IN THE PROPORTION OF HOUSEHOLDS WITH THE FATHER AS HEAD, AN INCREASE IN THE NUMBER OF SENIORS PLANNING IMMEDIATE EMPLOYMENT, AND AN INCREASED DELAY IN MAKING A CAREER CHOICE. TRENDS INVOLVING OCCUPATIONAL CHOICE INCLUDE THE GROWING POPULARITY OF OCCUPATIONS IN THE HEALTH AND MEDICAL-RELATED FIELDS, A DECLINE IN INTEREST IN ELEMENTARY EDUCATION, AND AN INCREASED INTEREST IN TECHNICAL JOBS. (NJ)

INSTITUTION NAME: PURDUE UNIV., LAFAYETTE, IND. OFFICE OF MANPOWER STUDIES.

SPONSORING AGENCY NAME: INDIANA STATE BOARD OF VOCATIONAL AND TECHNICAL EDUCATION, INDIANAPOLIS.

VT 10 310

FINAL REPORT

CHANGING TRENDS IN THE PLANS OF HIGH SCHOOL SENIORS

COMPARISONS OF THE EDUCATIONAL, EMPLOYMENT AND OCCUPATIONAL PLANS OF SENIORS IN INDIANA HIGH SCHOOL CLASSES OF 1966, 1969, 1972 AND 1975

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W. LAFAYETTE, IN 47907

1 MARCH 1976

SBVTE PROJECT NO. 45-75-C
INDIANA STATE BOARD OF
VOCATIONAL AND TECHNICAL EDUCATION
401 ILLINOIS BUILDING
17 WEST MARKET STREET
INDIANAPOLIS, INDIANA 46204

VT 103 310

2

INFORMATION SHEET

A. KIND OF PROJECT: (check one)

1 ___ Experimental
✓ 2 X Developmental*
3 ___ Pilot
4 ___ Demonstration
5 ___ Evaluative
6 ___ Exemplary

*Data development, analysis and presentation.

B. POPULATION

TYPE		NUMBERS (affected by project)
A	Disadvantaged	A ___
B	Handicapped	B ___
C	Migrant	C ___
D	Minority	D ___
E	Combination of the above	E ___
✓ F	Other *High School Seniors*	F *183,800***

**Respondents in four surveys.

GROUP		
1	Pre-school	1 ___
2	Elementary	2 ___
3	Junior High School	3 ___
4	Middle School	4 ___
✓ 5	Senior High School	5 X
6	Postsecondary	6 ___
7	Adult	7 ___
8	University	8 ___
9	Employer	9 ___
10	Employee	10 ___
11	Citizens	11 ___
12	Parents	12 ___
13	Combination of the above ___	13 ___

LOCALITY (check the one which encompasses the locality involved)

a	National	a ___
✓ b	State	b X
c	Region	c ___
d	District	d ___
e	County	e ___
f	Area	f ___
g	Community	g ___
h	School Corporation (LEA)	h ___

NOTE: This final report is in two parts: this part is arranged essentially in a topical form describing the project; and the detailed results are shown separately in the attached SBVTE Project Report No. 45-75-C.

CHANGING TRENDS IN THE PLANS OF INDIANA'S HIGH SCHOOL SENIORS

I. STATEMENT OF OBJECTIVES OF THIS STUDY

A. Assist students in learning more about the various options open to them; provide data on occupations and careers, about post-secondary educational institutions and programs and related information; as well as enhance their ability to make reasoned choices and plans.

B. Provide comparative and trends data, in a readily comprehensive form, which will aid vocational/technical and career personnel (planners, administrators, counselors, teachers and others) to gain insights and knowledge about high school seniors. This in turn should help them to make better plans, programs and decisions. Data include the following areas:

1) Characteristics data of seniors; sex, type of high school program (e.g. Vocational Educ., Business Educ., College Prep., etc.), grade average, and size of community.

2) Characteristics of head of household; relationship, educational level and occupation.

3) Plans after graduation; chosen action, definitiveness, and employment.

4) Factors related to making career choice; when first "interest" was noted, and when "decision" was made of occupation chosen. Most important reason for choosing a certain occupation and the source or person most helpful in making career choice.

5) Seniors' main career choices; shown by occupational categories and also by individual occupations.

6) Reasons given by some seniors why they plan to delay further education or why some do not plan to further their education upon graduation from high school.

7) The plans of seniors who do plan to further their education: choice of institution, curricula/program choices; and planned method of financing education.

8) Education and training programs desired, but not available locally. (Important for planning possible vocational/technical programs.)

C. Record data and materials for future research and projects. Provide a series of historical base points which can be traced, extended linearly and developed further in the future.

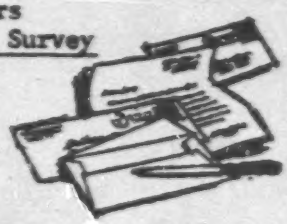
II. PROBLEMS AND PROCEDURES

Policies, plans, and actions should be based on as much relevant and factual (preferably quantifiable) data that can be acquired, analyzed and reported. Past, present, and future time frames should be included. This is as true in the vocational/technical and career education fields as any other. The purpose of this project is to identify and trace the trends or changes in the characteristics and plans of high school seniors for the classes of '66, '69, '72 and '75.

It was first necessary to establish "base lines" for each class, from which changes could be recorded, compared and measured. Base data for four classes were obtained through previous research studies as indicated in Table 1.

TABLE 1
HIGH SCHOOL SENIORS SURVEYED

Class of	Total No. Seniors in Class	No. of Seniors Participating in Survey
1966 1/	70,000	38,000
1969 2/	75,315	47,540
1972 3/	81,500	51,600
1975 4/	82,650	49,663



With these data from each class, it was necessary to organize the tremendous amount of detail into a format that was easy to interpret, yet accurate. It was also considered important to provide the reader with information and leads which brought out the main points, trends, differences or similarities between classes. The form that was decided upon shows the data in tabular form on the right page and the related highlights and discussion on the left page (i.e. data and related highlights are on facing pages). Selected inter-relationships are also presented.

(For complete details, see supplemental report attached--SBVTE Project No. 45-75-C, *Changing Trends in the Plans of Indiana's High School Seniors.*)

1/ Accomplished by Booz, Allen, Hamilton, Inc., and reported in Research Report No. 1, 1967, *70,000 High School Seniors, Their Educational and Vocational Plans.* Research Department, Indiana Vocational Technical College.

2/ Data analysis and report accomplished by the Office of Manpower Studies of Purdue University as Manpower Report 70-1, 30 April '70, *75,000 High School Seniors, Their Educational and Vocational Plans, Results of a Survey of Indiana's High School Class of 1969.*

3/ SBVTE funded study: mail-out by IVTC, data analysis by Office of Manpower Studies of Purdue. Reported in IVTC Report No. 00-73-001-02, *82,000 High School Seniors, Their Educational and Vocational Plans, Results of a Survey of the Class of '72.* Jan. '73.

4/ SBVTE Project No. 2-75-C, *Educational and Employment Plans, and Occupational Choices of Indiana High School Seniors in the Class of '75.* 1 July, '75. (Also Manpower Report 75-1, Office of Manpower Studies, Purdue University.)

III. STRATEGIES

It was considered most opportune to involve all high school seniors possible in this project in order to acquire the necessary data--while at the same time helping them in making reasoned choices and developing their career plans.

Likewise, involving principals, teachers and counselors facilitated their coordinated participation and provided them with information and insights they would otherwise not have gained.

Further, these data are now recorded for current application--and they provide the base lines for continuing (linear) trend studies.

IV. ANALYSIS AND FINDINGS

Some of the highlights of the findings are reported below. The more extensive and detailed data are shown in tabular form in the atached SBVTE Project 45-75-C Report by percentage distribution to facilitate direct comparisons of items within each question asked. The total number (N) of seniors for each of the four high school classes are also reported. Further the numbers of responses for each item within each question are reported for the class of '75. Thusly, the reader can immediately see the relative size of response to each item expressed in numbers of seniors as well as by percentage distribution.

In order to clarify the meanings of the great amount of detail, the author has analyzed the tables and presented the findings (e.g. salient points, trends, similarities or differences) as Highlights. This is done by reporting the data on one page with the related highlights on the facing page. This format permits the reader to analyze the data separately from any other comments, and derive his own meanings as well.

V. UNIQUE ASPECTS AND OUTCOMES

Indiana high school seniors are changing. Their characteristics, vocational choices, and their employment and educational plans are moving perceptively in new directions. What are these changes? What are the developing trends? Answers to these questions are important to educational and vocational planners and administrators, as well as to counselors, teachers and others concerned with our youth. The attached SBVTE Project Report presents the detailed data and highlights concerning these and other questions.

This is the only report of its kind in Indiana. It is uniquely Hoosier in nature; nearly 186,000 Indiana high school seniors have been involved in the four classes.

For example, over the past ten years,--

1) More students are enrolling in Vocational Education type programs (~ 14%) largely at the expense of College Preparatory type programs (35.2%).

2) High school grade averages are steadily inflating: for example, the largest single group (43%) report their grade average to be "B". The largest single group reported "C" average in previous classes. (This grade inflation is true Nationally as well as in Indiana.)

3) The proportion of households where the father is head (84%) is slowly decreasing over the years--that is, more households are being headed by the mother or other than the father.

4) Both the educational and occupational levels of heads of household are progressively higher over the years.

5) A greater proportion of high school seniors are planning immediate employment after graduation (now at 33.4%) and a smaller proportion are planning to continue their education full time (30.7%).

6) A smaller proportion of seniors report their plans to be Definite (21.7%) but the largest group still reports their plans as Almost Definite (44.5%).

7) The proportion of seniors who want to be employed in their home city or county is slowly decreasing, and is now about 32%. The largest group (35.5%) have no preference and about 20% hope to be employed outside of Indiana.

8) First interest in chosen occupation was noted in elementary grades for about 10% of the seniors; about 15% noted an interest while in junior high school, but the largest group (26%) reported their first interest in their chosen occupation occurred when they were juniors in high school. There is a trend for interest in a given occupation to be delayed (e.g. noted later in school) by each subsequent class surveyed.

9) The decision in making a career choice is delayed to the senior year by about half of all seniors; about 25% report their career decision was made during their junior year, and 10% did so during their sophomore year. There may be a slight trend for career decisions to be made earlier in the class of '75.

10) The main reasons seniors gave for choosing a certain occupation include:

1st Activities on the job
2nd Money
3rd Kinds of people I'll work with
4th Serving society

An analysis of the data shows that the rank order changes from the 2nd most popular choice on for selected groups. Specifically, the above rank order applies to seniors who have selected Engineering or Technology, whereas seniors who selected Teaching or Health rate "Serving Society" and "Kinds of People I'll Work With" higher than "Money."

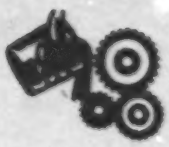
11) The source or person most helpful to the senior in making a career choice include:

		Class of '75
1st	Parents or relatives	32.8%
2nd	Friend	10.5%
3rd	Previous work experience	9.5%
4th	High school courses	9.4%
5th	High school teacher	8.3%

12) The trends that have developed over the past ten years, in seniors' choices of occupations within each cluster, include the following:

(a) There is a steady and growing popularity of occupations in the Health and Medical Career areas in each succeeding class (from 9.7%) of all seniors in 1966, to 14.5% in 1975).

(b) Although teaching is still a popular career area choice (about 8% of all seniors) there has been a decline in the proportion of high school seniors planning to become Elementary Teachers since the class of '66; popularity of becoming a Secondary Teacher peaking in 1972 and falling off in 1975.



(c) There is an increase of interest in becoming Technicians, both medical and technical types, as well as Police or Security Officers.

(d) A late reversal of the previous downward trend occurred as more seniors in the class of '75 chose Farmers, Engineers, Factory Assembly or Production Worker, and Author, Journalist or Reporter.

(e) There was a decline in the choice of Engineering careers from 1966 to 1972, with a notable recovery (4.3% of all seniors) in the class of '75.

(f) Interest in Computer related operations peaked in 1969 at 3.2%; subsequently the classes of '72 and '75 reported 2.7% of all seniors were interested in related occupations.

(g) There is an increased interest of seniors in becoming managers (from approximately 2% in 1966/1969 to 2.6% in 1972/1975).

(h) About 9% of the seniors chose an occupation in the Clerical area. There appears to be an increasing proportion of seniors interested in becoming Cashiers, including Retail Stores and Banks.

(i) There was an increase in the proportion of seniors who identified Housewife as their occupational choice (now over 2%).

(j) There was a drop of interest in becoming a Lawyer, Beautician, Beauty Operator, or Cosmetologist; Social Worker; or Airline Hostess (the latter still an unrealistic choice for more than 900 seniors).

(13) For those seniors who planned to continue their education, the most important reasons given for choosing a particular institution were:

		Percent
1st	Offers what I want to study	> 48%
2nd	Location near home	18%
3rd	Amount of tuition	< 8%
tied 3rd	Reputation or prestige of school	< 8%

(14) The most popular post-secondary programs--of two years' or less duration--were:

1st Nursing (Includes R.N. and L.P.N.)
2nd Secretarial
3rd Accounting
4th Medical/Health Support
5th Automotive and Diesel
6th Electronics
7th Business and Supervision

(15) Only 3.2% of the seniors identified a program of two years' or less duration that they would like to enroll in, but was not offered locally. Such programs were related to Health or Medical Support, Automotive or Diesel Technology, Nursing (all levels), Electrical/Electronics Technology, and Secretarial.

(16) The methods planned by seniors to finance their post-secondary education included:

		Percent
1st	Parents or family support	28%
2nd	Scholarship or grant*	17%
3rd	Personal savings	16%
4th	Part-time employment	14%

*Becoming more important for each subsequent class.

(17) The main reasons given by seniors who plan to delay continuing their education were:

1st Earn some money first
2nd Want more time to decide what to do
3rd Gain some work experience first

(18) The main reasons given by those seniors who do not plan to enroll in any post-secondary program include:

1st I plan to look for a job
2nd I already have a job arranged
3rd I am undecided what to do
4th I am not interested at this time
5th I plan to get married

(19) Among some of the interrelationships found were:

(a) Sex: Boys were slightly more likely than girls to seek employment upon graduation--but more likely than girls to enter military service. Girls were slightly more likely than boys to plan to continue their education full time. Proportionately more boys than girls planned to attend Vincennes University, Ivy Tech., and Purdue, as well as the composite of all private colleges and universities; on the other hand, more girls than boys planned to attend Ball State, Indiana State, and Indiana Universities.

(b) Grade Averages: A large majority of the "A" students and a lesser majority of the "B" students planned to continue their education in a post-secondary program; proportionately fewer of these students were planning immediate employment, military service, marriage or didn't know what they planned to do. A majority of both the "C" and "D" students were far more likely to seek employment after graduation from high school, join the military service, marry, or not to be sure of their plans.

More than 75% of the students planning to attend a public or private university had an "A" or "B" average with the exception of Vincennes which was 53.9%. The majority of students planning to attend Ivy Tech were "C" or "D" grade average students.

(c) Head of Household: When the head of household was the father, there was a higher probability for the senior to continue in post-secondary education and a lesser likelihood for the senior to seek employment, enter military service or get married immediately upon graduation.

Father heads of household generally had attained higher levels of education than had mothers. Seniors were far less likely to know what the highest level of education was if the head of their household was someone other than their father or mother. The most frequently occurring response was father as head of household and he was a high school graduate.

There was a direct relationship between the likelihood of seniors' plans to continue their education full time and the educational level of the head of household; i.e. the higher the educational level of the head, the more likely it was that the senior planned to continue studies. An inverse relationship existed as pertained to immediate employment and not know what their plans were (also true for military service and marriage).

(d) Major Field (Area) of Study: Most of the seniors (70%) who planned to enroll in a college or university were in a College Preparatory type program in high school...the strong exception being Ivy Tech: only about 5% of seniors planning to attend a university were enrolled in Vocational Education type programs. (Vincennes University was an exception to this situation wherein only about 44% were College Prep and 16% were in Vocational Education. Vincennes also had a higher proportion of seniors who were enrolled in Business Education, General Education, or Other types of programs.) As a rule, proportionately more College Prep type seniors planned to attend the main university campuses than the regional campuses.

The largest single group planning to attend Ivy Tech were Vocational Program type seniors (nearly 41%), and in comparison with the 70% composition of College Prep students in the public universities, less than 18% of Ivy Tech aspirants were in College Prep programs. Proportionately more students in Business Education, General Education, or Other type programs also planned to attend Ivy Tech.

(e) Population of Home Town: As a general rule, the smaller the senior's home town or city, the more likely it was that a father was the head of household; the larger the population of the home city, the higher proportion of seniors reported mother to be head of household. Seniors who reported "other" as head of household were less likely to know what the population of their home town was: where fathers were head of household seniors were more apt to know the population of their home town. The most frequently occurring response was father as head of household and population of senior's home town to be between 5,000 and 25,000.

(f) Seniors Not Planning to Continue Their Education: (This question was answered only by those seniors who did not plan to enroll in a formal educational or training program upon graduation from high school.) Seniors whose head of household was mother or other, were more prone to say they were not continuing their education than were seniors whose fathers were head. Seniors having other head of household were much more apt to say they were not continuing their education because they "planned to marry." Plans to look for a job after graduation were more readily reported by seniors whose head of household was father or mother rather than other. The most frequently occurring response for this group of seniors was father head of household and senior planning to look for a job.

VI. FINANCIAL STATEMENT

This statement will be provided within 60 (sixty) days, as the accounting and reporting procedures are still in process. It was considered to be advisable not to delay this report until the final financial details became available.

VII. SUPPLEMENTS

The data, their meanings, trends, comparisons, etc., are published in the attached report SBVTE Project No. 45-75-C, "Changing Trends in the Educational Plans of Seniors in Indiana High School Classes of 1966, 1969, 1972 and 1975," dated 1 March 1976. It is also planned to prepare summaries of these data to facilitate wider distribution.

NOTE: Due to numerous requests, additional computer runs are being made which will show the interrelationships and differences between seniors' plans and choices based on the type high school program (college prep., vocational, business education or other) as well as by race. These data will be published later in summary form reports as funds and time permit. The contribution of SBVTE in making these data available will be acknowledged.

CE008 978

FINANCIAL STATEMENT FOR FINAL REPORT ENDING 3/31/76
(Date)

Project Number 45-75-C

ITEMS	Project Budget FY 19		Total Expenditures on Project		End of Project Balance:	
	Agency	Federal	Agency	State/Federal	Agency	State/Federal
A. DIRECT EXPENDITURES						
1. Personnel		5,000.00		4,956.87		43.13
2. Contractual services						
3. Employee benefits		720.00		721.40		(1.40)
4. Travel		25.00		31.80		(6.80)
5. Supplies and materials		240.00		19.78		220.22
6. Communications (include phone calls, printing)		115.00		335.86		(220.86)
7. Properties (rentals or purchase of equip.) (includes computer cost)		500.00		634.29		(34.29)
8. Facilities						
9. Product production and dissemination						
10. Project Evaluation						
B. INDIRECT EXPENDITURES						
C. TOTAL EXPENDITURES		6,700.00		6,700.00		-0-

Project Monitor

Director: J.P. Lisack PROF. J. P. LISACK

LEA: Purdue University

Financial Officer M.A. Sarzynski 4/6/76
Date

Ref. 6488-64-1410

12

ACCESSION NUMBER: VT103311

PUBLICATION DATE: NOV75

TITLE: DEVELOPMENT OF AN EXPLORATORY PROGRAM FOR GRADES EIGHT OR NINE IN THE CLUSTER OF MARKETING AND DISTRIBUTION.

PERSONAL AUTHOR: FORSTER, WALTER A.

DESCRIPTOR: *CAREER EXPLORATION; *MARKETING; *PROGRAM DEVELOPMENT; PROGRAM DESCRIPTIONS; JUNIOR HIGH SCHOOLS; DISTRIBUTIVE EDUCATION; FEASIBILITY STUDIES

EDRS PRICE: MF AND HC AVAILABILITY WILL BE ANNOUNCED IN VOL. 10, NO. 2.

DESCRIPTIVE NOTE: 17P.

ABSTRACT: THIS REPORT DESCRIBES THE DEVELOPMENT OF A JUNIOR HIGH SCHOOL LEVEL EXPLORATORY COURSE IN MARKETING AND DISTRIBUTION. OBJECTIVES WERE TO DETERMINE THE FEASIBILITY OF SUCH A PROGRAM, DEVELOP THE CURRICULUM, IDENTIFY MATERIALS NEEDED, DEVELOP CRITERIA FOR PERSONNEL SELECTION, AND WRITE THE PROPOSAL FOR AN EXEMPLARY PROGRAM. IN MEETING THESE OBJECTIVES, ON-SITE VISITS WERE MADE TO SCHOOLS IN THREE FLORIDA COUNTIES TO OBSERVE THE OPERATION OF AN EXISTING EXPLORATORY PROGRAM IN MARKETING AND DISTRIBUTION. THROUGH OBSERVATION, STUDY, AND EVALUATION OF THE FLORIDA PROGRAM, THE FEASIBILITY OF DEVELOPING A SIMILAR PROGRAM IN HOUSTON WAS AFFIRMED, AND IDEAS AND CURRICULUM PLANS WERE GATHERED FROM WHICH THE ONE QUARTER COURSE IN MARKETING EXPLORATION WAS DEVELOPED. THE REPORT BRIEFLY DESCRIBES THE RESULTS ACHIEVED AND THE METHODS FOR MEETING THE OBJECTIVES. AN APPENDIX CONTAINS THE TABLE OF CONTENTS FROM EACH OF FOUR MARKETING EXPLORATION CURRICULUMS DEVELOPED BY THE FLORIDA PROGRAM. (NJ)

INSTITUTION NAME: HOUSTON INDEPENDENT SCHOOL DISTRICT, TEX.

SPONSORING AGENCY NAME: TEXAS EDUCATION AGENCY, AUSTIN. DIV. OF OCCUPATIONAL RESEARCH AND DEVELOPMENT.

VT 10 3 11

DEVELOPMENT OF AN EXPLORATORY PROGRAM FOR GRADES EIGHT OR NINE IN THE CLUSTER OF MARKETING AND DISTRIBUTION

FEBRUARY - JUNE 1975

HOUSTON INDEPENDENT SCHOOL DISTRICT

HOUSTON, TEXAS

VT 103 311

2

DEVELOPMENT OF AN EXPLORATORY PROGRAM FOR GRADES EIGHT OR NINE IN THE CLUSTER OF MARKETING AND DISTRIBUTION

FEBRUARY - JUNE 1975

Prepared by

Walter A. Forster, Jr.
Program Administrator
Distributive Education

PUBLISHED BY THE HOUSTON INDEPENDENT SCHOOL DISTRICT

NOVEMBER, 1975

CE 008 669

ACKNOWLEDGEMENTS

The development of this exploratory program for grades eight or nine in the cluster of marketing and distribution by the Houston Independent School District was in cooperation with and funded through the Division of Occupational Research and Development, Department of Occupational Education and Technology, Texas Education Agency.

Mrs. Edith Patterson, Program Director, Distributive Education, Houston Independent School District, developed the proposal for this project under the direction of Mr. J. B. Whiteley, Deputy Superintendent, Occupational and Continuing Education, Houston Independent School District.

INTRODUCTION

The Houston Independent School District, in developing its career ladder of kindergarten through twelve, has successfully embarked on the career awareness program, kindergarten through sixth grade, and the career orientation course at the seventh and eighth grade level which is broad in scope and introduces the students to the fifteen occupational clusters.

To move from the orientation course to exploratory courses, we have exploratory programs in the areas of mechanics, construction, and manufacturing careers, but we did not have an exploratory program in the area of marketing and distribution.

We wanted to motivate students to acquire additional knowledge of the various careers in the world of marketing which would give them a better understanding of the world of work. We found that many students tended to drop out of school and get a job after leaving the junior high school instead of continuing with their education. Also, we wanted the students to be better prepared to determine whether or not they wished to go into the distributive education programs or into other cooperative programs at the high school level.

We felt the answer would be a course in marketing exploration at the junior high school level which would expose many students to various careers and give them some simulated job experiences. There are many interesting and exciting aspects to this program to interest students at this level and we found that some students were not being challenged enough nor were they interested enough to continue their education past the ninth grade. Therefore, our desire was to motivate students so that

they would continue their education and enroll in cooperative programs at the senior high level where they could work and continue their education.

Our research indicated that the State of Florida had introduced a program four years ago in exploration in the area of marketing and distribution and were having excellent results. Therefore in developing this project for Houston and Texas, we sent Houston Independent School District personnel to Florida for on-sight visitations to observe programs in operation in three county school districts. When this was completed we were to evaluate our findings and determine the feasibility of having a program here. If the decision was favorable, we were to develop curriculum, identify materials needed, decide on qualifications for choosing personnel, and write a proposal for setting up an exemplary program in the District for the ensuing school year, 1975-76.

OBJECTIVES

The original proposal stated the following objectives;

1. Assist students in making a meaningful decision in the area of Distributive Education.
2. Help students to develop an understanding of the opportunities existing in the area of marketing.
3. Reduce haphazard enrollment of students in Distributive Education, thereby improving the product of our Distributive Education programs.

In examining the above objectives it was quickly realized that what we were attempting to do was identify objectives which could only be accomplished by the actual implementation of the marketing exploration program. Therefore, what we were really doing at this time was studying

Florida's program through on-sight visitations by observing the programs in operation in three county school districts in order to determine the feasibility of implementing just such a program in Houston. If, by observation and study, we determined its feasibility, then we would as part of this project develop the curriculum; identify the materials needed; develop the criteria for choosing personnel; and write a proposal for setting up an exemplary program in the District during the 1975-76 school year. These actually were our objectives and each one was accomplished during the period of this project which ended June 30, 1975. The Florida program was excellent and successful and we wished to duplicate its success here in Houston.

METHODS USED TO ACHIEVE OBJECTIVES

An itinerary for on-sight visits to schools in three county school districts was arranged by the Assistant Program Administrator, Distributive Education, for the State of Florida. Approximately twelve schools which had the marketing exploration program were visited. The three week schedule, which began Wednesday, February 26, 1975, and ended on Friday, March 14, 1975, included visits in Tallahassee with the Director and the Assistant Program Administrator for Distributive Education in the Office of the Department of Education for the State of Florida. Work sessions were spent with the Curriculum Consultant who was the chief writer for all of the curriculum used in the Marketing Exploration Program in Florida. Visits were made to Duval County (Jacksonville), Orange County (Orlando), and Pinellas County (St. Petersburg). In these counties,

various administrators who were involved with career education and the marketing exploration programs were visited and the various programs were studied and discussed at length with emphasis on the marketing exploration program. Days were spent in the classroom with the teachers and the students in the program at the various schools. Inner city schools, integrated schools, and affluent area schools were visited.

For any program to be a success, one could see that much depended on the initiative and innovation of the teacher. There were obviously some programs which were better than others for just the above mentioned reason. And there were some very exciting programs and classroom management techniques that would justify the program and make it very desireable to have at every junior high school. Where good teaching was going on, every student was excited and participating. The program lends itself to competitive activities which junior high students enjoy so much, to an excellent system of classroom management techniques, and to a wealth of information of available careers in marketing and distribution.

It was through these visits that not only did the observation, study, and evaluation justify having the program, but the practical ideas and workable curriculum which were gathered in Florida in volumes could be made available for use in any new marketing exploration program to be started in another school.

SPECIFIC RESULTS ACHIEVED

Curriculum

Through research and application, refinement and rewriting, Florida has developed three distinct and independent courses in exploration for

the eighth and ninth grade levels. The three courses are "Exploration of Retailing Careers," "Exploration of Marketing Services Careers," and "Exploration of Wholesaling Careers." Each one is complete and can be used as a semester or quarter course. They also have curriculum for an introductory course called "Orientation to Marketing Careers" which is offered at the sixth and seventh grade levels. This orientation course is generally a six weeks or nine weeks course offered in conjunction with other introductory courses in the career areas at this lower grade level. Each one of these courses has curriculum materials in loose leaf form which contains a forward, acknowledgements, table of contents, introduction, teacher's guide section and student materials section. It provides suggested performance objectives, learning activities, and evaluation instruments. We have included in the appendix a copy of the table of contents of each one of these curriculums. These materials are available from the Florida State Department of Education on a cost recovery basis.

For Houston, we decided to offer an elective one quarter course (80 minute periods) called Marketing Exploration. We would use the curriculums developed in Florida, which were excellent, by pulling from each of the three courses that they offered and integrating them into one course offering here. We did this so that we could reach more students with a one quarter elective and expose them to the many careers in the field of marketing and distribution. We would add our additional activities and projects and make whatever curriculum changes as the local situation would warrant as we moved through the various areas within the curriculum.

Materials and Equipment

There is a special section in these curriculum offerings from Florida

called "Special Resources" which identified for us the many and varied materials that are available. Also, the State Department of Education of Florida funded a project with Florida Atlantic University to make a competency based study of equipment and materials to be used in specialized laboratories in pre-vocational Distributive Education programs. This study of equipment and materials for pre-vocational Distributive Education was completed on August 31, 1974 and was developed to assist Distributive Education teacher-coordinators, teacher educators, supervisors and administrators at the school, county, and state levels in the selection of equipment and materials which they considered would provide the necessary tools for developing competencies contained in the instructional program at the junior high school level.

The process of developing these lists was the result of interviews and surveys of county Distributive Education supervisors, middle school Distributive Education coordinators, and businessmen in their respective areas of marketing. A representative sample was taken from each of the five geographic areas in the State of Florida.

In much the same way that the pre-vocational industrial arts student is better able to make industrial career choices because of the opportunity to use various kinds of equipment found in those careers, so must the student in the marketing and distribution exploration course have the same opportunity to use equipment found in his career areas.

Personnel

In developing criteria for choosing the personnel for teaching this course in the junior high schools, we sought the advise and experience of the personnel in Florida and examined the results of their program.

It was recommended that the teachers for the marketing exploration course have some of the same requirements as a distributive education teacher and we definitely wanted them to have some courses from the career areas. Also, we wanted our teachers to have work experience that was recent and relevant to the field of marketing and distribution. There is quite a difference between the curriculum offered in distributive education programs at the senior high level and those offered at the junior high school level. At the senior high level the students are employed and require job coordination, have DECA club activities, and competitive events. This is not true of the junior high students where the exploratory courses are taught and we did not want to impose the senior high curriculum on the junior high students. Therefore, it was decided that it would be better to have a teacher teach the junior high school level courses who had not taught distributive education before, that met the job experience criteria, and that had some of the required course offerings for distributive education and career education as required by the State.

Proposal

The last part of this project which we had undertaken was to develop a proposal for an exemplary program in marketing exploration in vocational education. Our first proposal contained a request for implementing the program in twelve schools and the amended version called for six schools. Our school district is divided into six areas with six area superintendents. Therefore we wanted to have the program in a junior high school in each area for evaluation purposes. We would also choose these six schools to be not only representative of all areas but of economic, ethnic, and geographic areas. Much time was spent conferring with local school officials

on choice of schools, integrating a new course into the curriculum, and the correct procedures to follow. We conferred at length with the local director of career education. In this proposal we followed the State guidelines carefully and provided for the curriculum, the materials, the equipment, the training of the teachers, and the resources necessary to make the program a success and one that could be evaluated for implementation for the State of Texas.

CONCLUSIONS AND IMPLEMENTATIONS OF THE PROJECT

We have successfully completed all aspects of this project. The on-sight visitations to Florida to see first hand the program in its implementation verified what we had heard - that it was a successful program fulfilling a real need among the junior high school students in the career area of marketing and distribution. Since Florida had developed curriculum which was excellent, it could be transported to Houston to meet our needs in implementing the marketing exploration program in our schools. The identification of materials, equipment, and teaching methods were acquired while visiting Florida. A proposal was drafted requesting the personnel, materials, equipment, and supplies, and sent to the Texas Education Agency for action. This final step completed our project.

APPENDIX

ADDRESSES

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(Teacher Practitioner)

ORIENTATION TO MARKETING CAREERS

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- Storage of Merchandise
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- Financing Marketing Activities
- Risks Involved in Marketing
- Management Decisions and Policies

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- Special Activities

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- Student Handouts
- Scene and Survey Evaluation Instruments
- Special Resources
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CE008 979

ACCESSION NUMBER: VT103312

PUBLICATION DATE: 75

TITLE: POSTSECONDARY OCCUPATIONAL EDUCATION. INSTRUCTIONAL PLANNING NEEDS IN TEXAS.

PERSONAL AUTHOR: RORIE, CHARLES D.

DESCRIPTOR: *INFORMATION SYSTEMS; *INDIVIDUALIZED PROGRAMS; *VOCATIONAL EDUCATION; *COMMUNITY COLLEGES; *CURRICULUM PLANNING; PROGRAM DESCRIPTIONS; POST SECONDARY EDUCATION; STATEWIDE PLANNING

IDENTIFIER: TEXAS

EDRS PRICE: MF AND HC AVAILABILITY WILL BE ANNOUNCED IN VOL. 10, NO. 2.

DESCRIPTIVE NOTE: 60P.

ABSTRACT: THIS REPORT CONTAINS THE ORIGINAL PROPOSAL, REPORTED FINDINGS, AND REVISED PROPOSAL AND RECOMMENDATIONS OF A PROJECT TO COMPILE AND ANNOTATE INDIVIDUALIZED INSTRUCTION PROGRAMS IN VOCATIONAL-TECHNICAL EDUCATION IN TEXAS COMMUNITY AND JUNIOR COLLEGES. DUE TO A LACK OF DOCUMENTATION REGARDING THE INDIVIDUALIZED INSTRUCTION PROGRAMS THE INITIAL PROJECT OBJECTIVES WERE NOT MET. HOWEVER, THE ORIGINAL METHODOLOGY, EXPECTED RESULTS, PROPOSED BUDGET, AND PERSONNEL PLAN ARE INCLUDED. AS A RESULT OF THE FINDINGS, A REVISED PLAN WAS PROPOSED AND IS ALSO INCLUDED IN THE REPORT. THE OBJECTIVES OF THIS RECOMMENDED PROJECT ARE: (1) TO CONSTRUCT AND PUBLISH A CORE CURRICULUM FOR 10 POSTSECONDARY VOCATIONAL PROGRAMS, (2) TO SELECT, WRITE, AND PUBLISH A SET OF PROGRAM OBJECTIVES, AND (3) TO DESIGN AND CONSTRUCT A TEXAS OCCUPATIONAL PROGRAM CURRICULUM AND OBJECTIVE BANK, PLACING THE CORE CURRICULUM AND OBJECTIVES IN AN INDEXED REFERENCE SYSTEM. THE PROPOSED METHODOLOGY, EXPECTED RESULTS, AND RECOMMENDED USE OF THE FINDINGS ARE OUTLINED, AND PROJECT-RELATED CORRESPONDENCE AND SURVEY FORMS ARE APPENDED. (NJ)

INSTITUTION NAME: AUSTIN COMMUNITY COLL., TEX.

SPONSORING AGENCY NAME: TEXAS EDUCATION AGENCY, AUSTIN. DIV. OF OCCUPATIONAL RESEARCH AND DEVELOPMENT.

VT 10 312

INSTRUCTIONAL PLANNING NEEDS IN TEXAS

POSTSECONDARY OCCUPATIONAL EDUCATION

("Compilation and Annotation of Information About Current Individualized Instruction in Vocational Technical Education in Texas Community/Junior Colleges and Development of Missing Components - Project #62350238")

by

Charles D. Rorie, Ph.D.
(Project Director)

Published by Austin Community College

in

cooperation

with

The Division of Occupational Research Department
and Development of Occupational
and Technical Education
Texas Education Agency

Austin, Texas
1975

VT 103 312

2

INSTRUCTIONAL PLANNING NEEDS IN TEXAS

POSTSECONDARY OCCUPATIONAL EDUCATION

("Compilation and Annotation of
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4.	RECOMMEDNATIONS DERIVED FROM ACHIEVED RESULTS AND CONCLUSIONS.	37
5.	APPENDICES	45

1. INTRODUCTION

The Project for the Compilation and Annotation of Information about Current Individualized Instruction in Vocational-Technical Education in Texas Community/Junior Colleges and Development of Missing Components (hereafter referred to as the "TEA Summer Project") was conceived as an ingathering of existing instructional material for state-wide replication usage. It was hypothesized that many well-designed individualized courses, across Texas, would provide materials for broader use in a number of programs spread throughout numerous community colleges.

As this project report will show, this original hypothesis proved to be untentable. However, a variety of useful benefits to state directed improvement of postsecondary occupational programs did evolve.

To future researchers and instructional development officers, the criteria for individualized instructional materials may be most useful.

Criteria for Individualized Instructional Materials

An adaptation of the following criteria might be used to evaluate existing materials and plan for creation of new

individualized instructional materials. These criteria were developed and are currently in use at Austin Community College.

Instructional materials which have at least one of the following components will be considered individualized.

(1) What a student must learn in order to achieve a passing grade is made known to the student in terms he/she can understand (behavioral objectives).

(2) A number of options are available to the student for achieving the objectives of the course, as opposed to only one method of instruction (alternate learning modes).

(3) Students are able to move through the course at a rate most comfortable for them (self-pacing).

(4) A student has as many opportunities for demonstrating that he/she has achieved the course objectives, without penalty (re-test capability).

(5) Students are not required to repeat instruction for objectives they have already mastered (pre-testing).

(6) All aspects of the instructional program are continuously subjected to scrutiny and revised in response to information collected by the instructor (revision component).

The value of a state-wide agreement on the definition of individualized instruction is obvious. Perhaps these Austin Community College criteria may serve this need.

2. ORIGINAL PROPOSAL

Abstract

TITLE OF PROPOSED PROJECT: Compilation and Annotation of Information About Current Individualized Instruction in Vocational-Technical Education in Texas Community/Junior Colleges and Development of Missing Components

APPLICANT ORGANIZATION: Austin Community College

Problem

Although vocational-technical educators in Texas have made considerable progress during recent years in individualizing program materials, important next steps are needed to fill gaps in development and to compile and annotate descriptions of available, useful programs for wider dissemination.

Specific identified needs missing from previous development and research are: (1) a comprehensive and annotated listing, by program area, of materials already developed; (2) assessment of usefulness of available materials; (3) identification of areas for which adequate materials do not exist; and (4) a dissemination system for providing information to

vocational-technical program directors.

This project is proposed to fill these gaps.

Objectives

Objectives of the proposed project are:

- To develop a comprehensive listing of individualized instructional materials available to instructors of vocational courses in community colleges.
- To establish criteria for usefulness of materials and determine usefulness by applying pre-determined criteria.
- To identify vocational-technical areas for which adequate materials do not now exist.
- To recommend a dissemination system for providing information about materials and their effectiveness to program directors of vocational-technical courses.

Procedures

Procedures to be utilized in this project include a survey, college-by-college, of vocational-technical programs considered individualized, collection of materials of these programs, assessment of the usefulness of the materials by

applying pre-determined criteria, identification of gaps in individualized programs in areas taught by at least five community/junior colleges in the state, development of materials to fill some of the gaps, and development for dissemination of a catalog of available programs which will include annotated program descriptions.

Activities will include:

- Convening of 15 vocational-technical faculty members from colleges throughout the state to establish criteria for evaluating instructional materials.
- Convening of a smaller group to compile and annotate a comprehensive list of available materials.
- Convening of the larger group to identify vocational-technical areas which need individualized materials development and to begin such development.

Results to be Produced and Proposed Utilization of Findings

Results will be comprehensive, annotated list of available individualized instructional materials for community college instructors in vocational-technical areas; additional individualized instructional materials for areas presently without such materials; and criteria for assessing the usefulness of individualized instructional materials in vocational areas.

Statement of the Problem

The Texas Education Agency has funded a number of workshops and training sessions in recent years to encourage vocational-technical educators to create individualized instructional materials. These workshops trained persons in vocational areas to revise their courses of study into a variety of presentation modes, and, thus, resulted in providing students with alternative ways to learn vocational-technical skills. Individualization also provides the mechanism for students who already have some of the skills to move on to more difficult material without waiting for beginners to master the earlier skills.

Leadership and encouragement from the Texas Education Agency, through these workshops and related special projects, have increased the status and effectiveness of vocational-technical education in Texas community and junior colleges. During the past year, vocational enrollment state-wide has increased nearly 13 percent.

Increases in enrollment have brought more variety of students into the vocational-technical programs. Mature students, changing careers, bring self-motivation and abilities to learn on their own with guidance from the instructor if

they have a variety of teaching aids. The more varied the student makeup, the more necessary is individualization of instruction.

The TEA-funded workshops and training sessions have been useful in encouraging vocational-technical instructors to think individualization, and good programs have been developed. However, at present there is no available information about individualized programs available, how to secure them, and evaluation of their effectiveness with students over time.

A search through Educational Research Information Centers (ERIC) for individualized program descriptions of vocational-technical programs for community colleges, uncovered descriptions of 33 programs (Print 13/5/1-33, File 9, AIM/ARM, pp. 4193 - 4217).

These 33 programs included one in "differentiated staffing," two in remedial reading and mathematics, one each in secretarial, carpentry, automotive mechanics, and meat cutting. The 26 remaining programs found in the search all related to distributive education (retailing) and would be equally as useful for high school students as for college students.

While many more individualized programs surely exist, they are not readily available to those who wish to replicate them.

Important next steps are indicated.

Identified as missing from previous development and research are: (1) a comprehensive and annotated listing, by program area, of materials already developed; (2) assessment of usefulness of available materials; (3) identification of areas for which adequate materials do not exist; and (4) a dissemination system for providing information to vocational-technical program directors.

At present no empirical data have been gathered to identify accurately, by program area, those materials that have proved most useful. Also, no systematic dissemination has been implemented to make such materials known and available to faculty throughout the state.

Austin Community College proposes to organize a summer program to address these next steps in the collecting and disseminating of information on individualized instruction in vocational education.

Objectives

Objectives of the proposed project are:

- To develop a comprehensive listing of individualized instructional materials available to

instructors of vocational courses in community and junior colleges.

- To establish criteria for usefulness of materials and determine usefulness by applying criteria.
- To identify vocational-technical areas for which adequate materials do not now exist.
- To recommend a dissemination system for providing information about materials and their effectiveness to program directors of vocational-technical courses.

Methodology Originally Planned

Project will begin May 1, 1975, with completion scheduled four months later. Timetable and activities proposed to meet above-stated objectives include:

May, 1975--Appointment of Project Director. Gathering of copies of available instructional materials. Vocational-technical faculty members from throughout the state will be identified and invited to participate in the assessment phase of the project.

June, 1975--Five vocational-technical staff members from Austin Community College and the Project Director

will compile and annotate a comprehensive list of avs'lable materials. The group will travel to program sites throughout the state to see how individualized programs are implemented. The annotations will be descriptions of the materials and the ways they are used.

July, 1975--Ten vocational-technical faculty members from other colleges and the five from Austin Community College will convene to establish criteria for evaluating instructional materials and applying the criteria. (See Appendix for example of possible criteria.) The team of 15 will apply the agreed-upon criteria to the programs identified and annotated. They will also identify vocational-technical areas which need individualized materials development. Priorities for development will be programs offered in at least five community colleges in the state.

August, 1975--Assignments for development of new materials will be made to members of team of 15. Actual materials development will be preceded by a one-week training session in the development of individualized instructional materials. A second week will be spent

in development of rough versions of such materials. The last two weeks of the month will be devoted to revision and to devising a dissemination plan so the results of the summer work will be available to other vocational-technical instructors and program leaders.

Expected Results Originally Planned

The ultimate result of this project will be the greater dissemination of information throughout the state, a reduction in duplication of instructional development efforts, and an increase in the use of individualized instructional methods.

Deliverables to the Texas Education Agency at the end of the proposed four-month project are:

- One hundred copies of a final report, including an annotated catalog of individualized vocational-technical programs now in use in Texas community/junior colleges. The descriptions will include evaluations of their usefulness, their strengths and weaknesses.
- Recommendations of ways to disseminate the annotated catalog to vocational-technical program leaders in community/junior colleges throughout the state.

- A list of vocational-technical areas for which individualized instructional materials are still not available.
- Drafts of the individualized packages developed during the developmental period of the four-month project.

Personnel

Original Project Director--William Horace Scott, Associate Professor and Chairman, Division of Engineering Technology, Annandale Campus, Northern Virginia Community College

Mr. Scott, since 1967, has worked with seven community colleges--in addition to Northern Virginia--in assisting faculty to implement individualized instruction in engineering, technical, and other vocational courses. He is knowledgeable through both formal training and personal experience in the theory and techniques of the so-called systems approach to instruction and is aware of its potential and its limitations.

He attended Duke University, earning a Bachelor's Degree in Science Education in 1964, and in 1971 a Master of Science Degree at Clarkson College of Technology. He has

completed all course work in a doctoral program in community college administration at The University of Texas at Austin. His dissertation is in progress. He also is a graduate of the National School of Heavy Equipment Operation (Motor Grader Operator's Course).

Before joining Northern Virginia Community Colelge, Mr. Scott was instructor of electronics at John Tyler Community College, Chester, Virginia.

In addition to his experience in education, Mr. Scott has worked (from 1960 to 1964) as a transmitter engineer, Radio Station WDNC, Durham, North Carolina. He operated, maintained, and repaired five-KW AM and ten-KW FM transmitters and a wide range of associated equipment, including phasing gear for a three-tower directional array. He participated in the acquisition and installation of new AM and FM transmitters.

Organinally Planned Austin Community College Participants--
Edward L. Stewart, Jimmy Moore, Ross Welch, Weldon Hickey, and Vincent Foster

The five are all instructional leaders in technical-vocational programs at Austin Community College, and all have made considerable progress in individualizing the instruction

in the areas in which they work.

Mr. Stewart is Program Leader in Printing; Mr. Moore, in Building Trades; Mr. Welch is administrator of the Downtown Skills Center (which includes five different vocational education programs); Weldon Hickey is Program Leader in Office Occupations; and Mr. Foster, in Air Conditioning and Refrigeration.

Originally Planned Other Ten Participants--To be selected during the first month of the project. Their names will be presented to the Texas Education Agency by May 31. These participants will be instructional leaders in a diverse group of vocational-technical programs who have capability of developing individualized materials and who will complement the strengths of the five participants listed above.

Facilities, Equipment, Materials, and Supplies

Austin Community College facilities will be used for this project. Materials and supplies will cost more than supplies usually do for a four-month project because they will include multi-media materials and supplies as the team will be developing some videotapes and audiotapes.

Final Project Director--Dr. Charles D. Rorie

Dr. Rorie holds the Associate in Arts degree from Tyler Junior College, the Bachelor of Arts degree in English and History from Sam Houston State University, the Master of Science degree in Guidance and Counseling from East Texas State University, and the Doctor of Philosophy degree in Community College Administration from the University of Texas at Austin. He has done additional advanced study at Louisiana State University, Dalhousie University (Canada), North Texas State University, and Southwest Texas State University, as well as the Institute for Academic Deans of the American Council on Education.

Dr. Rorie's experience includes public school teaching in Texas and Canada, three years as an Education Officer in the Royal Canadian Navy (Supervisor of Instruction for Electrical Division of Fleet School), three years as Counselor and Director of Special Admissions at Southwest Texas Junior College, two years as Administrative Intern with the Post-secondary Division of the Department of Occupational Education and Technology at the Texas Education Agency, and two years as Dean of Instruction of West Virginia Northern Community College.

Dr. Rorie is a member of the American Vocational Association, the American Association for Higher Education, the American Association of Community and Junior Colleges (Individual Associate), Phi Delta Kappa (Occupational Research Literature Committee), and the West Virginia Association of Academic Deans.

Previous funded research projects include the "Eagle Pass Higher Education Facilities Comprehensive Planning Study," done for the Coordinating Board of the Texas College and University System, and The Comparative Rating Scale Model: Occupational Program Evaluation in Higher Education, done for the Texas Education Agency.

Originally Proposed Budget

Title of Proposed Project: Compilation and Annotation of Information About Current Individualized Instruction in Vocational-Technical Education in Texas Community/Junior Colleges and Development of Missing Components

Applicant Organization: Austin Community College

Beginning and Ending Dates of Project: May 1, 1975 to August 31, 1975

Period Covered by This Budget: May 1, 1975 to June 30, 1975

Purpose of Proposed Expenditures

	Applicant's Budget Account No.	Expenditures
1. Salaries and Wages (see Personnel Plan)		$ 8,200
2. Social Security; Federal Unemployment Tax (if paid)		
3. Travel Expenses (see Personnel Plan		$ 2,500

	Applicant's Budget Account No.	Expenditures
4. Supplies and Materials (expendables)--includes supplies for making multi-media materials		$ 250
5. Communications (telephone, postage, etc.)		$ 100
6. Miscellaneous Services (printing, duplicating, data processing, etc.)		
7. Contractual Services (consultants' fees, consultants' travel expenses, other contractual services)		
8. Leasing or Renting Expenses (facilities, equipment, etc.)		
9. Indirect Costs		
25 percent of personnel costs		$ 2,050
8 percent of other direct costs		$ 228
10. Other Costs (identify)		
Total expenditures during period covered by budget		$13,328

Original Proposed Personnel Plan

Title of Proposed Project: Compilation and Annotation of Information About Current Individualized Instruction in Vocational-Technical Education in Texas Community/Junior Colleges and Development of Missing Components

Applicant Organization: Austin Community College

Personnel Plan

A. Salaries and Wages

Name and Position of Project Personnel	Percent of Time on Project	Total Time on Project Hrs/Wks/Mos	Salary or Wage Rate Hr/Wk/Mo	Total Salary Chargeable to Project
William Horce Scott Project Director	100%	2 mo.	$1,500/mo	$3,000
Edwin Stewart Member, Project Team	100%	1 mo.	$1,000/mo	$1,000
Jimmy Moore Member, Project Team	100%	1 mo.	$1,000/mo	$1,000
Ross Welch Member, Project Team	100%	1 mo.	$1,000/mo	$1,000
Vincent Foster Member, Project Team	100%	1 mo.	$1,000/mo	$1,000
Marsha Hamilton Secretary	100%	2 mo.	$ 600/mo	$1,200
		TOTAL SALARIES AND WAGES		$8,200

B. Travel Expenses

Name and Position of Project Personnel	Number of Miles @ 16¢ per Mile	Number of Days @ $22.00/Day	Total Travel Expenses Chargeable To Project
The first six persons naumes above--Project Director and 5 Members Project Team	5,500	74	$2,500
TOTALS	5,500	74	$2,500

Originally Proposed Budget

Title of Proposed Project: Compilation and Annotation of Information About Current Individualized Instruction in Vocational-Technical Education in Texas Community/Junior Colleges and Development of Missing Components

Applicatnt Organization: Austin Community College

Beginning and Ending Dates of Projects: May 1, 1975 to August 31, 1975

Period Covered by This Budget: July 1, 1975 to August 31, 1975

Purpose of Proposed Expenditures

	Applicant's Budget Account No.	Expenditures
1. Salaries and Wages (see Personnel Plan)		$32,200
2. Social Security; Federal Unemployment Tax (if paid)		
3. Travel Expenses (see Personnel Plan)		

	Applicant's Budget Account No.	Expenditures
4. Supplies and Materials (expendables)--includes supplies for making multi-media materials		$ 750
5. Communications (telephone, postage, etc.)		$ 100
6. Miscellaneous Services (printing, duplicating, data processing, etc.) Printing 100 copies of final reports		$ 450
7. Contractual Services (consultants; fees, consultants' travel expenses, other contractual services)		
8. Leasing or Renting Expenses (facilities, equipment, etc.)		
9. Indirect Costs		
25 percent of personnel costs		$ 8,050
8 percent of other direct costs		$ 104
10. Other Costs (identify)		
Total expenditures during period covered by budget		$41,654

Originally Proposed Personnel Plan

Title of Proposed Project: Compilation and Annotation of Information About Current Individualized Instruction in Vocational-Technical Education in Texas Community/Junior Colleges and Development of Missing Components

Applicant Organization: Austin Community College

Personnel Plan

A. Salaries and Wages

Name and Position of Project Personnel	Percent of Time on Project	Total Time on Project Hrs/Wks/Mos	Salary or Wage Rate Hr/Wk/Mo	Total Salary Chargeable to Project
William Horace Scott Project Director	100%	2 mo.	$1,500mo	$3,000
Edward Stewart Member, Project Team	100%	2 mo.	$1,000/mo	$2,000
Jimmy More Member, Project Team	100%	2 mo.	$1,000/mo	$2,000
Ross Welch Member, Project Team	100%	2 mo.	$1,000/mo	$2,000
Vincent Foster Member, Project Team	100%	2 mo.	$1,000/mo	$2,000

Name and Position of Project Personnel	Percent of Time on Project	Total Time on Project Hr/Wks/Mos/	Salary or Wage Rate Hr/Wk/Mo	Total Salary Chargeable to Project
Secretary To Be Employed	100%	2 mo.	$ 600/mo	$ 1,200
Members, Project Team (10) To be selected by May 31, 1975	100%	2 mo.	$1,000/mo	$20,000
		TOTAL SALARIES AND WAGES		$32,200

Personnel Plan: Revised July 16, 1975

Title of Proposed Project: Compilation and Annotation of Information About Current Individualized Instruction in Vocational-Technical Education in Texas Community/Junior Colleges and Development of Missing Components

Applicant Organization: Austin Community College

Personnel Plan

A. Salaries and Wages

Name and Position of Project Personnel	Percent of Time on Project	Total Time on Project Hr/Wks/Mos	Salary or Wage Rate Hr/Wk/Mo	Total Salary Chargeable to Project
Mr. William H. Scott Project Director July 1-15, 1975	100%	1/2 mo.	$1,500/mo	$ 750
Dr. Charles D. Rorie Project Director July 16-August 31, 1975	100%	1 1/2 mo.	$1,500/mo	$2,250
Mr. Lee Waller Member, Project Team	100%	2 mo.	$1,333/mo	$2,666
Mr. Jimmy Moore Member, Project Team	100%	2 mo.	$1,333/mo.	$2,666

Name and Position of Project Personnel	Percent of Time on Project	Total Time on Project Hr/Wks/Mos	Salary or Wage Rate Hr/Wk/Mo	Total Salary Chargeable to Project
Mr. Ross Welch Member, Project Team	100%	2 mo.	$1,333/mo	$ 2,666
Ms. Marsha Hamilton Secretary	100%	2 mo.	$ 601/mo	$ 1,202
		TOTAL SALARIES AND WAGES		$12,200

B. Travel Expenses

Name and Position of Project Personnel	Number of Miles @ 16¢ per Mile	Number of Days @ $22.00/Day	Total Travel Expenses Chargeable To Project
The first five persons named above--Project Directors and 3 members	6,000	25	$1,510
TOTALS	6,000	25	$1,510

3. FINDINGS

The team of researchers was most astonished at lack of clear understanding concerning "What is Individualized Instruction" by our definition.

In almost every college visited, most of the components outlined in the beginning of project, were in use to some extent. The least available were written objectives. The participants generally agreed that students were informed at the beginning of the semester of the requirements necessary to successfully complete a course. However very few sophisticated statements of objectives were found.

Self pacing was evident in most all programs as was retesting without penalty. Alternate modes of instruction were used at some institutions. (One school was teaching a course with "team teaching": i.e., two instructors lecturing.) Only one school was hostile toward "Individualized Instruction." Others seemed uninterested "by name," but were using one or more of the project defined components. The general feeling was that "I.I." had been somewhat over sold, some times forced, with

negative results. Though several institutions were verbally committed to "I.I.," most instructors were hard pressed for a realistic definition.

In the best programs it seems that there was an unusually interested instructor who had taken it upon himself to "Find a More Effective Way" and the result was a better program, leading to the subjective conclusion that "I.I." can be successfully developed if the instructor is really sold on the idea and used his own initiative to bring a better method to the student.

One institution had designated four program areas where developmental work was to be done on every course level in those programs. That institution had promised full support to the four program areas.

One instructor had done considerable writing of what appeared to be good usable materials but he said that this was " . . . just for the files; I really didn't use that material."

Various sets of commercial materials with work books stating objective reference materials and instructions to be used along with slide-film packages which also made use of "Hands on" problem solving were observed in use. These also contained pre- and post- tests and employed the recycle method--a flow chart and student record-keeping that seemed impressive.

Available for what I considered a fair price. Some institutions were considering buying these entire packages, and instructors seemed to react favorably to such aids.

The misunderstanding that "I.I." is a "package deal" in that it consists of a 1-to-1 student/teacher situation could be found most everywhere.

Bi-lingual instruction required on some south Texas schools presented a challenge that was being met thru some aspects of "I.I." One research team member recommended:

1. A Standard Definition of Terminology.
2. Get off the hard sell I.I. and "let it happen" through showing instructors how it will work.
3. Create an objective file on state level for programs where available.
4. Good I.I. is not developed quickly, release from regular duties might be made available for development.
5. Since most Voc/Tech Instructors were hired as teachers because of work experience rather than formal training, not many writers exist among them. In order to provide both skill expertise and writing ability, assign a writer to a group of classes to attend during class session, translating visual teaching methods into written objectives.

6. It seems the general thought that I.I. is not the answer to all ailments, but usually serves a useful purpose.
7. Individualized instruction has been oversold in some institutions, resulting in a negative attitude towards it. Usually the advantages seem to be for the very fast student who would probably be successful regardless of method of instruction, according to some dissenters.
8. Individualized instruction has much merit, but it is not a cure-all.
9. I recommend further study of the I.I. methods of teaching, and refinement in the way it is administered and sold to faculty.

In the report of another project staff member, most of the programs could meet more than 50% of the criteria established in the proposal. The researcher made the following observations:

1. Practically all programs provided their students with the course objectives at the beginning of the course. Many programs included with this information, such things as, grade computation, attendance requirments, available resource material for the course. Progress Charts with the course objectives are used extensively.

2. TEA requires that all voc-tech programs have an advisory committee to assist in the formulation of the program, prior to application to the agency for program approval and subsequently, to help in the evaluation and revision of the program.

3. Multiple methods of instruction are generally available to students in the cognitive areas; however, in the psychomotor areas, patterning is the only real method of development. One does not learn to walk by reading a book, or seeing a movie, but by practice. First crawling, then standing, then walking but not with expertise until many lumps have been gathered by the student. There are some educators today, who would have you believe that an arc-welding student could learn to make certificable welds without ever burning any welding rod.

4. No programs were observed that restricted skill development as long as progress was being demonstrated. A student's ability to move at his own pace in the cognitive areas proved to be much more traditional in many institutions and programs. The class room portion of programs tended to be handled in large groups mostly in each step. (There were several notable exceptions to this; not all programs fit in this situation.)

5. Retesting without penalty in the cognitive areas does not occur in many of the programs or institutions. Retesting in skill development was restricted primarily by limitations in lab space, time and equipment. Instructors voiced the right of their students to practice a skill until they got it right.

Program areas across the state are diverse to the extreme. For example, we found some programs being run as live shops, where students utilized time clocks, were assigned to live jobs, were expected to perform each job within a specific time frame, were even exposed to customer pressure and customer relations. On the other hand, there were programs in the same area where a live problem was not allowed in the lab. The students worked with specially developed lab components.

Equipment and facilities are equally diverse. There was very little consistency of these items in a given program area.

Because instructors have developed learning materials around the equipment and components that they have had available and in compliance with the philosophy of their learning environment, very few of these materials are easily transferred from one institution to another.

The third research field-team member suggested that:

1. Of the 11 schools visited by this project researcher, most said that they did use stated objectives. Some had them written and some stated them to the students at the beginning of the course. Some of the objectives were of good quality and some appeared to be designed solely to meet the administrations' rules. (Example: "The objective of this course is the student will make a passing grade.")
2. Most all of the vocational technical programs are using self-pacing in the lab portion. Some do so only to the extent that they have to, and some said they did not use it at all. Very few said they used self-pacing in the cognitive area.
3. All programs in all schools said they have more than one method of instruction. Mostly it consisted of video tapes, etc.
4. Re-testing without penalty was an area that rarely provided clear cut answers on in most places. Some could retest in the lab work but could not in the theory portion of the course. Many stated that students could not retest at all without penalty and gave reasons for this. (Example:

"Students will not study before taking test first time. They will come in and flunk the test just so they know what to study.")

5. Evaluation and revision was something that everyone stated they did, but very little concrete evidence of this being done was seen.
6. T.E.A. states that all Voc/Tech programs will have an advisory board and we found this to be true in all cases. Some said they used the committee to the fullest extent and some said they were not using them at all.

This project has not succeeded in doing what it first set out to. However, it is proven that the original proposal could not be done because the material is not available to compile. What material that was found is mostly written to cover some existing piece of equipment and could not be used any place else that did not have that exact piece of equipment.

According to the projects' interpretation of individualized instruction it was found that many people who thought they were not individualized at all were using most all areas that we had identified to some extent.

In summary, there was general consensus that the original plan to compile a set of replicatable materials, to

be supplemented by some construction of new materials, was not a realistic task, for the reasons enumerated by the team members. As an alternative, workable, plan, the recommended project suggested in the following chapters was designed.

RECOMMEDNATIONS DERIVED FROM ACHIEVED RESULTS AND CONCLUSIONS

The original objectives of the initial planning of this project came to be somewhat altered during the course of the study, as explained in the previous sections of this report.

As a result of the research findings, already described, the director and professional staff of the project devised the following recommended plan as a suggested suitable means of accomplishing, in a larger format, the real goals of the study.

The following proposal is the recommendation of the study then:

Statement of the Problem

Vocational and technical education programs at the postsecondary level in Texas, comprise an extremely diverse set of offerings. This variety is an advantage to Texas students, allowing them to choose from many career options. However, there is a somewhat hidden diversity, among occupational programs in Texas, which may have less desirable

characteristics. This varience concerns program curriculums and objectives. A dozen Texas community colleges may offer a technical program with a single title, yet each college may teach toward entirely different outcomes.

Varying outcomes based upon local advisory committee recommendations concerning specific local needs, may sometimes be sound planning. However, programs of identical title and similar purpose, funded at the same rate and through the same source, and operating at the same educational level, should certainly be based on some common curriculum planning.

Core-curriculum coordination in Texas postsecondary institutions is currently a subjective process based on individual consideration of each program proposed by each institution. Though the U.S. Office of Education, and some regional consortiums of states, have published program guides, the actual use of such materials in Texas has been informal and inconsistent, as can be seen by even a cursory inspection of catalogue curriculums in similar programs across the state. State-wide objectives do not exist in specific written form for multiple-offering programs in postsecondary vocational and technical education.

Texas needs to establish formally approved statewide core-curriculums for multiple-offering programs in postsecondary

education. In some cases, existing published guides may be appropriate; in other cases, state governing boards' materials are suitable; etc. But, in many fields, little usable core-curriculum materials exist.

Even where a core-curriculum is semi-established, limited agreement exists concerning objectives, and such objectives as do exist are rarely stated in behavioral terms. State standards concerning hours of instruction required for a given field do not delineate program objectives. The existence and availability of a variety of curriculum reference materials does not mandate their use.

This proposed project is designed to improve curriculum planning and coordination through production of core-curriculums and objectives for the ten most common multiple-offering postsecondary occupational programs presently operating in Texas. In the process, a standardized curriculum/objectives format will be developed suitable for replication for all major program areas in Texas postsecondary vocational and technical education.

Objectives

The objectives of the proposed project are:

To construct and publish a core-curriculum for each of the ten vocational and technical post-secondary educational programs having the largest number of multiple-offerings in Texas public institutions, i.e.,

1. Mid-management
2. Vocational nursing
3. Auto mechanics
4. Air conditioning and refrigeration
5. Welding
6. Data processing programmer
7. Stenographic and general secretarial
8. Law enforcement
9. Drafting and design technology
10. Electronics technology.

To select, write, and publish a set of program objectives for each of the ten programs designated.

To design and construct a Texas Occupational Program Curriculum and Objective Bank (TOPCOB), placing the core-curriculums and objectives prepared by the project in an indexed reference system suitable for use by state and local administrators.

To prepare recommendations for gradual expansion of the TOPCOB system including all multiple-offering postsecondary programs in vocational and technical education in Texas.

Methodology

The project should require approximately one year for completion. Initially, the activities of the Project Director will center on identification of all TEA Postsecondary curriculum sources for the ten programs selected. Other state-level sources will be identified and materials collected, including those from governing boards, advisory committees, and industrial sources, etc.

Federal and private sources, as well as regional consortium efforts, will also be included in the study. The

initial intensive research phase will thus systematically collect and organize all relevant curriculum development sources for the ten programs selected.

Then, working with TEA consultants and administrators, the Project Director will produce a composite core-curriculum and set of objectives for each chosen program area.

These core-curriculums and objectives will then be reviewed by specially selected state program advisory committees, and other appropriate groups, for validation.

Finally, the completed ten sets of core-curriculums and objectives will be published in index form, for reference use by TEA consultants and administrators, and by local administrators as the Texas Occupational Program Curriculum and Objective Bank. The format used will provide for regular revision and update, as well as expansion to eventually include all multiple-offering programs.

Specific Results to Be Produced and Use To Be Made of Findings

This project will have an immediate effect on the development of new postsecondary occupational education programs of the types selected. Local administrators will be able to begin their program development in these areas with a

state core-curriculum and an indexed bank of objectives as base planning to combine with local advisory committee input. This should encourage better state-wide coordination in these areas, reducing unnecessary duplication of effort and resource expenditure. State level evaluation at both development and review states will also be aided by existence of these materials.

Additionally, the format, plan, and procedures developed by this project, for the design and production of state-level core-curriculums and program objective banks, will encourage increased coordination of efforts in this state-level planning function, with resulting greater efficiency in research and development efforts for postsecondary occupational curriculums and objectives.

Deliverable to the Texas Education Agency at the end of the proposed nine-month project should be:

A final report: Texas Occupational Program Curriculum and Objectives Bank (TOPCOB), containing

(a) the ten core-curriculums of the selected programs

(b) indexed objective banks for the ten selected programs

(c) the successful standardized format, and methodology developed by the project, for replication use

(d) recommendations for additional research

(e) recommendations for dissemination

It is suggested that the above project, at an estimated cost of approximately $25,000 to $30,000, would accomplish the initial goals of the original project through a redirection of efforts based on the findings and conclusions of the summer grant work.

APPENDICES

APPENDIX I

Austin
Community
College

901 NEAL STREET
AUSTIN, TEXAS 78702
512/476-6381

Austin Community College is conducting a project, under a TEA grant, to compile an annotated list of individualized instructional materials currently being used in certain vocational and technical areas in community junior colleges in Texas. This list is to be available for the use of any colleges which may wish to know where such materials are being developed and used.

To this end, we are asking that you complete the enclosed form, so that we may communicate with the appropriate department chairmen. In addition, we would appreciate any comments you might offer about the extent of individualization in these or other occupational programs at your college.

It would be helpful, too, if you could have a copy of your current college catalog sent to us.

Thank you very much.

Yours very truly,

William H. Scott
Project Director
TEA Summer Education Grant

AC 512/476-1546

WS/mh

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REAGAN CAMPUS · 7101 Berkman Drive · AUSTIN CAMPUS · 1200 Rio Grande · CROCKETT CAMPUS · Manchaca Road

APPENDIX II

PLEASE CHECK THE BLANK TO THE LEFT OF THOSE PROGRAMS THAT MAY HAVE BEEN INDIVIDUALIZED TO SOME EXTENT:

	PROGRAM	CHAIRMAN'S NAME
_____	Air Conditioning & Refrigeration	_____
_____	Airframe & Power Mechanics	_____
_____	Auto Body Repair	_____
_____	Auto Mechanics	_____
_____	Construction & Maintenance Trades	_____
_____	Drafting	_____
_____	Heavy Const. Equip. Mechanic	_____
_____	Machine Shop	_____
_____	Masonry	_____
_____	Plumbing	_____
_____	Welding	_____
_____	Construction Technology	_____
_____	Drafting & Design Technology	_____
_____	Electrical Technology	_____
_____	Electro-Mechanical Technology	_____
_____	Electronics Technology	_____
_____	Mechanical Technology	_____
_____	Architectural Drafting	_____

COMMENTS _____

_____

_____

_____

_____

_____

APPENDIX III

CHECK SHEET

INSTITUTION _____ PROGRAM AREA _____

COURSE #	STATED OBJECTIVES	SELF-PACING	MORE THAN ONE METHOD OF INSTRUCTION	RE-TESTING WITHOUT PENALTY	EVALUATION & REVISION

APPENDIX IV

INITIAL GROUP OF COLLEGES SURVEYED

COLLEGE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	Other
Central Texas College	*			*		*		*			*					*			
St. Phillip's San Antonio	*			*		*		*		*	*					*			
Lee County Jr. College Baytown	*			*		*					*					*			
San Jacinto College Pasadena				*		*		*		*	*		*			*			
College of the Mainland Texas City	*			*		*		*			*		*			*			
Bee County College Beeville			*								*								
Del Mar College Corpus Christi	*			*				*			*		*	*					
TSTI Waco			*	*							*	*							Vending Machine Repair

APPENDIX V

Austin
Community
College
901 NEAL STREET
AUSTIN, TEXAS 78702
512/476-6381

August 19, 1975

Mr. Oscar Millican
Occupational Research and Development
Texas Education Agency
Austin, Texas

Dear Mr. Millican:

The TEA-Funded study, "Compilation and Annotation of Information About Current Individualized Instruction in Vocational-Technical Education in Texas Community/Junior Colleges and Development of Missing Components", (project/contract #62350238), has had four principal objectives. Here is a review of those objectives:

a. To establish criteria for usefulness of materials (for individualized instruction) and determine usefulness by applying pre-determined criteria.
-A careful definition of what comprises "individualized instruction" has been developed and field tested successfully. The project's Final Report will delineate this definition and explain its applications and uses, together with its evaluation elements.

b. To identify vocational-technical areas for which adequate materials (individualized) do not now exist.
-Extensive samplings of programs across the entire state show that adequate materials suitable for replication do not now exist for <u>any</u> program type.

c. To develop a comprehensive listing of individualized instructional materials available to instructors of vocational courses in community colleges.
-This objective proved to be unobtainable due both to the almost complete lack of acceptable written objectives found for programs surveyed, and to the extremely wide variations found to exist between supposedly similar, but actually often drastically different, programs.

d. To recommend a dissemination system for providing information about materials and their effectiveness to program directors of vocational-technical courses.
-In order to recommend dissemination, something must be discovered with some elements of universality allowing replication. No such presently existing program materials were found.

The central purpose of this study was two-fold:

(1) To tie down exactly what individualized instruction is, by constructing a careful definition, and a set of evaluative criteria; and

(2) To discover such successfully operating individualized programs as might be copied by other schools to advantage, collecting materials from such programs and lodging them at the state level for reference.

Additionally, it was predicted that some few areas might need the special attention of writers to develop materials where none yet existed.

The experience of this project shows first, that there is such a paucity of written individualized materials in postsecondary vocational-technical programs that any team of writers attempting to fill the gaps would be confronted with an overwhelming and impossible task. Therefore, the $20,000.00 portion of the grant set aside for this part of the project is hereby deobligated and thus effectively returned to TEA by Austin Community College.

The plan for the discovery of successful individualized programs suitable for replication by other schools presupposes that the numerous similarly-to-identically titled occupational education programs of the state have some common core of knowledge tieing them to very similar objectives.

Project experience shows the above supposition to be absolutely erroneous. Extremely wide variation was found to exist across the state between objectives, contents, methodologies, etc., of programs with titles suggesting similarity. It became obvious through this study that very little coordinative direction or core standards now exist for any given program type.

Therefore, the success of this project centers as follows:

a. An excellent, useable, clearly stated definition and description of a real "individualized instructional program" has been designed, with evaluative criteria, and successfully field tested.

b. A problem has been clearly identified for further study and attention: there are no state core-curriculums or common base-level standards now existing, or common objectives anywhere stated for any program area of postsecondary vocational and technical education, state-wide.

c. A recommendation has been developed to attack the identified problem: a state-level bank of program core-curriculums and objectives should be developed to provide guidance to local administrators in development of new programs, and to provide standards for consideration of the programs so developed.

There will be a new Project Proposal developed to attack the problem discussed above, based on the stated recommendation. There will also be a detailed report of the entire project now nearing completion, including more specific data supporting the statements made in this preliminary summary.

Yours truly,

Dr. Charles D. Rorie
Project Director

CE 002 980

ACCESSION NUMBER: VT103321

PUBLICATION DATE: AUG75

TITLE: HEALTH OCCUPATIONS FOLLOW-UP. FOLLOW-UP OF 1973-74 HEALTH OCCUPATIONS TERMINEES FROM THE SECONDARY SCHOOL VOCATIONAL PROGRAMS OF ALABAMA. RESEARCH AND DEVELOPMENT REPORT NO. 27.

PERSONAL AUTHOR: DRAKE, JAMES BOB

DESCRIPTOR: *HEALTH OCCUPATIONS; *VOCATIONAL FOLLOWUP; *STATE SURVEYS; *SECONDARY EDUCATION; *VOCATIONAL EDUCATION; *OCCUPATIONAL SURVEYS

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ABSTRACT: THIS REPORT RELATES THE FINDINGS OF A STATEWIDE FOLLOWUP SURVEY OF 1973-74 HEALTH OCCUPATIONS TERMINEES FROM THE SECONDARY SCHOOL VOCATIONAL PROGRAMS OF ALABAMA. A TOTAL OF 269 STUDENT TERMINEES WERE MAILED QUESTIONNAIRES AFTER BEING OUT OF SCHOOL APPROXIMATELY SEVEN TO EIGHT MONTHS. RETURNS WERE RECEIVED FROM 111 (41.3 PERCENT) OF THE HEALTH OCCUPATIONS TERMINEES. DATA ARE PRESENTED IN TABLES WITH ACCOMPANYING NARRATIVE ORGANIZED ACCORDING TO THESE MAJOR SECTIONS: GENERAL INFORMATION ON THE TERMINEES; BASIC INFORMATION RELATED TO THE VOCATIONAL PROGRAMS; BASIC EMPLOYMENT INFORMATION; CONTINUING EDUCATION INFORMATION; AND JOB PLACEMENT INFORMATION. PRESENT AND FIRST JOB TITLES OF THE HEALTH OCCUPATIONS TERMINEES ARE APPENDED. (NJ)

REPORT NUMBER: RD-27

INSTITUTION NAME: AUBURN UNIV., ALA. OCCUPATIONAL RESEARCH AND DEVELOPMENT UNIT.

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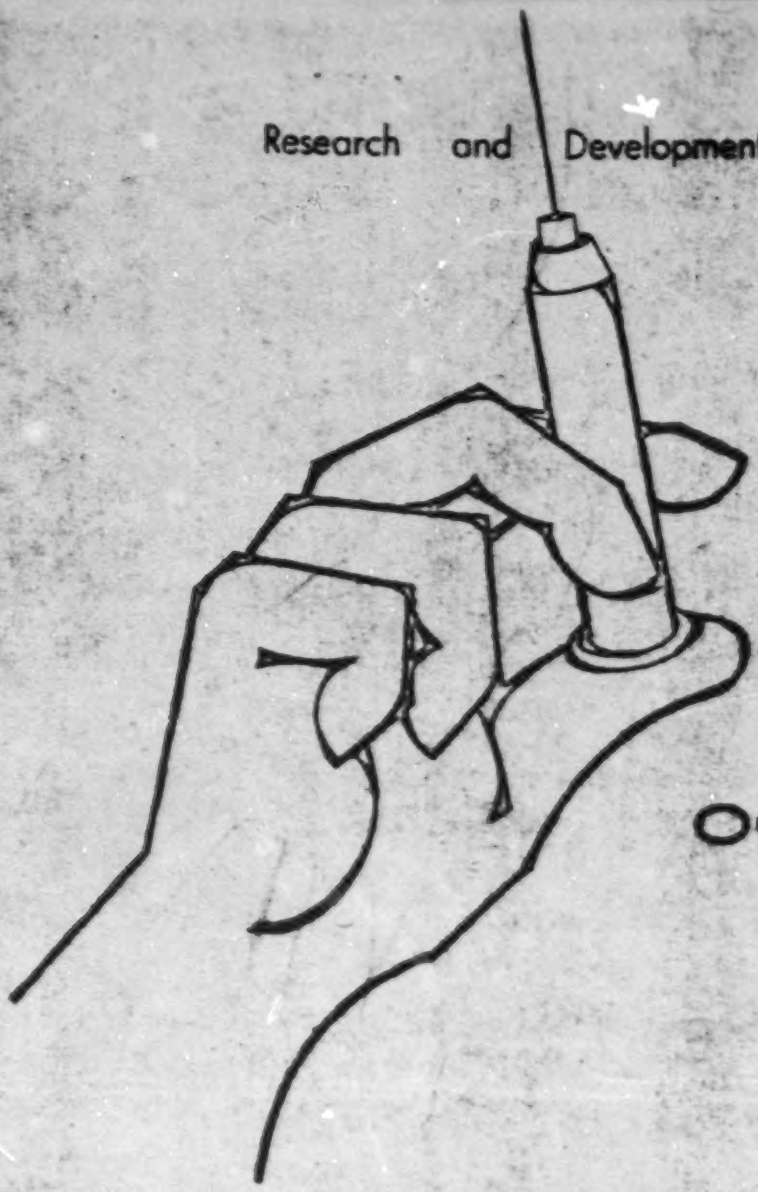

1973-1974 ALABAMA SECONDARY HEALTH OCCUPATIONS FOLLOW-UP REPORT

JAMES BOB DRAKE

OCCUPATIONAL RESEARCH AND DEVELOPMENT UNIT
DEPARTMENT OF VOCATIONAL AND ADULT EDUCATION
SCHOOL OF EDUCATION
AUBURN UNIVERSITY
AUBURN, ALABAMA

IN COOPERATION WITH DIVISION OF
VOCATIONAL EDUCATION AND COMMUNITY COLLEGES
STATE DEPARTMENT OF EDUCATION

SEPTEMBER 1975

VT 103 321

2

HEALTH OCCUPATIONS FOLLOW-UP

Follow-Up of 1973-74 Health Occupations
Terminees From the Secondary School
Vocational Programs of Alabama

Research and Development Report No. 27

Dr. James Bob Drake
Director

Occupational Research and Development Unit
Department of Vocational and Adult Education
School of Education
Auburn University
Auburn, Alabama

In Cooperation with Division of
Vocational Education and Community Colleges
State Department of Education

August 1975

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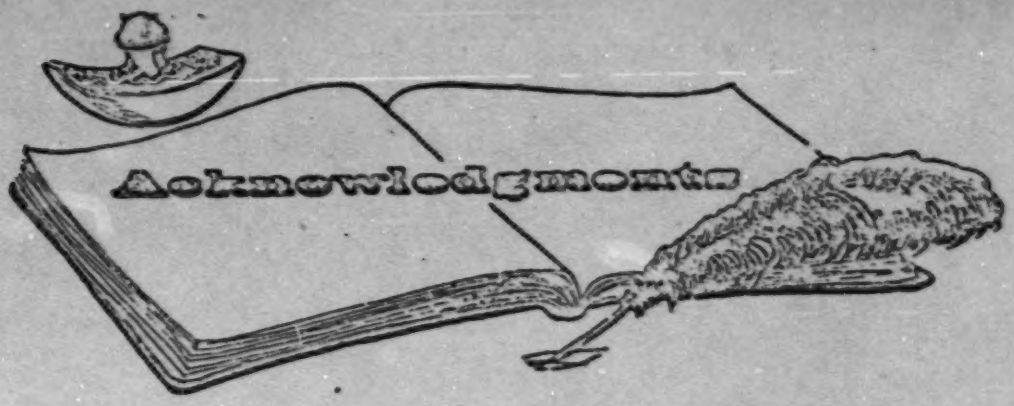

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Mr. Paul Davis, Research Associate
Mr. Gary Greenshields, Graduate Research Assistant
Mr. John Gross, Research Associate
Mr. James McMath, Graduate Research Assistant
Dr. Alice S. Morgan, Assistant Professor
Miss Flossi Sergen, Secretary
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FOLLOW-UP OF 1973-74 HEALTH OCCUPATIONS
TERMINEES FROM THE SECONDARY SCHOOL
VOCATIONAL PROGRAMS OF ALABAMA

Alabama continues to support one of the most progressive and comprehensive vocational education programs in the nation. In addition to serving youth and adults by training them for gainful and useful employment, the diversification of vocational courses meets a serious job need and contributes to the industrial development in the state.

With the millions of tax dollars being spent on vocational education, it is necessary to attempt to account to the taxpayer and decision-makers on the results of those expenditures. Terminee student follow-up studies constitute one of the most valuable techniques for assessing vocational education system outcomes.

The Alabama State Department of Education, Division of Vocational Education and Community Colleges, recognizing this important phase of accountability and evaluation, initiated the development of a statewide follow-up system for its vocational education program terminees at the secondary school level. The Division, under the direction of Dr. T. L. Faulkner, State Director, contracted with the Occupational Research and Development Unit at Auburn University to develop and implement the statewide follow-up system for all its secondary vocational terminees in all service areas.

This report relates the findings of the survey instrument mailed to the 1973-74 Health Occupations terminees from the secondary school

vocational programs of Alabama. When the terminees received the questionnaire, most had been out of school seven to eight months.

General Information

Student rosters with names and addresses of 1973-74 Health Occupations terminees were received from 13 secondary school vocational teachers in Alabama. Of the 13 teachers from which student rosters were received, nine were in Secondary Area Vocational Centers (AVC) and four were in programs in schools of other settings. The total of 269 student terminees reported to the ORDU were mailed the follow-up forms. Returns were received from 111 (41.3%) of the Health Occupations terminees from the initial mailing and one follow-up. At least one student questionnaire was received from each of the 13 programs.

All terminees reported in this study were in programs administered only by the Division of Health Occupations Education, State Department of Education.

Table 1 presents data relative to the total population of Health Occupations terminees and the number of returns categorized by OE codes as reported by teachers.

TABLE 1

DESCRIPTION OF TOTAL POPULATION AND RETURNS
BY OE CODE OF 1973-74 HEALTH
OCCUPATIONS TERMINEES[A]

OE Code[B]	Occupational Title	Total Number of Students	Percent of Health Students by OE Code	Number of Returns	Percent of Returns for OE Code Area
07.0000	General Health	10	3.7	3	30.0
07.0103	Dental Lab Technician	5	1.9	2	40.0
07.0303	Nurse's Aid	1	0.4	1	100.0
07.0800	Mental Health Technology	2	0.7	1	50.0
07.0906	Health Aid (Co-op)	223	82.9	99	44.4
07.9900	Health Cluster	17	6.3	2	11.8
99.0103	Career Guidance	11	4.1	3	27.3
	TOTAL ALL AREAS	269	100.0	111	41.3

[A] These Health Occupations terminees were terminees in programs administered only under the service area of Health Occupations Education, State Department of Education.

[B] OE Codes as reported by teachers.

Of the 1973-74 Health Occupations terminees reported by the teachers, the largest number in any OE code was in the occupational title area of Health Aid (Co-op). This 223 represented 82.9 percent of the reported Health Occupations terminees. There were 17 (6.3%) terminees listed as studying Health Clusters. The combined enrollment of Health Aid (Co-op) and Health Clusters was 240, and this represented 89.2 percent of the total enrollment in the Health Occupations area.

Table 1A is a description of total population and returns by OE Code area, type school, and termination status of the 1973-74 health occupations terminees.

TABLE 1A

DESCRIPTION OF TOTAL POPULATION AND RETURNS BY OE CODE AREA, TYPE SCHOOL, AND TERMINATION STATUS OF THE 1973-74 HEALTH OCCUPATIONS TERMINEES

OE Code Area Studied[A]	Occupational Title Studied by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
07.0000	General Health (Total)	10	3	30.0
	AVC (Total)[B]	10	3	30.0
	Completers[C]	5	2	40.0
	Dropouts[D]	5	1	20.0
	Other Type Schools (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
07.0103	Dental Lab Technician (Total)	5	2	40.0
	AVC (Total)	4	1	25.0
	Completers	4	1	25.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	1	1	100.0
	Completers	1	1	100.0
	Dropouts	0	0	0.0
07.0303	Nurse's Aid (Total)	1	1	100.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	1	1	100.0
	Completers	1	1	100.0
	Dropouts	0	0	0.0
07.0800	Mental Health Technology (Total)	2	1	50.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0

(continued)

OE Code Area Studied	Occupational Title Study by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
	Other Type Schools (Total)	2	1	50.0
	Completers	2	1	50.0
	Dropouts	0	0	0.0
07.0900	Health Aid (Co-op) (Total)	223	99	44.4
	AVC (Total)	135	64	47.4
	Completers	85	52	61.2
	Dropouts	50	12	24.0
	Other Type Schools (Total)	88	35	39.8
	Completers	81	32	39.5
	Dropouts	7	3	42.9
07.9900	Health Cluster (Total)	17	2	11.8
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	17	2	11.8
	Completers	14	2	14.3
	Dropouts	3	0	0.0
99.0103	Career Guidance (Total)	11	3	27.3
	AVC (Total)	11	3	27.3
	Completers	0	0	0.0
	Dropouts	11	3	27.3
	Other Type Schools (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
TOTAL ALL AREAS		269	111	
	AVC (Total)	160	71	
	Completers	94	55	
	Dropouts	66	16	

(continued)

OE Code Area Studied	Occupational Title Study by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
TOTAL ALL AREAS (continued)				
	Other Type Schools (Total)	109	40	
	Completers	99	37	
	Dropouts	10	3	

[A]OE Code areas as reported by teachers

[B]Area Vocational Centers

[C]Any terminee who left the program by completing or by high school graduation

[D]Any terminee who the instructor reported as having dropped out of school

Table 2 illustrates the sex characteristics of those 1973-74 Health Occupations terminees reported by the instructors and those who returned survey forms.

TABLE 2

SEX OF THE 1973-74 HEALTH OCCUPATIONS TERMINEES REPORTED AND BY WHO RETURNED QUESTIONNAIRES

Sex[A]	Reported		Returns	
	Number	Percent	Number	Percent
Male	43	16.0	13	11.7
Female	222	82.5	96	86.5
Not Known	4	1.5	2	1.8
TOTAL	269	100.0	111	100.0

[A] Sex as reported by teacher.

Table 3 presents the racial or ethnic characteristics of those 1973-74 Health Occupations terminees reported by instructors and who returned survey forms.

TABLE 3

RACIAL OR ETHNIC CHARACTERISTICS OF THE 1973-74 HEALTH OCCUPATIONS TERMINEES REPORTED AND BY WHO RETURNED QUESTIONNAIRES

Racial or Ethnic Group[A]	Reported		Returns	
	Number	Percent	Number	Percent
American Indian	0	0.0	0	0.0
Black	130	48.3	49	44.1
Oriental	0	0.0	0	0.0
Spanish Surnamed American	1	0.4	0	0.0
White	132	49.1	60	54.1
Other	1	0.4	0	0.0
Not Known	5	1.8	2	1.8
TOTAL	269	100.0	111	100.0

[A]Racial or Ethnic Group as reported by teacher.

Table 4 illustrates the number and grade level of the 1973-74 Health Occupations terminees reported who dropped out of school during the academic year and by who returned the questionnaire.

TABLE 4

NUMBER OF THE 1973-74 HEALTH OCCUPATIONS TERMINEES
REPORTED WHO DROPPED OUT OF SCHOOL DURING
THE 1973-74 SCHOOL YEAR BY
GRADE LEVEL

Grade Level Upon Dropping Out of School	Reported		Returns	
	Number	Percent[A]	Number	Percent[B]
Tenth	2	0.7	2	100.0
Eleventh	17	6.3	2	11.8
Twelfth	42	15.6	11	26.2
Grade Level Not Indicated by Teacher	14	5.2	4	28.6
TOTAL	75	27.9	19	25.3

[A]Percentage is based on 269 total reported terminees.
[B]Percentage is based on returns by grade.

Table 5 shows the number of 1973-74 Health Occupations terminees who indicated whether they were in active full-time military service.

TABLE 5

ACTIVE FULL-TIME MILITARY STATUS OF 1973-74
HEALTH OCCUPATIONS TERMINEES WHO
RETURNED QUESTIONNAIRES

Active Full-Time Military Status	Number	Percent
Yes	2	1.8
No	101	91.0
No Response	8	7.2
TOTAL	111	100.0

Basic Information Related to the Vocational Education Program

Table 6 points out the number of 1973-74 Health Occupations terminees who indicated whether this vocational program was a school requirement.

TABLE 6

1973-74 HEALTH OCCUPATIONS TERMINEES WHO INDICATED WHETHER THEIR VOCATIONAL PROGRAM WAS A SCHOOL REQUIREMENT

Vocational Courses Was a School Requirement	Number	Percent
Yes	3	2.7
No	106	95.5
No Response	2	1.8
Total	111	100.0

Table 7 indicates, according to the 1973-74 Health Occupations terminees, the primary source of influence in selecting their vocational course.

TABLE 7

PRIMARY INFLUENCES ON THE 1973-74 HEALTH OCCUPATIONS TERMINEES IN SELECTING THEIR VOCATIONAL COURSE

Group or Individual Terminees Felt Influenced Them Most in Selecting Vocational Course	Number	Percent
Parent(s) or Guardian(s)	11	9.9
Guidance Counselor	10	9.0
Your Vocational Teacher	8	7.2
Another Teacher or Principal	1	0.9
Student in VED Program	6	5.4
A Friend or Relative	66	5.4
A Businessman	0	0.0
Made Choice Yourself	68	61.3
Other (husband)[A]	1	0.9
No Response	0	0.0
TOTAL	111	100.0

[A]See page 10 for listing of "Others" who influenced health terminees in selecting their VED course.

Parents or Guardians appeared to be the greatest outside influence on those terminees enrolling in the Health Occupations program. Eleven (9.9%) of the terminees responding indicated that their Parent(s) or Guardian(s) influenced them most in selecting their Health Occupations course. However, 68 (61.3%) indicated that they selected their course of study on their own. Ten terminees (9.0%) indicated that a guidance counselor influenced them most in selecting their program. Eight (7.2%) of the terminees indicated that their vocational teacher influenced them most in selecting their course in Health Occupations.

Below is the response given to the "Others" category indicated in Table 7 as to the primary source of influence in selecting her vocational course.

"Other" Persons or Groups Who Most Influenced Terminees in Selecting Their VED Course	Number
My Husband	

Table 8 indicates terminees' opinions as to whether they had adequate job or occupational information and school experiences to make as realistic career choice.

TABLE 8

OPINIONS OF 1973-74 HEALTH OCCUPATIONS TERMINEES AS TO WHETHER THEY HAD ADEQUATE JOB OR OCCUPATIONAL INFORMATION AND SCHOOL EXPERIENCES TO MAKE A REALISTIC CAREER CHOICE

	Number	Percent
Yes	96	86.5
No	12	10.8
No Response	3	2.7
TOTAL	111	100.0

Table 9 indicates whether, during the time they were taking their high school vocational program, the reporting 1973-74 terminees intended to get a job in Health Occupations.

TABLE 9

INDICATIONS OF 1973-74 HEALTH OCCUPATIONS TERMINEES AS TO WHETHER, DURING THE TIME THEY WERE TAKING THEIR HIGH SCHOOL VED PROGRAM, THEY PLANNED TO GET A JOB IN THEIR AREA OF STUDY

Intended To Get Job In Area of Study	Number	Percent
Yes	66	59.5
No	13	11.7
Was Not Sure	32	28.8
No Response	0	0.0
TOTAL	111	100.0

It is interesting to note that only 66 (59.5%) of the 1973-74 reporting Health Occupations terminees indicated that during the time they were taking their Health Occupations program, they intended to get a job in the area they were studying.

Table 10 indicates terminees' opinions on choosing the Health Occupations program if they had the selection to make again.

A noteworthy point was revealed by the data. Of the 1973-74 Health Occupations terminees, 92 (82.9%) indicated that they would select the same vocational program if they had the choice to make again. Only seven (6.3%) of the responding terminees indicated that they would not take a vocational program.

TABLE 10

OPINIONS OF 1973-74 HEALTH OCCUPATIONS TERMINEES REGARDING THEIR VOCATIONAL PROGRAM

Question: If You Had It To Do Over Again, Would You...?	Number	Percent
Take the same vocational program	92	82.9
Not take a vocational program	7	6.3
Choose another vocational program offered in your school, such as _____ [A]	6	5.4
Choose another vocational program if it had been offered in your school, such as _____ [B]	4	3.6
No Response	2	1.8
TOTAL	111	100.0

[A]See listing IA below for those other vocational programs offered in terminees' school that they would have taken instead of their health programs.

[B]See listing IB below for the vocational programs the terminee would have taken instead of their health program if it had been offered in their school.

Listing I-A -- Courses offered in their school that Health Occupations terminees indicated they would have taken if they had it all to do over again.

1. Business Office Education
2. Unit Clerk
3. Nursing
4. DECA
5. Body and Fender Repair
6. Business

Listing I-B -- Courses Health Occupations terminees indicated they would have taken if they had it all to do over again and the course were offered in their school.

1. Architect
2. Sewing
3. Cosmetology
4. Take a more advanced nursing program

Table 11 indicates the extent to which the reporting 1973-74 Health Occupations terminees felt their high school vocational programs prepared them for their first job. This data was also broken down by how that first job related to their vocational program.

Terminees who were in full-time active military service or who had never been employed were not asked to respond to the questions from which this data was reported. Also, the terminees who failed to respond to the question items were not indicated in the table.

TABLE 11

PERCEPTIONS OF 1973-74 HEALTH OCCUPATIONS TERMINEES AS TO THE EXTENT THEIR HIGH SCHOOL VOCATIONAL PROGRAM PREPARED THEM FOR THEIR FIRST FULL-TIME JOB BY HOW FIRST FULL-TIME JOB RELATED TO TRAINING

Extent Vocational Course Prepared for First Full-Time Job	Total Reporting		Number Reporting by Relatedness of First Full-Time Job to Training Received					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Excellent	7	18.5	5	33.3	2	33.3	0	0.0
Well Prepared	11	28.9	8	53.3	2	33.3	1	5.9
Fair	4	10.5	0	0.0	2	33.4	2	11.8
Poorly Prepared	3	7.9	1	6.7	0	0.0	2	11.8
Preparation not related to job	13	34.2	1	6.7	0	0.0	12	70.5
TOTAL	38	100.0	15	100.0	6	100.0	17	100.0

In noting the extent to which the 1973-74 Health Occupations terminees felt their high school vocational course prepared them for their first full-time job by how their first full-time job related to the

training they received in their high school health program, some interesting points were revealed. Eighteen (47.4%) of the 1973-74 Health Occupations terminees responding to this item indicated "Excellent" or "Well Prepared" for their first full-time job as a result of the training received in their high school vocational education program. Thirteen (86.6%) of the 15 terminees employed in their first full-time job related directly to their training felt they were excellent or well prepared for this first job. Only one terminee who was working in an area directly related to his vocational training felt that he was poorly prepared for his first job. There was an additional terminee who indicated that he was working in an area directly related to his vocational course and felt that his preparation did not related to his job. Of all the responding terminees, only three (7.9%) felt that they were poorly prepared for their first full-time job. Of these, only one was working in an area directly related to his vocational course.

Table 12 indicates the extent to which the reporting 1973-74 Health Occupations terminees felt their high school vocational course prepared them for their present job. Also shown in the table is a breakdown of the data by how their present job was related to their vocational program.

Terminees in active full-time military service, and students who were attending school full time and had not had a job, were not asked to respond to the question from which Table 12 was prepared. Also, those other students who failed to respond to the items were not shown on the table.

Of the 40 terminees responding to these items, 18 (45.0%) indicated "Excellent" or "Well Prepared" for their present job as a result of their high school vocational program. No terminee reported feeling poorly prepared for his present job as a result of his training.

TABLE 12

PERCEPTIONS OF 1973-74 HEALTH OCCUPATIONS TERMINEES AS TO THE EXTENT THEIR HIGH SCHOOL VOCATIONAL COURSE PREPARED THEM FOR THEIR PRESENT JOB BY HOW THEIR PRESENT JOB RELATED TO TRAINING

Extent Vocational Course Prepared for Present Job	Total Reporting		Number Reporting by Relatedness of Present Job to Training Received					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Excellent	6	15.0	4	30.8	2	28.5	0	0.0
Well Prepared	12	30.0	9	69.2	1	14.3	2	10.0
Fair[A]	4	10.0	0	0.0	3	42.9	1	5.0
Poorly Prepared	0	0.0	0	0.0	0	0.0	0	0.0
Preparation not related to job	18	45.0	0	0.0	1	14.3	17	85.0
TOTAL	40	100.0	13	100.0	7	100.0	20	100.0

[A]See listing below for reasons terminees specified for only being trained "Fair" by their vocational course for their present job.

Thirteen (100.0%) of the 13 responding terminees working in an area directly related to their high school vocational program indicated that they felt excellent or well prepared by their training.

Two terminees who indicated "fair" as the extent their vocational program prepared them for this present job indicated reasons for this. The following lists the reasons the 1973-74 Health Occupations terminees indicated for being trained only "fair" by their vocational course for their present job.

1. Not a good book to teach the course with

2. Not closely related

None of the terminees who indicated they were "poorly prepared" for their present job by their vocational program gave reasons why they felt that way.

Table 13 focuses on the Health Occupations student club. The researchers sought to determine the extent to which the 1973-74 Health Occupations terminees felt that their high school student club aided in preparing them for their present job. Data are also broken down by the relationship of the present job to the vocational training received.

TABLE 13

PERCEPTIONS OF 1973-74 HEALTH OCCUPATIONS TERMINEES AS TO THE EXTENT THEIR HIGH SCHOOL VOCATIONAL STUDENT CLUB PREPARED THEM FOR THEIR PRESENT JOB BY HOW THEIR PRESENT JOB RELATED TO TRAINING[A]

Extent High School Vocational Student Club Helped Prepare for Present Job	Total Reporting		Total Reporting by Relatedness of Present Job to Vocational Training					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Excellent	4	23.5	2	20.0	1	33.3	1	25.0
Well Prepared	9	52.9	7	70.0	2	66.7	0	0.0
Fair	2	11.8	0	0.0	0	0.0	2	50.0
Poorly Prepared	2	11.8	1	10.0	0	0.0	1	25.0
TOTAL	17	100.0	10	100.0	3	100.0	4	100.0

[A]Of the 42 who responded, 7 (16.6%) had no related student club available, and 18 (42.9%) were not members of a related student club.

Only respondents who had had a job since terminating their high school vocational health program were asked to respond to the question reported in Table 13. Students in active full-time military service

were excluded. Seven (16.6%) of the 42 terminees reported no related student club was available, while 18 (42.9%) were not members of a related student club.

Thirteen (76.4%) of the 17 terminees who participated in student club activities indicated they were "Excellent" or "Well Prepared" by their related student club for their present job. Two (11.8%) indicated they were "Poorly Prepared" by their related student club for their present job. Of those two, one (50.0%) was in a related job, while one (50.0%) was in a non-related job.

Of those terminees who were working in an area directly related to the training they received in their high school vocational program, nine (90.0%) revealed that they were "Excellent" or "Well Prepared" for their present job by their related student club. Only one (10.0%) of the ten terminees who were working in a job directly related to the training they received indicated he was "Poorly Prepared" for his present job by his related student club.

Table 14 reports how the 1973-74 Health Occupations terminees rated the quality of teaching by their high school vocational instructors.

TABLE 14

1973-74 HEALTH OCCUPATIONS TERMINEES' RATINGS OF THE QUALITY OF TEACHING BY THEIR HIGH SCHOOL VOCATIONAL INSTRUCTORS

Rating	Number	Percent
Excellent	51	46.0
Good	46	41.4
Fair	8	7.2
Poor	1	0.9
Very Poor	4	3.6
No Response	1	0.9
TOTAL	111	100.0

Ninety-seven (87.4%) of the 111 reporting 1973-74 Health Occupations terminees rated the quality of teaching by their vocational instructor either "Good" or "Excellent." Only five (4.5%) rated the quality of teaching by their instructors "Poor" or "Very Poor."

Table 15 illustrates how the 1973-74 Health Occupations terminees rated their high school vocational instructor's interest in their class work.

TABLE 15

1973-74 HEALTH OCCUPATIONS TERMINEES' RATINGS OF THEIR HIGH SCHOOL VOCATIONAL INSTRUCTOR'S INTEREST IN THE STUDENT'S CLASS WORK

Rating	Number	Percent
Excellent	60	54.1
Good	39	35.1
Fair	8	7.2
Poor	1	0.9
Very Poor	2	1.8
No Response	1	0.9
TOTAL	111	100.0

Ninety-nine (89.2%) of the 111 reporting 1973-74 Health Occupations terminees rated the interest exhibited by their high school vocational instructor in their class work as "Good" or "Excellent." Only three (2.7%) of the terminees rated the interest their vocational instructors showed in their class work as "Poor" or "Very Poor."

Table 16 points out how the 1973-74 Health Occupations terminees subjectively rated the knowledge their vocational teachers possessed about their field of study. This rating is also shown in the table by

a breakdown of how the terminees' present job related to the training they received in their high school vocational program. Terminees were asked to base their judgments on their current knowledge of their job and responsibilities.

TABLE 16

1973-74 HEALTH OCCUPATIONS TERMINEES' RATINGS OF THE KNOWLEDGE THEIR HIGH SCHOOL VOCATIONAL TEACHER POSSESSED ABOUT THEIR FIELD OF STUDY BY HOW THE TERMINEES' PRESENT JOB RELATED TO THE TRAINING THEY RECEIVED

Ratings[A]	Total Reporting		Number Reporting by Relatedness of Present Job to Training Received					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Excellent	15	37.5	7	50.0	1	14.2	7	36.8
Good	16	40.0	6	42.9	3	42.9	7	36.8
Fair	9	22.5	1	7.1	3	42.9	5	26.4
Poor	0	0.0	0	0.0	0	0.0	0	0.0
Very Poor	0	0.0	0	0.0	0	0.0	0	0.0
TOTAL	40	100.0	14	100.0	7	100.0	19	100.0

[A]Ratings were to be based on terminee's judgment of their current knowledge of their job and responsibilities.

Total responses to this item indicates that 31 (77.5%) of the 40 responding 1973-74 Health Occupations terminees rated the knowledge their vocational teachers possessed about their field of study either "Good" or "Excellent." For those 14 terminees working in an area directly related to the training they received, 13 (92.9%) rated the

knowledge their teachers possessed about their field of study as "Good" or "Excellent." A favorable point was revealed in that none of those terminees rated the knowledge their vocational teachers possessed about their field of study as "Poor" or "Very Poor."

If the respondent was working in an area related to his training, he was asked to compare the facilities and equipment in his high school vocational program with those on his present job. Table 17 illustrates how the 1973-74 Health Occupations terminees responded.

TABLE 17

HOW 1973-74 HEALTH OCCUPATIONS TERMINEES WORKING IN A RELATED AREA RATED THE FACILITIES AND EQUIPMENT IN THEIR HIGH SCHOOL VOCATIONAL PROGRAM[A]

Rating[B]	Number	Percent
Better than those on present job	1	4.4
Similar to those on present job	13	56.5
Not as good as those on present job	9	39.1
TOTAL	23	100.0

[A]Twenty-three (50.0%) of the responding 46 terminees indicated that their present job was not related to their vocational training enough to compare facilities and equipment.

[B]Persons who had not had a job since leaving their vocational program, including those in military service and those who attended school, were asked not to respond to questions from which data was drawn. Returns were received from 111 terminees.

Only one (4.4%) of the 23 responding 1973-74 Health Occupations terminees working in an area related to their training rated the facilities and equipment in his high school vocational program as better than those on his present job. Thirteen (56.5%) rated the facilities

and equipment in their high school vocational program as similar to those on their present job; however, nine (39.1%) rated the facilities and equipment not as good as those on their present job.

Table 18 shows how 1973-74 Health Occupations terminees, who were in a cooperative work program in school and were now working in an area related to their vocational training, rated the facilities and equipment used in their cooperative work station.

TABLE 18

HOW 1973-74 HEALTH OCCUPATIONS TERMINEES NOW WORKING IN A RELATED AREA, WHOSE VOCATIONAL PROGRAM INCLUDED COOPERATIVE WORK, RATED FACILITIES AND EQUIPMENT USED IN THEIR COOPERATIVE WORK STATION[A]

Rating[B]	Number	Percent
Better than those on present job	1	5.0
Similar to those on present job	10	50.0
Working at same place where cooperative training was done	7	35.0
Not as good as those on present job	2	10.0
TOTAL	20	100.0

[A]Four (9.3%) of the responding 43 Health Occupations terminees indicated their vocational program was not a cooperative program. Nineteen (44.2%) terminees indicated they were not working in an area related to their cooperative work; therefore, they did not complete this item on the questionnaire.

[B]Persons who had not had a job since leaving their vocational program, including those in military service and those attending school, were asked not to respond to questions from which data was drawn. Returns were received from 111 terminees.

Only one (5.0%) of the 20 responding 1973-74 Health Occupations terminees whose vocational programs had included cooperative work and were now working in an area related to their vocational training, rated

the facilities and equipment in his cooperative work station as better than those on his present job. Ten (50.0%) rated the facilities and equipment in their cooperative training station as similar to those on their present job. Only two (10.0%) rated the facilities and equipment in their cooperative work station not as good as those in their present job. It was significant to note that seven (35.0%) indicated they were working at the same establishment where they did their cooperative training.

Basic Employment Information

The following section of this report offers information relative to employment and job characteristics of the 1973-74 secondary Health Occupations terminees.

Table 19 illustrates the number of full-time jobs the responding 1973-74 Health Occupations terminees have had since leaving their high school vocational course.

TABLE 19

NUMBER OF FULL-TIME JOBS HELD BY THE 1973-74 HEALTH OCCUPATIONS TERMINEES SINCE LEAVING THEIR HIGH SCHOOL VOCATIONAL COURSE

Number of Full-Time Jobs Held	Number	Percent[A]
One	39	35.1
Two	2	1.8
Three	0	0.0
Four	0	0.0
Five or more	0	0.0
TOTAL	41	36.9

[A]Percentage is based on the 111 terminees who returned the questionnaire.

There were 39 (35.1%) of the total 111 responding 1973-74 Health Occupations terminees who had been employed in just one job since leaving their high school vocational program. Only two (1.8%) of the terminees reported having two or more jobs since leaving their high school vocational course seven to eight months ago.

Table 20 reveals the first-job employment status of Health Occupations terminees who returned the survey by the relatedness of their vocational training to their first job.

TABLE 20

FIRST-JOB EMPLOYMENT STATUS OF HEALTH OCCUPATIONS TERMINEES (1973-74) BY RELATEDNESS OF VOCATIONAL TRAINING TO FIRST JOB[A]

First Job After Leaving High School Vocational Program	Total Reporting		Relatedness of Vocational Training to First Job[B]					
			Directly Related		Somewhat Related		Not Related[C]	
	No.	%	No.	%	No.	%	No.	%
Full-Time	27	24.3	8	7.2	6	5.4	13	11.7
Part-Time	16	14.4	8	7.2	1	0.9	7	6.3
TOTAL	43	38.7	16	14.4	7	6.3	20	18.0

[A]All percentages were based on the 111 (41.3%) of 269 terminees who returned the survey form.

[B]The terminees made the judgment as to how their first job was related to the training received in their high school vocational program.

[C]See page 24 for reasons terminees who were working in first job unrelated to this vocational training gave for not seeking job that was related before accepting their first job.

Of the 111 responding 1973-74 Health Occupations terminees, 27 (24.3%) were employed full time in their first job after leaving their high school

vocational program. Sixteen terminees' first jobs were on a part-time basis.

Sixteen (14.4%) of the 111 responding terminees' first jobs (full-time or part-time) were in an area directly related to the training they received in their high school vocational course. Seven (6.3%) were employed in an area somewhat related while 20 (18.0%) were employed in a first job not related to the training they received. The terminees made the judgment as to how their first job was related to the training they received in their high school vocational program.

Of the 20 terminees who indicated their jobs were not related to their vocational course, six (30.0%) terminees indicated that before they accepted their unrelated job, they tried to get a job that was related to their vocational training. However, 14 (70.0%) of the terminees did not.

The following is a list of reasons given by 5 of the 14 terminees who, before taking their first unrelated job indicated they did not seek a job that was related to their vocational training.

Reasons	Number
Because I wanted to go on to school	1
Have not had enough training	1
I worked at plywood plant	1
I knew that _____ _____ factory (shirt) paid more than a nurse's aid would	1
Was not taking course	1

Table 21 shows by OE Code for the first job of the 1973-74 Health Occupations terminees the relatedness of their training to this first job.

TABLE 21

1973-74 HEALTH OCCUPATIONS TERMINEES' FIRST JOB BY OE CODE STUDIED AND RELATEDNESS OF TRAINING[A]

OE Code	Title of Occupational Objective Studied	Total Employed by Area Studied		Relatedness of Training to First Job[B]					
				Directly Related		Somewhat Related		Not Related	
		No.	%	No.	%	No.	%	No.	%
07.000	General Health	1	2.1	0	0.0	0	0.0	1	100.0
07.0103	Dental Lab Technician	2	4.3	0	0.0	1	50.0	1	50.0
07.0303	Nurse's Aid	1	2.1	1	100.0	0	0.0	0	0.0
07.0800	Mental Health Technology	1	2.1	1	100.0	0	0.0	0	0.0
07.0906	Health Aid (Co-op)	39	83.0	15	38.5	6	15.4	18	46.1
07.9900	Health Cluster	2	4.3	0	0.0	0	0.0	2	100.0
99.0103	Career Guidance	1	2.1	0	0.0	1	100.0	0	0.0
	TOTAL ALL AREAS	47	100.0	17	36.2	8	17.0	22	46.8

[A]Of 269 Health Occupations terminees, 111 (41.3%) returned the questionnaire.

[B]The terminees made the judgment as to how their first job was related to the training received in their high school vocational program.

Of the 47 responding 1973-74 Health Occupations terminees who indicated how their first job related to the training they received in their high school vocational program, 17 (36.2%) were employed in directly related areas. Eight (17%) were employed in somewhat related areas while 22 (46.8%) terminees were employed in areas not related to their training.

The terminees made the judgment as to how their first job was related to the training received in their high school vocational program.

More responding terminees who studied in Health Aid (Co-op) (OE Code 07.0906) indicated first job employment. This was to be expected since more terminees studied in this occupational objective area (See Table 1). Of the 39 employed 1973-74 terminees who studied in the Occupational area of Health Aid (Co-op) and indicated relatedness of training, 15 (38.5%) were employed in an area directly related to that training. Six (15.4%) were employed in their first job in an area somewhat related to their training. However, 18 (46.1%) of these responding terminees indicated that their first job was not related to the training they received in their Health Occupations program.

Table 21A is a description of 1973-74 Health Occupations terminees' first job by OE code area studied, number of returns, type school, termination status, and relatedness of training.

TABLE 21A

DESCRIPTION OF 1973-74 HEALTH OCCUPATIONS TERMINEES' FIRST JOB BY OE CODE AREA STUDIED, NUMBER OF RETURNS, TYPE SCHOOL, TERMINATION STATUS, AND RELATEDNESS OF TRAINING

OE Code Area[A] and Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied	Relatedness of Training to First Job[E]		
			Number Directly Related	Number Somewhat Related	Number Not Related
07.0000					
General Health (Total)	3	1	-	-	1
AVC (Total)[B]	3	1	-	-	1
Completers[C]	2	1	-	-	1
Dropouts[D]	-	-	-	-	-
Other Type Schools (Total)	-	-	-	-	-
Completers	-	-	-	-	-
Dropouts	-	-	-	-	-

(continued)

TABLE 21A (continued)

OE Code Area[A] and Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied	Relatedness of Training to First Job[B]		
			Number Directly Related	Number Somewhat Related	Number Not Related
07.0103					
Dental Lab Technician (Total)	2	2	-	1	1
AVC (Total)	1	1	-	-	1
Completers	1	1	-	-	1
Dropouts	-	-	-	-	-
Other Type Schools (Total)	1	1	-	1	-
Completers	1	1	-	1	-
Dropouts	-	-	-	-	-
07.0303					
Nurse's Aid (Total)	1	1	1	-	-
AVC (Total)	-	-	-	-	-
Completers	-	-	-	-	-
Dropouts	-	-	-	-	-
Other Type Schools (Total)	1	1	1	-	-
Completers	1	1	1	-	-
Dropouts	-	-	-	-	-
07.0800					
Mental Health Technology (Total)	1	1	1	-	-
AVC (Total)	-	-	-	-	-
Completers	-	-	-	-	-
Dropouts	-	-	-	-	-
Other Type Schools (Total)	1	1	1	-	-
Completers	1	1	1	-	-
Dropouts	-	-	-	-	-
07.0906					
Health Aid (Co-op) (Total)	99	39	15	6	18
AVC (Total)	64	27	11	5	11
Completers	52	23	10	4	9
Dropouts	12	4	1	1	2

(continued)

TABLE 21A (continued)

OE Code Area[A] and Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied	Relatedness of Training to First Job[E]		
			Number Directly Related	Number Somewhat Related	Number Not Related
Other Type Schools (Total)	35	12	4	1	7
Completers	32	10	3	1	6
Dropouts	3	2	1	0	1
07.9900					
Health Cluster (Total)	2	2	-	-	2
AVC (Total)	-	-	-	-	-
Completers	-	-	-	-	-
Dropouts	-	-	-	-	-
Other Type Schools (Total)	2	2	-	-	2
Completers	2	2	-	-	2
Dropouts	-	-	-	-	-
99.0103					
Career Guidance (Total)	3	1	-	1	-
AVC (Total)	3	1	-	1	-
Completers	-	-	-	-	-
Dropouts	3	1	-	1	-
Other Type Schools (Total)	-	-	-	-	-
Completers	-	-	-	-	-
Dropouts	-	-	-	-	-
TOTAL ALL AREAS	111	47	17	8	22
AVC (Total)	71	30	11	6	13'
Completers	55	25	10	4	11
Dropouts	16	55	1	2	2

(continued)

TABLE 21A (continued)

OE Code Area[A] and Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied	Relatedness of Training to First Job[E]		
			Number Directly Related	Number Somewhat Related	Number Not Related
TOTAL ALL AREAS (continued)					
Other Type Schools (Total)	40	17	6	2	9
Completers	37	15	5	2	8
Dropouts	3	2	1	-	1

[A]OE Code areas as reported by teachers
[B]Area Vocational Centers
[C]Any terminee who left the program by completing or by high school graduation
[D]Any terminee who the instructor reported as having dropped out of school
[E]The terminees made the judgment as to how their first job was related to the training received in their high school vocational program

Table 22 illustrates the current employment status of the responding terminees by the relatedness of their vocational training to their present jobs. All percentages figured in the table were based on the 111 (41.3%) returns from the 269 Health Occupations terminees.

Of the 111 responding 1973-74 secondary Health Occupations terminees, 21 (18.9%) were presently employed full time and not attending school or employed full time and attending school. Twelve (10.8%) of the terminees were employed part time and attending school, while 16 (14.4%) were unavailable for employment (See page 31 for reasons terminees were unavailable for employment). Only 16 (14.4%) of the terminees were unemployed and actively seeking employment, while three (2.7%) were employed part time and seeking full-time employment.

TABLE 22

CURRENT EMPLOYMENT STATUS OF HEALTH OCCUPATIONS TERMINEES (1973-74) BY RELATEDNESS OF TRAINING TO PRESENT JOB[A]

Employment Status	Total Responding		Relatedness of Training to Present Job[B]							
			Directly Related		Somewhat Related		Not Related[E]		Employed No Response	
	No.	%	No.	%	No.	%	No.	%	No.	%
Employed full time and not attending school	19	17.1	4	3.6	6	5.4	8	7.2	1	0.9
Employed full time and attending school	2	1.8	1	0.9	0	0.0	1	0.9	0	0.0
Employed part time and seeking full-time job	3	2.7	0	0.0	0	0.0	3	2.7	0	0.0
Employed part time and not seeking full-time job	2	1.8	1	0.9	0	0.0	1	0.9	0	0.0
Employed part time and attending school	12	10.8	4	3.6	1	0.9	5	4.5	2	1.8
Unemployed (actively seeking a job)[C]	16	14.4	N/A		N/A		N/A		N/A	
Unavailable for employment[C&D]	16	14.4	N/A		N/A		N/A		N/A	
No Response	41	36.9	N/A		N/A		N/A		N/A	
TOTAL	111	100.0	10	9.0	7	6.3	18	16.2	3	2.7

[A] All percentages were based on the 111 (41.3%) respondents of the total 269 terminees. Terminees in active full-time military service or attending school full-time and had never been employed were included in the "No Response" category.

[B] The terminees made the judgment as to how their present job was related to the training received in their high school vocational program.

[C] The unemployed and unavailable for employment categories do not include persons in the military service and persons who were in school full time and never had a job.

[D] See page 28 for the listing of reasons Health Occupations terminees gave for being unavailable for employment.

[E] See page 29 for reasons terminees who were working in present job not related to vocational training gave for not seeking related job before accepting present job. Totals for unrelated columns may not correspond because terminees failed to respond to one of the two questions from which data was drawn.

The "No Response" category in Table 22 includes three groups: (1) terminees in active full-time military service; (2) terminees who were in school full time and had never had a job; and (3) terminees who failed to respond to the item on the questionnaire.

Of the 111 secondary Health Occupations respondees, 10 (9.0%) were presently employed full time or part time in an area directly related to the training received in their high school vocational course. Seven (6.3%) were employed either part time or full time in an area somewhat related to their training, while 18 (16.2%) were employed in areas not related to training. The terminees made the judgment as to how their present employment was related to the training received in their high school vocational course.

Below is a list of the reasons given by the terminees for being unavailable for employment.

Reason	Number
In school full time	13
Presently not working, not interested in a job	0
Homemaker	2
Pregnancy	6
Illness or disability	1
Other	2

Of the 22 terminees who indicated their present jobs were not related to their vocational course, 12 (54.5%) terminees indicated that before they accepted their unrelated job, they tried to get a job that was related to their vocational training. However, 10 (45.5%) of the terminees did not.

The following is a list of reasons given by eight of the ten terminees who, before taking their present unrelated job, indicated they did not seek a job that was related to their vocational training.

Reason	Number
Did not want to work in medical field	1
I did not enjoy the lack of guidance and care at local hospitals	1
Requires too many years of school	1
Already had job	1
Because I could not	1
I was not interested	1
Instead of attending school, I preferred vocational training	1

Table 23 shows for the present job, by OE code, the number of 1973-74 secondary Health Occupations terminees employed by the relatedness of their vocational training to their present job.

Of the 41 secondary Health Occupations terminees who indicated present employment, 33 (80.5%) who studied in the area of Health Aid (Co-op), OE Code 07.0906, were employed. This represented the largest number of employed terminees that studied in any OE Code area.

Of the 33 terminees presently employed that studied Health Aid (Co-op), 12 (36.4%) were employed in an area directly related to the training received in their high school vocational program. Sixteen (48.5%) terminees who studied in Health Aid (Co-op) indicated their present job was not related to their high school vocational training. The terminees made the judgment as to how their present job related to the training received in their high school vocational program.

TABLE 23

EMPLOYED 1973-74 HEALTH OCCUPATIONS TERMINEES
BY OE CODE AREA STUDIED AND BY RELATEDNESS
OF TRAINING TO PRESENT JOB[A]

OE Code	Title of Occupational Objective Studied	Total Employed by Area Studied		Relatedness of Training to Present Job[B]					
				Directly Related		Somewhat Related		Not Related	
		No.	%	No.	%	No.	%	No.	%
07.0000	General Health	1	0.9	0	0.0	0	0.0	1	0.9
07.0103	Dental Lab Technician	2	1.8	0	0.0	1	0.9	1	0.9
07.0303	Nurse's Aid	1	0.9	1	0.9	0	0.0	0	0.0
07.0800	Mental Health Technology	1	0.9	1	0.9	0	0.0	0	0.0
07.0906	Health Aid (Co-op)	33	29.7	12	10.8	5	4.5	16	14.4
07.9900	Health Cluster	2	1.8	0	0.0	0	0.0	2	1.8
99.0103	Career Guidance	1	0.9	0	0.0	1	0.9	0	0.0
	TOTAL ALL AREAS	41	36.9	14	12.6	7	6.3	20	18.0

[A]All percentages were based on the 111 (41.3%) of the 269 terminees who returned the questionnaire.

[B]Terminees made the judgment as to how their first job was related to training received in their high school vocational program.

Table 23A is a description of 1973-74 Health Occupations terminees' present job by OE code area studied, number of returns, type school, termination status, and relatedness of training.

TABLE 23A

DESCRIPTION OF 1973-74 HEALTH OCCUPATIONS TERMINERS' PRESENT JOB BY OE CODE AREA STUDIED, NUMBER OF RETURNS, TYPE SCHOOL, TERMINATION STATUS, AND RELATEDNESS OF TRAINING

OE Code Area[A]	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied	Relatedness of Training to Present Job[E]		
				Number Directly Related	Number Somewhat Related	Number Not Related
07.0000						
	General Health (Total)	3	1	-	-	1
	AVC (Total)[B]	3	1	-	-	1
	Completers[C]	2	1	-	-	1
	Dropouts[D]	1	-	-	-	-
	Other Type Schools (Total)	-	-	-	-	-
	Completers	-	-	-	-	-
	Dropouts	-	-	-	-	-
07.0103						
	Dental Lab Technician (Total)	2	2	-	1	1
	AVC (Total)	1	1	-	-	1
	Completers	1	1	-	-	1
	Dropouts	-	-	-	-	-
	Other Type Schools (Total)	1	1	-	1	-
	Completers	1	1	-	1	-
	Dropouts	-	-	-	-	-
07.0303						
	Nurse's Aid (Total)	1	1	1	-	-
	AVC (Total)	-	-	-	-	-
	Completers	-	-	-	-	-
	Dropouts	-	-	-	-	-
	Other Type Schools (Total)	1	1	1	-	-
	Completers	1	1	1	-	-
	Dropouts	-	-	-	-	-

TABLE 23A (continued)

OE Code Area[A]	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied	Relatedness of Training to Present Job[E]		
				Number Directly Related	Number Somewhat Related	Number Not Related
07.0800						
	Mental Health Technology (Total)	1	1	1	-	-
	AVC (Total)	-	-	-	-	-
	Completers	-	-	-	-	-
	Dropouts	-	-	-	-	-
	Other Type Schools (Total)	1	1	1	-	-
	Completers	1	1	1	-	-
	Dropouts	-	-	-	-	-
07.0906						
	Health Aid (Co-op) (Total)	99	33	12	5	16
	AVC (Total)	64	22	9	4	9
	Completers	52	20	9	3	0
	Dropouts	12	2	-	1	1
	Other Type Schools (Total)	35	11	3	1	7
	Completers	32	9	2	1	6
	Dropouts	3	2	1	-	1
07.9900						
	Health Cluster (Total)	2	2	-	-	2
	AVC (Total)	-	-	-	-	-
	Completers	-	-	-	-	-
	Dropouts	-	-	-	-	-
	Other Type Schools (Total)	2	2	-	-	2
	Completers	2	2	-	-	2
	Dropouts	-	-	-	-	-

TABLE 23A (continued)

OE Code Area[A]	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied	Relatedness of Training to Present Job[E]		
				Number Directly Related	Number Somewhat Related	Number Not Related
99.0103						
	Career Guidance (Total)	3	1	-	1	-
	AVC (Total)	3	1	-	1	-
	Completers	-	-	-	-	-
	Dropouts	3	1	-	1	-
	Other Type Schools (Total)	-	-	-	-	-
	Completers	-	-	-	-	-
	Dropouts	-	-	-	-	-
TOTAL ALL AREAS		111	41	14	7	20
	AVC (Total)	71	25	9	5	11
	Completers	55	22	9	3	10
	Dropouts	16	3	-	2	1
	Other Type School (Total)	40	16	5	2	9
	Completers	37	14	4	2	8
	Dropouts	3	2	1	-	1

[A]OE Code areas as reported by teachers

[B]Area Vocational Centers

[C]Any terminee who left the program by completing or by high school graduation

[D]Any terminee who the instructor reported as having dropped out of school

[E]The terminees made the judgment as to how their first job was related to the training received in their high school vocational program.

Table 24 indicates the first job salary ranges as compared to the present job salary ranges for the 1973-74 Health Occupations terminees.

TABLE 24

FIRST-JOB SALARY RANGES AND PRESENT-JOB SALARY RANGES FOR 1973-74 HEALTH OCCUPATIONS TERMINEES

Salary Ranges	First Job		Present Job	
	No.	%	No.	%
Under $250	26	60.5	15	57.7
$250 - $299	5	11.6	2	7.7
$300 - $349	9	20.9	6	23.0
$350 - $399	2	4.7	2	7.7
$400 - $449	0	0.0	1	3.9
$450 - $499	0	0.0	0	0.0
$500 - $599	1	2.3	0	0.0
$600 - $699	0	0.0	0	0.0
$700 or more	0	0.0	0	0.0
TOTAL	43	100.0	26	100.0

Of the 43 terminees reporting a salary range for their first job, 26 (60.5%) indicated a range of under $250 per month. No terminee reported a first salary of over $600 per month. The median salary range for the first job fell in the range of under $250 per month. The mean salary range for the first job also fell in the range of under $250 per month.

Of the 26 1973-74 Health Occupations terminees reporting a salary range for their present job, 15 (57.5%) indicated under $250 per month. This salary range was indicative of the mode of the reporting students. The median and mean salary ranges for the present job also fell within the range of $250 per month or less. The median and mean salary ranges of present jobs over first jobs do not indicate a considerable increase for the reporting Health Occupations terminees.

Table 24A indicates the first-job salary ranges by relatedness of training and sex of the Health Occupations terminees.

TABLE 24A

FIRST-JOB SALARY RANGES BY RELATEDNESS OF TRAINING
OF 1973-74 HEALTH OCCUPATIONS
TERMINEES BY SEX

Salary Ranges	Sex of Terminees Responding		Relatedness of Training to First Job[B]					
			Directly Related		Somewhat Related		Not Related	
	Male	Female	Male	Female	Male	Female	Male	Female
Under $250	5	19	2	8	-	3	3	8
$250 - $299	1	4	1	1	-	2	-	1
$300 - $349	2	6	-	3	-	1	2	2
$350 - $399	1	1	-	-	1	-	-	1
$400 - $449	-	-	-	-	-	-	-	-
$450 - $499	-	-	-	-	-	-	-	-
$500 - $599	-	1	-	-	-	-	-	1
$600 - $699	-	-	-	-	-	-	-	-
$700 or more	-	-	-	-	-	-	-	-
TOTAL[A]	9	31	3	12	1	6	5	13

[A]Totals do not match those of Table 24 because some terminees did not respond to all questions.

[B]The terminees made the judgment as to how their first job was related to the training received in their high school vocational program.

Twenty-four (60.0%) of the 40 responding terminees were employed at less than $250 per month. Of these 24 terminees, two (8.4%) males and eight (33.3%) females were employed in a job directly related to their training, three (12.5%) females were employed in jobs somewhat related to their training, while three (12.5%) males and eight (33.3%) females were employed in jobs not related to their training.

Of the 40 responding terminees, nine (22.5%) were males and 31 (77.5%) were females. Three (7.5%) males and 12 (30.0%) females were employed in jobs directly related to their vocational training, one (2.5%) male and six (15.0%) females were employed in jobs somewhat related to their training, while five (12.5%) males and 13 (32.5%) females were employed in jobs not related to their training.

Table 24B indicates the present-job salary ranges by relatedness of training and sex of the Health Occupations terminees.

TABLE 24B

PRESENT-JOB SALARY RANGES BY RELATEDNESS OF TRAINING OF 1973-74 HEALTH OCCUPATIONS TERMINEES BY SEX

Salary Ranges	Sex of Terminees Responding		Relatedness of Training to Present Job[B]					
			Directly Related		Somewhat Related		Not Related	
	Male	Female	Male	Female	Male	Female	Male	Female
Under $250	3	11	-	3	-	1	3	7
$250 - $299	-	2	-	-	-	-	-	2
$300 - $349	1	5	-	3	1	1	-	1
$350 - $399	-	2	-	1	-	1	-	-
$400 - $449	1	-	1	-	-	-	-	-
$450 - $499	-	-	-	-	-	-	-	-
$500 - $599	-	-	-	-	-	-	-	-
$600 - $699	-	-	-	-	-	-	-	-
$700 or more	-	-	-	-	-	-	-	-
TOTAL[A]	5	20	1	7	1	3	3	10

[A]Totals do not match those of Table 24 because some terminees did not respond to all questions.

[B]The terminees made the judgment as to how their present job was related to the training received in their high school vocational program.

Fourteen (56.0%) of the 25 responding terminees were employed at less than $250 per month. Of these 14 terminees, three (21.4%) females were employed in a job directly related to their training, one (7.2%) female was employed in jobs somewhat related to their training, while three (21.4%) males and seven (50.0%) females were employed in jobs not related to their training.

Of the 25 responding terminees, five (20.0%) were males and 20 (80.0%) were females. One (4.0%) male and seven (28.0%) females were employed in jobs directly related to their vocational training, one (4.0%) male and three (12.0%) females were employed in jobs somewhat related to their training, while three (12.0%) males and ten (40.0%) females were employed in jobs not related to their training.

Continuing Education Information

The following section of this report presents information relative to the continuing education of the 1973-74 secondary Health Occupations terminees.

Table 25 shows the vocational educational training opportunities terminees have participated in since leaving their high school vocational program.

TABLE 25

ADDITIONAL VOCATIONAL EDUCATIONAL TRAINING 1973-74
SECONDARY HEALTH OCCUPATIONS TERMINEES
PARTICIPATED IN SINCE LEAVING THEIR
HIGH SCHOOL VOCATIONAL PROGRAM[A]

Type Training	Number	Percent[B]
On-the-job training (employer-sponsored program)	14	12.6
Public school adult vocational program	1	0.9
Private vocational school program	1	0.9
University or four year college	16	14.4
Junior college	17	15.3
Post-secondary vocational-technical institute (trade school)	6	5.4
Apprenticeship training program	1	0.9
Specialized occupational military training	1	0.9
Other[C]	7	6.3
TOTAL[D]	64	57.6

[A] Fifty (45.0%) of the 111 terminees gave no indication of being involved in additional vocational training. Of the 111 terminees, 57 (51.4%) took part in one additional vocational training opportunity since leaving their high school program. Seven (6.3%) took part in two and no terminees took part in the three additional training opportunities.

[B] Percentages are based on the 111 (41.3%) respondents of the total 269 terminees who returned questionnaires.

[C] See page 41 for the "Other" listing as specified by the terminees.

[D] The total indicated the number of different training programs in which terminees enrolled. As footnoted above, several terminees had enrolled in more than one training program.

Of the total termineee, the 17 (15.3%) who were enrolled in Junior Colleges represented the largest area where termineee had taken additional vocational training.

Of the 111 responding termineee, 57 (51.4%) had taken part in one additional vocational training program since leaving their high school program. Seven (6.3%) enrolled in two training programs, and no termineee had enrolled in three vocational training programs. Fifty (45.0%) indicated they had not enrolled in any additional vocational training.

The following is a listing of the "Other" (Table 25) vocational education training termineee indicated they had participated in:

"Other" Vocational Training	Number
Nursing Home Aid	1
Nursing Assistant	1
Work Clerk	1
College	1
Nursing (Practical)	1
Nursing School (3 yr. diploma)	1
Secretarial work	1
Cosmetology	1

Table 26 points out the additional programs the 1973-74 secondary Health Occupations termineee were presently attending beyond their high school training by whether these programs were related to their high school vocational program.

Of the 111 1973-74 secondary Health Occupations termineee who responded to the survey, two (1.8%) were attending an on-the-job training program (employer-sponsored), 13 (11.7%) were attending a vocational-technical institute, 20 (18.0%) were attending a junior college, 16 (14.4%) were attending a four year college or university, none were attending a public adult vocational program, one (0.9%) was attending private business

or trade school, one (0.9%) was attending an apprenticeship program, and five (4.5%) were attending some other type of school or educational program. (See page 43 for the listing of the other types of schools or educational programs students were attending.)

TABLE 26

PROGRAMS PRESENTLY ATTENDED BY THE 1973-74 SECONDARY HEALTH OCCUPATIONS TERMINEES BY WHETHER THESE PROGRAMS WERE RELATED TO THEIR HIGH SCHOOL VOCATIONAL EDUCATION PROGRAM[A]

Programs Attended	Terminees		Program Related to High School VED Program					
			Yes		No		No Response	
	No.	%	No.	%	No.	%	No.	%
On-the-job training (employer-sponsored)	2	1.8	0	0.0	0	0.0	2	1.8
Vocational-technical institute (Trade School)	13	11.7	5	4.5	4	3.6	4	3.6
Junior college	20	18.0	6	5.4	13	11.7	1	0.9
Four year college or university	16	14.4	11	9.9	4	3.6	1	0.9
Public school adult vocational program	0	0.0	0	0.0	0	0.0	0	0.0
Private business or trade school	1	0.9	0	0.0	1	0.9	0	0.0
Apprenticeship program	1	0.9	1	0.9	0	0.0	0	0.0
Other[B]	5	4.5	2	1.8	1	0.9	2	1.8
TOTAL	58	52.3	25	22.5	23	20.7	10	9.0

[A]All percentages were based on the 111 responding terminees.

[B]See page 43 for listing of "Other" schools or educational institutions terminees were attending.

Fifty-eight (52.3%) of the 111 Health Occupations terminees were presently continuing their education. Twenty-five (22.5%) of the terminees were continuing their education in a program related to their high school vocational program. Twenty-three (20.7%) were attending a program in an area not related to their high school vocational program.

The following is a listing of the "Other" category (Table 26) of additional programs the 1973-74 Health Occupations terminees were attending:

"Other" School or Program	Number
American School (correspondence course)	1
Nursing School	2
Ketona Nursing Home	1
Jefferson State College	1
B.M.E.T. at U.A.B.	1

Of the 111 responding terminees, 56 (50.5%) indicated they were not attending a school or program but would like to do so. The following is a list of the areas in which these terminees desired to study:

Area of Study	Number
Registered Nurse	18
Licensed Practical Nurse	2
Nurse's Aid	5
Health Aid	1
Health Course	1
Dental Technician	1
Medical Technology	1
Dentistry	1
Medical or Health Field	2
Radiological Technology	2
Physical Therapy	2
Mental Health	1
Special Education (Mental Retardation)	2
Special Work or Clinical Psychologist	1
Receptionist	1

Area of Study (con't.)	Number
Business and Office Education	2
Secretary	1
Tailoring	1
Architect	1
Barber School	1
Cosmetology	2
St. Judes of Trenholm	1
No Response	6

Thirty-five (31.5%) of the 111 responding terminees indicated they were not attending a school or program and did not desire to do so. Twenty (18.0%) terminees did not respond to the question.

Table 27 illustrates the programs presently attended by the terminees by OE Code area studied by whether it related to their high school vocational program. No attempt was made to show the no responses to the data items; therefore, many of the totals do not correspond.

TABLE 27

PROGRAMS PRESENTLY ATTENDED BY THE 1973-74 SECONDARY HEALTH OCCUPATIONS TERMINEES BY OE CODE AREA STUDIED BY WHETHER IT RELATED TO THEIR HIGH SCHOOL VOCATIONAL PROGRAMS[A]

OE Code	Occupational Title	TOTAL Presently Continuing Education	Type School or Educational Program Presently Attending													
			On-the-Job Training		Voc.Tech. School		Junior College		4 Year College or Univ.		Public School Adult VED Program		Private Business or Trade School		Apprenticeship Program		Other	
			Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related
07.0000	General Health	1			1													
07.0103	Dental Lab Technician	1																
07.0303	Nurse's Aid	1							1						1			
07.0800	Mental Health Technology	1						1										
07.0906	Health Aid (Co-op)	50			4	4	5	12	9	3				1			1	1
07.9900	Health Cluster	1					1	1										
99.0103	Career Guidance	3							1	1							1	

[A]Since some terminees did not respond to parts of the questions, totals will not correspond.

Job Placement Information

The following section of this report presents information concerning job placement of the 1973-74 secondary Health Occupations terminees.

Table 28 points out whether the 1973-74 Health Occupations terminees were seeking full-time employment when they left their high school vocational program and if their vocational teacher attempted to help them get a job.

TABLE 28

WHETHER VOCATIONAL TEACHER ATTEMPTED TO HELP 1973-74 HEALTH OCCUPATIONS TERMINEES GET A JOB IF SEEKING FULL-TIME EMPLOYMENT UPON LEAVING THE HIGH SCHOOL VOCATIONAL PROGRAM[A]

Vocational Teacher Attempted To Get Terminee A Job	Number	Percent
Yes	26	61.9
No	16	38.1
TOTAL	42	100.0

[A]Sixty-four (57.7%) of the responding terminees indicated they were not seeking full-time employment when they left their high school vocational program. Five (4.5%) of the terminees did not respond to the question.

Of the 42 responding 1973-74 Health Occupations terminees indicating they were seeking full-time employment when they left their high school vocational program, 26 (61.9%) indicated that their

vocational teacher attempted to help them get a job. However, 16 (38.1%) of the terminees seeking full-time employment indicated that their vocational teacher did not attempt to help them secure employment. It was interesting to note that 64 (57.7%) of the reporting 1973-74 Health Occupations terminees indicated that they were not seeking full-time employment when they left their high school vocational program.

Table 29 illustrates how long it took the 1973-74 Health Occupations terminees to get their first full-time job after they left their high school vocational program and began actively seeking full-time employment.

TABLE 29

LENGTH OF TIME IT TOOK THE 1973-74 HEALTH OCCUPATIONS TERMINEES TO SECURE FIRST FULL-TIME JOB AFTER LEAVING HIGH SCHOOL VOCATIONAL PROGRAM AND BEGINNING ACTIVELY SEEKING FULL-TIME EMPLOYMENT[A]

Time to Secure First Full-Time Job	Number	Percent
0 - 2 weeks	10	33.3
3 - 4 weeks	7	23.3
5 - 8 weeks	3	10.0
9 - 12 weeks	2	6.7
13 or more weeks	8	26.7
TOTAL	30	100.0

[A]Sixteen terminees indicated they already had a job when they left their high school vocational program.

Ten (33.3%) of the 30 secondary Health Occupations terminees secured their first full-time job within two weeks after they left their high school vocational program and began actively seeking full-time employment. However, eight (26.7%) of the terminees took 13 or more weeks to

secure their first full-time job. There were 16 terminees who indicated they already had a job when they left their high school vocational program.

Table 30 shows how the 1973-74 secondary Health Occupations terminees indicated they got their first full-time job after leaving their high school vocational program.

TABLE 30

HOW THE 1973-74 HEALTH OCCUPATIONS TERMINEES INDICATED THEY GOT THEIR FIRST FULL-TIME JOB AFTER LEAVING THEIR HIGH SCHOOL VOCATIONAL PROGRAM

How Terminees Secured First Full-Time Job	Number	Percent
Through your vocational teacher	4	13.3
Through your counselor	0	0.0
Through other school teachers or administrators	2	6.7
Through a friend or relative	10	33.3
Through applications to business or industry	10	33.3
Through state (local) employment office	1	3.4
Through a private employment agency	0	0.0
Through radio, T.V., newspaper, or other news media	0	0.0
Other[A]	3	10.0
TOTAL	30	100.0

[A]See listing on page 49 for the "Other" ways terminees indicated they secured their first full-time job after leaving their high school vocational program.

Of the 30 1973-74 Health Occupations terminees who responded to the survey item, 10 (33.3%) indicated they got their first full-time job after leaving their high school vocational program through applications to business and industry. Ten (33.3%) of the terminees also indicated they got their first full-time job through a friend or

relative. These represented the two methods that the largest number of Health Occupations terminees utilized to secure their first full-time job. Only four (13.3%) of the terminees indicated they secured their first job through their vocational teacher. No student indicated that a counselor got them their first full-time job after leaving their vocational program. Those students who already had a job before leaving their high school vocational program were not shown in Table 30. (See Table 31, page 50)

Only one of the three terminees who checked the "Other" category specified the means by how he secured his first full-time job after leaving his high school vocational program. The following list indicates the "Other" means the terminee indicated.

"Other" Means for Securing First Full-Time Job	Number
V.I.E. Class	1

Table 31 shows how the 1973-74 Health Occupations terminees who were working while in high school taking their vocational program indicated they got that job.

Twenty-three (20.7%) of the 111 reporting 1973-74 Health Occupations terminees indicated they were working during the time they were in high school taking their vocational program. Of those terminees working while in high school, ten (43.5%) got their job through their vocational instructor, eight (34.9%) through a friend or relative, and three (13.0%) got jobs through applications to business or industry. These three means were the ways most of the terminees secured a job while they were still in high school taking their vocational program.

TABLE 31

HOW THE 1973-74 HEALTH OCCUPATIONS TERMINEES WHO WERE WORKING WHILE IN HIGH SCHOOL TAKING THEIR VOCATIONAL PROGRAM INDICATED THEY GOT THAT JOB[A]

Who or What Helped Terminee Get Job	Number	Percent
Your vocational teacher	10	43.5
Your counselor	1	4.3
Other school teachers or administrators	-	-
Friend or relative	8	34.9
Applications to business or industry	3	13.0
State (local) employment office	-	-
Private employment agency	-	-
Radio, T.V., newspaper, or other news media	1	4.3
Other	-	-
TOTAL	23	100.0

[A]Eighty-eight (79.3%) terminees indicated they had no job during the time they were in high school taking their vocational course.

Table 32 reveals the indications of the 1973-74 Health Occupations terminees as whether, before taking their first job, they looked for employment within daily walking or driving distance of home by how their first job related to their vocational training.

Twenty-six (89.7%) of the 1973-74 Health Occupations terminees who were employed in their first job indicated they sought employment within daily walking or driving distance of home. Three (10.3%) terminees indicated before taking their first job, they looked for a job beyond daily walking or driving distance of home.

Of the nine terminees who were working in a directly related area, only one (11.2%) sought employment beyond daily walking or driving distance of home.

TABLE 32

INDICATIONS OF 1973-74 HEALTH OCCUPATIONS TERMINEES AS TO WHERE THEY LOOKED FOR THEIR FIRST JOB BEFORE TRAINING ONE BY HOW THEIR FIRST JOB RELATED TO THEIR TRAINING[A]

Before Taking First Job, Where Terminees Looked for Job	Total Reporting		Total Reporting by Relatedness of First Job to Vocational Training					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Within daily walking or driving distance of home	26	89.7	8	88.9	12	85.7	6	100.0
Beyond daily walking or driving distance of home[B]	3	10.3	1	11.1	2	14.3	0	0.0
TOTAL	29	100.0	9	100.0	14	100.0	6	100.0

[A]Eleven terminees indicated they already had their first job while in high school. Of those 11 terminees, 6 (54.5%) were working in a directly related area, 3 (27.3%) in a somewhat related area, while 2 (18.2%) were working in a non-related area.

[B]See listing, page 52, for reasons terminees gave for seeking their first job away from home.

It is interesting to note that of the six terminees whose first jobs did not relate to their training, none of those terminees sought employment beyond daily walking or driving distance of home.

Eleven terminees indicated they had their first job while in high school. Of those 11 terminees, six (54.5%) were working in a directly related area, three (27.3%) in a somewhat related area, and two (18.2%) were working in a non-related area.

The following is a listing of reasons terminees gave for seeking a job beyond daily walking or driving distance of their home before

accepting their first job. Of the three terminees who indicated they sought a job beyond daily walking or driving distance of home before accepting their first job, two gave reasons why they sought that job.

Reasons for Seeking Job Beyond Daily Walking or Driving Distance Before Accepting First Job	Number
Was going to move	1
Because company was hiring	1

Table 33 reveals the indications of the 1973-74 Health Occupations terminees who were working in their first job not related to their training by whether or not they tried to get a job related to their training by where they looked for employment before accepting that first job.

TABLE 33

INDICATIONS OF THE 1973-74 HEALTH OCCUPATIONS TERMINEES WORKING IN FIRST JOB NOT RELATED TO THEIR TRAINING BY WHETHER OR NOT THEY TRIED TO GET A JOB RELATED TO THEIR TRAINING BY WHERE THEY LOOKED FOR EMPLOYMENT BEFORE ACCEPTING FIRST JOB[A]

Where Terminees Working in Non-Related Areas Looked for Employment Before Accepting First Job	Total Reporting		Before Accepting This First Job Unrelated to Training Whether Terminees Sought Job in Related Area			
			Yes		No[B]	
	No.	%	No.	%	No.	%
Sought employment within daily walking or driving distance of their home	12	85.7	4	80.0	8	88.9
Sought employment beyond daily walking or driving distance of their home	2	14.3	1	20.0	1	11.1
TOTAL	14	100.0	5	100.0	9	100.0

[A]Totals in this table may not correspond with totals of terminees for non-related categories in other tables for the following reasons: (1) some terminees had jobs when leaving program and did not have to seek employment and (2) some terminees failed to respond to one or more of the related questions from which data was drawn.

[B]See page 24 for the listing of reasons terminees who were working in non-related jobs gave for not trying to secure a job that was related to their training.

It is important to note that of the 14 terminees who were working in a non-related first job, only one (7.1%) sought related employment beyond daily walking or driving distance of home before accepting his first job.

Table 34 illustrates the indications of the 1973-74 Health Occupations terminees as to where they looked for a job before taking their present job by how their present job is related to their vocational training.

TABLE 34

INDICATIONS OF 1973-74 HEALTH OCCUPATIONS TERMINEES AS TO WHERE THEY LOOKED FOR A JOB BEFORE TAKING THEIR PRESENT JOB BY HOW THEIR PRESENT JOB RELATED TO THEIR TRAINING[A]

Where Terminees Looked for Job Before Taking Present Job	Total Reporting		Total Reporting by Relatedness of Present Job to Vocational Training					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Within daily walking or driving distance of home	21	87.5	4	80.0	3	75.0	14	93.3
Beyond daily walking or driving distance of home[B]	3	12.5	1	20.0	1	25.0	1	6.7
TOTAL	24	100.0	5	100.0	4	100.0	15	100.0

[A]Ten terminees reported they already had their present job while in high school. Of those ten terminees, four (40.0%) were in a directly related area, three (30.0%) in a somewhat related area, while three (30.0%) were working in a non-related area.

[B]See listing, page 54 for reasons terminees gave for seeking their present job away from home.

Twenty-one (87.5%) of the presently employed 1973-74 Health Occupations terminees indicated they sought employment within daily walking

or driving distance of home. Three (12.5%) terminees indicated they sought employment beyond daily walking or driving distance of home.

Of the five terminees who were working in a directly related area, only one (20.0%) sought employment beyond daily walking or driving distance of home.

Of the 15 terminees who were presently working in a non-related area, only one (6.7%) sought employment beyond daily walking or driving distance of his home.

Ten terminees reported they already had their present job while in high school. Of those ten terminees, four (40.0%) were in directly related areas, three (30.0%) in somewhat related areas, and three (30.0%) were in non-related areas.

The following is a list of reasons terminees gave for seeking a job beyond daily walking or driving distance of their home before accepting their present job. Of the three terminees who indicated they sought a job beyond daily walking or driving distance of home before accepting their present job, two gave reasons why they sought that job.

Reasons for Seeking Job Beyond Daily Walking or Driving Distance Before Accepting Present Job	Number
Was going to move	1
Was not many choices around	1

Table 35 reveals the indications of the 1973-74 Health Occupations terminees who were working in their present job not related to their training by whether or not they tried to get a job related to their training by where they looked for employment before accepting that present job.

TABLE 35

INDICATIONS OF THE 1973-74 HEALTH OCCUPATIONS TERMINEES WORKING IN PRESENT JOB NOT RELATED TO THEIR TRAINING BY WHETHER OR NOT THEY TRIED TO GET A JOB RELATED TO THEIR TRAINING BY WHERE THEY LOOKED FOR EMPLOYMENT BEFORE ACCEPTING PRESENT JOB[A]

Before Accepting Present Job Where Terminees Working in Non-Related Areas Looked for Employment	Total Reporting		Before Accepting This Present Job Unrelated to Training Whether or Not Terminees Sought Job in Related Area			
			Yes		No[B]	
	No.	%	No.	%	No.	%
Sought employment within daily walking or driving distance of their home	15	93.8	9	90.0	6	100.0
Sought employment beyond daily walking or driving distance of their home	1	6.2	1	10.0	0	0.0
TOTAL	16	100.0	10	100.0	6	100.0

[A]Totals in this table may not correspond with totals of terminees for non-related categories in other tables for the following reasons: (1) some terminees had jobs when leaving programs and did not have to seek employment and (2) some terminees failed to respond to one or more of the related questions from which data was drawn.

[B]See page 32 for the listing of reasons terminees who were working in non-related jobs gave for not trying to secure a job that was related to their training.

Only one (6.3%) of the 16 terminees who were working in a non-related area sought related employment beyond daily walking or driving distance of home before accepting his present job.

APPENDIX

PRESENT JOB AND FIRST JOB TITLES OF THE 1973-74 HEALTH OCCUPATIONS TERMINEES

PRESENT JOB AND FIRST JOB TITLES OF THE 1973-74 HEALTH OCCUPATIONS TERMINEES

For those terminees who indicated present or first job occupations, this appendix lists the present job title and first job title by their high school vocational training area (OE Codes). The job titles are listed as the terminees reported them. The number of full-time jobs held by these terminees since completing their high school vocational course is listed, current employment status is listed, and whether the student intended to get a job in the area while in the program.

The following code is used to identify the employment status of the terminees:

0. Unemployed, but seeking employment
1. Employed full time
2. Employed part time, seeking full-time job
3. Employed part time, not seeking full-time job
4. Employed full time and attending school
5. Employed part time and attending school
6. Unavailable for employment

The following code is used to identify whether the student intended to get a job in the area while in the program:

1. No
2. Was not sure
3. Yes

The number in parenthesis behind the job titles indicates the relatedness of the high school vocational training to these jobs. The terminees

made the judgment as to the relatedness of their training to these jobs. The following code is used to identify this relatedness:

1. Directly related
2. Somewhat related
3. Not related

The total in each occupational title area may not correspond to the total in each OE Code as listed in Table 23. Some of the terminees failed to indicate the title of their present position. If the first job title was the same as the present job title, the first job title is included under the present job title.

OE Code 07.0103 - Dental Lab Technician

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
1	1	1	3	Dental Technician (2)	
2	5	1	2	Sales Clerk in drug store(2)	Cashier - Fast Food (2)

OE Code 07.0303 - Nurse's Aide

1	6	1	3	Nurse's Aide(1)	

OE Code 07.0800 - Mental Health

1	4	1	3	Psychaid I (1)	Laborer - Nursery (1)

OE Code 07.0906 - Community Health Aide

1	5	0	3	Nurse's Assistant (1)	
2	1	1	3	Medical Assistant (1)	
3	1	2	3	Assistant - Vetenarian (1)	
4	5	1	3	Nurse's Aide (1)	
5	-	0	3	Nurse's Aide (1)	
6	5	1	3	Nurse's Aide (1)	
7	1	1	3	Nurse's Aide (1)	
8	6	1	3	Nurse's Aide (1)	
9	-	0	3	Nurse's Aide (1)	
10	5	1	1	Nurse's Aide (1)	
11	1	1	2	Therapist (1)	
12	1	1	3	Nurse's Assistant (2)	

(continued)

OE Code 07.0906 - Community Health Aide (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
13	1	1	2	Instructor - Health Spa (2)	
14	1	1	1	Nurse (2)	Attendant - Service Station (2)
15	1	1	2	Orderly (2)	Orderly (1)
16	1	1	2	Office Clerk-Hospital(2)	
17	2	0	3	Cashier - Fast Foods (3)	
18	5	0	2	Assistant Manager - Theater (3)	
19	1	1	1	Mail Clerk - Telephone Company (3)	
20	3	1	2	Cashier - Grocery (3)	
21	1	1	2	Cashier - Grocery (3)	
22	5	1	3	Waitress/Cook(3)	Nurse's Aide(1)
23	5	0	3	Stock Clerk - Grocery (3)	Cook - Pizza(3)
24	5	0	3	Floristry (3)	
25	1	1	1	Record Clerk - Clinic (3)	Dental Lab Assistant (3)
26	1	1	3	Cashier - Grocery (3)	
27	1	1	2	Partery Cook - Steak House(3)	
28	1	1	3	Waitress - Fast Food (3)	
29	0	1	3	Commercial Writer - Radio (3)	Lab Assistant (1)
30	4	1	1	Office Clerk - Hospital (3)	
31	5	1	3	Cashier - Grocery (3)	Sewing - Factory (3)
32	0	1	3		Nurse's Assistant (1)
33	0	1	2		Secretary - Mortuary (2)

(continued)

OE Code 07.0906 - Community Health Aide (continued)

No.	Employment Status	Full-time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
34	6	1	2		Sewing - Factory (3)
35	6	1	3		Waitress (3)
36	0	2	3		Labor - Plywood (3)
37	1	1	3	Maid - Country Club (3)	
38	0	1	3	Child Care - Kiddie Cartle (3)	

OE Code 07.9900 - Health Occupations

1	1	1	3	Egg Picker (3)	
2	3	0	3	Cashier - Fast Foods (3)	
3	1	1	3	Telephone Operator (3)	

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1973-1974 ALABAMA SECONDARY BUSINESS AND OFFICE EDUCATION FOLLOW-UP REPORT

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2

BUSINESS AND OFFICE EDUCATION FOLLOW-UP

Follow-Up of 1973-74 Business and Office Education
Terminees From the Secondary School
Vocational Programs of Alabama

Research and Development Report No. 28

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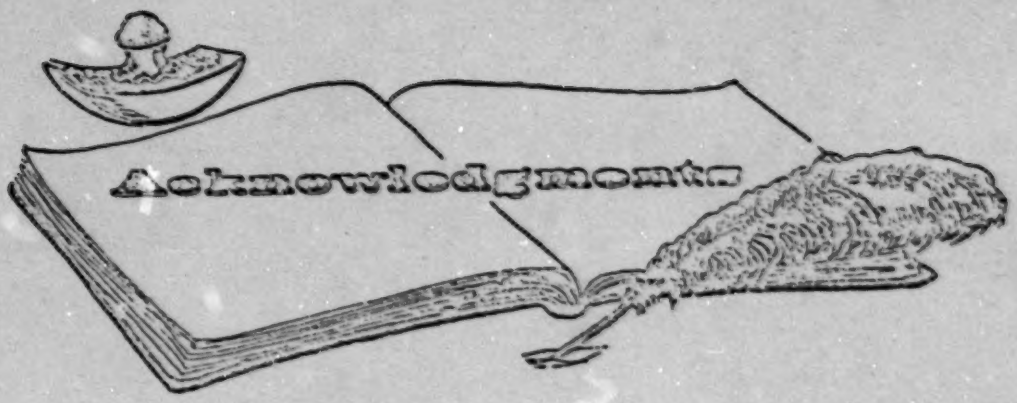

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FOLLOW-UP OF 1973-74 BUSINESS AND OFFICE EDUCATION
TERMINEES FROM THE SECONDARY SCHOOL
VOCATIONAL PROGRAMS OF ALABAMA

Alabama continues to support one of the most progressive and comprehensive vocational education programs in the nation. In addition to serving youth and adults by training them for gainful and useful employment, the diversification of vocational courses meets a serious job need and contributes to the industrial development in the state.

With the millions of tax dollars being spent on vocational education, is necessary to attempt to account to the taxpayer and decision-makers on the results of those expenditures. Terminee student follow-up studies constitute one of the most valuable techniques for assessing vocational education system outcomes.

The Alabama State Department of Education, Division of Vocational Education and Community Colleges, recognizing this important phase of accountability and evaluation, initiated the development of a statewide follow-up system for its vocational education program terminees at the secondary school level. The Division, under the direction of Dr. T. L. Faulkner, State Director, contracted with the Occupational Research and Development Unit at Auburn University to develop and implement the statewide follow-up system for all its secondary vocational terminees in all service areas.

This report relates the findings of the survey instrument mailed to the 1973-74 Business and Office Education terminees from the secondary

school vocational programs of Alabama. When the terminees received the questionnaire, most had been out of school seven to eight months.

General Information

Student rosters with names and addresses of 1973-74 Business and Office Education terminees were received from 268 secondary school vocational teachers in Alabama. Of the 268 teachers from which student rosters were received, 57 were in Secondary Area Vocational Centers (AVC) and 191 were in programs in schools of other settings. The total of 5,209 student terminees reported to the ORDU were mailed the follow-up forms. Returns were received from 1,981 (38.0%) of the Business and Office Education terminees from the initial mailing and one follow-up. At least one student questionnaire was received from 228 of the 268 teachers.

All terminees reported in this study were in programs administered only by the Business and Office Education Section of the Division of Vocational Education and Community Colleges, State Department of Education.

Table 1 presents data relative to the total population of the Business and Office Education terminees and the number of returns categorized by OE codes as reported by teachers.

TABLE 1

DESCRIPTION OF TOTAL POPULATION AND RETURNS BY OE CODE OF 1973-74 BUSINESS AND OFFICE EDUCATION TERMINEES[A]

OE Code[B]	Occupational Title	Total Number of Students	Percent of BOE Students by OE Code	Number of Returns	Percent of Returns for OE Code Area
14.0000	Office Occupations	74	1.4	24	32.4
14.0100	Accounting & Computing	447	8.6	184	41.2
14.0101	Accountants	33	0.6	13	39.4
14.0102	Bookkeepers	91	1.8	31	34.1
14.0103	Cashiers	1	0.0	0	0.0
14.0200	Business Data Processing Systems	93	1.8	38	40.9
14.0201	Computer & Console Operators	57	1.1	20	35.1
14.0300	Filing, Office Machines, & General Office Clerical	2375	45.6	814	34.3
14.0301	Duplicating Machine Operator	212	4.1	78	36.8
14.0302	File Clerks	6	0.1	1	16.7
14.0303	General Office Clerks	79	1.5	30	38.0
14.0399	Filing, Office Machines, & General Office Clerical, Other	7	0.1	5	71.4
14.0700	Stenographic, Secretarial, & Related	1275	24.5	565	44.3
14.0701	Executive Secretary	65	1.3	28	43.1
14.0702	Secretaries	31	0.6	10	32.3
14.0703	Stenographers	15	0.3	6	40.0
14.0800	Supervisory & Administrative Management	1	0.0	0	0.0
14.0900	Typing & Related	219	4.2	85	38.8
14.0901	Clerk-Typists	126	2.4	49	38.9
14.0902	Typists	1	0.0	0	0.0
99.0105	Career Guidance	1	0.0	0	0.0
	TOTAL ALL AREAS	5209	100.0	1981	38.0

[A]These terminees were in programs administered only under the Business and Office Education Section of the Division of Vocational Education and Community Colleges, State Department of Education.

[B]OE Codes as reported by teachers.

Of the 1973-74 Business and Office Education terminees reported by the teachers, the largest number in any OE code was in the occupational title area of Filing, Office Machines, and General Office Clerical. This 2,375 represented 45.6 percent of the reported Business and Office Education terminees. There were 1,275 (24.5%) terminees listed as studying Stenographic, Secretarial and Related. The combined enrollment of these two was 3,650, and this represented 70.0 percent of the total enrollment in the Business and Office Education area.

Table 1A is a description of the total population and returns by OE Code area, type school, and termination status of the 1973-74 Business and Office Education terminees.

TABLE 1A

DESCRIPTION OF TOTAL POPULATION AND RETURNS BY OE CODE AREA, TYPE SCHOOL, AND TERMINATION STATUS OF THE 1973-74 BUSINESS AND OFFICE EDUCATION TERMINEES

OE Code Area Studied[A]	Occupational Title Studied by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
14.0000	Office Occupations (Total)	74	24	32.4
	AVC (Total)[B]	17	11	64.7
	Completers[C]	17	11	64.7
	Dropouts[D]	0	0	0.0
	Other Type Schools (Total)	57	13	22.8
	Completers	43	13	30.2
	Dropouts	14	0	0.0
14.0100	Accounting and Computing (Total)	447	184	41.2
	AVC (Total)	106	46	43.4
	Completers	96	44	45.8
	Dropouts	10	2	20.0

(continued)

TABLE 1A (continued)

OE Code Area Studied[A]	Occupational Title Studied by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
	Other Type Schools (Total)	341	138	40.5
	Completers	298	128	43.0
	Dropouts	43	10	23.3
14.0101	Accountants (Total)	33	13	39.4
	AVC (Total)	12	5	41.7
	Completers	12	5	41.7
	Dropouts	0	0	0.0
	Other Type Schools (Total)	21	8	38.1
	Completers	19	7	36.8
	Dropouts	2	1	50.0
14.0102	Bookkeepers (Total)	91	31	34.1
	AVC (Total)	1	1	100.0
	Completers	1	1	100.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	90	30	33.3
	Completers	85	30	35.3
	Dropouts	5	0	0.0
14.0103	Cashiers (Total)	1	0	0.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	1	0	0.0
	Completers	0	0	0.0
	Dropouts	1	0	0.0
14.0200	Business Data Processing Systems (Total)	93	38	40.9
	AVC (Total)	30	13	43.3
	Completers	18	10	55.6
	Dropouts	12	3	25.0
	Other Type Schools (Total)	63	25	39.7
	Completers	56	23	41.1
	Dropouts	7	2	28.6

(continued)

TABLE 1A (continued)

OE Code Area Studied[A]	Occupational Title Studied by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
14.0201	Computer and Console Operators (Total)	57	20	35.1
	AVC (Total)	55	20	36.4
	Completers	41	19	46.3
	Dropouts	14	1	7.1
	Other Type Schools (Total)	2	0	0.0
	Completers	2	0	0.0
	Dropouts	0	0	0.0
14.0300	Filing, Office Machines, and General Office Clerical (Total)	2375	814	34.3
	AVC (Total)	444	152	34.2
	Completers	344	140	40.7
	Dropouts	100	12	12.0
	Other Type Schools (Total)	1931	662	34.3
	Completers	1557	600	38.5
	Dropouts	374	62	16.6
14.0301	Duplicating Machine Operators (Total)	212	78	36.8
	AVC (Total)	105	45	42.9
	Completers	90	43	47.8
	Dropouts	15	2	13.3
	Other Type Schools (Total)	107	33	30.8
	Completers	95	30	31.6
	Dropouts	12	3	25.0
14.0302	File Clerks (Total)	6	1	16.7
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	6	1	16.7
	Completers	6	1	16.7
	Dropouts	0	0	0.0

(continued)

TABLE 1A (continued)

OE Code Area Studied[A]	Occupational Title Studied by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
14.0303	General Office Clerk (Total)	79	30	38.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	79	30	38.0
	Completers	65	27	41.5
	Dropouts	14	3	21.4
14.0399	Filing, Office Machines, and General Office Clerical, Other (Total)	7	5	71.4
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	7	5	71.4
	Completers	7	5	71.4
	Dropouts	0	0	0.0
14.0700	Stenographic, Secretarial, and Related (Total)	1275	565	44.3
	AVC (Total)	254	126	49.6
	Completers	216	118	54.6
	Dropouts	38	8	21.1
	Other Type Schools (Total)	1021	439	43.0
	Completers	906	417	46.0
	Dropouts	115	22	19.1
14.0701	Executive Secretary (Total)	65	28	43.1
	AVC (Total)	3	3	100.0
	Completers	2	2	100.0
	Dropouts	1	1	100.0
	Other Type Schools (Total)	62	25	40.3
	Completers	61	24	39.3
	Dropouts	1	1	100.0

(continued)

TABLE 1A (continued)

OE Code Area Studied[A]	Occupational Title Studied by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
14.0702	Secretaries (Total)	31	10	32.3
	AVC (Total)	21	6	28.6
	Completers	21	6	28.6
	Dropouts	0	0	0.0
	Other Type Schools (Total)	10	4	40.0
	Completers	10	4	40.0
	Dropouts	0	0	0.0
14.0703	Stenographers (Total)	15	6	40.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	15	6	40.0
	Completers	15	6	40.0
	Dropouts	0	0	0.0
14.0800	Supervisory & Administrative Management (Total)	1	0	0.0
	AVC (Total)	1	0	0.0
	Completers	1	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
14.0900	Typing and Related (Total)	219	85	38.8
	AVC (Total)	11	5	45.5
	Completers	10	5	50.0
	Dropouts	1	0	0.0
	Other Type Schools (Total)	208	80	38.5
	Completers	181	77	42.5
	Dropouts	27	3	11.1

(continued)

TABLE 1A (continued)

OE Code Area Studied[A]	Occupational Title Studied by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
14.0901	Clerk-Typists (Total)	126	49	38.9
	AVC (Total)	6	1	16.7
	Completers	5	1	20.0
	Dropouts	1	0	0.0
	Other Type Schools (Total)	120	48	40.0
	Completers	101	41	40.6
	Dropouts	19	7	36.8
14.0902	Typists (Total)	1	0	0.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	1	0	0.0
	Completers	1	0	0.0
	Dropouts	0	0	0.0
99.0105	Career Guidance (Total)	1	0	0.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	1	0	0.0
	Completers	0	0	0.0
	Dropouts	1	0	0.0

(continued)

TABLE 1A (continued)

OE Code Area Studied[A]	Occupational Title Studied by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
TOTAL ALL AREAS		5209	1981	38.0
	AVC (Total)	1066	434	40.7
	Completers	874	405	46.3
	Dropouts	192	29	15.1
	Other Type Schools (Total)	4143	1547	37.3
	Completers	3508	1433	40.8
	Dropouts	635	114	18.0

[A]OE Code areas as reported by teachers

[B]Area Vocational Centers

[C]Any terminee who left the program by completing or by high school graduation

[D]Any terminee the instructor reported as having dropped out of school

Table 2 illustrates the sex characteristics of those 1973-74 Business and Office Education terminees reported by the instructors and those who returned survey forms.

TABLE 2

SEX OF THE 1973-74 BUSINESS AND OFFICE EDUCATION TERMINEES REPORTED AND BY WHO RETURNED QUESTIONNAIRES

Sex[A]	Reported		Returns	
	Number	Percent	Number	Percent
Male	470	9.0	139	7.0
Female	4704	90.3	1829	92.3
Not Known	35	0.7	13	0.7
TOTAL	5209	100.0	1981	100.0

[A]Sex as reported by teacher.

Table 3 presents the racial or ethnic characteristics of those 1973-74 Business and Office Education terminees reported by instructors and who returned survey forms.

TABLE 3

RACIAL OR ETHNIC CHARACTERISTICS OF THE 1973-74 BUSINESS AND OFFICE EDUCATION TERMINEES REPORTED AND BY WHO RETURNED QUESTIONNAIRES

Racial or Ethnic Group[A]	Reported		Returns	
	Number	Percent	Number	Percent
American Indian	2	0.0	1	0.1
Black	1133	21.8	413	20.8
Oriental	2	0.0	0	0.0
Spanish Surnamed American	3	0.1	1	0.1
White	4045	77.7	1558	78.6
Other	1	0.0	0	0.0
Not Known	23	0.4	8	0.4
TOTAL	5209	100.0	1981	100.0

[A]Racial or Ethnic Group as reported by teacher.

Table 4 illustrates the number and grade level of the 1973-74 Business and Office Education terminees reported who dropped out of school during the academic year and by who returned the questionnaire.

TABLE 4

NUMBER OF THE 1973-74 BUSINESS AND OFFICE EDUCATION TERMINEES REPORTED WHO DROPPED OUT OF SCHOOL DURING THE 1973-74 SCHOOL YEAR BY GRADE LEVEL

Grade Level Upon Dropping Out of School	Reported		Returns	
	Number	Percent[A]	Number	Percent[B]
Ninth	4	[illegible]	0	0.0
Tenth	300	1[illegible].1	46	15.3
Eleventh	308	15.5	65	21.1
Twelfth	172	8.7	25	14.5
Grade Level Not Indicated by Teacher	43	2.2	7	16.3
TOTAL	827	41.7	143	17.3

[A]Percentage is based on 1,981 total reported terminees.

[B]Percentage is based on returns by grade.

Table 5 shows the number of 1973-74 Business and Office Education terminees who indicated whether they were in active full-time military service.

TABLE 5

ACTIVE FULL-TIME MILITARY STATUS OF 1973-74 BUSINESS AND OFFICE EDUCATION TERMINEES WHO RETURNED QUESTIONNAIRES

Active Full-Time Military Status	Number	Percent
Yes	27	1.4
No	1843	93.0
No Response	111	5.6
TOTAL	1981	100.0

Basic Information Related to the Vocational Education Program

Table 6 points out the number of 1973-74 Business and Office Education terminees who indicated whether this vocational program was a school requirement.

TABLE 6

1973-74 BUSINESS AND OFFICE EDUCATION TERMINEES WHO INDICATED WHETHER THEIR VOCATIONAL PROGRAM WAS A SCHOOL REQUIREMENT

Vocational Courses Was A School Requirement	Number	Percent
Yes	75	3.8
No	1892	95.5
No Response	14	0.7
TOTAL	1981	100.0

Table 7 indicates, according to the 1973-74 Business and Office Education terminees, the primary source of influence in selecting their vocational course.

TABLE 7

PRIMARY INFLUENCES ON THE 1973-74 BUSINESS AND OFFICE EDUCATION TERMINEES IN SELECTING THEIR VOCATIONAL COURSE

Group or Individual Terminees Felt Influenced Them Most in Selecting Vocational Course	Number	Percent
Parent(s) or Guardian(s)	182	9.2
Guidance Counselor	80	4.0
Your Vocational Teacher	150	7.6
Another Teacher or Principal	29	1.5
Student in VED Program	124	6.3
A Friend or Relative	123	6.2
A Businessman	11	0.5
Made Choice Yourself	1256	63.4
Other[A]	20	1.0
No Response	6	0.3
TOTAL	1981	100.0

[A]See page 14 for listing of "Others" who influenced Business and Office Education terminees in selecting their VED course.

Parents or Guardians appeared to be the greatest outside influence on those terminees enrolling in the Business and Office Education program. One hundred eighty-two (9.2%) of the terminees reponding indicated that their Parent(s) or Guardian(s) influenced them most in selecting their Business and Office Education course. However, 1,256 (63.4%) indicated that they selected their course of study on their own. Eighty terminees (4.0%) indicated that a guidance counselor influenced them most in selecting their program. One hundred fifty (7.6%) of the terminees indicated that their vocational teacher influenced them most in selecting their course in Business and Office Education.

Below are the responses given to the "Others" category indicated in Table 7 as to the primary source of influence in selecting their vocational course.

"Other" Persons or Groups Who Most Influenced Terminees in Selecting Their VED Course	Number
Sister	6
Mother	2
Myself	2
Brother	1
My little girl	1
Vocational principal	1
Miss _____	1
Relatives who were teachers	1
A teacher	1
Great vocational teacher	1
Junior Achievement	1
Within my major	1
Thought I would need it in college	1
Undecided about college	1
Thought it would help get a job	1
Decided that was what I wanted	1
Was mislead in council meeting	1

Table 8 indicates terminees' opinions as to whether they had adequate job or occupational information and school experiences to make a realistic career choice.

TABLE 8

OPINIONS OF 1973-74 BUSINESS AND OFFICE EDUCATION TERMINEES AS TO WHETHER THEY HAD ADEQUATE JOB OR OCCUPATIONAL INFORMATION AND SCHOOL EXPERIENCES TO MAKE A REALISTIC CAREER CHOICE

	Number	Percent
Yes	1561	78.8
No	383	19.3
No Response	37	1.9
TOTAL	1981	100.0

Table 9 indicates whether, during the time they were taking their high school vocational program, the reporting 1973-74 terminees intended to get a job in Business and Office Occupations.

TABLE 9

INDICATIONS OF 1973-74 BUSINESS AND OFFICE EDUCATION TERMINEES AS TO WHETHER, DURING THE TIME THEY WERE TAKING THEIR HIGH SCHOOL VED PROGRAM, THEY PLANNED TO GET A JOB IN THEIR AREA OF STUDY

Intended To Get Job In Area of Study	Number	Percent
Yes	1170	59.1
No	191	9.6
Was Not Sure	610	30.8
No Response	10	0.5
TOTAL	1981	100.0

It is interesting to note that only 1,170 (59.1%) of the 1973-74 reporting Business and Office Education terminees indicated that during the time they were taking their Business and Office Education program, they intended to get a job in the area they were studying.

Table 10 indicates terminees' opinions on choosing the Business and Office Education terminees, 1,588 (80.2%) indicated that they would select the same vocational program if they had the choice to make again. Only 126 (6.4%) of the responding terminees indicated that they would not take a vocational program.

TABLE 10

OPINIONS OF 1973-74 BUSINESS AND OFFICE EDUCATION TERMINEES REGARDING THEIR VOCATIONAL PROGRAM

Question: If You Had It To Do Over Again, Would You...?	Number	Percent
Take the same vocational program	1588	80.2
Not take a vocational program	126	6.4
Choose another vocational program offered in your school, such as _____ [A]	141	7.1
Choose another vocational program if it had been offered in your school, such as _____ [B]	95	4.8
No Response	31	1.6
TOTAL	1981	100.0

[A] See listing I-A below for those other vocational programs offered in terminees' school that they would have taken instead of their Business and Office Education programs.

[B] See listing I-B below for the vocational programs the terminee would have taken instead of their Business and Office Education program if it had been offered in their school.

Listing I-A — Courses offered in their school that Business and Office Education terminees indicated they would have taken if they had it all to do over again.

Course	Number
Bookkeeping	17
Shorthand	14
Data Processing	14
Distributive Education	14
Secretarial	13
Typing	9
Clerical	8
Nursing	7
Home Economics	7
VIE	6
Drafting	4
Computer Programming	4
ICT	4
Health	4
Mechanics	4
Business Management	3
Trade School	2
Medical	2
Biology	2
Business Law	1
Offset Printing	1
Academic	1
GED	1
Elementary Education	1
Library	1
Physical Education	1
Cosmetology	1
Horticulture	1
Forestry	1
Art	1
Not Sure	1

Listing I-B -- Courses Business and Office Education terminees indicated they would have taken if they had it all to do over again and the course were offered in their school.

Course	Number
Data Processing	20
Computer Programming	15
Cosmetology	11
Nursing	8
Fine Arts	7
Bookkeeping	6
Home Economics	6
Mechanics	5
Shorthand	4
Clerical	4

(continued)

Course	Number
Law	3
Medicine	3
Management	2
Printing	2
Receptionist	2
Dental Assistant	2
Physical Education	2
Drafting	1
Modeling	1
Horticulture	1
ICT	1
Welding	1
Public Relations	1
Distributive Education	1
OOC	1
X-Ray Technician	1
Health	1
Optical	1
Photography	1
Journalism	1
Education	1
Interior Decoration	1
Truck Drive	1
Working in School	1

Table 11 indicates the extend to which the reporting 1973-74 Business and Office Education terminees felt their high school vocational programs prepared them for their first job. This data was also broken down by how that first job related to their vocational program.

Terminees who were in full-time active military service or who had never been employed were not asked to respond to the questions from which this data was reported. Also, the terminees who failed to respond to the question items were not indicated in the table.

In noting the extent to which the 1973-74 Business and Office Education terminees felt their high school vocational course prepared them for their first full-time job by how their first full-time job related to the training they received in their high school Business and Office Education program, some interesting points were revealed. Four hundred forty-one

(53.2%) of the 1973-74 Business and Office Education terminees responding to this item indicated "Excellent" or "Well Prepared" for their first full-time job as a result of the training received in their high school vocational education program. Two hundred seventeen (89.0%) of the 244 terminees employed in their first full-time job related directly to their training felt they were excellent or well prepared for this first job. Only one terminee who was working in an area directly related to his vocational training felt that he was poorly prepared for his first job. There was an additional terminee who indicated that he was working in an area directly related to his vocational course and felt that his preparation did not relate to his job. Of all the responding terminees, only 18 (2.2%) felt that they were poorly prepared for their first full-time job. Of these, only one was working in an area directly related to his vocational course.

TABLE 11

PERCEPTIONS OF 1973-74 BUSINESS AND OFFICE EDUCATION TERMINEES AS TO THE EXTENT THEIR HIGH SCHOOL VOCATIONAL PROGRAM PREPARED THEM FOR THEIR FIRST FULL-TIME JOB BY HOW FIRST FULL-TIME JOB RELATED TO TRAINING

Extent Vocational Course Prepared for First Full-Time Job	Total Reporting		Number Reporting by Relatedness of First Full-Time Job to Training Received					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Excellent	98	11.8	67	27.5	30	8.9	1	0.4
Well Prepared	343	41.4	150	61.5	174	51.6	19	7.7
Fair	150	18.1	25	10.2	102	30.3	23	9.3
Poorly Prepared	18	2.2	1	0.4	8	2.4	9	3.6
Preparation not related to job	219	26.5	1	0.4	23	6.8	195	79.0
TOTAL	828	100.0	244	100.0	337	100.0	247	100.0

Table 12 indicates the extent to which the reporting 1973-74 Business and Office Education terminees felt their high school vocational course prepared them for their present job. Also shown in the table is a breakdown of the data by how their present job was related to their vocational program.

Terminees in active full-time military service, and students who were attending school full time and had not had a job, were not asked to respond to the questions from which Table 12 was prepared. Also, those other students who failed to respond to the items were not shown on the table.

TABLE 12

PERCEPTIONS OF 1973-74 BUSINESS AND OFFICE EDUCATION TERMINEES AS TO THE EXTENT THEIR HIGH SCHOOL VOCATIONAL COURSE PREPARED THEM FOR THEIR PRESENT JOB BY HOW THEIR PRESENT JOB RELATED TO TRAINING

Extent Vocational Course Prepared for Present Job	Total Reporting		Number Reporting by Relatedness of Present Job to Training Received					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Excellent	108	10.4	69	21.4	32	7.7	7	2.3
Well Prepared	466	44.9	218	67.7	221	53.3	27	8.9
Fair[A]	157	15.1	33	10.3	107	25.8	17	5.6
Poorly Prepared[B]	19	1.8	0	0.0	11	2.6	8	2.7
Preparation not related to job	289	27.8	2	0.6	44	10.6	243	80.5
TOTAL	1039	100.0	322	100.0	415	100.0	302	100.0

[A]See listing on page 21 for reasons terminees specified for only being trained "Fair" by their vocational course for their present job.

[B]See listing on page 22 for reasons terminees specified for being "Poorly Prepared" by their vocational course for their present job.

Of the 1,039 terminees responding to these items, 574 (55.3%) indicated "Excellent" or "Well Prepared" for their present job as a result of their high school vocational program. Nineteen (1.8%) terminees reported feeling poorly prepared for their present job as a result of their training.

Two hundred eighty-seven (89.1%) of the 322 responding terminees working in an area directly related to their high school vocational program indicated that they felt excellent or well prepared by their training.

Some of the terminees who indicated "Fair" as the extent their vocational program prepared them for this present job indicated reasons for this. The following lists the reasons the 1973-74 Business and Office Education terminees indicated for being trained only "Fair" by their vocational course for their present job.

Reasons	Number
Not Related	37
Just not enough covered	15
Teacher	12
Not enough material or equipment	11
No banking	10
Not enough typing	8
Not enough bookkeeping	8
Not enough computer	7
Too much typing	6
Public relations	6
I was not interested at the time	6
Some things learned only on the job	5
Not in program long enough	3
Not enough payroll	3
Not enough shorthand	2
Too much paperwork	2
Not enough stress on perfection	2
No keypunch	1
Speed	1
Varitypist	1
Too many in class	1
Already knew my job	1

Several terminees who indicated they were "Poorly Prepared" for their present job by their vocational program gave reasons why they felt that way. The following lists the reasons given.

Reasons

No computer training
Not related
Not interested at the time
Insurance not covered
Poor teacher
Not enough time
Wasn't enough
No bookkeeping
Unequal
No computer
Not enough subjects
I have learned more on the job
Wanted to be legal secretary
Skimpy information
Not the same
I didn't take this in school

Table 13 focuses on the Business and Office Education student club. The researchers sought to determine the extent to which the 1973-74 Business and Office Education terminees felt that their high school student club aided in preparing them for their present job. Data are also broken down by the relationship of the present job to the vocational training received.

Only respondents who had had a job since terminating their high school vocational Business and Office Education program were asked to respond to the questions reported in Table 13. Students in active full-time military service were excluded. Eighty-four (7.7%) of the 1,098 terminees reported no related student club was available, while 318 (29.0%) were not members of a related student club.

Only 271 (39.0%) of the 696 terminees who participated in student club activities indicated they were "Excellent" or "Well Prepared" by

their related student club for their present job. One hundred fifty-eight (22.7%) indicated they were "Poorly Prepared" by their related student club for their present job. Of those 158, 111 (70.3%) were in a related or somewhat related job, while 47 (29.7%) were in a non-related job.

TABLE 13

PERCEPTIONS OF 1973-74 BUSINESS AND OFFICE EDUCATION TERMINEES AS TO THE EXTENT THEIR HIGH SCHOOL VOCATIONAL STUDENT CLUB PREPARED THEM FOR THEIR PRESENT JOB BY HOW THEIR PRESENT JOB RELATED TO TRAINING[A]

Extent High School Vocational Student Club Helped Prepare for Present Job	Total Reporting		Total Reporting by Relatedness of Present Job to Vocational Training					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Excellent	78	11.2	38	16.1	27	8.6	13	8.8
Well Prepared	193	27.7	74	31.3	85	27.2	34	23.1
Fair	267	38.4	87	36.9	127	40.6	53	36.1
Poorly Prepared	158	22.7	37	15.7	74	23.6	47	32.0
TOTAL	696	100.0	236	100.0	313	100.0	147	100.0

[A]Of the 1,098 who responded, 84 (7.7%) had no related student club available, and 318 (29.0%) were not members of a related student club.

Of those 236 terminees who were working in an area directly related to the training they received in their high school vocational program, 112 (47.5%) revealed that they were "Excellent" or "Well Prepared" for their present job by their related student club. Only 37 (15.7%) of the 236 terminees who were working in a job directly related to the training they received indicated they were "Poorly Prepared" for their present job by their related student club.

Table 14 reports how the 1973-74 Business and Office Education terminees rated the quality of teaching by their high school vocational instructors.

TABLE 14

1973-74 BUSINESS AND OFFICE EDUCATION TERMINEES' RATINGS OF THE QUALITY OF TEACHING BY THEIR HIGH SCHOOL VOCATIONAL INSTRUCTORS

Rating	Number	Percent
Excellent	727	36.7
Good	853	43.0
Fair	301	15.2
Poor	61	3.1
Very Poor	29	1.5
No Response	10	0.5
TOTAL	1981	100.0

One thousand five hundred eighty (79.7%) of the 1,981 reporting 1973-74 Business and Office Education terminees rated the quality of teaching by their vocational instructor either "Good" or "Excellent." Only 90 (4.6%) rated the quality of teaching by their instructors "Poor" or "Very Poor."

Table 15 illustrates how the 1973-74 Business and Office Education terminees rated their high school vocational instructor's interest in their class work.

One thousand five hundred nineteen (76.7%) of the 1,981 reporting 1973-74 Business and Office Education terminees rated the interest exhibited by their high school vocational instructor in their class work as "Good" or "Excellent." Only 131 (6.6%) of the terminees rated the interest their vocational instructors showed in their class work as "Poor" or "Very Poor."

TABLE 15

1973-74 BUSINESS AND OFFICE EDUCATION TERMINEES' RATINGS OF THEIR HIGH SCHOOL VOCATIONAL INSTRUCTOR'S INTEREST IN THE STUDENT'S CLASS WORK

Rating	Number	Percent
Excellent	777	39.2
Good	742	37.5
Fair	323	16.3
Poor	88	4.4
Very Poor	43	2.2
No Response	8	0.4
TOTAL	1981	100.0

Table 16 points out how the 1973-74 Business and Office Education terminees subjectively rated the knowledge their vocational teachers possessed about their field of study. This rating is also shown in the table by a breakdown of how the terminees' present job related to the training they received in their high school vocational program. Terminees were asked to base their judgments on their current knowledge of their job and responsibilities.

Total responses to this item indicates that 822 (79.2%) of the 1,038 responding 1973-74 Business and Office Education terminees rated the knowledge their vocational teachers possessed about their field of study either "Good" or "Excellent." For those 323 terminees working in an area directly related to the training they received, 283 (87.6%) rated the knowledge their teachers possessed about their field of study as "Good" or "Excellent." A favorable point was revealed in that none of those terminees working in a directly related area rated the knowledge

their vocational teachers possessed about their field of study as "Very Poor," and only seven rated "Poor."

TABLE 16

1973-74 BUSINESS AND OFFICE EDUCATION TERMINEES' RATINGS OF THE KNOWLEDGE THEIR HIGH SCHOOL VOCATIONAL TEACHER POSSESSED ABOUT THEIR FIELD OF STUDY BY HOW THE TERMINEES' PRESENT JOB RELATED TO THE TRAINING THEY RECEIVED

Ratings[A]	Total Reporting		Number Reporting by Relatedness of Present Job to Training Received					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Excellent	349	33.6	139	43.0	125	29.9	85	28.6
Good	473	45.6	144	44.6	194	46.4	135	45.5
Fair	172	16.6	33	10.2	79	18.9	60	20.2
Poor	35	3.4	7	2.2	16	3.8	12	4.0
Very Poor	9	0.8	0	0.0	4	1.0	5	1.7
TOTAL	1038	100.0	323	100.0	418	100.0	297	100.0

[A]Ratings were to be based on terminee's judgment of their current knowledge of their job and responsibilities.

If the respondent was working in an area related to his trianing, he was asked to compare the facilities and equipment in his high school vocational program with those on his present job. Table 17 illustrates how the 1973-74 Business and Office Education terminees responded.

Only 106 (15.6%) of the 680 responding 1973-74 Business and Office Education terminees working in an area related to their training rated the facilities and equipment in their high school vocational program as

similar to those on their present job; however, 168 (24.7%) rated the facilities and equipment not as good as those on their present job.

TABLE 17

HOW 1973-74 BUSINESS AND OFFICE EDUCATION TERMINEES WORKING IN A RELATED AREA RATED THE FACILITIES AND EQUIPMENT IN THEIR HIGH SCHOOL VOCATIONAL PROGRAM[A]

Rating[B]	Number	Percent
Better than those on present job	106	15.6
Similar to those on present job	406	59.7
Not as good as those on present job	168	24.7
TOTAL	680	100.0

[A]Four hundred seventy (40.9%) of the responding 1,150 terminees indicated that their present job was not related to their vocational training enough to compare facilities and equipment.

[B]Persons who had not had a job since leaving their vocational program, including those in military service and those who attended school, were asked not to respond to questions from which data was drawn. Returns were received from 1,981 terminees.

Table 18 shows how 1973-74 Business and Office Education terminees, who were in a cooperative work program in school and were not working in an area related to their vocational training, rated the facilities and equipment used in their cooperative work station.

Only 44 (9.1%) of the 483 responding 1973-74 Business and Office Education terminees whose vocational programs had included cooperative work and were now working in an area related to their vocational training, rated the facilities and equipment in their cooperative work station as better than those on their present job. Two hundred forty-one (49.9%) rated the facilities and equipment in their cooperative training station as similar to those on their present job. Only 83 (17.2%) rated

the facilities and equipment in their cooperative work stations not as good as those in their present job. It was significant to note that 115 (23.8%) indicated they were working at the same establishment where they did their cooperative training.

TABLE 18

HOW 1973-74 BUSINESS AND OFFICE EDUCATION TERMINEES NOW WORKING IN A RELATED AREA, WHOSE VOCATIONAL PROGRAM INCLUDED COOPERATIVE WORK, RATED FACILITIES AND EQUIPMENT USED IN THEIR COOPERATIVE WORK STATION[A]

Rating[B]	Number	Percent
Better than those on present job	44	9.1
Similar to those on present job	241	49.9
Working at same place where cooperative training was done	115	23.8
Not as good as those on present job	83	17.2
TOTAL	483	100.0

[A]One hundred eighty-eight (17.8%) of the responding 1,054 Business and Office Education terminees indicated their vocational program was not a cooperative program. Three hundred eighty-three (36.3%) terminees indicated they were not working in an area related to their cooperative work; therefore, they did not complete this item on the questionnaire.

[B]Persons who had not had a job since leaving their vocational program, including those in military service and those attending school, were asked not to respond to questions from which data was drawn. Returns were received from 1,981 terminees.

Basic Employment Information

The following section of this report offers information relative to employment and job characteristics of the 1973-74 secondary Business and Office Education terminees.

Table 19 illustrates the number of full-time jobs the responding 1973-74 Business and Office Education terminees have had since leaving their high school vocational course.

TABLE 19

NUMBER OF FULL-TIME JOBS HELD BY THE 1973-74 BUSINESS AND OFFICE EDUCATION TERMINEES SINCE LEAVING THEIR HIGH SCHOOL VOCATIONAL COURSE

Number of Full-Time Jobs Held	Number	Percent
One	822	41.5
Two	164	8.3
Three	25	1.3
Four	1	0.1
Five or more	2	0.1
TOTAL	1014	51.3

[A]Percentage is based on the 1,981 terminees who returned the questionnaire.

There were 822 (41.5%) of the total 1,981 responding 1973-74 Business and Office Education terminees who had been employed in just one job since leaving their high school vocational program. One hundred sixty-four (8.3%) of the terminees reported having two jobs since leaving their high school vocational course seven to eight months ago, while only 28 (1.5%) reported three or more jobs.

Table 20 reveals the first-job employment status of the Business and Office Education terminees who returned the survey by the relatedness of their vocational training to their first job.

Of the 1,981 responding 1973-74 Business and Office Education terminees, 838 (42.3%) were employed full time in their first job after leaving their high school vocational program. Two hundred eighty-one (14.2%) terminees' first jobs were on a part-time basis.

Of the 1,981 responding terminees' first jobs (full-time or part-time) 333 (16.8%) were in an area directly related to the training they received in their high school vocational course. While 432 (21.8%)

were employed in an area somewhat related, 354 (17.9%) were employed in a first job not related to the training they received. The terminees made the judgment as to how their first job was related to the training they received in their high school vocational program.

Of the 354 terminees who indicated their jobs were not related to their vocational course, 197 (55.6%) terminees indicated that before they accepted their unrelated job, they tried to get a job that was related to their vocational training. However, 157 (44.4%) of the terminees did not.

TABLE 20

FIRST-JOB EMPLOYMENT STATUS OF BUSINESS AND OFFICE EDUCATION TERMINEES (1973-74) BY RELATEDNESS OF VOCATIONAL TRAINING TO FIRST JOB[A]

First Job After Leaving High School Vocational Program	Total Reporting		Relatedness of Vocational Training to First Job[B]					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Full-Time	838	42.3	245	12.4	340	17.2	253	12.8
Part-Time	281	14.2	88	4.4	92	4.6	101	5.1
TOTAL	1119	56.5	333	16.8	432	21.8	354	17.9

[A]All percentages were based on the 1,981 (38.0%) of 5,209 terminees who returned the survey form.

[B]The terminees made the judgment as to how their first job was related to the training received in their high school vocational program.

[C]See page 31 for reasons terminees who were working in first job unrelated to this vocational training gave for not seeking job that was related before accepting their first job.

The following is a list of reasons given by the terminees who, before taking their first unrelated job indicated they did not seek a job that was related to their vocational training.

Reasons	Number
Already working	13
Changed my mind	10
Wasn't interested	9
Not enough training	8
None available	7
Only wanted part time	3
Not enough experience	3
Needed a job	2
Not enough money	2
No transportation	1

Table 21 shows by OE Code for the first job of the 1973-74 Business and Office Education terminees the relatedness of their training to this first job.

Of the 1,148 responding 1973-74 Business and Office Education terminees who indicated how their first job related to the training they received in their high school vocational program, 342 (29.8%) were employed in directly related areas. Four hundred thirty-nine (38.2%) were employed in somewhat related areas, while 367 (32.0%) terminees were employed in areas not related to their training. The terminees made the judgment as to how their first job was related to the training received in their high school vocational program.

More responding terminees who studied in Filing, Office Machines, and General Office, Clerical (OE Code 14.0300) indicated first job employment. This was to be expected since more terminees studied in this occupational objective area (See Table 1). Of the 461 employed 1973-74 terminees who studied in the occupational area of Filing, Office Machines, and General Office, Clerical and indicated relatedness

of training, 131 (28.4%) were employed in an area directly related to that training. One hundred seventy-four (37.8%) were employed in their first job in an area somewhat related to their training. However, 156 (33.8%) of these responding terminees indicated that their first job was not related to the training they received in their Business and Office Education program.

TABLE 21

1973-74 BUSINESS AND OFFICE EDUCATION TERMINEES' FIRST JOB BY OE CODE STUDIED AND RELATEDNESS OF TRAINING[A]

OE Code	Title of Occupational Objective Studied	Total Employed by Area Studied		Relatedness of Training to First Job[B]					
				Directly Related		Somewhat Related		Not Related	
		No.	%	No.	%	No.	%	No.	%
14.0000	Office Occupations	12	1.1	3	25.0	5	41.7	4	33.3
14.0100	Accounting and Computing	108	9.4	25	23.1	37	34.3	46	42.6
14.0101	Accountants	11	1.0	6	54.5	2	18.2	3	27.3
14.0102	Bookkeeper	21	1.8	9	42.9	8	38.1	4	19.0
14.0103	Cashiers	0	0.0	0	0.0	0	0.0	0	0.0
14.0200	Business Data Processing Systems	21	1.8	2	9.5	7	33.3	12	57.2
14.0201	Computer & Console Operator	6	0.5	2	33.0	0	0.0	4	67.0
14.0300	Filing, Office Machines & General Office, Clerical	461	40.2	131	28.4	174	37.8	156	33.8
14.0301	Duplicating Machine Operators	41	3.6	11	26.8	15	36.6	15	36.6
14.0302	File Clerks	2	0.2	1	50.0	0	0.0	1	50.0

(continued)

TABLE 21 (continued)

OE Code	Title of Occupational Objective Studied	Total Employed by Area Studied		Relatedness of Training to First Job[B]					
				Directly Related		Somewhat Related		Not Related	
		No.	%	No.	%	No.	%	No.	%
14.0303	General Office Clerks	20	1.7	6	30.0	9	45.0	5	25.0
14.0399	Filing, Office Machines & General Office Clerical, Other	4	0.3	1	25.0	1	25.0	2	50.0
14.0700	Stenographic, Secretarial, Related	345	30.1	114	33.0	142	41.2	89	25.8
17.0701	Executive Secretary	13	1.1	6	46.2	6	46.2	1	7.6
14.0702	Secretaries	6	0.5	3	50.0	0	0.0	3	50.0
14.0703	Stenographers	4	0.3	2	50.0	2	50.0	0	0.0
14.0800	Supervisory & Administrative Management	0	0.0	0	0.0	0	0.0	0	0.0
14.0900	Typing & Related	47	4.1	13	27.7	18	38.3	16	34.0
14.0901	Clerk-Typists	26	2.3	7	26.9	13	50.0	6	23.1
14.0902	Typists	0	0.0	0	0.0	0	0.0	0	0.0
99.0105	Career Guidance	0	0.0	0	0.0	0	0.0	0	0.0
	TOTAL ALL AREAS	1148	100.0	342	29.8	439	38.2	367	32.0

[A]Of 5,209 Business and Office Education terminees, 1,981 (38.0%) returned the questionnaire.

[B]The terminees made the judgment as to how their first job was related to the training received in their high school vocational program.

Table 21A is a description of 1973-74 Business and Office Education terminees' first job by OE code area studied, number of returns, type school, termination status, and relatedness of training.

TABLE 21A

DESCRIPTION OF 1973-74 BUSINESS AND OFFICE EUDCATION TERMINEES' FIRST JOB BY OE CODE AREA STUDIED, NUMBER OF RETURNS, TYPE SCHOOL, TERMINATION STATUS, AND RELATEDNESS OF TRAINING

OE Code Area[A] and Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job[E]					
				Directly Related		Somewhat Related		Not Related	
		No.	%	No.	%	No.	%	No.	%
14.0000									
Office Occupations (Total)	24	12	50.0	4	16.7	5	20.8	3	12.5
AVC (Total)[B]	11	8	72.7	2	18.2	4	36.4	2	18.2
Completers[C]	11	8	72.7	2	18.2	4	36.4	2	18.2
Dropouts[D]	0	0	0.0	0	0.0	0	0.0	0	0.0
Other Type Schools (Total)	13	4	30.8	2	15.4	1	7.7	1	7.7
Completers	13	4	30.8	2	15.4	1	7.7	1	7.7
Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
14.0100									
Accounting & Computing (Total)	184	108	58.7	25	13.6	37	20.1	46	25.0
AVC (Total)	46	20	43.5	1	2.2	6	13.0	13	28.3
Completers	44	19	43.2	1	2.3	6	13.6	12	27.3
Dropouts	2	1	50.0	0	0.0	0	0.0	1	50.0
Other Type Schools (Total)	138	88	63.8	24	17.4	31	22.5	33	23.9
Completers	128	82	64.1	22	17.2	30	23.4	30	23.4
Dropouts	10	6	60.0	2	20.0	1	10.0	3	30.0

(continued)

TABLE 21A (continued)

OE Code Area[A] and Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job[E]					
				Directly Related		Somewhat Related		Not Related	
		No.	%	No.	%	No.	%	No.	%
14.0101									
Accountants (Total)	13	11	84.6	6	46.2	2	15.3	3	23.1
AVC (Total)	5	4	80.0	3	60.0	0	0.0	1	20.0
Completers	5	4	80.0	3	60.0	0	0.0	1	20.0
Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
Other Type Schools (Total)	8	7	87.5	3	37.5	2	25.0	2	25.0
Completers	7	7	100.0	3	42.8	2	28.6	2	28.6
Dropouts	1	0	0.0	0	0.0	0	0.0	0	0.0
14.0102									
Bookkeepers (Total)	31	21	67.8	9	29.0	8	25.9	4	12.9
AVC (Total)	1	1	100.0	1	100.0	0	0.0	0	0.0
Completers	1	1	100.0	1	100.0	0	0.0	0	0.0
Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
Other Type Schools (Total)	30	20	66.7	8	26.7	8	26.7	4	13.3
Completers	30	20	66.7	8	26.7	8	26.7	4	13.3
Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
14.0103									
Cashiers (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 21A (continued)

OE Code Area[A] and Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job[E]					
				Directly Related		Somewhat Related		Not Related	
		No.	%	No.	%	No.	%	No.	%
14.0200									
Business Data Processing Systems (Total)	38	21	55.3	2	4.3	7	18.4	12	31.6
AVC (Total)	13	8	61.5	1	7.7	2	15.4	5	38.5
Completers	10	8	80.0	1	10.0	2	20.0	5	50.0
Dropouts	3	0	0.0	0	0.0	0	0.0	0	0.0
Other Type Schools (Total)	25	13	52.0	1	4.0	5	20.0	7	28.0
Completers	23	13	56.5	1	4.3	5	21.7	7	30.4
Dropouts	2	0	0.0	0	0.0	0	0.0	0	0.0
14.0201									
Computer & Console Operators (Total)	20	6	30.0	2	10.0	0	0.0	4	20.0
AVC (Total)	20	6	30.0	2	10.0	0	0.0	4	20.0
Completers	19	6	31.6	2	10.5	0	0.0	4	21.1
Dropouts	1	0	0.0	0	0.0	0	0.0	0	0.0
Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
14.0300									
Filing, Office Machines & General Office Clerical (Total)	824	461	55.9	131	15.9	174	21.1	156	18.9
AVC (Total)	152	94	61.8	29	19.1	32	21.1	33	21.7
Completers	140	87	62.1	28	20.0	31	22.1	28	20.0
Dropouts	12	7	58.3	1	8.3	1	8.3	5	41.7
Other Type Schools (Total)	662	367	55.4	102	15.4	142	21.5	123	18.6
Completers	600	349	58.2	99	16.5	137	22.8	113	18.8
Dropouts	62	18	29.0	3	4.8	5	8.1	10	16.1

(continued)

TABLE 21A (continued)

OE Code Area[A] and Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job[E]					
				Directly Related		Somewhat Related		Not Related	
		No.	%	No.	%	No.	%	No.	%
14.0301									
Duplicating Machine Operator (Total)	78	41	52.6	11	14.1	15	19.2	15	19.2
AVC (Total)	45	25	55.6	6	13.3	9	20.0	10	22.2
Completers	43	24	55.8	6	14.0	9	20.9	9	20.9
Dropouts	2	1	50.0	0	0.0	0	0.0	1	50.0
Other Type Schools (Total)	33	16	48.5	5	15.2	6	18.2	5	15.2
Completers	30	15	50.0	5	16.7	6	20.0	4	13.3
Dropouts	3	1	33.3	0	0.0	0	0.0	1	33.3
14.0302									
File Clerks (Total)	1	1	100.0	1	100.0	0	0.0	0	0.0
AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
Other Type Schools (Total)	1	1	100.0	1	100.0	0	0.0	0	0.0
Completers	1	1	100.0	1	100.0	0	0.0	0	0.0
Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
14.0303									
General Office Clerks (Total)	30	20	66.7	6	20.0	9	30.0	5	16.7
AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
Other Type Schools (Total)	30	20	66.7	6	20.0	9	30.0	5	16.7
Compelters	27	18	66.7	6	22.2	8	29.6	4	14.8
Dropouts	3	2	66.7	0	0.0	1	33.3	1	33.3

(continued)

TABLE 21A (continued)

OE Code Area[A] and Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job[E]					
				Directly Related		Somewhat Related		Not Related	
		No.	%	No.	%	No.	%	No.	%
14.0399									
Filing, Office Machines & General Office Clerical, Other (Total)	5	4	80.0	1	20.0	1	20.0	2	40.0
AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
Other Type Schools (Total)	5	4	80.0	1	20.0	1	20.0	2	40.0
Completers	5	4	80.0	1	20.0	1	20.0	2	40.0
Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
14.0700									
Stenographic, Secretraial & Related (Total)	565	345	61.1	114	20.2	142	25.1	89	15.8
AVC (Total)	126	75	59.5	22	17.5	29	23.0	24	19.0
Completers	118	72	61.0	22	18.6	29	24.6	21	17.8
Dropouts	8	3	37.5	0	0.0	0	0.0	3	37.5
Other Type Schools (Total)	439	270	61.5	92	21.0	113	25.7	65	14.8
Completers	417	261	62.6	91	21.8	108	25.9	62	14.9
Dropouts	22	9	40.9	1	4.5	5	22.7	3	13.6
14.0701									
Executive Secretary (Total)	28	13	46.4	6	21.4	6	21.4	1	3.6
AVC (Total)	3	3	100.0	2	66.7	1	33.3	0	0.0
Completers	2	2	100.0	2	100.0	0	0.0	0	0.0
Dropouts	1	1	100.0	0	0.0	1	100.0	0	0.0
Other Type Schools (Total)	25	10	40.0	4	16.0	5	20.0	1	4.0
Completers	24	10	41.7	4	16.7	5	20.8	1	4.2
Dropouts	1	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 21A (continued)

OE Code Area[A] and Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job[B]					
				Directly Related		Somewhat Related		Not Related	
		No.	%	No.	%	No.	%	No.	%
14.0702									
Secretaries (Total)	10	6	60.0	3	30.0	0	0.0	3	30.0
AVC (Total)	6	3	50.0	0	0.0	0	0.0	3	50.0
Completers	6	3	50.0	0	0.0	0	0.0	3	50.0
Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
Other Type Schools (Total)	4	3	75.0	3	75.0	0	0.0	0	0.0
Completers	4	3	75.0	3	75.0	0	0.0	0	0.0
Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
14.0703									
Stenographers (Total)	6	4	66.7	2	33.3	2	33.3	0	0.0
AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
Other Type Schools (Total)	6	4	66.7	2	33.3	2	33.3	0	0.0
Completers	6	4	66.7	2	33.3	2	33.3	0	0.0
Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
14.0800									
Supervisory & Administrative Management (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 21A (continued)

OE Code Area[A] and Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job[E]					
				Directly Related		Somewhat Related		Not Related	
		No.	%	No.	%	No.	%	No.	%
14.0900									
Typing & Related (Total)	85	47	55.3	13	15.3	18	21.2	16	18.8
AVC (Total)	5	3	60.0	1	20.0	0	0.0	2	40.0
Completers	5	3	60.0	1	20.0	0	0.0	2	40.0
Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
Other Type Schools (Total)	80	44	55.0	12	15.0	18	22.5	14	17.5
Completers	77	43	55.8	12	15.6	18	23.4	13	16.9
Dropouts	3			0		0		1	
14.0901									
Clerk-Typists (Total)	49	26	53.1	7	14.3	13	26.5	6	12.2
AVC (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
Other Type Schools (Total)	48	26	54.2	7	14.6	13	27.1	6	12.5
Completers	41	25	61.0	7	17.1	13	31.7	5	12.2
Dropouts	7	1	14.3	0	0.0	0	0.0	1	14.3
14.0902									
Typists (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 21A (continued)

OE Code Area[A] and Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job[E]					
				Directly Related		Somewhat Related		Not Related	
		No.	%	No.	%	No.	%	No.	%
99.0105									
Career Guidance (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
TOTAL ALL AREAS	1981	1147	57.9	343	17.3	439	22.2	365	18.4
AVC (Total)	434	250	57.6	70	16.1	83	19.1	97	22.4
Completers	405	237	58.5	69	17.0	81	20.0	87	21.5
Dropouts	29	13	44.8	1	3.4	2	6.9	10	34.5
Other Type Schools (Total)	1547	897	58.0	273	17.6	356	23.0	268	17.3
Completers	1433	859	59.9	267	18.6	344	24.0	248	17.3
Dropouts	114	38	33.3	6	5.3	12	10.5	20	17.5

[A]OE Code areas as reported by teachers

[B]Area Vocational Centers

[C]Any terminee who left the program by completing or by high school graduation

[D]Any terminee who the instructor reported as having dropped out of school

[E]The terminees made the judgment as to how their first job was related to the training received in their high school vocational program.

Table 22 illustrates the current employment status of the responding terminees by the relatedness of their vocational training to their present

jobs. All percentages figured in the table were based on the 1,981 (38.0%) returns from the 4,209 Business and Office Education terminees.

Of the 1,981 responding 1973-74 secondary Business and Office Education terminees, 692 (34.9%) were presently employed full time and not attending school or employed full time and attending school. One hundred ninety-five (9.9%) of the terminees were employed part time and attending school, while 249 (12.6%) were unavailable for employment (See page 44 for reasons terminees were unavailable for employment). Only 283 (14.3%) of the terminees were unemployed and actively seeking employment, while 50 (2.5%) were employed part time and seeking full-time employment.

The "No Response" category in Table 22 included three groups: (1) terminees in active full-time military service; (2) terminees who were in school full time and had never had a job; and (3) terminees who failed to respond to the item on the questionnaire.

Of the 1,981 secondary Business and Office Education respondees, 290 (14.6%) were presently employed full time or part time in an area directly related to the training received in their high school vocational course. Three hundred eighty-one (19.2%) were employed either part time or full time in an area somewhat related to their training, while 269 (13.6%) were employed in areas not related to training. The terminees made the judgment as to how their present employment was related to the training received in their high school vocational course.

Of the 316 terminees who indicated their present jobs were not related to their vocational course, 179 (56.6%) terminees indicated that before they accepted their unrelated job, they tried to get a job that was related to their vocational training. However, 130 (41.1%) of the terminees did not.

TABLE 22

CURRENT EMPLOYMENT STATUS OF BUSINESS AND OFFICE EDUCATION TERMINEES (1973-74) BY RELATEDNESS OF TRAINING TO PRESENT JOB[A]

Employment Status	Total Respond-ing		Relatedness of Training to Present Job[E]							
			Directly Related		Somewhat Related		Not Related[E]		Employed No Response	
	No.	%	No.	%	No.	%	No.	%	No.	%
Employed full time and not attending school	599	30.2	190	9.6	247	12.5	159	8.0	3	0.2
Employed full time and attending schoool	93	4.7	20	1.0	42	2.1	25	1.3	6	0.3
Employed part time and seeking full-time job	50	2.5	9	0.5	23	1.2	15	0.8	3	0.2
Employed part time and not seeking full-time job	26	1.3	8	0.4	11	0.6	6	0.3	1	0.1
Employed part time and attending school	195	9.9	63	3.2	58	2.9	64	3.2	10	0.5
Unemployed (actively seeking a job)[C]	283	14.3	N/A		N/A		N/A		N/A	
Unavailable for employment[C&D]	249	12.6	N/A		N/A		N/A		N/A	
No Response	486	24.5	N/A		N/A		N/A		N/A	
TOTAL	1981	100.0	290	14.6	381	19.2	269	13.6	23	1.2

[A]All percentages were based on the 1,981 (38.0%) respondents of the total 5,209 terminees. Terminees in active full-time military service or attending school full-time and had never been employed were included in the "No Response" category.

[B]The terminees made the judgment as to how their present job was related to the training received in their high school vocational program.

[C]The unemployed and unavailable for employment categories do not include persons in the military service and persons who were in school full time and never had a job.

[D]See page 44 for the listing of reasons Business and Office Education terminees gave for being unavailable for employment.

[E]See page 44 for reasons terminees who were working in present job not related to vocational training gave for not seeking related job before accepting present job. Totals for unrelated columns may not correspond because terminees failed to respond to one of the two questions from which data was drawn.

Below is a list of the reasons given by the terminees for being unavailable for employment.

Reason	Number
In school full time	113
Homemaker	84
Pregnancy	40
Not interested in a job	20
No openings	13
Working part time	6
Joining armed services	3
Illness or disability	3
Moving	2
Personal	2
Not enough training	1
No transportation	1

The following is a list of reasons given by the terminees who, before taking their present unrelated job, indicated they did not seek a job that was related to their vocational training.

Reasons	Number
Already had job	27
Not interested	27
Not enough training	20
Changed my mind	19
In school	11
No openings	8
Not enough salary	6
Working part time	4
Personal	4
Not enough experience	3
No transportation	1
Joining army	1

Table 23 shows for the present job, by OE code, the number of 1973-74 secondary Business and Office Education terminees employed by the relatedness of their vocational training to their present job.

Of the 1,059 secondary Business and Office Education terminees who indicated present employment, 424 (40.0%) who studied in the area of

Filing, Office Machines and General Office Clerical, OE Code 14.0300, were employed. This represented the largest number of employed terminees that studied in any OE Code area.

Of the 424 terminees presently employed that studied in OE Code 14.0300, 115 (27.1%) were employed in an area directly related to the training received in their high school vocational program. One hundred forty-three (33.7%) terminees who studied in OE Code 14.0300 indicated their present job was not related to their high school vocational training. The terminees made the judgment as to how their present job related to the training received in their high school vocational program.

TABLE 23

EMPLOYED 1973-74 BUSINESS AND OFFICE EDUCATION TERMINEES BY OE CODE AREA STUDIED AND BY RELATEDNESS OF TRAINING TO PRESENT JOB[A]

OE Code	Title of Occupational Objective Studied	Total Employed by Area Studied		Relatedness of Training to Present Job[B]					
				Directly Related		Somewhat Related		Not Related	
		No.	%	No.	%	No.	%	No.	%
14.0000	Office Occupations	10	0.5	[illegible]	0.2	4	0.2	2	0.1
14.0100	Accounting and Computing	100	5.0	26	1.3	34	1.7	40	2.0
14.0101	Accountants	11	0.6	5	0.3	2	0.1	4	0.2
14.0102	Bookkeepers	16	0.8	5	0.3	7	0.4	4	0.2
14.0103	Cashiers	0	0.0	0	0.0	0	0.0	0	0.0
14.0200	Business Data Processing Systems	18	0.9	2	0.1	6	0.3	10	0.5
14.0201	Computer & Console Operator	6	0.3	2	0.1	0	0.0	4	0.2
14.0300	Filing, Office Machine & General Office, Clerical	424	21.4	115	5.8	166	8.4	143	7.2

(continued)

TABLE 23 (continued)

OE Code	Title of Occupational Objective Studied	Total Employed by Area Studied		Relatedness of Training to Present Job[B]					
				Directly Related		Somewhat Related		Not Related	
		No.	%	No.	%	No.	%	No.	%
14.0301	Duplicating Equipment Operator	39	2.0	12	0.6	15	0.8	12	0.6
14.0302	File Clerks	1	0.1	1	0.1	0	0.0	0	0.0
14.0303	General Office Clerks	20	1.0	8	0.4	8	0.4	4	0.2
14.0399	Filing, Office Machines and General Office Clerical, Other	4	0.2	2	0.1	0	0.0	2	0.1
14.0700	Stenographic, Secretarial & Related	325	16.4	112	5.6	138	7.0	75	3.8
14.0701	Executive Secretary	12	0.6	6	0.3	5	0.3	1	0.1
14.0702	Secretaries	5	0.3	3	0.2	0	0.0	2	0.1
14.0703	Stenographers	3	0.2	1	0.1	2	0.1	0	0.0
14.0800	Supervisory & Administrative Management	0	0.0	0	0.0	0	0.0	0	0.0
14.0900	Typing and Related	42	2.1	13	0.6	19	1.0	10	0.5
14.0901	Clerk-Typists	23	1.2	7	0.4	13	0.6	3	0.2
14.0902	Typists	0	0.0	0	0.0	0	0.0	0	0.0
99.0105	Career Guidance	0	0.0	0	0.0	0	0.0	0	0.0
	TOTAL ALL AREAS	1059	53.5	324	16.4	419	21.2	316	16.0

[A]All percentages were based on the 1,981 (38.0%) of the 5,209 terminees who returned the questionnarie.

[B]Terminees made the judgment as to how their first job was related to training received in their high school vocational program.

Table 23A is a description of 1973-74 Business and Office Education terminees' present job by OE code area studied, number of returns, type school, termination status, and relatedness of training.

TABLE 23A

DESCRIPTION OF 1973-74 BUSINESS AND OFFICE EDUCATION TERMINEES' PRESENT JOB BY OE CODE AREA STUDIED, NUMBER OF RETURNS, TYPE SCHOOL, TERMINATION STATUS, AND RELATEDNESS OF TRAINING

OE Code Area[A]	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to Present Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
14.0000	Office Occupations (Total)	24	10	41.7	4	16.7	4	16.7	2	8.3
	AVC (Total)[B]	11	7	63.6	3	27.3	3	27.3	1	9.1
	Completers[C]	11	7	63.6	3	27.2	3	27.2	1	9.1
	Dropouts[D]	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	13	3	23.1	1	7.7	1	7.7	1	7.7
	Completers	13	3	23.1	1	7.7	1	7.7	1	7.7
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
14.0100	Accounting and Computing (Total)	184	100	54.3	26	14.1	34	18.5	40	21.7
	AVC (Total)	46	16	34.8	2	4.3	5	10.9	9	19.6
	Completers	44	16	36.4	2	4.5	5	11.4	9	20.5
	Dropouts	2	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	138	84	60.9	24	17.4	29	21.0	31	22.5
	Completers	128	78	60.9	22	17.2	28	21.9	28	21.9
	Dropouts	10	6	60.0	2	20.0	1	10.0	3	30.0
14.0101	Accountants (Total)	13	11	84.6	5	38.5	2	15.4	4	30.8
	AVC (Total)	5	4	80.0	2	40.0	0	0.0	2	40.0
	Completers	5	4	80.0	2	40.0	0	0.0	2	40.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	8	7	87.5	3	37.5	2	25.0	2	25.0
	Completers	7	7	100.0	3	42.9	2	28.6	2	28.6
	Dropouts	1	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 23A (continued)

OE Code Area[A]	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to Present Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
14.0102	Bookkeepers (Total)	31	16	51.6	5	16.1	7	22.6	4	12.9
	AVC (Total)	1	1	100.0	0	0.0	0	0.0	1	100.0
	Completers	1	1	100.0	0	0.0	0	0.0	1	100.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	30	15	50.0	5	16.7	7	23.3	3	10.0
	Completers	30	15	50.0	5	16.7	7	23.3	3	10.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
14.0103	Cashiers (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
14.0200	Business Data Processing Systems (Total)	38	18	47.4	2	5.3	6	15.8	10	26.3
	AVC (Total)	13	6	46.2	1	7.7	1	7.7	4	30.8
	Completers	10	6	46.2	1	7.7	1	7.7	4	30.8
	Dropouts	3	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	25	12	48.0	1	4.0	5	20.0	6	24.0
	Completers	23	12	52.2	1	4.4	5	21.7	6	26.1
	Dropouts	2	0	0.0	0	0.0	0	0.0	0	0.0
14.0201	Computer & Console Operators (Total)	20	6	30.0	2	10.0	0	0.0	4	20.0
	AVC (Total)	20	6	30.0	2	10.0	0	0.0	4	20.0
	Completers	19	6	31.6	2	10.5	0	0.0	4	21.1
	Dropouts	1	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 23A (continued)

OE Code Area[A]	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied No.	%	Relatedness of Training to Present Job[E] Directly Related No.	%	Somewhat Related No.	%	Not Related No.	%
14.0300	Filing, Office Machines & General Office Clerical (Total)	814	424	52.1	115	14.1	166	20.4	143	17.6
	AVC (Total)	152	84	55.3	23	15.1	25	16.4	36	23.7
	Completers	140	78	55.7	21	15.0	25	17.9	32	22.9
	Dropouts	12	6	50.0	2	16.7	0	0.0	4	33.3
	Other Type Schools (Total)	662	340	51.4	92	13.9	141	21.3	107	16.2
	Completers	600	323	53.8	91	15.2	135	22.5	97	16.2
	Dropouts	62	17	27.4	1	1.6	6	9.7	10	16.1
14.0301	Duplicating Machine Operators (Total)	78	39	50.0	12	15.4	15	19.2	12	15.4
	AVC (Total)	45	24	53.3	8	17.8	10	22.2	6	13.3
	Completers	43	24	55.8	8	18.6	10	23.3	6	14.0
	Dropouts	2	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	33	15	45.5	4	12.1	5	15.2	6	18.2
	Completers	30	14	46.7	4	13.3	5	16.7	5	16.7
	Dropouts	3	1	33.3	0	0.0	0	0.0	1	33.3
14.0302	File Clerks (Total)	1	1	100.0	1	100.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	1	100.0	0	0.0	0	0.0
	Completers	1	1	100.0	1	100.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
14.0303	General Office Clerk (Total)	30	20	66.7	8	26.7	8	26.7	4	13.3
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	30	20	66.7	8	36.7	8	26.7	4	13.3
	Completers	27	18	66.7	6	22.2	8	29.6	4	14.8
	Dropouts	3	2	66.7	2	66.7	0	0.0	0	0.0

(continued)

TABLE 23A (continued)

OE Code Area[A]	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to Present Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
14.0399	Filing, Office Machines & General Office Clerical, Other (Total)	5	2	40.0	0	0.0	2	40.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	5	2	40.0	0	0.0	2	40.0	0	0.0
	Completers	5	2	40.0	0	0.0	2	40.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
14.0700	Stenographic, Secretarial & Related (Total)	565	325	57.5	112	19.8	138	24.4	75	13.3
	AVC (Total)	126	72	57.1	23	18.3	28	22.2	21	16.7
	Completers	118	70	59.3	23	19.5	28	23.7	19	16.1
	Dropouts	8	2	25.0	0	0.0	0	0.0		25.0
	Other Type Schools (Total)	439	253	57.6	89	20.3	110	25.1	54	12.3
	Completers	417	244	58.5	89	21.3	103	24.7	52	12.5
	Dropouts	22	9	40.9	0	0.0	7	31.8	2	9.1
14.0701	Executive Secretary (Total)	28	12	42.9	6	21.4	5	17.9	1	3.6
	AVC (Total)	3	3	100.0	2	66.7	1	33.3	0	0.0
	Completers	2	2	100.0	2	100.0	0	0.0	0	0.0
	Dropouts	1	1	100.0	0	0.0	1	100.0	0	0.0
	Other Type Schools (Total)	25	9	36.0	4	16.0	4	16.0	1	4.0
	Completers	24	9	37.5	4	16.7	4	16.7	1	4.2
	Dropouts	1	0	0.0	0	0.0	0	0.0	0	0.0
14.0702	Secretaries (Total)	10	5	50.0	3	30.0	0	0.0	2	20.0
	AVC (Total)	6	2	33.3	0	0.0	0	0.0	2	33.3
	Completers	6	2	33.3	0	0.0	0	0.0	2	33.3
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	4	3	75.0	3	75.0	0	0.0	0	0.0
	Completers	4	3	75.0	3	75.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 23A (continued)

OE Code Area[A]	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed By Area Studied		Relatedness of Training to Present Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
14.0703	Stenographers (Total)	6	3	50.0	1	16.7	2	33.3	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	6	3	50.0	1	16.7	2	33.3	0	0.0
	Completers	6	3	50.0	1	16.7	2	33.3	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
14.0800	Supervisory & Administrative Management (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
14.0900	Typing & Related (Total)	85	42	49.4	13	15.3	19	22.4	10	11.8
	AVC (Total)	5	3	60.0	1	20.0	0	0.0	2	40.0
	Completers	5	3	60.0	1	20.0	0	0.0	2	40.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	80	39	48.8	12	15.0	19	23.8	8	10.0
	Completers	77	38	49.4	11	14.3	19	24.7	8	10.4
	Dropouts	3	1	33.3	1	33.3	0	0.0	0	0.0
14.0901	Clerk-Typists (Total)	49	23	46.9	7	14.3	13	26.5	3	6.1
	AVC (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	48	23	47.9	7	14.6	13	27.1	3	6.3
	Completers	41	22	53.7	7	17.1	13	31.7	2	4.9
	Dropouts	7	1	14.3	0	0.0	0	0.0	1	14.3

(continued)

TABLE 23A (continued)

OE Code Area[A]	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to Present Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
14.0902	Typists (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
99.0105	Career Guidance (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
TOTAL ALL AREAS		1981	1057	53.4	322	16.3	421	21.3	314	15.9
	AVC (Total)	434	228	52.5	67	13.4	73	16.8	88	20.3
	Completers	405	129	54.1	65	16.0	72	17.8	82	20.2
	Dropouts	29	9	31.0	2	6.9	1	3.4	6	20.7
	Other Type Schools (Total)	1547	829	53.6	255	16.5	348	22.5	226	14.6
	Completers	1433	792	55.3	249	17.4	334	23.3	209	14.6
	Dropouts	114	37	32.5	6	5.3	14	12.3	17	14.9

[A]OE Code areas as reported by teachers.

[B]Area Vocational Centers.

[C]Any terminee who left the program by completing or by high school graduation.

[D]Any terminee who the instructor reported as having dropped out of school.

[E]The terminees made the judgment as to how their first job was related to the training received in their high school vocational program.

Table 24 indicates the first job salary ranges as compared to the present job salary ranges for the 1973-74 Business and Office Education terminees.

TABLE 24

FIRST-JOB SALARY RANGES AND PRESENT-JOB SALARY RANGES FOR 1973-74 BUSINESS AND OFFICE EDUCATION TERMINEES

Salary Ranges	First Job		Present Job	
	No.	%	No.	%
Under $250	557	51.6	289	34.2
$250 - $299	149	13.8	114	13.5
$300 - $349	167	15.5	136	16.1
$350 - $399	113	10.5	121	14.3
$400 - $449	52	4.8	112	13.3
$450 - $499	24	2.2	41	4.9
$500 - $599	11	1.0	19	2.2
$600 - $699	3	0.3	5	0.6
$700 or more	3	0.3	8	0.9
TOTAL	1079	100.0	845	100.0

Of the 1,079 terminees reporting a salary range for their first job, 557 (51.6%) indicated a range of under $250 per month. Only six terminees reported a first salary of over $600 per month. The median salary range for the first job fell in the range of under $250 per month. The mean salary range for the first job fell in the range of from $250 - $299 per month.

Of the 845 1973-74 Business and Office Education terminees reporting a salary range for their present job, 289 (34.2%) indicated under $250 per month. This salary range was indicative of the mode of the reporting students. The median and mean salary ranges for the present job fell within the range of $250 - $299 per month. The median salary range of

present jobs was higher for present jobs than first jobs for the reporting Business and Office Education terminees.

Table 24A indicates the first-job salary ranges by relatedness of training and sex of the Business and Office Education terminees.

TABLE 24A

FIRST-JOB SALARY RANGES BY RELATEDNESS OF TRAINING OF 1973-74 BUSINESS AND OFFICE EDUCATION TERMINEES BY SEX

Salary Ranges	Sex of Terminees Responding		Relatedness of Training to First Job[B]					
			Directly Related		Somewhat Related		Not Related	
	Male	Female	Male	Female	Male	Female	Male	Female
Under $250	30	495	2	148	8	168	20	179
$250 - $299	10	126	2	35	2	50	6	41
$300 - $349	11	139	4	52	4	49	3	38
$350 - $399	7	102	2	32	1	55	4	15
$400 - $449	8	42	2	18	2	21	4	3
$450 - $499	5	18	0	8	3	5	2	5
$500 - $599	5	5	0	3	2	1	3	1
$600 - $699	3	0	0	0	2	0	1	0
$700 or more	1	2	0	0	0	0	1	2
TOTAL[A]	80	929	12	296	24	349	44	284

[A]Totals do not match those of Table 24 because some terminees did not respond to all questions.

[B]The terminees made the judgment as to how their first job was related to the training received in their high school vocational program.

Five hundred twenty-five (52.0%) of the 1,009 responding terminees were employed at less than $250 per month. Of these 525 terminees, two (0.4%) males and 148 (28.2%) females were employed in a job directly related to their training, eight (1.5%) males and 168 (32.0%) females were employed in jobs somewhat related to their training, while 20 (3.8%) males and 179 (34.1%) females were employed in jobs not related to their training.

Of the 1,009 responding terminees, 80 (7.9%) were males and 929 (92.1%) were females. Twelve (1.2%) males and 296 (29.3%) females were employed in jobs directly related to their vocational training, 24 (2.4%) males and 349 (34.6%) females were employed in jobs somewhat related to their training, while 44 (4.4%) males and 284 (28.1%) females were employed in jobs not related to their training.

Table 24B indicates the present-job salary ranges by relatedness of training and sex of the Business and Office Education terminees.

TABLE 24B

PRESENT-JOB SALARY RANGES BY RELATEDNESS OF TRAINING OF 1973-74 BUSINESS AND OFFICE EDUCATION TERMINEES BY SEX

Salary Ranges	Sex of Terminees Responding		Relatedness of Training to Present Job[B]					
			Directly Related		Somewhat Related		Not Related	
	Male	Female	Male	Female	Male	Female	Male	Female
Under $250	23	256	3	74	4	94	16	88
$250 - $299	6	106	1	30	1	41	4	35
$300 - $349	6	123	1	38	1	50	4	35
$350 - $399	7	112	3	41	3	55	1	16
$400 - $449	12	98	2	35	4	54	6	9
$450 - $499	3	38	1	15	2	20	0	3
$500 - $599	6	12	1	3	2	7	3	2
$600 - $699	2	3	0	1	1	1	1	1
$700 or more	5	2	2	1	3	0	0	1
TOTAL[A]	70	750	14	238	21	322	35	190

[A]Totals do not match those of Table 24 because some terminees did not respond to all questions.

[B]The terminees made the judgment as to how their present job was related to the training received in their high school vocational program.

Two hundred seventy-nine (34.0%) of the 820 responding terminees were employed at less than $250 per month. Of these 279 terminees, three (1.1%)

males and 74 (26.5%) females were employed in a job directly related to their training, four (1.4%) males and 94 (33.7%) females were employed in jobs somewhat related to their training, while 16 (5.7%) males and 88 (31.6%) females were employed in jobs not related to their training.

Of the 820 responding terminees, 70 (8.5%) were males and 750 (91.5%) were females. Fourteen (1.7%) males and 238 (29.0%) females were employed in jobs directly related to their vocational training, 21 (2.5%) males and 322 (39.3%) females were employed in jobs somewhat related to their training, while 35 (4.3%) males and 190 (23.2%) females were employed in jobs not related to their training.

Continuing Education Information

The following section of this report presents information relative to the continuing education of the 1973-74 secondary Business and Office Education terminees.

Table 25 shows the vocational educational training opportunities terminees have participated in since leaving their high school vocational program.

Of the total terminees, the 239 (12.1%) who were enrolled in Junior Colleges represented the largest area where terminees had taken additional vocational training.

Of the 1,981 responding terminees, 827 (41.7%) had taken part in one additional vocational training program since leaving their high school program. Seventy-two (3.6%) enrolled in two training programs, and 21 (1.1%) terminees had enrolled in three vocational training programs.

One thousand one hundred twelve (56.1%) indicated they had not enrolled in any additional vocational training.

TABLE 25

ADDITIONAL VOCATIONAL EDUCATIONAL TRAINING 1973-74
SECONDARY BUSINESS AND OFFICE EDUCATION
TERMINEES PARTICIPATED IN SINCE
LEAVING THEIR HIGH SCHOOL
VOCATIONAL PROGRAM[A]

Type Training	Number	Percent[B]
On-the-job training (employer-sponsored program)	236	11.9
Public school adult vocational program	23	1.2
Private vocational school program	18	0.9
University or four year college	192	9.7
Junior college	239	12.1
Post-secondary vocational-technical institute (Trade School)	96	4.8
Apprenticeship training program	8	0.4
Specialized occupational military training	9	0.4
Other[C]	99	5.0
TOTAL[D]	920	46.4

[A]One thousand one hundred twelve (56.1%) of the 1,981 terminees gave no indication of being involved in additional vocational training. Of the 1,981 terminees, 827 (41.7%) took part in one additional vocational training opportunity since leaving their high school program. Seventy-two (3.6%) took part in two and 21 (1.1%) terminees took part in three additional training opportunities.

[B]Percentages are based on the 1,981 (38.0%) respondents of the total 5,209 terminees who returned questionnaires.

[C]See page 58 for the "Other" listing as specified by the terminees.

[D]The total indicated the number of different training programs in which terminees enrolled. As footnoted above, several terminees had enrolled in more than one training program.

The following is a listing of the "Other" (Table 25) vocational education training terminees indicated they had participated in:

"Other" Vocational Training	Number
Business school	46
Part-time job	11
Technical school	10
College	7
High school	5
Licensed Practical Nurse	4
Sales	4
N.Y.C.	4
Volunteer work	3
Child care	2
Jewelry repair	1
G.E.D.	1
Sewing	1
Hotel management	1
Optical mechanics	1
Wood work	1
Rehabilitation	1

Table 26 points out the additional programs the 1973-74 secondary Business and Office Education terminees were presently attending beyond their high school training by whether these programs were related to their high school vocational program.

Of the 1,981 1973-74 secondary Business and Office Education terminees who responded to the survey, 82 (4.1%) were attending an on-the-job training program (employer-sponsored), 80 (4.0%) were attending a vocational technical institute, 301 (15.2%) were attending a junior college, 272 (13.7%) were attending a four year college or university, 13 (0.7%) were attending a public adult vocational program, 43 (2.2%) were attending private business or trade school, three (0.2%) were attending an apprenticeship program, and 71 (3.6%) were attending some other type of school or educational program. (See page 60 for the listing of the other types of schools or educational programs students were attending.)

Eight hundred sixty-five (43.7%) of the 1,981 Business and Office Education terminees were presently continuing their education. Three

hundred thirty-eight (17.1%) of the terminees were continuing their education in a program related to their high school vocational program. Four hundred four (20.4%) were attending a program in an area not related to their high school vocational program.

TABLE 26

PROGRAMS PRESENTLY ATTENDED BY THE 1973-74 SECONDARY BUSINESS AND OFFICE EDUCATION TERMINEES BY WHETHER THESE PROGRAMS WERE RELATED TO THEIR HIGH SCHOOL VOCATIONAL EDUCATION PROGRAM[A]

Programs Attended	Terminees		Program Related to High School VED Program					
			Yes		No		No Response	
	No.	%	No.	%	No.	%	No.	%
On-the-job training (employer-sponsored)	82	4.1	14	0.7	7	0.4	61	3.1
Vocational-technical institute (Trade School)	80	4.0	46	2.3	29	1.5	5	0.2
Junior college	301	15.2	119	6.0	165	8.3	17	0.8
Four year college or university	272	13.7	82	4.1	171	8.6	19	1.0
Public school adult vocational program	13	0.7	9	0.5	3	0.1	1	0.1
Private business or trade school	43	2.2	31	1.6	8	0.4	4	0.2
Apprenticeship Program	3	0.2	1	0.1	0	0.0	2	0.1
Other[B]	71	3.6	36	1.8	21	1.1	14	0.7
TOTAL	865	43.7	338	17.1	404	20.4	123	6.2

[A]All percentages were based on the 1,981 responding terminees.

[B]See page 60 for listing of "Other" schools or educational institutions terminees were attending.

The following is a listing of the "Other" category (Table 26) of additional programs the 1973-74 Business and Office Education terminees were attending:

"Other" School or Program	Number
Business school	33
High school	30
Nursing school	11
College	6
Working	4
Junior college	3
Trade school	2
Beauty Academy	1

Of the 1,981 responding terminees, 987 (49.8%) indicated they were not attending a school or program but would like to do so. The following is a list of the areas in which these terminees desired to study:

Area of Study	Number
Stenographic	189
Clerical	177
Accounting	158
Computer	114
Secretarial administration	50
Nursing	45
Not sure	45
Medical Secretary	26
Legal Secretary	23
Agribusiness related	21
Banking	10
Home Economics related	10
Electronics	9
Sales, advertising	9
Cosmetology	7
X-ray technician	7
Science	6
Psychology	5
English	5
Teaching	5
Physical Education	3
Real estate	3
Optometrist	2
Photography	2
Theater	2
Law enforcement	1

Seven hundred sixty-seven (38.7%) of the 1,981 responding terminees indicated they were not attending a school or program and did not desire to do so. Two hundred twenty-seven (11.5%) terminees did not respond to the question.

Table 27 illustrates the programs presently attended by the terminees by OE Code area studied by whether it related to their high school vocational program. No attempt was made to show the no responses to the data items; therefore, many of the totals do not correspond.

TABLE 27

PROGRAMS PRESENTLY ATTENDED BY THE 1973-74 SECONDARY BUSINESS AND OFFICE EDUCATION TERMINEES BY OE CODE AREA STUDIED BY WHETHER IT RELATED TO THEIR HIGH SCHOOL VOCATIONAL PROGRAM

OE Code	Occupational Title	TOTAL	Type School or Educational Program Presently Attending															
			On-the-Job Training		Voc. Tech. School		Junior College		4 Year College or Univ.		Public School Adult VED Program		Private Business or Trade School		Apprenticeship Program		Other	
		Presently Continuing Education	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related
14.0000	Office Occupations	5	0	0	2	0	0	0	2	0	0	0	1	0	0	0	0	0
14.0100	Accounting and Computing	73	1	1	6	4	15	18	8	12	1	0	2	1	0	2	2	0
14.0101	Accountants	5	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0
14.0102	Bookkeepers	16	0	0	1	3	5	5	1	0	0	0	0	0	0	0	1	0
14.0103	Cashiers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14.0200	Business Data Processing Systems	15	0	0	2	0	2	2	3	3	0	0	0	0	0	2	1	0
14.0201	Computer and Console Operators	9	0	0	1	0	2	1	0	4	0	1	0	0	0	0	0	0
14.0300	Filing, Office Machines and General Off Office Clerical	297	6	2	17	10	40	74	27	75	3	1	9	5	1	9	15	3
14.0301	Duplicating Machine Operator	20	2	1	4	0	2	3	3	5	0	0	0	0	0	0	0	0

(continued)

TABLE 27 (continued)

OE Code	Occupational Title	TOTAL	Type School or Educational Program Presently Attending															
			On-the-Job Training		Voc. Tech. School		Junior College		4 Year College or Univ.		Public School Adult VED Program		Private Business or Trade School		Apprenticeship Program		Other	
		Presently Continuing Education	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Realted	Related	Not Related	Related	Not Related
14.0302	File Clerks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14.0303	General Office Clerks	14	0	0	1	1	0	6	1	3	0	0	1	0	0	0	1	0
14.0399	Filing, Office Machines & General Office Clerical, Other	2	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0
14.0700	Stenographic, Secretarial, and Related	202	3	2	8	5	40	31	28	53	2	0	14	2	0	3	10	1
14.0701	Executive Secretary	14	0	1	0	1	1	2	1	4	0	1	1	0	0	0	2	0
14.0702	Secretaries	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
14.0703	Stenographers	2	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0
14.0800	Supervisory & Administrative Mgmt.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14.0900	Typing & Related	46	1	0	2	3	7	8	6	12	2	0	2	0	0	2	1	0
14.0901	Clerk-Typists	25	1	0	1	1	4	12	1	0	1	0	0	0	0	3	1	0
14.0902	Typists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
99.0105	Career Guidance	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

[A]Since some terminees did not respond to parts of the questions, totals will not correspond.

Job Placement Information

The following section of this report presents information concerning job placement of the 1973-74 secondary Business and Office Education terminees.

Table 28 points out whether the 1973-74 Business and Office Education terminees were seeking full-time employment when they left their high school vocational program and if their vocational teacher attempted to help them get a job.

TABLE 28

WHETHER VOCATIONAL TEACHER ATTEMPTED TO HELP 1973-74 BUSINESS AND OFFICE EDUCATION TERMINEES GET A JOB IF SEEKING FULL-TIME EMPLOYMENT UPON LEAVING THE HIGH SCHOOL VOCATIONAL PROGRAM[A]

Vocational Teacher Attempted To Get Terminee A Job	Number	Percent
Yes	427	43.9
No	546	56.1
TOTAL	973	100.0

[A]Nine hundred fifty-three (48.1%) of the responding terminees indicated they were not seeking full-time employment when they left their high school vocational program. Twenty-four (1.2%) of the terminees did not respond to the question.

Of the 973 responding 1973-74 Business and Office Education terminees indicating they were seeking full-time employment when they left their high school vocational program, 427 (43.9%) indicated that their vocational teacher attempted to help them get a job. However, 546 (56.1%) of the terminees seeking full-time employment indicated that their

vocational teacher did not attempt to help them secure employment. It was interesting to note that 953 (48.1%) of the reporting 1973-74 Business and Office Education terminees indicated that they were not seeking full-time employment when they left their high school vocational program.

Table 29 illustrates how long it took the 1973-74 Business and Office Education terminees to get their first full-time job after they left their high school vocational program and began actively seeking full-time employment.

TABLE 29

LENGTH OF TIME IT TOOK THE 1973-74 BUSINESS AND OFFICE EDUCATION TERMINEES TO SECURE FIRST FULL-TIME JOB AFTER LEAVING HIGH SCHOOL VOCATIONAL PROGRAM AND BEGINNING ACTIVELY SEEKING FULL-TIME EMPLOYMENT[A]

Time to Secure First Full-Time Job	Number	Percent
0 - 2 weeks	245	35.4
3 - 4 weeks	142	20.5
5 - 8 weeks	99	14.3
9 - 12 weeks	91	13.1
13 or more weeks	116	16.7
TOTAL	693	100.0

[A]Four hundred seven terminees indicated they already had a job when they left their high school vocational program.

Two hundred forty-five (35.4%) of the 693 secondary Business and Office Education terminees secured their first full-time job within two weeks after they left their high school vocational program and began actively seeking full-time employment. However, 116 (16.7%) of the

terminees took 13 or more weeks to secure their first full-time job. There were 407 terminees who indicated they already had a job when they left their high school vocational program.

Table 30 shows how the 1973-74 secondary Business and Office Education terminees indicated they got their first full-time job after leaving their high school vocational program.

TABLE 30

HOW THE 1973-74 BUSINESS AND OFFICE EDUCATION TERMINEES INDICATED THEY GOT THEIR FIRST FULL-TIME JOB AFTER LEAVING THEIR HIGH SCHOOL VOCATIONAL PROGRAM

How terminees Secured First Full-Time Job	Number	Percent
Through your vocational teacher	66	8.5
Through your counselor	7	0.9
Through other school teachers or administrators	20	2.6
Through a friend or relative	274	35.4
Through applications to business of industry	195	25.2
Through state (local) employment office	73	9.4
Through a private employment agency	24	3.1
Through radio, T.V., newspaper, or other news media	29	3.8
Other[A]	86	11.1
TOTAL	774	100.0

[A]See listing on page 67 for the "Other" ways terminees indicated they secured their first full-time job after leaving their high school vocational program.

Of the 774 1973-74 Business and Office Education terminees who responded to the survey item, 195 (25.2%) indicated they got their first full-time job after leaving their high school vocational program through applications to business and industry. Two hundred seventy-four (35.4%) of the terminees also indicated they got their first full-time job through

a friend or relative. These represented the two methods that the largest number of Business and Office Education terminees utilized to secure their first full-time job. Only 66 (8.5%) of the terminees indicated they secured their first job through their vocational teacher. Seven (0.9%) indicated that a counselor got them their first full-time job after leaving their vocational program. Those students who already had a job before leaving their high school vocational program were not shown in Table 30. (See Table 31, page 68)

Some of the 86 terminees who checked the "Other" category specified the means by how they secured their first full-time job after leaving their high school vocational program. The following list indicates the "Other" means the terminees indicated.

"Other" Means for Securing First Full-Time Job	Number
Civil Service	21
Myself	17
Part time; became full time	14
Not working full time	12
Friend, relative	9
School	6
Employment office	4
Employer	4
Neighborhood Youth Corps	2

Table 31 shows how the 1973-74 Business and Office Education terminees who were working while in high school taking their vocational program indicated they got that job.

Seven hundred ninety-seven (40.2%) of the 1,981 reporting 1973-74 Business and Office Education terminees indicated they were working during the time they were in high school taking their vocational program. Of those terminees working while in high school, 446 (56.0%) got their job through their vocational instructor, 197 (24.7%) through a friend

or relative, and 58 (7.3%) got jobs through applications to business and industry. These three means were the ways most of the terminees secured a job while they were still in high school taking their vocational program.

TABLE 31

HOW THE 1973-74 BUSINESS AND OFFICE EDUCATION TERMINEES WHO WERE WORKING WHILE IN HIGH SCHOOL TAKING THEIR VOCATIONAL PROGRAM INDICATED THEY GOT THAT JOB[A]

Who or What Helped Terminee Get Job	Number	Percent
Your vocational teacher	446	56.0
Your counselor	19	2.4
Other school teachers or administrators	17	2.1
Friend or relative	197	24.7
Applications to business or industry	58	7.3
State (local) employment office	9	1.1
Private employment agency	0	0.0
Radio, T.V., newspaper, or other news media	6	0.8
Other	45	5.6
TOTAL	797	100.0

[A]One thousand one hundred sixty-nine (59.0%) terminees indicated they had no job during the time they were in high school taking their vocational course.

Table 32 reveals the indications of the 1973-74 Business and Office Education terminees as whether, before taking their first job, they looked for employment within daily walking or driving distance of home by how their first job related to their vocational training.

Six hundred twenty-six (81.7%) of the 1973-74 Business and Office Education terminees who were employed in their first job indicated they sought employment within daily walking or driving distance of home. One hundred forty (18.3%) terminees indicated before taking their first job, they looked for a job beyond daily walking or driving distance of home.

TABLE 32

INDICATIONS OF 1973-74 BUSINESS AND OFFICE EDUCATION TERMINEES AS TO WHERE THEY LOOKED FOR THEIR FIRST JOB BEFORE TAKING ONE BY HOW THEIR FIRST JOB RELATED TO THEIR TRAINING[A]

Before Taking First Job, Where Terminees Looked for Job	Total Reporting		Total Reporting by Relatedness of First Job to Vocational Training					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Within daily walking or driving distance of home	626	81.7	163	80.3	231	82.2	232	82.3
Beyond daily walking or driving distance of home[B]	140	18.3	40	19.7	50	17.8	50	17.7
TOTAL	766	100.0	203	100.0	281	100.0	282	100.0

[A]Two hundred ninety-nine terminees indicated they already had their first job while in high school. Of those 299 terminees, 112 (37.5%) were working in a directly related area, 125 (41.8%) in a somewhat related area, while 62 (20.7%) were working in a non-related area.

[B]See listing, page 70, for reasons terminees gave for seeking their first job away from home.

Of the 203 terminees who were working in a directly related area, only 40 (19.7%) sought employment beyond daily walking or driving distance of home.

It is interesting to note that of the 282 terminees whose first jobs did not relate to their training, only 50 of those terminees sought employment beyond daily walking or driving distance of home.

Two hundred ninety-nine terminees indicated they had their first job while in high school. Of those 299 terminees, 112 (37.5%) were

working in a directly related area, 125 (41.8%) in a somewhat related area, and 62 (20.7%) were working in a non-related area.

The following is a listing of reasons terminees gave for seeking a job beyond daily walking or driving distance of their home before accepting their first job.

Reasons for Seeking Job Beyond Daily Walking or Driving Distance Before Accepting First Job	Number
No job near home	66
More choices	19
Money	16
To be on my own	12
Moved	5
Transportation	4
Did not look	3
Personal	3
Lack of training	2

Table 33 reveals the indications of the 1973-74 Business and Office Education terminees who were working in their first job not related to their training by whether or not they tried to get a job related to their training by where they looked for employment before accepting that first job.

It is important to note that of the 270 terminees who were working in a non-related first job, only 25 (9.3%) sought related employment beyond daily walking or driving distance of home before accepting their first job.

TABLE 33

INDICATIONS OF THE 1973-74 BUSINESS AND OFFICE EDUCATION TERMINEES WORKING IN FIRST JOB NOT RELATED TO THEIR TRAINING BY WHETHER OR NOT THEY TRIED TO GET A JOB RELATED TO THEIR TRAINING BY WHERE THEY LOOKED FOR EMPLOYMENT BEFORE ACCEPTING FIRST JOB[A]

Where Terminees Working in Non-Related Areas Looked for Employment Before Accepting First Job	Total Reporting		Before Accepting This First Job Unrelated to Training Whether Terminees Sought Job in Related Area			
			Yes		No[B]	
	No.	%	No.	%	No.	%
Sought employment within daily walking or driving distance of their home	225	83.3	142	85.0	83	80.6
Sought employment beyond daily walking or driving distance of their home	45	16.7	25	15.0	20	19.4
TOTAL	270	100.0	167	100.0	103	100.0

[A]Totals in this table may not correspond with totals of terminees for non-related categories in other tables for the following reasons: (1) some terminees had jobs when leaving program and did not have to seek employment and (2) some terminees failed to respond to one or more of the related questions from which data was drawn.

[B]See page 31 for the listing of reasons terminees who were working in non-related jobs gave for not trying to secure a job that was related to their training.

Table 34 illustrates the indications of the 1973-74 Business and Office Education terminees as to where they looked for a job before taking their present job by how their present job is related to their vocational training.

Five hundred ninety-nine (81.1%) of the presently employed 1973-74 Business and Office Education terminees indicated they sought employment

within daily walking or driving distance of home. One hundred forty (18.9%) terminees indicated they sought employment beyond daily walking or driving distance of home.

TABLE 34

INDICATIONS OF 1973-74 BUSINESS AND OFFICE EDUCATION TERMINEES AS TO WHERE THEY LOOKED FOR A JOB BEFORE TAKING THEIR PRESENT JOB BY HOW THEIR PRESENT JOB RELATED TO THEIR TRAINING[A]

Where Terminees Looked for Job Before Taking Present Job	Total Reporting		Total Reporting by Relatedness of Present Job to Vocational Training					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Within daily walking or driving distance of home	599	81.1	166	78.7	234	84.5	199	79.3
Beyond daily walking or driving distance of home[B]	140	18.9	45	21.3	43	15.5	52	20.7
TOTAL	739	100.0	211	100.0	277	100.0	251	100.0

[A]Two hundred sixty-four terminees reported they already had their present job while in high school. Of those 264 terminees, 96 (36.4%) were in a directly related area, 120 (45.5%) in a somewhat related area, while 48 (18.1%) were working in a non-related area.

[B]See listing, page 73, for reasons terminees gave for seeking their present job away from home.

Of the 211 terminees who were working in a directly related area, only 45 (21.3%) sought employment beyond daily walking or driving distance of home.

Of the 251 terminees who were presently working in a non-related area, only 52 (20.7%) sought employment beyond daily walking or driving distance of his home.

Two hundred sixty-four terminees reported they already had their present job while in high school. Of those 264 terminees, 96 (36.4%) were in directly related areas, 120 (45.5%) in somewhat related areas, and 48 (18.1%) were in non-related areas.

The following is a list of reasons terminees gave for seeking a job beyond daily walking or driving distance of their home before accepting their present job. Of the 140 terminees who indicated they sought a job beyond daily walking or driving distance of home before accepting their present job, 110 gave reasons why they sought that job.

Reasons for Seeking Job Beyond Daily Walking or Driving Distance Before Accepting Present Job	Number
No job near home	56
More choices	16
To be on my own	12
Money	9
Moved	5
Transportation	4
Did not look	3
Personal	3
Lack of training	2

Table 35 reveals the indications of the 1973-74 Business and Office Education terminees who were working in their present job not related to their training by whether or not they tried to get a job related to their

training by where they looked for employment before accepting that present job.

TABLE 35

INDICATIONS OF THE 1973-74 BUSINESS AND OFFICE EDUCATION TERMINEES WORKING IN PRESENT JOB NOT RELATED TO THEIR TRAINING BY WHETHER OR NOT THEY TRIED TO GET A JOB RELATED TO THEIR TRAINING BY WHERE THEY LOOKED FOR EMPLOYMENT BEFORE ACCEPTING PRESENT JOB[A]

Before Accepting Present Job Where Terminees Working in Non-Related Areas Looked for Employment	Total Reporting		Before Accepting This Present Job Unrelated To Training Whether or Not Terminees Sought Job in Related Area			
			Yes		No[B]	
	No.	%	No.	%	No.	%
Sought employment within daily walking or driving distance of their home	195	79.9	125	79.1	70	81.4
Sought employment beyond daily walking or driving distance of their home	49	20.1	33	20.9	16	18.6
TOTAL	244	100.0	158	100.0	86	100.0

[A]Totals in this table may not correspond with totals of terminees for non-related categories in other tables for the following reasons: (1) some terminees had jobs when leaving programs and did not have to seek employment and (2) some terminees failed to respond to one or more of the related questions from which data was drawn.

[B]See page 44 for the listing of reasons terminees who were working in non-related jobs gave for not trying to secure a job that was related to their training.

Only 33 (13.5%) of the 244 terminees who were working in a non-related area sought related employment beyond daily walking or driving distance of home before accepting their present job.

APPENDIX

PRESENT JOB AND FIRST JOB TITLES OF THE 1973-74
BUSINESS AND OFFICE EDUCATION TERMINEES

PRESENT JOB AND FIRST JOB TITLES OF THE 1973-74 BUSINESS AND OFFICE EDUCATION TERMINEES

For those terminees who indicated present or first job occupations, this appendix lists the present job title and first job title by their high school vocational training area (OE Codes). The job titles are listed as the terminees reported them. The number of full-time jobs held by these terminees since completing their high school vocational course is listed, current employment status is listed, and whether the student intended to get a job in the area while in the program.

The following code is used to identify the employment status of the terminees:

0. Unemployed, but seeking employment
1. Employed full time
2. Employed part time, seeking full-time job
3. Employed part time, not seeking full-time job
4. Employed full time and attending school
5. Employed part time and attending school
6. Unavailable for employment

The following code is used to identify whether the student intended to get a job in the area while in the program:

1. No
2. Was not sure
3. Yes

The number in parenthesis behind the job titles indicates the relatedness of the high school vocational training to these jobs. The terminees

made the judgment as to the relatedness of their training to these jobs. The following is used to identify this relatedness.

1. Directly related
2. Somewhat related
3. Not related

The total in each occupational title area may not correspond to the total in each OE Code as listed in Table 23. Some of the terminees failed to indicate the title of their present position. If the first job title was the same as the present job title, the first job title is included under the present job title.

OE Code 14.0000 - Office Occupations

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
1	3	1	2	Assist. Clerk(2)	Secretary/ Receptionist (3)
2	1	1	1	Typist (1)	
3	6	1	2		Typist (2)
4	3	0	2	Grocery Clerk(3)	
5	1	1	3	Secretary (2)	Typist (1)
6	1	1	3	Secretary (1)	Office Aid (2)
7	6	1	3	Clerical Assistant (1)	
8	1	1	3	Bookkeeper (3)	File Clerk (2)
9	0	1	2	Waitress (3)	
10	6	1	3	Secretary (1)	Secretary (2)
11	1	2	3	Bookkeeper (1)	Payroll Clerk(2)
12	0	2	3	Office Girl(2)	Shirt Factory(3)
13	1	1	3	Receptionist-Secretary(1)	Secretary (1)

OE Code 14.0100 - Accounting and Computing

1	5	0	3	Dental Assistant (3)	
2	1	1	2	Payroll Billing Clerk (1)	Payroll Billing Clerk (2)
3	0	0	3	Tape Librarian (1)	Tape Librarian (3)
4	2	1	3	Keypunch Operator (1)	Typist (1)
5	4	1	2	Typist Clerk(2)	Receptionist(3)
6	1	1	3	Clerk (2)	
7	1	2	3	Assistant Sales Manager (1)	Carpet Cutter (3)
8	1	1	3	Cashier (3)	
9	1	1	2	Secretary (1)	
10	1	2	3	Clerk (1)	Typist (2)
11	4	1	2	Clerk (2)	
12	0	1	2	General Office (1)	
13	5	0	2	Student Library (3)	
14	1	1	1	Seamer (3)	
15	1	2	3	Secretary (1)	Hospital Admitting (1)

(continued)

OE Code 14.0100 - Accounting and Computing (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
16	1	2	3	Waitress (2)	Answering Service Operator (3)
17	1	1	3	General Clerical (1)	
18	1	1	2	Collection Clerk (2)	
19	1	1	3	Service Assistant (1)	
20	1	1	3	Waitress (3)	Waitress (3)
21	1	3	3	Waitress (3)	Waitress (3)
22	1	2	3	Bookkeeper (1)	Waitress (3)
23	0	1	3	Day Care (1)	
24	5	1	3	Accountant (1)	
25	1	2	3	Waitress (3)	Seamstress (3)
26	6	0	3	Assistant Secretary(2)	
27	1	2	3	Pecan Grader(3)	Cashier(3)
28	0	1	3	Substitute Teacher (1)	Cashier (3)
29	0	1	3	Cashier (1)	Bookkeeper (2)
30	1	1	3	Typist (1)	
31	5	0	3	Cashier (3)	
32	1	1	3	Plant Worker(3)	
33	1	2	3	Plumber (3)	Shop Foreman(2)
34	0	2	2	Sewing (3)	Spinning (3)
35	2	0	1	Insurance Clerk (2)	
36	4	1	1	Farm Manager(2)	
37	4	1	2	Cashier/Checker (3)	Sales Clerk (3)
38	0	1	3	Cement Mason Helper (2)	
39	1	2	3	Waitress/ Cashier (2)	Babysitter (3)
40	1	2	3	Typist (3)	Clerk (3)
41	1	1	3	Spinner (3)	
42	0	1	2	Clothing Inspector	
43	0	1	3	File Clerk (2)	
44	1	2	2	Garment Worker (3)	Pinner (3)
45	6	2	2	Spinner (1)	Stamper (3)
46	4	0	1	Lifeguard (3)	
47	5	0	[illegible]	Cleaning Lady (3)	

(continued)

OE Code 14.0100 - Accounting and Computing (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
48	5	0	2	Bookkeeper (2)	Florist's Assistant (2)
49	4	1	2	Bookkeeper (2)	
50	5	0	3	Secretary (1)	
51	1	1	2	Clerk-Typist(2)	
52	5	1	2	Library Assistant (3)	Office Assistant (1)
53	1	1	2	Public Health Secretary(1)	
54	4	1	2	PBX Operator (2)	
55	6	1	2	Clerk-Typist(1)	
56	2	1	2	Bookkeeper (2)	
57	1	1	2	General Office (2)	
58	1	1	3	Bookkeeper (1)	
59	5	0	3	Clerk-Typist(1)	
60	1	1	3	Child Care (2)	Child Care (2)
61	3	0	2	Cashier (3)	Cashier (3)
62	1	1	3	Office Clerk(2)	File Clerk (2)
63	1	1	2	Commercial Clerk (1)	
64	5	0	3	Computer Operator (3)	
65	6	1	2	Receptionist(2)	Payroll Clerk(1)
66	5	1	3	Store Clerk (2)	Service Station Attendant (3)
67	5	0	1	Sales Clerk (3)	
68	1	2	2	Dental Assistant (2)	Secretary (1)
69	1	1	1	Bookkeeper (1)	
70	1	1	2	Machine Operator (3)	
71	0	1	2	Bull Block Helper (1)	
72	1	1	1	Factory Worker (1)	Farmer's Helper (2)
73	1	1	2	City Clerk (3)	
74	1	0	3	Teller (2)	Window Girl (2)
75	2	0	2	Receptionist; General Office (3)	
76	4	1	2	Plant Clerk (2)	
77	1	1	3	Vet's Assistant (1)	
78	1	1	2	Shirt Factory Bundle Boy(3)	Janitor (3)

(continued)

OE Code 14.0100 - Accounting and Computing (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
79	4	2	2	Tape Player Installer (3)	Furniture Sales (3)
80	1	1	3	Credit Bureau Checker (2)	
81	1	1	2	Payroll & Insurance Clerk (1)	Secretary (1)
82	1	1	3		Teacher's Aide (2)
83	5	0	2	Library Assistant (2)	Clerical Worker (2)
84	6	1	3	General Office (1)	
85	2	0	3	General Office (2)	
86	2	1	3	Seamstress (3)	PBX Operator (1)
87	4	1	3	Bookkeeper (2)	Bookkeeper (2)
88	1	2	2	Salesman (3)	Tour Guide (3)
89	4	1	1	Bookkeeper (1)	
90	5	0	1	Saleslady (3)	Cashier & Clerk (3)
91	1	2	3	Bookkeeper-Clerk (1)	
92	0	1	3	Clerk (3)	
93	0	0	3	Maintenance Cook (3)	
94	3	0	2	Saleslady (2)	Saleslady (2)
95	1	1	3	Reel Tender (3)	
96	1	1	3	Inspector (3)	
97	5	0	1	Clerical (2)	
98	1	1	2	Cashier (2)	
99	1	1	3	Payroll Clerk (1)	Bookkeeper (2)
100	5	1	2	Bank Currier (2)	
101	2	1	2	Claims Clerk (2)	Sales Clerk (3)
102	1	2	2	Apprentice Coremaker (3)	Clerk (1)
103	0	1	3	Appraisal Clerk (1)	Bank Teller (1)
104	5	0	3	Bill Collector (1)	Sewer (2)
105	1	1	3	Tie & Assembly Hand (3)	Tie & Assembly Hand (3)
106	4	1	2	Dept. Store Manager (3)	
107	1	1	2	Bookkeeper (2)	

(continued)

OE Code 14.0100 - Accounting and Computing (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
108	0	1	2	Babysitter (3)	
109	1	0	3	Bookkeeper (1)	
110	6	1	2	Bookkeeper (1)	Cashier (3)

OE Code 14.0101 - Accountants

1	0	1	3	Waitress (3)	
2	4	2	3	Posting Clerk (2)	Office Clerk (2)
3	2	1	2	Secretary (1)	Cashier (2)
4	1	1	2	Assembler (3)	
5	1	1	3	Clerk-Typist (2)	General Clerk (1)
6	1	2	3	Stenographer(1)	
7	1	1	3	Clerk-Typist(1)	
8	4	2	3	Secretary (1)	Secretary/ Bookkeeper(1)
9	4	1	2	Student Clerical (3)	General Accounting (1)
10	1	1	3	Accountant-Typist (1)	
11	5	1	3	Nursing (3)	Windowpane Cutter (3)

OE Code 14.0102 - Bookkeepers

1	0	0	3	Insurance Clerk (1)	
2	4	1	3	General Clerk (3)	
3	4	1	3	Florist	Clerk (3)
4	4	1	3	Customer Service	Personnel Office (1)
5	5	2	3	Truck Driver (2)	
6	1	1	3	Timber Worker (1)	
7	1	2	3	Body Repairman (2)	Body Repairman (1)
8	0	0	2	General Office Clerk (1)	

(continued)

OE Code 14.0102 - Bookkeepers (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
9	5	1	2	Machinist (3)	Sink Worker (3)
10	4	1	2	Warehouse Manager (2)	Laborer (2)
11	5	1	1	Stock Clerk(2)	
12	1	1	3	Switchboard Operator (2)	
13	2	0	2	Nurse's Aide (1)	
14	0	1	3		Secretary (1)
15	0	1	3	Typist, General Office (2)	Typist, Bookkeeper (2)
16	1	1	3	Secretary (1)	
17	1	1	3	Shoe Store Clerical (2)	Secretary (2)
18	1	1	3	Button Maker(3)	
19	5	0	3	Junior Accountant (1)	
20	1	1	3	Uniform Floor Supervisor(3)	Assistant Secretary (1)

OE Code 14.0200 - Business Data Processing Systems

1	0	1	3		Entry Level Worker (3)
2	4	2	2	Warehouse (3)	
3	1	1	1	Keypunch Operator (1)	
4	1	1	2	Receiving Clerk (3)	Cashier & Counter Girl (3)
5	5	0	2	Salesgirl (3)	
6	1	1	3	Janitor (3)	Busboy (3)
7	5	2	3	Keypunch Operator (2)	Keypunch Operator (2)
8	1	2	3	Statistical Clerk (2)	Keypunch Operator (2)
9	4	1	3	Computer Operator (2)	
10	2	2	1	Keypunch Operator (2)	
11	5	1	2	Card Punch Operator(2)	
12	1	2	3	Sewing Machine Operator (3)	Deed Searcher (2)
13	1	1	2	Salesman (2)	Salesman (2)

(continued)

OE Code 14.0200 - Business Data Processing Systems (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
14	0	1	2	Salesman (1)	Salesman (3)
15	1	1	3	Sewing Machine Operator (3)	
16	1	2	3	Clerk (1)	Seamstress (3)
17	1	1	2	Yarn Spinner(3)	Salesgirl (1)
18	6	1	3	Electronics Specialist(1)	Desk Clerk (3)
19	1	2	3	Clerk (3)	Floor Worker (3)
20	5	1	2	Workman (3)	
21	1	1	2	Assembly Line (3)	

OE Code 14.0201 - Computer & Console Operators

1	1	2	3	Landscaper (3)	Carpenter's Assistant (3)
2	1	1	3	Child Care (3)	
3	1	1	3	Keypuncher (1)	Data Processing Trainee (1)
4	1	1	3	Secretary and Proofreader (3)	
5	6	1	3	Sorter (3)	
6	1	2	3	Computer Operator (1)	

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1	6	1	2	Cashier (1)	
2	6	1	3	Cashier (2)	Student (3)
3	0	1	2	Waitress (3)	
4	6	1	3	Teller (1)	Teller (1)
5	4	1	2	File Clerk (2)	
6	6	1	2	Typist (2)	
7	1	1	3	Credit Checker (2)	
8	3	1	3	Typist (1)	File Clerk (1)
9	4	1	2	Keypunch Operator (2)	Keypunch Operator (2)
10	1	1	2	Telephone Operator (2)	Office Worker (2)

(continued)

OE Code 14.0300 - Filing, Office Machines, and General Office Clerical (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
11	1	1	2	Clerk (2)	
12	6	1	3	File Clerk (1)	
13	1	0	3	Receptionist(2)	
14	1	2	2	Clerk-Typist(2)	Auto-Typist (2)
15	1	2	3	Clerk-Typist(2)	Typist (2)
16	1	2	3	Typist (2)	Typist (2)
17	1	1	3	Secretary (2)	
18	6	0	1	Sales Clerk (3)	
19	1	1	3	Typist (2)	
20	5	0	3	Sales Clerk (2)	File Clerk (2)
21	1	1	3	PBX Reception-ist (2)	Clerk-Typist (2)
22	6	1	2	Unit Clerk (1)	
23	0	0	3		Cashier
24	6	0	3	Bus Girl (3)	
25	0	1	1		Auditor, Switch-board Operator (2)
26	5	0	1	Asst. Produce Manager (3)	Clerk (3)
27	4	1	2	File Clerk (1)	Cashier (1)
28	4	1	1	General Help(3)	
29	5	0	3	Secretary (1)	
30	6	1	3	Asst. Payroll Clerk (1)	
31	5	1	2	Student Assis-tant (1)	Secretary (1)
32	1	1	2	Insurance Clerk (2)	Filer (1)
33	4	1	2	Ward Clerk (3)	
34	1	2	3	Bookkeeper (3)	Purchasing Clerk (1)
35	5	0	3	Salesgirl (3)	
36	1	1	3	General Office Clerk (1)	General Office (1)
37	0	1	3		Typist (1)
38	1	1	3	Bank Wirer (2)	
39	0	1	3	Clerk (2)	
40	6	1	2	Key Puncher(2)	
41	3	0	3	Secretary (1)	
42	6	1	1	Mail Editor (1)	
43	1	1	2	Records Clerk (2)	Clerk/Cashier (3)
44	4	2	2	Machine Opera-tor (2)	Laborer (2)
45	1	1	3	Administrative Service (1)	Beautician (2)

(continued)

OE Code 14.0300 - Filing, Office Machines and General Office Clerical (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
46	1	1	3	Key-Disc Operator (2)	Billing Clerk(2)
47	1	1	3	Receptionist-Typist (2)	
48	1	1	3	Cashier (2)	
49	4	1	3	Clerk-Typist I (2)	Record Clerk (2)
50	1	1	2	Dental Assistant (3)	Typist (2)
51	1	1	3	Bookkeeper (2)	Secretary (2)
52	0	1	3	Janitor (3)	
53	3	3	2	Cook (3)	
54	1	3	3	Assistant Manager (2)	Cashier/Saleslady (2)
55	5	0	1	Typist (1)	Typist (1)
56	6	1	3		Cashier (3)
57	1	1	3	Worked in bank (typing, ect.) (1)	Cashier/ Sales Clerk (3)
58	1	1	2	Policy Typist (1)	Clerk/Typist (1)
59	1	2	3	Post-File Clerk (1)	Lay-A-Way; Credit Desk Clerk (3)
60	1	1	2	Open Mail (2)	
61	1	1	3	File Clerk (2)	File Clerk (2)
62	1	2	3	Secretary (2)	Bookkeeper (2)
63	3	0	3	Clerk-Typist(1)	
64	1	1	3	Secretary/Purchasing Asst. (1)	
65	5	1	2	Cashier Clerk (3)	Clerk/Typist(1)
66	1	1	3	Cashier (3)	Office Worker(2)
67	1	1	3	Clerk (1)	
68	1	1	2	Clerk (2)	
69	1	1	3	Office Bookkeeping (1)	Office Bookkeeping (3)
70	5	1	3	Aide to Sec. (2)	Clerk (2)
71	2	1	3	Waitress (3)	
72	0	0	2		Stocker
73	5	0	1	Swim Instructor (3)	
74	0	0	3		Help in Production of Products (3)

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OE Code 14.0300 - Filing, Office Machines and General Office Clerical (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
75	5	1	1	Helper (Stock Room) (2)	Trainee (2)
76	6	1	2	File Clerk/ Typist (2)	
77	6	1	1	Summer Aide(2)	
78	6	1	3	File Clerk (2)	
79	1	1	3	Data Entry Clerk (1)	
80	6	2	3	Fountain Clerk (3)	
81	1	1	3	Billing Clerk (1)	
82	2	0	3	Waitress (3)	Waitress (3)
83	1	1	3	Clerk-Typist (1)	Clerk-Typist (1)
84	1	2	3	Clerk (2)	Part-Time Clerk (2)
85	5	2	3	Teacher Aide (3)	Keypunch Operator (2)
86	1	1	3	General Office (1)	
87	1	1	3	Secretary (1)	
88	1	2	3	Secretary (2)	Student Aide(2)
89	1	1	3	Accountant(2)	
90	1	1	3	Clerk (1)	
91	5	3	3	Bookkeeper (2)	Service Assistant (1)
92	0	0	3	Clerk (3)	
93	1	1	3	Keypunch Operator (2)	
94	5	0	3	General Office (1)	
95	1	2	3	Typist (2)	Secretary (1)
96	1	0	3	Typist (1)	
97	1	1	2	Hydraulic Repairman (3)	Deck Hand (3)
98	1	0	2	Store Clerk(2)	Office Clerk (1)
99	5	0	1	Child Care (2)	
100	0	0	3	Typist/Receptionist (1)	
101	4	1	3	Cashier (2)	
102	1	1	2	Sales Clerk (1)	
103	1	1	3	Secretary (2)	
104	1	1	3	Customer Service (2)	
105	1	1	3	Change Clerk(3)	
106	6	0	3	Cashier (3)	(continued)

OE Code 14.0300 - Filing, Office Machines and General Office Clerical (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
107	1	3	3		Secretary (2)
108	1	1	3	Secretary (1)	
109	5	0	3	General Clerk (1)	
110	1	2	3	Cashier (2)	Typist (1)
111	0	2	3		Cashier, Sales (3)
112	5	2	1	Saleslady (3)	Waitress (3)
113	1	2	3	Steno Clerk(1)	Receptionist(1)
114	1	1	3	Salesman (2)	
115	6	1	3	Receptionist(1)	
116	5	0	3	Gift Wrapper(3)	Gift Wrapper (3)
117	1	2	2	Clerk-Typist(1)	Clerk-Typist (1)
118	1	2	3	Secretary, Bookkeeper(1)	Cashier (3)
119	1	2	3	Banking (2)	Auto Cars (2)
120	0	1	2		Cashier (3)
121	3	1	1	Cashier (1)	
122	5	0	3	Office Aide(1)	
123	1	1	1	Audit Clerk(3)	
124	3	0	3		Maid (3)
125	1	1	3	Checker/Cashier (1)	Waitress/Cashier (1)
126	0	1	2	Clerk (1)	
127	1	0	2	Dishwasher/ Waitress(1)	
128	2	0	3	Receptionist(1)	Cashier (3)
129	1	1	3	Clerk (1)	
130	1	1	3	Cashier (2)	
131	4	0	2	Student Technician (2)	
132	1	1	2	Medical Stenographer (2)	
133	5	0	3	Secretary (2)	
134	1	1	3	Secretary (2)	
135	1	1	2	Computer Operator (2)	
136	2	0	2	Cashier (2)	
137	1	1	2	Clerk (2)	
138	1	1	3	Record & Proof Operator (2)	Took Inventory (3)
139	2	1	3	Bookkeeper (2)	Cashier (3)
140	1	2	2	EKG Tech. (2)	Waitress (3)
141	4	0	2	Volunteer (1)	Volunteer (3)
142	5	0	2	Clerk (3)	Clerk (3)
143	1	1	3	Clerk (1)	Clerk (1)
144	5	0	2	Catolog Sales (2)	

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OE Code 14.0300 - Filing, Office Machines and General Office Clerical (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
145	0	1	3	Cashier (3)	Teacher Aide (3)
146	1	2	2	Delivery (3)	
147	6	0	2		Inventory (2)
148	1	1	3	X-Ray Orderly (3)	
149	6	0	3	Clerk-Typist(2)	
150	1	2	2	Dental Assistant (2)	
151	3	0	3	Doctor Assistant (2)	
152	1	1	3	Clerk-Typist(1)	
153	4	1	1	Bookkeeper (3)	
154	1	0	2	Secretary, Receptionist (2)	Assistant Bookkeeper (2)
155	0	1	2	Receptionist(2)	
156	1	1	3	Service Control (2)	Customer Service (2)
157	0	0	3	Clerk-Typist(1)	
158	1	2	3	Waitress (3)	Counter Girl (3)
159	1	1	1	Dental Assistant (2)	Receptionist (2)
160	1	5	2	Waitress (3)	Cashier (3)
161	6	1	3	Secretary (2)	
162	1	1	2	Clerk (1)	
163	2	0	2	Music Secretary (2)	
164	0	1	1	Typist (1)	
165	5	0	1	Custodian (3)	
166	1	2	3	Secretary (1)	Sales (3)
167	1	2	2	Receptionist(2)	
168	1	1	3	Secretary/ Receptionist (2)	
169	1	1	3	Sewing (3)	
170	2	2	3	Burger King drinkman (3)	Sales Clerk (3)
171	1	1	3	Cashier, Bookkeeper (1)	
172	1	1	1	Waitress (3)	Waitress (3)
173	1	1	3	Clerk (2)	
174	0	1	2		Clerk/Cashier (3)
175	1	1	2	Inventory Clerk (1)	

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OE Code 14.0300 - Filing, Office Machines and General Office Clerical (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
176	0	2	2	Teacher (1)	Clerk (2)
177	0	1	2		Salad Maker (3)
178	1	1	2		Restaurant Worker (2)
179	1	1	1	Inventory (3)	General Office (3)
180	6	0	3		Secretary (1)
181	0	1	3		Secretary (2)
182	1	1	3	Cosmetologist (3)	
183	6	1	2		Machine Operator (3)
184	5	1	3	Secretary (1)	
185	5	0	3	File Clerk (1)	Receptionist(2)
186	6	2	3	Claims Clerk (1)	Assistant Secretary (3)
187	1	1	3	Secretary (1)	
188	5	0	3	Bus Girl (3)	
189	1	0	2	Invoice Clerk (2)	Clerk (2)
190	1	2	3	Map Clerk (1)	
191	1	1	2	Clerk-Typist(2)	
192	4	1	3	Mail Clerk (2)	
193	6	0	2		Salesgirl (3)
194	1	1	3	Secretary (2)	
195	1	1	3	Poster (2)	Poster (2)
196	0	1	3	Assistant Computer Programmer (2)	
197	1	0	3	Bookkeeper (1)	
198	1	1	3	Secretary (1)	
199	1	1	2	Assistant Secretary (1)	Assistant Secretary (1)
200	1	3	3	Examiner (3)	Consumer Credit (1)
201	0	1	2		Washing Dishes (3)
202	5	0	3	Grocery Boy(3)	
203	0	1	3	Chicken Cutter (3)	
204	1	0	3	Assembly Worker (3)	
205	1	1	3	Laborer (3)	Laborer (3)
206	0	1	2	Chicken Hanger (1)	
207	2	0	3	Bookkeeper (1)	
208	0	1	3	Waitress (3)	Waitress (3)
209	1	1	3	Cashier (1)	Cashier (1)

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OE Code 14.0300 - Filing, Office Machines and General Office Clerical (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
210	1	1	3	Sales Clerk (3)	Secretary (3)
211	1	4	3	Waitress (3)	Dental Assistant (3)
212	6	1	3	Secretary (1)	Secretary (1)
213	1	1	3	Clerk-Typist(1)	
214	6	1	3	Typist (1)	
215	3	0	2	Sales Clerk (3)	
216	0	1	3	Secretary (1)	Secretary (1)
217	1	2	3	Clerk-Typist(2)	Bookkeeper (2)
218	1	1	3	Medical Secretary (2)	
219	1	1	3	Shirt Folder(3)	Clerk (2)
220	1	1	3	Secretary (1)	
221	6	0	3	General Office (1)	Counter Girl
222	1	1	2	Telephone Operator (3)	Typist (2)
223	3	1	2	Clerk-Typist(2)	
224	4	1	2	Bookkeeper (2)	
225	5	0	3	Secretary Aide (1)	
226	1	1	3	Doctor Assistant (2)	
227	1	1	2	Waitress (3)	
228	1	1	3	Sewer (3)	
229	1	1	2	Sales Clerk (2)	
230	4	2	3	Sales Person(2)	Sales Person(3)
231	1	1	0	Service Dept. John Deere (1)	Cashier (3)
232	1	2	3	Sewer Mfg. (3)	Waitress (3)
233	0	0	3	Sales Clerk (3)	
234	1	1	3	Grill Waiter(2)	
235	1	1	3	Seamstress (3)	
236	2	0	3	Cashier (3)	Salesgirl (3)
237	4	1	3	Secretary/Sales (2)	Secretary/Receptionist (2)
238	4	1	2	Make-up Demonstrator (3)	
239	5	2	2	Secretary (1)	Secretary (1)
240	1	2	3	Medical Transcriber (2)	Receptionist (2)
241	5	0	3	Secretary (1)	Legal Secretary (1)
242	1	1	3	Quality Control Inspector (3)	
243	0	2	3	Binding Dept.(3)	

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OE Code 14.0300 - Filing, Office Machines and General Office Clerical (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
244	1	1	2	Floor Girl (3)	
245	1	1	3	Sander (3)	Secretary (1)
246	1	1	3	Machine Operator (3)	Doorman/Usher (3)
247	5	0	1	Cashier/Cook(3)	
248	5	0	2	Sales Clerk (3)	
249	0	1	3	Seamstress (3)	
250	1	1	3	Secretary/Bookkeeper (1)	
251	0	1	2	Delivery Boy(2)	Bus Boy (3)
252	1	1	2	Salesman (3)	
253	1	1	2	Cook (3)	Cook (3)
254	5	1	1	Nurse's Aide(1)	
255	1	1	3	Nurse's Aide(3)	
256	0	1	3	Cook (3)	
257	6	1	3	General Office Clerk (1)	
258	1	1	3	Stock Clerk (3)	Secretary (1)
259	0	0	3		Waitress
260	4	1	1	General Office	Stock Clerk(3)
261	1	1	3	Sales Clerk (3)	Cashier (3)
262	1	1	3	Proof Machine Operator (1)	Proof Machine Operator (1)
263	0	1	3	Clerk-Typist(1)	
264	2	0	3	Cashier (3)	
265	1	2	3	Branch Clerk/ Asst. Cashier (1)	Quality Control Clerk (2)
266	1	1	2	Seamstress (3)	General Clerk(3)
267	0	1	2	Weighed Cucumber (1)	
268	0	1	2	Waitress (3)	
269	4	1	2	Hostess, Cashier (3)	Cashier (3)
270	0	1	3		General Clerk(1)
271	1	3	3	Waitress (3)	Secretary (1)
272	0	0	3	Office, General (1)	Office, General (1)
273	4	1	3	Pharmacy Asst. (2)	
274	1	1	1	Bookkeeper (2)	
275	4	1	1	Office Clerk (2)	
276	4	1	3	Process Loans(1)	Cashier (1)
277	4	1	2	Asst. Manager(3)	
278	1	1	2	Production Machine Operator (3)	T.V. Delivery (3)

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OE Code 14.0300 - Filing, Office Machines and General Office Clerical (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
279	1	1	3	Sewing (3)	Sales Clerk (2)
280	6	1	2		Secretary (2)
281	1	2	2	Pipe Guager(3)	
282	1	1	3	File Clerk (2)	Furniture Sales
283	1	1	2	Cutting Garmet (3)	
284	1	2	3	Clerk (1)	Cashier (1)
285	5	0	3	Secretary (1)	Sales Clerk(3)
286	1	1	3	Cashier (2)	
287	1	1	3	Office Clerk(1)	Insurance Clerk (1)
288	1	1	3	Secretary (1)	
289	1	2	3	Man's Wear (Owner) (2)	
290	5	1	2	Cosmetology (3)	
291	1	1	1	Cloth Spreader (3)	Grocery Clerk (3)
292	1	1	2	Sews on Buttons (3)	
293	5	0	1	Farm Laborer(3)	
294	1	1	1	Cashier (2)	
295	5	0	2	Meat Market (3)	
296	0	2	3	General Office	
297	6	1	1	General Bagger (3)	
298	6	1	3	Seamstress (3)	
299	0	1	2	Sheet Inspector (1)	
300	5	0	2	Cashier (3)	
301	1	2	0	Typist (2)	Secretary (1)
302	5	1	3	Clerk-Typist(1)	
303	1	1	3	Sewing Machine Operator (3)	Salad Girl (3)
304	1	2	3	Gift Orders (2)	Product Tester(2)
305	4	1	3	Clerk (3)	
306	4	1	3	Keypunch (2)	Keypunch (2)
307	1	2	3	Secretary (1)	Secretary (3)
308	1	1	3	Service Clerk (2)	
309	1	1	2	Cashier (3)	
310	1	1	2	War house Man (1)	
311	5	1	2	Spreader (3)	Cashier (3)
312	5	0	2	Cashier (3)	Cashier (3)
313	1	1	2	Beautician(2)	
314	1	1	3	Secretary (1)	Label Girl (3)
315	1	2	2	Restaurant Helper (3)	Sales Worker (2)

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OE Code 14.0300 - Filing, Office Machines and General Office Clerical (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
316	1	1	3	File Clerk (1)	File Clerk (2)
317	4	1	3	Proof Operator	Proof Operator(3)
318	5	1	3	Cashier (3)	Office Clerk (1)
319	0	1	3		Medical Secretary (1)
320	5	0	3	General Office Clerk (2)	Sales (3)
321	5	0	3	Office Assistant (1)	
322	1	1	3	Clerk-Typist(1)	General Office Clerk (1)
323	2	0	3	Waitress (3)	Secretary (2)
324	1	1	3	Receptionist, Secretary (1)	
325	1	1	3	Cashier (2)	
326	4	1	3	Admitting Clerk (1)	
327	1	1	1	Window Worker (2)	Waitress (2)
328	1	2	2	Millwright Helper (2)	Laborer (3)
329	5	0	2	Bus Driver (2)	
330	1	1	3	Cashier/Payroll Clerk (1)	
331	1	1	3	Bookkeeper/ Cashier (1)	
332	1	1	3	Office Clerk(2)	
333	0	1	2	Clerk (1)	
334	5	0	2	Student Clerk (2)	
335	3	0	3	Advertising (3)	
336	1	1	3	Encoding Clerk (2)	
337	5	1	3	Office Help (1)	
338	1	1	3	Cashier (2)	
339	5	0	3	Clerk-Typist(1)	
340	1	1	2	Public Information Specialist (1)	Microfilm Reproducer (2)
341	1	1	3	EKG Tech. (3)	Secretary (1)
342	6	0	2	Secretarial Aide (2)	
343	5	0	3	Secretary (2)	Clerk-Typist(1)
344	1	1	3	EKG Tech. (2)	Sales Clerk (2)
345	1	1	3	Clerk-Typist(2)	
346	1	1	3	Printed Card Assembler (3)	Sales Clerk (2)

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OE Code 14.0300 - Filing, Office Machines and General Office Clerical (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
347	5	1	3	Student Clerk(1)	
348	5	0	2	Clerk-Typist(1)	
349	5	1	3	Secretary (2)	
350	5	1	3	Clerical Worker (1)	Clerk-Typist(1)
351	1	1	2	Inspector of Assembly Line (2)	
352	1	1	3	Secretary (2)	Typist (2)
353	1	2	3	Secretary (2)	Secretary/Accountant (2)
354	1	2	3	Cashier (1)	Bookkeeper Assistant (1)
355	2	0	3	Asst. Secretary (1)	Asst. Secretary (1)
356	1	3	2	Moving Van Packer (1)	Machine Operator (3)
357	6	1	3	Assembly Line (1)	
358	1	2	3	Stereo Repair (3)	Clerical (2)
359	1	1	2	Assembler of Telephones (3)	
360	1	1	3	Clerk-Typist(1)	
361	0	0	1	Secretary (1)	Waitress (1)
362	1	1	2	File Clerk (1)	
363	1	1	2	Secretary/Bookkeeper (2)	
364	1	1	3	Clerk (3)	Clerk (3)
365	1	1	3	General Office (2)	
366	0	1	3	Waitress (3)	
367	1	1	3	Receptionist(3)	Sales Clerk(3)
368	1	2	2	Sales Clerk (3)	Stockroom Supervisor (2)
369	4	2	3	Teller (2)	Student Aide (1)
370	6	1	3	General Clerical (1)	
371	5	0	2	Insurance Clerk (2)	
372	4	2	2	Accounts Payable Clerk(2)	Cashier (2)
373	5	1	3	Bookkeeper (2)	
374	5	0	1	Office Helper (1)	
375	6	2	2	Cashier (2)	Salvage Store Manager (2)

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OE Code 14.0300 - Filing, Office Machines and General Office Clerical (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
376	5	1	3	Secretary (1)	
377	5	2	3	Cashier (2)	Cashier (2)
378	1	1	3	Machine Operator (3)	
379	5	1	3	General Office (3)	
380	1	1	3	Executive Housekeeper (2)	Counter Clerk(1)
381	1	1	3	Secretary/Bookkeeper (2)	
382	0	2	2	Punch Machine Operator (1)	Packing Spoons (3)
383	1	1	3	Dental Assistant (2)	
384	3	0	0	Posting Clerk(1)	
385	5	1	3	Nursing Attendant (1)	
386	1	1	2	Stock Man (1)	Stock Boy (1)
387	1	1	3	Water Control Operator (1)	
388	4	2	3	Receptionist(1)	Typist (1)
389	2	1	3	Nurse's Aide(1)	
390	1	3	3	Machinist Trainee (2)	Stock Boy (3)
391	1	1	2	Cotton Mill (3)	Grocery Boy (3)
392	6	1	1		Pants Packer
393	1	1	2	Engineer (3)	
394	5	0	1	Records Clerk (1)	Doctor's Assistant (2)
395	1	1	2	Machine Operator (2)	
396	4	1	3	Farm Supervisor (1)	
397	4	1	3	Asst. Medical Records (2)	General File Clerk (1)
398	1	2	3	Bartack slacks (3)	Pepsi Inspector (3)
399	5	0	1	Office Worker (2)	
400	5	1	3	Roller Fixer(3)	Trucker (3)
401	4	1	1	O.R. Tech. (3)	
402	2	1	2	Carpenter's Apprentice(3)	
403	6	1	2	Tax Auditor(2)	
404	5	1	2	Garment Plant Janitor (3)	Cloth Fac. Bundle Boy (3)
405	0	1	3	Office Helper (1)	

(continued)

OE Code 14.0300 - Filing, Office Machines and General Office Clerical (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
406	1	1	2	Typist (1)	Shirt Binder (3)
407	1	1	3	Typist (1)	Sales Clerk (1)
408	5	0	3	General Clerical (2)	
409	0	0	2	Cook, Cash Register(2)	Cook (2)
410	1	1	2	Waitress/Bookkeeper (2)	
411	1	2	3	Clerk-Typist(1)	Keypunch Operator (1)
412	5	0	2	General Office (2)	Waitress (3)
413	6	1	3	Secretary (1)	
414	1	1	3	Window Clerk(2)	
415	1	1	3	Clerk (2)	
416	1	1	2	Pay Station Assembler (3)	
417	1	2	3	Clerk (2)	
418	6	1	2		Bookkeeping (2)
419	1	1	3	Trim Girl (3)	
420	1	1	1	Assembly Line Worker (3)	
421	2	0	2	Insurance Clerk (2)	
422	0	1	3	Student Clerk-Typist (1)	
423	4	1	2	Dispatcher (2)	
424	5	0	1	Pulpwood Worker (2)	Trash Pickup (2)
425	6	1	3	Cashier (1)	Cashier (2)
426	1	2	3	Bookkeeper (1)	Bookkeeper (1)
427	5	1	1	Ward Clerk (	
428	1	1	3	Cashier (2)	
429	2	0	1	PBX Operator(3)	
430	1	1	3	Credit Clerk(2)	Bookkeeper (2)
431	1	1	1	Receptionist(1)	
432	5	1	3	Sales Clerk (3)	General Clerk(1)
433	1	2	3	Secretary (2)	Cashier (2)
434	1	1	3	Bookkeeper (2)	Typist (2)
435	2	1	3	Receptionist(2)	
436	6	1	3	Apprentice Cosmetology (3)	Cashier (1)
437	5	0	1	Shirt Turner(3)	
438	0	1	3	Textile Machine Operator (1)	
439	1	1	3	Bookkeeper/ Receptionist (1)	

(continued)

OE Code 14.0300 - Filing, Office Machines and General Office Clerical (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
440	1	1	3	Secretary (1)	
441	1	1	3	Secretary (2)	
442	5	0	3	Switchboard Operator(3)	
443	2	0	3	Grocery Assistant (2)	
444	1	2	3	Gas Station Attendant(3)	Display Sign Helper (3)
445	5	1	2	Sales Clerk (2)	
446	1	1	3	Secretary (1)	
447	3	0	3	Receptionist(2)	Typist (2)
448	6	1	2	Secretary (1)	
449	1	1	3	Clerk-Typist(2)	
450	4	0	3	Psychiatric Aide I (3)	Office Assistant (1)
451	1	1	3	Counter Waitress (3)	Assistant Secretary (1)
452	0	1	3	Cook (3)	
453	4	1	3	Clerical Aide (2)	
454	3	1	2	Order Dept. Printing Shop (2)	
455	6	3	3		Freshman Counselor (2)
456	1	1	1	Secretary (2)	
457	5	1	1	Psychiatric Aide I (3)	
458	1	1	3	Keypunch Operator (2)	Sales Clerk (2)
459	1	1	1	Shirt Collar Attacher(3)	
460	1	1	3	Clerk-Typist(1)	
461	1	2	2	Cashier (2)	Cashier (2)
462	1	1	3	Electrocardiogram Tech.(3)	
463	1	1	3	Insurance Clerk (2)	
464	6	2	2		Secretary (Sales Clerk) (2)

OE Code 14.0301 - Duplicating Machine Operator

1	5	0	2	Sales Clerk (3)	
2	3	1	3	Secretary (2)	Receptionist (2)

(continued)

OE Code 14.0301 - Duplicating Machine Operator (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
3	5	0	2	Window Girl (3)	General Office(2)
4	4	1	1	Data Recorder Operator	
5	5	0	3	Printer & Salesman (1)	
6	4	1	3	News Reporter	
7	2	0	3	Clerk	Secretary (1)
8	1	1	2	Seamstress (3)	
9	0	1	3		Fold & Pack Garments (3)
10	5	2	3	Sewing Machine Operator (3)	Sewing Machine Operator (3)
11	1	2	3	Secretary (1)	Secretary/Bookkeeper (1)
12	1	1	3	Payroll Clerk (2)	
13	5	1	3	Clerk (2)	Clerk (3)
14	1	2	3	Secretary/Bookkeeper (1)	Clothing Sorter (3)
15	1	3	2	Drawtwist Operator (3)	Laborer (3)
16	1	1	3	Secretary (1)	
17	6	1	3	Clerk-Typist(1)	
18	0	1	3	Typesetter/ Proofreader (3)	
19	0	5	2		Stamper (3)
20	6	0	2	Lifeguard (1)	
21	1	1	3	Clerk-Typist(1)	
22	1	1	3	Telephone Operator (2)	
23	1	1	3	Clerk-Typist(1)	
24	1	1	3	Keypunch Operator (2)	
25	4	1	3	General Accounting Clerk (2)	
26	0	1	3	Assembly Line(1)	
27	1	1	3	Bookkeeper (1)	
28	0	1	3	Blue Cross Research (2)	
29	1	1	1	Typist (1)	
30	0	1	2	Nurse's Aide (1)	
31	1	2	3	Secretary (1)	NCR Oper. (2)
32	1	1	2	Cashier (2)	Telephone Operator (3)
33	1	1	3	Junior Clerk(2)	
34	1	1	3	Medical Transcriptionist(2)	

(continued)

OE Code 14.0301 - Duplicating Machine Operator (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
35	2	0	3	Mail Clerk (3)	
36	1	1	3	File Clerk (2)	
37	1	2	3	Secretary (2)	Input Coder(2)
38	1	1	3	Clerk-Typist(1)	
39	1	2	3	Secretary (1)	
40	1	1	3	Verification Clerk/Bookkeeper (1)	
41	4	1	2	Clerk (2)	
42	1	1	2	Saleslady/Secretary (2)	
43	6	1	2	Office Clerk(1)	
44	1	1	3	Saleslady (3)	
45	1	1	3	Nurse's Aide(3)	
46	1	1	1	Bookkeeper (2)	
47	1	2	2	Garment Plant Seamer (3)	Assembly Line (3)

OE Code 14.0302 - File Clerks

1	1	1	3	Saleslady (1)	

OE Code 14.0303 - General Office Clerks

1	2	0	3	Secretary (2)	Clerk (2)
2	1	2	3	Displayer (1)	Dental Assistant (1)
3	1	1	3	Clerk-Typist(2)	
4	1	1	3	Executive Secretary (1)	
5	1	1	2	Credit Reporter (2)	
6	1	1	3	Cashier (3)	Office Clerk(2)
7	5	0	2	File Clerk (1)	
8	5	0	1	Student Asst. Purchasing(2)	Office Clerk(2)
9	1	1	3	Cashier (1)	File Clerk (2)
10	1	1	3	Peanut Tester(2)	
11	5	0	3	Clerk (2)	Nurse's Aide(3)
12	6	0	3	Self-Employed(2)	
13	1	1	3	Respirtory Therapist (3)	

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OE Code 14.0303 - General Office Clerks (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
14	6	1	3	Nurse's Aide(1)	
15	5	1	2	Desk Clerk (1)	Child Care (3)
16	5	0	2	Receptionist(1)	
17	1	1	2	Check-Out Girl	
18	1	2	2	Bookkeeper (2)	General Clerical (2)
19	5	0	2	Library Assistant (3)	
20	5	1	3	Secretary (1)	Secretary (3)
21	1	2	3	Store Clerk (3)	Desk Clerk (1)

OE Code 14.0399 - Filing, Office Machines and General Office Clerical, Other

1	1	1	3	Secretary (1)	
2	5	0	3	Filing (1)	Bank Clerk (2)
3	1	1	3	Teletypist (3)	
4	1	1	3	Salesgirl (3)	

OE Code 14.0700 - Stenographic, Secretarial, and Related

1	1	3	3	Secretary (1)	Title Clerk (2)
2	1	1	3	Bookkeeper (2)	Cashier (1)
3	1	1	3	Clerical Worker (2)	
4	4	1	3	Stenographer(1)	
5	3	1	3	Waitress (3)	Clerk/Secretary (1)
6	6	1	3		Secretary (1)
7	1	1	3	Celrk-Typist(2)	
8	1	1	3	Clerk-Typist(1)	Secretary/Receptionist (1)
9	1	1	2	Claim Examiner/Clerk (2)	
10	5	1	3	Microfilmer(2)	Cashier (3)
11	4	1	2	Clerical Assistant (2)	Sales Clerk (2)
12	1	1	3	Secretary/Receptionist (1)	
13	4	1	3	Secretary (2)	
14	5	0	2	Assistant Teacher (3)	Secretary (2)

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OE Code 14.0700 - Stenographic, Secretarial, and Related (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
15	1	1	3	Clerk/Stenographer (2)	
16	1	1	3	Secretary (2)	
17	1	0	1	Editor-in-Chief (2)	
18	1	1	3	Engineering Asst. (1)	
19	1	1	3	Office Manager's Assistant (2)	
20	4	1	3	General Office (2)	
21	1	1	3	Credit, Sales, & Charge (2)	Clerk (2)
22	1	1	3	Clerk (2)	Receptionist, Secretary(1)
23	1	1	3	File Clerk (1)	
24	1	1	3	Personnel Benefits Clerk(3)	
25	1	1	3	Mail Clerk II (2)	
26	1	1	3	Secretary (2)	
27	1	2	2	Cashier (2)	Clerk (2)
28	1	1	2	Secretary, Receptionist (2)	
29	1	2	3	Nursing (3)	Clerk (3)
30	2	1	3	Clerk (2)	File Clerk (2)
31	1	1	2	Master Clerk(2)	
32	6	1	3	Legal, Private Secretary(1)	
33	1	1	3	Loan Service(2)	
34	1	2	3	General Office Secretary(2)	T.S.P.S. Operator (3)
35	4	0	2	Payroll (2)	
36	1	1	3	Keypunch (2)	
37	1	1	3	Secretary (1)	
38	1	1	3	Accounts Payable (2)	File Clerk (2)
39	0	0	3		Secretary (1)
40	1	2	2	General Office (2)	Clerical Office (2)
41	2	0	3	Salesman, Receptionist (1)	Salesman (3)
42	1	1	3	Cashier (2)	
43	1	1	3	Secretary(1)	
44	1	1	3	Vari-Typist(2)	Vari-Typist (2)
45	5	0	2	Secretary (1)	

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OE Code 14.0700 - Stenographic, Secretarial, and Related (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
46	1	1	3	Records A (2)	Office Girl (1)
47	1	1	2	File Clerk (2)	
48	1	1	2	Keypunch Operator (2)	Keypunch Operator (2)
49	1	1	3	Legal Secretary (2)	
50	5	1	2	Keypuncher (2)	
51	1	2	2	Sales (2)	
52	1	1	3	Clerk-Typist(2)	
53	1	1	1	Mechanic (3)	
54	6	0	3	Secretary to Placement Dir. (1)	
55	1	1	1	Steno-Typist(2)	
56	5	1	1	Monitor (3)	Receptionist(2)
57	6	1	1	Secretary of Workshop (2)	
58	1	3	2	Secretary/ Receptionist (2)	Legal Secretary (Training) (3)
59	5	3	2	Unit Clerk (3)	Fashion Counselor (1)
60	1	1	3	Clerk, Typist, Receptionist (2)	
61	1	1	3	Safekeeping Custodian(2)	
62	1	1	3	Secretary (1)	
63	1	1	2	Inventory Clerk (2)	
64	1	1	3	Bookkeeper (3)	Student Clerk(1)
65	1	1	3	Typist (2)	Billing Clerk(2)
66	3	2	3	Clerk (2)	Clerk (1)
67	1	1	3	Clerk-Typist(2)	
68	4	1	3	Typist/Secretary (2)	
69	1	2	3	Secretary/ Receptionist (1)	Secretary (1)
70	1	1	2	Secretary (1)	
71	1	0	3	Typist (1)	
72	6	1	3	Typist/File Clerk (2)	
73	5	0	3	Cashier (2)	
74	1	3	1	Receptionist/ Secretary (2)	Medical Secretary (2)
75	1	1	3	Legal Secretary (2)	
76	1	2	3	Typist (2)	Billing Clerk(2)

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OE Code 14.0700 - Stenographic, Secretarial, and Related (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
77	0	1	3	Part-Time Clerical (1)	Part-Time Clerical (1)
78	1	1	3	Typist (1)	
79	1	1	3	Bookkeeper (2)	
80	4	1	2	Cashier (2)	Cashier (2)
81	1	1	3	Terminal Operator (2)	
82	1	2	3	General Office Cerlk (2)	Clerk (3)
83	1	2	3	Printer (3)	Waitress (2)
84	0	1	3		Cashier/Waitress (2)
85	1	2	3	Secretary (1)	Legal Secretary (1)
86	1	1	3	General Office (1)	
87	1	1	2	Bookkeeping Asst. (2)	
88	5	0	3	Cashier/Bookkeeper (3)	
89	0	1	3	Seamstress (3)	
90	1	1	3	Secretary (1)	
91	1	1	3	Child Care (3)	
92	1	1	2	Cashier (3)	
93	1	1	3	Clerk (2)	
94	5	1	3	Student Secretary (1)	
95	5	0	3	Secretary (1)	
96	1	2	3	Clerk (2)	Secretary (1)
97	6	1	3	Classroom Clerical Asst. (2)	Cashier (3)
98	1	1	3	Clerk (1)	
99	1	1	3	Clerk (2)	Student Meat-Cutter (3)
100	1	1	3	Credit Investigator (1)	
101	1	2	3	Legal Secretary (1)	Bonding Clerk (2)
102	0	0	3		Sales Clerk (2)
103	5	0	3	Student Worker (1)	
104	0	1	3	Typist (2)	
105	1	1	3	Chief Clerk/Secretary(1)	
106	0	1	1		Legal Secretary

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OE Code 14.0700 - Stenographic, Secretarial, and Related (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
107	5	0	3	File Clerk/ Runner (1)	
108	1	1	3	Switchboard Operator (2)	Typist (2)
109	0	0	3	Typist (1)	Office Aide(1)
110	2	1	3	Bookkeeper/ Clerk (2)	
111	1	1	3	Secretary (1)	Office Assistant (2)
112	1	1	3	Secretary (1)	
113	1	1	1	Dental Assistant (3)	
114	1	1	3	Clerk (2)	Cashier (2)
115	1	1	2	Clerk (2)	
116	0	2	3		File Clerk (1)
117	0	1	3	Secretary (1)	
118	1	1	3	Teller (2)	
119	1	1	2	Typing, Filing (3)	
120	6	1	3		Secretary (1)
121	1	1	3	Secretary (1)	
122	3	0	3	Secretary (2)	Receptionist(3)
123	5	0	2	Subscription Caller (1)	General Office (2)
124	1	2	3	Clerk/Steno(1)	Clerk/Typist(2)
125	5	0	2	Clerk (3)	
126	1	1	3	Stitcher (3)	
127	5	0	1	Typist (1)	
128	2	1	3	Cashier (2)	
129	1	2	2	Secretary (1)	Cashier (3)
130	0	1	3	Order Processor (2)	
131	1	2	3	Secretary (1)	Clerk (2)
132	0	1	3		Telephone Hostess (2)
133	1	1	3	Clerk-Typist(1)	
134	1	2	3	Saleslady (2)	
135	1	1	3	Secretary (1)	
136	1	1	3	Office Clerk(2)	
137	1	1	3	Cashier (2)	
138	1	1	3	Teller (2)	
139	1	1	3	Credit Manager (1)	
140	1	1	3	Clerk (1)	
141	1	1	3	Interviewer(1)	Typist (1)
142	1	1	2	Secretary (1)	
143	2	1	3	Typist (1)	Cotton Comber (3)

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OE Code 14.0700 - Stenographic, Secretarial, and Related (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
144	0	1	2		Sales Clerk/ Cashier (3)
145	5	0	3	Clerk-Typist(1)	Clerk-Typist(1)
146	1	2	3	Sewing (3)	Clerk-Typist(1)
147	0	1	3	Medicare Clerk (2)	
148	1	1	3	Shirt Inspecter (3)	
149	1	1	3	Secretary (1)	Junior Accountant (1)
150	1	1	3	Secretary (1)	
151	1	1	3	Typist (1)	
152	1	1	2	Cashier (3)	
153	1	1	3	Junior Steno Clerk (2)	
154	1	1	3	Clerk-Typist(1)	
155	1	1	3	Clerk-Typist(1)	
156	1	1	2	Warehouse Secretary (2)	
157	1	1	3	Secretary (1)	File Clerk (2)
158	1	1	2	Correspondence Representative (1)	
159	6	1	2	Clerk (1)	
160	5	1	3	Underwriter(2)	
161	0	1	3		Feather Picker (3)
162	5	1	3	General Clerical (1)	Clerk/Steno (1)
163	3	0	2	Office Secretary (1)	
164	1	1	3	Secretary (2)	
165	1	1	3	Sales Secretary (1)	
166	0	1	3	Physical Therapy Aide (1)	Clerk, Bookkeeper (2)
167	5	1	3	Desk Girl (3)	Secretary (3)
168	1	3	2	Maintenance (3)	Box Meat (3)
169	1	1	1	Clerk (3)	
170	5	0	3	Church Secretary (1)	
171	0	1	3	Secretary (1)	
172	1	1	3	Clerk-Typist(2)	
173	1	1	3	Sew on Collars (3)	Receptionist(3)
174	4	1	1	Secretary (1)	
175	0	0	3		Temporary Bookkeeper (1)

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OE Code 14.0700 - Stenographic, Secretarial, and Related (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
176	1	1	3	Copy Girl (2)	
177	5	0	2	Clerk-Typist (1)	
178	1	1	3	Medical Secretary (1)	Medical Secretary (2)
179	1	1	3	Nurse's Assistant (1)	Nurse's Assistant (1)
180	0	0	3		Clerk-Typist (2)
181	5	1	1	Cashier (3)	Hospital Aide (3)
182	4	1	2	Nurse's Aide (3)	
183	4	3	3	Dispatcher (3)	Assistant Auditor (3)
184	1	3	3	Accountant (2)	General Clerk (1)
185	4	1	3	Waitress (3)	
186	5	0	3	Sales Clerk (3)	
187	5	0	3	Receptionist (2)	
188	0	2	3	Hostess and Cashier (1)	Sales Lady (3)
189	2	0	2	Credit Sales (2)	
190	2	0	2	Secretary (2)	
191	4	1	3	Seamstress (3)	Cook, Waitress (3)
192	1	1	3	Stenographer I (1)	
193	1	1	3	Flexowriter (2)	Secretary (1)
194	4	1	3	Clerk-Steno I (1)	
195	1	2	3	Secretary/Receptionist (2)	Office Manager (2)
196	5	1	1	Library Assistant (1)	Clerk (2)
197	1	1	3	X-Ray Tech. (1)	Lab Asst. (1)
198	5	1	3	Secretary (1)	
199	1	1	3	Woman's Page Editor (2)	Secretary (2)
200	1	1	3	Proofreader (2)	
201	4	2	3	Secretary (1)	Secretary (1)
202	1	1	1	Draw Finisher (3)	
203	1	1	3	Shirt Factory (3)	
204	1	1	3	Clerk (2)	
205	1	1	3	Composition Make-Up Artist (3)	
206	2	1	1	Bookkeeper (2)	
207	4	1	2	Nurse's Aide (1)	
208	4	1	3	Bank Teller (3)	
209	0	2	2	Cashier (3)	Office Girl (1)

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OE Code 14.0700 - Stenographic, Secretarial, and Related (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
210	5	1	2	Clerk (1)	
211	4	1	3	Secretary (1)	
212	1	1	3	Secretary (1)	
213	6	1	3	Dietary Aide(1)	
214	1	2	3	Secretary (1)	File and Mail Clerk (2)
215	1	1	3	Sewing Machine Operator (3)	
216	1	1	2	Waitress (3)	Waitress (3)
217	6	1	2	Clothing Repair (3)	
218	1	1	3	Clerk-Typist(1)	
219	1	1	3	Clerk-Typist(1)	Typist (3)
220	0	2	3	Production Worker (1)	Machine Operator (3)
221	2	1	2	Typesetter(2)	Telephone Sales (3)
222	0	1	3	Cashier (2)	
223	6	1	3		Cashier Clerk (2)
224	1	1	2	Secretary (1)	
225	1	2	2	Clerk/Stenographer (1)	General Clerical (2)
226	0	1	3	Filing (1)	Filing (2)
227	1	1	2	Secretary (1)	
228	6	0	3	Project Secretary (1)	
229	5	0	3	Student Secretary (1)	
230	2	1	2	Admitting Clerk (1)	
231	1	2	3	Secretary (2)	Accounts Payable (2)
232	1	1	3	Secretary (2)	
233	6	0	2	Sales Clerk (3)	
234	2	0	1	Clerk (2)	Clerk-Typist(1)
235	2	1	3	Cashier (3)	Assembly Line(3)
236	1	1	2	Filing Clerk(3)	Cashier (3)
237	5	1	2	Steno-Typist(1)	
238	1	1	3	Telephone Operator (3)	
239	4	1	3	Salesman (3)	Head Cook (3)
240	1	1	3	Waitress (3)	Domestic (3)
241	1	0	3	Secretary (1)	Cashier (3)
242	6	1	3		Secretary
243	0	2	3	Summer Aid(1)	Telephone Solicitor (2)
244	4	1	2	Cosmetology (3)	

(continued)

OE Code 14.0700 - Stenographic, Secretarial, and Related (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
245	1	1	3	Assembly Line(3)	
246	6	0	1	Teacher's Aide (1)	
247	1	1	3	Secretary (1)	Secretary (2)
248	1	1	3	Reporter (2)	
249	5	1	3	Student Secretary (1)	
250	0	0	3		Reporter
251	1	2	3	Pro-Shop Assistant (3)	Desk Clerk (3)
252	1	3	3	Receptionist(1)	Secretary (2)
253	1	2	3	Clerk-Steno (1)	Secretary (1)
254	0	1	3	Clerk-Typist(1)	
255	1	1	3	Steno-Typist(1)	
256	2	0	3	Cashier (3)	
257	1	3	3	Wholesale Drugstore (3)	Telephone Soliciting (2)
258	1	1	3	Credit Clerk(2)	Credit Clerk(2)
259	1	1	3	Clerk-Typist(2)	
260	1	1	3	Technical Typist (2)	
261	3	0	3	Sales Clerk (2)	Sales Clerk (2)
262	1	1	3	Typist (1)	
263	1	1	3	Secretary, Cashier (1)	Secretary (1)
264	1	1	3	Proof Operator (3)	Sales Clerk (3)
265	6	2	3		Secretary/Receptionist (2)
266	5	0	1	Doctor's Assistant (3)	
267	1	1	2	Respiratory Therapist (3)	
268	4	1	1	Clerical Assistant (2)	
269	1	1	2	Bookkeeper (2)	Clerk (3)
270	5	0	2	Cashier (3)	Cashier (3)
271	1	1	3	Bookkeeper, Secretary(2)	Typist (1)
272	1	1	2	Secretary (2)	
273	4	2	3	Typist (2)	Secretary (1)
274	1	1	3	Bookkeeper (2)	
275	1	2	3	Office Clerk(2)	General Clerk(2)
276	1	1	2	Bank Teller (2)	Sear's Clerk (2)
277	1	1	3	Secretary (2)	
278	1	1	3	Make Telephones (3)	
279	1	1	3	Secretary (2)	

(continued)

OE Code 14.0700 - Stenographic, Secretarial, and Related (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
280	3	0	3	Secretary/ Clerk (2)	
281	6	1	3	Designer, Bookkeeper (1)	Flower Designer(3)
282	1	1	3	Clothing Packer (3)	Cashier (2)
283	1	1	3	Assembly Line (3)	Waitress (3)
284	6	1	3	Office Worker (2)	
285	1	1	2	Steno/Secretary (2)	
286	4	1	2	Sales Clerk (3)	
287	3	0	3	Typist (1)	
288	5	0	3	Cashier (2)	
289	4	1	3	Office Clerk(1)	
290	1	1	2	Auto Assembler (3)	
291	1	2	3	Teletypist (1)	Seamstress (3)
292	1	1	3	Office Clerk(2)	
293	1	1	3	Assembly Line Worker (3)	
294	2	0	3	Claims Clerk(2)	
295	1	1	3	Clerk-Steno I (1)	
296	1	1	2	Bookkeeper (2)	
297	1	1	3	Beamer Operator (3)	
298	1	1	3	Machine Operator (3)	
299	1	1	2	Steno/Secretary (1)	
300	4	1	2	Typist (2)	
301	1	1	3	Teller (2)	
302	1	1	3	Kardex Clerk(2)	
303	5	1	3	Cashier (2)	
304	5	1	2	Typist/X-Ray(1)	
305	1	3	3	Clerk-Typist(1)	Seamstress (3)
306	1	1	3	Keypunch (2)	Payroll Clerk(3)
307	1	1	3	Ward Clerk (2)	
308	1	1	3	Public Health Secretary I (1)	
309	1	3	3	Waitress (3)	Seamstress (3)
310	1	1	3	Secretary (2)	
311	1	3	3	Collar Turner (3)	Warper (3)

(continued)

OE Code 14.0700 - Stenographic, Secretarial, and Related (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
312	1	1	3	Secretary (1)	
313	5	0	2	Student Filing (2)	
314	1	2	3	Cashier/Secretary (2)	Secretary (1)
315	1	1	2	Stock Boy (3)	
316	4	1	2	Insurance Secretary (1)	
317	5	1	3	Cashier (2)	
318	5	0	2	Cashier, Saleslady (3)	
319	1	1	3	Secretary (1)	
320	1	1	1	Secretary (1)	
321	1	2	3	File Clerk (2)	Bookkeeper (2)
322	6	0	2	Typist (1)	
323	1	1	2	Bookkeeper (2)	Sales Clerk (3)
324	1	2	2	Secretary (2)	Trophy Shop Asst. (3)
325	1	1	3	Loan Service Secretary (1)	
326	4	1	3	General Office (1)	Secretary (1)
327	1	1	3	Secretary (1)	
328	6	0	2	Sales (3)	
329	5	0	2	Filing (2)	
330	1	2	1	Secretary (1)	Secretary (1)
331	5	0	3	Clerk-Typist(1)	Office Clerk(1)
332	1	1	2	Receptionist (1)	
333	0	1	2	Typist (1)	
334	6	0	3	Saleslady (1)	

OE Code 14.0701 - Executive Secretary

1	4	1	3	Receptionist/Secretary(2)	
2	1	1	3	Bookkeeper/Secretary(1)	
3	1	1	3	Clerk (2)	
4	0	2	3		Secretary (2)
5	1	1	3	Tape Puncher(2)	
6	5	1	3	Stock Clerk (2)	Restaurant Asst. Manager (2)
7	1	1	3	Secretary (1)	
8	0	0	1	General Clerk (1)	

(continued)

OE Code 14.0701 - Executive Secretary (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
9	1	1	3	Secretary/ Receptionist (1)	
10	1	1	3	Secretary (2)	
11	5	0	2	Secretary/ Receptionist (1)	
12	6	1	3	Secretary (1)	

OE Code 14.0702 - Secretaries

1	1	1	3	Secretary/ Receptionist (1)	Secretary (1)
2	1	1	3	Clerk-Typist(1)	
3	1	1	3	Machinist (3)	
4	0	2	3		Boarder (3)
5	1	1	2	Seamstress (3)	
6	5	1	3	General Office (1)	Secretary (1)

OE Code 14.0703 - Stenographers

1	1	2	3	Secretary/ Receptionist (2)	Secretary (1)
2	1	1	3	Clerk/Steno-grapher (1)	General Office
3	5	1	1	Clerk (2)	Secretary (2)

OE Code 14.0900 - Typing and Related

1	5	1	2	Admitting Clerk (2)	File Clerk (2)
2	1	1	2	Clerk-Typist(3)	
3	5	2	1	X-Ray Attendant (2)	
4	6	1	2	Clerk-Typist(1)	Clerk-Typist(1)
5	4	3	3	Nursing Home Asst. (1)	Bookkeeper (3)

(continued)

OE Code 14.0900 - Typing and Related (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
6	4	1	3	Clerk (3)	
7	1	1	2	Telephone Operator (2)	
8	1	1	2	Secretary/File Clerk (2)	Secretary for Dentist(2)
9	5	1	2	Clerical (2)	
10	1	1	3	Secretary (2)	
11	0	1	3		Sales/Cashier (3)
12	2	1	3	Housekeeper(3)	
13	1	2	3	Assembly Line (3)	
14	1	1	3	Credit Clerk(2)	
15	6	0	2	General Clerical (1)	General Clerical (2)
16	1	1	2	Clerk-Typist(2)	Insurance Clerk (2)
17	1	0	3	Medical Assistant (1)	
18	1	1	3	Receptionist (2)	Clerk-Typist(2)
19	1	2	2	Counselor Aide (2)	Dental Assistant (2)
20	5	0	3	Secretary/Bookkeeper (2)	Clerk-Typist(2)
21	1	1	3	Membership Secretary (1)	
22	6	0	3		Clerk-Typist
23	1	1	3	Receptionist(1)	
24	6	0	1	Switchboard Operator (1)	
25	4	1	2	Clerk-Typist(1)	Greenhouse Worker (3)
26	5	1	1	Recreation Asst. (3)	
27	1	1	2	Clerk-Typist I (1)	
28	4	1	3	Receptionist(1)	
29	1	2	2	Meat Cutter (2)	Carpenter (3)
30	1	1	3	Department Manager (3)	
31	1	1	3	Repair Inspector (3)	
32	5	0	1	Student Typist (1)	
33	5	0	1	Page (3)	
34	5	0	3	Clerk-Typist(2)	File Clerk (2)
35	4	1	3	Office Aid (1)	

(continued)

OE Code 14.0900 - Typing and Related (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
36	5	0	1	Clerk (3)	
37	5	0	2	Student Clerical (2)	
38	5	0	2	Student Clerical (2)	Bookkeeper/Receptionist (2)
39	1	1	2	Steno I (2)	Telephone Operator (3)
40	1	1	3	Directoy Assistance (2)	
41	5	1	3	Credit Clerk(1)	
42	1	2	3	Bookkeeper (2)	Waitress (3)
43	4	1	2	Assistant Manager (3)	
44	4	1	3	Secretary/ Receptionist (2)	
45	3	0	3	Secretary (1)	
46	0	1	2	Texturing, Machine Operator (1)	
47	0	2	3		Secretary (1)

OE Code 14.0901 - Clerk-Typists

1	6	0	1	Assistant Bookkeeper (1)	
2	1	1	3	Stock Person(2)	Stock Person(2)
3	5	1	3	Salesman (2)	
4	1	1	3	Seamstress (2)	
5	5	0	1	Secretary (2)	
6	0	3	3	Credit Office (2)	Clerk/Cashier (3)
7	1	1	2	Secretary (1)	
8	1	1	3	Legal Secretary (2)	
9	6	1	3	Nurse's Aide(1)	
10	5	0	1	Secretary (1)	
11	0	2	3		Secretary (2)
12	6	1	2		Clerk-Typist(2)
13	5	0	1	Clerk-Typist(1)	Clerk-Typist(1)
14	1	1	3	Secretary (2)	
15	1	1	2	Sales (3)	
16	5	1	2	Secretary (1)	General Clerical (3)
17	1	1	2	Clerk-Typist(2)	Cashier/Waitress (3)

(continued)

OE Code 14.0901 - Clerk-Typists (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
18	5	1	2	Secretary (1)	Secretary (2)
19	1	1	3	Personnel Secretary (2)	
20	5	0	3	Sales Secretary (2)	
21	5	0	3	Salesman (3)	Clerk-Typist(1)
22	5	0	3	Clerk (2)	
23	6	0	3		Secretary (1)
24	4	1	2	Cashier (2)	Cashier (2)
25	1	1	3	Insurance Clerk (2)	Mix Pepsi Syrup (3)

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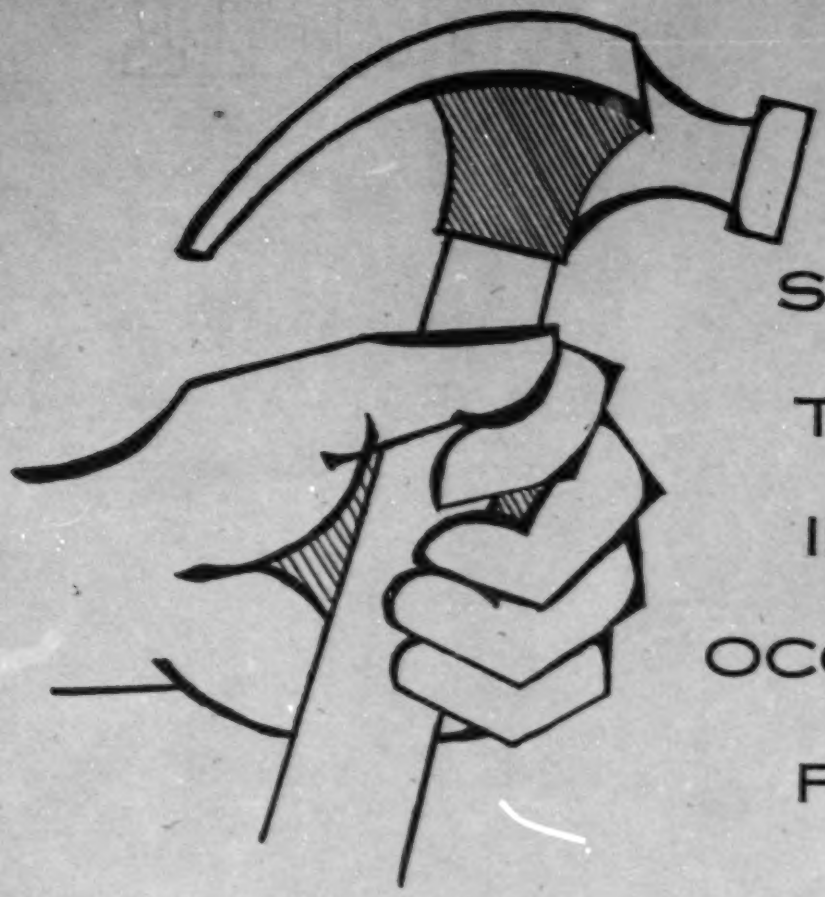

1973-1974 ALABAMA SECONDARY TRADE AND INDUSTRIAL OCCUPATIONS FOLLOW-UP REPORT

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VOCATIONAL EDUCATION AND COMMUNITY COLLEGES
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2

TRADE AND INDUSTRIAL OCCUPATIONS FOLLOW-UP

Follow-Up of 1973-74 Trade and Industrial Occupations
Terminees From the Secondary School
Vocational Programs of Alabama

Research and Development Report No. 29

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FOLLOW-UP OF 1973-74 TRADE AND INDUSTRIAL OCCUPATIONS TERMINEES FROM THE SECONDARY SCHOOL VOCATIONAL PROGRAMS OF ALABAMA

Alabama continues to support one of the most progressive and comprehensive vocational education programs in the nation. In addition to serving youth and adults by training them for gainful and useful employment, the diversification of vocational courses meets a serious job need and contributes to the industrial development in the state.

With the millions of tax dollars being spent on vocational education, it is necessary to attempt to account to the taxpayer and decision-makers on the results of those expenditures. Terminee student follow-up studies constitute one of the most valuable techniques for assessing vocational education system outcomes.

The Alabama State Department of Education, Division of Vocational Education and Community Colleges, recognizing this important phase of accountability and evaluation, initiated the development of a statewide follow-up system for its vocational education program terminees at the secondary school level. The Division, under the direction of Dr. T. L. Faulkner, State Director, contracted with the Occupational Research and Development Unit at Auburn University to develop and implement the statewide follow-up system for all its secondary vocational terminees in all service areas.

This report relates the findings of the survey instrument mailed to the 1973-74 Trade and Industrial Occupations terminees from the

secondary school vocational programs of Alabama. When the terminees received the questionnaire, most had been out of school seven to eight months.

General Information

Student rosters with names and addresses of 1973-74 Trade and Industrial Occupations terminees were received from 444 secondary school vocational teachers in Alabama. Of the 444 teachers from which student rosters were received, 250 were in Secondary Area Vocational Centers (AVC) and 194 were in programs in schools of other settings. The total of 6,875 student terminees reported to the ORDU were mailed the follow-up forms. Returns were received from 1,866 (27.1%) of the Trade and Industrial Occupations terminees from the initial mailing and one follow-up. At least one student questionnaire was received from 407 of the 444 teachers.

All terminees reported in this study were in programs administered only by the Trade and Industrial Section of the Division of Vocational Education and Community Colleges, State Department of Education.

Table 1 presents data relative to the total population of Trade and Industrial Occupations terminees and the number of returns categorized by OE codes as reported by teachers.

TABLE 1

DESCRIPTION OF TOTAL POPULATION AND RETURNS BY OE CODE OF 1973-74 TRADE AND INDUSTRIAL OCCUPATIONS TERMINEES[A]

OE Code[B]	Occupational Title	Total Number of Students	Percent of Trade and Industrial Students by OE Code	Number of Returns	Percent of Returns for OE Code Area
Not Designated		20	0.3		
01.0500	Ornamental Horticulture	1	0.0	1	100.0
04.0100	Advertising Service	14	0.2	6	42.9
04.0200	Sales, Apparel and Accessories	13	0.2	3	23.1
04.0300	Sales, Automotive	7	0.1	3	42.9
04.0400	Finance and Credit	5	0.1	3	60.0
04.0600	Food Distribution	19	0.3	8	42.1
04.0700	Food Services	3	0.0	1	33.3
04.0800	General Merchandise	14	0.2	3	21.4
04.0900	Sales, Hardware and Building Material	7	0.1	1	14.3
04.1000	Sales, Home Furnishings	3	0.0	1	33.3
04.1200	Industrial Marketing	4	0.1	1	25.0
04.1300	Insurance	1	0.0	0	0.0
04.1500	Personal Services	1	0.0	1	100.0
04.1800	Recreation & Tourism	1	0.0	1	100.0
04.1900	Transportation	5	0.1	1	20.0
04.2000	Retail Trade, Other	2	0.0	1	50.0
04.3100	Wholesale Trade, Other	9	0.1	3	33.3
07.0000	Health Occupations	1	0.0	1	100.0
07.0101	Dental Assisting	50	0.7	28	56.0
07.0103	Dental Laboratory	3	0.0	3	100.0
07.0200	Medical Laboratory	64	0.9	26	40.6
07.0203	Medical Lab. Asst.	68	0.9	27	39.7
07.0302	Practical Nurse	11	0.2	5	45.4
07.0303	Nursing Assistant	41	0.6	17	41.5
07.0402	Physical Therapy	1	0.0	0	0.0
07.0404	Orthotics	2	0.0	1	50.0
07.0500	Radiologic	1	0.0	1	100.0
07.0501	Radiologic Tech.	3	0.0	2	66.7
07.0603	Optometrist Asst.	1	0.0	0	0.0
07.0800	Mental Health Technology	4	0.1	1	25.0
07.0903	Inhalation Therapy	4	0.1	2	50.0
07.0904	Medical Asst.	14	0.2	5	35.7

(continued)

TABLE 1 (continued)

OE Code[B]	Occupational Title	Total Number of Students	Percent of Trade and Industrial Students by OE Code	Number of Returns	Percent of Returns for OE Code Area
07.0909	Mortuary Science	8	0.1	4	50.0
07.9900	Health Occupations, Other	32	0.5	11	34.4
09.0102	Child Development	2	0.0	2	100.0
09.0201	Care and Guidance of Children	2	0.0	2	100.0
09.0202	Clothing Management	28	0.4	6	21.4
14.0300	General Office Clerical	34	0.5	14	41.2
14.0301	Duplicating Machine Operator	12	0.2	4	33.3
14.0901	Clerk-Typists	4	0.1	3	75.0
16.0201	Animal Science	1	0.0	1	100.0
17.0000	Trade and Industrial Occupations	19	0.3	3	15.8
17.0100	Air Conditioning	203	3.0	54	26.6
17.0101	Cooling	48	0.7	7	14.6
17.0102	Heating	1	0.0	0	0.0
17.0103	Ventilating	1	0.0	0	0.0
17.0199	Air Conditioning, Other	7	0.1	1	14.3
17.0200	Appliance Repair	72	1.0	12	16.7
17.0201	Electrical Appliances	1	0.0	0	0.0
17.0202	Gas Appliances	2	0.0	1	50.0
17.0300	Automotive Service	8	0.1	4	50.0
17.0301	Body and Fender	395	5.7	99	25.1
17.0302	Auto Mechanics	930	13.5	221	23.8
17.0303	Auto Specialization, Other	91	1.3	21	23.1
17.0399	Auto Service, Other	27	0.4	6	22.2
17.0401	Aircraft Maintenance, Other	43	0.6	6	14.0
17.0499	Aviation Occupations, Other	1	0.0	0	0.0
17.0504	Blue Print Reading	6	0.1	1	16.7
17.0600	Business Machine Maintenance	23	0.3	6	26.1
17.0700	Commercial Art Occupations	22	0.3	6	27.3
17.0701	Interior Decorating	1	0.0	0	0.0
17.0702	Window Display	3	0.0	0	0.0
17.0703	Product Design	1	0.0	1	100.0
17.0799	Commercial Art Occupations, Other	1	0.0	0	0.0

(continued)

TABLE 1 (continued)

OE Code[B]	Occupational Title	Total Number of Students	Percent of Trade and Industrial Students by OE Code	Number of Returns	Percent of Returns for OE Code Area
17.0800	Commercial Fisheries Occupations	20	0.3	2	10.0
17.0900	Commercial Photography	19	0.3	8	42.1
17.1000	Construction and Maintenance	29	0.4	11	37.9
17.1001	Carpentry	241	3.5	60	24.9
17.1002	Electricity	62	0.9	16	25.8
17.1003	Heavy Equipment	6	0.1	2	33.3
17.1004	Masonry	345	5.0	74	21.4
17.1005	Painting & Decorating	22	0.3	4	18.2
17.1007	Plumbing & Pipefitting	26	0.4	8	30.8
17.1008	Dry Wall Construction	1	0.0	0	0.0
17.1009	Glazing	11	0.2	2	18.2
17.1010	Roofing	1	0.0	0	0.0
17.1099	Construction, Other	162	2.4	24	14.8
17.1100	Custodial Services	102	1.5	14	13.7
17.1200	Diesel Mechanics	68	1.0	17	25.0
17.1300	Drafting	422	6.1	148	35.1
17.1400	Electrical Occupations	64	0.9	22	34.4
17.1401	Industrial Electrician	118	1.7	45	38.1
17.1402	Lineman	2	0.0	1	50.0
17.1403	Motor Repairman	7	0.1	1	14.3
17.1499	Electrical Occupations, Other	3	0.0	1	33.3
17.1500	Electronics Occupations	192	2.8	61	31.8
17.1501	Communications	15	0.2	5	33.3
17.1502	Industrial Electronics	15	0.2	3	20.0
17.1503	Radio/Television	271	3.9	66	24.4
17.1600	Fabric Maintenance Services	2	0.0	1	50.0
17.1601	Drycleaning	11	0.2	3	27.3
17.1602	Laundering	1	0.0	0	0.0
17.1699	Fabric Maintenance Services, Other	1	0.0	1	100.0
17.1700	Foremanship/Management Development	12	0.2	3	25.0
17.1900	Graphic Arts Occupations	206	3.0	61	29.6
17.1902	Printing Press Occupations	4	0.1	1	25.0
17.1999	Graphic Arts, Other	5	0.1	1	20.0
17.2100	Instrument Maintenance and Repair	4	0.1	1	25.0

(continued)

TABLE 1 (continued)

OE Code[B]	Occupational Title	Total Number of Students	Percent of Trade and Industrial Students by OE Code	Number of Returns	Percent of Returns for OE Code Area
17.2101	Instruments (Not watches or clocks)	2	0.0	1	50.0
17.2200	Maritime Occupations	2	0.0	0	0.0
17.2300	Metalworking	87	1.3	27	31.0
17.2301	Foundry	8	0.1	3	37.5
17.2302	Machine Shop	175	2.5	47	26.9
17.2303	Machine Tool Operations	20	0.3	7	35.0
17.2304	Metal Trades, Combined	2	0.0	0	0.0
17.2305	Sheet Metal	46	0.7	12	26.1
17.2306	Welding and Cutting	484	7.0	131	27.1
17.2309	Metal Patternmaking	3	0.0	0	0.0
17.2399	Metalworking, Other	3	0.0	1	33.3
17.2400	Metallurgy	1	0.0	0	0.0
17.2600	Personal Services	5	0.1	0	0.0
17.2601	Barbering	12	0.2	2	16.7
17.2602	Cosmetology	55	0.8	17	30.9
17.2699	Personal Services, Other	17	0.3	5	29.4
17.2700	Plastics Occupations	2	0.0	1	50.0
17.2800	Public Service Occupations	9	0.1	5	55.6
17.2802	Law Enforcement Training	1	0.0	1	100.0
17.2900	Quantity Foods Occupations	46	0.7	20	43.5
17.2901	Baker	4	0.1	1	25.0
17.2902	Cook/Chef	164	2.4	50	30.5
17.2903	Meat Cutter	65	0.9	18	27.7
17.2904	Waiter/Waitress	53	0.8	13	24.5
17.2999	Quantity Foods Occupations, Other	7	0.1	0	0.0
17.3000	Refrigeration	96	1.4	18	18.8
17.3100	Small Engine Repair	69	1.0	20	29.0
17.3300	Textile Production and Fabrication	6	0.1	1	16.7
17.3302	Tailoring	18	0.3	6	33.3
17.3399	Textile Production, Other	149	2.2	38	25.5
17.3400	Leatherworking	13	0.2	3	23.1
17.3401	Shoe Manufacturing	1	0.0	1	100.0
17.3402	Shoe Repair	10	0.1	3	30.0
17.3500	Upholstering	72	1.0	24	33.3
17.3600	Woodworking	5	0.1	0	0.0
17.3601	Millwork and Cabinetmaking	81	1.2	18	22.2
17.3699	Woodworking, Other	1	0.0	0	0.0

(continued)

TABLE 1 (continued)

OE Code[B]	Occupational Title	Total Number of Students	Percent of Trade and Industrial Students by OE Code	Number of Returns	Percent of Returns for OE Code Area
17.9900	Trade and Industrial, Other	178	2.6	52	29.2
17.9906	Taxidermy	1	0.0	0	0.0
99.0106	Career Guidance	6	0.1	0	0.0
	TOTAL ALL AREAS	6875	100.0	1866	

[A]These Trade and Industrial Occupations terminees were terminees in programs administered only under the Trade and Industrial Section of the Division of Vocational Education and Community Colleges, State Department of Education.

[B]OE Codes as reported by teachers.

Of the 1973-74 Trade and Industrial Occupations terminees reported by the teachers, the largest number in any OE code was in the occupational title area of Auto Mechanics. This 930 represented 13.5 percent of the reported Trade and Industrial Occupations terminees. There were 1,451 (21.1%) terminees listed as studying Automotive clusters. The combined enrollment of the top 11 Trade and Industrial Occupations groups was 5,384 (Automotive Service, 1,451; Construction and Maintenance, 906; Metalworking, 829; Electronics, 493; Drafting, 422; Food Preparation, 339; Air Conditioning, 260; Graphic Arts, 215; Electrical, 194; Textile Production, 173; and Custodial Services, 102). This grouping represents 78.3 percent of the total enrollment in the Trade and Industrial Occupations area.

Table 1A is a description of the total population and returns by OE Code area, type school, and termination status of the 1973-74 Trade and Industrial Occupations terminees.

TABLE 1A

DESCRIPTION OF TOTAL POPULATION AND RETURNS BY OE CODE AREA, TYPE SCHOOL, AND TERMINATION STATUS OF THE 1973-74 TRADE AND INDUSTRIAL OCCUPATIONS TERMINEES

OE Code Area Studied[A]	Occupational Title Studied by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
01.0500	Ornamental Horticulture (Total)	1	1	100.0
	AVC (Total)[B]	0	0	0.0
	Completers[C]	0	0	0.0
	Dropouts[D]	0	0	0.0
	Other Type Schools (Total)	1	1	100.0
	Completers	1	1	100.0
	Dropouts	0	0	0.0
04.0100	Advertising Services (Total)	14	6	42.9
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	14	6	42.9
	Completers	14	6	42.9
	Dropouts	0	0	0.0
04.0200	Sales, Apparel and Accessories (Total)	13	3	23.1
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	13	3	23.1
	Completers	12	3	25.0
	Dropouts	1	0	0.0
04.0300	Sales, Automotive (Total)	7	3	42.9
	AVC (Total)	2	1	50.0
	Completers	2	1	50.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	5	2	40.0
	Completers	5	2	40.0
	Dropouts	0	0	0.0

(continued)

TABLE 1A (continued)

OE Code Area Studied[A]	Occupational Title Studied by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
04.0400	Finance & Credit (Total)	5	3	60.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	5	3	60.0
	Completers	5	3	60.0
	Dropouts	0	0	0.0
04.0600	Food Distribution (Total)	19	8	42.1
	AVC (Total)	5	4	80.0
	Completers	3	3	100.0
	Dropouts	2	1	50.0
	Other Type Schools (Total)	14	4	28.6
	Completers	12	4	33.3
	Dropouts	2	0	0.0
04.0700	Food Services (Total)	3	1	33.3
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	3	1	33.3
	Completers	3	1	33.3
	Dropouts	0	0	0.0
04.0800	General Merchandise (Total)	14	3	21.4
	AVC (Total)	3	1	33.3
	Completers	3	1	33.3
	Dropouts	0	0	0.0
	Other Type Schools (Total)	11	2	18.2
	Completers	10	2	20.0
	Dropouts	1	0	0.0
04.0900	Sales, Hardware and Building Material (Total)	7	1	14.3
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0

(continued)

TABLE 1A (continued)

OE Code Area Studied[A]	Occupational Title Studied by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
	Other Type Schools (Total)	7	1	14.3
	Completers	6	1	16.7
	Dropouts	1	0	0.0
04.1000	Sales, Home Furnishings (Total)	3	1	33.3
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	3	1	33.3
	Completers	3	1	33.3
	Dropouts	0	0	0.0
04.1200	Industrial Marketing (Total)	4	1	25.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	4	1	25.0
	Completers	4	1	25.0
	Dropouts	0	0	0.0
04.1300	Insurance (Total)	1	0	0.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	1	0	0.0
	Completers	1	0	0.0
	Dropouts	0	0	0.0
04.1500	Personal Services (Total)	1	1	100.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	1	1	100.0
	Completers	1	1	100.0
	Dropouts	0	0	0.0

(continued)

TABLE 1A (continued)

OE Code Area Studied[A]	Occupational Title Studied by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
04.1800	Recreation & Tourism (Total)	1	1	100.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	1	1	100.0
	Completers	1	1	100.0
	Dropouts	0	0	0.0
04.1900	Transportation (Total)	5	1	20.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	5	1	20.0
	Completers	5	1	20.0
	Dropouts	0	0	0.0
04.2000	Retail Trade, Other (Total)	2	1	50.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	2	1	50.0
	Completers	2	1	50.0
	Dropouts	0	0	0.0
04.3100	Wholesale Trade, Other (Total)	9	3	33.3
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	9	3	33.3
	Completers	9	3	33.3
	Dropouts	0	0	0.0

(continued)

TABLE 1A (continued)

OE Code Area Studied[A]	Occupational Title Studied by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
07.0000	Health Occupations (Total)	1	1	100.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	1	1	100.0
	Completers	1	1	100.0
	Dropouts	0	0	0.0
07.0101	Dental Assisting (Total)	50	28	56.0
	AVC (Total)	4	3	75.0
	Completers	4	3	75.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	46	25	54.3
	Completers	43	24	55.8
	Dropouts	3	1	33.3
07.0103	Dental Laboratory (Total)	3	3	100.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	3	3	100.0
	Completers	3	3	100.0
	Dropouts	0	0	0.0
07.0200	Medical Laboratory (Total)	64	26	40.6
	AVC (Total)	13	6	46.2
	Completers	12	6	50.0
	Dropouts	1	0	0.0
	Other Type Schools (Total)	51	20	39.2
	Completers	47	19	40.4
	Dropouts	4	1	25.0
07.0203	Medical Lab. Asst. (Total)	68	27	39.7
	AVC (Total)	5	3	60.0
	Completers	5	3	60.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	63	24	38.1
	Completers	57	23	40.4
	Dropouts	6	1	16.7
07.0302	Practical Nursing (Total)	11	5	45.5
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0

(continued)

TABLE 1A (continued)

OE Code Area Studied[A]	Occupational Title Studied by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
	Other Type Schools (Total)	11	5	45.5
	Completers	11	5	45.5
	Dropouts	0	0	0.0
07.0303	Nurring Assistant (Total)	41	17	41.5
	AVC (Total)	6	4	66.7
	Completers	6	4	66.7
	Dropouts	0	0	0.0
	Other Type Schools (Total)	35	13	37.1
	Completers	32	13	40.6
	Dropouts	3	0	0.0
07.0402	Physical Therapy (Total)	1	0	0.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	1	0	0.0
	Completers	1	0	0.0
	Dropouts	0	0	0.0
07.0404	Orthotics (Total)	2	1	50.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	2	1	50.0
	Completers	2	1	50.0
	Dropouts	0	0	0.0
07.0500	Radiologic (Total)	1	1	100.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	1	1	100.0
	Completers	1	1	100.0
	Dropouts	0	0	0.0

(continued)

TABLE 1A (continued)

OE Code Area Studied[A]	Occupational Title Studied by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
07.0501	Radiologic Tech. (Total)	3	2	66.7
	AVC (Total)	1	1	100.0
	Completers	1	1	100.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	2	1	50.0
	Completers	2	1	50.0
	Dropouts	0	0	0.0
07.0603	Optometrist Asst. (Total)	1	0	0.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	1	0	0.0
	Completers	1	0	0.0
	Dropouts	0	0	0.0
07.0800	Mental Health Tech. (Total)	4	1	25.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	4	1	25.0
	Completers	4	1	25.0
	Dropouts	0	0	0.0
07.0903	Inhalation Therapy (Total)	4	2	50.0
	AVC (Total)	2	2	100.0
	Completers	2	2	100.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	2	0	0.0
	Completers	2	0	0.0
	Dropouts	0	0	0.0
07.0904	Medical Asst. (Total)	14	5	35.7
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0

(continued)

TABLE 1A (continued)

OE Code Area Studied[A]	Occupational Title Studied by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
	Other Type Schools (Total)	14	5	35.7
	Completers	14	5	35.7
	Dropouts	0	0	0.0
07.0909	Mortuary Science (Total)	8	4	50.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	8	4	50.0
	Completers	8	4	50.0
	Dropouts	0	0	0.0
07.9900	Health Occupations, Other (Total)	32	11	34.4
	AVC (Total)	2	0	0.0
	Completers	2	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	30	11	36.7
	Completers	27	11	40.7
	Dropouts	3	0	0.0
09.0102	Child Development (Total)	2	2	100.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	2	2	100.0
	Completers	2	2	100.0
	Dropouts	0	0	0.0
09.0201	Care and Guidance of Children (Total)	2	2	100.0
	AVC (Total)	1	1	100.0
	Completers	1	1	100.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	1	1	100.0
	Completers	1	1	100.0
	Dropouts	0	0	0.0

(continued)

TABLE 1A (continued)

OE Code Area Studied[A]	Occupational Title Studied by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
09.0202	Clothing Management (Total)	28	6	21.4
	AVC (Total)	27	5	18.5
	Completers	23	5	21.7
	Dropouts	4	0	0.0
	Other Type Schools (Total)	1	1	100.0
	Completers	1	1	100.0
	Dropouts	0	0	0.0
14.0300	General Office Clerical (Total)	34	14	41.2
	AVC (Total)	10	5	50.0
	Completers	10	5	50.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	24	9	37.5
	Completers	24	9	37.5
	Dropouts	0	0	0.0
14.0301	Duplicating Machine Operator (Total)	12	4	33.3
	AVC (Total)	4	1	25.0
	Completers	4	1	25.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	8	3	37.5
	Completers	8	3	37.5
	Dropouts	0	0	0.0
14.0901	Clerk-Typists (Total)	4	3	75.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	4	3	75.0
	Completers	4	3	75.0
	Other	0	0	0.0

(continued)

TABLE 1A (continued)

OE Code Area Studied[A]	Occupational Title Studied by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
16.0201	Animal Science (Total)	1	1	100.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	1	1	100.0
	Completers	1	1	100.0
	Dropouts	0	0	0.0
17.0000	Trade and Industrial Occupations (Total)	19	3	15.8
	AVC (Total)	12	2	16.7
	Completers	4	1	25.0
	Dropouts	8	1	12.5
	Other Type Schools (Total)	7	1	14.3
	Completers	3	1	33.3
	Dropouts	4	0	0.0
17.0100	Air Conditioning (Total)	203	54	26.6
	AVC (Total)	127	38	29.9
	Completers	87	34	39.1
	Dropouts	40	4	10.0
	Other Type Schools (Total)	76	16	21.1
	Completers	48	15	31.3
	Dropouts	28	1	3.6
17.0101	Cooling (Total)	48	7	14.6
	AVC (Total)	23	3	13.0
	Completers	8	3	37.5
	Dropouts	15	0	0.0
	Other Type Schools (Total)	25	4	16.0
	Completers	17	3	17.6
	Dropouts	8	1	12.5
17.0102	Heating (Total)	1	0	0.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0

(continued)

TABLE 1A (continued)

OE Code Area Studied[A]	Occupational Title Studied by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
	Other Type Schools (Total)	1	0	0.0
	Completers	1	0	0.0
	Dropouts	0	0	0.0
17.0103	Ventilating (Total)	1	0	0.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	1	0	0.0
	Completers	1	0	0.0
	Dropouts	0	0	0.0
17.0199	Air Conditioning, Other (Total)	7	1	14.3
	AVC (Total)	6	1	16.7
	Completers	2	0	0.0
	Dropouts	4	1	25.0
	Other Type Schools (Total)	1	0	0.0
	Completers	0	0	0.0
	Dropouts	1	0	0.0
17.0200	Appliance Repair (Total)	72	12	16.7
	AVC (Total)	14	1	7.1
	Completers	13	1	7.7
	Dropouts	1	0	0.0
	Other Type Schools (Total)	58	11	19.0
	Completers	45	8	17.8
	Dropouts	13	3	23.1
17.0201	Electrical Appliances (Total)	1	0	0.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	1	0	0.0
	Completers	1	0	0.0
	Dropouts	0	0	0.0

(continued)

TABLE 1A (continued)

OE Code Area Studied[A]	Occupational Title Studied by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
17.0202	Gas Appliances (Total)	2	1	50.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	2	1	50.0
	Completers	2	1	50.0
	Dropouts	0	0	0.0
17.0300	Automotive Service (Total)	8	4	50.0
	AVC (Total)	1	0	0.0
	Completers	1	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	7	4	57.1
	Completers	7	4	57.1
	Dropouts	0	0	0.0
17.0301	Body and Fender (Total)	395	99	25.1
	AVC (Total)	278	71	25.5
	Completers	167	56	33.5
	Dropouts	111	15	13.5
	Other Type Schools (Total)	117	28	23.9
	Completers	96	25	26.0
	Dropouts	21	3	14.3
17.0302	Auto Mechanics (Total)	930	221	23.8
	AVC (Total)	482	127	26.3
	Completers	306	100	32.7
	Dropouts	176	27	15.3
	Other Type Schools (Total)	448	94	21.0
	Completers	324	81	25.0
	Dropouts	124	13	10.5
17.0303	Auto Specialization, Other (Total)	91	21	23.1
	AVC (Total)	21	2	9.5
	Completers	18	2	11.1
	Dropouts	3	0	0.0

(continued)

TABLE 1A (continued)

OE Code Area Studied[A]	Occupational Title Studied by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
	Other Type Schools (Total)	70	19	27.1
	Completers	58	19	32.8
	Dropouts	12	0	0.0
17.0399	Auto Service, Other (Total)	27	6	22.2
	AVC (Total)	2	0	0.0
	Completers	2	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	25	6	24.0
	Completers	20	5	25.0
	Dropouts	5	1	20.0
17.0401	Aircraft Maintenance (Total)	43	6	14.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	43	6	14.0
	Completers	24	5	20.8
	Dropouts	19	1	5.3
17.0499	Aviation Occupations, Other (Total)	1	0	0.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	1	0	0.0
	Completers	1	0	0.0
	Dropouts	0	0	0.0
17.0504	Blue Print Reading (Total)	6	1	16.7
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	6	1	16.7
	Completers	6	1	16.7
	Dropouts	0	0	0.0

(continued)

TABLE 1A (continued)

OE Code Area Studied[A]	Occupational Title Studied by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
17.0600	Business Machine Maintenance (Total)	23	6	26.1
	AVC (Total)	15	3	20.0
	Completers	9	3	33.3
	Dropouts	6	0	0.0
	Other Type Schools (Total)	8	3	37.5
	Completers	7	3	42.9
	Dropouts	1	0	0.0
17.0700	Commercial Art Occupations (Total)	22	6	27.3
	AVC (Total)	14	3	21.4
	Completers	9	2	22.2
	Dropouts	5	1	20.0
	Other Type Schools (Total)	8	3	37.5
	Completers	7	3	42.9
	Dropouts	1	0	0.0
17.0701	Interior Decorating (Total)	1	0	0.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	1	0	0.0
	Completers	1	0	0.0
	Dropouts	0	0	0.0
17.0702	Window Display (Total)	3	0	0.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	3	0	0.0
	Completers	3	0	0.0
	Dropouts	0	0	0.0
17.0703	Product Design (Total)	1	1	100.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0

(continued)

TABLE 1A (continued)

OE Code Area Studied[A]	Occupational Title Studied by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
	Other Type Schools (Total)	1	1	100.0
	Completers	1	1	100.0
	Dropouts	0	0	0.0
17.0799	Commercial Art Occupations, Other (Total)	1	0	0.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	1	0	0.0
	Completers	1	0	0.0
	Dropouts	0	0	0.0
17.0800	Commercial Fisheries Occupations (Total)	20	2	10.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	20	2	10.0
	Completers	17	2	11.8
	Dropouts	3	0	0.0
17.0900	Commercial Photography (Total) (Total)	19	8	42.1
	AVC (Total)	3	2	66.7
	Completers	3	2	66.7
	Dropouts	0	0	0.0
	Other Type Schools (Total)	16	6	37.5
	Completers	15	6	40.0
	Dropouts	1	0	0.0
17.10000	Construction and Maintenance (Total)	29	11	37.9
	AVC (Total)	20	8	40.0
	Completers	10	6	60.0
	Dropouts	10	2	20.0
	Other Type Schools (Total)	9	3	33.3
	Completers	8	2	25.0
	Dropouts	1	1	100.0

(continued)

TABLE 1A (continued)

OE Code Area Studied[A]	Occupational Title Studied by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
17.1001	Carpentry (Total)	241	60	24.9
	AVC (Total)	109	27	24.8
	Completers	70	22	31.4
	Dropouts	39	5	12.8
	Other Type Schools (Total)	132	33	25.0
	Completers	95	27	28.4
	Dropouts	37	6	16.2
17.1002	Electricity (Total)	62	16	25.8
	AVC (Total)	48	13	27.1
	Completers	32	10	31.3
	Dropouts	16	3	18.8
	Other Type Schools (Total)	14	3	21.4
	Completers	13	2	15.4
	Dropouts	1	1	100.0
17.1003	Heavy Equipment (Total)	6	2	33.3
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	6	2	33.3
	Completer	5	2	40.0
	Dropouts	1	0	0.0
17.1004	Masonry (Total)	345	74	21.4
	AVC (Total)	238	54	22.7
	Completers	161	43	26.7
	Dropouts	77	11	14.3
	Other Type Schools (Total)	107	20	18.7
	Completers	74	15	20.3
	Dropouts	33	5	15.2
17.1005	Painting & Decorating (Total)	22	4	18.2
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0

(continued)

TABLE 1A (continued)

OE Code Area Studied[A]	Occupational Title Studied by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
	Other Type Schools (Total)	22	4	18.2
	Completers	19	4	21.1
	Dropouts	3	0	0.0
17.1007	Plumbing & Pipefitting (Total)	26	8	30.8
	AVC (Total)	4	0	0.0
	Completers	1	0	0.0
	Dropouts	3	0	0.0
	Other Type Schools (Total)	22	8	36.4
	Completers	22	8	36.4
	Dropouts	0	0	0.0
17.1008	Dry Wall Construction (Total)	1	0	0.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	1	0	0.0
	Completers	1	0	0.0
	Dropouts	0	0	0.0
17.1009	Glazing (Total)	11	2	18.2
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	11	2	18.2
	Completers	9	2	22.2
	Dropouts	2	0	0.0
17.1010	Roofing (Total)	1	0	0.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	1	0	0.0
	Completers	1	0	0.0
	Dropouts	0	0	0.0

(continued)

TABLE 1A (continued)

OE Code Area Studied[A]	Occupational Title Studied by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
17.1099	Construction, Other (Total)	162	24	14.8
	AVC (Total)	51	6	11.8
	Completers	30	6	20.0
	Dropouts	21	0	0.0
	Other Type Schools (Total)	111	18	16.2
	Completers	98	18	18.4
	Dropouts	13	0	0.0
17.1100	Custodial Services (Total)	102	14	13.7
	AVC (Total)	10	2	20.0
	Completers	8	2	25.0
	Dropouts	2	0	0.0
	Other Type Schools (Total)	92	12	13.0
	Completers	75	10	13.3
	Dropouts	17	2	11.8
17.1200	Diesel Mechanics (Total)	68	17	25.0
	AVC (Total)	32	9	28.1
	Completers	19	8	42.1
	Dropouts	13	1	7.7
	Other Type Schools (Total)	36	8	22.2
	Completers	30	8	26.7
	Dropouts	6	0	0.0
17.1300	Drafting (Total)	422	143	35.1
	AVC (Total)	224	85	37.9
	Completers	175	77	44.0
	Dropouts	49	8	16.3
	Other Type Schools (Total)	198	63	31.8
	Completers	138	57	41.3
	Dropouts	60	6	10.0
17.1400	Electrical Occupations (Total)	64	22	34.4
	AVC (Total)	23	12	52.2
	Completers	11	7	72.7
	Dropouts	12	5	33.3

(continued)

TABLE 1A (continued)

OE Code Area Studied[A]	Occupational Title Studied by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
	Other Type Schools (Total)	41	10	24.4
	Completers	28	8	28.6
	Dropouts	13	2	15.4
17.1401	Industrial Electrician (Total)	118	45	38.1
	AVC (Total)	71	25	35.2
	Completers	44	21	47.7
	Dropouts	27	4	14.8
	Other Type Schools (Total)	47	20	42.6
	Completers	43	19	44.2
	Dropouts	4	1	25.0
17.1402	Lineman (Total)	2	1	50.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	2	1	50.0
	Completers	1	1	100.0
	Dropouts	1	0	0.0
17.1403	Motor Repairman (Total)	7	1	14.3
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	7	1	14.3
	Completers	6	1	16.7
	Dropouts	1	0	0.0
17.1499	Electrical Occupations, Other (Total)	3	1	33.3
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	3	1	33.3
	Completers	3	1	33.3
	Dropouts	0	0	0.0

(continued)

TABLE 7A (continued)

OE Code Area Studied[A]	Occupational Title Studied by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
17.1500	Electronics Occupations (Total)	192	61	31.8
	AVC (Total)	130	44	33.8
	Completers	94	39	41.5
	Dropouts	36	5	13.9
	Other Type Schools (Total)	62	17	27.4
	Completers	50	16	32.0
	Dropouts	12	1	8.3
17.1501	Communications (Total)	15	5	33.3
	AVC (Total)	2	1	50.0
	Completers	2	1	50.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	13	4	30.8
	Completers	13	4	30.8
	Dropouts	0	0	0.0
17.1502	Industrial Electronics (Total)	15	3	20.0
	AVC (Total)	2	0	0.0
	Completers	0	0	0.0
	Dropouts	2	0	0.0
	Other Type Schools (Total)	13	3	30.0
	Completers	10	3	30.0
	Dropouts	3	0	0.0
17.1503	Radio/Television (Total)	271	66	24.4
	AVC (Total)	184	47	25.5
	Completers	124	39	31.5
	Dropouts	60	8	13.3
	Other Type Schools (Total)	87	19	21.8
	Completers	65	18	27.7
	Dropouts	22	1	4.5

(continued)

TABLE 1A (continued)

OE Code Area Studied[A]	Occupational Title Studied by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
17.1600	Fabric Maintenance Services (Total)	2	1	50.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	2	1	50.0
	Completers	1	1	100.0
	Dropouts	1	0	0.0
17.1601	Drycleaning (Total)	11	3	27.3
	AVC (Total)	1	1	100.0
	Completers	1	1	100.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	10	2	20.0
	Completers	6	1	16.7
	Dropouts	4	1	25.0
17.1602	Laundering (Total)	1	0	0.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	1	0	0.0
	Completers	1	0	0.0
	Dropouts	0	0	0.0
17.1699	Fabric Maintenance Services, Other (Total)	1	1	100.0
	AVC (Total)	1	1	100.0
	Completers	1	1	100.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0

(continued)

TABLE 1A (continued)

OE Code Area Studied[A]	Occupational Title Studied by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
17.1700	Foremanship/Management Development (Total)	12	3	25.0
	AVC (Total)	3	1	33.3
	Completers	1	1	100.0
	Dropouts	2	0	0.0
	Other Type Schools (Total)	9	2	22.2
	Completers	5	2	40.0
	Dropouts	4	0	0.0
17.1900	Graphic Arts Occupations (Total)	206	61	29.6
	AVC (Total)	94	29	30.9
	Completers	51	27	52.9
	Dropouts	43	2	4.7
	Other Type Schools (Total)	112	32	28.6
	Completers	92	30	32.6
	Dropouts	20	2	10.0
17.1902	Printing Press Oper. (Total)	4	1	25.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	4	1	25.0
	Completers	4	1	25.0
	Dropouts	0	0	0.0
17.1999	Graphic Arts, Other (Total)	5	1	20.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	5	1	20.0
	Completers	5	1	20.0
	Dropouts	0	0	0.0

(continued)

TABLE 1A (continued)

OE Code Area Studied[A]	Occupational Title Studied by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
17.2100	Instrument Maintenance and Repair (Total)	4	1	25.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	4	1	25.0
	Completers	3	1	33.3
	Dropouts	1	0	0.0
17.2101	Instruments (Not watches or clocks) (Total)	2	1	50.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	2	1	50.0
	Completers	2	1	50.0
	Dropouts	0	0	0.0
17.2200	Maritime Occupations (Total)	2	0	0.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	2	0	0.0
	Completers	2	0	0.0
	Dropouts	0	0	0.0
17.2300	Metalworking (Total)	87	27	31.0
	AVC (Total)	53	12	22.6
	Completers	37	9	24.3
	Dropouts	16	3	18.8
	Other Type Schools (Total)	34	15	44.1
	Completers	25	10	40.0
	Dropouts	9	5	55.6
17.2301	Foundry (Total)	8	3	37.5
	AVC (Total)	1	1	100.0
	Completers	1	1	100.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	7	2	28.8
	Completers	6	2	33.3
	Dropouts	1	0	0.0
17.2302	Machine Shop (Total)	175	47	26.9
	AVC (Total)	104	21	20.2
	Completers	61	18	29.5
	Dropouts	43	3	7.0

(continued)

TABLE 1A (continued)

OE Code Area Studied[A]	Occupational Title Studied by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
	Other Type Schools (Total)	71	26	36.6
	Completers	47	21	44.7
	Dropouts	24	5	20.8
17.2303	Machine Tool Oper. (Total)	20	7	35.0
	AVC (Total)	3	1	33.3
	Completers	2	1	50.0
	Dropouts	1	0	0.0
	Other Type Schools (Total)	17	6	35.3
	Completers	15	6	40.0
	Dropouts	2	0	0.0
17.2304	Metal Trades, Combined (Total)	2	0	0.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	2	0	0.0
	Completers	1	0	0.0
	Dropouts	1	0	0.0
17.2305	Sheet Metal (Total)	46	12	26.1
	AVC (Total)	7	5	71.4
	Completers	6	4	66.7
	Dropouts	1	1	100.0
	Other Type Schools (Total)	39	7	17.9
	Completers	23	6	26.1
	Dropouts	16	1	6.3
17.2306	Welding & Cutting (Total)	484	131	27.1
	AVC (Total)	276	85	30.8
	Completers	192	72	37.5
	Dropouts	84	13	15.5
	Other Type Schools (Total)	208	46	22.1
	Completers	142	41	28.9
	Dropouts	66	5	7.6

(continued)

TABLE 1A (continued)

OE Code Area Studied[A]	Occupational Title Studied by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
17.2309	Metal Patternmaking (Total)	3	0	0.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	3	0	0.0
	Completers	3	0	0.0
	Dropouts	0	0	0.0
17.2399	Metalworking, Other (Total)	3	1	33.3
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	3	1	33.3
	Completers	3	1	33.3
	Dropouts	0	0	0.0
17.2400	Metallurgy (Total)	1	0	0.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	1	0	0.0
	Completers	1	0	0.0
	Dropouts	0	0	0.0
17.2600	Personal Services (Total)	5	0	0.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools	5	0	0.0
	Completers	3	0	0.0
	Dropouts	2	0	0.0
17.2601	Barbering (Total)	12	2	16.7
	AVC (Total)	11	2	18.2
	Completers	8	1	12.5
	Dropouts	3	1	33.3

(continued)

TABLE 1A (continued)

OE Code Area Studied[A]	Occupational Title Studied by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
	Other Type Schools (Total)	1	0	0.0
	Completers	1	0	0.0
	Dropouts	0	0	0.0
17.2602	Cosmetology (Total)	55	17	30.9
	AVC (Total)	10	4	40.0
	Completers	9	4	44.4
	Dropouts	1	0	0.0
	Other Type Schools (Total)	45	13	28.9
	Completers	42	12	28.6
	Dropouts	3	1	33.3
17.2699	Personal Services, Other (Total)	17	5	29.4
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	17	5	29.4
	Completers	13	5	38.5
	Dropouts	4	0	0.0
17.2700	Plastic Occupations (Total)	2	1	50.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	2	1	50.0
	Completers	1	0	0.0
	Dropouts	1	1	100.0
17.2800	Public Service Occupations (Total)	9	5	55.6
	AVC (Total)	1	1	100.0
	Completers	1	1	100.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	8	4	50.0
	Completers	6	4	66.7
	Dropouts	2	0	0.0

(continued)

TABLE 1A (continued)

OE Code Area Studied[A]	Occupational Title Studied by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
17.2802	Law Enforcement Training (Total)	1	1	100.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	1	1	100.0
	Completers	1	1	100.0
	Dropouts	0	0	0.0
17.2900	Quantity Food Occupations (Total)	46	20	43.5
	AVC (Total)	1	0	0.0
	Completers	1	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	45	20	44.4
	Completers	34	19	55.9
	Dropouts	11	1	9.1
17.2901	Baker (Total)	4	1	25.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	4	1	25.0
	Completers	4	1	25.0
	Dropouts	0	0	0.0
17.2902	Cook/Chef (Total)	164	50	30.5
	AVC (Total)	5	3	60.0
	Completers	4	3	75.0
	Dropouts	1	0	0.0
	Other Type Schools (Total)	159	47	29.6
	Completers	136	43	31.6
	Dropouts	23	4	17.4
17.2903	Meat Cutter (Total)	65	18	27.7
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0

(continued)

TABLE 1A (continued)

OE Code Area Studied[A]	Occupational Title Studied by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
	Other Type Schools (Total)	65	18	27.7
	Completers	48	14	29.2
	Dropouts	17	4	23.5
17.2904	Waiter/Waitress (Total)	53	13	24.5
	AVC (Total)	8	1	12.5
	Completers	4	1	25.0
	Dropouts	4	0	0.0
	Other Type Schools (Total)	45	12	26.7
	Completers	39	11	28.2
	Dropouts	6	1	16.7
17.2999	Quantity Foods Occupations (Total)	7	0	0.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	7	0	0.0
	Completers	6	0	0.0
	Dropouts	1	0	0.0
17.3000	Refrigeration (Total)	96	18	18.8
	AVC (Total)	63	14	22.2
	Completers	44	12	27.3
	Dropouts	19	2	10.5
	Other Type Schools (Total)	33	4	12.1
	Completers	25	4	16.0
	Dropouts	8	0	0.0
17.3100	Small Engine Repairs (Total)	69	20	29.0
	AVC (Total)	23	7	30.4
	Completers	13	4	30.8
	Dropouts	10	3	30.0
	Other Type Schools (Total)	46	13	28.3
	Completers	39	12	30.8
	Dropouts	7	1	14.3

(continued)

TABLE 1A (continued)

OE Code Area Studied[A]	Occupational Title Studied by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
17.3300	Textile Production and Fabrication (Total)	6	1	16.7
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	6	1	16.7
	Completers	6	1	16.7
	Dropouts	0	0	0.0
17.3302	Tailoring (Total)	18	6	33.3
	AVC (Total)	7	3	42.9
	Completers	7	3	42.9
	Dropouts	0	0	0.0
	Other Type Schools (Total)	11	3	27.3
	Completers	9	3	33.3
	Dropouts	2	0	0.0
17.3399	Textile Production, Other (Total)	149	38	25.5
	AVC (Total)	32	7	21.9
	Completers	26	5	19.2
	Dropouts	6	2	33.3
	Other Type Schools (Total)	117	31	26.5
	Completers	109	31	28.4
	Dropouts	8	0	0.0
17.3400	Leatherworking (Total)	13	3	23.1
	AVC (Total)	13	3	23.1
	Completers	10	3	30.0
	Dropouts	3	0	0.0
	Other Type Schools (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
17.3401	Shoe Manufacturing (Total)	1	1	100.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0

(continued)

TABLE 1A (continued)

OE Code Area Studied	Occupational Title Studied by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
	Other Type Schools (Total)	1	1	100.0
	Completers	1	1	100.0
	Dropouts	0	0	0.0
17.3402	Shoe Repair (Total)	10	3	30.0
	AVC (Total)	5	2	40.0
	Completers	1	1	100.0
	Dropouts	4	1	25.0
	Other Type Schools (Total)	5	1	20.0
	Completers	4	1	25.0
	Dropouts	1	0	0.0
17.3500	Upholstering (Total)	72	24	33.3
	AVC (Total)	53	17	32.1
	Completers	24	12	50.0
	Dropouts	29	5	17.2
	Other Type Schools (Total)	19	7	36.8
	Completers	18	7	38.9
	Dropouts	1	0	0.0
17.3600	Woodworking (Total)	5	0	0.0
	AVC (Total)	1	0	0.0
	Completers	0	0	0.0
	Dropouts	1	0	0.0
	Other Type Schools (Total)	4	0	0.0
	Completers	3	0	0.0
	Dropouts	1	0	0.0
17.3601	Millwork and Cabinet-making (Total)	81	18	22.2
	AVC (Total)	38	6	15.8
	Completers	23	4	17.4
	Dropouts	15	2	13.3
	Other Type Schools (Total)	43	12	27.9
	Completers	20	4	20.0
	Dropouts	23	8	34.8

(continued)

TABLE 1A (continued)

OE Code Area Studied[A]	Occupational Title Studied by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
17.3699	Woodworking, Other (Total)	1	0	0.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	1	0	0.0
	Completers	1	0	0.0
	Dropouts	0	0	0.0
17.9900	Trade and Industrial, Other (Total)	178	52	29.2
	AVC (Total)	12	7	58.3
	Completers	10	7	70.0
	Dropouts	2	0	0.0
	Other Type Schools (Total)	166	45	27.1
	Completers	142	38	26.8
	Dropouts	24	7	29.2
17.9906	Taxiderm (Total)	1	0	0.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	1	0	0.0
	Completers	1	0	0.0
	Dropouts	0	0	0.0
99.0106	Career Guidance (Total)	6	0	0.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	6	0	0.0
	Completers	1	0	0.0
	Dropouts	5	0	0.0
TOTAL ALL AREAS		6855	1866	27.2
	AVC (Total)	3057	857	28.0
	Completers	2026	718	35.4
	Dropouts	1031	139	13.5

(continued)

TABLE 1A (continued)

OE Code Area Studied[A]	Occupational Title Studied by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
TOTAL ALL AREAS (continued)				
	Other Type Schools (Total)	3798	1009	26.6
	Completers	3004	910	30.3
	Dropouts	794	99	12.5

[A]OE Code areas as reported by teachers

[B]Area Vocational Centers

[C]Any terminee who left the program by completing or by high school graduation

[D]Any terminee who the instructor reported as having dropped out of school

Table 2 illustrates the sex characteristics of those 1973-74 Trade and Industrial Occupations terminees reported by the instructors and those who returned survey forms.

TABLE 2

SEX OF THE 1973-74 TRADE AND INDUSTRIAL OCCUPATIONS TERMINEES REPORTED AND BY WHO RETURNED QUESTIONNAIRES

Sex[A]	Reported		Returns	
	Number	Percent	Number	Percent
Male	5761	83.8	1515	81.2
Female	903	13.1	314	16.8
Not Known	210	3.1	37	2.0
TOTAL	6875	100.0	1866	100.0

[A]Sex as reported by teacher

Table 3 presents the racial or ethnic characteristics of those 1973-74 Trade and Industrial Occupations terminees reported by instructors and who returned survey forms.

TABLE 3

RACIAL OR ETHNIC CHARACTERISTICS OF THE 1973-74 TRADE AND INDUSTRIAL OCCUPATIONS TERMINEES REPORTED AND BY WHO RETURNED QUESTIONNAIRES

Racial or Ethnic Group[A]	Reported		Returns	
	Number	Percent	Number	Percent
American Indian	6	0.1	1	0.1
Black	2128	31.0	477	25.5
Oriental	11	0.1	3	0.2
Spanish Surnamed American	2	0.0	1	0.1
White	4587	66.7	1346	72.1
Other	9	0.1	2	0.1
Not Known	132	2.0	36	1.9
TOTAL	6875	100.0	1866	100.0

[A]Racial or Ethnic Group as reported by teacher

Table 4 illustrates the number and grade level of the 1973-74 Trade and Industrial Occupations terminees reported who dropped out of school during the academic year and by who returned the questionnaire.

TABLE 4

NUMBER OF THE 1973-74 TRADE AND INDUSTRIAL OCCUPATIONS TERMINEES REPORTED WHO DROPPED OUT OF SCHOOL DURING THE 1973-74 SCHOOL YEAR BY GRADE LEVEL

Grade Level Upon Dropping Out of School	Reported		Returns	
	Number	Percent[A]	Number	Percent[B]
Below Ninth	11	0.2	1	9.1
Ninth	96	1.4	10	10.4
Tenth	502	7.3	67	13.3
Eleventh	638	9.3	72	11.3
Twelfth	394	5.7	59	15.0
Grade Level Not Indicated by Teacher	204	3.0	29	14.2
TOTAL	1845	26.8	238	12.9

[A]Percentage is based on 6,875 total reported terminees.

[B]Percentage is based on returns by grade.

Table 5 shows the number of 1973-74 Trade and Industrial Occupations terminees who indicated whether they were in active full-time military service.

TABLE 5

ACTIVE FULL-TIME MILITARY STATUS OF 1973-74 TRADE AND INDUSTRIAL OCCUPATIONS TERMINEES WHO RETURNED QUESTIONNAIRES

Active Full-Time Military Status	Number	Percent
Yes	98	5.3
No	1684	90.2
No Response	84	4.5
TOTAL	1866	100.0

Basic Information Related to the Vocational Education Program

Table 6 points out the number of 1973-74 Trade and Industrial Occupations terminees who indicated whether this vocational program was a school requirement.

TABLE 6

1973-74 TRADE AND INDUSTRIAL OCCUPATIONS TERMINEES WHO INDICATED WHETHER THEIR VOCATIONAL PROGRAM WAS A SCHOOL REQUIREMENT

Vocational Courses Was A School Requirement	Number	Percent
Yes	96	5.1
No	1754	94.0
No Response	16	0.9
TOTAL	1866	100.0

Table 7 indicates, according to the 1973-74 Trade and Industrial Occupations terminees, the primary source of influence in selecting their vocational course.

TABLE 7

PRIMARY INFLUENCES ON THE 1973-74 TRADE AND INDUSTRIAL OCCUPATIONS TERMINEES IN SELECTING THEIR VOCATIONAL COURSE

Group or Individual Terminees Felt Influenced Them Most in Selecting Vocational Course	Number	Percent
Parent(s) or Guardian(s)	106	5.7
Guidance Counselor	69	3.7
Your Vocational Teacher	133	7.1
Another Teacher or Principal	29	1.5
Student in VED Program	146	7.8
A Friend or Relative	115	6.2
A Businessman	22	1.2
Made Choice Yourself	1220	65.4
Other[A]	18	1.0
No Response	8	0.4
TOTAL	1866	100.0

[A]See page 43 for listing of "Others" who influenced Trade and Industrial terminees in selecting their VED course.

Students in VED Programs appeared to be the greatest outside influence on those terminees enrolling in the Trade and Industrial Occupations program. One hundred forty-six (7.8%) of the terminees responding indicated that students in VED Programs influenced them most in selecting their Trade and Industrial Occupations course. However, 1,220 (65.4%) indicated that they selected their course of study on their own. Sixty-nine terminees (3.7%) indicated that a guidance counselor influenced them most in selecting their program. One hundred thirty-three (7.1%) of the terminees indicated that their vocational teacher influenced them most in selecting their course in Trade and Industrial Occupations.

Below are the responses given to the "Others" category indicated in Table 7 as to the primary source of influence in selecting their vocational course.

"Other" Persons or Groups Who Most Influenced Terminees in Selecting Their VED Course	Number
Required by school	1
To complete class schedule	1
Catholic priest	1
Couldn't get into first choice because it was full	1
The course itself	1
Needed credits	1
Available jobs in field	1
A new program	1
Already in cutting meat	1
Had to take second choice	1
To have more time on job	1
My husband	1
Previous jobs in course	1
Army vocational test	1
Pay scale	1
Interest in jobs available	1
Employer	1
Wanted work in this field	1

Table 8 indicates terminees' opinions as to whether they had adequate job or occupational information and school experiences to make a realistic career choice.

TABLE 8

OPINIONS OF 1973-74 TRADE AND INDUSTRIAL OCCUPATIONS TERMINEES AS TO WHETHER THEY HAD ADEQUATE JOB OR OCCUPATIONAL INFORMATION AND SCHOOL EXPERIENCES TO MAKE A REALISTIC CAREER CHOICE

	Number	Percent
Yes	1439	77.1
No	403	21.6
No Response	24	1.3
TOTAL	1866	100.0

Table 9 indicates whether, during the time they were taking their high school vocational program, the reporting 1973-74 terminees intended to get a job in Trade and Industrial Occupations.

TABLE 9

INDICATIONS OF 1973-74 TRADE AND INDUSTRIAL OCCUPATIONS TERMINEES AS TO WHETHER, DURING THE TIME THEY WERE TAKING THEIR HIGH SCHOOL VED PROGRAM, THEY PLANNED TO GET A JOB IN THEIR AREA OF STUDY

Intended To Get Job in Area of Study	Number	Percent
Yes	1043	55.9
No	218	11.7
Was Not Sure	590	31.6
No Response	15	0.8
TOTAL	1866	100.0

It is interesting to note that only 1,043 (55.9%) of the 1973-74 reporting Trade and Industrial Occupations terminees indicated that

during the time they were taking their Trade and Industrial Occupations program, they intended to get a job in the area they were studying.

Table 10 indicates terminees's opinions on choosing the Trade and Industrial Occupations program if they had the selection to make again.

A noteworthy point was revealed by the data. Of the 1973-74 Trade and Industrial Occupations terminees, 1,430 (76.6%) indicated that they would select the same vocational program if they had the choice to make again. Ninety-eight (5.3%) of the responding terminees indicated that they would not take a vocational program.

TABLE 10

OPINIONS OF 1973-74 TRADE AND INDUSTRIAL OCCUPATIONS TERMINEES REGARDING THEIR VOCATIONAL PROGRAM

Question: If You Had It To Do Over Again, Would You...?	Number	Percent
Take the same vocational program	1430	76.6
Not take a vocational program	98	5.3
Choose another vocational program offered in your school, such as _____ [A]	213	11.4
Choose another vocational program if it had been offered in your school, such as _____ [B]	75	4.0
No Response	50	2.7
TOTAL	1866	100.0

[A]See listing IA, page 46, for those other vocational programs offered in terminees' school that they would have taken instead of their Trade and Industrial programs.

[B]See listing IB, page 47, for the vocational programs the terminees would have taken instead of their Trade and Industrial program if it had been offered in their school.

Listing IA — Courses offered in their school that Trade and Industrial Occupations terminees indicated they would have taken if they had it all to over again.

Course	Number
Auto Mechanics	33
Welding	33
Electronics	27
Business and Office	12
Sales and Marketing	10
Body and Fender	8
Electricity	8
Computer Programming	7
Drafting	6
Masonry	6
Business Administration	5
Nursing	5
Trade School	5
Air Conditioning and Refrigeration	4
Machinist	4
Typist or Cashier	4
Agriculture	3
Carpentry	3
Diesel Mechanics	3
Foods	3
Health Occupations	3
Accounting	2
Engineering	2
Law	2
Art	1
Barbering	1
Business Machines	1
Construction	1
Cosmetology	1
Floristry	1
Home Economics	1
Keypunch	1
Medical Records	1
Medical Specialist	1
One with a good teacher	1
One you could get a job at	1
Plumbing	1
Physical Therapy	1
Printing	1
Sheet Metal	1
Shoe Repair	1
Speech Therapy	1
Upholstery	1
VIE	1

Listing IB -- Courses Trade and Industrial Occupations terminees indicated they would have taken if they had it all to do over again and the course was offered in their school.

Course	Number
Electronics	14
Mechanics	10
Welding	9
Computer Programming	7
Electricity	6
Drafting	5
Health Occupations	5
Machine Shop	4
Business	3
Animal Technology	2
Auto Body Repair	2
Carpentry	2
Foods	2
Law Enforcement	2
Math	2
Motorcycle Mechanics	2
Nursing	2
Printing	2
Sheet Metal	2
Art - Commercial	1
Aviation	1
Blue Print Reading	1
Business Machines	1
Cattle Production	1
Cosmetology	1
Sales and Marketing (DE)	1
Diesel Mechanics	1
Forestry	1
Glazier	1
I don't know; there had to be something better	1
Interior Decorating	1
Keypunch	1
Laboratory Technical	1
Landscaping	1
Law	1
Photography	1
Printing - Silk Screen	1
ROTC	1
Sewing	1
Shoe Repair	1
Telephone Service	1
Teletype Work	1
Truck Driving	1
X-Ray Technician	1

Table 11 indicates the extent to which the reporting 1973-74 Trade and Industrial Occupations terminees felt their high school vocational programs prepared them for their first job. This data was also broken down by how that first job related to their vocational program.

Terminees who were in full-time active military service or who had never been employed were not asked to respond to the questions from which this data was reported. Also, the terminees who failed to respond to the question items were not indicated in the table.

TABLE 11

PERCEPTIONS OF 1973-74 TRADE AND INDUSTRIAL OCCUPATIONS TERMINEES AS TO THE EXTENT THEIR HIGH SCHOOL VOCATIONAL PROGRAM PREPARED THEM FOR THEIR FIRST FULL-TIME JOB BY HOW FIRST FULL-TIME JOB RELATED TO TRAINING

Extent Vocational Course Prepared for First Full-Time Job	Total Reporting		Number Reporting by Relatedness of First Full-Time Job to Training Received					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Excellent	164	15.0	105	29.8	20	8.5	39	7.7
Well Prepared	348	31.8	182	51.7	116	49.4	50	9.8
Fair	165	15.0	53	15.1	66	28.1	46	9.0
Poorly Prepared	34	3.1	8	2.3	7	3.0	19	3.7
Preparation not related to job	385	35.1	4	1.1	26	11.0	355	69.8
TOTAL	1096	100.0	352	100.0	235	100.0	509	100.0

In noting the extent to which the 1973-74 Trade and Industrial Occupations terminees felt their high school vocational course prepared them

for their first full-time job by how their first full-time job related to the training they received in their high school Trade and Industrial program, some interesting points were revealed. Five hundred twelve (46.8%) of the 1973-74 Trade and Industrial Occupations terminees responding to this item indicated "Excellent" or "Well Prepared" for their first full-time job as a result of the training received in their high school vocational education program. Two hundred eighty-seven (81.5%) of the 352 terminees employed in their first full-time job related directly to their training felt they were excellent or well prepared for this first job. Only eight terminees who were working in an area directly related to their vocational training felt they were poorly prepared for their first job. There were four additional terminees who indicated they were working in an area directly related to their vocational course and felt their preparation was not related to their jobs. Of all the responding terminees, 34 (3.1%) felt that they were poorly prepared for their first full-time job. Of these, eight were working in an area directly related to their vocational course.

Table 12 indicates the extent to which the reporting 1973-74 Trade and Industrial Occupations terminees felt their high school vocational course prepared them for their present job. Also shown in the table is a breakdown of the data by how their present job was related to their vocational program.

Terminees in active full-time military service, and students who were attending school full time and had not had a job, were not asked to respond to the question from which Table 12 was prepared. Also, those other students who failed to respond to the items were not shown on the table.

Of the 1,175 terminees responding to these items, 542 (46.1%) indicated "Excellent" or "Well Prepared" for their present job as a result

of their high school vocational program. Thirty-three terminees reported feeling poorly prepared for their present job as a result of their training.

TABLE 12

PERCEPTIONS OF 1973-74 TRADE AND INDUSTRIAL OCCUPATIONS TERMINEES AS TO THE EXTENT THEIR HIGH SCHOOL VOCATIONAL COURSE PREPARED THEM FOR THEIR PRESENT JOB BY HOW THEIR PRESENT JOB RELATED TO TRAINING

Extent Vocational Course Prepared for Present Job	Total Reporting		Number Reporting by Relatedness of Present Job to Training Received					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Excellent	141	12.0	84	23.9	28	10.1	29	5.3
Well Prepared	401	34.1	194	55.0	137	49.3	70	12.9
Fair[A]	149	12.7	53	15.0	66	23.7	30	5.5
Poorly Prepared	33	2.8	12	3.4	8	2.9	13	2.4
Preparation not related to job	451	38.4	10	2.8	39	14.0	402	73.9
TOTAL	1175	100.0	353	100.0	278	100.0	544	100.0

[A]See listing, page 51, for reasons terminees specified for only being trained "Fair" by their vocational course for their present job.

[B]See listing, page 51, for reasons terminees specified for only being "Poorly Prepared" by their vocational course for their present job.

Two hundred seventy-eight (78.8%) of the 353 responding terminees working in an area directly related to their high school vocational program indicated that they felt excellent or well prepared by their training.

The following lists the reasons the 1973-74 Trade and Industrial Occupations terminees indicated for being trained only "Fair" by their vocational course for their present job.

Reasons	Number
Training different from that needed in job	38
Not enough time to train	19
Need for better training	14
Need for equipment and machines	8
Not enough supplies and material in classes	5
The class work was only general	5
The class work was not advanced enough	5
Books not up to date	3
Experience required for most jobs	3
Lack of interest in course (student)	3
Instructor didn't have any interest in course	3
Instructor was not prepared to teach	2
Program was short of books	2
Instructor didn't know policies of job	1
No facilities	1
Enrolled too late	1
Programs used only study guides	1
Program was contradictory	1
Needed training on different types of tools and machines	1
I need a refresher course	1

The terminees who indicated they were "Poorly Prepared" for their present job by their vocational program gave reasons why they felt that way.

Reasons	Number
Teaching not related to job	9
Lack of teaching	2
Materials outdated	2
No instruction at school	1
Only had books--no supplies or equipment	1
Study guide outdated	1
Text outdated	1
Books generalized	1
No books	1
Everything wasn't covered	1
Poor training	1
Lack of teacher interest if we learned or not	1
Untrained teacher	1
Wrong field for me	1

Table 13 focuses on the Trade and Industrial Occupations student club. The researchers sought to determine the extent to which the

1973-74 Trade and Industrial Occupations terminees felt that their high school student club aided in preparing them for their present job. Data are also broken down by the relationship of the present job to the vocational training received.

TABLE 13

PERCEPTIONS OF 1973-74 TRADE AND INDUSTRIAL OCCUPATIONS TERMINEES AS TO THE EXTENT THEIR HIGH SCHOOL VOCATIONAL STUDENT CLUB PREPARED THEM FOR THEIR PRESENT JOB BY HOW THEIR PRESENT JOB RELATED TO TRAINING[A]

Extent High School Vocational Student Club Helped Prepare for Present Job	Total Reporting		Total Reporting by Relatedness of Present Job to Vocational Training					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Excellent	112	15.8	48	19.6	29	15.3	35	12.8
Well Prepared	231	32.6	101	41.2	65	34.2	65	23.8
Fair	251	35.5	68	27.8	71	37.4	112	41.0
Poorly Prepared	114	16.1	28	11.4	25	13.1	61	22.4
TOTAL	708	100.0	245	100.0	190	100.0	273	100.0

[A]Of the 1,338 who responded, 108 (8.1%) had no related student club available, and 437 (32.7%) were not members of a related student club.

Only respondents who had had a job since terminating their high school vocational Trade and Industrial program were asked to respond to the question reported in Table 13. Students in active full-time military service were excluded. One hundred eight (8.1%) of the 1,338 terminees reported no related student club was available, while 437 (32.7%) were not members of a related student club.

Three hundred forty-three (48.4%) of the 708 terminees who participated in student club activities indicated they were "Excellent" or "Well Prepared" by their related student club for their present job. One hundred fourteen (16.1%) indicated they were "Poorly Prepared" by their related student club for their present job. Of those 114, 53 (46.5%) were in related or somewhat related jobs, while 61 (53.5%) were in non-related jobs.

Of those terminees who were working in an area directly related to the training they received in their high school vocational program, 149 (60.8%) revealed that they were "Excellent" or "Well Prepared" for their present job by their related student club. Twenty-eight (11.4%) of the 245 terminees who were working in a job directly related to the training they received indicated they were "Poorly Prepared" for their present job by their related student club.

Table 14 reports how the 1973-74 Trade and Industrial Occupations terminees rated the quality of teaching by their high school vocational instructors.

TABLE 14

1973-74 TRADE AND INDUSTRIAL OCCUPATIONS TERMINEES' RATINGS OF THE QUALITY OF TEACHING BY THEIR HIGH SCHOOL VOCATIONAL INSTRUCTORS

Rating	Number	Percent
Excellent	898	48.1
Good	654	35.0
Fair	225	12.1
Poor	43	2.3
Very Poor	37	2.0
No Response	9	0.5
TOTAL	1866	100.0

One thousand five hundred fifty-two (83.1%) of the 1,866 reporting 1973-74 Trade and Industrial Occupations terminees rated the quality of teaching by their vocational instructor either "Good" or "Excellent." Eighty (4.3%) rated the quality of teaching by their instructors "Poor" or "Very Poor."

Table 15 illustrates how the 1973-74 Trade and Industrial Occupations terminees rated their high school vocational instructor's interest in their class work.

TABLE 15

1973-74 TRADE AND INDUSTRIAL OCCUPATIONS TERMINEES' RATINGS OF THEIR HIGH SCHOOL VOCATIONAL INSTRUCTOR'S INTEREST IN THE STUDENT'S CLASS WORK

Rating	Number	Percent
Excellent	891	47.7
Good	666	35.7
Fair	203	10.9
Poor	50	2.7
Very Poor	48	2.6
No Response	8	0.4
TOTAL	1866	100.0

One thousand five hundred fifty-seven (83.4%) of the 1,866 reporting 1973-74 Trade and Industrial Occupations terminees rated the interest exhibited by their high school vocational instructor in their class work as "Good" or "Excellent." Ninety-eight (5.3%) of the terminees rated the interest their vocational instructors showed in their class work as "Poor" or "Very Poor."

Table 16 points out how the 1973-74 Trade and Industrial Occupations terminees subjectively rated the knowledge their vocational teachers

possessed about their field of study. This rating is also shown in the table by a breakdown of how the terminees' present job related to the training they received in their high school vocational program. Terminees were asked to base their judgments on their current knowledge of their job and responsibilities.

TABLE 16

1973-74 TRADE AND INDUSTRIAL OCCUPATIONS TERMINEES' RATINGS OF THE KNOWLEDGE THEIR HIGH SCHOOL VOCATIONAL TEACHER POSSESSED ABOUT THEIR FIELD OF STUDY BY HOW THE TERMINEES' PRESENT JOB RELATED TO THE TRAINING THEY RECEIVED

Ratings[A]	Total Reporting		Number Reporting by Relatedness of Present Job to Training Received					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Excellent	460	38.4	142	40.2	93	33.1	225	40.0
Good	478	40.0	130	36.8	131	46.6	217	38.5
Fair	188	15.7	59	16.7	40	14.2	89	15.8
Poor	48	4.0	16	4.6	12	4.3	20	3.6
Very Poor	23	1.9	6	1.7	5	1.8	12	2.1
TOTAL	1197	100.0	353	100.0	281	100.0	563	100.0

[A]Ratings were to be based on terminee's judgment of their current knowledge of their job and responsibilities.

Total responses to this item indicate that 938 (78.4%) of the 1,197 responding 1973-74 Trade and Industrial Occupations terminees rated the knowledge their vocational teachers possessed about their field of study either "Good" or "Excellent." For those 353 terminees working in an area

directly related to the training they received, 272 (77.0%) rated the knowledge their teachers possessed about their field of study as "Good" or "Excellent." Thirty nine (12.4%) of those who considered their job related or somewhat related rated the knowledge their vocational teachers possessed about their field of study as "Poor" or "Very Poor."

If the respondent was working in an area related to his training, he was asked to compare the facilities and equipment in his high school vocational program with those on his present job. Table 17 illustrates how the 1973-74 Trade and Industrial Occupations terminees responded.

TABLE 17

HOW 1973-74 TRADE AND INDUSTRIAL OCCUPATIONS TERMINEES WORKING IN A RELATED AREA RATED THE FACILITIES AND EQUIPMENT IN THEIR HIGH SCHOOL VOCATIONAL PROGRAM[A]

Rating[B]	Number	Percent
Better than those on present job	125	22.8
Similar to those on present job	245	44.6
Not as good as those on present job	179	32.6
TOTAL	549	100.0

[A]Seven hundred fifty-one (57.8%) of the responding 1,300 terminees indicated that their present job was not related to their vocational training enough to compare facilities and equipment.

[B]Persons who had not had a job since leaving their vocational program, including those in military service and those who attended school, were asked not to respond to questions from which data was drawn. Returns were received from 1,866 terminees.

One hundred twenty-five (22.8%) of the 549 responding 1973-74 Trade and Industrial Occupations terminees working in an area related to their training rated the facilities and equipment in their high school vocational program as better than those on his present job. Two hundred forty-five

(44.6%) rated the facilities and equipment in their high school vocational program as similar to those on their present job; however 179 (32.6%) rated the facilities and equipment not as good as those on their present job.

Table 18 shows how 1973-74 Trade and Industrial Occupations terminees, who were in a cooperative work program in school and were now working in an area related to their vocational training, rated the facilities and equipment used in their cooperative work station.

TABLE 18

HOW 1973-74 TRADE AND INDUSTRIAL OCCUPATIONS TERMINEES NOW WORKING IN A RELATED AREA, WHOSE VOCATIONAL PROGRAM INCLUDED COOPERATIVE WORK, RATED FACILITIES AND EQUIPMENT USED IN THEIR COOPERATIVE WORK STATION[A]

Rating[B]	Number	Percent
Better than those on present job	87	18.9
Similar to those on present job	171	37.2
Working at same place where cooperative training was done	119	25.9
Not as good as those on present job	83	18.0
TOTAL	460	100.0

[A]One hundred ninety-two (10.3%) of the responding 1,866 Trade and Industrial Occupations terminees indicated their vocational program was not a cooperative program. Five hundred seventy-four (30.8%) terminees indicated they were not working in an area related to their cooperative work; therefore, they did not complete this item on the questionnaire.

[B]Persons who had not had a job since leaving their vocational program, including those in military service and those attending school, were asked not to respond to questions from which data was drawn. Returns were received from 1,866 terminees.

Eighty-seven (18.9%) of the 460 responding 1973-74 Trade and Industrial Occupations terminees whose vocational programs had included cooperative work and were now working in an area related to their vocational

training, rated the facilities and equipment in their cooperative work station as better than those on their present job. One hundred seventy-one (37.2%) rated the facilities and equipment in their cooperative training station as similar to those on their present job. Eighty-three (18.0%) rated the facilities and equipment in their cooperative work station not as good as those in their present job. It was significant to note that 119 (25.9%) indicated they were working at the same establishment where they did their cooperative training.

Basic Employment Information

The following section of this report offers information relative to employment and job characteristics of the 1973-74 secondary Trade and Industrial Occupations terminees.

Table 19 illustrates the number of full-time jobs the responding 1973-74 Trade and Industrial Occupations terminees have had since leaving their high school vocational course.

TABLE 19

NUMBER OF FULL-TIME JOBS HELD BY THE 1973-74 TRADE AND INDUSTRIAL OCCUPATIONS TERMINEES SINCE LEAVING THEIR HIGH SCHOOL VOCATIONAL COURSE

Number of Full-Time Jobs Held	Number	Percent[A]
One	861	46.1
Two	316	16.9
Three	89	4.8
Four	13	0.7
Five or more	7	0.4
TOTAL	1286	68.9

[A]Percentage is based on the 1,866 terminees who returned the questionnaire.

There were 861 (46.1%) of the total 1,866 responding 1973-74 Trade and Industrial Occupations terminees who had been employed in just one job since leaving their high school vocational program. Three hundred sixteen (16.9%) of the terminees reported having two jobs since leaving their high school vocational course seven to eight months ago, and 109 (5.9%) reported three or more jobs since leaving their vocational course.

Table 20 reveals the first-job employment status of Trade and Industrial Occupations terminees who returned the survey by the relatedness of their vocational training to their first job.

TABLE 20

FIRST-JOB EMPLOYMENT STATUS OF TRADE AND INDUSTRIAL OCCUPATIONS TERMINEES (1973-74) BY RELATEDNESS OF VOCATIONAL TRAINING TO FIRST JOB[A]

First Job After Leaving High School Vocational Program	Total Reporting		Relatedness of Vocational Training to First Job[B]					
			Directly Related		Somewhat Related		Not Related[C]	
	No.	%	No.	%	No.	%	No.	%
Full-Time	1107	59.3	353	18.9	235	12.6	519	27.8
Part-Time	188	10.1	47	2.5	42	2.3	99	5.3
TOTAL	1295	69.4	400	21.4	277	14.8	618	33.1

[A]All percentages were based on the 1,866 (27.1%) of 6,875 terminees who returned the survey form.

[B]The terminees made the judgment as to how their first job was related to the training received in their high school vocational program.

[C]See page 60 for reasons terminees who were working in first job unrelated to this vocational training gave for not seeking job that was related before accepting their first job.

Of the 1,866 responding 1973-74 Trade and Industrial Occupations terminees, 1,107 (59.3%) were employed full time in their first job

after leaving their high school vocational program. One hundred eighty-eight terminees' first jobs were on a part-time basis.

Four hundred (21.4%) of the 1,866 responding terminees' first jobs (full-time or part-time) were in an area directly related to the training they received in their high school vocational course. Two hundred seventy-seven (14.8%) were employed in an area somewhat related while 618 (33.1%) were employed in a first job not related to the training they received. The terminees made the judgment as to how their first job was related to the training they received in their high school vocational program.

Of the 618 terminees who indicated their jobs were not related to their vocational course, 308 (49.8%) terminees indicated that before they accepted their unrelated job, they tried to get a job that was related to their vocational training. However, 310 (50.2%) of the terminees did not.

The following is a list of reasons given by 159 of the 310 terminees who, before taking their first unrelated job indicated they did not seek a job that was related to their vocational training.

Reasons	Number
Not interested in work in that vocational area	40
Not enough training and experience for a job	28
Only interested in a job--any job	19
Nothing available in area	19
Already had a job	14
Pay not high enough	9
Didn't know where to look for a job	4
Joined armed services	4
Too young for type of work	3
Planned to go to college	3
Planned to continue training	2
Still in school	2
Heard about layoffs in this field	1
No need	1
Didn't think I would get hired	1
Not sure	1

(continued)

Reasons	Number
Didn't have the time	1
Tired of being dirty	1
Took course as a hobby	1
Disabled	1
No one was for you	1
Personal reasons	1
I joined a union	1
Instructor turned me totally against that type of job	1

Table 21 shows by OE Code for the first job of the 1973-74 Trade and Industrial Occupations terminees the relatedness of their training to this first job.

TABLE 21

1973-74 TRADE AND INDUSTRIAL OCCUPATIONS TERMINEES' FIRST JOB BY OE CODE STUDIED AND RELATEDNESS OF TRAINING[A]

OE Code	Title of Occupational Objective Studied	Total Employed by Area Studied		Relatedness of Training to First Job[B]					
				Directly Related		Somewhat Related		Not Related	
		No.	%	No.	%	No.	%	No.	%
01.0500	Ornamental Horticulture	1	0.1	1	100.0	0	0.0	0	0.0
04.0100	Advertising Service	4	0.3	1	25.0	1	25.0	2	50.0
04.0200	Sales, Apparel and Accessories	2	0.1	1	50.0	0	0.0	1	50.0
04.0300	Sales, Automotive	3	0.2	1	33.3	1	33.3	1	33.3
04.0400	Finance and Credit	3	0.2	2	66.7	0	0.0	1	33.3
04.0600	Food Distribution	7	0.5	5	71.4	1	14.3	1	14.3
04.0700	Food Services	0	0.0	0	0.0	0	0.0	0	0.0
04.0800	General Merchandise	3	0.2	0	0.0	1	33.3	2	66.7
04.0900	Sales, Hardware and Building Material	1	0.1	0	0.0	1	100.0	0	0.0
04.1000	Sales, Home Furnishings	1	0.1	0	0.0	1	100.0	0	0.0
04.1200	Industrial Marketing	1	0.1	0	0.0	1	100.0	0	0.0
04.1300	Insurance	0	0.0	0	0.0	0	0.0	0	0.0
04.1500	Personal Services	1	0.1	0	0.0	1	100.0	0	0.0
04.1800	Recreation & Tourism	0	0.0	0	0.0	0	0.0	0	0.0
04.1900	Transportation	1	0.1	1	100.0	0	0.0	0	0.0
04.2000	Retail Trade, Other	1	0.1	0	0.0	1	100.0	0	0.0

(continued)

TABLE 21 (continued)

OE Code	Title of Occupational Objective Studied	Total Employed by Area Studied		Relatedness of Training to First Job[B]					
				Directly Related		Somewhat Related		Not Related	
		No.	%	No.	%	No.	%	No.	%
04.3100	Wholesale Trade, Other	2	0.1	1	50.0	0	0.0	1	50.0
07.0000	Health Occupations	0	0.0	0	0.0	0	0.0	0	0.0
07.0101	Dental Assisting	20	1.5	15	75.0	3	15.0	2	10.0
07.0103	Dental Laboratory	1	0.1	1	100.0	0	0.0	0	0.0
07.0200	Medical Laboratory	15	1.1	7	46.6	4	26.7	4	26.7
07.0203	Medical Lab. Asst.	18	1.3	11	61.1	3	16.7	4	22.2
07.0302	Practical Nurse	1	0.1	1	100.0	0	0.0	0	0.0
07.0303	Nursing Assistant	14	1.1	8	57.2	1	7.1	5	35.7
07.0402	Physical Therapy	0	0.0	0	0.0	0	0.0	0	0.0
07.0404	Orthotics	0	0.0	0	0.0	0	0.0	0	0.0
07.0500	Radiologic	1	0.1	1	100.0	0	0.0	0	0.0
07.0501	Radiologic Tech.	2	0.1	1	50.0	1	50.0	0	0.0
07.0603	Optometrist Asst.	0	0.0	0	0.0	0	0.0	0	0.0
07.0800	Mental Health Tech.	1	0.1	0	0.0	1	100.0	0	0.0
07.0903	Inhalation Therapy	1	0.1	1	100.0	0	0.0	0	0.0
07.0904	Medical Asst.	4	0.3	1	25.0	2	50.0	1	25.0
07.0909	Mortuary Science	3	0.2	2	66.7	0	0.0	1	33.3
07.9900	Health Occupations, Other	8	0.6	6	75.0	2	25.0	0	0.0
09.0102	Child Development	2	0.1	1	50.0	0	0.0	1	50.0
09.0201	Care and Guidance of Children	2	0.1	0	0.0	1	50.0	1	50.0
09.0202	Clothing Management	1	0.1	0	0.0	1	100.0	0	0.0
14.0300	General Office Clerical	11	0.8	3	27.3	5	45.5	3	27.3
14.0301	Duplicating Machine Operator	2	0.1	0	0.0	1	50.0	1	50.0
14.0901	Clerk-Typists	2	0.1	0	0.0	2	100.0	0	0.0
16.0201	Animal Science	0	0.0	0	0.0	0	0.0	0	0.0
17.0000	Trade and Industrial Occupations	1	0.1	1	100.0	0	0.0	0	0.0
17.0100	Air Conditioning	43	3.2	12	27.9	6	14.0	25	58.1
17.0101	Cooling	4	0.3	2	50.0	0	0.0	2	50.0
17.0102	Heating	0	0.0	0	0.0	0	0.0	0	0.0
17.0103	Ventilating	0	0.0	0	0.0	0	0.0	0	0.0
17.0199	Air Conditioning, Other	1	0.1	0	0.0	0	0.0	1	100.0
17.0200	Appliance Repair	6	0.5	1	16.7	1	16.7	4	66.6
17.0201	Electrical Appliances	0	0.0	0	0.0	0	0.0	0	0.0
17.0202	Gas Appliances	1	0.1	0	0.0	1	100.0	0	0.0
17.0300	Automotive Service	4	0.3	1	25.0	1	25.0	2	50.0
17.0301	Body and Fender	81	6.1	26	32.1	4	4.9	51	63.0

(continued)

TABLE 21 (continued)

OE Code	Title of Occupational Objective Studied	Total Employed by Area Studied		Relatedness of Training to First Job[B]					
				Directly Related		Somewhat Related		Not Related	
		No.	%	No.	%	No.	%	No.	%
17.0302	Auto Mechanics	171	12.8	43	25.2	44	25.7	84	49.1
17.0303	Auto Specialization, Other	21	1.6	4	19.0	8	38.1	9	42.9
17.0399	Auto Service, Other	6	0.5	1	16.7	2	33.3	3	50.0
17.0401	Aircraft Maintenance, Other	4	0.3	1	25.0	2	50.0	1	25.0
17.0499	Aviation Occupations, Other	0	0.0	0	0.0	0	0.0	0	0.0
17.0504	Blue Print Reading	1	0.1	0	0.0	0	0.0	1	100.0
17.0600	Business Machine Maintenance	4	0.3	0	0.0	1	25.0	3	75.0
17.0700	Commercial Art Occupations	2	0.1	1	50.0	0	0.0	1	50.0
17.0701	Interior Decorating	0	0.0	0	0.0	0	0.0	0	0.0
17.0702	Window Display	0	0.0	0	0.0	0	0.0	0	0.0
17.0703	Product Design	1	0.1	0	0.0	1	100.0	0	0.0
17.0799	Commercial Art Occupations, Other	0	0.0	0	0.0	0	0.0	0	0.0
17.0800	Commercial Fisheries Occupations	2	0.1	0	0.0	1	50.0	1	50.0
17.0900	Commercial Photography	6	0.5	3	50.0	1	16.7	2	33.3
17.1000	Construction and Maintenance	7	0.5	2	28.6	2	28.6	3	42.8
17.1001	Carpentry	50	3.7	12	24.0	15	30.0	23	46.0
17.1002	Electricity	11	0.8	3	27.2	2	18.2	6	54.5
17.1003	Heavy Equipment	2	0.1	2	100.0	0	0.0	0	0.0
17.1004	Masonry	52	3.9	13	25.0	7	13.5	32	61.5
17.1005	Painting & Decorating	2	0.1	0	0.0	2	100.0	0	0.0
17.1007	Plumbing & Pipefitting	7	0.5	3	42.8	2	28.6	2	28.6
17.1008	Dry Wall Construction	0	0.0	0	0.0	0	0.0	0	0.0
17.1009	Glazing	2	0.1	1	50.0	0	0.0	1	50.0
17.1010	Roofing	0	0.0	0	0.0	0	0.0	0	0.0
17.1099	Construction, Other	13	1.0	3	23.1	4	30.8	6	46.1
17.1100	Custodial Services	9	0.7	1	11.1	2	22.2	6	66.7
17.1200	Diesel Mechanics	15	1.1	4	26.7	1	6.6	10	66.7
17.1300	Drafting	90	6.7	14	15.6	22	24.4	54	60.0
17.1400	Electrical Occupations	16	1.2	6	37.5	3	18.7	7	43.8
17.1401	Industrial Electrician	31	2.3	9	29.0	7	22.6	15	48.4
17.1402	Lineman	1	0.1	0	0.0	1	100.0	0	0.0
17.1403	Motor Repairman	0	0.0	0	0.0	0	0.0	0	0.0
17.1499	Electrical Occupations Other	1	0.1	1	100.0	0	0.0	0	0.0
17.1500	Electronics Occupations	37	2.8	6	16.2	9	24.3	22	59.5

(continued)

TABLE 21 (continued)

OE Code	Title of Occupational Objective Studied	Total Employed by Area Studied		Relatedness of Training to First Job[B]					
				Directly Related		Somewhat Related		Not Related	
		No.	%	No.	%	No.	%	No.	%
17.1501	Communications	5	0.4	1	20.0	3	60.0	1	20.0
17.1502	Industrial Electronics	2	0.1	0	0.0	0	0.0	2	100.0
17.1503	Radio/Television	48	3.6	9	18.7	6	12.5	33	68.8
17.1600	Fabric Maintenance Services	1	0.1	0	0.0	0	0.0	1	100.0
17.1601	Drycleaning	3	0.2	1	33.3	1	33.3	1	33.3
17.1602	Laundering	0	0.0	0	0.0	0	0.0	0	0.0
17.1699	Fabric Maintenance Services, Other	0	0.0	0	0.0	0	0.0	0	0.0
17.1700	Foremanship/Mangement Development	1	0.1	0	0.0	0	0.0	1	100.0
17.1900	Graphic Arts Occupations	36	2.7	6	16.7	5	13.9	25	69.4
17.1902	Printing Press Occupations	1	0.1	1	100.0	0	0.0	0	0.0
17.1999	Graphic Arts, Other	1	0.1	0	0.0	0	0.0	1	100.0
17.2100	Instrument Maintenance and Repair	1	0.1	1	100.0	0	0.0	0	0.0
17.2101	Instruments (Not watches or clocks)	0	0.0	0	0.0	0	0.0	0	0.0
17.2200	Maritime Occupations	0	0.0	0	0.0	0	0.0	0	0.0
17.2300	Metalworking	15	1.1	8	53.3	1	6.7	6	40.0
17.2301	Foundry	2	0.1	1	50.0	1	50.0	0	0.0
17.2302	Machine Shop	36	2.7	17	47.2	9	25.0	10	27.8
17.2303	Machine Tool Operations	5	0.4	1	20.0	2	40.0	2	40.0
17.2304	Metal Trades, Combined	0	0.0	0	0.0	0	0.0	0	0.0
17.2305	Sheet Metal	10	0.8	5	50.0	0	0.0	5	50.0
17.2306	Welding and Cutting	101	7.5	36	35.6	20	19.8	45	44.6
17.2309	Metal Patternmaking	0	0.0	0	0.0	0	0.0	0	0.0
17.2399	Metalworking, Other	0	0.0	0	0.0	0	0.0	0	0.0
17.2400	Metallurgy	0	0.0	0	0.0	0	0.0	0	0.0
17.2600	Personal Services	0	0.0	0	0.0	0	0.0	0	0.0
17.2601	Barbering	1	0.1	1	100.0	0	0.0	0	0.0
17.2602	Cosmetology	14	1.0	8	57.1	0	0.0	6	42.9
17.2699	Personal Services, Other	3	0.2	2	66.7	0	0.0	1	33.3
17.2700	Plastics Occupations	1	0.1	1	100.0	0	0.0	0	0.0
17.2800	Public Service Occupations	1	0.1	0	0.0	1	100.0	0	0.0
17.2902	Law Enforcement Training	1	0.1	0	0.0	0	0.0	1	100.0
17.2900	Quantity Foods Occupations	14	1.0	9	64.3	1	7.1	4	28.6

(continued)

TABLE 21 (continued)

OE Code	Title of Occupational Objective Studied	Total Employed by Area Studied		Relatedness of Training to First Job[B]					
				Directly Related		Somewhat Related		Not Related	
		No.	%	No.	%	No.	%	No.	%
17.2901	Baker	1	1.0	0	0.0	0	0.0	1	100.0
17.2902	Cook/Chef	34	2.5	6	17.6	7	20.6	21	61.8
17.2903	Meat Cutter	14	1.0	5	35.7	1	7.1	8	57.2
17.2904	Waiter/Waitress	5	0.4	1	20.0	3	60.0	1	20.0
17.2999	Quantity Foods Occupations, Other	0	0.0	0	0.0	0	0.0	0	0.0
17.3000	Refrigeration	13	1.0	4	30.8	1	7.7	8	61.5
17.3100	Small Engine Repair	17	1.3	8	47.1	3	17.6	6	35.3
17.3300	Textile Production and Fabrication	0	0.0	0	0.0	0	0.0	0	0.0
17.3302	Tailoring	3	0.2	0	0.0	0	0.0	3	100.0
17.3399	Textile Production, Other	24	1.8	7	29.2	8	33.3	9	37.5
17.3400	Leatherworking	2	0.1	0	0.0	0	0.0	2	100.0
17.3401	Shoe Manufacturing	1	0.1	0	0.0	1	100.0	0	0.0
17.3402	Shoe Repair	2	0.1	0	0.0	1	50.0	1	50.0
17.3500	Upholstering	19	1.4	5	26.3	1	5.3	13	68.4
17.3600	Woodworking	0	0.0	0	0.0	0	0.0	0	0.0
17.3601	Millwork and Cabinetmaking	16	1.2	4	25.0	4	25.0	8	50.0
17.3699	Woodworking, Other	0	0.0	0	0.0	0	0.0	0	0.0
17.9900	Trade and Industrial, Other	40	3.0	15	37.5	15	37.5	10	25.0
17.9906	Taxidermy	0	0.0	0	0.0	0	0.0	0	0.0
99.0106	Career Guidance	0	0.0	0	0.0	0	0.0	0	0.0
	TOTAL ALL AREAS	1339	100.0	411	30.7	283	21.1	645	48.2

[A]Of 6,875 Trade and Industrial Occupations terminees, 1,866 (27.1%) returned the questionnaire.

[B]The terminees made the judgment as to how their first job was related to the training received in their high school vocational program.

Of the 1,339 responding 1973-74 Trade and Industrial Occupations terminees who indicated how their first job related to the training they received in their high school vocational program, 411 (30.7%) were employed in directly related areas. Two hundred eighty-three (21.1%) were employed in

somewhat related areas while 645 (48.2%) terminees were employed in areas not related to their training. The terminees made the judgment as to how their first job was related to the training received in their high school vocational program.

More responding terminees who studied in Auto Mechanics (OE Code 17.0302) indicated first job employment. This was to be expected since more terminees studied in this occupational objective area (See Table 1). Of the 171 employed 1973-74 terminees who studied in the occupational area of Auto Mechanics and indicated relatedness of training, 43 (25.2%) were employed in an area directly related to that training. Forty-four (25.7%) were employed in their first job in an area somewhat related to their training. However, 84 (49.1%) of these responding terminees indicated that their first job was not related to the training they received in their Auto Mechanics program.

Table 21A is a description of 1973-74 Trade and Industrial Occupations terminees' first job by OE code area studied, number of returns, type school, termination status, and relatedness of training.

TABLE 21A

DESCRIPTION OF 1973-74 TRADE AND INDUSTRIAL OCCUPATIONS TERMINEES' FIRST JOB BY OE CODE AREA STUDIED, NUMBER OF RETURNS, TYPE SCHOOL, TERMINATION STATUS, AND RELATEDNESS OF TRAINING

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
01.0500	Ornamental Horticulture (Total)	1	1	100.0	1	100.0	0	0.0	0	0.0
	AVC (Total)[B]	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers[C]	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts[D]	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 21A (Continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	1	1	100.0	1	100.0	0	0.0	0	0.0
	Completers	1	1	100.0	1	100.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
04.0100	Advertising Service (Total)	6	4	66.7	1	16.7	1	16.7	2	33.3
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	6	4	66.7	1	16.7	1	16.7	2	33.3
	Completers	6	4	66.7	1	16.7	1	16.7	2	33.3
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
04.0200	Sales, Apparel and Accessories (Total)	3	2	66.7	1	33.3	0	0.0	1	33.3
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	3	2	66.7	1	33.3	0	0.0	1	33.3
	Completers	3	2	66.7	1	33.3	0	0.0	1	33.3
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
04.0300	Sales, Automotive (Total)	3	3	100.0	1	33.3	1	33.3	1	33.3
	AVC (Total)	1	1	100.0	0	0.0	0	0.0	1	100.0
	Completers	1	1	100.0	0	0.0	0	0.0	1	100.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	2	2	100.0	1	50.0	1	50.0	0	0.0
	Completers	2	2	100.0	1	50.0	1	50.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	00	0.0
04.0400	Finance & Credit (Total)	3	3	100.0	2	66.7	0	0.0	1	33.3
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 21A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	3	3	100.0	2	66.7	0	0.0	1	33.3
	Completers	3	3	100.0	2	66.7	0	0.0	1	33.3
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
04.0600	Food Distribution (Total)	8	7	87.5	5	62.5	1	12.5	1	12.5
	AVC (Total)	4	3	75.0	2	50.0	0	0.0	1	25.0
	Completers	3	2	66.7	2	66.7	0	0.0	0	0.0
	Dropouts	1	1	100.0	0	0.0	0	0.0	1	100.0
	Other Type Schools (Total)	4	4	75.0	3	75.0	1	25.0	0	0.0
	Completers	4	4	66.7	3	75.0	1	25.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
04.0700	Food Services (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
04.0800	General Merchandise (Total)	3	3	100.0	0	0.0	1	33.3	2	66.7
	AVC (Total)	1	1	100.0	0	0.0	0	0.0	1	100.0
	Completers	1	1	100.0	0	0.0	0	0.0	1	100.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	2	2	100.0	0	0.0	1	50.0	1	50.0
	Completers	2	2	100.0	0	0.0	1	50.0	1	50.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
04.0900	Sales, Hardware and Building Material (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 21A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	Completers	1	1	100.0	0	0.0	1	100.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
04.1000	Sales, Home Furnishings (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	Completers	1	1	100.0	0	0.0	1	100.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
04.1200	Industrial Marketing (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	Completers	1	1	100.0	0	0.0	1	100.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
04.1300	Insurance (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
04.1500	Personal Services (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 21A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	Completers	1	1	100.0	0	0.0	1	100.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
04.1800	Recreation & Tourism (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
04.1900	Transportation (Total)	1	1	100.0	1	100.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	1	100.0	0	0.0	0	0.0
	Completers	1	1	100.0	1	100.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
04.2000	Retail Trade, Other (Total)	1	1	100.0	0	0.0	1	100.0	0	0.[illegible]
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	Completers	1	1	100.0	0	0.0	1	100.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
04.3100	Wholesale Trade, Other (Total)	3	2	66.7	1	33.3	0	0.0	1	33.3
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 21A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	3	2	66.7	1	33.3	0	0.0	1	33.3
	Completers	3	2	66.7	1	33.3	0	0.0	1	33.3
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
07.0000	Health Occupations (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
07.0101	Dental Assisting (Total)	28	20	71.4	15	53.6	3	10.7	2	7.1
	AVC (Total)	3	3	100.0	3	100.0	0	0.0	0	0.0
	Completers	3	3	100.0	3	100.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	25	17	68.0	12	48.0	3	12.0	2	8.0
	Completers	24	16	66.7	11	45.8	3	12.5	2	8.3
	Dropouts	1	1	100.0	1	100.0	0	0.0	0	0.0
07.0103	Dental Laboratory (Total)	3	1	33.3	1	33.3	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	3	1	33.3	1	33.3	0	0.0	0	0.0
	Completers	3	1	33.3	1	33.3	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
07.0200	Medical Laboratory (Total)	26	15	57.7	7	26.9	4	15.4	4	15.4
	AVC (Total)	6	2	33.3	0	0.0	1	16.7	1	16.7
	Completers	6	2	33.3	0	0.0	1	16.7	1	16.7
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 21A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	20	13	65.0	7	35.0	3	15.0	3	15.0
	Completers	19	12	63.2	7	36.8	3	15.8	2	10.5
	Dropouts	1	1	100.0	0	0.0	0	0.0	1	100.0
07.0203	Medical Lab. Asst. (Total)	27	18	66.7	11	40.7	3	11.1	4	14.8
	AVC (Total)	3	2	66.7	1	33.3	0	0.0	1	33.3
	Completers	3	2	66.7	1	33.3	0	0.0	1	33.3
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	24	16	66.7	10	41.7	3	12.5	3	12.5
	Completers	23	15	65.2	9	39.1	3	13.0	3	13.0
	Dropouts	1	1	100.0	1	100.0	0	0.0	0	0.0
07.0302	Practical Nurse (Total)	5	1	20.0	1	20.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	5	1	20.0	1	20.0	0	0.0	0	0.0
	Completers	5	1	20.0	1	20.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
07.0303	Nursing Asst. (Total)	17	14	82.4	8	47.1	1	5.9	5	29.4
	AVC (Total)	4	4	100.0	3	75.0	1	25.0	0	0.0
	Completers	4	4	100.0	3	75.0	1	25.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	13	10	76.9	5	38.5	0	0.0	5	38.5
	Completers	13	10	76.9	5	38.5	0	0.0	5	38.5
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
07.0402	Physical Therapy (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 21A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
07.0404	Orthotics (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
07.0500	Radiologic (Total)	1	1	100.0	1	100.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	1	100.0	0	0.0	0	0.0
	Completers	1	1	100.0	1	100.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
07.0501	Radiologic Tech. (Total)	2	2	100.0	1	50.0	1	50.0	0	0.0
	AVC (Total)	1	1	100.0	1	100.0	0	0.0	0	0.0
	Completers	1	1	100.0	1	100.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	Completers	1	1	100.0	0	0.0	1	100.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
07.0603	Optometrist Asst. (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 21A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
07.0800	Mental Health Tech. (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	Completers	1	1	100.0	0	0.0	1	100.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
07.0903	Inhalation Therapy (Total)	2	1	50.0	1	50.0	0	0.0	0	0.0
	AVC (Total)	2	1	50.0	1	50.0	0	0.0	0	0.0
	Completers	2	1	50.0	1	50.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
07.0904	Medical Asst. (Total)	5	4	80.0	1	20.0	2	40.0	1	20.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	5	4	80.0	1	20.0	2	40.0	1	20.0
	Completers	5	4	80.0	1	20.0	2	40.0	1	20.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
07.0909	Mortuary Science (Total)	4	3	75.0	2	50.0	0	0.0	1	25.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 21A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	4	3	75.0	2	50.0	0	0.0	1	25.0
	Completers	4	3	75.0	2	50.0	0	0.0	1	25.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
07.9900	Health Occupations, Other (Total)	11	8	72.7	6	54.5	2	18.2	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	11	8	72.7	6	54.5	2	18.2	0	0.0
	Completers	11	8	72.7	6	54.5	2	18.2	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
09.0102	Child Development (Total)	2	2	100.0	1	50.0	0	0.0	1	50.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	2	2	100.0	1	50.0	0	0.0	1	50.0
	Completers	2	2	100.0	1	50.0	0	0.0	1	50.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
09.0201	Care and Guidance of Children (Total)	2	2	100.0	0	0.0	1	50.0	1	50.0
	AVC (Total)	1	1	100.0	0	0.0	0	0.0	1	100.0
	Completers	1	1	100.0	0	0.0	0	0.0	1	100.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	Completers	1	1	100.0	0	0.0	1	100.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
09.0202	Clothing Management (Total)	6	1	16.7	0	0.0	1	16.7	0	0.0
	AVC (Total)	5	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	5	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 21A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	Completers	1	1	100.0	0	0.0	1	100.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
14.0300	General Office Clerical (Total)	14	11	78.6	3	21.4	5	35.7	3	21.4
	AVC (Total)	5	3	60.0	1	20.0	2	40.0	0	0.0
	Completers	5	3	60.0	1	20.0	2	40.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	9	8	88.8	2	22.2	3	33.3	3	33.3
	Completers	9	8	88.8	2	22.2	3	33.3	3	33.3
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
14.0301	Duplicating Machine Operator (Total)	4	2	50.0	0	0.0	1	25.0	1	25.0
	AVC (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	3	2	66.7	0	0.0	1	33.3	1	33.3
	Completers	3	2	66.7	0	0.0	1	33.3	1	33.3
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
14.0901	Clerk-Typists (Total)	3	2	66.7	0	0.0	2	66.7	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	3	2	66.7	0	0.0	2	66.7	0	0.0
	Completers	3	2	66.7	0	0.0	2	66.7	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
16.0201	Animal Science (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 21A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.0000	Trade and Industrial Occupations (Total)	3	1	33.3	1	33.3	0	0.0	0	0.0
	AVC (Total)	2	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	1	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	1	100.0	0	0.0	0	0.0
	Completers	1	1	100.0	1	100.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.0100	Air Conditioning (Total)	54	43	79.6	12	22.2	6	11.1	25	46.3
	AVC (Total)	38	29	76.3	8	21.1	3	7.9	18	47.4
	Completers	34	26	76.5	8	23.5	3	8.8	15	44.1
	Dropouts	4	3	75.0	0	0.0	0	0.0	3	75.0
	Other Type Schools (Total)	16	14	87.5	4	25.0	3	18.8	7	43.8
	Completers	15	13	86.7	4	26.7	3	20.0	6	40.0
	Dropouts	1	1	100.0	0	0.0	0	0.0	1	100.0
17.0101	Cooling (Total)	7	4	57.1	2	28.6	0	0.0	2	28.6
	AVC (Total)	3	2	66.7	0	0.0	0	0.0	2	66.7
	Completers	3	2	66.7	0	0.0	0	0.0	2	66.7
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	4	2	50.0	2	50.0	0	0.0	0	0.0
	Completers	3	2	66.7	2	66.7	0	0.0	0	0.0
	Dropouts	1	0	0.0	0	0.0	0	0.0	0	0.0
17.0102	Heating (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 21A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.0103	Ventilating (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.0199	Air Conditioning, Other (Total)	1	1	100.0	0	0.0	0	0.0	1	100.0
	AVC (Total)	1	1	100.0	0	0.0	0	0.0	1	100.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	1	1	100.0	0	0.0	0	0.0	1	100.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.0200	Appliance Repair (Total)	12	6	50.0	1	8.3	1	8.3	4	33.3
	AVC (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	11	6	54.5	1	9.1	1	9.1	4	36.4
	Completers	8	4	50.0	1	12.5	1	12.5	2	25.0
	Dropouts	3	2	66.7	0	0.0	0	0.0	2	66.7
17.0201	Electrical Appliances (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 21A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.0202	Gas Appliances (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)		1	100.0	0	0.0	1	100.0	0	0.0
	Completers		1	100.0	0	0.0	1	100.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.0300	Automotive Service (Total)	4	4	100.0	1	25.0	1	25.0	2	50.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	4	4	100.0	1	25.0	1	25.0	2	50.0
	Completers	4	4	100.0	1	25.0	1	25.0	2	50.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.0301	Body and Fender (Total)	99	81	81.8	26	26.3	4	4.0	51	51.5
	AVC (Total)	71	55	77.5	15	21.1	2	2.8	38	53.5
	Completers	56	46	82.1	15	26.8	1	1.8	30	53.6
	Dropouts	15	9	60.0	0	0.0	1	6.7	8	53.3
	Other Type Schools (Total)	28	26	92.9	11	39.3	2	7.1	13	46.4
	Completers	25	24	96.0	10	40.0	2	8.0	12	48.0
	Dropouts	3	2	66.7	1	33.3	0	0.0	1	33.3
17.0302	Auto Mechanics (Total)	221	171	77.4	43	19.5	44	19.9	84	38.0
	AVC (Total)	127	103	81.1	23	18.1	24	18.9	56	44.1
	Completers	100	82	82.0	19	19.0	17	17.0	46	46.0
	Dropouts	27	21	77.8	4	14.8	7	25.9	10	37.0

(continued)

TABLE 21A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	94	68	72.3	20	21.3	20	21.3	28	29.8
	Completers	81	61	75.3	18	22.2	18	22.2	25	30.9
	Dropouts	13	7	53.8	2	15.4	2	15.4	3	23.1
17.0303	Auto Specialization, Other (Total)	21	21	100.0	4	19.0	8	38.1	9	42.9
	AVC (Total)	2	2	100.0	0	0.0	1	50.0	1	50.0
	Completers	2	2	100.0	0	0.0	1	50.0	1	50.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	19	19	100.0	4	21.1	7	36.8	8	42.1
	Completers	19	19	100.0	4	21.1	7	36.8	8	42.1
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.0399	Auto Service, Other (Total)	6	6	100.0	1	16.7	2	33.3	3	50.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	6	6	100.0	1	16.7	2	33.3	3	50.0
	Completers	5	5	100.0	1	20.0	2	40.0	2	40.0
	Dropouts	1	1	100.0	0	0.0	0	0.0	1	100.0
17.0401	Aircraft Maintenance, Other (Total)	6	4	66.7	1	16.7	2	33.3	1	16.7
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	6	4	67.7	1	16.7	2	33.3	1	16.7
	Completers	5	4	80.0	1	20.0	2	40.0	1	20.0
	Dropouts	1	0	0.0	0	0.0	0	0.0	0	0.0
17.0499	Aviation Occupations, Other (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 21A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.0504	Blue Print Reading (Total)	1	1	100.0	0	0.0	0	0.0	1	100.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	0	0.0	0	0.0	1	100.0
	Completers	1	1	100.0	0	0.0	0	0.0	1	100.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.0600	Business Machine Maintenance (Total)	6	4	66.7	0	0.0	1	16.7	3	50.0
	AVC (Total)	3	3	100.0	0	0.0	1	33.3	2	66.7
	Completers	3	3	100.0	0	0.0	1	33.3	2	66.7
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	3	1	33.3	0	0.0	0	0.0	1	33.3
	Completers	3	1	33.3	0	0.0	0	0.0	1	33.3
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.0700	Commercial Art Occupations (Total)	6	2	33.3	1	16.7	0	0.0	1	16.7
	AVC (Total)	3	1	33.3	0	0.0	0	0.0	1	16.7
	Completers	2	1	50.0	0	0.0	0	0.0	1	50.0
	Dropouts	1	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	3	1	33.3	1	33.3	0	0.0	0	0.0
	Completers	3	1	33.3	1	33.3	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.0701	Interior Decorating (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 21A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.0702	Window Display (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.0703	Product Design (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	Completers	1	1	100.0	0	0.0	1	100.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.0799	Commercial Art Occupations, Other (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.0800	Commercial Fisheries Occupations (Total)	2	2	100.0	0	0.0	1	50.0	1	50.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 21A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	2	2	100.0	0	0.0	1	50.0	1	50.0
	Completers	2	2	100.0	0	0.0	1	50.0	1	50.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.0900	Commercial Photography (Total)	8	6	75.0	3	37.5	1	12.5	2	25.0
	AVC (Total)	2	1	50.0	0	0.0	0	0.0	1	50.0
	Completers	2	1	50.0	0	0.0	0	0.0	1	50.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	6	5	83.3	3	50.0	1	16.7	1	16.7
	Completers	6	5	83.3	3	50.0	1	16.7	1	16.7
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.1000	Construction and Maintenance (Total)	11	7	63.6	2	18.2	2	18.2	3	27.3
	AVC (Total)	8	6	75.0	1	12.5	2	25.0	3	37.5
	Completers	6	5	83.3	1	16.7	1	16.7	3	50.0
	Dropouts	2	1	50.0	0	0.0	1	50.0	0	0.0
	Other Type Schools (Total)	3	1	33.3	1	33.3	0	0.0	0	0.0
	Completers	2	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	1	1	100.0	1	100.0	0	0.0	0	0.0
17.1001	Carpentry (Total)	60	50	83.3	12	20.0	15	25.0	23	38.3
	AVC (Total)	27	21	77.8	3	11.1	9	33.3	9	33.3
	Completers	22	18	81.8	3	13.0	8	36.4	7	31.8
	Dropouts	5	3	60.0	0	0.0	1	20.0	2	40.0
	Other Type Schools (Total)	33	29	87.9	9	27.3	6	18.2	14	42.4
	Completers	27	24	88.9	8	29.6	6	22.2	10	37.0
	Dropouts	6	5	83.3	1	16.7	0	0.0	4	66.7
17.1002	Electricity (Total)	16	11	68.8	3	18.8	2	12.5	6	37.5
	AVC (Total)	13	10	76.9	3	23.1	1	7.8	6	46.2
	Completers	10	8	80.0	3	30.0	1	10.0	4	40.0
	Dropouts	3	2	66.7	0	0.0	0	0.0	2	66.7

(continued)

TABLE 21A (continued)

OE Code Area	Occupational Title Studied by Type School and Terminat[illegible] Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	3	1	33.3	0	0.0	1	33.3	0	0.0
	Completers	2	1	50.0	0	0.0	1	50.0	0	0.0
	Dropouts	1	0	0.0	0	0.0	0	0.0	0	0.0
17.1003	Heavy Equipment (Total)	2	2	100.0	2	100.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	2	2	100.0	2	100.0	0	0.0	0	0.0
	Completers	2	2	100.0	2	100.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.1004	Masonry (Total)	74	52	70.3	13	17.6	7	9.5	32	43.2
	AVC (Total)	54	35	64.8	8	14.8	5	9.3	22	40.7
	Completers	43	30	69.8	8	18.6	4	9.3	18	41.9
	Dropouts	11	5	45.5	0	0.0	1	9.1	4	36.4
	Other Type Schools (Total)	20	17	85.0	5	25.0	2	10.0	10	50.0
	Completers	15	13	86.7	4	26.7	2	13.3	7	46.7
	Dropouts	5	4	80.0	1	20.0	0	0.0	3	60.0
17.1005	Painting & Decorating (Total)	4	2	50.0	0	0.0	2	50.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	4	2	50.0	0	0.0	2	50.0	0	0.0
	Completers	4	2	50.0	0	0.0	2	50.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.1007	Plumbing & Pipefitting (Total)	8	7	87.5	3	37.5	2	25.0	2	25.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 21A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	8	7	87.5	3	37.5	2	25.0	2	25.0
	Completers	8	7	87.5	3	37.5	2	25.0	2	25.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.1008	Dry Wall Construction (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.1009	Glazing (Total)	2	2	100.0	1	50.0	0	0.0	1	50.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	2	2	100.0	1	50.0	0	0.0	1	50.0
	Completers	2	2	100.0	1	50.0	0	0.0	1	50.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.1010	Roofing (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.1099	Construction, Other (Total)	24	13	54.2	3	12.5	4	16.7	6	25.0
	AVC (Total)	6	3	50.0	0	0.0	0	0.0	3	50.0
	Completers	6	3	50.0	0	0.0	0	0.0	3	50.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 21A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	18	10	55.6	3	16.7	4	22.2	3	16.7
	Completers	18	10	55.6	3	16.7	4	22.2	3	16.7
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.1100	Custodial Services (Total)	14	9	64.3	1	7.1	2	14.3	6	42.9
	AVC (Total)	2	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	2	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	12	9	75.0	1	8.3	2	16.7	6	50.0
	Completers	10	7	70.0	1	10.0	1	10.0	5	50.0
	Dropouts	2	2	100.0	0	0.0	1	50.0	1	50.0
17.1200	Diesel Mechanics (Total)	17	15	88.2	4	23.5	1	5.9	10	58.9
	AVC (Total)	9	7	77.8	1	11.1	0	0.0	6	66.7
	Completers	8	7	87.5	1	12.5	0	0.0	6	75.0
	Dropouts	1	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	8	8	100.0	3	37.5	1	12.5	4	50.0
	Completers	8	8	100.0	3	37.5	1	12.5	4	50.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.1300	Drafting (Total)	148	90	60.8	14	9.5	22	14.9	54	36.5
	AVC (Total)	85	52	61.2	9	10.6	14	16.5	29	34.1
	Completers	77	47	61.0	9	11.7	13	16.9	25	32.5
	Dropouts	8	5	62.5	0	0.0	1	12.5	4	50.0
	Other Type Schools (Total)	63	38	60.3	5	7.9	8	12.7	25	39.7
	Completers	57	35	61.4	5	8.8	8	14.0	22	38.6
	Dropouts	6	3	50.0	0	0.0	0	0.0	3	50.0
17.1400	Electrical Occupations (Total)	22	16	72.7	6	27.3	3	13.6	7	31.8
	AVC (Total)	12	9	75.0	2	16.7	1	8.3	6	50.0
	Completers	8	7	87.5	1	12.5	1	12.5	5	62.5
	Dropouts	4	2	50.0	1	25.0	0	0.0	1	25.0

(continued)

TABLE 21A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	10	7	70.0	4	40.0	2	20.0	1	10.0
	Completers	8	6	75.0	4	50.0	2	25.0	0	0.0
	Dropouts	2	1	50.0	0	0.0	0	0.0	1	50.0
17.1401	Industrial Electrician (Total)	45	31	68.9	9	20.0	7	15.6	15	33.3
	AVC (Total)	25	17	68.0	3	12.0	4	16.0	10	40.0
	Completers	21	14	66.7	3	14.3	3	14.3	9	38.1
	Dropouts	4	3	75.0	0	0.0	1	25.0	2	50.0
	Other Type Schools (Total)	20	14	70.0	6	30.0	3	15.0	5	25.0
	Completers	19	14	73.7	6	31.6	3	14.8	5	26.3
	Dropouts	1	0	0.0	0	0.0	0	0.0	0	0.0
17.1402	Lineman (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	Completers	1	1	100.0	0	0.0	1	100.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.1403	Motor Repairman (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.1499	Electrical Occupations, Other (Total)	1	1	100.0	1	100.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 21A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	1	1	100.0	1	100.0	0	0.0	0	0.0
	Completers	1	1	100.0	1	100.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.1500	Electronics Occupations (Total)	61	37	60.7	6	9.8	9	14.8	22	36.1
	AVC (Total)	44	27	61.4	3	6.8	6	13.6	18	40.9
	Completers	39	24	61.5	3	7.7	6	15.4	15	38.5
	Dropouts	5	3	60.0	0	0.0	0	0.0	3	60.0
	Other Type Schools (Total)	17	10	58.8	3	17.6	3	17.6	4	23.5
	Completers	16	10	62.5	3	18.8	3	18.8	4	25.0
	Dropouts	1	0	0.0	0	0.0	0	0.0	0	0.0
17.1501	Communications (Total)	5	5	100.0	1	20.0	3	60.0	1	20.0
	AVC (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	Completers	1	1	100.0	0	0.0	1	100.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	4	4	100.0	1	25.0	2	50.0	1	25.0
	Completers	4	4	100.0	1	25.0	2	50.0	1	25.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.1502	Industrial Electronics (Total)	3	2	66.7	0	0.0	0	0.0	2	66.7
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	3	2	66.7	0	0.0	0	0.0	2	66.7
	Completers	3	2	66.7	0	0.0	0	0.0	2	66.7
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.1503	Radio/Television (Total)	66	48	72.7	9	13.6	6	9.1	33	50.0
	AVC (Total)	47	33	70.2	6	12.8	3	6.4	24	51.1
	Completers	39	30	76.9	5	12.8	3	7.7	22	56.4
	Dropouts	8	3	37.5	1	12.5	0	0.0	2	25.0

(continued)

TABLE 21A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	19	15	78.9	3	15.8	3	15.8	9	47.4
	Completers	18	14	77.8	3	16.7	3	16.7	8	44.4
	Dropouts	1	1	100.0	0	0.0	0	0.0	1	100.0
17.1600	Fabric Maintenance Services (Total)	1	1	100.0	0	0.0	0	0.0	1	100.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	0	0.0	0	0.0	1	100.0
	Completers	1	1	100.0	0	0.0	0	0.0	1	100.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.1601	Drycleaning (Total)	3	3	100.0	1	33.3	1	33.3	1	33.3
	AVC (Total)	1	1	100.0	1	100.0	0	0.0	0	0.0
	Completers	1	1	100.0	1	100.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	2	2	100.0	0	0.0	1	50.0	1	50.0
	Completers	1	1	100.0	0	0.0	0	0.0	1	00.0
	Dropouts	1	1	100.0	0	0.0	1	100.0	0	0.0
17.1602	Laundering (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.1699	Fabric Maintenance Services, Other (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 21A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.1700	Foremanship/Management Development (Total)	3	1	33.3	0	0.0	0	0.0	1	33.3
	AVC (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	2	1	50.0	0	0.0	0	0.0	1	50.0
	Completers	2	1	50.0	0	0.0	0	0.0	1	50.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.1900	Graphic Arts Occupations (Total)	61	36	59.0	6	9.8	5	8.2	25	41.0
	AVC (Total)	29	16	55.2	2	6.9	2	6.9	12	41.4
	Completers	27	16	59.3	2	7.4	2	7.4	12	44.4
	Dropouts	2	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	32	20	62.5	4	12.5	3	9.4	13	40.6
	Completers	30	20	66.7	4	13.3	3	10.0	13	43.3
	Dropouts	2	0	0.0	0	0.0	0	0.0	0	0.0
17.1902	Printing Press Occupations (Total)	1	1	100.0	1	100.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	1	100.0	0	0.0	0	0.0
	Completers	1	1	100.0	1	100.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.1999	Graphic Arts, Other (Total)	1	1	100.0	0	0.0	0	0.0	1	100.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 21A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	1	1	100.0	0	0.0	0	0.0	1	100.0
	Completers	1	1	100.0	0	0.0	0	0.0	1	100.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.2100	Instrument Maintenance and Repair (Total)	1	1	100.0	1	100.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	1	100.0	0	0.0	0	0.0
	Completers	1	1	100.0	1	100.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.2101	Instruments (Not watches or clocks) (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.2200	Maritime Occupations (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.2300	Metalworking (Total)	27	15	55.6	8	29.6	1	3.7	6	22.2
	AVC (Total)	12	7	58.3	5	41.7	1	8.3	1	8.3
	Completers	9	7	77.8	5	55.6	1	11.1	1	11.1
	Dropouts	3	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 21A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	15	8	53.3	3	20.0	0	0.0	5	33.3
	Completers	10	6	60.0	2	20.0	0	0.0	4	40.0
	Dropouts	5	2	40.0	1	20.0	0	0.0	1	20.0
17.2301	Foundry (Total)	3	2	66.7	1	33.3	1	33.3	0	0.0
	AVC (Total)	1	1	100.0	1	100.0	0	0.0	0	0.0
	Completers	1	1	100.0	1	100.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	2	1	50.0	0	0.0	1	50.0	0	0.0
	Completers	2	1	50.0	0	0.0	1	50.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.2302	Machine Shop (Total)	47	36	76.6	17	36.2	9	19.1	10	21.3
	AVC (Total)	21	14	66.7	5	23.8	3	14.3	6	28.6
	Completers	18	14	77.8	5	27.8	3	16.7	6	33.3
	Dropouts	3	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	26	22	84.6	12	46.2	6	23.1	4	15.4
	Completers	21	19	90.5	11	52.4	5	23.8	3	14.3
	Dropouts	5	3	60.0	1	20.0	1	20.0	1	20.0
17.2303	Machine Tool Operations (Total)	7	5	71.4	1	14.3	2	28.6	2	14.3
	AVC (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	6	5	83.3	1	16.7	2	33.3	2	33.3
	Completers	6	5	83.3	1	16.7	2	33.3	2	33.3
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.2304	Metal Trades, Combined (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 21A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.2305	Sheet Metal (Total)	12	10	83.3	5	41.6	0	0.0	5	41.6
	AVC (Total)	5	5	100.0	3	60.0	0	0.0	2	40.0
	Completers	4	4	100.0	3	75.0	0	0.0	1	25.0
	Dropouts	1	1	100.0	0	0.0	0	0.0	1	100.0
	Other Type Schools (Total)	7	5	71.4	2	28.6	0	0.0	3	42.9
	Completers	6	5	83.3	2	33.3	0	0.0	3	50.0
	Dropouts	1	0	0.0	0	0.0	0	0.0	0	0.0
17.2306	Welding and Cutting (Total)	131	101	77.1	36	27.5	20	15.3	45	34.4
	AVC (Total)	85	66	77.6	21	24.7	10	11.8	35	41.2
	Completers	72	59	81.9	20	27.8	10	13.9	29	40.3
	Dropouts	13	7	53.8	1	7.8	0	0.0	6	46.2
	Other Type Schools (Total)	46	35	76.1	15	32.6	10	21.7	10	21.7
	Completers	41	33	80.5	15	36.6	10	24.4	8	19.5
	Dropouts	5	2	40.0	0	0.0	0	0.0	2	40.0
17.2309	Metal Patternmaking (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.2399	Metalworking, Other (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 21A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.2400	Metallurgy (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.2600	Personal Services (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.2601	Barbering (Total)	2	1	50.0	1	50.0	0	0.0	0	0.0
	AVC (Total)	2	1	50.0	1	50.0	0	0.0	0	0.0
	Completers	1	1	50.0	1	50.0	0	0.0	0	0.0
	Dropouts	1	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.2602	Cosmetology (Total)	17	14	82.4	8	47.1	0	0.0	6	35.3
	AVC (Total)	4	4	100.0	3	75.0	0	0.0	1	25.0
	Completers	4	4	100.0	3	75.0	0	0.0	1	25.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	00	0.0

(continued)

TABLE 21A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	13	10	76.9	5	38.5	0	0.0	5	38.5
	Completers	12	9	75.0	4	33.3	0	0.0	4	41.7
	Dropouts	1	1	100.0	1	100.0	0	0.0	0	0.0
17.2699	Personal Services, Other (Total)	5	3	60.0	2	40.0	0	0.0	1	20.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	5	3	60.0	2	40.0	0	0.0	1	20.0
	Completers	5	3	60.0	2	40.0	0	0.0	1	20.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.2700	Plastics Occupations (Total)	1	1	100.0	1	100.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	1	100.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	1	1	100.0	1	100.0	0	0.0	0	0.0
17.2800	Public Service Occupations (Total)	5	1	20.0	0	0.0	1	20.0	0	0.0
	AVC (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	4	1	25.0	0	0.0	1	25.0	0	0.0
	Completers	4	1	25.0	0	0.0	1	25.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.2802	Law Enforcement Training (Total)	1	1	100.0	0	0.0	0	0.0	1	100.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 21A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	1	1	100.0	0	0.0	0	0.0	1	100.0
	Completers	1	1	100.0	0	0.0	0	0.0	1	100.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.2900	Quantity Foods Occupations (Total)	20	14	70.0	9	45.0	1	5.0	4	20.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	20	14	70.0	9	45.0	1	5.0	4	20.0
	Completers	19	14	73.7	9	47.4	1	5.3	4	21.1
	Dropouts	1	0	0.0	0	0.0	0	0.0	0	0.0
17.2901	Baker (Total)	1	1	100.0	0	0.0	0	0.0	1	100.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	0	0.0	0	0.0	1	100.0
	Completers	1	1	100.0	0	0.0	0	0.0	1	100.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.2902	Cook/Chef (Total)	50	34	68.0	6	12.0	7	14.0	21	42.0
	AVC (Total)	3	2	66.7	0	0.0	0	0.0	2	66.7
	Completers	3	2	66.7	0	0.0	0	0.0	2	66.7
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	47	32	68.1	6	12.8	7	14.9	19	40.4
	Completers	43	30	69.8	6	14.0	7	16.3	17	39.5
	Dropouts	4	2	50.0	0	0.0	0	0.0	2	50.0
17.2903	Meat Cutter (Total)	18	14	77.8	5	27.8	1	5.6	8	44.4
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 21A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	18	14	77.8	5	27.8	1	5.6	8	44.4
	Completers	14	12	85.7	5	35.7	1	7.1	6	42.9
	Dropouts	4	2	50.0	0	0.0	0	0.0	2	50.0
17.2904	Waiter/Waitress (Total)	13	5	38.5	1	7.7	3	23.1	1	7.7
	AVC (Total)	1	1	100.0	0	0.0	0	0.0	1	100.0
	Completers	1	1	100.0	0	0.0	0	0.0	1	100.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	12	4	33.3	1	8.3	3	25.0	0	0.0
	Completers	11	4	36.4	1	9.1	3	27.3	0	0.0
	Dropouts	1	0	0.0	0	0.0	0	0.0	0	0.0
17.2999	Quantity Foods Occupations, Other (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.3000	Refrigeration (Total)	18	13	72.2	4	22.2	1	5.6	8	44.4
	AVC (Total)	14	9	64.3	2	14.3	1	7.1	6	42.9
	Completers	12	8	66.7	2	16.7	1	8.3	5	41.7
	Dropouts	2	1	50.0	0	0.0	0	0.0	1	50.0
	Other Type Schools (Total)	4	4	100.0	2	50.0	0	0.0	2	50.0
	Completers	4	4	100.0	2	50.0	0	0.0	2	50.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.3100	Small Engine Repair (Total)	20	17	85.0	8	40.0	3	15.0	6	30.0
	AVC (Total)	7	6	85.7	1	14.3	1	14.3	4	57.1
	Completers	4	4	100.0	1	25.0	1	25.0	2	50.0
	Dropouts	3	2	66.7	0	0.0	0	0.0	2	66.7

(continued)

TABLE 21A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	13	11	84.6	7	53.8	2	15.4	2	15.4
	Completers	12	10	83.3	7	58.3	2	16.7	1	8.3
	Dropouts	1	1	100.0	0	0.0	0	0.0	1	100.0
17.3300	Textile Production and Fabrication (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.3302	Tailoring (Total)	6	3	50.0	0	0.0	0	0.0	3	50.0
	AVC (Total)	3	2	67.7	0	0.0	0	0.0	2	67.7
	Completers	3	2	67.7	0	0.0	0	0.0	2	67.7
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	3	1	33.3	0	0.0	0	0.0	1	33.3
	Completers	3	1	33.3	0	0.0	0	0.0	1	33.3
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.3399	Textile Production, Other (Total)	38	24	63.2	7	18.4	8	21.1	9	23.7
	AVC (Total)	7	5	71.4	1	14.3	2	28.6	2	28.6
	Completers	5	3	60.0	0	0.0	2	40.0	1	20.0
	Dropouts	2	2	100.0	1	50.0	0	0.0	1	50.0
	Other Type Schools (Total)	31	19	61.3	6	19.4	6	19.4	7	22.6
	Completers	31	19	61.3	6	19.4	6	19.4	7	22.6
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.3400	Leatherworking (Total)	3	2	66.7	0	0.0	0	0.0	2	66.7
	AVC (Total)	3	2	66.7	0	0.0	0	0.0	2	66.7
	Completers	3	2	66.7	0	0.0	0	0.0	2	66.7
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 21A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.3401	Shoe Manufacturing (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	Completers	1	1	100.0	0	0.0	1	100.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.3402	Shoe Repair (Total)	3	2	66.7	0	0.0	1	33.3	1	33.3
	AVC (Total)	2	2	100.0	0	0.0	1	50.0	1	50.0
	Completers	1	1	100.0	0	0.0	1	100.0	0	0.0
	Dropouts	1	1	100.0	0	0.0	0	0.0	1	100.0
	Other Type Schools (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.3500	Upholstering (Total)	24	19	79.2	5	20.8	1	4.2	13	54.2
	AVC (Total)	17	14	82.4	3	17.6	0	0.0	11	64.7
	Completers	12	10	83.3	3	25.0	0	0.0	7	58.3
	Dropouts	5	4	80.0	0	0.0	0	0.0	4	80.0
	Other Type Schools (Total)	7	5	71.4	2	28.6	1	14.3	2	28.6
	Completers	7	5	71.4	2	28.6	1	14.3	2	28.6
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.3600	Woodworking (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 21A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.3601	Millwork and Cabinet-making (Total)	18	16	88.9	4	22.2	4	22.2	8	44.4
	AVC (Total)	6	6	100.0	2	33.3	2	33.3	2	33.3
	Completers	4	4	100.0	0	0.0	2	50.0	2	50.0
	Dropouts	2	2	100.0	2	100.0	0	0.0	0	0.0
	Other Type Schools (Total)	12	10	83.3	2	16.7	2	16.7	6	50.0
	Completers	4	4	100.0	0	0.0	1	25.0	3	75.0
	Dropouts	9	6	75.0	2	25.0	1	12.5	3	37.5
17.3699	Woodworking, Other (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.9900	Trade and Industrial, Other (Total)	52	40	76.9	15	28.8	15	28.8	10	19.2
	AVC (Total)	7	4	57.1	1	14.3	1	14.3	2	28.6
	Completers	7	4	57.1	1	14.3	1	14.3	2	28.6
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	45	36	80.0	14	31.1	14	31.1	8	17.8
	Completers	38	31	81.6	13	34.2	12	31.6	6	15.8
	Dropouts	7	5	71.4	1	14.3	2	28.6	2	28.6
17.9906	Taxidermy (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 21A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
99.0106	Career Guidance (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	TOTAL ALL AREAS	1866	1339	71.8	411	22.0	283	15.2	645	34.6
	AVC (Total)	857	608	70.9	149	17.4	105	12.3	354	41.3
	Completers	718	526	73.3	139	19.4	92	12.8	295	41.1
	Dropouts	139	82	59.0	10	7.2	13	9.4	59	42.4
	Other Type Schools (Total)	1009	731	72.4	262	26.0	178	17.6	291	28.8
	Completers	910	672	73.8	247	27.1	170	18.7	255	28.0
	Dropouts	99	59	59.6	15	15.2	8	8.1	36	36.4

[A]OE Code areas as reported by teachers

[B]Area Vocational Centers

[C]Any terminee who left the program by completing or by high school graduation

[D]Any terminee who the instructor reported as having dropped out of school

[E]The terminees made the judgment as to how their first job was related to the training received in their high school vocational program

Table 22 illustrates the current employment status of the responding terminees by the relatedness of their vocational training to their present

jobs. All percentages figured in the table were based on the 1,866 (27.1%) returns from the 6,875 Trade and Industrial Occupations terminees.

Of the 1,866 responding 1973-74 secondary Trade and Industrial Occupations terminees, 941 (50.4%) were presently employed full time and not attending school or employed full time and attending school. One hundred forty-three (7.7%) of the terminees were employed part time and attending school, while 106 (5.7%) were unavailable for employment (See page 104 for reasons terminees were unavailable for employment). Two hundred sixty-five (14.2%) of the terminees were unemployed and actively seeking employment, while 52 (2.8%) were employed part time and seeking full-time employment.

The "No Response" category in Table 22 includes three groups: (1) terminees in active full-time military service; (2) terminees who were in school full time and had never had a job; and (3) terminees who failed to respond to the item on the questionnarie.

Of the 1,866 secondary Trade and Industrial Occupations respondees, 338 (18.1%) were presently employed full time or part time in an area directly related to the training received in their high school vocational course. Two hundred sixty-two (14.0%) were employed either part time or full time in an area somewhat related to their training, while 512 (27.4%) were employed in areas not related to training. The terminees made the judgment as to how their present employment was related to the training received in their high school vocational course.

TABLE 22

CURRENT EMPLOYMENT STATUS OF TRADE AND INDUSTRIAL OCCUPATIONS TERMINEES (1973-74) BY RELATEDNESS OF TRAINING TO PRESENT JOB[A]

Employment Status	Total Responding		Relatedness of Training to Present Job[B]							
			Directly Related		Somewhat Related		Not Related[E]		Employed No Response	
	No.	%	No.	%	No.	%	No.	%	No.	%
Employed full time and not attending school	809	43.3	232	12.4	189	10.1	364	19.5	17	0.9
Employed full time and attending school	132	7.1	42	2.3	34	1.8	52	2.8	3	0.2
Employed part time and seeking full-time job	52	2.8	13	0.7	9	0.5	29	1.6	0	0.0
Employed part time and not seeking full-time job	23	1.2	7	0.4	6	0.3	6	0.3	4	0.2
Employed part time and attending school	143	7.7	44	2.4	24	1.[illegible]	61	3.3	9	0.5
Unemployed (actively seeking a job)[C]	265	14.2	N/A		N/A		N/A		N/A	
Unavailable for employment[C&D]	106	5.7	N/A		N/A		N/A		N/A	
No Response	336	18.0	N/A		N/A		N/A		N/A	
TOTAL	1866	100.0	338	18.1	262	14.0	512	27.4	33	1.8

[A]All percentages were based on the 1,866 (27.1%) respondents of the total 6,875 terminees. Terminees in active full-time military service or attending school full-time and had never been employed were included in the "No Response" category.

[B]The terminees made the judgment as to how their present job was related to the training received in their high school vocational program.

[C]The unemployed and unavailable for employment categories do not include persons in the military service and persons who were in school full time and never had a job.

[D]See page 104 for the listing of reasons Trade and Industrial Occupations terminees gave for being unavailable for employment.

[E]See page 1[illegible] for reasons terminees who were working in present job not related to vocational training gave for not seeking related job before accepting present job. Totals for unrelated columns may not correspond because terminees failed to respond to one of the two questions from which data was drawn.

Below is a list of the reasons given by the terminees for being unavailable for employment.

Reason	Number
In school full time	90
Presently not working, not interested in a job	7
Homemaker	6
Pregnancy	4
Illness or disability	9
Other	19

Of the 576 terminees who indicated their present jobs were not related to their vocational course, 297 (51.6%) terminees indicated that before they accepted their unrelated job, they tried to get a job that was related to their vocational training. However, 279 (48.4%) of the terminees did not.

The following is a list of reasons given by 247 of the terminees who, before taking their present unrelated job, indicated they did not seek a job that was related to their vocational training.

Reason	Number
Interested in a different vocation	43
Need for more training	30
Lost interest	23
Pay not enough	19
Could not find one	18
Nothing available	16
Already had a job	14
Took first available job	11
Wasn't taught	5
Going to college	5
Was in school	5
Not working	5
Don't know	4
Need for experience	4
My teacher didn't help me	3
I have my vocational course for personal use	3
I did not feel I was qualified	3
Joined armed services	3
Better job	3

(continued)

Reason	Number
Dislike it	2
Wanted to change	2
Health disability	3
Work at same place with father	2
Working for father; he needed me	1
Had no time to look	1
Because I got in a union	1
Impatient	1
No transportation	1
Didn't know where to look	1
Had money	1
Couldn't get one close to home; people would talk	1
No future	1
It was labor	1
Not demanding	1
Tired of being dirty	1
Because of poor weather	1
It was a good job	1
Didn't have proper books in school for my job	1
Left school	1
Too small	1
I could not afford further study	1
Working with the school	1

Table 23 shows for the present job, by OE code, the number of 1973-74 secondary Trade and Industrial Occupations terminees employed by the relatedness of their vocational training to their present job.

Of the 1,211 secondary Trade and Industrial Occupations terminees who indicated present employment, 160 (17.2%) who studied in the area of Auto Mechanics, OE Code 17.0302, were employed. This represented the largest number of employed terminees that studied in any OE Code area.

Of the 160 terminees presently employed that studied Auto Mechanics, 39 (24.4%) were employed in an area directly related to the training received in their high school vocational program. Seventy-eight (48.8%) terminees who studied in Auto Mechanics indicated their present job was not related to their high school vocational training. The terminees made the judgment as to how their present job related to the training received in their high school vocational program.

TABLE 23

EMPLOYED 1973-74 TRADE AND INDUSTRIAL OCCUPATIONS TERMINERS BY OE CODE AREA STUDIED AND BY RELATEDNESS OF TRAINING TO PRESENT JOB[A]

OE Code	Title of Occupational Objective Studied	Total Employed by Area Studied		Relatedness of Training to Present Job[B]					
				Directly Related		Somewhat Related		Not Related	
		No.	%	No.	%	No.	%	No.	%
01.0500	Ornamental Horticulture	1	0.0	0	0.0	1	0.0	0	0.0
04.0100	Advertising Service	4	0.2	1	0.0	2	0.1	1	0.0
04.0200	Sales, Apparel and Accessories	2	0.1	1	0.0	0	0.0	1	0.0
04.0300	Sales, Automotive	3	0.2	1	0.0	1	0.0	1	0.0
04.0400	Finance and Credit	2	0.1	1	0.0	1	0.0	0	0.0
04.0600	Food Distribution	7	0.4	5	0.3	0	0.0	2	0.1
04.0700	Food Services	0	0.0	0	0.0	0	0.0	0	0.0
04.0800	General Merchandise	3	0.2	0	0.0	1	0.0	2	0.1
04.0900	Sales, Hardware and Building Material	1	0.0	0	0.0	1	0.0	0	0.0
04.1000	Sales, Home Furnishings	1	0.0	0	0.0	1	0.0	0	0.0
04.1200	Industrial Marketing	1	0.0	0	0.0	1	0.0	0	0.0
04.1300	Insurance	0	0.0	0	0.0	0	0.0	0	0.0
04.1500	Personal Services	1	0.0	0	0.0	1	0.0	0	0.0
04.1800	Recreation & Tourism	0	0.0	0	0.0	0	0.0	0	0.0
04.1900	Transportation	1	0.0	0	0.0	0	0.0	1	0.0
04.2000	Retail Trade, Other	1	0.0	0	0.0	1	0.0	0	0.0
04.3100	Wholesale Trade, Other	2	0.1	0	0.0	1	0.0	1	0.0
07.0000	Health Occupations	0	0.0	0	0.0	0	0.0	0	0.0
07.0101	Dental Assisting	18	1.0	13	0.7	3	0.2	2	0.1
07.0103	Dental Laboratory	1	0.0	1	0.0	0	0.0	0	0.0
07.0200	Medical Laboratory	15	0.8	8	0.4	5	0.3	2	0.1
07.0203	Medical Lab. Asst.	16	0.9	9	0.5	3	0.2	4	0.2
07.0302	Practical Nurse	1	0.0	1	0.0	0	0.0	0	0.0
07.0303	Nursing Assistant	14	0.8	9	0.5	1	0.0	4	0.2
07.0402	Physical Therapy	0	0.0	0	0.0	0	0.0	0	0.0
07.0404	Orthotics	0	0.0	0	0.0	0	0.0	0	0.0
07.0500	Radiologic	1	0.0	0	0.0	1	0.0	0	0.0
07.0501	Radiologic Tech.	2	0.1	1	0.0	1	0.0	0	0.0
07.0603	Optometrist Asst.	0	0.0	0	0.0	0	0.0	0	0.0
07.0800	Mental Health Tech.	1	0.0	0	0.0	0	0.0	1	0.0
07.0903	Inhalation Therapy	1	0.0	1	0.0	0	0.0	0	0.0
07.0904	Medical Asst.	4	0.2	0	0.0	3	0.2	1	0.0
07.0909	Mortuary Science	2	0.1	2	0.1	0	0.0	0	0.0
07.9900	Health Occupations, Other	8	0.4	6	0.3	2	0.1	0	0.0

(continued)

TABLE 23 (continued)

OE Code	Title of Occupational Objective Studied	Total Employed by Area Studied		Relatedness of Training to Present Job[B]					
				Directly Related		Somewhat Related		Not Related	
		No.	%	No.	%	No.	%	No.	%
09.0102	Child Development	2	0.1	0	0.0	1	0.0	1	0.0
09.0201	Care and Guidance of Children	2	0.1	0	0.0	1	0.0	1	0.0
09.0202	Clothing Management	1	0.0	0	0.0	1	0.0	0	0.0
14.0300	General Office Clerical	10	0.5	4	0.2	4	0.2	2	0.1
14.0301	Duplicating Machine Operator	2	0.1	0	0.0	1	0.0	1	0.0
14.0901	Clerk-Typists	2	0.1	0	0.0	2	0.1	0	0.0
16.0201	Animal Science	0	0.0	0	0.0	0	0.0	0	0.0
17.0000	Trade and Industrial Occupations	1	0.0	0	0.0	0	0.0	1	0.0
17.0100	Air Conditioning	36	2.0	9	0.5	4	0.2	23	1.2
17.0101	Cooling	4	0.2	3	0.2	1	0.0	0	0.0
17.0102	Heating	0	0.0	0	0.0	0	0.0	0	0.0
17.0103	Ventilating	0	0.0	0	0.0	0	0.0	0	0.0
17.0199	Air Conditioning, Other	1	0.0	0	0.0	0	0.0	0	0.0
17.0200	Appliance Repair	4	0.2	1	0.0	0	0.0	3	0.2
17.0201	Electrical Appliances	0	0.0	0	0.0	0	0.0	0	0.0
17.0202	Gas Appliances	1	0.0	0	0.0	1	0.0	0	0.0
17.0300	Automotive Service	3	0.2	0	0.0	1	0.0	2	0.1
17.0301	Body and Fender	72	3.9	20	1.1	3	0.2	49	2.6
17.0302	Auto Mechanics	160	8.6	39	2.1	43	2.3	78	4.2
17.0303	Auto Specialization, Other	21	1.1	3	0.2	8	0.4	10	0.5
17.0399	Auto Service, Other	6	0.3	2	0.1	2	0.1	2	0.1
17.0401	Aircraft Maintenance, Other	4	0.2	1	0.0	1	0.0	2	0.1
17.0499	Aviation Occupations, Other	0	0.0	0	0.0	0	0.0	0	0.0
17.0504	Blue Print Reading	1	0.0	1	0.0	0	0.0	0	0.0
17.0600	Business Machine Maintenance	4	0.2	0	0.0	2	0.1	2	0.1
17.0700	Commercial Art Occupations	2	0.1	1	0.0	0	0.0	1	0.0
17.0701	Interior Decorating	0	0.0	0	0.0	0	0.0	0	0.0
17.0702	Window Display	0	0.0	0	0.0	0	0.0	0	0.0
17.0703	Product Design	1	0.0	0	0.0	1	0.0	0	0.0
17.0799	Commercial Art Occupations, Other	0	0.0	0	0.0	0	0.0	0	0.0
17.0800	Commercial Fisheries Occupations	2	0.1	0	0.0	2	0.1	0	0.0

(continued)

TABLE 23 (continued)

OE Code	Title of Occupational Objective Studied	Total Employed by Area Studied		Relatedness of Training to Present Job[B]					
				Directly Related		Somewhat Related		Not Related	
		No.	%	No.	%	No.	%	No.	%
17.0900	Commercial Photography	6	0.3	3	0.2	0	0.0	3	0.2
17.1000	Construction and Maintenance	6	0.3	2	0.1	3	0.2	1	0.0
17.1001	Carpentry	42	2.3	8	0.4	13	0.7	21	1.1
17.1002	Electricity	9	0.5	2	0.1	3	0.2	4	0.2
17.1003	Heavy Equipment	2	0.1	2	0.1	0	0.0	0	0.0
17.1004	Masonry	43	2.3	7	0.4	10	0.5	26	1.4
17.1005	Painting & Decorating	2	0.1	1	0.0	0	0.0	1	0.0
17.1007	Plumbing & Pipefitting	7	0.4	4	0.2	1	0.0	2	0.1
17.1008	Dry Wall Construction	0	0.0	0	0.0	0	0.0	0	0.0
17.1009	Glazing	2	0.1	0	0.0	0	0.0	2	0.1
17.1010	Roofing	0	0.0	0	0.0	0	0.0	0	0.0
17.1099	Construction, Other	11	0.6	2	0.1	4	0.2	5	0.3
17.1100	Custodial Services	8	0.4	0	0.0	3	0.2	5	0.3
17.1200	Diesel Mechanics	13	0.7	5	0.3	1	0.0	7	0.4
17.1300	Drafting	86	4.6	16	0.9	21	1.1	49	2.6
17.1400	Electrical Occupations	15	0.8	7	0.4	2	0.1	6	0.3
17.1401	Industrial Electrician	25	1.3	11	0.6	3	0.2	11	0.6
17.1402	Lineman	1	0.0	0	0.0	1	0.0	0	0.0
17.1403	Motor Repairman	0	0.0	0	0.0	0	0.0	0	0.0
17.1499	Electrical Occupations, Other	1	0.0	1	0.0	0	0.0	0	0.0
17.1500	Electronics Occupations	33	1.8	7	0.4	7	0.4	19	1.0
17.1501	Communications	5	0.3	1	0.0	2	0.1	2	0.1
17.1502	Industrial Electornics	1	0.0	0	0.0	0	0.0	1	0.0
17.1503	Radio/Television	45	2.4	10	0.5	3	0.2	32	1.7
17.1600	Fabric Maintenance Services	1	0.0	0	0.0	0	0.0	1	0.0
17.1601	Drycleaning	2	0.1	1	0.0	1	0.0	0	0.0
17.1602	Laundering	0	0.0	0	0.0	0	0.0	0	0.0
17.1699	Fabric Maintenance Services, Other	0	0.0	0	0.0	0	0.0	0	0.0
17.1700	Foremanship/Management Development	1	0.0	0	0.0	0	0.0	1	0.0
17.1900	Graphic Arts Occupations	33	1.8	7	0.4	6	0.3	20	1.1
17.1902	Printing Press Occupations	1	0.0	1	0.0	0	0.0	0	0.0
17.1999	Graphic Arts, Other	1	0.0	0	0.0	0	0.0	1	0.0
17.2100	Instrument Maintenance and Repair	1	0.0	1	0.0	0	0.0	0	0.0
17.2101	Instruments (Not watches or clocks)	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 23 (continued)

OE Code	Title of Occupational Objective Studied	Total Employed by Area Studied		Relatedness of Training to Present Job[8]					
				Directly Related		Somewhat Related		Not Related	
		No.	%	No.	%	No.	%	No.	%
17.2200	Maritime Occupations	0	0.0	0	0.0	0	0.0	0	0.0
17.2300	Metalworking	12	0.6	4	0.2	3	0.2	5	0.3
17.2301	Foundry	2	0.1	1	0.0	1	0.0	0	0.0
17.2302	Machine Shop	32	1.7	14	0.8	9	0.5	9	0.5
17.2303	Machine Tool Operations	5	0.3	1	0.0	1	0.0	3	0.2
17.2304	Metal Trades, Combined	0	0.0	0	0.0	0	0.0	0	0.0
17.2305	Sheet Metal	9	0.5	4	0.2	0	0.0	5	0.3
17.2306	Welding and Cutting	93	5.0	30	1.6	21	1.1	42	2.3
17.2309	Metal Patternmaking	0	0.0	0	0.0	0	0.0	0	0.0
17.2399	Metalworking, Other	0	0.0	0	0.0	0	0.0	0	0.0
17.2400	Metallurgy	0	0.0	0	0.0	0	0.0	0	0.0
17.2600	Personal Services	0	0.0	0	0.0	0	0.0	0	0.0
17.2601	Barbering	1	0.0	1	0.0	0	0.0	0	0.0
17.2602	Cosmetology	12	0.6	8	0.4	0	0.0	4	0.2
17.2699	Personal Services, Other	3	0.2	2	0.1	0	0.0	1	0.0
17.2700	Plastics Occupations	1	0.0	1	0.0	0	0.0	0	0.0
17.2800	Public Service Occupations	1	0.0	0	0.0	1	0.0	0	0.0
17.2802	Law Enforcement Training	0	0.0	0	0.0	0	0.0	0	0.0
17.2900	Quantity Foods Occupations	14	0.8	5	0.3	2	0.1	7	0.4
17.2901	Baker	1	0.0	0	0.0	1	0.0	0	0.0
17.2902	Cook/Chef	29	1.6	3	0.2	9	0.5	17	9.1
17.2903	Meat Cutter	14	0.8	5	0.3	0	0.0	9	0.5
17.2904	Waiter/Waitress	5	0.3	1	0.0	3	0.2	1	0.0
17.2999	Quantity Foods Occupations, Other	0	0.0	0	0.0	0	0.0	0	0.0
17.3000	Refrigeration	12	0.6	4	0.2	1	0.0	7	0.4
17.3100	Small Engine Repair	16	0.9	6	0.3	5	0.3	5	0.3
17.3300	Textile Production and Fabrication	0	0.0	0	0.0	0	0.0	0	0.0
17.3302	Tailoring	3	0.2	0	0.0	0	0.0	3	0.2
17.3399	Textile Production, Other	21	1.1	5	0.3	9	0.5	7	0.4
17.3400	Leatherworking	2	0.1	0	0.0	0	0.0	2	0.1
17.3401	Shoe Manufacturing	1	0.0	0	0.0	1	0.0	0	0.0
17.3402	Shoe Repair	1	0.0	0	0.0	0	0.0	1	0.0
17.3500	Upholstering	14	0.8	3	0.2	1	0.0	10	0.5
17.3600	Woodworking	0	0.0	0	0.0	0	0.0	0	0.0
17.3601	Millwork and Cabinetmaking	12	0.6	1	0.0	5	0.3	6	0.3

(continued)

TABLE 23 (continued)

OE Code	Title of Occupational Objective Studied	Total Employed by Area Studied		Relatedness of Training to Present Job[B]					
				Directly Related		Somewhat Related		Not Related	
		No.	%	No.	%	No.	%	No.	%
17.3699	Woodworking, Other	0	0.0	0	0.0	0	0.0	0	0.0
17.9900	Trade and Industrial, Other	36	2.0	12	0.6	14	0.8	10	0.5
17.9906	Taxidermy	0	0.0	0	0.0	0	0.0	0	0.0
99.0106	Career Guidance	0	0.0	0	0.0	0	0.0	0	0.0
	TOTAL ALL AREAS	1211	64.9	354	19.0	281	15.1	576	30.9

[A]All percentages were based on the 1,866 (27.1%) of the 6,875 terminees who returned the questionnaire.

[B]Terminees made the judgment as to how their first job was related to training received in their high school vocational program.

Table 23A is a description of 1973-74 Trade and Industrial Occupations terminees' present job by OE code area studied, number of returns, type school, termination status, and relatedness of training.

TABLE 23A

DESCRIPTION OF 1973-74 TRADE AND INDUSTRIAL TERMINEES' PRESENT JOB BY OE CODE AREA STUDIED, NUMBER OF RETURNS, TYPE SCHOOL, TERMINATION STATUS, AND RELATEDNESS OF TRAINING

OE Code Area[A]	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to Present Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
01.0500	Ornamental Horticulture (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	AVC (Total)[B]	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers[C]	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts[D]	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 23A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to Present Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	Completers	1	1	100.0	0	0.0	1	100.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
04.0100	Advertising Service (Total)	6	4	66.7	1	16.7	2	33.3	1	16.7
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	6	4	66.7	1	16.7	2	33.3	1	16.7
	Completers	6	4	66.7	1	16.7	2	33.3	1	16.7
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
04.0200	Sales, Apparel and Accessories (Total)	3	2	66.7	1	33.3	0	0.0	1	33.3
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	3	2	66.7	1	33.3	0	0.0	1	33.3
	Completers	3	2	66.7	1	33.3	0	0.0	1	33.3
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
04.0300	Sales, Automotive (Total)	3	3	100.0	1	33.3	1	33.3	1	33.3
	AVC (Total)	1	1	100.0	0	0.0	0	0.0	1	100.0
	Completers	1	1	100.0	0	0.0	0	0.0	1	100.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	2	2	100.0	1	50.0	1	50.0	0	0.0
	Completers	2	2	100.0	1	50.0	1	50.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
04.0400	Finance and Credit (Total)	3	2	66.7	1	33.3	1	33.3	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 23A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to Present Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	3	2	66.7	1	33.3	1	33.3	0	0.0
	Completers	3	2	66.7	1	33.3	1	33.3	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
04.0600	Food Distribution (Total)	8	7	87.5	5	62.5	0	0.0	2	25.0
	AVC (Total)	4	3	75.0	1	25.0	0	0.0	2	50.0
	Completers	3	2	66.7	1	33.3	0	0.0	1	33.3
	Dropouts	1	1	100.0	0	0.0	0	0.0	1	100.0
	Other Type Schools (Total)	4	4	100.0	4	100.0	0	0.0	0	0.0
	Completers	4	4	100.0	4	100.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
04.0700	Food Services (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
04.0800	General Merchandise (Total)	3	3	100.0	0	0.0	1	33.3	2	66.7
	AVC (Total)	1	1	100.0	0	0.0	0	0.0	1	100.0
	Completers	1	1	100.0	0	0.0	0	0.0	1	100.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	2	2	100.0	0	0.0	1	50.0	1	50.0
	Completers	2	2	100.0	0	0.0	1	50.0	1	50.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
04.0900	Sales, Hardware and Building Material (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 23A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to Present Job[e]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	Completers	1	1	100.0	0	0.0	1	100.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
04.1000	Sales, Home Furnishings (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	Completers	1	1	100.0	0	0.0	1	100.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
04.1200	Industrial Marketing (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	Completers	1	1	100.0	0	0.0	1	100.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
04.1300	Insurance (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
04.1500	Personal Services (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 23A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to Present Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	Completers	1	1	100.0	0	0.0	1	100.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
04.1800	Recreation & Tourism (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
04.1900	Transportation (Total)	1	1	100.0	0	0.0	0	0.0	1	100.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	0	0.0	0	0.0	1	100.0
	Completers	1	1	100.0	0	0.0	0	0.0	1	100.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
04.2000	Retail Trade, Other (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	Completers	1	1	100.0	0	0.0	1	100.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
04.3100	Wholesale Trade, Other (Total)	3	2	66.7	0	0.0	1	33.3	1	33.3
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 23A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to Present Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	3	2	66.7	0	0.0	1	33.3	1	33.3
	Completers	3	2	66.7	0	0.0	1	33.3	1	33.3
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
07.0000	Health Occupations (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
07.0101	Dental Assisting (Total)	28	18	64.3	13	46.4	3	10.7	2	7.1
	AVC (Total)	3	2	66.7	2	66.7	0	0.0	0	0.0
	Completers	3	2	66.7	2	66.7	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	25	16	64.0	11	44.0	3	12.0	2	8.0
	Completers	24	15	62.5	10	41.7	3	12.5	2	8.3
	Dropouts	1	1	100.0	1	100.0	0	0.0	0	0.0
07.0103	Dental Laboratory (Total)	3	1	33.3	1	33.3	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	3	1	33.3	1	33.3	0	0.0	0	0.0
	Completers	3	1	33.3	1	33.3	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
07.0200	Medical Laboratory (Total)	26	15	57.7	8	30.8	5	19.2	2	7.7
	AVC (Total)	6	2	33.3	1	16.7	1	16.7	0	0.0
	Completers	6	2	33.3	1	16.7	1	16.7	0	0.0
	Dropouts	0	[illegible]	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 23A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to Present Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	20	13	65.0	7	35.0	4	20.0	2	10.0
	Completers	19	12	63.2	7	36.8	4	21.1	1	5.3
	Dropouts	1	1	100.0	0	0.0	0	0.0	1	100.0
07.0203	Medical Lab. Asst. (Total)	27	16	59.3	9	33.3	3	11.1	4	14.8
	AVC (Total)	3	2	66.7	1	33.3	0	0.0	1	33.3
	Completers	3	2	66.7	1	33.3	0	0.0	1	33.3
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	24	14	58.3	8	33.3	3	12.5	3	12.5
	Completers	23	13	56.5	7	30.4	3	13.0	3	13.0
	Dropouts	1	1	100.0	1	100.0	0	0.0	0	0.0
07.0302	Practical Nurse (Total)	5	1	20.0	1	20.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	5	1	20.0	1	20.0	0	0.0	0	0.0
	Completers	5	1	20.0	1	20.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
07.0303	Nursing Asst. (Total)	17	14	82.4	9	52.9	1	5.9	4	23.5
	AVC (Total)	4	4	100.0	3	75.0	0	0.0	1	25.0
	Completers	4	4	100.0	3	75.0	0	0.0	1	25.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	13	10	76.9	6	46.2	1	7.7	3	23.1
	Completers	13	10	76.9	6	46.2	1	7.7	3	23.1
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
07.0402	Physical Therapy (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 23A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to Present Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
07.0404	Orthotics (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
07.0500	Radiologic (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	Completers	1	1	100.0	0	0.0	1	100.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
07.0501	Radiologic Tech. (Total)	2	2	100.0	1	50.0	1	50.0	0	0.0
	AVC (Total)	1	1	100.0	1	100.0	0	0.0	0	0.0
	Completers	1	1	100.0	1	100.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	Completers	1	1	100.0	0	0.0	1	100.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
07.0603	Optometrist Asst. (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 23A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to Present Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
07.0800	Mental Health Technology (Total)	1	1	100.0	0	0.0	0	0.0	1	100.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	0	0.0	0	0.0	1	100.0
	Completers	1	1	100.0	0	0.0	0	0.0	1	100.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
07.0903	Inhalation Therapy (Total)	2	1	50.0	1	50.0	0	0.0	0	0.0
	AVC (Total)	2	1	50.0	1	50.0	0	0.0	0	0.0
	Completers	2	1	50.0	1	50.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
07.0904	Medical Asst. (Total)	5	4	80.0	0	0.0	3	60.0	1	20.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	5	4	80.0	0	0.0	3	60.0	1	20.0
	Completers	5	4	80.0	0	0.0	3	60.0	1	20.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
07.0909	Mortuary Science (Total)	4	2	50.0	2	50.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 23A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to Present Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	4	2	50.0	2	50.0	0	0.0	0	0.0
	Completers	4	2	50.0	2	50.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
07.9900	Health Occupations, Other (Total)	11	8	72.7	6	54.4	2	18.2	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	11	8	72.7	6	54.5	2	18.2	0	0.0
	Completers	11	8	72.7	6	54.5	2	18.2	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
09.0102	Child Development (Total)	2	2	100.0	0	0.0	1	50.0	1	50.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	2	2	100.0	0	0.0	1	50.0	1	50.0
	Completers	2	2	100.0	0	0.0	1	50.0	1	50.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
09.0201	Care and Guidance of Children (Total)	2	2	100.0	0	0.0	1	50.0	1	50.0
	AVC (Total)	1	1	100.0	0	0.0	0	0.0	1	100.0
	Completers	1	1	100.0	0	0.0	0	0.0	1	100.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	Completers	1	1	100.0	0	0.0	1	100.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
09.0202	Clothing Management (Total)	6	1	16.7	0	0.0	1	16.7	0	0.0
	AVC (Total)	5	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	5	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 23A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to Present Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	Completers	1	1	100.0	0	0.0	1	100.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
14.0300	General Office Clerical (Total)	14	10	71.4	4	28.6	4	28.6	2	14.3
	AVC (Total)	5	3	60.0	2	40.0	1	20.0	0	0.0
	Completers	5	3	60.0	2	40.0	1	20.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	9	7	77.8	2	22.2	3	33.3	2	22.2
	Completers	9	7	77.8	2	22.2	3	33.3	2	22.2
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
14.0301	Duplicating Machine Operator (Total)	4	2	50.0	0	0.0	1	25.0	1	25.0
	AVC (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	3	2	66.7	0	0.0	1	33.3	1	33.3
	Completers	3	2	66.7	0	0.0	1	33.3	1	33.3
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
14.0901	Clerk-Typists (Total)	3	2	66.7	0	0.0	2	66.7	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	3	2	66.7	0	0.0	2	66.7	0	0.0
	Completers	3	2	66.7	0	0.0	2	66.7	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
16.0201	Animal Science (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 23A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to Present Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.0000	Trade and Industrial Occupations (Total)	3	1	33.3	0	0.0	0	0.0	1	33.3
	AVC (Total)	2	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	1	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	0	0.0	0	0.0	1	100.0
	Completers	1	1	100.0	0	0.0	0	0.0	1	100.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.0100	Air Conditioning (Total)	54	36	66.7	9	16.7	4	7.4	23	42.6
	AVC (Total)	38	25	65.8	6	15.8	2	5.3	17	44.7
	Completers	34	23	67.6	6	17.6	2	5.9	15	44.1
	Dropouts	4	2	50.0	0	0.0	0	0.0	2	50.0
	Other Type Schools (Total)	16	11	68.8	3	18.8	2	12.5	6	37.5
	Completers	15	11	73.3	3	20.0	2	13.3	6	40.0
	Dropouts	1	0	0.0	0	0.0	0	0.0	0	0.0
17.0101	Cooling (Total)	7	4	57.1	3	42.9	1	14.3	0	0.0
	AVC (Total)	3	2	66.7	1	33.3	1	33.3	0	0.0
	Completers	3	2	66.7	1	33.3	1	33.3	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	4	2	50.0	2	50.0	0	0.0	0	0.0
	Completers	3	2	66.7	2	66.7	0	0.0	0	0.0
	Dropouts	1	0	0.0	0	0.0	0	0.0	0	0.0
17.0102	Heating (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 23A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to Present Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.0103	Ventilating (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.0199	Air Conditioning, Other (Total)	1	1	100.0	0	0.0	0	0.0	1	100.0
	AVC (Total)	1	1	100.0	0	0.0	0	0.0	1	100.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	1	1	100.0	0	0.0	0	0.0	1	100.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.0200	Appliance Repair (Total)	12	4	33.3	1	8.3	0	0.0	3	25.0
	AVC (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	11	4	36.4	1	9.1	0	0.0	3	27.3
	Completers	8	3	37.5	1	12.5	0	0.0	2	25.0
	Dropouts	3	1	33.3	0	0.0	0	0.0	1	33.3
17.0201	Electrical Appliances (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 23A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to Present Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.0202	Gas Appliances (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	Completers	1	1	100.0	0	0.0	1	100.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.0300	Automotive Service (Total)	4	3	75.0	0	0.0	1	25.0	2	50.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	4	3	75.0	0	0.0	1	25.0	2	50.0
	Completers	4	3	75.0	0	0.0	1	25.0	2	50.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.0301	Body and Fender (Total)	99	72	72.7	20	20.2	3	3.0	49	49.5
	AVC (Total)	71	49	69.0	10	14.1	1	1.4	38	53.5
	Completers	56	41	73.2	10	17.9	1	1.8	30	53.6
	Dropouts	15	8	53.3	0	0.0	0	0.0	8	53.3
	Other Type Schools (Total)	28	23	82.1	10	35.7	2	7.1	11	39.3
	Completers	25	22	88.0	9	36.0	2	8.0	11	44.0
	Dropouts	3	1	33.3	1	33.3	0	0.0	0	0.0
17.0302	Auto Mechanics (Total)	221	160	72.4	39	17.6	43	19.5	78	35.3
	AVC (Total)	127	97	76.4	20	15.7	25	19.7	52	40.9
	Completers	100	78	78.0	18	18.0	18	18.0	42	42.0
	Dropouts	27	19	70.4	2	7.4	7	25.9	10	37.0

(continued)

TABLE 23A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to Present Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	94	63	67.0	19	20.2	18	19.1	26	27.7
	Completers	81	56	69.1	17	21.0	17	21.0	22	27.2
	Dropouts	13	7	53.8	2	15.4	1	7.7	4	30.8
17.0303	Auto Specialization, Other (Total)	21	21	100.0	3	14.3	8	38.1	10	47.6
	AVC (Total)	2	2	100.0	0	0.0	1	50.0	1	50.0
	Completers	2	2	100.0	0	0.0	1	50.0	1	50.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	19	19	100.0	3	15.8	7	36.8	9	47.4
	Completers	19	19	100.0	3	15.8	7	36.8	9	47.4
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.0399	Auto Service, Other (Total)	6	6	100.0	2	33.3	2	33.3	2	33.3
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	6	6	100.0	2	33.3	2	33.3	2	33.3
	Completers	5	5	100.0	2	40.0	2	40.0	1	20.0
	Dropouts	1	1	100.0	0	0.0	0	0.0	1	100.0
17.0401	Aircraft Maintenance, Other (Total)	6	4	66.7	1	16.7	1	16.7	2	33.3
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	6	4	66.7	1	16.7	1	16.7	2	33.3
	Completers	5	4	80.0	1	20.0	1	20.0	2	40.0
	Dropouts	1	0	0.0	0	0.0	0	0.0	0	0.0
17.0499	Aviation Occupations, Other (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 23A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to Present Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.0504	Blue Print Reading (Total)	1	1	100.0	1	100.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	1	100.0	0	0.0	0	0.0
	Completers	1	1	100.0	1	100.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.0600	Business Machine Maintenance (Total)	6	4	66.7	0	0.0	2	33.3	2	33.3
	AVC (Total)	3	3	100.0	0	0.0	2	66.7	1	33.3
	Completers	3	3	100.0	0	0.0	2	66.7	1	33.3
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	3	1	33.3	0	0.0	0	0.0	1	33.3
	Completers	3	1	33.3	0	0.0	0	0.0	1	33.3
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.0700	Commercial Art Occupations (Total)	6	2	33.3	1	16.7	0	0.0	1	16.7
	AVC (Total)	3	1	33.3	0	0.0	0	0.0	1	33.3
	Completers	2	1	50.0	0	0.0	0	0.0	1	50.0
	Dropouts	1	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	3	1	33.3	1	33.3	0	0.0	0	0.0
	Completers	3	1	33.3	1	33.3	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.0701	Interior Decorating (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 23A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to Present Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.0702	Window Display (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.0703	Product Design (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	Completers	1	1	100.0	0	0.0	1	100.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.0799	Commercial Art Occupations, Other (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.0800	Commercial Fisheries Occupations (Total)	2	2	100.0	0	0.0	2	100.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 23A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to Present Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	2	2	100.0	0	0.0	2	100.0	0	0.0
	Completers	2	2	100.0	0	0.0	2	100.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.0900	Commercial Photography (Total)	8	6	75.0	3	37.5	0	0.0	3	37.5
	AVC (Total)	2	1	50.0	0	0.0	0	0.0	1	50.0
	Completers	2	1	50.0	0	0.0	0	0.0	1	50.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	6	5	83.3	3	50.0	0	0.0	2	33.3
	Completers	6	5	83.3	3	50.0	0	0.0	2	33.3
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.1000	Construction and Maintenance (Total)	11	6	54.5	2	18.2	3	27.3	1	9.1
	AVC (Total)	8	5	62.5	1	12.5	3	37.5	1	12.5
	Completers	6	4	66.7	1	16.7	2	33.3	1	16.7
	Dropouts	2	1	50.0	0	0.0	1	50.0	0	0.0
	Other Type Schools (Total)	3	1	33.3	1	33.3	0	0.0	0	0.0
	Completers	2	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	1	1	100.0	1	100.0	0	0.0	0	0.0
17.1001	Carpentry (Total)	60	42	70.0	8	13.3	13	21.7	21	35.0
	AVC (Total)	27	17	63.0	1	3.7	9	33.3	7	25.9
	Completers	22	15	68.2	0	0.0	9	40.9	6	27.3
	Dropouts	5	2	40.0	1	20.0	0	0.0	1	20.0
	Other Type Schools (Total)	33	25	75.8	7	21.2	4	12.1	14	42.4
	Completers	27	21	77.7	7	25.9	3	11.1	11	40.7
	Dropouts	6	4	66.7	0	0.0	1	16.7	3	50.0
17.1002	Electricity (Total)	16	9	56.3	2	12.5	3	18.8	4	25.0
	AVC (Total)	13	8	61.5	2	15.4	2	15.4	4	30.8
	Completers	10	7	70.0	2	20.0	2	20.0	3	30.0
	Dropouts	3	1	33.3	0	0.0	0	0.0	1	33.3

(continued)

TABLE 23A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to Present Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	3	1	33.3	0	0.0	1	33.3	0	0.0
	Completers	2	1	50.0	0	0.0	1	50.0	0	0.0
	Dropouts	1	0	0.0	0	0.0	0	0.0	0	0.0
17.1003	Heavy Equipment (Total)	2	2	100.0	2	100.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	2	2	100.0	2	100.0	0	0.0	0	0.0
	Completers	2	2	100.0	2	100.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.1004	Masonry (Total)	74	43	58.1	7	9.5	10	13.5	26	35.1
	AVC (Total)	54	29	53.7	4	7.4	7	13.0	18	33.3
	Completers	43	25	58.1	4	9.3	5	11.6	16	37.2
	Dropouts	11	4	36.4	0	0.0	2	18.2	2	18.2
	Other Type Schools (Total)	20	14	70.0	3	15.0	3	15.0	8	40.0
	Completers	15	11	73.3	2	13.3	3	20.0	6	40.0
	Dropouts	5	3	60.0	1	20.0	0	0.0	2	40.0
17.1005	Painting & Decorating (Total)	4	2	50.0	1	25.0	0	0.0	1	25.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	4	2	50.0	1	25.0	0	0.0	1	25.0
	Completers	4	2	50.0	1	25.0	0	0.0	1	25.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.1007	Plumbing & Pipefitting (Total)	8	7	87.5	4	50.0	1	12.5	2	25.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 23A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to Present Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	8	7	87.5	4	50.0	1	12.5	2	25.0
	Completers	8	7	87.5	4	50.0	1	12.5	2	25.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.1008	Dry Wall Construction (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.1009	Glazing (Total)	2	2	100.0	0	0.0	0	0.0	2	100.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	2	2	100.0	0	0.0	0	0.0	2	100.0
	Completers	2	2	100.0	0	0.0	0	0.0	2	100.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.1010	Roofing (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.1099	Construction, Other (Total)	24	11	45.9	2	8.3	4	16.7	5	20.8
	AVC (Total)	6	3	50.0	0	0.0	0	0.0	3	50.0
	Completers	6	3	50.0	0	0.0	0	0.0	3	50.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 23A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to Present Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	18	8	44.4	2	11.1	4	22.2	2	11.1
	Completers	18	8	44.4	2	11.1	4	22.2	2	11.1
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.1100	Custodial Services (Total)	14	8	57.1	0	0.0	3	21.4	5	37.5
	AVC (Total)	2	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	2	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	12	8	66.7	0	0.0	3	25.0	5	41.7
	Completers	10	7	70.0	0	0.0	2	20.0	5	50.0
	Dropouts	2	1	50.0	0	0.0	1	50.0	0	0.0
17.1200	Diesel Mechanics (Total)	17	13	76.5	5	29.4	1	5.9	7	41.2
	AVC (Total)	9	6	66.7	1	11.1	1	11.1	4	27.7
	Completers	8	6	75.0	1	12.5	1	12.5	4	50.0
	Dropouts	1	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	8	7	87.5	4	50.0	0	0.0	3	37.5
	Completers	8	7	87.5	4	50.0	0	0.0	3	37.5
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.1300	Drafting (Total)	148	86	58.1	16	10.8	21	14.2	49	33.1
	AVC (Total)	85	51	60.0	10	11.8	13	15.3	28	32.9
	Completers	77	46	59.7	10	13.0	12	15.6	24	31.2
	Dropouts	9	5	62.5	0	0.0	1	12.5	4	50.0
	Other Type Schools	63	35	55.6	6	9.5	8	12.7	21	33.3
	Completers	57	32	56.1	6	10.5	8	14.0	18	31.6
	Dropouts	6	3	50.0	0	0.0	0	0.0	3	50.0
17.1400	Electrical Occupations (Total)	22	15	68.2	7	31.8	2	9.1	6	27.3
	AVC (Total)	12	9	75.0	2	16.7	1	8.3	6	50.0
	Completers		7	87.5	1	12.5	1	12.5	5	62.5
	Dropouts	4	2	50.0	1	25.0	0	0.0	1	25.0

(continued)

TABLE 23A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to Present Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	10	6	60.0	5	50.0	1	10.0	0	0.0
	Completers	8	6	75.0	5	62.5	1	12.5	0	0.0
	Dropout	2	0	0.0	0	0.0	0	0.0	0	0.0
17.1401	Industrial Electrician (Total)	45	25	55.6	11	24.4	3	6.7	11	24.4
	AVC (Total)	25	14	56.0	5	20.0	2	8.0	7	28.0
	Completers	21	12	57.1	5	23.8	1	4.8	6	28.6
	Dropouts	4	2	50.0	0	0.0	1	25.0	1	25.0
	Other Type Schools (Total)	20	11	55.0	6	30.0	1	5.0	4	20.0
	Completers	19	11	57.9	6	31.6	1	5.3	4	21.1
	Dropouts	1	0	0.0	0	0.0	0	0.0	0	0.0
17.1402	Lineman (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	Completers	1	1	100.0	0	0.0	1	100.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.1403	Motor Repairman (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.1499	Electrical Occupations, Other (Total)	1	1	100.0	1	100.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 23A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to Present Job[2]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	1	1	100.0	1	100.0	0	0.0	0	0.0
	Completers	1	1	100.0	1	100.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.1500	Electronics Occupations (Total)	61	33	54.1	7	11.5	7	11.5	19	31.1
	AVC (Total)	44	24	54.6	4	9.1	5	11.4	15	34.1
	Completers	39	21	53.8	4	10.3	5	12.8	12	30.8
	Dropouts	4	3	75.0	0	0.0	0	0.0	3	75.0
	Other Type Schools (Total)	17	9	52.9	3	17.7	2	11.8	4	23.5
	Completers	16	9	56.3	3	18.8	2	12.5	4	25.0
	Dropouts	1	0	0.0	0	0.0	0	0.0	0	0.0
17.1501	Communications (Total)	5	5	100.0	1	20.0	2	40.0	2	40.0
	AVC (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	Completers	1	1	100.0	0	0.0	1	100.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	4	4	100.0	1	25.0	1	25.0	2	50.0
	Completers	4	4	100.0	1	25.0	1	25.0	2	50.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.1502	Industrial Electronics (Total)	3	1	33.3	0	0.0	0	0.0	1	33.3
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	3	1	33.3	0	0.0	0	0.0	1	33.3
	Completers	3	1	33.3	0	0.0	0	0.0	1	33.3
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.1503	Radio/Television (Total)	66	45	68.2	10	15.2	3	4.5	32	48.5
	AVC (Total)	47	30	63.8	7	14.9	2	4.3	21	44.7
	Completers	39	27	69.2	6	15.4	2	5.1	19	48.7
	Dropouts	8	3	42.5	1	17.5	0	0.0	2	25.0

(continued)

TABLE 23A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to Present Job[a]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	19	15	78.9	3	15.8	1	5.3	11	57.9
	Completers	18	14	77.8	3	16.7	1	5.6	10	55.6
	Dropouts	1	1	100.0	0	0.0	0	0.0	1	100.0
17.1600	Fabric Maintenance Services (Total)	1	1	100.0	0	0.0	0	0.0	1	100.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	0	0.0	0	0.0	1	100.0
	Completers	1	1	100.0	0	0.0	0	0.0	1	100.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.1601	Drycleaning (Total)	3	2	66.7	1	33.3	1	33.3	0	0.0
	AVC (Total)	1	1	100.0	1	100.0	0	0.0	0	0.0
	Completers	1	1	100.0	1	100.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	2	1	50.0	0	0.0	1	50.0	0	0.0
	Completers	1	1	100.0	0	0.0	1	100.0	0	0.0
	Dropouts	1	0	0.0	0	0.0	0	0.0	0	0.0
17.1602	Laundering (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.1699	Fabric Maintenance Services, Other (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 23A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to Present Job[1]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.1700	Foremanship/Management-Development (Total)	3	1	33.3	0	0.0	0	0.0	1	33.3
	AVC (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	2	1	50.0	0	0.0	0	0.0	1	50.0
	Completers	2	1	50.0	0	0.0	0	0.0	1	50.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.1900	Graphic Arts Occupations (Total)	61	33	54.1	7	11.5	6	9.8	20	32.8
	AVC (Total)	[illegible]	14	48.3	3	10.3	1	3.4	10	34.5
	Completers	27	14	51.9	3	11.1	1	3.7	10	37.0
	Dropouts	2	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	32	19	59.4	4	12.5	5	15.6	10	31.3
	Completers	30	19	63.3	4	13.3	5	16.7	10	33.3
	Dropouts	2	0	0.0	0	0.0	0	0.0	0	0.0
17.1902	Printing Press Occupations (Total)	1	1	100.0	1	100.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	1	100.0	0	0.0	0	0.0
	Completers	1	1	100.0	1	100.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.1999	Graphic Arts, Other (Total)	1	1	100.0	0	0.0	0	0.0	1	100.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 23A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to Present Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	1	1	100.0	0	0.0	0	0.0	1	100.0
	Completers	1	1	100.0	0	0.0	0	0.0	1	100.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.2100	Instrument Maintenance and Repair (Total)	1	1	100.0	1	100.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	1	100.0	0	0.0	0	0.0
	Completers	1	1	100.0	1	100.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.2101	Instruments (Not watches or clocks) (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.2200	Maritime Occupations (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.2300	Metalworking (Total)	27	12	44.4	4	14.8	3	11.3	5	18.5
	AVC (Total)	12	4	33.3	2	16.7	2	16.7	0	0.0
	Completers	9	4	44.4	2	22.2	2	22.2	0	0.0
	Dropouts	3	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 23A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to Present Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	15	8	53.3	2	13.3	1	6.7	5	33.3
	Completers	10	6	60.0	1	10.0	1	10.0	4	40.0
	Dropouts	4	2	40.0	1	20.0	0	0.0	1	20.0
17.2301	Foundry (Total)	3	2	66.7	1	33.3	1	33.3	0	0.0
	AVC (Total)	1	1	100.0	1	100.0	0	0.0	0	0.0
	Completers	1	1	100.0	1	100.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	2	1	50.0	0	0.0	1	50.0	0	0.0
	Completers	2	1	50.0	0	0.0	1	50.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.2302	Machine Shop (Total)	47	32	68.1	14	29.8	9	19.1	9	19.1
	AVC (Total)	21	11	52.4	4	19.0	3	14.3	4	19.0
	Completers	18	11	61.1	4	22.2	3	16.7	4	22.2
	Dropouts	3	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	26	21	80.8	10	38.5	6	23.1	5	19.2
	Completers	21	18	85.7	9	42.9	5	23.8	4	19.0
	Dropouts	4	3	60.0	1	20.0	1	20.0	1	20.0
17.2303	Machine Tool Operations (Total)	7	5	71.4	1	14.3	1	14.3	3	42.9
	AVC (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	6	5	83.3	1	16.7	1	16.7	3	50.0
	Completers	6	5	83.3	1	16.7	1	16.7	3	50.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.2304	Metal Trades, Combines (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 23A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to Present Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.2305	Sheet Metal (Total)	12	9	75.0	4	33.3	0	0.0	5	41.7
	AVC (Total)	5	4	80.0	2	40.0	0	0.0	2	40.0
	Completers	4	3	75.0	2	50.0	0	0.0	1	25.0
	Dropouts	1	1	100.0	0	0.0	0	0.0	1	100.0
	Other Type Schools (Total)	7	5	71.4	2	28.6	0	0.0	3	42.9
	Completers	6	5	83.3	2	33.3	0	0.0	3	50.0
	Dropouts	1	0	0.0	0	0.0	0	0.0	0	0.0
17.2306	Welding and Cutting (Total)	131	93	71.0	30	22.9	21	16.0	42	32.1
	AVC (Total)	85	63	74.1	21	24.7	10	11.8	32	37.6
	Completers	72	57	79.2	20	27.8	10	13.9	27	37.5
	Dropouts	13	6	46.2	1	7.7	0	0.0	5	38.5
	Other Type Schools (Total)	46	30	65.2	9	19.6	11	23.9	10	21.7
	Completers	41	28	68.3	9	22.0	11	26.8	8	19.5
	Dropouts	5	2	40.0	0	0.0	0	0.0	2	40.0
17.2309	Metal Patternmaking (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.2399	Metalworking, Other (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 23A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to Present Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.2400	Metallurgy (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.2600	Personal Services (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.2601	Barbering (Total)	2	1	50.0	1	50.0	0	0.0	0	0.0
	AVC (Total)	2	1	50.0	1	50.0	0	0.0	0	0.0
	Completers	1	1	100.0	1	100.0	0	0.0	0	0.0
	Dropouts	1	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
16.2602	Cosmetology (Total)	17	12	70.6	8	47.1	0	0.0	4	23.5
	AVC (Total)	4	4	100.0	3	75.0	0	0.0	1	25.0
	Completers	4	4	100.0	3	75.0	0	0.0	1	25.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 23A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to Present Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	13	8	61.5	5	38.5	0	0.0	3	23.1
	Completers	12	7	58.3	5	41.7	0	0.0	2	16.7
	Dropouts	1	1	100.0	0	0.0	0	0.0	1	100.0
17.2699	Personal Services, Other (Total)	5	3	60.0	2	40.0	0	0.0	1	20.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	5	3	60.0	2	40.0	0	0.0	1	20.0
	Completers	5	3	60.0	2	40.0	0	0.0	1	20.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.2700	Plastics Occupations (Total)	1	1	100.0	1	100.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	1	100.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	1	1	100.0	1	100.0	0	0.0	0	0.0
17.2800	Public Service Occupations (Total)	5	1	20.0	0	0.0	1	20.0	0	0.0
	AVC (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	4	1	25.0	0	0.0	1	25.0	0	0.0
	Completers	4	1	25.0	0	0.0	1	25.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.2802	Law Enforcement Training (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 23A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to Present Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.2900	Quantity Foods Occupations (Total)	20	14	70.0	5	25.0	2	10.0	7	35.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	20	14	70.0	5	25.0	2	10.0	7	35.0
	Completers	19	14	73.7	5	26.3	2	10.5	7	36.8
	Dropouts	1	0	0.0	0	0.0	0	0.0	0	0.0
17.2901	Baker (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	Completers	1	1	100.0	0	0.0	1	100.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.2902	Cook/Chef (Total)	50	29	58.0	3	6.0	9	18.0	17	34.0
	AVC (Total)	3	2	66.7	0	0.0	0	0.0	2	66.7
	Completers	3	2	66.7	0	0.0	0	0.0	2	66.7
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	47	27	57.4	3	6.4	9	19.1	15	31.9
	Completers	43	25	58.1	3	7.0	9	20.9	13	30.2
	Dropouts	4	2	50.0	0	0.0	0	0.0	2	50.0
17.2903	Meat Cutter (Total)	18	14	77.8	5	27.8	0	0.0	9	50.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 23A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to Present Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	18	14	77.8	5	27.8	0	0.0	9	50.0
	Completers	14	12	85.7	5	35.7	0	0.0	7	50.0
	Dropouts	4	2	50.0	0	0.0	0	0.0	2	50.0
17.2904	Waiter/Waitress (Total)	13	5	38.5	1	7.7	3	23.1	1	7.7
	AVC (Total)	1	1	100.0	0	0.0	0	0.0	1	100.0
	Completers	1	1	100.0	0	0.0	0	0.0	1	100.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	12	4	33.3	1	8.3	3	25.0	0	0.0
	Completers	11	4	36.4	1	9.1	3	27.3	0	0.0
	Dropouts	1	0	0.0	0	0.0	0	0.0	0	0.0
17.2999	Quantity Foods Occupations, Other (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.3000	Refrigeration (Total)	18	12	66.7	4	22.2	1	5.6	7	38.9
	AVC (Total)	14	8	57.1	2	14.3	1	7.1	5	35.7
	Completers	12	7	58.3	2	16.7	1	8.3	4	33.3
	Dropouts	2	1	50.0	0	0.0	0	0.0	1	50.0
	Other Type Schools (Total)	4	4	100.0	2	50.0	0	0.0	2	50.0
	Completers	4	4	100.0	2	50.0	0	0.0	2	50.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.3100	Small Engine Repair (Total)	20	16	80.0	6	30.0	5	25.0	5	25.0
	AVC (Total)	7	6	85.7	1	14.3	2	28.6	3	42.9
	Completers	4	4	100.0	1	25.0	2	50.0	1	25.0
	Dropouts	3	2	66.7	0	0.0	0	0.0	2	66.7

(continued)

TABLE 23A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to Present Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	13	10	76.9	5	38.5	3	23.1	2	15.4
	Completers	12	9	75.0	5	41.7	3	25.0	1	8.3
	Dropouts	1	1	100.0	0	0.0	0	0.0	1	100.0
17.3300	Textile Production and Fabrication (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.3302	Tailoring (Total)	6	3	50.0	0	0.0	0	0.0	3	50.0
	AVC (Total)	3	2	66.7	0	0.0	0	0.0	2	66.7
	Completers	3	2	66.7	0	0.0	0	0.0	2	66.7
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	3	1	33.3	0	0.0	0	0.0	1	33.3
	Completers	3	1	33.3	0	0.0	0	0.0	1	33.3
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.3399	Textile Production, Other (Total)	38	21	55.3	5	13.2	9	23.7	7	18.4
	AVC (Total)	7	5	71.4	0	0.0	2	28.6	3	42.9
	Completers	5	3	60.0	0	0.0	2	40.0	1	20.0
	Dropouts	2	2	100.0	0	0.0	0	0.0	2	100.0
	Other Type Schools (Total)	31	16	51.6	5	16.1	7	22.6	4	12.9
	Completers	31	16	51.6	5	16.1	7	22.6	4	12.9
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.3400	Leatherworking (Total)	3	2	66.7	0	0.0	0	0.0	2	66.7
	AVC (Total)	3	2	66.7	0	0.0	0	0.0	2	66.7
	Completers	3	2	66.7	0	0.0	0	0.0	2	66.7
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 23A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to Present Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.3401	Shoe Manufacturing (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	Completers	1	1	100.0	0	0.0	1	100.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.3402	Shoe Repair (Total)	3	1	33.3	0	0.0	0	0.0	1	33.3
	AVC (Total)	2	1	50.0	0	0.0	0	0.0	1	50.0
	Completers	1	1	100.0	0	0.0	0	0.0	1	100.0
	Dropouts	1	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.3500	Upholstering (Total)	24	14	58.3	3	12.5	1	4.2	10	41.7
	AVC (Total)	17	9	52.9	2	11.8	0	0.0	7	41.2
	Completers	12	7	58.3	2	16.7	0	0.0	5	41.7
	Dropouts	5	2	40.0	0	0.0	0	0.0	2	40.0
	Other Type Schools (Total)	7	5	71.4	1	14.3	1	14.3	3	42.9
	Completers	7	5	71.4	1	14.3	1	14.3	3	42.9
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.3600	Woodworking (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 23A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to Present Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.3601	Millwork and Cabinet-making (Total)	18	12	66.7	1	5.6	5	27.8	6	33.3
	AVC (Total)	6	6	100.0	1	16.7	2	33.3	3	50.0
	Completers	4	4	100.0	0	0.0	1	25.0	3	75.0
	Dropouts	2	2	100.0	1	50.0	1	50.0	0	0.0
	Other Type Schools (Total)	12	6	50.0	0	0.0	3	25.0	3	25.0
	Completers	4	2	50.0	0	0.0	1	25.0	1	25.0
	Dropouts	8	4	50.0	0	0.0	2	25.0	2	25.0
17.3699	Woodworking, Other (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.9900	Trade and Industrial, Other (Total)	52	36	69.2	12	23.1	14	26.9	10	19.2
	AVC (Total)	7	4	57.1	0	0.0	2	28.6	2	28.6
	Completers	7	4	57.1	0	0.0	2	28.6	2	28.6
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	45	32	71.1	12	26.7	12	26.7	9	17.8
	Completers	38	28	73.7	11	28.9	11	28.9	6	15.8
	Dropouts	7	4	57.1	1	14.3	1	14.3	2	28.6
17.9906	Taxidermy (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 23A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to Present Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
99.0106	Career Guidance (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	TOTAL ALL AREAS	1866	1211	64.9	354	19.0	281	15.1	576	31.9
	AVC (Total)	857	548	63.9	130	15.2	105	12.3	313	36.5
	Completers	718	478	66.6	123	17.1	92	12.8	263	36.6
	Dropouts	139	70	50.4	7	5.0	13	9.4	50	36.0
	Other Type Schools (Total)	1009	663	65.7	224	22.2	176	17.4	263	26.1
	Completers	910	615	67.6	213	23.4	169	18.6	233	25.6
	Dropouts	99	48	48.5	11	11.1	7	7.1	30	30.3

[A]OE Code areas as reported by teachers

[B]Area Vocational Centers

[C]Any terminee who left the program by completing or by high school graduation

[D]Any terminee who the instructor reported as having dropped out of school

[E]The terminees made the judgment as to how their first job was related to the training received in their high school vocational program

Table 24 indicates the first job salary ranges as compared to the present job salary ranges for the 1973-74 Trade and Industrial Occupations terminees.

TABLE 24

FIRST-JOB SALARY RANGES AND PRESENT-JOB SALARY RANGES FOR 1973-74 TRADE AND INDUSTRIAL OCCUPATIONS TERMINEES

Salary Ranges	First Job		Present Job	
	No.	%	No.	%
Under $250	478	37.5	224	21.4
$250 - $299	190	14.9	106	10.1
$300 - $349	201	15.8	142	13.5
$350 - $399	128	10.0	132	12.6
$400 - $449	118	9.2	158	15.1
$450 - $499	60	4.7	86	8.2
$500 - $599	54	4.2	107	10.2
$600 - $699	25	2.0	49	4.7
$700 or more	22	1.7	44	4.2
TOTAL	1276	100.0	1048	100.0

Of the 1,276 terminees reporting a salary range for their first job, 478 (37.5%) indicated a range of under $250 per month. Forty-seven (3.7%) of the terminees reported a first salary of over $600 per month. The median salary range for the first job fell in the range of $250 - $299 per month. The mean salary range for the first job fell in the range of $300 - $349 per month.

Of the 1,048 1973-74 Trade and Industrial Occupations terminees reporting a salary range for their present job, 224 (21.4%) indicated under $250 per month. This salary range was indicative of the mode of the reporting students. The median and mean salary ranges for the present job fell within the range of $350 - $399 per month. The median and

and mean salary ranges of present jobs over first jobs indicate an increase for the reporting Trade and Industrial Occupations terminees.

Table 24A indicates the first-job salary ranges by relatedness of training and sex of the Trade and Industrial Occupations terminees.

TABLE 24A

FIRST-JOB SALARY RANGES BY RELATEDNESS OF TRAINING OF 1973-74 TRADE AND INDUSTRIAL OCCUPATIONS TERMINEES BY SEX

Salary Ranges	Sex of Terminees Responding		Relatedness of Training to First Job[B]					
			Directly Related		Somewhat Related		Not Related	
	Male	Female	Male	Female	Male	Female	Male	Female
Under $250	348	99	95	44	70	22	183	33
$250 - $299	151	25	36	13	32	5	83	7
$300 - $349	161	25	53	11	33	3	75	11
$350 - $399	104	10	28	1	25	5	51	4
$400 - $449	109	3	37	2	19	0	53	1
$450 - $499	57	0	17	0	10	0	30	0
$500 - $599	48	2	19	1	11	1	18	0
$600 - $699	24	0	8	0	3	0	13	0
$700 or more	22	0	6	0	6	0	10	0
TOTAL[A]	1024	164	299	72	209	36	516	56

[A]Totals do not match those of Table 24 because some terminees did not respond to all questions.

[B]The terminees made the judgment as to how their first job was related to the training received in their high school vocational program.

Four hundred forty-seven (37.6%) of the 1,188 responding terminees were employed at less than $250 per month. Of these 447 terminees, 95 (21.3%) males and 44 (9.8%) females were employed in a job directly related to their training, 70 (15.7%) males and 22 (4.9%) females were employed in jobs somewhat related to their training, while 183 (40.9%) males and 33 (7.4%) females were employed in jobs not related to their training.

Of the 1,188 responding terminees, 1,024 (86.2%) were males and 164 (13.8%) were females. Two hundred ninety-nine (25.2%) males and 72 (6.1%) females were employed in jobs directly related to their vocational training, 209 (17.6%) males and 36 (3.0%) females were employed in jobs somewhat related to their training, while 516 (43.4%) males and 56 (4.7%) females were employed in jobs not related to their training.

Table 24B indicates the present-job salary ranges by relatedness of training and sex of the Trade and Industrial Occupations terminees.

TABLE 24B

PRESENT-JOB SALARY RANGES BY RELATEDNESS OF TRAINING OF 1973-74 TRADE AND INDUSTRIAL OCCUPATIONS TERMINEES BY SEX

Salary Ranges	Sex of Terminees Responding		Relatedness of Training to Present Job[B]					
			Directly Related		Somewhat Related		Not Related	
	Male	Female	Male	Female	Male	Female	Male	Female
Under $250	151	60	33	33	34	12	84	15
$250 - $299	83	20	20	8	25	5	38	7
$300 - $349	112	23	27	9	31	9	54	5
$350 - $399	109	15	25	8	24	5	60	2
$400 - $449	137	12	44	4	22	4	71	4
$450 - $499	74	6	27	4	15	2	32	0
$500 - $599	92	7	33	2	18	3	41	2
$600 - $699	49	0	15	0	15	0	19	0
$700 or more	40	2	13	0	8	1	19	1
TOTAL[A]	847	145	237	68	192	41	418	36

[A]Totals do not match those of Table 24 because some terminees did not respond to all questions.

[B]The terminees made the judgment as to how their present job was related to the training received in their high school vocational program.

Two hundred eleven (21.3%) of the 992 responding terminees were employed at less than $250 per month. Of these 211 terminees, 33 (15.6%)

males and 33 (15.6%) females were employed in a job directly related to their training, 34 (16.1%) males and 12 (5.7%) females were employed in jobs somewhat related to their trianing, while 84 (29.8%) males and 15 (7.1%) females were employed in jobs not related to their training.

Of the 992 responding terminees, 847 (85.4%) were males and 145 (14.6%) were females. Two hundred thirty-seven (23.9%) males and 68 (6.9%) females were employed in jobs directly related to their vocational training, 192 (19.4%) males and 41 (4.1%) females were employed in jobs somewhat related to their training, while 418 (42.1%) males and 36 (3.6%) females were employed in jobs not related to their training.

Continuing Education Information

The following section of this report presents information relative to the continuing education of the 1973-74 secondary Trade and Industrial Occupations terminees.

Table 25 shows the vocational educational training opportunities terminees have participated in since leaving their high school vocational program.

Of the total terminees, the 157 (8.4%) who were enrolled in Junior Colleges represented next to the largest area where terminees had taken additional vocational training: On-the-job training with 333 (17.8%) was the largest area.

Of the 1,866 responding terminees, 857 (45.9%) had taken part in one additional vocational training program since leaving their high

school program. Seventy-three (3.9%) enrolled in two training programs, and 95 (5.1%) terminees had enrolled in three vocational training programs. One thousand nine (54.1%) indicated they had not enrolled in any additional vocational training.

TABLE 25

ADDITIONAL VOCATIONAL EDUCATIONAL TRAINING 1973-74 SECONDARY TRADE AND INDUSTRIAL OCCUPATIONS TERMINEES PARTICIPATED IN SINCE LEAVING THEIR HIGH SCHOOL VOCATIONAL PROGRAM[A]

Type Training	Number	Percent[B]
On-the-job training (employer-sponsored program)	333	17.8
Public school adult vocational program	35	1.9
Private vocational school program	16	0.9
University or four year college	103	5.5
Junior college	157	8.4
Post-secondary vocational-technical institute (trade school)	124	6.6
Apprenticeship training program	73	3.9
Specialized occupational military training	56	3.0
Other[C]	128	6.9
TOTAL[D]	1025	54.9

[A]One thousand nine (54.1%) of the responding 1,866 terminees gave no indication of being involved in addional vocational training. Of the 1,866 terminees, 857 (45.9%) took part in one additional vocational training opportunity since leaving their high school program. Seventy-three (3.9%) took part in two and 95 (5.1%) terminees took part in three additional training opportunities.

[B]Percentages are based on the 1,866 (27.1%) respondents of the total 6,875 terminees who returned questionnaires.

[C]See page 151 for the "Other" listing as specified by the terminees.

[D]The total indicated the number of different training programs in which terminees enrolled. As footnoted above, several terminees had enrolled in more than one training program.

The following is a listing of the "Other" (Table 28) vocational education training terminees indicated they had participated in:

"Other" Vocational Training	Number
On-the-job training	62
Private vocational school program	19
Specialized occupational training	13
Post-secondary vocational institute (trade school)	12
University or four-year college	5
Public school adult vocational program	5
Apprenticeship training program	4
Still in high school	4
Correspondence course	4

Table 26 points out the additional programs the 1973-74 secondary Trade and Industrial Occupations terminees were presently attending beyond their high school training by whether these programs were related to their high school vocational program.

Of the 1,866 1973-74 secondary Trade and Industrial Occupations terminees who responded to the survey, 139 (7.4%) were attending an on-the-job training program (employer-sponsored), 152 (8.1%) were attending a vocational-technical institute, 182 (9.8%) were attending a junior college, 150 (8.0%) were attending a four year college or university, 11 (0.6%) were attending a public adult vocational program, 22 (1.2%) were attending private business or trade school, 25 (1.3%) were attending an apprenticeship program, and 87 (4.7%) were attending some other type of school or educational program. (See page 153 for the listing of the other types of schools or educational programs students were attending.)

Seven hundred sixty-eight (41.2%) of the 1,866 Trade and Industrial Occupations terminees were presently continuing their education. Two

hundred thirty-seven (12.7%) of the terminees were continuing their education in a program related to their high school vocational program. Three hundred thirty-four (17.9%) were attending a program in an area not related to their high school vocational program.

TABLE 26

PROGRAMS PRESENTLY ATTENDED BY THE 1973-74 SECONDARY TRADE AND INDUSTRIAL OCCUPATIONS TERMINEES BY WHETHER THESE PROGRAMS WERE RELATED TO THEIR HIGH SCHOOL VOCATIONAL EDUCATION PROGRAM[A]

Programs Attended	Terminees		Program Related to High School VED Program					
			Yes		No		No Response	
	No.	%	No.	%	No.	%	No.	%
On-the-job training (employer-sponsored)	139	7.4	19	1.0	14	0.8	106	5.7
Vocational-technical institute (trade school)	152	8.1	102	5.5	39	2.1	11	0.6
Junior college	182	9.8	41	2.2	128	6.9	13	0.7
Four year college or university	150	8.0	40	2.1	99	5.3	11	0.6
Public school adult vocational program	11	0.6	4	0.2	4	0.2	3	0.2
Private business or trade school	22	1.2	6	0.3	11	0.6	5	0.3
Apprenticeship program	25	1.3	6	0.3	2	0.1	17	0.9
Other[B]	87	4.7	19	1.0	37	2.0	31	1.7
TOTAL	768	41.2	237	12.7	334	17.9	197	10.6

[A]All percentages were based on the 1,866 responding terminees.

[B]See page 153 for listing of "Other" schools or educational institutions terminees were attending.

The following is a listing of the "Other" category (Table 26) of additional programs the 1973-74 Trade and Industrial Occupations terminees were attending:

"Other" School or Program	Number
Auto Body	1
Auto Mechanic--On-the-job	1
Night school--High school to GED	4
Still in high school	32
Welding class	1
Business college	2
College	3
Technical trade school	5
Junior college	4
Junior college--Military	1
Electronics institute	4
X-ray technician school	1
Nursing	1
Licensed pracitical nurse	1
Private school	1
Private drafting school	1
Drafting	1
Correspondence course	11
Correspondence course--art	1
On-the-job training--cook	1
On-the-job training--motor school (A.P.C.)	1
On-the-job training	2
On-the-job training--fertilizer plant	1
Armed services	5
Fashion Merchandising	1
Apprentice program--operating engineer	1
Carpenter helper	1
Office machine repair	1
Refrigeration	1
Job corps	2
Skill center	1
Assembly	1
Private investigator	1
Grown men training	1
Church training	1

Of the 1,866 responding terminees, 1,153 (61.8%) indicated they were not attending a school or program but would like to do so. The following is a list of the areas in which these terminees desired to study:

Area of Study	Number
Accounting	7
Advanced training	2
Advertising	2
Air conditioning	19
Air conditioning & refrigeration	15
Animal technology	2
Anything	2
Appliance repair	2
Architecture	5
Artifaction	1
Auto body and fender repair	42
Automotive	5
Aviation	3
Banking	2
Blue print reading	1
Bookkeeping	1
Broadcasting	2
Business	15
Business administration	6
Business education	3
Business office education	1
Butchering	1
Cameraman--T.V.	1
Carpentry	15
Cashiering	1
Child care and development	3
Clerical--office	3
College	5
College--junior	3
Commercial art	2
Communications	3
Computer programming	18
Conservation	2
Construction	8
Chook/Chef	2
Cooling	1
Cosmetology	4
Data processing	5
Dental (care, hygenist, technology)	4
Doctor--M.D.	1
Don't know	41
Drafting	53
Drafting--architectural	5
Drafting--mechanical	4
Driving--truck	3
Education training	2
Electrical	47
Electrical (commercial, industrial)	11
Electornics	90
Engineering	16

(continued)

Area of Study (con't.)	Number
Farming	1
Fashion designing	2
Food	2
Forestry	8
Graphic arts	10
Graphic	3
Health Services	2
Heating	1
Heavy Equipment operator	3
Home economics	1
Hydraulics	1
Hygenist	2
I.C.T. (International Correspondence)	1
Industrial	1
Interior design	2
Iron working	1
Keypunch	2
Lab technology	3
Later on in life	1
Law	3
Law enforcement	5
Livestock	1
Location:	
Close to home	1
Alabama	1
Anywhere	1
Montgomery	1
Bessemer	2
Logic--digital	1
Machine operator	23
Management	2
Marine biology	1
Marketing	2
Masonry	25
Math	1
Meat cutting	1
Mechanical engineering	1
Mechanics	68
Mechanics:	
Aircraft	1
Auto	51
Diesel	11
Maintenance	4
Motorcycle	2
Medical doctor	1
Medical records	2
Medical research	1
Medical technology	9
Medicine	3
Merchandise handling	2
Metalworking	3

(continued)

Area of Study (con't.)	Number
Military	2
Mortuary science	2
Nursing	29
Nursingg aide	1
Licensed practical nurse	4
Occupational therapy	1
Office machines	1
On-the-job training	5
Painting--spray	1
Parts--auto	3
Pharmacy	1
Photographer	6
Physical therapy	2
Pipefitting	1
Plumbing	10
Power--plant operator	1
Printing	8
Psychology	1
Radio & T.V.	15
Radiology	2
Refresher course	1
Refrigeration	8
Research	1
Respiratory therapy	1
Sales	4
Science	2
Secretarial work	12
Secretary--medical	1
Sewing	3
Sheet metal	7
Shoe repair	2
Small engine repair	3
Social work	1
Structural steel	1
Supervising	1
Tailoring	4
Teacher's aide	1
Telephone	1
Textiles	1
Tool and die work	2
Trade & Industry	1
Trade school	1
Typing	1
Upholstery	6
Welding	92
Wildlife	2
Woodwork (cabinet-making)	6
X-ray technician	2

Five hundred seven (27.2%) of the 1,866 responding terminees indicated they did not desire further training. Two hundred six (11.0%) terminees did not respond to the question.

Table 27 illustrates the programs presently attended by the terminees by OE Code area studied by whether it related to their high school vocational program. No attempt was made to show the no response to the data items; therefore, many of the totals do not correspond.

TABLE 27

PROGRAMS PRESENTLY ATTENDED BY THE 1973-74 SECONDARY TRADE AND INDUSTRIAL OCCUPATIONS TERMINEES BY OE CODE AREA STUDIED BY WHETHER IT RELATED TO THEIR HIGH SCHOOL VOCATIONAL PROGRAM

OE Code	Occupational Title	TOTAL	Type School or Educational Program Presently Attending															
			On-the-Job Training		Voc. Tech. School		Junior College		4 Year College or Univ.		Public School Adult VED Program		Private Business or Trade School		Apprenticeship Program		Other	
		Presently Continuing Education	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related
04.0100	Advertising Serv.	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
04.0200	Sales, Apparel and Accessories	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04.0300	Sales, Automotive	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04.0400	Finance and Credit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04.0600	Food Distribution	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04.0700	Food Services	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04.0800	General Merchandise	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04.0900	Sales, Hardware & Bldg. Material	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04.1000	Sales, Home Furnishings	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04.1200	Industrial Mktg.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04.1300	Insurance	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04.1500	Personal Services	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04.1800	Recreation & Tourism	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04.1900	Transportation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04.2000	Retail Trade, Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04.3100	Wholesale Trade, Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

(continued)

TABLE 27 (continued)

OE Code	Occupational Title	TOTAL	Type School or Educational Program Presently Attending																	
			On-the-Job Training		Voc. Tech. School		Junior College		4 Year College or Univ.		Public School Adult VED Program		Private Business or Trade School		Apprenticeship Program		Other	
		Presently Continuing Education	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related
07.0000	Health Occupations	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07.0101	Dental Assisting	8	1	5	0	0	0	0	1	1	0	0	0	0	0	0	0	0
07.0103	Dental Laboratory	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07.0200	Medical Laboratory	14	0	0	2	0	3	0	4	1	0	0	0	0	0	0	1	3
07.0203	Medical Lab. Asst.	10	0	3	1	0	1	1	3	0	0	0	0	0	0	1	0	0
07.0302	Practical Nurse	5	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0
07.0303	Nursing Asst.	10	1	1	1	0	4	0	1	1	0	0	0	0	0	0	0	1
07.0402	Physical Therapy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07.0404	Orthotics	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07.0500	Radiologic	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07.0501	Radiologic Tech.	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
07.0603	Optometrist Asst.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07.0800	Mental Health Tech.	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
07.0903	Inhalation Therapy	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
07.0904	Medical Asst.	2	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0
07.0909	Mortuary Science	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07.9900	Health Occupations, Other	2	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0
09.0102	Child Development	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09.0201	Care and Guidance of Children	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09.0202	Clothing Management	2	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0
14.0300	General Office Clerical	4	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0
14.0301	Duplicating Machine Operator	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

(continued)

TABLE 27 (continued)

OE Code	Occupational Title	TOTAL	Type School or Educational Program Presently Attending															
			On-the-Job Training		Voc. Tech. School		Junior College		4 Year College or Univ.		Public School Adult VED Program		Private Business or Trade School		Apprenticeship Program		Other	
		Presently Continuing Education	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related
14.0901	Clerk-Typists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16.0201	Animal Science	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
17.0000	Trade & Industrial Occupations	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.0100	Air Conditioning	9	0	0	4	1	0	0	0	0	1	0	0	0	0	0	0	0
17.0101	Cooling	2	0	1	0	0	1	0	0	0	0	0	0	0	0	2	1	0
17.0102	Heating	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.0 03	Ventilating	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.0199	Air Conditioning, Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.0200	Appliance Repair	5	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0
17.0201	Electrical Appliances	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
17.0202	Gas Appliances	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.0300	Automotive Service	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.0301	Body and Fender	16	1	6	5	0	0	0	0	0	0	0	0	1	0	0	1	2
17.0302	Auto Mechanics	35	2	12	10	0	1	0	1	0	0	0	0	1	1	1	4	2
17.0303	Auto Specialization, Other	5	1	3	0	0	0	0	0	0	0	0	0	0	0	1	0	0
17.0399	Auto Service, Other	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
17.0401	Aircraft Maintenance, Other	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0
17.0499	Aviation Occupations, Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.0504	Blue Print Reading	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

(continued)

TABLE 27 (continued)

OE Code	Occupational Title	TOTAL	Type School or Educational Program Presently Attending															
			On-the-Job Training		Voc. Tech. School		Junior College		4 Year College or Univ.		Public School Adult VED Program		Private Business or Trade School		Apprenticeship Program		Other	
		Presently Continuing Education	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related
17.0600	Business Machine Maintenance	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
17.0700	Commercial Art Occupations	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
17.0701	Interior Decorating	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.0702	Window Display	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.0703	Product Design	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.0799	Commercial Art Occupations, Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.0800	Commercial Fisheries Occupa.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.0900	Commercial Photography	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.1000	Construction and Maintenance	3	0	0	1	0	1	0	0	0	0	0	0	0	0	0	1	0
17.1001	Carpentry	12	1	4	4	1	0	0	0	1	0	0	0	1	0	0	0	0
17.1002	Electricity	4	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	2
17.1003	Heavy Equipment	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.1004	Masonry	20	2	4	2	3	0	2	1	0	0	1	1	1	0	2	0	1
17.1005	Painting and Decorating	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.1007	Plumbing and Pipefitting	4	0	3	0	0	0	0	0	0	0	0	1	0	0	0	0	0
17.1008	Dry Wal Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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TABLE 27 (continued)

OE Code	Occupational Title	TOTAL	Type School or Educational Program Presently Attending															
			On-the-Job Training		Voc. Tech. School		Junior College		4 Year College or Univ.		Public School Adult VED Program		Private Business or Trade School		Apprenticeship Program		Other	
		Presetnly Continuing Education	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related
17.1009	Glazing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.1010	Roofing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.1099	Construction, Other	8	0	1	0	0	2	2	2	0	0	0	0	0	0	0	0	1
17.1100	Custodial Services	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
17.1200	Diesel Mechanics	5	1	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.1300	Drafting	53	1	8	16	0	13	0	6	0	0	0	1	1	0	2	2	3
17.1400	Electrical Occupa.	3	1	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0
17.1401	Industrial Electrician	11	0	1	4	0	0	0	2	0	0	0	0	0	0	1	2	1
17.1402	Lineman	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.1403	Motor Repairman	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.1499	Electrical Occupations, Other	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
17.1500	Electronics Occupations	23	0	3	10	0	1	0	2	0	0	1	1	0	0	1	1	3
17.1501	Communications	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.1502	Industrial Elect.	3	0	0	0	0	1	0	1	0	0	0	0	0	0	0	1	0
17.1503	Radio/Television	24	2	3	12	1	3	0	1	0	0	0	0	0	0	0	1	1
17.1600	Fabric Maintenance Services	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
17.1601	Drycleaning	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
17.1602	Laundering	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.1699	Fabric Maintenance Services, Other	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
17.1700	Foremanship/Management Development	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1

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TABLE 27 (continued)

OE Code	Occupational Title	TOTAL	Type School or Educational Program Presently Attending															
			On-the-Job Training		Voc. Tech. School		Junior College		4 Year College or Univ.		Public School Adult VED Program		Private Business or Trade School		Apprenticeship Program		Other	
		Presently Continuing Education	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related
17.1900	Graphic Arts Occupations	9	0	4	0	1	0	0	1	1	0	0	0	0	0	0	0	2
17.1902	Printing Press Occupations	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
17.1999	Graphic Arts, Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.2100	Instrument Maintenance and Repair	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.2101	Instruments (Not watches or clocks)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.2200	Maritime Occupa.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.2300	Metalworking	7	1	2	2	0	0	0	1	0	0	0	0	0	0	0	0	1
17.2301	Foundry	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.2302	Machine Shop	13	0	7	2	0	2	0	0	0	0	0	0	0	1	0	0	1
17.2303	Machine Tool Operations	2	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0
17.2304	Metal Trades, Combined	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.2305	Sheet Metal	2	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0
17.2306	Welding & Cutting	21	1	6	5	1	1	0	0	0	1	0	0	0	1	2	1	2
17.2309	Metal Patternmaking	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.2399	Metalworking, Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.2400	Metallurgy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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TABLE 27 (continued)

OE Code	Occupational Title	TOTAL	Type School or Educational Program Presently Attending																	
			On-the-Job Training		Voc. Tech. School		Junior College		4 Year College or Univ.		Public School Adult VED Program		Private Business or Trade School		Apprenticeship Program		Other	
		Presetnly Continuing Education	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related
17.2600	Personal Services	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.2601	Barbering	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
17.2602	Cosmetology	3	0	1	0	0	0	1	0	0	0	0	0	0	1	0	0	0
17.2699	Personal Services, Other	3	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0
17.2700	Plastics Occupa.	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.2800	Public Service Occupations	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
17.2802	Law Enforce. Trng.	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
17.2900	Quantity Foods Occupations	3	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	1
17.2901	Baker	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.2902	Cook/Chef	6	0	3	0	0	0	2	0	0	0	0	0	0	0	0	0	1
17.2903	Meat Cutter	5	0	2	0	0	1	0	0	1	0	0	0	0	0	0	0	0
17.2904	Waiter/Waitress	2	0	1	1	0	0	0	0	0	0	0	0	0	0	1	0	0
17.2999	Quantity Foods Occu., Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.3000	Refrigeration	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
17.3100	Small Engine Repair	3	0	1	0	0	0	0	0	1	0	0	0	0	1	0	0	0
17.3300	Textile Production and Fabrication	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.3302	Tailoring	2	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
17.3399	Textile Production, Other	6	0	3	1	0	1	1	0	0	0	0	0	0	0	0	0	0
17.3400	Leatherworking	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.3401	Shoe Manufacturing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

(continued)

TABLE 27 (continued)

OE Code	Occupational Title	TOTAL	Type School or Educational Program Presently Attending															
			On-the-Job Training		Voc. Tech. School		Junior College		4 Year College or Univ.		Public School Adult VED Program		Private Business or Trade School		Apprenticeship Program		Other	
		Presently Continuing Education	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related
17.3402	Shoe Repair	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.3500	Upholstering	3	0	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0
17.3600	Woodworking	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.3601	Millwork and Cabinetmaking	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.3699	Woodworking, Other	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.9900	Trade and Industrial, Other	11	0	4	0	0	2	0	1	0	0	0	1	0	1	1	1	0
17.9906	Taxidermy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
99.0106	Career Guidance	0	0	0	0	0	0	0	0	0	0	0	0	0	0	00	0	0
	TOTAL ALL AREAS	434	19	106	102	11	41	13	40	11	4	3	6	5	6	17	19	31

[A]Since some terminees did not respond to parts of the questions, totals will not correspond.

Job Placement Information

The following section of this report presents information concerning job placement of the 1973-74 secondary Trade and Industrial Occupations terminees.

Table 28 points out whether the 1973-74 Trade and Industrial Occupations terminees were seeking full-time employment when they left their high school vocational program and if their vocational teacher attempted to help them get a job.

TABLE 28

WHETHER VOCATIONAL TEACHER ATTEMPTED TO HELP 1973-74 TRADE AND INDUSTRIAL OCCUPATIONS TERMINEES GET A JOB IF SEEKING FULL-TIME EMPLOYMENT UPON LEAVING THE HIGH SCHOOL VOCATIONAL PROGRAM[A]

Vocational Teacher Attempted To Get Terminee A Job	Number	Percent
Yes	555	55.1
No	453	44.9
TOTAL	1008	100.0

[A]Seven hundred eighty-five (42.1%) of the responding terminees indicated they were not seeking full-time employment when they left their high school vocational program. Seventy-three (3.9%) of the terminees did not respond to the question.

Of the 1,008 responding 1973-74 Trade and Industrial Occupations terminees indicating they were seeking full-time employment when they left their high school vocational program, 555 (55.1%) indicated that their vocational teacher attempted to help them get a job. However,

453 (44.9%) of the terminees seeking full-time employment indicated that their vocational teacher did not attempt to help them secure employment. It was interesting to note that 785 (42.1%) of the reporting 1973-74 Trade and Industrial Occupations terminees indicated that they were not seeking full-time employemnt when they left their high school vocational program.

Table 29 illustrates how long it took the 1973-74 Trade and Industrial Occupations terminees to get their first full-time job after they left their high school vocational program and began actively seeking full-time employment.

TABLE 29

LENGTH OF TIME IT TOOK THE 1973-74 TRADE AND INDUSTRIAL OCCUPATIONS TERMINEES TO SECURE FIRST FULL-TIME JOB AFTER LEAVING HIGH SCHOOL VOCATIONAL PROGRAM AND BEGINNING ACTIVELY SEEKING FULL-TIME EMPLOYMENT[A]

Time to Secure First Full-Time Job	Number	Percent
0 - 2 weeks	319	47.0
3 - 4 weeks	128	18.8
5 - 8 weeks	103	15.2
9 - 12 weeks	46	6.8
13 or more weeks	83	12.2
TOTAL	679	100.0

[A]Six hundred sixty-seven terminees indicated they already had a job when they left their high school vocational program.

Three hundred nineteen (47.0%) of 679 of the secondary Trade and Industrial Occupations terminees secured their first full-time job within two weeks after they left their high school vocational program and began actively seeking full-time employment. However, 83 (12.2%) of the terminees took 13 or more weeks to secure their first full-time

job. There were 667 terminees who indicated they already had a job when they left their high school vocational program.

Table 30 shows how the 1973-74 secondary Trade and Industrial Occupations terminees indicated they got their first full-time job after leaving their high school vocational program.

TABLE 30

HOW THE 1973-74 TRADE AND INDUSTRIAL OCCUPATIONS TERMINEES INDICATED THEY GOT THEIR FIRST FULL-TIME JOB AFTER LEAVING THEIR HIGH SCHOOL VOCATIONAL PROGRAM

How Terminees Secured First Full-Time Job	Number	Percent
Through your vocational teacher	75	9.7
Through your counselor	7	0.9
Through other school teachers or administrators	12	1.6
Through a friend or relative	350	45.2
Through applications to business or industry	200	25.8
Through state (local) employment office	45	5.8
Through a private employment agency	9	1.2
Through radio, T.V., newspaper, or other news media	15	1.9
Other[A]	61	7.9
TOTAL	774	100.0

[A]See listing on page 169 for the "Other" ways terminees indicated they secured their first full-time job after leaving their high school vocational program.

Of the 774 1973-74 Trade and Industrial Occupations terminees who responded to the survey item, 200 (25.8%) indicated they got their first full-time job after leaving their high school vocational program through applications to business and industry. Three hundred fifty (45.2%) of the terminees also indicated they got their first full-time job through a friend or relative. These represented the two methods that the largest

number of Trade and Industrial Occupations terminees utilized to secure their first full-time job. Seventy-five (9.7%) of the terminees indicated they secured their first job through their vocational teacher. Seven (0.9%) students indicated that a counselor got them their first full-time job after leaving their vocational program. Those students who already had a job before leaving their high school vocational program were not shown in Table 30. (See Table 31, page 170)

Fifty-four of the 61 terminees who checked the "Other" category specified the means by how he secured his first full-time job after leaving his high school vocational program. The following list indicates the "Other" means the terminee indicated.

"Other" Means for Securing First Full-Time Job	Number
Own initiative	12
Didn't get a full-time job	9
Friend or relative	8
Previous employer	7
Application to business and industry	5
Joined armed servies	4
Through other school personnel	3
Through vocational teacher	1
Contest (Auto trouble shooting)	1
Still in school	1
J.C.C.E.O.	1
R.O.R. Personnel	1
N.Y.C.	1

Table 31 shows how the 1973-74 Trade and Industrial Occupations terminees who were working while in high school taking their vocational program indicated they got that job.

Nine hundred eighty-three (52.7%) of the 1,866 reporting 1973-74 Trade and Industrial Occupations terminees indicated they were working during the time they were in high school taking their vocational program. Of those terminees working while in high school, 222 (22.6%) got their

job through their vocational instructor, 411 (41.8%) through a friend or relative, and 153 (15.6%) got jobs through applications to business or industry. These three means were the ways most of the terminees secured a job while they were still in high school taking their vocational program.

TABLE 31

HOW THE 1973-74 TRADE AND INDUSTRIAL OCCUPATIONS TERMINEES WHO WERE WORKING WHILE IN HIGH SCHOOL TAKING THEIR VOCATIONAL PROGRAM INDICATED THEY GOT THAT JOB[A]

Who or What Helped Terminee Get Job	Number	Percent
Your vocational teacher	222	22.6
Your counselor	14	1.4
Other school teachers or administrators	21	2.1
Friend or relativel	411	41.8
Applications to business or industry	153	15.6
State (local) employment office	10	1.0
Private employment agency	5	0.5
Radio, T.V., newspaper, or other news media	4	0.4
Other	143	14.6
TOTAL	983	100.0

[A]Eight hundred seventy-one (46.7%) terminees indicated they had no job during the time they were in high school taking their vocational course.

Table 32 reveals the indications of the 1973-74 Trade and Industrial Occupations terminees as whether, before taking their first job, they looked for employment within daily walking or driving distance of home by how their first job related to their vocational training.

Six hundred sixty-six (82.0%) of the 1973-74 Trade and Industrial Occupations terminees who were employed in their first job indicated they sought employment within daily walking or driving distance of home.

One hundred forty-six (18.0%) terminees indicated before taking their first job, they looked for a job beyond daily walking or driving distance of home.

TABLE 32

INDICATIONS OF 1973-74 TRADE AND INDUSTRIAL OCCUPATIONS TERMINEES AS TO WHERE THEY LOOKED FOR THEIR FIRST JOB BEFORE TAKING ONE BY HOW THEIR FIRST JOB RELATED TO THEIR TRAINING[A]

Before Taking First Job, Where Terminees Looked for Job	Total Reporting		Total Reporting by Relatedness of First Job to Vocational Training					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Within daily walking or driving distance of home	666	82.0	164	85.9	129	80.6	373	80.9
Beyond daily walking or driving distance of home[B]	146	18.0	27	14.1	31	19.4	88	19.1
TOTAL	812	100.0	191	100.0	160	100.0	461	100.0

[A]Four hundred forty-eight terminees indicated they already had their first job while in high school. Of those 448 terminees, 198 (44.2%) were working in a directly related area, 107 (23.9%) in a somewhat related area, while 130 (29.0%) were working in a non-related area.

[B]See listing, page 172, for reasons terminees gave for seeking their first job away from home.

Of the 191 terminees who were working in a directly related area, 27 (14.1%) sought employment beyond daily walking or driving distance of home.

Of the 461 terminees whose first jobs did not relate to their training, 88 (19.1%) of those terminees sought employment beyond daily walking or driving distance of home.

Four hundred forty-eight terminees indicated they had their first job while in high school. Of those 448 terminees, 198 (44.2%) were working in a directly related area, 107 (23.9%) in a somewhat related area, and 130 (29.0%) were working in a non-related area.

The following is a listing of reasons terminees gave for seeking a job beyond daily walking or driving distance of their home before accepting their first job. Of the 146 terminees who indicated they sought a job beyond daily walking or driving distance of home before accepting their first job, here are some of the reasons given why they sought that job.

Reasons for Seeking Job Beyond Daily Walking or Driving Distance Before Accepting First Job	Number
No local employment	16
Needed a job badly	6
Better pay	3
Went to city for better job	3
Better opportunity elsewhere	3
Took first job available	3
Father had job for me	2
Looked everywhere	2
Needed experience	1
Family moved to another city	1
Going to school	1
Went into armed services	1
Had to look elsewhere for job in field of study	1

Table 33 reveals the indications of the 1973-74 Trade and Industrial Occupations terminees who were working in their first job not related to their training by whether or not they tried to get a job related to their training by where they looked for employment before accepting that first job.

It is important to note that of the 447 terminees who were working in a non-related first job, 49 (11.0%) sought related employment beyond

daily walking or driving distance of home before accepting their first job.

TABLE 33

INDICATIONS OF THE 1973-74 TRADE AND INDUSTRIAL OCCUPATIONS TERMINEES WORKING IN FIRST JOB NOT RELATED TO THEIR TRAINING BY WHETHER OR NOT THEY TRIED TO GET A JOB RELATED TO THEIR TRAINING BY WHERE THEY LOOKED FOR EMPLOYMENT BEFORE ACCEPTING FIRST JOB[A]

Where Terminees Working in Non-Related Areas Looked for Employment Before Accepting First Job	Total Reporting		Before Accepting This First Job Unrelated to Training Whether Terminees Sought Job in Related Area			
			Yes		No	
	No.	%	No.	%	No.	%
Sought employment within daily walking or driving distance of their home	359	80.3	193	79.8	166	81.0
Sought employment beyond daily walking or driving distance of their home[B]	88	19.7	49	20.2	39	19.0
TOTAL	447	100.0	242	100.0	205	100.0

[A]Total in this table may not correspond with totals of terminees for non-related categories in other tables for the following reasons: (1) some terminees had jobs when leaving program and did not have to seek employment and (2) some terminees failed to respond to one or more of the related questions from which data was drawn.

[B]See page 175 for the listing of reasons terminees who were working in non-related jobs gave for not trying to secure a job that was related to their training.

Table 34 illustrates the indications of the 1973-74 Trade and Industrial Occupations terminees as to where they looked for a job before taking their present job by how their present job is related to their vocational training.

Six hundred five (79.3%) of the presently employed 1973-74 Trade and Industrial Occupations terminees indicated they sought employment within

daily walking or driving distance of home. One hundred fifty-eight (20.7%) terminees indicated they sought employment beyond daily walking or driving distance of home.

TABLE 34

INDICATIONS OF 1973-74 TRADE AND INDUSTRIAL OCCUPATIONS TERMINEES AS TO WHERE THEY LOOKED FOR A JOB BEFORE TAKING THEIR PRESENT JOB BY HOW THEIR PRESENT JOB RELATED TO THEIR TRAINING[A]

Where Terminees Looked for Job Before Taking Present Job	Total Reporting		Total Reporting by Relatedness of Present Job to Vocational Training					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Within daily walking or driving distance of home	605	79.3	137	87.3	139	79.4	329	76.3
Beyond daily walking or driving distance of home[B]	158	20.7	20	12.7	36	20.6	102	23.7
TOTAL	763	100.0	157	100.0	175	100.0	431	100.0

[A]Four hundred two terminees reported they already had their present job while in high school. Of those 402 terminees, 184 (45.8%) were in a directly related area, 94 (23.4%) in a somewhat related area, while 104 (25.9%) were working in a non-related area.

[B]See listing, page 175, for reasons terminees gave for seeking their present job away from home.

Of the 157 terminees who were working in a directly related area, 20 (12.7%) sought employment beyond daily walking or driving distance of home.

Of the 431 terminees who were presently working in a non-related area, 102 (23.7%) sought employment beyond daily walking or driving distance of his home.

Four hundred two terminees reported they already had their present job while in high school. Of those 402 terminees, 184 (45.8%) were in directly related areas, 94 (23.4%) in somewhat related areas, and 104 (25.9%) were in non-related areas.

The following is a list of reasons terminees gave for seeking a job beyond daily walking or driving distance of their home before accepting their present job. Of the 158 terminees who indicated they sought a job beyond daily walking or driving distance of home before accepting their present job, 117 gave reasons why they sought that job.

Reasons for Seeking Job Beyond Daily Walking or Driving Distance Before Accepting Present Job	Number
None near my home	33
More money	18
Needed job--bad	13
To find a good job, you go in town to look	10
Took first job available	7
Better job	5
Wanted a certain job at a certain place	4
Wanted to travel	4
To make money on field	3
Because of bettering my future	3
Joined armed services	3
Looked everywhere	3
I wasn't home	2
Not much close-in	1
Father worked there	1
Had job, then family moved away	1
Found a job while away from home	1
Didn't know what to do	1
Training not long enough	1
Close to school	1
I want a job.	1
Working in textiles before service	1

Table 35 reveals the indications of the 1973-74 Trade and Industrial Occupations terminees who were working in their present job not related to their training by whether or not they tried to get a job related to their training by where they looked for employment before accepting that present job.

TABLE 35

INDICATIONS OF THE 1973-74 TRADE AND INDUSTRIAL OCCUPATIONS TERMINEES WORKING IN PRESENT JOB NOT RELATED TO THEIR TRAINING BY WHETHER OR NOT THEY TRIED TO GET A JOB RELATED TO THEIR TRAINING BY WHERE THEY LOOKED FOR EMPLOYMENT BEFORE ACCEPTING PRESENT JOB[A]

Before Accepting Present Job Where Terminees Working in Non-Related Areas Looked for Employment	Total Reporting		Before Accepting This Present Job Unrelated to Training Whether or Not Terminees Sought Job in Related Area			
			Yes		No[B]	
	No.	%	No.	%	No.	%
Sought employment within daily walking or driving distance of their home	332	76.3	196	76.6	136	76.0
Sought employment beyond daily walking or driving distance of their home	103	23.7	60	23.4	43	24.0
TOTAL	435	100.0	256	100.0	179	100.0

[A]Totals in this table may not correspond with totals of terminees for non-related categories in other tables for the following reasons: (1) some termines had jobs when leaving programs and did not have to seek employment and (2) some terminees failed to respond to one or more of the related questions from which data was drawn.

[B]See page 104 for the listing of reasons terminees who were working in non-related jobs gave for not trying to secure a job that was related to their training.

Sixty (14.0%) of the 435 terminees who were working in a non-related area sought related employment beyond daily walking or driving distance of home before accepting his present job.

APPENDIX

PRESENT JOB AND FIRST JOB TITLES OF THE 1973-74 TRADE AND INDUSTRIAL OCCUPATIONS TERMINEES

PRESENT JOB AND FIRST JOB TITLES OF THE 1973-74 TRADE AND INDUSTRIAL OCCUPATIONS TERMINEES

For those terminees who indicated present or first job occupations, this appendix lists the present job title and first job title by their high school vocational training area (OE Codes). The job titles are listed as the terminees reported them. The number of full-time jobs held by these terminees since completing their high school vocational course is listed, current employment status is listed, and whether the student intended to get a job in the area while in the program.

The following code is used to identify the employment status of the terminees:

0. Unemployed, but seeking employment
1. Employed full time
2. Employed part time, seeking full-time job
3. Employed part time, not seeking full-time job
4. Employed full time and attending school
5. Employed part time and attending school
6. Unavailable for employment

The following code is used to identify whether the student intended to get a job in the area while in the program:

1. No
2. Was not sure
3. Yes

The number in parenthesis behind the job titles indicates the relatedness of the high school vocational training to these jobs. The terminees

made the judgment as to the relatedness of their training to these jobs. The following is used to identify this relatedness.

1. Directly related
2. Somewhat related
3. Not related

The total in each occupational title area may not correspond to the total in each OE Code as listed in Table 23. Some of the terminees failed to indicate the title of their present position. If the first job title was the same as the present job title, the first job title is included under the present job title.

OE Code 01.0500 - Ornamental Horticulture

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
1	1	0	3	Nursery Owner & Manager (2)	Same (1)

OE Code 04.0100 - Advertising Service

1	1	1	2	Warehouseman - beverage company (2)	Cook - Fast Food (2)
2	1	5	2	Band builder-tires (3)	Laborer-construction(3)
3	5	1	3	Circulation Mgr.-Newspaper (1)	
4	5	1	1	Bagging and handling peanuts (2)	Truck driver(3)

OE Code 04.0200 - Sales, Apparel and Accessories

1	5	0	1	Sales Clerk-Men's Clothing(1)	
2	1	1	1	Truck loader-textiles(3)	Stock clerk-textiles(3)

OE Code 04.0300 - Sales, Automotive

1	4	1	3	Auto Parts Clerk (1)	
2	1	1	2	Auto Parts Mgr. (2)	
3	1	3	3	Carpenter helper (3)	Saw Oper.-Furniture Mfg. (3)

OE Code 04.0400 - Finance and Credit

1	1	2	3	Bookkeeper-Farm Equip. (2)	Bookkeeper-hospital(1)

(continued)

OE Code 04.0400 - Finance and Credit (con't.)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
2	1	1	1	Bank loan teller (1)	
3	0	2	3	Admission Clerk-Hospital (0)	Sewing-shirt Mfg. (3)

OE Code 04.0600 - Food Distribution

1	1	2	3	Ironworker Helper (3)	Stock Clerk-Grocery(1)
2	1	1	3	Manager Trainee(1)	
3	1	2	2	Bag Boy (3)	School Janitor (3)
4	4	1	3	Asst. Mgr. Supermarket (1)	
5	5	1	2	Stock Clerk-Grocery (1)	
6	5	0	3	Stockboy - Grocery (1)	
7	2	1	3	Cashier-Grocery (1)	

OE Code 04.0800 - General Merchandise

1	1	1	3	Truck drive-road dept. (3)	Same (3)
2	1	1	2	Clerk-Credit Bureau (2)	
3	4	2	3	Loader-soft drink on trucks(3)	Carpenter Helper(3)

OE Code 04.0900 - Sales, Hardware and Building Material

1	3	0	3	Secretary (2)	Bookkeeper(2)

OE Code 04.1000 - Sales, Home Furnishings

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
1	0	2	1		Lab Tech. (2)

OE Code 04.1200 - Industrial Marketing

1	4	1	2	Billing Clerk(2)	Sewing Machine Oper. (2)

OE Code 04.1500 - Personal Services

1	1	1	2	Office Clerk(2)	

OE Code 04.1900 - Transportation

1	5	2	1	Bagboy (3)	Laborer (1)

OE Code 04.2000 - Retail Trade, Other

1	5	0	2	Cashier (2)	

OE Code 04.3100 - Wholesale Trade, Other

1	4	3	3	Produce Clerk(2)	Asst. Mgr. (Tire & Cotton) (1)
2	1	1	3	Orderly (3)	

OE Code 07.0101 - Dental Assisting

1	1	2	2	Receptionist(2)	
2	1	1	3	Dental Asst.(1)	
3	1	1	3	Dental Asst.(2)	
4	1	1	3	M.D. Asst.	
5	0	1	3	File Clerk (3)	
6	1	2	3	Dental Asst.(1)	
7	1	1	3	Office Clerk(1)	

(continued)

OE Code 07.0101 - Dental Assisting (con't.)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
8	1	1	3	Dental Asst. (1)	
9	1	1	3	Office Clerk(1)	
10	1	1	3	Dental Asst.(1)	
11	1	1	3	Dental Asst.(1)	
12	5	1	2	Sales Clerk (3)	Dental Asst.(2)
13	4	1	2	Office Clerk(2)	
14	3	1	3	Secretary/Book-keeper(1)	Receptionist(1)
15	1	1	3	Dental Asst.(1)	
16	3	1	2	Dental Asst.(1)	
17	1	2	2	Dental Asst.(1)	
18	1	1	3		Office Clerk(1)
19	1	1	3	Dental Asst.(1)	
20	3	0	2	Dental Asst.(1)	
21	6	1	3		Dental Asst.(1)

OE Code 07.0103 - Dental Laboratory

1	0	0	3	Dental Asst.(0)	
2	1	1	3	Dental Asst.(1)	

OE Code 07.0200 - Medical Laboratory

1	4	1	1	Aide-Child Care Center (2)	
2	1	2	2	Nurse's Aide(1)	Sales Clerk(3)
3	1	2	3	Warehouseman(2)	Orderly (3)
4	1	1	3	Nurse's Aide(1)	
5	4	1	3	Vet. Asst. (2)	
6	4	1	3	Nurse's Aide(1)	Same (1)
7	1	2	3	Nurse's Aide(1)	Nurse's Aide(1)
8	5	0	3	Univ. work study (3)	Nurse's Aide(3)
9	6	1	3	Nurse's Aide(2)	
10	1	1	2	Nurse's Aide(1)	
11	5	1	3	Nurse's Asst.(1)	Nurse's Aide(1)
12	5	0	3	Nurse's Aide(1)	Same (1)
13	5	1	3	Doctor's Asst. (1)	
14	1	1	2	Activities Dir. (2)	
15	1	1	2	Waitress(3)	

OE Code 07.0203 - Medical Lab. Asst.

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
1	1	1	2	Vet. Asst.(1)	
2	3	1	1	P.E. Teacher Aide (3)	YMCA - Child Supvs. (3)
3	5	1	3	Lab. Asst.(1)	Same (1)
4	1	1	3	Lab. Asst. (1)	Same (1)
5	0	1	1	Waitress (1)	
6	4	1	3	Rehabilitation house parent (2)	Grass Cutter (2)
7	6	1	3		Nurse's Aide(1)
8	1	1	2	Sewing Mfg.(3)	Nurse's Aide(3)
9	1	1	2	Nurse's Aide(2)	
10	1	1	3	Radio/TV Oper. (2)	Secretary(2)
11	1	2	3	Lab. Tech. Asst. (1)	Sales Clerk(3)
12	5	0	2	Sales Clerk (1)	
13	4	1	2	Lab. Asst. (1)	

OE Code 07.0302 - Practical Nurse

1	5	1	3	Doctor Asst.(1)	

OE Code 07.0303 - Nursing Assistant

1	2	0	1	Nurse's Aide(1)	
2	0	0	3	Accountant (3)	
3	1	2	2	Machine Oper.(3)	Nurse's Aide(3)
4	5	1	3	Sales Clerk (2)	Hosp. Aide (3)
5	4	1	3	Nurse's Aide (1)	
6	4	1	3	Nurse's Aide (1)	
7	1	2	3	Nurse's Aide (1)	Waiter (3)
8	0	1	2	Bank Teller (3)	
9	4	1	3	Nurse's Aide (1)	Same (1)
10	4	1	3	Nurse's Aide(1)	
11	5	0	3	Nurse's Aide(1)	
12	1	1	3	Nurse's Aide(1)	
13	1	2	2	Bank Teller (3)	Inhalation Therapy Trainee(2)
14	5	1	3	Nurse's Aide(1)	

OE Code 07.0500 - Radiologic

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
1	1	1	3	Receptionist(2)	X-Ray Tech. Trainee(1)

OE Code 07.0501 - Radiologic Tech.

1	1	1	3	X-Ray Asst.(2)	
2	3	0	3	X-Ray Tech.(1)	

OE Code 07.0800 - Mental Health Technology

1	5	0	2	Bag Boy (3)	

OE Code 07.0903 - Inhalation Therapy

1	1	1	3	Respiratory Therapy Tech. (1)	

OE Code 07.0904 - Medical Assistant

1	5	1	3	Nurse's Aide(2)	Cashier (2)
2	1	1	2	Make roping(3)	
3	1	2	3	Waitress (2)	Vet. Tech.(1)

OE Code 07.0909 - Mortuary Science

1	2	0	3	Clean-up (1) (Beauty Shop)	County Clerk (3)
2	5	1	1	Lab Asst. (1)	
3	6	2	3		Nurse's Aide(1)

OE Code 07.9900 - Health Occupations, Other

1	4	1	3	Doctor Asst.(1)	Waitress--Fast foods

(continued)

OE Code 07.9900 - Health Occupations, Other (con't.)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
2	1	1	3	Respiratory Tech. (2)	
3	6	1	3	Ward Clerk (1)	
4	5	0	3	Office Clerk(1)	
5	4	1	3	Vet. Asst. (1)	
6	1	1	3	Funeral Director Apprentice(1)	
7	1	1	3	Doctor Asst.(1)	Same (1)
8	1	1	3	Clerk/Typist(2)	

OE Code 09.0102 - Child Development

1	0	1	2	Cook (Res.)(3)	
2	1	2	3	Janitor (2)	Machine Oper.(1)

OE Code 09.0201 - Care and Guidance of Children

1	1	1	2	Spin and thread bobbins (3)	
2	5	1	2	Child care(2)	Sales Clerk(2)

OE Code 09.202 - Clothing Management

1	4	1	3	Shipping and receiving(2)	

OE Code 14.0300 - General Office Clerical

1	1	0	3	Secretary (2)	Same (1)
2	5	0	1	Bank Teller(1)	
3	1	1	3	Desk Clerk (2)	
4	5	3	3		Secretary (2)
5	1	2	3	Secretary (1)	Cashier (2)
6	5	0	1	Bookkeeper(2)	
7	5	1	3	Office Clerk(1)	
8	0	1	3	Ins. Clerk (0)	

OE Code 14.0301 - Duplicating Machine Operator

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
1	1	1	3	Cashier--Fast Foods (2)	
2	1	2	2	Press man helper (3)	Turkey lift Molder(3)

OE Code 14.0901 - Clerk-Typists

1	1	1	3	Secretary (2)	
2	1	2	3	Cashier (2)	Cashier (2)

OE Code 17.0000 - Trade and Industrial Occupations

1	1	1	2	Utility man (3)	Electrician(1)

OE Code 17.0100 - Air Conditioning

1	1	0	3	Refrigeration serviceman(1)	
2	1	1	1	Refrigeration servicemen(2)	
3	1	1	3	Laborer (3)	
4	1	1	2	Carpet Layer(3)	
5	1	1	3	Sales and teach organ playing (3)	
6	1	1	1	Air Conditioning mechanic (1)	
7	1	1	3	Air Conditioning mechanic (1)	
8	0	0	3	Air Force Reserve (0)	
9	1	2	3	Air Conditioning serviceman(1)	
10	1	2	3	Install duct work (1)	Heading Shrimp (3)
11	1	1	2	Pecan cracking room Oper.(3)	Ditch Digger(3)
12	1	1	3	Laborer (3)	Same (3)
13	5	2	2	Waiter (3)	Stock Clerk (3)

(continued)

OE Code 17.0100 - Air Conditioning (con't.)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
14	4	2	3	Laborer (3)	
15	6	1	3	National Guard(3)	Scout Coun.(3)
16	0	0	3		Refrigeration Serviceman(1)
17	0	2	3		Counterman (3)
18	1	1	2	Work handler (3)	Carpenter Helper (3)
19	1	3	3	Bundle boy (3)	Asst. Air Con. Mechanic (1)
20	5	1	2	Air Con. Refrig. Helper (1)	
21	1	3	3	Furniture Service man (3)	Plumbing (3)
22	1	1	3	Sheet metal (1)	
23	1	1	2	Delivery boy(3)	
24	1	2	2	Die Setter(3)	Air. Con. Service (1)
25	4	1	1	Apprentice Plumber (2)	Stockman (2)
26	1	1	3	Air Con. Mechanic Helper (1)	
27	5	0	2	Grocery Clerk (3)	
28	6	2	3		Air. Con. Mechanic Helper (1)
29	1	1	3	Air Con. Service Man (1)	Laborer--News-paper (2)
30	1	1	3	Loom Cleaner(3)	
31	0	1	3	Service Appli-ance (0)	
32	1	2	3	Horticulture (3)	Service Station Manager (3)
33	0	4	2		Cook--Fast Foods (3)
34	5	0	3	School Maint.(2)	
35	1	2	2	Truck Driver (3)	Clerk (3)
36	1	1	3	Electrician (2)	
37	1	1	2	Bag Boy (3)	Salesman
38	1	1	2	Lay-out Man (3)	
39	0	1	2		Laborer (3)
40	3	0	3	Help strip floor (3)	Laborer (1)
41	5	1	2	Animal care(3)	Laborer (3)
42	0	2	2		Asst. Air Con. Mechanic (2)
43	1	3	3	Carpenter (3)	Installing heat ducts

(continued)

OE Code 17.0100 - Air Conditioning (con't.)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
44	0	0	2		Run wood chipper (3)
45	1	2	3	Dental Asst.(1)	Sales (1)
46	1	1	3	Air. Con. Mechanic (1)	
47	1	3	3	Metal Smith(2)	Bush Hog Oper. (3)
48	3	1	2	Air Con. Serviceman (1)	

OE Code 17.0199 - Air Conditioning, Other

1	1	1	3	R.R. Track Repair (3)	Laborer - Foundry(3)

OE Code 17.0200 - Appliance Repair

1	0	2	2		Machine Oper.(2)
2	1	2	2	Bus Boy (3)	
3	0	1	1		Page boy--Library
4	5	0	2	Bag Boy (3)	
5	1	1	3	Counter Sales(1)	

OE Code 17.0202 - Gas Appliances

1	3	1	2	Burner/Welder (2)	

OE Code 17.0300 - Automotive Service

1	0	2	2		Upholstery(1)
2	1	1	2	Service Station Mech. (3)	
3	1	1	2	Rug Stockman(3)	

OE Code 17.0301 - Body and Fender

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
1	1	1	3	Auto Body Repair (1)	
2	1	1	3	Auto Body Repair (1)	
3	1	2	3	Auto Body Repair (1)	
4	1	2	1	Handyman (3)	
5	5	0	3	Auto Body Repair (1)	
6	1	1	3	Auto Body Repair (1)	
7	1	1	3	Machinist (3)	Clean up cars(3)
8	1	1	3	Auto Body Repair (1)	Same (1)
9	1	1	3	Auto Body Repair (1)	
10	1	1	2	Electrician helper (3)	Same (3)
11	1	2	3	Laborer (3)	Auto Body Repair (1)
12	0	2	3	Auto Body Repair (0)	
13	1	2	3	Auto Body Repair (1)	
14	1	1	3	Valve tester (3)	Well driller (3)
15	2	0	3	Drummer (3)	
16	1	1	3	Warehouseman (2)	Auto Body Repair (1)
17	5	2	3	Auto Mechanic(3)	Carpenter's Helper (3)
18	1	2	2	Auto Body Repair (3)	Equipment Oper. (3)
19	1	1	2	Trainee Plant Oper. (3)	
20	1	5	3	Clerk (3)	Auto Body Repair (1)
21	1	1	3	Auto Body Repair (1)	Same (1)
22	1	2	3	Electrician (3)	Building Insulator (3)
23	1	2	3	Laborer (2)	Auto Mech. (2)
24	6	1	2		Water Sewer-line Laborer (3)
25	1	0	3	Load Trucks (3)	Dig ditches (3)
26	1	1	3	Laborer (3)	
27	1	1	3	Auto Body Repair (1)	

(continued)

OE Code 17.0301 - Body and Fender (con't.)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
28	1	3	2	Powerhouse Oper. Asst.(3)	Posted bill-boards (3)
29	1	2	2	Plating Parts (3)	Machine Oper. (3)
30	6	0	3	In college (3)	
31	1	2	3	Gear box Dept. (3)	Auto Body Repair (1)
32	6	3	3	Painter Apprentice (0)	Worker (2)
33	0	1	2		City Truck Driver (3)
34	1	1	2	Auto Body Repair (1)	
35	0	2	3		Pipefitter (3)
36	5	1	3	Auto Body Repair (1)	
37	1	1	2	Auto Body Repair (1)	
38	4	2	3	Supervision (3)	Mechanic (3)
39	1	1	3	Water Plant Oper. (3)	
40	1	2	3	Auto Body Repair (1)	Laborer--Construction(3)
41	1	1	3	Auto Body Repair (1)	Same (1)
42	1	1	2	Car Puller (3)	
43	1	1	2	Service Station Atten. (3)	
44	1	1	3	Painter (3)	
45	1	1	3	Laborer (1)	
46	1	3	2	Auto Body Repair (1)	Same (1)
47	6	3	1	Boxing Clutches (3)	Cook--Fast Foods (3)
48	4	1	2	Auto Body Repair (1)	
49	1	1	3	Boat Rigger	
50	1	4	1	Brick Mason Apprentice(3)	Mechanic (3)
51	6	1	2	Stock Boy (3)	
52	1	1	3	Cashier/Stock boy (3)	Same (3)
53	1	1	2	Pharmacy Clerk (3)	
54	1	3	2	Material Handler (3)	Auto Body Repair (1)

(continued)

OE Code 17.0301 - Body and Fender (con't.)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
55	1	1	2	Counterman (2)	
56	1	1	3	Auto Body Repair (1)	
57	1	2	2	Rolling beer(3)	Farming (3)
58	1	1	3	Produce Clerk(3)	
59	1	2	2	Carpenter (3)	Painting (3)
60	1	2	2	Service Station Atten. (3)	Roofer (3)
61	1	1	2	Auto Body Repair (1)	
62	1	2	2	Upholstery (3)	Chicken Processing (3)
63	1	1	2	Maintenance (3)	
64	0	3	3		Service Station Atten.
65	1	0	2	Laborer (3)	
66	4	1	2	Grocery Clerk(3)	
67	1	1	3	Steelworker (3)	
68	1	3	2	Hospital Orderly (3)	Sheet metal worker (3)
69	0	1	2		Boat Bldg. (3)
70	0	2	3		Motel desk clerk (3)
71	5	0	2	Service T.V.(3)	Service Station Atten. (2)
72	0	1	3		Laborer (3)
73	1	2	2	Laborer--Construction(3)	Handyman (3)
74	1	1	2	Asst. Mgr.--Ser. Sta.(3)	
75	1	1	2	Fork Lift Oper. (3)	
76	1	2	2	Laborer (3)	Carpenter Helper (3)
77	1	1	2	Maintenance Clerk (3)	
78	1	1	3	Cutting bolts and threading (3)	
79	0	3	3		Farming
80	1	2	2	Meat Cutter(3)	
81	0	5	2	Maintenance work at state park (3)	

OE Code 17.0302 - Auto Mechanics

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
1	1	2	3	Orderly (3)	
2	2	0	1	Cashier (3)	Pool Room Atten. (2)
3	6	1	2	Service Station Atten. (0)	
4	2	0	1	Cashier (3)	
5	1	1	3	Auto Mechanic(1)	
6	1	1	3	Truck Driver/ Mech. (2)	
7	4	1	2	Butcher (3)	
8	4	2	3	Mgr. Service Station(1)	Mech. Service Station(1)
9	6	1	2	Carpenter (0)	
10	4	1	3	Mechanic Helper (1)	
11	1	1	2	Belt-splicer Asst. (3)	Tire Changer(1)
12	1	2	3	Interior Painter(3)	Transmission Mech. (1)
13	0	1	2	Painter Helper (0)	Same
14	1	1	1	Mech. Serv. Station(1)	
15	2	0	1	Laborer (3)	Machine Oper. (3)
16	1	1	1	Foreman (3)	
17	1	1	1	Auto Body Repair (2)	
18	1	1	3	Auto Mech. (1)	
19	1	1	2	Hand Carver (Furn.) (3)	
20	0	0	3		Auto Mech.
21	1	2	3	Auto Parts Salesman(2)	Auto Mech. (2)
22	4	1	3	Welding (1)	
23	1	1	3	Welding (2)	
24	5	0	2	Cook--Fast Foods (3)	
25	1	1	2	Machine Oper.(3)	
26	1	2	3	Weaving Tech.(2)	Warehouse man (3)
27	4	1	3	Yarn Inspector & Packer (3)	Farm hand (3)
28	1	2	2	Fork Life Driver (3)	Parts man/ Mech. (1)

(continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
29	1	1	3	Sales/Service Auto Store(3)	Clerk (3)
30	1	2	3	Assembly line(2)	Mech. Service Station(2)
31	1	1	2	Knit wrist hauler (3)	
32	1	1	3	Welder (2)	
33	1	1	2	Core setter(3)	
34	0	3	3		Galvenizing(1)
35	2	0	2	Auto Electric system (1)	
36	5	0	2	Sales Clerk(3)	
37	1	1	3	Wind oriented plastic on tubes(3)	
38	1	1	2	Match Cloth (3)	Mech. helper(3)
39	1	3	2	Roving Transfer Tex. (3)	Truck Driver Tex. (3)
40	1	1	2	Filling Trucker (3)	
41	1	1	2	Card Tender (3)	
42	1	1	3	Labor (3)	
43	4	1	3	Apprentice Carpenter(1)	
44	1	3	3	Tree Planter(3)	Auto Mech. (1)
45	0	2	3		Laborer (3)
46	1	3	2	Carpenter Helper (0)	Service Station Atten. (2)
47	1	2	3	Laborer (2)	Bag Boy (3)
48	1	2	3	Groundskeeper (3)	Laborer (3)
49	4	1	2	Shipping Clerk (3)	
50	2	1	3	Service Station Atten. (1)	Machinist (3)
51	1	4	2		Laborer (2)
52	1	1	3	Janitor	
53	6	1	2	Inventory—grocery(3)	Roofer(3)
54	4	1	2	Service Station Atten. (2)	
55	1	3	3	Owner, Service Station (1)	Auto Mech. (1)
56	1	1	3	Auto Mech. (1)	
57	5	0	1		Environmental Service (3)

(continued)

OE Code 17.0302 - Auto Mechanics (con't.)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
58	1	1	3	Cloth Doffer(2)	
59	1	1	2	Sales Clerk (1)	Upholstery Helper (1)
60	1	1	3	Mechanic Auto (1)	
61	4	1	3	Fabric Spreader (3)	Grillman--Fast Foods (3)
62	1	1	3	Equip. Oper.(3)	
63	4	1	3	Splicer (3)	
64	1	2	2	Delivery Boy-Auto parts(2)	Con. Labor(2)
65	4	1	3	Boat Rigger(2)	Same (2)
66	1	1	1	Chicken Loader (3)	
67	1	2	3	Delivery Boy(3) (Auto)	Auto Body Repair (3)
68	0	1	3		Auto Mech.(2)
69	1	0	3	Service Station Atten. (1)	
70	1	1	3	Auto Mech. (1)	
71	1	1	2	Laborer (3)	
72	4	2	3	Welder (3)	Welder (2)
73	1	1	3	Splicing Wire(2)	Wiring/Plumbing (3)
74	1	2	2	Tool room Clerk (3)	Warp hauler Tex. (3)
75	0	2	1		Laborer (3)
76	1	1	2	Woodworking/ Furn. (3)	
77	1	3	-	Expidator (3)	Home Const. (3)
78	1	3	2	Meat Cutter(3)	Roofer (2)
79	0	1	2	Home Const.(0)	Same
80	1	1	3	Truck Driver(3)	Tractor Mech.(1)
81	1	1	2	Laborer (tire) (3)	
82	1	1	1	Laborer (3)	
83	1	1	1	Roustabout (oil Field) (2)	
84	1	2	3	Mech. Auto (1)	Same (1)
85	1	1	2	Punch Helper(3)	
86	0	0	2	Service Station Atten. (2)	
87	1	3	3	Auto Mech. (1)	Same (1)
88	4	1	3	Mechanic (1)	
89	1	2	3	Auto Mech. (1)	Handyman (2)
90	1	1	3	Auto Mech. (1)	

(continued)

OE Code 17.0302 - Auto Mechanics (con't.)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
91	1	2	2	Dryer Oper. (3)	Serv. Station Atten. (3)
92	4	1	3	Serv. Station Atten. (2)	
93	1	1	2	Meat Cutter (3)	
94	1	1	3	Machine Oper.(3)	Same (2)
95	1	1	2	Millwright Helper (3)	
96	1	2	2	Counterman (2)	Serv. Station Atten. (3)
97	0	1	2	Filing/Grinding (3)	
98	0	4	2		Service Station Attendent(3)
99	1	2	3	Auto Mech. (1)	
100	1	1	3	Front end/ Tires (1)	Mgr. Car Wash (1)
101	1	2	2	Grinder (3)	Farmer (2)
102	1	1	3	Auto Mech. (2)	
103	1	1	3	Auto Mech. (1)	
104	1	1	2	Forklift Driver (3)	
105	1	1	3	Surveyor's Helper (2)	Mech. (1)
106	5	1	1	Salesman (3)	Auto Sales (3)
107	1	2	2	Grinder (2)	Lab Asst. (3)
108	1	2	2	Laborer (3)	Construction(2)
109	1	2	2	Inspector (3)	Truck Driver(3)
110	1	2	3	Auto Mech. (1)	
111	6	1	1	Laborer (3)	
112	4	1	2	Maintenance(2)	
113	1	1	2	Counter Clerk(2)	Stock Boy (2)
114	0	2	3	Tire Service(1)	Laborer (3)
115	1	1	2	Service Station Atten. (2)	
116	1	1	3	Laborer (3)	
117	2	1	3	Laborer (3)	
118	0	2	3	Furnance Oper. (3)	Shoe Assembler (3)
119	5	0	1	Counter Clerk/ Maint. (3)	
120	1	1	2	Cook--Fast Foods (3)	
121	1	1	3	Mechanic/ Welder (1)	
122	1	1	3	Auto Mech.	Service Station Atten. (1)

(continued)

OE Code 17.0302 - Auto Mechanics (con't.)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
123	5	0	2	Care & Training of horses (3)	Life Guard(3)
124	1	1	1	Theatre Mgr.(3)	Service Station Attend. (3)
125	4	1	3	Auto Mech. (1)	
126	0	1	3	Laborer/Mech.(3)	
127	1	1	1	Work with Copper Tubing (3)	
128	0	2	3		Auto Mech. (1)
129	0	2	1		Clean Cars (3)
130	1	1	2	Back hoe Oper. (on farm)(2)	
131	6	1	2	Counter Clerk(1)	
132	4	1	3	Doffer (2)	
133	1	2	2	Loom fixer (2)	Stockman (3)
134	1	2	3	Deliver Furn.(3)	Packing Chicken (3)
135	1	1	2	Fabrication (2)	
136	0	1	2		Making Plywood reels (3)
137	5	0	2	Bag boy (3)	
138	1	1	2	Truck Driver/ Mech. (2)	
139	2	1	3	Stock Clerk (3)	Dish washer (3)
140	1	1	3	Parts boy (2)	
141	1	2	3	Auto Mech. (1)	
142	1	2	3	Welder	
143	1	1	3	Counter Clerk(1)	
144	1	1	2	Farm tractor Oper. (2)	
145	1	1	2	Machine Maint. (2)	
146	1	1	2	Laborer (3)	
147	1	3	3	Manager-Service Station (2)	Laborer (2)
148	1	1	3	Mech. (1)	
149	4	1	1	Night Mgr. Serv. Station (1)	
150	1	2	3	Mechanic (1)	
151	4	1	3	Service Station Atten. (1)	
152	1	1	3	Auto Parts Clerk (2)	
153	1	1	3	Service new cars (2)	Mech. Service Station (1)
154	1	1	3	Machine Oper. (3)	Machine Oper. (3)

(continued)

OE Code 17.0302 - Auto Mechanics (con't.)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
155	1	1	3	Maint. labor (2)	
156	1	1	3	Transmission Mech. (1)	
157	5	1	2	Service Station Atten. (2)	
158	1	1	3	Lumber Decker(3)	
159	2	0	3	Truck line checker (3)	
160	1	1	3	Mech. Helper(2)	
161	1	3	3	Asst. Mgr. (3) Variety Store	
162	1	2	3	Service Station Atten. (1)	Cabinet Making Laborer (3)
163	1	1	2	Steam Plant Laborer (3)	
164	1	1	3	Farming (2)	
165	1	4	3	Service Station Atten. (2)	Band Saw Oper. (3)
166	1	1	3	Service Station Mech. (1)	

OE Code 17.0303 - Auto Specialization, Other

1	2	2	1	Janitor (3)	Silk Screen Printing Laborer(3)
2	1	1	3	Rendering Tallow(2)	
3	1	1	3	Servicing rental cars(2)	Stock Clerk(2)
4	4	0	2	Water Co. Laborer (3)	
5	1	2	3	Service Station Atten. (1)	
6	1	1	2	Construction Laborer (3)	
7	1	1	3	Sales Clerk(2)	
8	1	2	3	Orderly Clinic (3)	Service Station Atten. (3)
9	4	1	1	Elect. Apprentice (2)	
10	1	1	3	Respiratory Tech. (2)	Nurse's Aide(2)
11	1	1	3	Auto Mech. (2)	

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OE Code 17.0303 - Auto Specialization, Other (con't.)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
12	1	1	3	Airplane Lineman (2)	Auto Dept.(2)
13	5	0	2	Service Station Atten. (2)	Same (2)
14	1	0	3	Service Station Manager (1)	
15	1	1	2	Box Factory Laborer (3)	
16	5	0	3	Service Station Manager (1)	
17	1	1	2	Slasker Oper.(3)	
18	1	3	3	Warehouseman (3)	Mach. Oper. (3)
19	1	2	3	Mechanic (3)	Auto Mech. (1)
20	1	1	2	Packer (3) (Textiles)	Service Station Atten. (3)
21	1	1	3	Shooter (3) (Coal Co.)	

OE Code 17.0399 - Auto Service, Other

1	6	1	3	Welder (3)	
2	1	1	3	Tire Serv./ Mech. (2)	
3	0	0	1		Shipping/Receiving Clerk(3)
4	1	1	2	Auto Mech. (1)	Orderly (2)
5	4	1	1	Policeman (3)	Service Station Atten. (3)
6	1	2	3	Machinist Apprent. (2)	Auto Parts Counter Man (1)

OE Code 17.0504 - Blue Print Reading

1	1	1	1	Stock Clerk(1)	Shipping Clerk(3)

OE Code 17.0600 - Business Machine Maintenance

1	4	3	2	Aviation Elect. (2)	Grocery Stock Clerk (2)
2	5	1	2	Grocery Stock Clerk (3)	Survey Group Laborer (3)

(continued)

OE Code 17.0600 - Business Machine Maintenance (con't.)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
3	3	1	2	Grading Oper.(2)	Bar Backer(3)
4	1	2	3	City Sanitation man (3)	Realty Co. laborer (3)

OE Code 17.0700 - Commercial Art Occupations

1	1	1	3	Duplicating Mach. Oper.(1)	Printing Pressman (1)
2	0	2	-		Paper boy
3	0	3	2	Landscaping (3)	Cement Mold Builder (3)

OE Code 17.0800 - Commercial Fisheries Occupations

1	1	1	1	Paper Co. Laborer(2)	
2	0	2	2	Commercial Photography (2)	Deck hand (3)

OE Code 17.0900 - Commercial Photography

1	1	1	3	Salesman (1)	
2	0	2	3	Carpenter's Helper (3)	Food Store Janitor(3)
3	6	1	1	Bank Janitor(3)	
4	1	1	3	Process & duplicate microfilm (1)	Hardware Salesman (1)
5	1	1	3	Cook-Fast Foods (3)	Photographer/ dark room(1)

OE Code 17.1000 - Construction and Maintenance

1	4	1	3	Radio/T.V. Reapir (2)	Same (2)
2	0	1	3		Truck Driver-- Cement Co.(2)

(continued)

OE Code 17.1000 - Construction and Maintenance (con't.)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
3	1	2	3	Cloth Inspec.(3)	Transfer Co. Laborer(3)
4	0	1	3		Pipe layer helper (3)
5	1	1	3	Construction(1)	Carpenter (1)
6	2	2	2	Plastering Apprentice (2)	Paper Co. Laborer(3)
7	1	1	3	Yarn Packer(1)	Grass Cutter Laborer (1)

OE Code 17.1001 - Carpentry

1	1	1	2	Construction Laborer(1)	
2	1	1	3	Building Store Fixturer (1)	
3	1	2	3	Carpenter Helper	
4	1	2	3	Construction Laborer (2)	Building Cabinets (1)
5	5	0	2	Office Clerk (3)	
6	4	1	2	Clean Hotel Kitchen (3)	
7	3	2	3	Building Material Sales (3)	
8	1	1	2	Warehouseman(3)	
9	0	1	3		Mach. Oper.(3)
10	0	1	3	T.V. Stock Clerk (3)	Molder and Painter (3)
11	4	2	3	Car Worker(3)	Bldg. Supplies Sales (2)
12	0	1	2		Warehouseman
13	0	3	2	Pressing Mach. Oper. (0)	Dairy Plant Worker (3)
14	1	1	3	Carpenter (1)	
15	4	1	3	Swimming pool laborer (2)	Same
16	1	2	3	Paper Mill Maint. (3)	Warehouseman(3)
17	1	1	3	Carpenter Trainee (1)	
18	0	1	2		Sander (1)
19	2	2	2	Service Station Atten. (2)	Bag boy (2)
20	4	2	2	Pulp Wood Laborer (2)	

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OE Code 17.1001 - Carpentry (con't.)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
21	1	2	3	Furn. Handyman(2)	Painter (3)
22	1	0	2	Pulpwood Laborer	Same (.)
23	1	1	2	Carpenter's Helper (3)	
24	1	1	1	Admin. Clerk(3)	Same (3)
25	1	1	3	Carpenter	
26	1	2	3	Sheer Oper. (2) (Metal Co.)	Carpenter Helper(2)
27	1	1	2	Recreation Atten. (2)	
28	5	1	2	Stock boy (3)	
29	2	0	1	Salesman (3)	Same (2)
30	1	2	3	Punch Press Oper. (3)	Carpenter's Helper (1)
31	1	1	3	Layup man (3)	Welder (3)
32	1	2	3	Cotton Mill dolpliner(3)	Fiberglass laborer(3)
33	4	1	3	Florist Delivery Boy (3)	
34	0	3	2	Parts Mgr. (0)	Desk clerk (3)
35	0	1	3	Carpenter's Helper (2)	
36	6	1	2	Salesman (3)	
37	1	2	1	Bank Teller(3)	
38	1	1	3	Bldg. Supplies salesman(3)	
39	1	3	2	Run De-barker (saw mill)(3)	
40	0	1	3	House roofing(2)	Laborer (house Constr.)(2)
41	1	2	2	Painter (2)	Receiving Clerk (Textiles)(2)
42	0	2	3	Steel Construction (3)	
43	4	2	3	Pipe fitter/ Welder (1)	Furniture Salesman (3)
44	1	2	3	Carpenter (1)	
45	1	2	3	Service Station Mech. (3)	Carpenter (1)
46	4	1	3	Carpenter (3)	
47	1	2	3	Tile laying laborer (2)	Carpenter Helper (1)
48	1	3	2	Cabinet Builder (2)	Construction laborer (2)
49	1	2	3	Gas Board laborer (1)	Lung gunner (chicken)(2)

OE Code 17.1002 - Electricity (con't.)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
1	1	1	3	Welder (2)	Same (3)
2	0	2	3	Service Station Atten. (3)	Poultry Dresser(3)
3	1	2	3	Electrician (1)	Apprentice Elect. (1)
4	4	2	3	Ironing Seams(3)	Elec. Helper(1)
5	1	1	3	Warehouseman (2)	Cook-Fast Foods (2)
6	5	0	3	Stock Clerk (3)	Housing Author. laborer (3)
7	1	1	2	Auto parts clerk & deliv. (3)	
8	1	2	2	Welding (0)	Bailing cardboard for recycling(3)
9	1	1	3	Air Cond. laborer(1)	
10	4	1	2	Water well driller laborer (2)	

OE Code 17.1003 - Heavy Equipment

1	1	1	3	Stock farm laborer (1)	
2	1	1	3	Heavy Equipment Oper. (1)	

OE Code 17.1004 - Masonry

1	1	2	3	Uniform rentals workman (3)	
2	6	0	3		Brick mason helper (3)
3	4	1	1	Printing Press Oper. (3)	
4	6	1	3	Stock Clerk (2)	
5	0	1	3	Brick Masonry(0)	
6	0	2	2		Pollution man(2)
7	0	1	3		Motel Maint. (3)
8	1	0	3	Box Car laborer (2)	
9	1	1	3	Brick Mason(2)	

(continued)

OE Code 17.1004 - Masonry (con't.)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
9	1	1	2	Truck driver and Plasterer(1)	
10	1	2	3	Brick mason (2)	
11	0	1	2	Mach. Oper.	
12	1	1	3	Fast Food Serv. (2)	
13	0	1	2		Bldg. Sales(1)
14	1	2	3	Magazine puller (3)	Flower Packer (3)
15	1	1	2	Plumber's Helper	
16	0	1	2	Laundry Workroom (3)	
17	1	2	3	Synthetic Fabric laborer (3)	Make hangers (Fire equip.) (3)
18	1	1	2	Hospital (3)	Same (3)
19	1	2	3	Pipe laying(2)	Masonry Apprentice (1)
20	0	2	3	Cement Finisher (0)	Same (2)
21	1	1	3	Warehouseman (3)	
22	2	1	3	Mud man, Masonry (1)	Same (1)
23	0	3	1	Car dealer Janitor (0)	Trowl setter helper (2)
24	1	1	3	Laborer (2)	Laborer (1)
25	0	1	2	Pecan helper(0)	Laborer (Hotel kitchen)(3)
26	1	1	2	Driving tractor (3)	
27	1	2	3	Drill Sharpener (3)	Brick mason(1)
28	4	1	2	Fireman (3)	
29	1	2	3	Brick mason (1)	Same (1)
30	4	1	2	Fry cook—Fast foods (3)	
31	2	3	2	Dishwasher(3)	
32	1	1	3	Brick mason (1)	
33	1	2	3	Utility man (2)	
34	1	1	3	Receiving Clerk (3)	
35	1	2	3	Marterman for Mason (1)	Roofer Asst. (3)
36	4	1	2	Cafe Cook (3)	
37	6	0	1	Clerk (3)	
38	4	1	3	Brick Mason (2)	

(continued)

OE Code 17.1004 - Masonry (Con't.)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
39	1	1	3	Brick mason Appren. (1)	
40	4	3	3	Stamping/Welding laborer(3)	Auto Mech.(3)
41	1	2	3	Mattress Stuffing (3)	Bldg. Supplies Clerk (3)
42	4	0	3	Brick Masonry Appren. (0)	Construction laborer (3)
43	5	1	2	Painter	
44	2	2	3	Brick mason(1)	Same (1)
45	1	3	3	Contracting laborer (3)	Construction laborer (3)
46	1	2	2	Clean floors(3)	Construction laborer (2)
47	1	1	3	Stock boy (2)	Same (1)
48	1	2	3	Doffer (3)	Brick mason(1)
49	1	1	1	Mach. Oper.(3)	
50	0	2	2		Doffer (3)
51	1	1	2	Doffer (3)	
52	1	1	2	Text. laborer(3)	

OE Code 17.1005 - Painting and Decorating

1	1	1	3	Painter (Fire equip.)(1)	Hang Paint line (enameling)(2)
2	5	0	2	Mail Clerk (3)	Warehouse Asst. (2)

OE Code 17.1007 - Plumbing and Pipefitting

1	1	1	3	Construction laborer (3)	
2	4	3	3	Plumber's Helper (1)	Same (1)
3	1	1	2	Warehouseman (1)	
4	1	1	3	Apprentice plumber (2)	
5	1	1	3	Plumber's Helper (1)	Janitor (2)
6	1	1	3	Plumber's Helper (1)	

OE Code 17.1009 - Glazing

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
1	1	1	3	Secretary (3)	
2	1	1	3	Warehouseman(3)	Graphic Arts(1)

OE Code 17.1099 - Construction, Other

1	5	1	2	Janitor at Coll. (2)	Dig pipes (1)
2	5	0	3	Stockman (3)	Clean cars(2)
3	1	1	3	Cutting/Bailing rubber (3)	
4	5	1	3	Dairy Expediter (1)	
5	5	0	3	Fences salesman (3)	
6	0	1	2	Forklift Oper. (0)	
7	4	1	3	Teacher's Aide (2)	Clerk-Typist (2)
8	0	2	2		Electrician Helper (2)
9	5	1	3	Carpenter's Helper (1)	
10	1	1	3	Grocery/Serv. Station Owner (3)	
11	0	1	2	U.S. Army Tank Trainee(3)	Truck stop Maint. (3)
12	2	2	3	Welder (2)	Realty Co. Maint. (2)
13	1	2	2	Stock Clerk(2)	Milk Deliv.(3)

OE Code 17.1100 - Custodial Services

1	1	1	-	Warehouseman(2)	Milk Deliv.(3)
2	6	3	1	Putting in Zippers(2)	
3	5	1	2		Plating Trainee (3)
4	5	1	1	Take care of horses(3)	
5	1	1	3	Elec. Helper(3)	
6	1	1	2	Conveyor Mech. Asst. (3)	

(continued)

OE Code 17.1100 - Custodial Services (con't.)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
7	4	1	2	Jailer/Maint.(2)	Same
8	1	2	1	Army (3)	Hosp. Janitor

OE Code 17.1200 - Diesel Mechanics

1	1	2	3	Valve & Fitting Co. Care Maker	Stock Clerk(3)
2	1	1	3	Diesel Mech. (1)	Diesel Mech. Apprent. (1)
3	1	3	2	Aircraft Engines Disassem. (3)	Tractor parts counterman(3)
4	1	2	3	Bulldozer Oper. (1)	Truck driver pulpwood (2)
5	1	2	3	Asst. Foreman-Furn. (3)	
6	1	1	1	Electrician (3)	Mech. Helper(3)
7	1	4	2	Auto parts counterman(2)	Material handler (3)
8	1	1	3	Tractor Mech. trainee (1)	
9	1	1	3	Mach. Mech.(1)	
10	0	1	1	Wrecker Service Mech. (0)	

OE Code 17.1300 - Drafting

1	1	2	1	Cast iron pipe grader (3)	Fast food laborer(3)
2	1	1	3	Draftsman (1)	
3	4	2	3	Engi. Helper(2)	Draftsman (2)
4	0	1	3	Groundskeeper(0)	
5	1	1	3	Tele. Oper. (3)	
6	5	0	3	Drafting (2)	
7	1	2	3	Carp. Helper(1)	Const.laborer(1)
8	4	1	3	Electrician (2)	Dishwashing Oper. (3)
9	1	5	2	Porter (3)	Carpentry (3)
10	5	4	2	Sales Clerk (3)	Farming (3)
11	1	1	3	Drafting (2)	
12	0	2	3	Truck driver(3)	Same (3)
13	4	0	2	Proj. Oper. (2)	Same (2)
14	0	1	3	Drawing house plans (0)	Fast foods clerk (3)

(continued)

OE Code 17.1300 - Drafting (con't.)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
15	1	3	3	Reaming track shoes (3)	Grocery Clerk (3)
16	1	1	1	Micro oven Assembler (3)	
17	1	1	2	Tele. Oper. (3)	
18	4	2	3	Counterman (3)	Cashier (3)
19	5	2	3	Fast Foods Cook (3)	Fork lift Oper. (3)
20	4	1	2	Deliver for Drug Co.(3)	
21	4	1	3	Drafting (1)	
22	1	4	2	Moulding wood(3)	Tacker/painter(2)
23	1	1	3	Drafting (1)	
24	4	2	1	Draftsman II (1)	Same (1)
25	1	1	2	Furn. Drafts.(1)	Cashier (3)
26	5	0	3	Florist Asst.(3)	Groundskeeper(3)
27	1	1	2	Surveyor's Helper (2)	
28	1	1	3	Bricklayer (2)	
29	6	0	3	Laundry Delivery-man (3)	Transfer Co. laborer (3)
30	5	2	3	Draftsman (1)	Auto Body Repair (3)
31	5	1	3	Service Station Attend. (3)	
32	6	0	1	Jewelry Sales Clerk (0)	
33	1	2	3	Textile laborer (3)	Shirt Inspec-tor (3)
34	1	1	1	Stock Clerk(3)	
35	5	0	2	Layout girl(2)	Draftsman(2)
36	4	1	3	Delivery boy (news) (3)	
37	3	1	3	Draw charts(2)	
38	4	1	2	Salesman (3)	
39	5	0	3	Stock boy (3)	
40	1	1	3	Die Oper. (2)	
41	4	1	3	Salesman (3)	
42	0	1	3	Gang sawer (0)	Stock clerk (3)
43	1	1	-	Silk screen maker	
44	4	1	3	Draftsman(2)	
45	1	1	2	Structural drafting (2)	
46	0	2	3		Receiving clerk (2)

(continued)

OE Code 17.1300 - Drafting (con't.)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
47	4	1	1	Groc. Cook (3)	
48	1	1	2	Yarn beamer(3)	Recrea.Atten.(3)
49	3	0	3	Sales Clerk(3)	
50	0	2	1	Parts Clerk(0)	Draftsman(1)
51	1	2	2	Instect Fabric (rubber)(3)	Sewing (3)
52	4	2	3	Draftsman (1)	
53	1	1	3	Draftsman (1)	
54	1	2	2	Service Station Attend. (3)	
55	1	1	3	Compiler (2)	
56	1	2	3	Ship. Clerk (3)	Orderly (3)
57	1	1	2	Cloth Inspec.(3)	
58	1	1	2	Pressman (2)	
59	5	0	3	Draftsman (2)	
60	5	0	3	Draftsman (2)	
61	1	1	3	Mach. Oper. (3)	
62	1	2	2	Egg Grader (3)	Cashier (3)
63	1	2	2	Glass cutter(3)	Tract. Driver(3)
64	5	1	2	Clerk (3)	Carp. Helper(3)
65	1	2	3	Bath tub Inspec. (3)	Janitor (3)
66	5	1	3	Run off blue prints (1)	Roofer (3)
67	4	1	3	Voc. Co-op Elec. (3)	
68	0	1	3		Unskilled welder (3)
69	1	2	3	Mach. Oper.(2)	Fork life Oper.(2)
70	1	1	3	Property layout (2)	Maintenance (3)
71	1	0	3	Plant lab.(3)	
72	1	1	3	Drafting (1)	
73	1	0	1	Maint. man (3)	Cashier (3)
74	5	1	2	Paper carrier(3)	Sheet metal Asst. (2)
75	1	1	3	Salesman (3)	
76	1	3	2	Laborer (3) (rubber Co.)	Bldg. wooden reels (3)
77	2	0	3	Stock clerk (3)	
78	1	1	2	Mach. Trainee(2)	
79	1	1	3	Store clerk (3)	
80	0	1	3	Welding (0)	
81	1	1	3	Drafting (1)	
82	4	1	3	Drafting (1)	
83	1	1	3	Arch. drafting (1)	

(continued)

OE Code 17.1300 - Drafting (con't.)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
84	6	1	3	Arch. drafting(1)	
85	1	2	3	Prod. line on plastic molds (3)	Carpenter (2)
86	1	1	3	Arch. drafting(1)	
87	5	1	2	Auto body repair (3)	
88	1	3	3	Knit material(3)	Carp. Helper(2)
89	4	1	2	Stock clerk(3)	Stock clerk (3)
90	2	1	3	Apart. Maint.(3)	Carpet Helper(3)
91	1	3	3	Survey Helper(3)	Painter (3)

OE Code 17.1400 - Electrical Occupations

1	1	1	2	Motor Connector (2)	
2	1	1	3	Electrician (1)	Stock Clerk (1)
3	0	1	3	Assembler (3)	
4	2	3	3	Concrete laborer (3)	Construction laborer (3)
5	2	0	2	Fast Foods cook (3)	
6	1	2	3	Mach. Oper. (2)	Stock boy (2)
7	1	1	2	Pipefitter helper (3)	Cotton seed inspec. (3)
8	0	1	3	Elect. Helper(1)	
9	1	1	3	Elect. Insulation (1)	Dishwasher (Res.) (1)
10	5	0	3	T.V. Service.(1)	Same (1)
11	4	1	3	Load Bldg. Mat. for cust. (3)	Stock boy (3)
12	2	0	3	Stock clerk (3)	
13	0	3	3		Ironworker helper (3)
14	1	1	3	Elect. helper(1)	
15	1	2	1	Elect. maint.(1)	Bldg. Elect. signs (2)
16	1	1	2	Elect. helper(1)	

OE Code 17.1401 - Industrial Electrician

1	6	1	3	House wiring(1)	
2	5	1	3	Collator (3)	Warehouseman(2)

(continued)

OE Code 17.1401 - Industrial Electrician (con't.)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
3	1	1	3	Engine care and service (3)	
4	4	1	2	Banking Mach. Oper. (3)	
5	1	1	3	Fix Welder and motor hookups (1)	
6	0	1	3	Bldg. Custodian (3)	
7	1	2	3	Electrician (1)	Radio/Hi-fi Service (2)
8	1	1	3	Carpenter (3)	
9	0	1	3	Electric Co. laborer (1)	
10	1	1	3	Electrician (1)	
11	0	1	3	Construction laborer (3)	
12	0	1	3	Elec. Helper(0)	
13	1	1	3	Install sprinklers (3)	
14	1	1	2	Batcher Oper. (1) (Text.)	Electrician Asst.
15	1	1	3	Mach. helper(3)	
16	1	3	3	Elect. groundman (1)	Dry Wall Construction(3)
17	0	2	3		Handyman (3)
18	0	1	3	Construction laborer (0)	Dishwasher (3)
19	1	1	2	Paint casket shells (3)	
20	0	1	3	Dye tub Oper.(3)	Maint.(truck)(2)
21	0	2	3		Roofer (3)
22	1	2	3	Electrician journeyman(1)	Same (1)
23	1	1	3	Fork life Oper. (2)	
24	0	1	2		Plating/buff.(3)
25	1	1	3	Furnace Oper.(3)	
26	1	2	3	Elec. helper(1)	
27	5	1	3	Service Station atten. (2)	
18	1	1	3	Carpet fiber mach. oper(2)	
29	1	3	3	Elec. helper (1)	Mach. Oper. (3)

OE Code 17.1402 - Lineman

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
1	1	1	1	Installing/ repairing phones (2)	

OE Code 17.1499 - Electrical Occupations, Other

1	5	1	3	Elec. Helper(1)	

OE Code 17.1500 - Electronics Occupations

1	1	1	3	Radio/TV Repair (1)	
2	6	2	3	Pickup/deliver motors (2)	
3	5	1	3		Jack Oper. (3)
4	1	1	3	Cable man (2)	
5	1	2	3	Dietary Asst.(3)	
6	5	0	3	Stereo Repair(1)	
7	2	1	3	Furn. mover (3)	Elec. Helper(2)
8	0	4	2		Warehouse Labor (3)
9	1	1	2	Warehouseman (3)	
10	4	1	3	Men's Sales (3)	
11	6	1	2	Radio/T.V. Serviceman (0)	
12	0	0	2	Bun boy	
13	5	1	2	Sales Clerk (3)	Same (3)
14	1	1	2	Construction(3)	Same (3)
15	5	0	3	Radio/TV Service-viceman (1)	
16	3	0	2	Stock Clerk (2)	
17	1	2	2	Airforce Office Clerk (3)	Computer Oper. (3)
18	1	1	3	Test Equip. installer (3)	
19	5	0	3	Apprentice Mach. (3)	Nursery laborer (3)
20	4	1	3	Elec. Appren.(1)	
21	4	1	3	Ship yard Elec. (2)	
22	4	1	3	Radio station engineer (1)	

(continued)

OE Code 17.1500 - Electronics Occupations (con't.)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
23	5	1	1	Stock boy (3)	
24	1	1	2	Making walk-in coolers (2)	
25	1	1	3	Grade checker(3)	
26	1	1	3	Environmental testing (2)	
27	0	0	2	Asst. Mgr. Food store	
28	1	3	3	Service Station Attend. (3)	Carp. Helper(3)
29	6	2	1		Pellet Const. laborer (3)
30	1	1	2	Asst. Mgr. Variety Store (3)	
31	1	1	3	House Constr. laborer (3)	
32	1	2	3	Closing tubes (golf bags)(3)	Roofer Helper (3)
33	1	3	3	Drill helper (3)	Service Station Attend. (3)
34	1	2	3	Oper. ramming mach. (3)	Install sprinklers (3)
35	1	1	3	Janitor (1)	
36	1	1	3	Office Mach. Repair (1)	

OE Code 17.1501 - Communications

1	1	1	3	Maintain tele. equip. (1)	
2	1	1	3	Teletype Tech. (3)	
3	1	2	3	Funerals Asst. (2)	Police Dept. radio asst.(2)

OE Code 17.1502 - Industrial Electronics

1	1	1	3		Truck rental handyman (3)

OE Code 17.1503 - Radio/Televisioc

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
1	5	0	2	Clerk (3)	
2	1	1	3	TV Service/ Sales (1)	
3	4	0	3	Gin Co. laborer (3)	Housing Auth. Maint. (3)
4	6	0	3	Fast Foods clerk (3)	
5	5	1	3	Fast Foods clerk (3)	Scale Repair helper (2)
6	6	1	3	Asst. Mgr. fast foods(3)	
7	2	2	3	Stock Clerk(3)	Elect. (2)
8	1	1	3	Counterman (3)	
9	1	3	3	Sand blasting(3)	Service private aircraft (3)
10	0	1	3	Maint./Dept. store (3)	
11	1	3	3	Manpower (3)	Bartender (3)
12	4	2	3	Electronics (1)	Stock Clerk (3)
13	4	2	2	City Street Maint. (3)	Fast Foods cook (3)
14	5	0	3	TV Repairman(1)	Stack pallets(3)
15	1	1	1	Machinist (3)	
16	1	1	3	Asst. Mgr. Fast Foods (3)	
17	1	2	3	Audio Repair(1)	TV/Radio repair (1)
18	1	2	3	Rest. Cook(3)	Small Appliance reapir (2)
19	1	0	3	Waiter (0)	
20	5	1	3	Radio Announ.(1)	
21	1	1	2	Wrapping rugs(3)	
22	2	1	3	Workhandler (3)	Same (3)
23	6	1	3	Elec. Repair (1)	
24	4	1	3	TV Repairman (1)	
25	1	2	3	Spray sheetrock (3)	
26	1	1	3	Fast Foods bus boy (3)	
27	1	1	2	Bottling Co. inspec. (3)	
28	0	3	3	Construction laborer (0)	Latex Machine Oper. (3)
29	1	1	1	Deliver Orders (3)	
30	2	0	1	Carp. Helper(3)	

(continued)

OE Code 17.1503 - Radio/Television (con't.)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
31	1	1	3	Spreader/Cutter Cloth. (3)	
32	0	0	1	Miller helper(3)	
33	5	1	2	Stock boy (3)	
34	1	2	3	Press Oper. (3)	Counter Clerk(3)
35	0	1	2		Stock Clerk (3)
36	1	1	3	Elec. Fabricator (2)	
37	1	1	2	Golf Course Maint. (2)	
38	5	0	3	Stock Clerk(3)	
39	1	1	2	Deliver Auto Parts (3)	Fast Foods Cook (3)
40	3	1	3	State park laborer (3)	
41	1	1	3	Cement Co. laborer (3)	Asst. Radio/TV repair (3)
42	1	2	3	Asst. Mgr. Hardware/Furn.(3)	Install antennas (1)
43	5	0	2	TV Repair	
44	5	0	3	TV Repair/ delivery (1)	
45	6	1	3	Bldg. Elect. (0)	
46	5	0	3	Asst. Mgr. Fast foods (3)	
47	1	1	3	TV Repair (1)	

OE Code 17.1600 - Fabric Maintenance Services

1	4	1	1	Paper Mill laborer (3)	

OE Code 17.1601 - Drycleaning

1	1	1	1	Sewing (2)	Appointment solicitor(3)
2	0	2	3		Desk Clerk (2)
3	4	1	2	Deliver Drycleaning(1)	

OE Code 17.1700 - Foremanship/Management Development

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
1	1	1	3	Machine Oper.(3)	

OE Code 17.1900 - Graphic Arts Occupations

1	3	1	3	Fast Foods cashier	
2	5	0	3	Postal clerk(3)	
3	5	0	2	Shop helper (3)	
4	1	1	2	Kitchen helper (3)	
5	6	1	2	Delivery/labor (0)	
6	1	1	3	Lift truck Oper. (3)	
7	1	1	3	Oper. brake press (2)	Auto Body Repair (3)
8	1	1	1	Appren. printer (1)	
9	1	2	2	Dishwasher (3)	Grinder of dog meat (3)
10	1	1	2		Asst. Printer (1)
11	5	2	3	Sales clerk (2)	
12	4	1	1	Environ. spec. (3)	
13	1	0	2	Pipe Co. laborer (3)	Grocery Stock Clerk (3)
14	0	1	1	Comm. Spec.(3)	Printer (3)
15	5	1	1	Soclicitor (2)	Rubber stamp maker (2)
16	1	1	3	Receptionist(2)	
17	1	2	2	Fast Food Cook (3)	Sheet rack hanger (3)
18	1	1	3	Warehouse Mgr. (3)	
19	1	2	3	Cut paper (1)	Cloth tape mach. oper.(3)
20	1	1	2	K.P. in army(3)	
21	0	1	2		Chicken hanger
22	0	2	3	Yarn handler(3)	Same (3)
23	1	2	3	Paper cutter(1)	Mach. Oper. (3)
24	6	1	2	Sales Clerk(3)	Bind. Maga. (3)
25	1	2	3	Oper. wood yard equip. (3)	Textile laborer (3)

(continued)

OE Code 17.1900 - Graphic Arts Occupations (con't.)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
26	1	2	2	Mach. Oper.(3)	Sewing Mach. Oper. (3)
27	1	1	2	Fabric Inspec.(3)	
28	6	0	1	Odd jobs--Nat. Youth Corps(0)	
29	1	1	3	Shirt Factory presser (3)	
30	0	2	3		Printer (1)
31	1	3	3	Truck driver(3)	Printer (1)
32	1	2	3	Furn. delivery	Truck driver
33	0	1	3		Auto parts laborer (3)
34	1	1	2	Assembly of transformers (2)	
35	3	1	3	Printer (1)	
36	4	1	2	Carmera work for Print. Co. (2)	
37	1	2	1	Ins. debit agent (3)	Service Station Attend. (3)
38	1	1	3	Oper. small print. press(1)	

OE Code 17.1902 - Printing Press Occupations

1	5	0	3	Printing (1)	

OE Code 17.1999 - Graphic Arts, Other

1	4	2	1	Clothing Sales clerk (3)	Office boy & printer (3)

OE Code 17.2100 - Instrument Maintenance and Repair

1	1	1	3	Maint. mach. (1)	

OE Code 17.2300 - Metalworking

1	2	1	3	Waiter (3)	Same (3)

(continued)

OE Code 17.2300 - Metalworking (con't.)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
2	2	2	3	Welding (3)	Welding (3)
3	1	0	3		Second Class Mach. (1)
4	2	0	2	City Public Works laborer (3)	Ship Yard laborer (3)
5	1	1	3	Plumb. Asst. (1)	
6	1	1	3	Welding (1)	
7	5	2	3	Handyman (2)	Welder (1)
8	0	2	3		Tree cutting(3)
9	0	1	-	Tree surgeon (3)	
10	1	1	3	Welder (1)	
11	0	0	3		Ornamental iron laborer (3)
12	1	1	2	Sheet Metal worker (1)	

OE Code 17.2301 - Foundry

1	1	2	3	Iron pourer (1)	Janitor (1)
2	1	0	3	Welder helper(2)	

OE Code 17.2302 - Machine Shop

1	1	1	3	Auto Mech. (1)	
2	1	1	2	Truck driver (3)	
3	1	1	3	Oper. steel cutting Mach.(2)	Same (2)
4	1	2	2	Welder Asst. (3)	Machinist (1)
5	1	1	3	Assemble dustwork (3)	
6	1	1	2	Machinist (1)	
7	1	1	3	Mach. Oper. (1)	
8	1	1	3	Mach. Oper. (1)	
9	1	1	2	Machinist (1)	
10	1	1	3	Mill Oper. (2)	
11	1	2	3	Machinist (1)	Painter (3)
12	1	3	2	Welder (3)	Truck oil changer (3)
13	1	1	3	Machinist (1)	Same (1)
14	0	0	3	Mechanic (2)	

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OE Code 17.2302 - Machine Shop (con't.)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
15	0	4	3		Mill Oper. (1)
16	0	1	3	Stock boy (0)	
17	1	2	3	Receiving clerk (3)	Aircraft parts inspec. (1)
18	0	3	3		Machinist (1)
19	1	3	3	Table painter (3)	Wood saw Oper. (3)
20	2	0	2	Employee for farm (3)	
21	1	0	3	Appren. tool & die maker(1)	
22	1	1	3	Machinist (1)	
23	1	1	3	Butcher (3)	
24	0	1	2		Mach. Oper. (2)
25	1	0	3	Paper Mfg. laborer (2)	Farm laborer (3)
26	4	2	3	Saw mill Construc. (2)	Mach. shop for Cop. tubes(1)
27	1	1	2	Pants cutter(2)	Service Station Attend. (2)
28	1	2	3	Prod. Worker(3)	Asst. Mgr. Serv. Station (3)
29	1	2	2	Warehouse worker (2)	Machine shop appren. (2)
30	4	1	2	Machinist (1)	
31	4	3	3	Machinist (1)	Appren. Mach. (1)
32	0	3	3		Mach. shop maint. (2)
33	1	1	3	Shop helper (2)	
34	1	1	2	Mach. Oper. (2)	

OE Code 17.2303 - Machine Tool Operations

1	1	1	1	Foundry laborer (3)	High School custodian (2)
2	1	1	3	Warehouseman (2)	
3	1	1	3	Deliv. man (3)	Orderly (1)
4	4	1	3	Metal parts caster (3)	
5	1	1	3	Contractor laborer (1)	Daily laborer (3)

OE Code 17.2305 - Sheet Metal

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
1	1	1	3	Duct work for Air Cond. (1)	
2	1	3	2	Plaster work (3)	Bldg. tennis courts (3)
3	1	1	3	Air Cond. laborer (1)	
4	1	1	3	Furn. Co. Truck driver (3)	
5	0	1	2	Oper. drapery cut mach. (3)	
6	1	1	3	Sheet metal (1)	
7	1	3	2	Appren. Mech. (3)	Fast Foods cook (3)
8	0	3	3	Sheet metal worker (0)	Same (1)
9	1	2	3	Steel framer (1)	Sheet metal (1)
10	1	1	3	Tile Mfg. laborer (3)	

OE Code 17.2306 - Welding and Cutting

1	5	1	2	Lifeguard (3)	Fork lift Oper. (3)
2	1	3	3	Carpenter (3)	STock boy (3)
3	1	1	3	Truck Mech. (2)	
4	1	2	2	Service Station Mech. (3)	Ornamental Iron welding (2)
5	4	1	3	Payroll & Empl. relations (2)	
6	0	1	3		Porter/janitor Hosp. (3)
7	1	1	3	Steel plant painter (2)	
8	1	1	3	Stockman (3)	
9	1	1	3	Service Station Mech. (3)	
10	1	0	3	Welder (1)	Pour iron (1)
11	0	3	3		Iron Fabrication (1)
12	1	2	3	Test and fill gas cylin. (2)	
13	1	2	3	Laborer (3)	Vault Bldg. (3)
14	1	1	2	Driver for Wholesale Co. (3)	

(continued)

OE Code 17.2306 - Welding and Cutting (con't.)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
15	1	1	2	Record Spec. (3)	
16	1	1	3	Survey Instrument man (3)	
17	0	1	2	Mach. Oper. (3)	Janitor (3)
18	1	3	3	Welding (1)	Construc. (3)
19	4	1	3	Welding (1)	Same (1)
20	1	2	3	Ship yard burner (2)	Ship yard welder (1)
21	1	2	3	Welding (1)	Construction Co. sawman(3)
22	1	1	3	Construction Co. sawman	
23	0	1	2	Roof repair (0)	Same (3)
24	1	2	3	Tree trimmer(3)	Welder (1)
25	4	2	3	Auto Parts Maint. (1)	Welder (1)
26	1	3	3	Sandblast and Paint (2)	Lay tele. pipe (3)
27	0	2	3		Welder (1)
28	1	1	3	Warehouseman (3)	Same (3)
29	1	1	3	Welder (1)	
30	1	0	2	Bldg. parts (1)	
31	1	1	3	Welder (1)	
32	1	1	3	Welder (1)	
33	1	1	3	Oil Wells Oper. (3)	
34	1	2	3	Respiratory Tech. (2)	Welder helper (1)
35	1	1	3	Welder (1)	
36	1	2	3	Welder (1)	
37	5	0	3	Mach. Shop laborer (1)	
38	1	0	3	Welder (1)	
39	1	1	3	Service trucks (2)	
40	1	2	3	Welder (2)	
41	1	2	3	Pallet nailer (3)	Welder (1)
42	4	1	3	Lingerie Mtl. spreader (3)	
43	1	1	3	Welder (1)	
44	1	2	3	Stack lumber (3)	Dye house laborer (3)
45	1	2	3	Work acid rack (3)	Welder (1)

(continued)

OE Code 17.2306 - Welding and Cutting (con't.)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
46	1	2	3	Lumber Co. laborer (3)	Installing carpet (3)
47	1	1	2	Asst. Mgr. Shoe dept. (3)	
48	1	2	2	Belt Atten. (3) Rubber Prod.	
49	0	3	3		Auto body repair (3)
50	1	1	3	Welder (1)	
51	2	2	3	Welder (2)	
52	1	2	3	Welder (1)	
53	1	1	3	Bldg. R.R. cars (2)	
54	0	3	3	Pipe welder (0)	Welder (1)
55	1	2	3	R.R. car welder (1)	Welder (1)
56	1	1	3	Ornamental welding(1)	
57	0	0	2	Job Corps appren.	
58	5	1	2	City water & gas laborer(3)	Fork lift Oper. (3)
59	1	1	3	Lumber Co. welder (1)	Same (1)
60	4	2	1	Stock boy (3)	Sandblaster/ painter (2)
61	1	3	3	Box cars welder (1)	Ornamental iron welder (1)
62	0	3	3	Fuse welder (2)	Stairs welder(1)
63	5	0	3	Bag boy (3)	
64	5	0	3	Fast Food Serv. (3)	
65	1	2	3	Hosp. Janitor(3)	Tractor driver (3)
66	0	1	3	Bush cutter (1)	Delivery boy (3)
67	2	1	3	Carp. helper (3)	
68	1	2	3	Pipe welder (1)	
69	0	1	3	Trailman (0)	
70	1	1	2	Wash cloth (3)	
71	1	1	3	Carp. helper (3)	
72	1	2	2	Timber cutting(2)	
73	1	1	3	Welding (1)	
74	1	2	3	Boat Bldg. welding (1)	Tool Co. welder (2)
75	1	2	2	Construction rod buster (2)	Carpenter (3)

(continued)

OE Code 17.2306 - Welding and Cutting (con't.)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
76	1	1	3	Welding burner (2)	
77	1	2	3	Welder (1)	Truck driver welder (2)
78	1	2	3	Welder (1)	
79	1	2	3	Bldg. Thermostater (3)	Welder (1)
80	1	1	2	Install chicken house equip. (2)	
81	1	1	1	Farming (2)	
82	2	3	3	Welding (2)	
83	1	2	3	Auto parts sale & deliv. (3)	Welding and paint. (3)
84	0	1	3		Construction welding (1)
85	6	0	3	Grass cutter (3)	
86	1	2	2	Trapping (3)	Stockroom man(3)
87	1	1	1	Welding (1)	
88	1	2	3	Welder (2)	Welder (2)
89	1	1	3	Welding (2)	
90	1	1	2	Carp. Asst.(3)	
91	1	2	3	Construction laborer (1)	
92	0	1	3	Welder (0)	
93	1	2	3	Elec. helper(3)	Drive tractor(3)
94	1	1	3	Construction laborer (2)	
95	1	1	2	Making guards for mach.(1)	
96	1	0	3	School bus driver (3)	Janitor for door mfg.(3)
97	1	1	3	Welding structures (1)	
98	4	2	3	Leak detector in fire exting. (3)	Welder (1)

OE Code 17.2601 - Barbering

1	1	1	2	Barber (1)	

OE Code 17.2602 - Cosmetology

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
1	1	1	2	Cosmetologist(1)	
2	6	1	1	File clerk (0)	
3	1	1	2	Checker - Cafe. (3)	Beauty Salon Recep. (3)
4	1	1	3	Keybatch Oper. (3)	Cosmetologist(1)
5	1	1	3	Cosmetologist(1)	
6	0	1	1	Cosmetologist(0)	
7	1	1	2	Clothing Mfg. sewer (3)	Cosmetologist (3)
8	1	1	3	Hairdresser(1)	
9	1	2	3	Cosmetology (1)	
10	1	1	3	Beautician (1)	Jewelry Sales clerk (1)
11	1	1	2	Teacher aide(1)	
12	5	0	3	Apprentice beautician(1)	
13	1	1	3	Cosmetologist(1)	
14	6	1	3		Drapery Co. sewing (3)

OE Code 17.2699 - Personal Services, Other

1	1	1	3	Sandwich maker(3)	
2	1	1	3	Asst. in Surg. (Hosp.)(1)	

OE Code 17.2700 - Plastics Occupations

1	1	1	1	Truck driver (1)	Molding Press Oper. (1)

OE Code 17.2800 - Public Service Occupations

1	1	1	2	Physical aide(2)	
2	6	1	3	Phychiatric aide (0)	

OE Code 17.2802 - Law Enforcement Training

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
1	0	1	3		Clothing store sales (3)

OE Code 17.2900 - Quantity Foods Occupations

1	1	1	3	Ele. School Cook (2)	
2	1	1	3	School lunch-room Mgr.(1)	
3	1	1	3	School lunch-room mgr.(1)	
4	1	0	3	Fast Food Cook (3)	
5	0	0	3	Housewife	
6	1	2	3	Welder (3) (ship yard)	Install Floor-ing (1)
7	5	0	1	Cook (1)	
8	2	1	1	Pecan Co. cook (3)	Same (1)
9	0	0	2	Housewares sales (1)	Same (1)
10	1	1	3	Meter reader(3)	Meat cutter(1)
11	1	1	3	Air force (3)	Fertilizer plant lab.(3)
12	2	1	2	Cook (2)	Sewing (1)
13	1	1	2	Food plant laborer (3)	
14	1	1	1	Food plant assembly line (1)	
15	0	0	3	Food plant packing food (0)	
16	1	1	1	Secretary (3)	Waitress (3)

OE Code 17.2901 - Baker

1	2	1	3	Fast Foods cashier(2)	Assemble tele-phones (3)

OK Code 17.2902 - Cook/Chef

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
1	4	1	2	Craneman--foundry(1)	
2	1	1	3	Kitchen Mgr.(2)	
3	1	1	3	Cutup line Oper. (3)	
4	1	1	2	Bake cakes (2)	Cook--Fast foods (3)
5	2	0	1	Fast Foods cook (1)	Same (1)
6	1	2	2	Warehouseman(3)	Elevator Oper. (3)
7	1	1	1	Warehouseman(3)	Cook (3)
8	0	1	1	Ship yard painter (0)	
9	0	1	3		Door Assembler (3)
10	1	2	2	Rack Salesman (2)	Bake Cook (1)
11	1	1	2	Pipewelder (3)	
12	5	1	3	Salslady (2)	Office clerk (3)
13	4	1	3	Plumbing (3)	Stocking food(3)
14	1	0	3	Stocking food(2)	
15	1	1	2	Mgmt. trainee fast foods(2)	Same (2)
16	2	3	3	Short order cook (1)	Same (1)
17	4	1	2	Law enforcement trainee (3)	
18	5	2	3	Carpenter (3)	Painter (3)
19	0	1	2		Dietary porter Hosp. (2)
20	1	3	2	Glass Shop work (3)	Service Station Attend. (3)
21	1	1	1	Machinist (3)	
22	6	1	1	File clerk (0)	
23	1	1	2	Pants Factory Inspec. (3)	Fountain Clerk (3)
24	1	1	1	Sewing Mach. Oper. (3)	
25	1	1	3	Manager, Rest. (3)	Motel Office Manager (3)
26	4	5	2	Data Processing Clerk (3)	Asst. Manager, Rest. (1)
27	1	1	2	Plumbing/paneling(2)	Construction laborer (2)

(continued)

OE Code 17.2902 - Cook/Chef (con't.)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
28	1	1	2	Welder (3)	
29	5	1	1	Office Clerk(3)	Furnace Oper. (3)
30	0	2	3	Auto Mfg. assembler(2)	Fast Foods Cook (3)
31	0	2	3	Cook (0)	
32	1	1	3	Yarn coating(3)	

OE Code 17.2903 - Meat Cutter

1	1	2	1	Pack syrup and vinegar (3)	Feed mill laborer(3)
2	1	1	3	Machinist (3)	
3	3	1	3	Produce Clerk(1)	
4	1	2	2	Receiving Clerk (3)	Meat Cutter (3)
5	4	2	1	Cloth doffer (3)	Meat Cutter(2)
6	5	0	3	Meat cutter	
7	1	0	2	Horse shoer (3)	
8	5	2	3	Meat cutter (1)	
9	1	1	2	Wholesale Paper Co. laborer(3)	Grocery Clerk (3)
10	1	2	3	Meat Cutter (1)	Ship. Clerk (3)
11	6	2	3	Armed Serv. (3)	Butcher (1)
12	1	2	3	Meat Cutter (1)	
13	1	1	3	Brusher--Cotton Mill (3)	Asst. Butcher (3)
14	1	1	3	Meat Cutter (1)	
15	1	1	2	Textile Co. overseer (3)	

OE Code 17.2904 - Waiter/Waitress

1	2	1	3	School lunchroom helper (2)	
2	2	1	1	Sales person (3)	
3	1	1	1	Shampooer (2)	Fast Food Serv. (2)
4	1	1	3	Fast Food cashier (1)	
5	1	1	3	Waitress (2)	

OE Code 17.3000 - Refrigeration

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
1	1	1	2	Music Co. salesman(3)	Stock boy (3)
2	1	1	2	Oven helper(3)	
3	0	3	2		Carp. helper(3)
4	0	1	2	Bridge Bldg. laborer (3)	
5	1	1	3	Delivery Asst. (soft drinks) (1)	
6	1	1	3	Material handler (2)	
7	1	2	2	Stock boy (3)	
8	1	1	2	Screw Machine Oper. (3)	
9	1	1	1	Stock Clerk (3)	Tractor driver (3)
10	4	1	3	Air. Cond. Mech. Apprent. (1)	
11	1	1	3	Air. Cond. Serv. man (1)	
12	1	1	3	Industrial Air Cond. Serv.(1)	
13	4	0	2	Bag boy (3)	

OE Code 17.3100 - Small Engine Repair

1	1	2	3	Ship/Receiv. Clerk (2)	Small engine Mech. (1)
2	1	1	2	Crew chief(3)	
3	1	1	-	Motorcyle Mech. (2)	
4	5	0	2	Real estate errand boy(3)	
5	1	3	2	Stock boy (3)	Slitter Oper. helper (3)
6	1	1	3	Truck Mech. (2)	
7	1	1	3	Repair bikes/ small engines (1)	
8	5	2	1	Parcel loader(2)	Waiter (3)
9	0	1	3	Motorcycle Mech. (0)	
10	0	2	3		Hardware store Mech. (1)

(continued)

OE Code 17.3100 - Small Engine Repair (con't.)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
11	5	1	3	Boat Co. parts man (1)	
12	1	1	3	Install/repair Mach. (1)	Same (1)
13	1	1	2	Manage recreational park(2)	
14	2	1	3	Motorcycle mech. (1)	
15	2	2	3	Small Engine Mech. (1)	
16	0	0	3	Motorcycle Mech. (1)	
17	1	2	2	Steel Fabrication laborer (3)	Lawn Mower repair(3)

OE Code 17.3302 - Tailoring

1	3	1	3	Janitor (3)	
2	1	2	2	Dietary Aide(3)	Line Service (Cafe.)(3)
3	1	1	2	Egg pecker (3)	

OE Code 17.3399 - Textile Production, Other

1	0	1	-	Bundle service (2)	Text. Card Oper. (3)
2	1	1	3		Shirt Mfg. (1)
3	2	1	3	Child daycare church (3)	Textile worker (3)
4	1	1	1	Mfg. Co. laborer (2)	
5	1	1	3	Textiles Maint. (2)	
6	1	1	3	Loom fixer (1)	
7	5	0	2	U.S. Army supplyman(0)	
8	4	1	2	Layout man (1)	
9	4	1	3	Quality Control (2) (Textiles)	Truck loader (Text.)(2)
10	5	1	1	Washcloth handler (3)	

(continued)

OE Code 17.3399 - Textile Production, Other (con't.)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
11	0	2	2	Elect. helper(0)	Yarn carrier/ doffer (1)
12	4	1	3	Ship. Clerk(3)	
13	1	1	3	Winder fixer (1) Cotton mill	
14	1	2	2	Fork lift mach. (0)	Put zipper stop in pants (3)
15	1	1	3	Set collar (2)	
16	1	0	2	Front end loader Oper. (3)	
17	4	1	3	Cloth dye maker (3)	
18	0	1	3		Test. cutter
19	1	1	3	Mach. oper.(2)	
20	1	3	3	Connecting phones (3)	Text. doffer (3)
21	1	2	3	Service Station Mech. (3)	Textile yarn man (1)
22	1	1	1	Set-up Weaving Mach. (1)	
23	4	1	3	Asst. Mgr. Clothing store (2)	Tailor

OE Code 17.3400 - Leatherworking

1	0	1	1	Heater Installer (3)	
2	1	2	2	Wrecker driver (3)	Same (3)

OE Code 17.3401 - Shoe Manufacturing

1	1	2	-	Shoe Mfg. vulcanizer (2)	

OE Code 17.3402 - Shoe Repair

1	2	1	3	Auto body repair (3)	Furn. Mfg. laborer (2)
2	0	3	3		Warehouseman (3)

OE Code 17.3500 - Upholstering

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
1	0	1	2		Lab testing pipe (3)
2	0	2	3		Foundry laborer(3)
3	1	1	1	Upholstery/ Sales (1)	Same (1)
4	6	0	2	U.S. Army Communi.(0)	
5	1	2	3	Sanitation Worker (3)	Rest Home Orderly(3)
6	5	3	3	Cut Installation (3)	Restyling Private place (1)
7	0	2	2		Construction handyman(3)
8	0	1	3	Cement finisher(3)	
9	0	5	3		Tele. Cable laborer (3)
10	1	2	2	Plastics painter(3)	Furn. Mfg. funky (3)
11	1	3	3	Pipefitter helper (3)	Upholsterer (1)
12	1	2	2	Bldg. man holes (3)	Car dealer laborer (3)
13	1	1	2	Furn. store clerk (2)	
14	6	1	3	Sewing mattress ticks (1)	
15	1	1	3	Salad girl (3)	
16	1	1	2	Making shower doors (3)	
17	1	0	2	Nurse's aide(3)	

OE Code 17.3601 - Millwork and Cabinetmaking

1	0	2	2		Bag boy (3)
2	0	4	3		House Const.(2)
3	5	2	3	Service Station Attend. (3)	Fast Food service (3)
4	1	2	1	Printing scrubbing (3)	
5	1	1	2	Carp. Helper(2)	

(continued)

OE Code 17.3601 - Millwork and Cabinetmaking (con't.)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
6	1	1	2	Sheet metal worker (2)	
7	1	1	2	Dairy stack mill (3)	
8	1	1	2	Mach. Oper. (3)	Stock boy (3)
9	1	2	1	Eng. Co. laborer (3)	Contractor laborer (2)
10	1	1	3	Construction laborer (1)	
11	1	2	3	Roofer (2)	
12	0	1	2	Recep.-Mail Co. (0)	
13	1	2	3	Stock clerk(2)	Truck driver (Furn. Co.)(1)

OE Code 17.9900 - Trade and Industrial, Other

1	1	2	3	Child care worker (1)	Account Clerk VAB (2)
2	1	1	3	Repair/Make jewelry(2)	
3	1	2	2	Nursing Asst.(3)	Vault Construction (3)
4	1	2	2	Masonry Asst. laborer (3)	Produce Clerk (1)
5	5	1	3	Paint store clerk (1)	Fast Food Service (2)
6	1	2	3	Paper Mfg. laborer(2)	Plasterer helper (2)
7	1	1	3	Furn. Store deliv. boy(1)	
8	1	1	3	Paper Mfg. laborer (2)	Distribution of text books(2)
9	1	2	2	Nurs. home dishwasher(2)	Ship yard chipper (3)
10	2	0	1	Dept. Store Maint. (1)	
11	0	1	3		Dept. Store porter (3)
12	4	1	2	Sheet metal	Janitor (2)
13	5	1	1	Library Asst.(1)	Handling fabric material (1)
14	5	1	2	Pharmacy deliv. boy (2)	Warehouseman (1)

(continued)

OE Code 17.9900 - Trade and Industrial, Other (con't.)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
15	1	2	3	Medical clerk Hosp. (1)	
16	6	1	3		
17	1	2	1	Counter/phone sales (3)	File clerk (2)
18	1	1	2	Surgery Asst. (3)	Warehouseman (2) Dept. Store sales (3)
19	1	2	3	Forklift Oper. (3)	Service Station Attend. (3)
20	1	1	1	Ditch digging (3)	
21	1	1	3	Stock clerk(2)	
22	1	1	3	Glass Co. glazer (1)	
23	1	1	3	Armed Services (3)	X-Ray Tech. (Hosp.)(1)
24	4	1	3	Vet. Asst. (1)	
25	0	3	3		Hardware store secretary(2)
26	1	2	3	Florist trainee (1)	Same (3)
27	1	3	2	Furn. Store deliv. boy(2)	Bag boy (2)
28	1	1	2	Soft drink Mfg. laborer (2)	
29	4	0	1	TV cameraman(3)	Janitor (3)
30	5	1	1	Tile & Marble Co. Laborer(2)	
31	1	0	3	Stock boy (1)	
32	1	1	2	Farming (2)	
33	1	1	2	Counter Clerk(2)	
34	1	2	2	Cup OD grinder (Bearing Mfg.) (3)	Water Works Oper. (1)
35	0	2	3		Narrowing straps (Sew) (3)
36	4	2	2	Water works Asst.	Shell Plant timekeeper
37	4	1	3	Asst. Mgr. tire recapping(1)	
38	1	1	3	Foundry-Mold helper (1)	
39	1	1	2	Stock clerk (2)	
40	1	1	2	Carp. Helper(2)	Stock clerk(1) (Hardware)

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ABSTRACT: THIS REPORT RELATES THE FINDINGS OF A STATEWIDE FOLLOWUP SURVEY OF 1973-74 POSTSECONDARY DATA PROCESSING OCCUPATIONS TERMINEES FROM THREE JUNIOR COLLEGES AND 12 VOCATIONAL-TECHNICAL INSTITUTES IN ALABAMA. QUESTIONNAIRES WERE MAILED TO 1,201 STUDENT TERMINEES FROM NINE TO 19 MONTHS AFTER LEAVING SCHOOL. RETURNS WERE RECEIVED FROM 470 (39.1 PERCENT) OF THE DATA PROCESSING OCCUPATIONS TERMINEES FROM THE INITIAL MAILING AND TWO FOLLOWUPS. DATA ARE PRESENTED IN TABLES WITH ACCOMPANYING NARRATIVE SUMMARIES ORGANIZED ACCORDING TO THESE MAJOR SECTIONS: GENERAL INFORMATION ON THE TERMINEES; FACILITIES AND EQUIPMENT; BASIC EMPLOYMENT INFORMATION; CONTINUING EDUCATION INFORMATION; AND JOB PLACEMENT INFORMATION. PRESENT AND FIRST JOB TITLES OF THE 1973-74 DATA PROCESSING OCCUPATIONS TERMINEES ARE APPENDED ALONG WITH THE QUESTIONNAIRE AND A SECTION OF STUDENT TERMINEE COMMENTS RECEIVED WITH THE QUESTIONNAIRES. (NJ)

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VT 10 324

FOLLOW-UP OF 1973-74 POST-SECONDARY DATA PROCESSING OCCUPATIONS TERMINEES OF ALABAMA

Research and Development Report No. 30

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FOLLOW-UP OF 1973-74 POST-SECONDARY DATA PROCESSING
OCCUPATIONS TERMINEES OF ALABAMA

Alabama continues to support one of the most progressive and comprehensive vocational education programs in the nation. In addition to serving youth and adults by training them for gainful and useful employment, the diversification of vocational courses meets a serious job need and contributes to the industrial development in the state.

With the millions of tax dollars being spent on vocational education, it is necessary to attempt to account to the taxpayer and decision-makers on the results of those expenditures. Terminee student follow-up studies constitute one of the most valuable techniques for assessing vocational education system outcomes.

The Alabama State Department of Education, Division of Vocational Education and Community Colleges, recognizing this important phase of accountability and evaluation, initiated the development of a statewide follow-up system for its vocational education program terminees. The Division, under the direction of Dr. T. L. Faulkner, State Director, contracted with the Occupational Research and Development Unit at Auburn University to develop and implement the statewide follow-up system for its vocational terminees in all service areas.

This report relates the findings of the survey instrument mailed to the 1973-74 Post-Secondary Data Processing Occupations terminees from three junior colleges and twelve vocational-technical institutes in Alabama. When the terminees received the questionnaire, most had been out of school nine to nineteen months.

GENERAL INFORMATION

General Information

Student rosters with names and addresses of the 1973-74 Post-Secondary Data Processing Occupations terminees were received from 15 post-secondary schools. For the purpose of this study, three of the post-secondary schools were classified as junior colleges and 12 were classified as vocational technical institutes.

The following list indicates the names of the three junior colleges:

1. Gadsden State Junior College
2. Jefferson State Junior College
3. S. D. Bishop State Junior College

The following list indicates the names of the 12 institutions classified as vocational technical institutes:

1. Alabama Institute for Deaf and Blind
2. Bessemer State Technical College
3. George C. Wallace Community College - Technical Division
4. J. F. Drake State Technical College
5. Lawson State Technical Division
6. MacArthur State Technical College
7. Muscle Shoals State Technical Institute
8. Northwest State Technical College
9. Opelika State Technical College
10. Patterson State Technical College
11. Shelton State Technical College
12. Trenholm State Technical College

The total of 1,201 Post-Secondary Data Processing Occupations terminees reported to the Occupational Research and Development Unit (ORDU) were mailed the follow-up forms. Returns were received from 470 (39.1%) of the post-secondary data processing terminees from the initial mailing in March 1975 and two follow-ups.

Table 1 presents data relative to the total population of Data Processing Occupations terminees and the number of returns categorized by type institution terminees attended and by OE Codes studied as reported by teachers.

Of the 1973-74 Post-Secondary Data Processing terminees reported by the teachers, the largest number in any OE code was in the Occupational Title area of Computer and Console Operators. Of the total 1,201 reported terminees, 440 (36.6%) studied to be Computer and Console Operators. Of the 440 who studied in this area, 366 (83.1%) attended a program in a junior college. There was a survey return rate of 35.0 percent for those terminees who studied to be Computer and Console Operators.

There were 416 (34.6%) terminees who studied to be Programmers. Of these terminees, 340 (81.7%) attended a program in a vocational-technical institute. The survey return rate of 39.2 percent was achieved from those persons studying to be Programmers.

The combined enrollment of terminees who studied to be Computer and Console Operators and those who studied to be Programmers represented 71.2 percent of all 1973-74 Post-Secondary Data Processing terminees reported to the ORDU.

TABLE 1

DESCRIPTION OF TOTAL POPULATION AND RETURNS BY
OE CODE OF 1973-74 POST-SECONDARY
DATA PROCESSING TERMINEES

OE Code	Occupational Title	Type Post-Sec. School	Total Number of Students Terminating	Number of Returns	Percent of Returns for OE Code Area
14.0000	Office Occupations (Total)		12	4	33.3
		Jr. Colleges	0	0	0.0
		Voc-Tech Colleges	12	4	33.3
14.0200	Business Data Processing Systems Occupations (Total)		126	58	46.0
		Jr. Colleges	0	0	0.0
		Voc-Tech Colleges	126	58	46.0
14.0201	Computer and Console Operators (Total)		440	154	35.0
		Jr. Colleges	366	127	34.7
		Voc-Tech Colleges	74	27	36.5
14.0202	Peripheral Equipment Oper. (Total)		22	6	27.3
		Jr. Colleges	0	0	0.0
		Voc-Tech Colleges	22	6	27.3
14.020201	Keypunch and Coding Equipment Oper. (Total)		185	85	45.9
		Jr. Colleges	0	0	0.0
		Voc-Tech Colleges	185	85	45.9
14.0203	Programmers (Total)		416	163	39.2
		Jr. Colleges	76	26	34.2
		Voc-Tech Colleges	340	137	40.3
	TOTAL (All Programs)		1201	470	39.1
		Jr. Colleges	442	153	34.6
		Voc-Tech Colleges	759	317	41.8

The total population of 1973-74 Post-Secondary Data Processing terminees reported to the ORDU (1201) were mailed questionnaires. From the initial mailing and two follow-ups, returns were received from 470 (39.1%).

A return rate of 34.6 percent was received from the junior college terminees, while a return rate of 41.8 percent was achieved from the terminees of the vocational-technical institutes.

Table 1-A offers a description of the total population and returns by OE code area by length of the program and length of time terminees were enrolled in the program of the 1973-74 Junior College Data Processing terminees.

Table 1-B offers a description of the total population and returns by OE code area, by length of the program and length of time terminees were enrolled in the program, of the 1973-74 Vocational-Technical Institute terminees.

Table 1-C illustrates the description of the total population and survey returns from the 1973-74 junior college data processing terminees by individual junior colleges by OE code area studied.

Table 1-D reports the description of the total population and survey returns from the 1973-74 vocational-technical institutes data processing terminees by individual vocational-technical institute by OE code area studied.

TABLE 1-A

DESCRIPTION OF TOTAL POPULATION AND RETURNS BY OE CODE AREA, BY LENGTH OF PROGRAM AND LENGTH OF TIME TERMINEES ENROLLED IN PROGRAM, OF THE 1973-74 JUNIOR COLLEGE DATA PROCESSING TERMINEES

Length of Program in Months	OE Code Area Studied	Occupational Title Area Studied by Length of Time Terminees Enrolled in Program	Total Number Reported	Number of Returns	Percent of Returns
12 mos.	14.0201	Computer and Console Operator (Total)	238	89	37.4
		0 - 2 months	0	0	0.0
		3 - 5 months	18	6	33.3
		6 - 8 months	20	2	10.0
		9 - 11 months	37	16	43.2
		12 months	20	7	35.0
		13 - 15 months	19	8	42.1
		16 - 18 months	17	2	11.7
		19 - 21 months	28	13	46.4
		22 - 24 months	17	7	41.2
		25 - 27 months	14	7	50.0
		28 - 30 months	14	5	35.7
		31 - 33 months	10	3	30.0
		34 - 36 months	2	2	100.0
		37 - 39 months	7	5	71.4
		40 - 42 months	3	2	66.7
		43 - 48 months	5	1	20.0
		49 - 54 months	5	2	40.0
		55 - 78 months	2	1	50.0
		Over 78 months	0	0	0.0
12 mos.	14.0203	Programmers (Total)	76	26	34.2
		0 - 2 months	0	0	0.0
		3 - 5 months	14	2	14.3
		6 - 8 months	10	1	10.0
		9 - 11 months	5	1	20.0
		12 months	11	4	36.4
		13 - 15 months	8	6	75.0
		16 - 18 months	5	2	40.0
		19 - 21 months	10	4	40.0
		22 - 24 months	4	1	25.0
		25 - 27 months	2	1	50.0
		28 - 30 months	2	1	50.0
		31 - 33 months	2	2	100.0
		34 - 36 months	1	0	0.0
		37 - 39 months	0	0	0.0
		40 - 42 months	0	0	0.0
		43 - 48 months	2	1	50.0
		Over 48 months	0	0	0.0

(continued)

TABLE 1-A (continued)

Length of Program in Months	OE Code Area Studied	Occupational Title Area Studied by Length of Time Terminees Enrolled in Program	Total Number Reported	Number of Returns	Percent of Returns
18 mos.	14.0201	Computer and Console Operator (Total)	101	31	30.7
		0 - 2 months	0	0	0.0
		3 - 5 months	50	9	18.0
		6 - 8 months	19	9	47.4
		9 - 11 months	23	10	43.5
		12 months	9	3	33.3
		Over 12 months	0	0	0.0
24 mos.	14.0201	Computer and Console Operator (Total)	27	7	25.9
		0 - 2 months	0	0	0.0
		3 - 5 months	6	0	0.0
		6 - 8 months	12	5	41.7
		9 - 11 months	6	1	16.7
		12 months	3	1	33.1
		Over 12 months	0	0	0.0

TABLE 1-B

DESCRIPTION OF TOTAL POPULATION AND RETURNS OF THE 1973-74 VOCATIONAL-TECHNICAL INSTITUTE TERMINEES BY OE CODE AREA, LENGTH OF PROGRAM AND LENGTH OF TIME TERMINEES ENROLLED IN PROGRAM

Length of Program in Months	OE Code Area Studied	Occupational Title Area Studied by Length of Time Terminees Enrolled in Program	Total Number Reported	Number of Returns	Percent of Returns
6 mos.	14.0202	Peripheral Equipment Operators (Total)	21	6	28.6
		0 - 1 months	3	0	0.0
		2 - 5 months	3	1	33.3
		6 months	6	4	66.7
		7 - 11 months	2	0	0.0
		12 months	7	1	14.3
		Over 12 months	0	0	0.0

(continued)

TABLE 1-B (continued)

Length of Program in Months	OE Code Area Studied	Occupational Title Area Studied by Length of Time Terminees Enrolled in Program	Total Number Reported	Number of Returns	Percent of Returns
6 mos.	14.0203	Programmers (Total)	1	0	0.0
		5 months	1	0	0.0
12 mos.	14.0000	Office Occupations (Total)	12	4	33.3
		0 - 2 months	1	0	0.0
		3 months	11	4	36.4
		Over 3 months	0	0	0.0
12 mos.	14.0200	Business Data Processing Systems Occupations (Total)	126	58	46.0
		0 - 2 months	6	3	50.0
		3 - 5 months	36	13	36.1
		6 - 8 months	24	10	41.7
		9 - 11 months	11	5	45.5
		12 months	3	1	33.3
		13 - 15 months	25	13	52.0
		16 - 18 months	17	10	58.8
		19 - 21 months	2	2	100.0
		22 - 24 months	2	1	50.0
		Over 24 months	0	0	0.0
12 mos.	14.0202	Peripheral Equipment Operators (Total)	1	0	0.0
		7 months	1	0	0.0
12 mos.	14.0202G1	Keypunch and Coding Equipment Operators (Total)	185	85	45.9
		0 - 2 months	31	9	29.0
		3 - 5 months	52	23	44.2
		6 - 8 months	12	4	33.3
		9 - 11 months	18	6	33.3
		12 months	67	40	59.7
		13 - 15 months	1	0	0.0
		16 - 18 months	3	2	66.7
		19 - 21 months	0	0	0.0
		22 - 24 months	1	1	100.0
		Over 24 months	0	0	0.0

(continued)

TABLE 1-B (continued)

Length of Program in Months	OE Code Area Studied	Occupational Title Area Studied by Length of Time Terminees Enrolled in Program	Total Number Reported	Number of Returns	Percent of Returns
12 mos.	14.0203	Programmers (Total)	134	46	34.3
		0 - 2 months	31	3	9.7
		3 - 5 months	52	19	36.5
		6 - 8 months	30	18	60.0
		9 - 11 months	7	0	0.0
		12 months	14	6	42.9
		Over 12 months	0	0	0.0
15 mos.	14.0203	Programmers (Total)	205	91	44.4
		0 - 2 months	19	1	5.3
		3 - 5 months	19	6	31.6
		6 - 8 months	14	5	35.7
		9 - 11 months	5	2	40.0
		12 months	5	5	100.0
		13 - 15 months	130	64	49.2
		16 - 18 months	13	8	61.5
		Over 18 months	0	0	0.0
18 mos.	14.0201	Computer and Console Operators (Total)	74	27	36.5
		0 - 2 months	5	0	0.0
		3 - 5 months	10	0	0.0
		6 - 8 months	9	3	33.3
		9 - 11 months	7	2	28.6
		12 months	23	14	60.9
		13 - 15 months	0	0	0.0
		16 - 18 months	6	3	50.0
		19 - 21 months	0	0	0.0
		22 - 24 months	14	5	35.7
		Over 24 months	0	0	0.0

TABLE 1-C

DESCRIPTION OF TOTAL POPULATION AND RETURNS FROM THE 1973-74 JUNIOR COLLEGE DATA PROCESSING TERMINEES BY INDIVIDUAL JUNIOR COLLEGE BY OE CODE AREA STUDIED

Name of Junior College	OE Code Area Studied	Occupational Title of Area Studied	Total Number Reported	Total Number Returns	Percent of Returns
Gadsden State Junior College (Total)			101	31	30.7
	14.0201	Computer and Console Operators	101	31	30.7
Jefferson State Junior College (Total)			238	89	37.4
	14.0201	Computer and Console Operators	238	89	37.4
	14.0203	Programmers	76	26	34.2
S.D. Bishop State Junior College (Total)			27	7	29.2
	14.0201	Computer and Console Operators	27	7	29.2
TOTAL			442	153	34.6

TABLE 1-D

DESCRIPTION OF TOTAL POPULATION AND RETURNS FROM THE 1973-74 VOCATIONAL-TECHNICAL INSTITUTE DATA PROCESSING TERMINEES BY INDIVIDUAL VOCATIONAL-TECHNICAL INSTITUTE BY OE CODE AREA STUDIED

Name of Vocational Institute	OE Code Area Studied	Occupational Title of Area Studied	Total Number Reported	Total Number Returns	Percent of Returns
Ala. Institute for Deaf and Blind (Total)			19	9	47.4
	14.020201	Keypunch and Coding Equipment Operators	19	9	47.4

(continued)

TABLE 1-D (continued)

Name of Vocational Institute	OE Code Area Studied	Occupational Title of Area Studied	Total Number Reported	Total Number Returns	Percent of Returns
Bessemer State Tech. College (Total)			145	59	40.7
	14.020201	Keypunch and Coding Equipment Operators	51	20	39.2
	14.0203	Programmers	94	39	41.5
George C. Wallace Community College (Tech. Division) (Total)			115	57	49.6
	14.0203	Programmers	115	57	49.6
J.F. Drake State Technical College (Total)			54	16	29.67
	14.020201	Keypunch and Coding Equipment Operators	19	7	36.8
	14.0203	Programmers	35	9	25.7
Lawson State Junior College (Tech. Division) (Total)			22	6	27.3
	14.0202	Peripheral Equipment Operators	21	6	28.6
	14.0203	Programmers	1	0	0.0
MacArthur State Tech. College (Total)			51	21	41.2
	14.0000	Office Occupations	11	4	36.4
	14.0200	Business Data Processing Systems Occupations	31	12	38.7
	14.020201	Equipment Operators	9	5	55.6
Muscle Shoals State Tech. Institute (Total)			22	14	63.6
	14.0200	Business Data Processing Systems Occupations	22	14	63.6

(continued)

TABLE 1-D (continued)

Name of Vocational Institute	OE Code Area Studied	Occupational Title of Area Studied	Total Number Reported	Total Number Returns	Percent of Returns
Northwest State Tech. College (Total)			73	32	43.8
	14.0200	Business Data Processing Systems Occupations	73	32	43.8
Opelika State Tech. College (Total)			55	25	45.5
	14.0203	Programmers	55	25	45.5
Patterson State Tech. College (Total)			41	7	17.1
	14.0202	Peripheral Equipment Operators	1	0	0.0
	14.0203	Programmers	40	7	17.5
Shelton State Tech. College (Total)			74	27	36.5
	14.0201	Computer and Console Operators	74	27	36.5
Trenholm State Tech. College (Total)			88	44	50.0
	14.0000	Office Occupations	1	0	0.0
	14.020201	Keypunch and Coding Equipment Operators	87	44	50.6
TOTAL			759	317	41.8

Table 2 illustrates the sex characteristics of those 1973-74 Post-Secondary Data Processing Occupations terminees reported by the teachers and those who returned survey forms by the type institution they attended.

TABLE 2

SEX OF THE 1973-74 POST-SECONDARY DATA PROCESSING TERMINEES REPORTED AND BY WHO RETURNED QUESTIONNAIRES BY TYPE INSTITUTION ATTENDED

Type Institution Attended	Sex[A]	Reported		Returns	
		Number	Percent[B]	Number	Percent[C]
Junior College (Total)		442	100.0	153	34.6
	Male	349	79.0	122	35.0
	Female	92	20.8	31	33.7
	Not Known	1	0.2	0	0.0
Vocational-Technical Institutes (Total)		759	100.0	317	41.8
	Male	331	43.6	122	36.9
	Female	426	56.1	195	45.8
	Not Known	2	0.3	0	0.0
TOTAL		1201		470	39.1
	Male	680	56.6	244	35.9
	Female	518	43.1	226	43.6
	Not Known	3	0.3	0	0.0

[A]Sex as reported by teacher

[B]Percentage is figured by type institution attended

[C]Percentage is based on the returns of terminees reported

Table 3 reports the racial or ethnic characteristics of the 1973-74 Post-Secondary Data Processing terminees reported by instructors and who returned survey forms by the type institution they attended.

TABLE 3

RACIAL OR ETHNIC CHARACTERISTICS OF THE 1973-74 POST-SECONDARY DATA PROCESSING TERMINEES REPORTED AND BY WHO RETURNED QUESTIONNAIRES BY TYPE INSTITUTION ATTENDED

Type Institution Attended	Racial or Ethnic Group[A]	Reported		Returns	
		Number	Percent[B]	Number	Percent[C]
Junior College (Total)		442	100.0	153	34.6
	American Indian	0	0.0	0	0.0
	Black	109	24.7	32	29.4
	Oriental	2	0.5	1	50.0
	Spanish Surnamed American	0	0.0	0	0.0
	White	314	71.0	117	37.3
	Other	1	0.2	0	0.0
	Not Known	16	3.6	3	18.8
Vocational-Technical Institutes (Total)		759	100.0	317	41.8
	American Indian	1	0.1	0	0.0
	Black	212	27.9	89	42.0
	Oriental	2	0.3	0	0.0
	Spanish Surnamed American	0	0.0	0	0.0
	White	510	67.2	218	42.7
	Other	1	0.1	0	0.0
	Not Known	33	4.4	10	30.3
TOTAL		1201	100.0	470	39.1
	American Indian	1	0.1	0	0.0
	Black	321	26.7	121	37.7
	Oriental	4	0.3	1	25.0
	Spanish Surnamed American	0	0.0	0	0.0
	White	824	68.6	335	40.7
	Other	2	0.2	0	0.0
	Not Known	49	4.1	13	26.5

[A]Racial or ethnic group as reported by teacher

[B]Percent is based on total reported terminees in each type institution

[C]Percentage is based on returns from each racial or ethnic group by institution

Table 4 points out the number of 1973-74 Post-Secondary Data Processing terminees who indicated whether or not they were in active full-time military service by the type institution they attended.

TABLE 4

ACTIVE FULL-TIME MILITARY STATUS OF 1973-74 POST-SECONDARY DATA PROCESSING TERMINEES WHO RETURNED QUESTIONNAIRES BY TYPE INSTITUTION ATTENDED

Active Full-Time Military Status	Type Institution Attended				TOTAL	
	Junior College		Voc.-Tech. Institute			
	No.	%	No.	%	No.	%
Yes	3	2.0	4	1.3	7	1.5
No	144	94.1	295	93.0	439	93.4
No Response	6	3.9	18	5.7	24	5.1
TOTAL	153	100.0	317	100.0	470	100.0

Basic Information Related to the Post-Secondary Data Processing Program

Table 5 indicates, according to the 1973-74 Post-Secondary Data Processing Occupations terminees, the primary sources of influence in selecting their data processing program by the type institution they attended.

TABLE 5

PRIMARY INFLUENCE ON THE 1973-74 POST-SECONDARY DATA PROCESSING TERMINEES IN SELECTING THEIR DATA PROCESSING COURSE BY TYPE INSTITUTION ATTENDED

Group or Individual Terminees Felt Influenced Them Most in Selecting Data Processing Course by Type Institution Attended	Type Institution Attended				TOTAL	
	Junior College		Voc.-Tech. Institute			
	No.	%	No.	%	No.	%
Parent(s) or Guardian(s)	5	3.3	18	5.7	23	4.9
Guidance Counselor	4	2.6	19	6.0	23	4.9
Your Data Processing Instructor	5	3.3	15	4.7	20	4.3
Another Instructor or Administrator	3	2.0	4	1.3	7	1.5
Students in the Data Processing Program	2	1.3	13	4.1	15	3.2
Friend or Relative	7	4.6	42	13.2	49	10.4
Businessman	6	3.9	4	1.3	10	2.1
Made choice yourself	107	69.9	187	59.0	294	62.5
High School Teacher	2	1.3	2	0.6	4	0.9
Other[A]	10	6.5	11	3.5	21	4.4
No Response	2	1.3	2	0.6	4	0.9
TOTAL	153	100.0	317	100.0	470	100.0

[A]See page 20 for listing of "Others" who influenced terminees in selecting their data processing course.

Of the total 470 1973-74 Post-Secondary Data Processing terminees, 294 (62.5%), when asked who was the primary influence on them taking their data processing program, indicated they made the choice themselves.

From the terminees who attended the vocational-technical institute, other than influencing themselves, friends or relatives seem to have been the greatest influence on the terminees taking the program.

Other than influencing themselves, most of the junior college terminees reported that "Other" persons or things not listed by the researchers, were the primary influence on them.

There were only four (2.6%) of the terminees from the junior colleges and 19 (6.0%) of the terminees from the vocational-technical institutes who indicated that Guidance Counselors were the primary influence on them taking their data processing program.

The following is a listing of "Other" persons or ways junior college terminees indicated influenced them most in selecting their data processing course:

1. United States Air Force
2. I was already working in data processing field
3. Took high school course in data processing
4. Worked indirectly with data input on inventory control basis
5. Talked to Navy computer programmer
6. Fortran Course
7. Aptitude Test
8. Military
9. Anniston Data Processing School

Listed below are "Other" persons or ways vocational-technical institute terminees indicate influenced them most in selecting their data processing course:

1. Rehabilitation counselor
2. Advertisements on T.V.
3. Was required course
4. Prior service experience
5. Required subject
6. Needed to complete program
7. Good job
8. E. S. Counselor
9. Saw need for information on this subject
10. Family doctor
11. Had no choice

Table 6 notes, by type institution attended, whether during the time they were taking their data processing program, the responding 1973-74 terminees intended to get a job in their area of study.

TABLE 6

BY TYPE INSTITUTION ATTENDED, INDICATIONS OF 1973-74 POST-SECONDARY TERMINEES AS TO WHETHER, DURING THE TIME THEY WERE TAKING THEIR DATA PROCESSING PROGRAM, THEY INTENDED TO GET A JOB IN THE AREA THEY WERE STUDYING

Intended to Get Job in Area of Study	Junior College Terminees		Voc.-Tech. Institute Terminees		TOTAL	
	No.	%	No.	%	No.	%
Yes	107	69.9	226	71.3	333	70.9
No	17	11.1	15	4.7	32	6.8
Was Not Sure	24	15.7	72	22.7	96	20.4
No Response	5	3.3	4	1.3	9	1.9
TOTAL	153	100.0	317	100.0	470	100.0

Approximately 27 percent of all the 470 terminating 1973-74 Post-Secondary Data Processing terminees indicated that during the time they were taking their course they had no intention or were not sure whether they were going to take a job in the area they were studying.

Seventeen (11.1%) terminees from the junior colleges indicated that while they were taking their data processing program, they had no intention of getting a job in that area. Only 15 (4.7%) terminees who attended vocational-technical institutions indicated they had no intention of getting a job in the area they were studying.

Seventy-two (22.7%) terminees who attended the vocational-technical institutes indicated that during the time they were taking their data processing program, they were not sure if they were going to get a job in the area they were studying. However, only 24 (15.7%) of the junior college terminees indicated this.

Table 7 reports terminees' opinions on choosing the Post-Secondary Data Processing program if they had the selection to make again.

TABLE 7

INDICATIONS OF THE 1973-74 TERMINEES IF THEY HAD IT TO DO OVER AGAIN, WHETHER THEY WOULD STILL CHOOSE TO TAKE THE DATA PROCESSING PROGRAM

Question: If You Had It To Do Over Again, Would You Still Choose To Take the Data Processing Program	Junior College Terminees		Voc.-Tech. Institutes		TOTAL	
	No.	%	No.	%	No.	%
Yes	116	75.8	228	71.9	344	73.2
No	31	20.3	77	24.3	108	23.0
No Response	6	3.9	12	3.8	18	3.8
TOTAL	153	100.0	317	100.0	470	100.0

Of the total 470 1973-74 Post Secondary Data Processing terminees, 344 (73.2%) indicated they would still choose to take their data processing program again. However, 75.8 percent of the junior college terminees and only 71.9 percent of the vocational-technical institute terminees indicated they would still take their program again.

Overall 108 (23.0%) of the terminees indicated if they had it to do over again, they would not choose to take their data processing program. From the junior college terminees, 20.3 percent, and from the vocational-technical institutes, 24.3 percent, of the terminees reported they would not choose to take their program again.

Table 8 indicates the extent to which the reporting 1973-74 Post-Secondary Data Processing terminees who indicated having a first job felt their data processing program prepared them for their first job. This

data was also broken down by how that first job related to their data processing course and by the type post-secondary institution the terminees had attended.

TABLE 8

PERCEPTIONS OF THE 1973-74 POST-SECONDARY DATA PROCESSING TERMINEES AS TO THE EXTENT THEIR DATA PROCESSING PROGRAM PREPARED THEM FOR THEIR FIRST JOB BY TYPE INSTITUTION ATTENDED

Extent Data Processing Course Prepared for First Full-Time Job by Type Institution Attended	Total Reporting		Number Reported by Relatedness of First Full-Time Job to Training Received					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Junior College								
Excellent	3	3.8	3	14.3	0	0.0	0	0.0
Well Prepared	16	20.3	12	57.1	3	14.3	1	2.7
Fair	19	24.1	5	23.8	11	52.4	3	8.1
Poorly Prepared	2	2.5	1	4.8	1	4.8	0	0.0
Preparation Not Related to Job	39	49.3	0	0.0	6	28.5	33	89.2
TOTAL	79	100.0	21	100.0	21	100.0	37	100.0
Vocational-Technical Institute								
Excellent	15	12.0	11	25.6	4	10.8	0	0.0
Well Prepared	39	31.2	21	48.8	15	40.6	3	6.7
Fair	20	16.0	8	18.6	11	29.7	1	2.2
Poorly Prepared	4	3.2	2	4.7	1	2.7	1	2.2
Preparation Not Related to Job	47	37.6	1	2.3	6	16.2	40	88.9
TOTAL	125	100.0	43	100.0	37	100.0	45	100.0

Terminees who were in full-time active military service or who had never been employed were not asked to respond to the questions from which this data was reported. Also, the terminees who failed to respond to the question items were not indicated in the table.

In reporting the extent to which the 1973-74 Post-Secondary Data Processing Occupations terminees felt their data processing program prepared them for their first full-time job by how their first full-time job related to the training they received in their data processing program, some interesting points were revealed. Nineteen (24.1%) of the 79 junior college terminees, who had a first job, indicated "Excellent" to "Well Prepared" for their first job as a result of the training they received in their data processing program. However, 15 (71.4%) of the 21 junior college terminees employed in their first full-time job related directly to their training felt they were excellent to well prepared for this first job. Only two (2.5%) junior college terminees felt they were "Poorly Prepared" for their first job and only one of these was working in a directly related area.

Of the total 125 vocational-technical institute terminees reporting a first job, 54 (43.2%) felt from "Excellent" to "Well Prepared" for their first job as a result of their data processing program. However, 32 (74.4%) of the 43 vocational technical institute terminees who were working in a directly related area reported being "Excellent" to "Well Prepared" for that first job as a result of their data processing program. Only four (3.2%) of the vocational-technical institute terminees felt they were "Poorly Prepared" for their first job and only two of these terminees were working in directly related areas.

Table 9 reveals the extent to which the reporting 1973-74 Post-Secondary Data Processing terminees having a job at present, felt their data processing program prepared them for their present job. This data was also broken down by how their present job related to their data processing course and by the type post-secondary institution the terminees had attended.

TABLE 9

PERCEPTIONS OF THE 1973-74 POST-SECONDARY DATA PROCESSING TERMINEES AS TO THE EXTENT THEIR DATA PROCESSING PROGRAM PREPARED THEM FOR THEIR PRESENT JOB BY TYPE INSTITUTION ATTENDED

Extent Data Processing Course Prepared for Present Job by Type Institution Attended	Total Reporting		Number Reported by Relatedness of Present Job to Training Received					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Junior College								
Excellent	3	2.9	2	7.4	1	3.7	0	0.0
Well Prepared	20	19.2	13	48.2	6	22.2	1	2.0
Fair[A]	21	20.2	11	40.7	9	33.3	1	2.0
Poorly Prepared[B]	4	3.9	1	3.7	2	7.5	1	2.0
Preparation Not Related to Job	56	53.8	0	0.0	9	33.3	47	94.0
TOTAL	104	100.0	27	100.0	27	100.0	50	100.0
Vocational-Technical Institute								
Excellent	14	9.1	9	21.4	4	7.5	1	1.7
Well Prepared	48	31.1	20	47.6	24	45.3	4	6.8
Fair[C]	26	16.9	9	21.4	14	26.4	3	5.1
Poorly Prepared[D]	6	3.9	3	7.2	2	3.8	1	1.7
Preparation Not Related to Job	60	39.0	1	2.4	9	17.0	50	84.7
TOTAL	154	100.0	42	100.0	53	100.0	59	100.0

[A]See listing, page 26, for reasons terminees in junior colleges gave for being prepared "Fair" for their present job.

[B]See listing, page 27, for reasons terminees in junior colleges gave for being "Poorly Prepared" for their present job.

[C]See listing, page 27, for reasons terminees in vocational-technical institutes gave for being prepared "Fair" for their present job.

[D]See listing, page 28, for reasons terminees in vocational-technical institutes gave for being "Poorly Prepared" for their present job.

Twenty-three (22.1%) of the 104 junior college terminees, who reported having a job at present, indicated they were from "Excellent" to "Well Prepared" for their present job as a result of their data processing program. Of the 27 junior college terminees presently working in a directly related area, 15 (55.6%) noted they were from "Excellent" to "Well Prepared" for their present job.

Twenty-one (20.2%) of the total junior college terminees felt they were prepared just "Fair" for their present job, while 11 (40.7%) of those junior college terminees working in a directly related area indicated they were prepared just "Fair" for their present job. The following list notes the reasons the junior college terminees specified for being prepared only "Fair" for their present job:

1. Because it only prepared you for programming
2. Just became familiar with equipment
3. Only general knowledge
4. Not same system
5. Instructor doesn't keep himself up to date
6. Not exactly what I studied
7. Instructors not experienced in data processing
8. No experience, used an outdated 1130 computer in industry
9. Only basics taught leaving a lot to learn
10. Did not offer subjects when desired
11. Studies were in programming--am doing unit record work
12. Instructor not interested
13. Studied COBOL, BAC, and Regular Programming--I am not a programmer
14. Not operator programmer
15. Need more advanced programs of study; also need required course consisting of logic and systems design
16. Data processing program poor in State of Alabama
17. Poor instructing
18. Classroom techniques not as involved as actual applications--but then no training is
19. General knowledge helpful

Only four (3.9%) of the total 104 junior college terminees noted that they were "Poorly Prepared" for their present job as a result of their data processing program. Only one terminee working in a directly

related area indicated being only "Poorly prepared" for his present job. The following list reports the reasons the four terminees gave for being only "Poorly prepared" for their present job:

1. Obsolete equipment
2. Didn't teach keypunch touch systems
3. Information control system (multi-programming)
4. No coordinated program and not enough operating time on school's systems

Sixty-two (41.2%) of the total 154 vocational-technical institute terminees, who reported having a job at present, reported being from "Excellent" to "Well Prepared" for their present job as a result of their data processing program. Of the 42 vocatioanl-technical institute terminees presently working in a directly related area, 29 (69.0%) felt they were from "Excellent" to "Well Prepared" for their present job.

Twenty-six (16.9%) of the total vocational-technical institute terminees reported being trained only "Fair" for their present job as a result of their data processing program. Of the terminees working in an area directly related to their data processing program, nine (21.4%) consider being trained only "Fair" for their present job. Listed below are the reasons the vocational-technical institute terminees gave for being prepared only "Fair" for their present job.

1. Different operating system than school (Had only basic knowledge)
2. Trained on IBM 1130, working on UNIVAC 9300
3. Peculiarities of job
4. Learned on job
5. Trained on IBM 1130; most centers in area use IBM 360 or 370 DOS system
6. I am presently a computer operator and main function at trade school was programming
7. The material needs up-dating
8. Not enough training on 129 Keypunch
9. I am employed as English aide
10. Poor instructor
11. Needed to be more detailed

12. I believe classroom preparation and on-the-job preparation are somewhat different
13. I am a bookkeeper and computer operator
14. Accounting
15. What I do is really not pertinent to data processing
16. No training with mini-computers
17. Not enough instructors
18. I'm in electronics
19. New machines, different machines
20. Not directly related to course
21. Not enough training
22. Data processing program did not have adequate equipment for training
23. Basic machine knowledge

Only six (3.9%) of the total 154 vocational-technical college terminees reported being "Poorly Prepared" for their present job as a result of their data processing program. Three of these terminees were working in an area directly related to their data processing program. Listed below are the reasons the vocational-technical institute terminees gave for being "Poorly Prepared" for their present job as a result of their data processing program:

1. Instructor
2. Office classes related to data processing was used

Table 10 notes how the 1973-74 Post-Secondary Data Processing terminees rated the quality of teaching of their data processing instructors by the type institution terminees attended.

Of the total 463 1973-74 Post-Secondary Data Processing terminees, 341 (73.7%) rated the quality of teaching of data processing instructors from "Good" to "Excellent." However, 41 (8.8%) of the total terminees rated the quality of their data processing instructors to be from "Poor" to "Very Poor."

One hundred nine (73.2%) of the total 149 junior college terminees rated the quality of teaching of their data processing instructor to be

from "Good" to "Excellent." Fourteen (9.4%) junior college terminees rated the quality of teaching of their instructors to be from "Poor" to "Very Poor."

TABLE 10

1973-74 POST-SECONDARY DATA PROCESSING TERMINEES' RATINGS OF THE QUALITY OF TEACHING BY THEIR INSTRUCTORS BY TYPE INSTITUTION ATTENDED

Rating	Total		Type Institution			
			Junior College		Voc.-Tech. Institute	
	No.	%	No.	%	No.	%
Excellent	150	32.4	39	26.2	111	35.4
Good	191	41.3	70	47.0	121	38.5
Fair	81	17.5	26	17.4	55	17.5
Poor	32	6.9	10	6.7	22	7.0
Very Poor	9	1.9	4	2.7	5	1.6
TOTAL	463	100.0	149	100.0	314	100.0

Of the 314 vocational-technical institute terminees, 232 (73.9%) felt the quality of teaching of their data processing instructors to be from "Good" to "Excellent." Twenty-seven (8.6%) vocational-technical institute terminees rated the quality of teaching of their data processing instructors to be from "Poor" to "Very Poor."

Table 11 illustrates how the 1973-74 Post-Secondary Data Processing terminees rated their data processing instructor's interest in their class work by the type institution the terminees attended.

Three hundred forty-two (74.0%) of the total responding 462 Post-Secondary Data Processing terminees rated their data processing instructor's interest in their class work from "Good" to "Excellent." However, 54 (9.5%) of all the terminees rated their instructor's interest in their class work from "Poor" to "Very Poor."

TABLE 11

1973-74 POST-SECONDARY DATA PROCESSING TERMINEES' RATINGS OF THEIR INSTRUCTOR'S INTEREST IN THEIR CLASS WORK BY THE TYPE INSTITUTION TERMINEES ATTENDED

Rating	Total		Type Institution			
			Junior College		Voc.-Tech. Institute	
	No.	%	No.	%	No.	%
Excellent	152	32.9	40	26.8	112	35.8
Good	190	41.1	66	44.3	124	39.6
Fair	76	16.5	29	19.5	47	15.0
Poor	32	6.9	10	6.7	22	7.0
Very Poor	12	2.6	4	2.7	8	2.6
TOTAL	462	100.0	149	100.0	313	100.0

Table 12 points out how the 1973-74 Post-Secondary Data Processing terminees subjectively rated the knowledge their data processing instructors possessed about their field of study. This rating is also shown in the table by a breakdown of how the terminee's present job related to the training they received in their data processing program and by the type institution the terminees attended. Terminees were asked to base their judgments on their current knowledge of their job and responsibilities.

From the 103 responses from the junior college terminees, 82 (79.6%) rated the knowledge their data processing instructor possessed about their field of study from "Good" to "Excellent." Only nine (8.8%) junior college terminees on this rating, rated their instructor from "Poor" to "Very Poor."

For those 27 junior college terminees working in an area directly related to the training they received, 20 (74.0%) rated the knowledge

their data processing instructor had about their field of study to be from "Good" to "Excellent."

TABLE 12

1973-74 POST-SECONDARY DATA PROCESSING TERMINEES RATINGS OF THE KNOWLEDGE THEIR DATA PROCESSING INSTRUCTORS POSSESSED ABOUT THEIR FIELD OF STUDY BY HOW TERMINEES' PRESENT JOB RELATED TO THE TRAINING THEY RECEIVED BY THE TYPE INSTITUTION TERMINEES ATTENDED

Ratings[A]	Total Reporting		Number Reporting by Relatedness of Present Job to Training Received					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Junior College								
Excellent	30	29.1	7	25.9	7	25.9	16	32.7
Good	52	50.5	13	48.2	12	44.5	27	55.1
Fair	12	11.6	4	14.8	6	22.2	2	4.1
Poor	4	3.9	2	7.4	1	3.7	1	2.0
Very Poor	5	4.9	1	3.7	1	3.7	3	6.1
TOTAL	103	100.0	27	100.0	27	100.0	49	100.0
Vocational-Tech. Institute								
Excellent	44	29.5	14	33.3	16	30.8	14	25.4
Good	65	43.6	21	50.0	21	40.4	23	41.8
Fair	34	22.8	6	14.3	14	26.9	14	25.5
Poor	6	4.1	1	2.4	1	1.9	4	7.3
Very Poor	0	0.0	0	0.0	0	0.0	0	0.0
TOTAL	149	100.0	42	100.0	52	100.0	55	100.0

[A]Ratings were to be based on terminees' judgment of their current knowledge of their job and responsibilities.

Of the 149 responding vocational-technical institute terminees, 109 (73.1%) rated the knowledge their data processing instructor possessed about their field of study to be from "Good" to "Excellent."

Only six (4.1%) of the vocational-technical institute terminees, on this factor, rated their instructors to be "Poor," and none "Very Poor."

Of the 42 vocational-technical institute terminees working in an area directly relat-d to the training they received, 35 (83.3%) rated their instructor's knowledge about their field of study to be from "Good" to "Excellent." Only one (2.4%) terminee working in a directly related area rated his instructor's knowledge about this field of study to be "Poor," and none "Very Poor."

FACILITIES AND EQUIPMENT INFORMATION

Facilities and Equipment Information

The following section of this report contains information regarding the facilities and equipment in the Post-Secondary Data Processing programs as viewed by the 1973-74 terminees.

Table 13 illustrates how the 1973-74 Post-Secondary Data Processing terminees, who considered their present job close enough related to their data processing program, compared the facilities and equipment in their data processing program with their present job.

TABLE 13

HOW THE 1973-74 POST-SECONDARY DATA PROCESSING TERMINEES, WHO CONSIDERED THEIR PRESENT JOB CLOSE ENOUGH RELATED TO THEIR DATA PROCESSING PROGRAM, COMPARED THE FACILITIES AND EQUIPMENT IN THEIR DATA PROCESSING PROGRAM WITH THEIR PRESENT JOB

Comparisons	Total		Type Institution Attended			
			Junior College		Voc.-Tech. Institute	
	No.	%	No.	%	No.	%
Better than those on present job	19	17.1	6	14.0	13	19.1
Similar to those on present job	50	45.1	21	48.8	29	42.7
Not as good as those on present job[A]	42	37.8	16	37.2	26	38.2
TOTAL	111	100.0	43	100.0	68	100.0

[A]See page 38 for listing of facilities and/or equipment that terminees indicated were not available to them in their data processing program that they now need on their present job.

There were 43 junior college data processing terminees who presently indicated working in a job closely enough related to their data processing program to compare the facilities and equipment.
Of the 43, six (14.0%) noted the data processing programs facilities and equipment as better than those on their present job, 21 (48.8%) indicated similar to those on present job, while 16 (37.2%) reported not as good as those on present job.

Of the 68 vocational-technical institute terminees who reported having a present job closely enough related to their training to rate the facilities and equipment, 13 (19.1%) rated the facilities and equipment in their data processing program as better than those on their present job. Twenty-nine (42.7%) rated the facilities and equipment in their program as similar to those on their present job, while 26 (38.2%) reported facilities and equipment not as good as those on their present job.

See listing, page 38, for facilities and/or equipment that terminees indicated were not available to them in their data processing program that they now need on their present job. The listings are shown by individual institution.

Table 13-A reports how the 1973-74 Post-Secondary Data Processing terminees, who considered their present job closely enough related to their data processing program, compared the facilities and equipment in their data processing program with their present job by the institution they attended.

TABLE 13-A

HOW THE 1973-74 POST-SECONDARY DATA PROCESSING TERMINEES, WHO CONSIDERED THEIR PRESENT JOB CLOSELY ENOUGH RELATED TO THEIR DATA PROCESSING PROGRAM, COMPARED THE FACILITIES AND EQUIPMENT IN THEIR DATA PROCESSING PROGRAM WITH THEIR PRESENT JOB, BY THE INSTITUTION THEY ATTENDED

Individual Institutions	Total		Comparisons					
			Better than Those on Present Job		Similar to Those on Present Job		Not as Good as Those on Present Job[A]	
	No.	%	No.	%	No.	%	No.	%
Junior College								
Gadsden State Junior College	9	100.0	1	11.1	7	77.8	1	11.1
Jefferson State Junior College	33	100.0	4	12.1	14	42.4	15	45.5
S. D. Bishop State Junior College	1	100.0	1	100.0	0	0.0	0	0.0
TOTAL	43	100.0	6	14.0	21	48.8	16	37.2
Vocational-Tech. Institute								
Alabama Institute for Deaf and Blind	2	100.0	1	50.0	1	50.0	0	0.0
Bessemer State Technical College	19	100.0	2	10.5	6	31.6	11	57.9
George C. Wallace Community College-(Technical Div.)	7	100.0	2	28.6	4	57.2	1	14.2
J. F. Drake State Technical College	4	100.0	1	25.0	2	50.0	1	25.0
Lawson State Technical College	1	100.0	1	100.0	0	0.0	0	0.0
MacArthur State Tech. College	3	100.0	1	33.3	1	33.3	1	33.4
Muscle Shoals State Tech. Institute	8	100.0	1	12.5	6	75.0	1	12.5
Northwest State Tech. College	1	100.0	0	0.0	1	100.0	0	0.0
Opelika State Technical College	6	100.0	1	16.7	0	0.0	5	83.3
Patterson State Tech. College	3	100.0	0	0.0	1	33.3	2	66.7
Shelton State Technical College	5	100.0	1	20.0	2	40.0	2	40.0
Trenholm State Tech. College	9	100.0	2	22.2	5	55.6	2	22.2
TOTAL	68	100.0	13	19.1	29	42.7	26	38.2

[A]See listing, page 38, for facilities and/or equipment that terminees indicated were not available to them in their data processing program that they now need on their present job.

Below is a listing, by institution attended, of facilities and/or equipment that terminees indicated were not available to them in their data processing program that they now need on their present job:

Junior Colleges

Gadsden State Junior College

(None listed)

Jefferson State Junior College

CRT Tape Drive
OS, VSI, JCL, Newer Systems (370-158)
Tape processing and equipment was not as advanced
No tape drives--old machines
Tape drives, console work, etc.
Did not have any exposure to tape units
Tape drives, larger computers
Tape drives, disk pack
UNIVAC, ENTREY, ENFOREX, IBM 129
Better equipment
The IBM 1130 is an out-of-date computer

S. D. Bishop State Junior College

(None listed)

Vocational-Technical Institutes

Alabama Institute for Deaf and Blind

(None listed)

Bessemer State Technical College

Terminal and larger computer with more memory
IBM 129 (Keypunch)
Tape drives, in school had out-of-date computer
Data terminals
Key tape machines
A larger system, tape drives, JCL, HASP and ASP, 3277 Display Terminal
A bigger computer--the IBM 1130 not used in companies anymore
Not similar in size and capabilities
The computer at Bessemer Tech. is: (1) obsolete and (2) a scientific and not a commercial system
Terminals, printers, modems, telephone equipment, teletype

(continued)

Vocational-Technical Institutes (continued)

George C. Wallace Community College-Technical Division

Keypunch machines are obsolete and CPU not adequate

J. F. Drake State Technical College

Verifying machines were not available in my training program
Collator, reproducer, interpreter

Lawson State Technical College

(None listed)

MacArthur State Technical College

Need better (newer) keypunch machines

Muscle Shoals State Technical Institute

Tape hardware, disk hardware, more on the job environment
Obsolete equipment

Northwest State Technical College

(None listed)

Opelika State Technical College

Tape drives, faster, more modern equipment
We had a very little and slow computer at school
Teletypes
Tape experience
Tape drives

Patterson State Technical College

IBM 370, 3420 tape drives, 3330 disk drives

Shelton State Technical College

Slow speed sorter, proof machines
On-the-job we have a Univac 1110 and at school we only had a small IBM computer which is no longer used anymore for employment

Trenholm State Technical College

Terminals, disk-packs drives, tape drives, tab equipment
Up-to-date keypunch machines
Some equipment was out of date
Older models of machines are out of date--the computer type machine is in

Table 14 reports the opinions of the 1973-74 Post-Secondary Data Processing terminees presently working in directly related or somewhat related areas as to whether or not there were equipment items used in their data processing program that were not used on their present job. Data is also present by the individual institution attended by the terminees. Also, the terminees made the judgment as to relatedness of their present job to their data processing program.

TABLE 14

OPINIONS, BY INSTITUTION ATTENDED, OF THE 1973-74 POST-SECONDARY DATA PROCESSING TERMINEES PRESENTLY WORKING IN RELATED AREAS AS TO WHETHER OR NOT THERE WERE EQUIPMENT ITEMS USED IN THEIR DATA PROCESSING PROGRAM THAT WERE NOT NEEDED IN THEIR PRESENT WORK[A]

Institution Attended	Total		Question: Were There Equipment Items Used in Data Processing Program That Are Not Needed in Present Work?			
			Yes[B]		No	
	No.	%	No.	%	No.	%
Junior Colleges						
Gadsden State Junior College	10	100.0	2	20.0	8	80.0
Jefferson State Junior College	38	100.0	16	42.1	22	57.9
S. D. Bishop State Junior College	0	100.0	0	0.0	0	0.0
TOTAL	48	100.0	18	37.5	30	62.5
Vocational-Tech. Institute						
Alabama Institute for Deaf and Blind	1	100.0	0	0.0	1	100.0
Bessemer State Technical College	21	100.0	4	19.0	17	81.0
George C. Wallace Community College-(Technical Div.)	15	100.0	6	40.0	9	60.0
J. F. Drake State Technical College	5	100.0	1	20.0	4	80.0

(continued)

TABLE 14 (continued)

Institution Attended	Total		Question: Were There Equipment Items Used in Data Processing Program That Are Not Needed in Present Work?			
			Yes[B]		No	
	No.	%	No.	%	No.	%
Lawson State Technical College	1	100.0	1	100.0	0	0.0
MacArthur State Technical College	2	100.0	0	0.0	2	100.0
Muscle Shoals State Technical College	9	100.0	3	33.3	6	66.7
Northwest State Technical College	4	100.0	3	75.0	1	25.0
Opelika State Technical College	7	100.0	4	57.1	3	42.9
Patterson State Technical College	3	100.0	1	33.3	2	66.7
Shelton State Technical College	6	100.0	3	50.0	3	50.0
Trenholm State Technical College	13	100.0	6	46.2	7	53.8
TOTAL	87	100.0	32	36.8	55	63.2

[A]Opinions of only the terminees presently working in jobs directly related or somewhat related to their data processing training are reported. The terminees made the judgment as to whether or not their present job was directly related or somewhat related to their training.

[B]See listing, page 42, for equipment items in their data processing program terminees, who were working in present job directly related or somewhat related to their training, reported are not needed in their present work.

Of the 48 junior college data processing terminees presently working in directly related or somewhat related jobs, 18 (37.5%) reported that there were equipment items used in their program that were not needed in their present work. Thirty (62.5%) reported these were none.

Of the 87 vocational technical-institute data processing terminees presently working in directly related or somewhat related jobs, 32 (36.8%)

indicated that there were equipment items used in their program that were not needed in their present work. However, 55 (63.2%) reported there were none.

Below is listed, by institution attended, the equipment items the terminees who were presently working in directly related or somewhat related jobs reported were not needed in their present work:

Institution	Equipment Not Needed in Present Work
Junior Colleges	
Gadsden State Junior College	Cord sorter and card punch
Jefferson State Junior College	Unit record equipment Accounting machine and unit recording equipment Record keeping equipment Unit record lab machines Accounting machine Keypunch and computer readout Lab Equipment Accounting machines Small computer and out-dated unit record equipment Accounting machines 502 accounting machines IBM disk on IBM 1130 402-403 accounting machines Collator, computer, sorter
S. D. Bishop State Junior College	(None listed)
Vocational-Technical Institutes	
Alabama Institute for Deaf and Blind	(None listed)
Bessemer State Technical College	Qualified--my school data processing equipment not closely enough related to be comparable Card (punched) interpreter Printers, cardreader, punch Keypunch cards and machines--job has nothing to do with programming

(continued)

Institution	Equipment Not Needed in Present Job
Vocational-Technical Institutes (continued)	
George C. Wallace Community College (Technical Division)	
	Don't have a computer A computer Computer Computer Keypunch, Sorter
J. F. Drake State Technical College	
	IBM 1130 computer, keypunch IBM sorter We use only a data station and printer
Lawson State Technical Division	
	Card coder
MacArthur State Technical College	
	(None listed)
Muscle Shoals State Technical Institute	
	Reproducer, collator, interpreter Sorter, collator, interpreter Correlated hardware
Northwest State Technical College	
	Collator, interpreter, sorter
Opelika State Technical College	
	URE 1442 card reader/puncher, 1130 computer Keypunch, card sorter, card reader
Patterson State Technical College	
	IBM 1130, 1403 printer
Shelton State Technical College	
	Sorter Small computer--we have large one
Trenholm State Technical College	
	IBM Keypunch, sorter, accounting machines Keypunch machines are out of date, IBM 26,29, accounting machines, sorter

(continued)

Institution	Equipment Not Needed in Present Job
Vocational-Technical Institutes (continued)	
Trenholm State Technical College (continued)	Accounting machines, the sorter and reproducer Sorter Coding equipment Machines: 407 sorter, reproducer, keypunch machines, interpreting machines, wiring boards

Table 15 illustrates the opinions of the 1973-74 Post-Secondary Data Processing terminees presently working in directly related or somewhat related areas as to whether there are equipment items used in their present work that was not taught in their data processing program. Data is presented by individual institution attended by the terminees. Terminees also made the judgment as to the relatedness of their present job to their data processing program.

Of the 49 reporting junior college data processing terminees presently working indirectly related or somewhat related jobs, 32 (65.3%) indicated there are equipment items used on their present job that were not taught in their data processing program. Seventeen (34.7%) indicated there were none.

Of the 86 vocational-technical institute terminees presently working in directly related or somewhat related jobs, 39 (45.3%) reported there are equipment items used on their present job that were not taught in their data processing program. However, 47 (54.7%) said there were none.

TABLE 15

OPINIONS, BY INSTITUTION ATTENDED, OF THE 1973-74 POST-SECONDARY DATA PROCESSING TERMINEES PRESENTLY WORKING IN RELATED AREAS AS TO WHETHER OR NOT THERE WERE EQUIPMENT ITEMS USED IN PRESENT WORK THAT WERE NOT TAUGHT IN PROGRAM[A]

Institution Attended	Total		Question: Were There Equipment Items Used In Your Present Work That Were Not Taught In Your Data Processing Program			
			Yes[B]		No	
	No.	%	No.	%	No.	%
Junior Colleges						
Gadsden State Junior College	10	100.0	7	70.0	3	30.0
Jefferson State Junior College	38	100.0	24	63.2	14	36.8
S. D. Bishop State Jun. College	1	100.0	1	100.0	0	0.0
TOTAL	49	100.0	32	65.3	17	34.7
Vocational-Technical Institutes						
Alabama Institute for Deaf and Blind	1	100.0	1	100.0	0	0.0
Bessemer State Tech. College	21	100.0	10	47.6	11	52.4
George C. Wallace Community College (Tech. Division)	15	100.0	4	26.7	11	73.3
J. F. Drake State Tech. College	5	100.0	3	60.0	2	40.0
Lawson State Technical College	0	0.0	0	0.0	0	0.0
MacArthur State Tech. College	2	100.0	0	0.0	2	100.0
Muscle Shoals State Technical College	8	100.0	3	37.5	5	62.5
Northwest State Tech. College	4	100.0	1	25.0	3	75.0
Opelika State Tech. College	7	100.0	6	85.7	1	14.3
Patterson State Tech. College	3	100.0	2	66.7	1	33.3
Shelton State Tech. College	6	100.0	3	50.0	3	50.0
Trenholm State Tech. College	14	100.0	6	42.9	8	57.1
TOTAL	86	100.0	39	45.3	47	54.7

[A]Opinions of only the terminees presently working in jobs directly related and somewhat related to their data processing training are reported. The terminees made the judgment as to whether or not their present job was directly related or somewhat related to their training.

[B]See listing, page 46, of equipment items terminees, presently working in directly related or somewhat related areas, reported were used in their present work that was not taught in their data processing program.

Below is listed, by institution attended, the equipment items used in their present work that the terminees who were presently working in directly related or somewhat related areas reported were not taught in their data processing program:

Institution	Equipment Items Used in Present Work Not Taught in Data Processing Program
Junior Colleges	
Gadsden State Junior College	Sorters, console typewriter, keypunch 1255 magnetic ink character reader CRT Decolator, burster
Jefferson State Junior College	CRT tape drive Telecommunications hardware and processing T50 terminals, tape drives, 3330 disk driver 370-158, 3340's, 3211's, 6250 BPI tape drivers, microfilm units Tape drives, data terminals Fulton time-sharing JCL Systems-computer Tape units, paper tape, audio and CRT units Data-communications--visual Tape driver, console commands Punching systems and card printing systems Tape drives, systems communications, DOS Tape storage units IBM 1419, CRT units, tapes, disks Collator (card controller) UNIVAC 1001 Tape drives Advanced equipment Tape drives, TV screens 3420 tape drives, 3330 disk drives, OS The printer, card reader CRT terminals

(continued)

Institution	Equipment Items Used in Present Work Not Taught in Data Processing Program
S. D. Bishop State Junior College	Sorting, collating
Vocational-Technical Institutes	
Alabama Institute for Deaf and Blind	Machine No. 129
Bessemer State Tech. College	Terminal Burster IBM system 3, Model 15 Key tape Tape drives, IBM 1419 Tape drives, disk drives, (Software--JCL) Reader with two hoppers system 3 MFCU Terminals, printers, modems, telephone equipment, teletypes JCL, tape drives
George C. Wallace Community College (Technical Div.)	Combined check reader and sorter, burster, transmitting equipment
J. F. Drake State Tech. College	New keypunch machine Verifying machines
Lawson State Technical College	(None listed)
MacArthur State Tech. College	(None listed)
Muscle Shoals State Tech. College	Tape hardware Check porter, GE Computer, not IBM Magnetic tape drives Other than IBM equipment
Northwest State Technical College	(None listed)

(continued)

Institution	Equipment Items Used in Present Work Not Taught in Data Processing Program
Opelika State Technical College	Magnetic cassettes, mini computer 2402 tape drives, 370/155 computer Tape units There is so much, there is not space for me to list them all
Patterson State Tech. College	IBM 370, 3420 tape drives, 3330 disk, telecommunications Teletype terminals, tape drives, disk-pac drives, collators, accounting machines
Shelton State Technical College	Slow speed sorter, proof machine This generation of IBM equipment and language Univac 1110, Univac 9200
Trenholm State Technical College	Computers Filming Equipment We use different brands of machines and now use our own computer terminal

BASIC EMPLOYMENT INFORMATION

Basic Employment Information

The following section of this report offers information relative to employment and job characteristics of the 1973-74 Post-Secondary Data Processing terminees.

Table 16 illustrates the number of full-time jobs the responding terminees have had since leaving their Data Processing program.

TABLE 16

NUMBER OF FULL-TIME JOBS HELD BY THE 1973-74 POST-SECONDARY DATA PROCESSING OCCUPATIONS TERMINEES SINCE LEAVING THEIR DATA PROCESSING PROGRAM BY TYPE INSTITUTION TERMINEES HAD ATTENDED

Number of Full-Time Jobs Held	Total Number Terminees Indicating Number Jobs Held		Type Institution Terminee Attended			
			Junior College		Voc-Tech. Institute	
	No.	%[A]	No.	%[B]	No.	%[C]
One	192	40.9	69	45.1	123	38.8
Two	52	11.1	21	13.7	31	9.8
Three	8	1.7	3	2.0	5	1.6
Four	1	0.2	1	0.7	0	0.0
Five or more	2	0.4	1	0.7	1	0.3
TOTAL	255	54.3	95	62.2	160	50.5

[A]Percentage is based on the 470 terminees who returned the questionnaire.

[B]Percentage is based on the 153 junior college terminees who returned the questionnaire.

[C]Percentage is based on the 317 vocational-technical institute terminees who returned the questionnaire.

There were 192 (40.9%) of the total 470 responding 1973-74 Data Processing Occupations terminees who had been employed in just one job since leaving their Data Processing program. Sixty-nine (45.1%) of 153 junior college terminees and 123 (38.8%) of 317 vocational-technical terminees had held just one job.

Of the total 470 Data Processing Occupations terminees, 255 (54.3%) had held one or more jobs since leaving their data processing program. Ninety-five (62.2%) of the junior college terminees had held one or more jobs, while 160 (50.5%) of the vocational-technical terminees indicated that they had held one or more jobs since leaving their data processing program.

Table 17 reveals the first job employment status of Post-Secondary Data Processing terminees by the relatedness of training to their first job held.

Of the 470 responding Post-Secondary Data Processing terminees, 195 (41.5%) terminees first job after leaving their data processing program was full time. Thirty-seven (7.9%) terminees first jobs were on a part-time basis.

Of 153 responding junior college data processing terminees, 77 (50.3%) terminees first job after leaving their data processing program was full time. Thirteen (8.5%) terminees first jobs were on a part-time basis.

Of 317 responding vocational technical institute data processing terminees, 118 (37.3%) terminees first job after leaving their data processing program was full time. Twenty-four (7.5%) terminees first job were on a part-time basis.

Sixty-seven (14.3%) of the 470 responding terminees first jobs (full time or part time) were in an area directly related to the training they received in their data processing program. Seventy (14.9%) terminees

first jobs were in areas somewhat related to training received, while 95 (20.2%) terminees first jobs were in areas not related to the training received. The terminees made the judgment as to how their first job related to the training they received in their data processing programs.

TABLE 17

FIRST JOB STATUS OF 1973-74 DATA PROCESSING OCCUPATIONS TERMINEES BY RELATEDNESS OF TRAINING TO FIRST JOB BY TYPE INSTITUTION

Type Institution	First Job After Leaving Data Processing	Number Terminees Reporting		Relatedness of Training to First Job[D]					
				Directly Related		Somewhat Related		Not Related	
		No.	%	No.	%	No.	%	No.	%
Junior College[A]									
	Full-Time	77	50.3	24	15.7	20	13.1	33	21.5
	Part-Time	13	8.5	2	1.3	2	1.3	9	5.9
	TOTAL	90	58.8	26	17.0	22	14.4	42	27.4
Vocational-Technical Institute[B]									
	Full-Time	118	37.3	37	11.7	38	12.0	43	13.6
	Part-Time	24	7.5	4	1.3	10	3.1	10	3.1
	TOTAL	142	44.8	41	13.0	48	15.1	53	16.7
COMBINED (Jr. Col./ Voc.Tech.)									
	Full-Time	195	41.5	61	13.0	58	12.3	76	16.2
	Part-Time	37	7.9	6	1.3	12	2.6	19	4.0
	TOTAL	232	49.4	67	14.3	70	14.9	95	20.2

[A]Percentages based on the 153 (34.6%) of the 442 junior college terminees who returned the survey form.

[B]Percentages based on the 317 (41.8%) of the 759 vocational-technical institute terminees who returned the survey form.

[C]Percentages based on 470 (39.1%) of the total 1,201 data processing terminees who returned the survey form.

[D]The terminees made the judgment as to how their first job related to the data processing training they receoved.

Twenty-six (17.0%) of the responding 153 junior college data processing terminees first jobs (full or part time) were in an area directly related to the training they received in their data processing program. Twenty-two (14.4%) terminees first jobs were in areas somewhat related to training received, while 42 (27.4%) terminees first jobs were in areas not related to the training they received in their data processing programs.

Forty-one (13.0%) of the 317 responding vocational-technical institute terminees first jobs were in areas directly related to the training they received in their data processing program. Forty-eight (15.1%) terminees first jobs were in areas somewhat related to training received, while 53 (16.7%) terminees first jobs were in areas not related to the training they received in their data processing programs.

Of the 95 data processing terminees who indicated their first jobs were not related to their data processing program, 42 (44.2%) terminees were from junior college data processing programs, while 53 (55.8%) terminees were from vocational-technical institute data processing programs.

Of the 42 junior college terminees who indicated their first jobs were not related to their data processing training, 17 (40.5%) terminees indicated that before they accepted their unrelated job, they tried to get a job that was related to their data processing training. Twenty-two (52.4%) of the 42 terminees indicated that they did not try to get a job related to their training, while three (7.1%) of the terminees did not indicate whether or not they tried to get a job related to their area of training. See page 127 for list of reasons given by 13 of the 22 terminees who indicated they did not seek a job related to their data processing training prior to taking their first job.

Of the 53 vocational-technical institute terminees who indicated their first job was not related to their data processing training, 29 (54.7%) terminees indicated that before accepting their unrelated job, they tried to get a job that was related to their data processing training. Twenty (37.7%) of the 53 terminees indicated that they did not try to get a job related to their training, while four (7.6%) of the terminees did not indicate whether or not they tried to get a job related to their area of training. See page 128 for list of reasons given by 14 of the 20 terminees who indicated they did not seek a job related to their data processing training prior to taking their first job.

Table 18 shows the distribution of the 1973-74 Post-Secondary Data Processing Occupations terminees by the type school attended and OE Code by relatedness of their training to their first job held.

Of the 275 responding 1973-74 Data Processing Occupations terminees who indicated how their first job related to the training they received in their data processing program, 73 (26.5%) were employed in areas directly related to their training. Seventy-eight (28.4%) were employed in somewhat related areas, while 124 (45.1%) terminees were employed in areas not related to their training.

Of the 107 junior college data processing terminees who indicated how their first job related to the training they received in their data processing program, 24 (22.4%) were employed in areas directly related to their training. Twenty-eight (26.2%) were employed in somewhat related areas, while 55 (51.4%) terminees were employed in areas not related to their training.

TABLE 18

DESCRIPTION OF 1973-74 POST-SECONDARY DATA PROCESSING TERMINEES FIRST JOB BY OE CODE AREA STUDIED, TYPE SCHOOL, NUMBER RETURNS AND RELATEDNESS OF TRAINING TO FIRST JOB[A]

OE Code[B] and Occupational Area Studied	Type of School	No. Students Reported Terminating	Number Returns	Number Indicating Relatedness of Training	Relatedness of Training[C]					
					Directly Related		Somewhat Related		Not Related	
					No.	%	No.	%	No.	%
14.0000										
Office Occupations (Total)		12	4	1	0	0.0	0	0.0	1	25.0
	JC[D]	0	0	0	0		0		0	
	VTI[E]	12	4	1	0		0		1	
14.0200										
Business Data Processing Systems Occupations (Total)		126	58	26	7	12.1	9	15.5	10	17.2
	JC	0	0	0	0		0		0	
	VTI	126	58	26	7		9		10	
14.0201										
Computer and Console Oper. (Total)		440	154	104	21	13.6	28	18.2	55	35.7
	JC		127	91	19		24		48	
	VTI	74	27	13	2		4		7	
14.0202										
Peripheral Equipment Operators (Total)		22	6	2	0	0.0	1	16.7	1	16.7
	JC	0	0	0	0		0		0	
	VTI	22	6	2	0		1		1	

(continued)

TABLE 18 (continued)

OE Code[B] and Occupational Area Studied	Type of School	No. Students Reported Terminating	Number Returns	Number Indicating Relatedness of Training	Relatedness of Training[C]					
					Directly Related		Somewhat Related		Not Related	
					No.	%	No.	%	No.	%
14.020201										
Keypunch and Coding Equipment Oper. (Total)		185	85	41	11	12.9	16	18.8	14	16.5
	JC	0	0	0	0		0		0	
	VTI	185	85	41	11		16		14	
14.0203										
Programmers (Total)		416	163	101	34	20.9	24	14.7	43	26.4
	JC	76	26	16	5		4		7	
	VTI	340	137	85	29		20		36	
ALL PROGRAMS (Total)		1201	470	275	73	15.5	78	16.6	124	26.4
	JC	442	153	107	24		28		55	
	VTI	759	317	168	49		50		69	

[A]Persons who had not had a job since leaving their vocational program, including those in military service and those attending school, were asked not to respond to questions from which data were drawn. Returns were received from 470 terminees. Excluded also were those terminees who indicated they were unemployed or who failed to respond to the question.

[B]OE Code as reported by teachers.

[C]The terminees made the judgment as to how their first job was related to the training received in their data processing program.

[D]JC - Junior College

[E]VTI - Vocational technical Institute (Technical colleges, trade schools, technical institutes, and technical divisions which are part of community colleges)

NOTE: Percentages based on number of returns for each OE Code.

Of the 168 Vocational-Technical Institute Data Processing Occupations terminees who indicated how their first job related to the training they received in their data processing program, 49 (29.2%) were employed in areas directly related to their training. Fifty (29.7%) were employed in somewhat related areas, while 69 (41.1%) terminees were employed in areas not related to their training.

The largest group of Junior College Data Processing Occupations terminees studied in the area of computer and console operators (OE Code 14.0201). Of this group, 91 of the responding terminees indicated the relatedness of training to first job held. Of the 91 terminees, 19 (20.9%) terminees indicated their first job were in areas directly related to their training, 24 (26.4%) terminees indicated their first job was in an area somewhat related to training, and 48 (52.7%) terminees indicated their first jobs were in areas not related to the training they received in their data processing program.

The largest group of Vocational-Technical Institute Data Processing Occupations terminees studied in the area of computer programmers (OE Code 14.0203). Of this group, 85 of the responding terminees indicated the relatedness of training to first job held. Of the 85 terminees, 29 (34.1%) indicated their first jobs were in areas directly related to their training, 20 (23.5%) terminees indicated their first jobs were in areas somewhat related to their training, while 36 (42.4%) terminees indicated their first jobs were in areas not related to the training they received in their data processing program.

Table 18-A is a description of the total population and survey returns by OE Code area, by program length, by length of time terminees were enrolled in the program, and by relatedness of training to first job held by the 1973-74 Junior College Data Processing Occupations terminees.

TABLE 18-A

DESCRIPTION OF 1973-74 JUNIOR COLLEGE DATA PROCESSING TERMINEES BY OE CODE AREA STUDIED, PROGRAM LENGTH, MONTHS TERMINEES ENROLLED IN PROGRAM, AND RELATEDNESS OF TRAINING TO FIRST JOB

Length of Program[A] in Months, OE Code[B], and Title of Area Studied	Length of Time in Months Terminees Were Enrolled in Program[C]	No. Students Reported Terminating	No. Returns	No. Indicat. Relatedness of Training	Relatedness of Training to First Job[D]					
					Directly Related		Somewhat Related		Not Related	
					No.	%	No.	%	No.	%
12 Months										
14.0201										
Computer and Console Operators (Total)		238	89	64	15	16.9	15	16.9	34	38.2
	0 - 2	0	0	0	0		0		0	
	3 - 5	18	6	5	1		1		3	
	6 - 8	20	2	2	0		1		1	
	9 - 11	37	16	11	1		3		7	
	12	20	7	4	1		0		3	
	13 - 15	19	8	5	1		0		4	
	16 - 18	17	2	1	0		0		1	
	19 - 21	28	13	9	2		2		4	
	22 - 24	17	7	4	1		0		3	
	25 - 27	14	7	5	2		1		2	
	28 - 30	14	5	4	1		3		1	
	31 - 33	10	3	2	0		1		1	
	34 - 36	2	2	2	0		2		0	
	37 - 39	7	5	4	4		0		0	
	40 - 42	3	2	2	1		1		0	
	43 - 48	5	1	1	0		0		1	
	49 - 54	5	2	2	0		0		2	
	55 - 78	2	1	1	0		0		1	
	Over 78	0	0	0	0		0		0	
12 Months										
14.0203										
Programmers (Total)		76	26	16	5	19.2	4	15.4	7	26.9
	0 - 2	0	0	0	0		0		0	
	3 - 5	14	2	1	1		0		0	
	6 - 8	10	1	1	0		1		0	
	9 - 11	5	1	0	0		0		0	
	12	11	4	2	1		0		1	

(continued)

TABLE 18-A (continued)

Length of Program[A] in Months, OE Code[B], and Title of Area Studied	Length of Time in Months Termineeses were Enrolled in Program[C]	No. Students Reported Terminating	No. Returns	No. Indicat. Relatedness of Training	Relatedness of Training to First Job[D]					
					Directly Related		Somewhat Related		Not Related	
					No.	%	No.	%	No.	%
	13 - 15	8	6	3	1		0		2	
	16 - 18	5	2	2	0		0		2	
	19 - 21	17	4	3	1		2		0	
	22 - 24	4	1	1	0		0		1	
	25 - 27	2	1	1	1		0		0	
	28 - 30	2	1	0	0		0		0	
	31 - 33	2	2	1	0		0		1	
	34 - 36	1	0	0	0		0		0	
	37 - 39	0	0	0	0		0		0	
	40 - 42	0	0	0	0		0		0	
	43 - 48	2	1	1	0		1		0	
	Over 48	0	0	0	0		0		0	
18 Months										
14.0201										
Computer and Console Operators (Total)		101	31	24	4	12.9	8	25.8	12	38.7
	0 - 2	0	0	0	0		0		0	
	3 - 5	50	9	7	0		3		4	
	6 - 8	19	9	9	2		4		3	
	9 - 11	23	10	6	2		0		4	
	12	9	3	2	0		1		1	
	Over 12	0	0	0	0		0		0	
24 Months										
14.0201										
Computer and Console Operators (Total)		27	7	3	0	0.0	1	14.3	2	28.6
	0 - 2	0	0	0	0		0		0	
	3 - 5	6	0	0	0		0		0	
	6 - 8	12	5	3	0		1		2	
	9 - 11	6	1	0	0		0		0	
	12	3	1	0	0		0		0	
	Over 12	0	0	0	0		0		0	

[A]Program length as reported by teachers

[B]OE Code as reported by teachers

[C]Period of time termineeses were in a particular program as reported by teachers

[D]The termineeses made the judgment as to how their first job related to the training they received in their data processing program

NOTE: Percentages based on number of returns for each of Code.

Table 18-B is a description of the total population and survey returns by OE Code area by program length, by length of time terminees were enrolled in the program, and by relatedness of training to first job held by the 1973-74 Vocational Technical Institute Data Processing Occupations terminees.

Table 18-C is a description of the total population and survey returns by individual junior college, by OE Code area, and by relatedness of training to first job held by the 1973-74 Junior College Data Processing Occupations terminees.

Table 18-D is a description of the total population and survey returns by individual vocational-technical institute, by OE Code area, and by relatedness of training to first job held by the 1973-74 Vocational-Technical Institute Data Processing Occupations terminees.

TABLE 18-B

DESCRIPTION OF 1973-74 VOCATIONAL-TECHNICAL INSTITUTE DATA PROCESSING TERMINEES BY OE CODE AREA STUDIED, PROGRAM LENGTH, MONTHS TERMINEES ENROLLED IN PROGRAM, AND RELATEDNESS OF TRAINING TO FIRST JOB

Length of Program[A] in Months, OE Code[B], and Title of Area Studied	Length of Time in Months Terminees Were Enrolled in Program[C]	No. Students Reported Terminating	No. Returns	No. Indicat. Relatedness of Training	Relatedness of Training to First Job[D]					
					Directly Related		Somewhat Related		Not Related	
					No.	%	No.	%	No.	%
6 Months										
14.0202										
Peripheral Equipment Operators (Total)		21	6	2	0	0.0	1	16.7	1	16.7
	0 - 1	3	0	0	0		0		0	
	2 - 5	3	1	1	0		1		0	
	6	6	4	0	0		0		0	
	7 - 11	2	0	0	0		0		0	
	12	7	1	1	0		0		1	
	Over 12	0	0	0	0		0		0	
6 Months										
14.0203										
Programmers (Total)		1	0	0	0	0.0	0	0.0	0	0.0
	5	1	0	0	0		0		0	
12 Months										
14.0000										
Office Occupations (Total)		12	4	1	0	0.0	0	0.0	1	16.7
	0 - 2	1	0	0	0		0		0	
	3	11	4	1	0		0		1	
	Over 3	0	0	0	0		0		0	
12 Months										
14.0200										
Business Data Processing Systems Occupations (Total)		126	58	26	7	12.1	9	15.5	10	17.2

(continued)

TABLE 18-B (continued)

Length of Program[A] in Months, OE Code[B], and Title of Area Studied	Length of Time in Months Terminees Were Enrolled in Program[C]	No. Students Reported Terminating	No. Returns	No. Indicat. Relatedness of Training	Relatedness of Training to First Job[D]					
					Directly Related		Somewhat Related		Not Related	
					No.	%	No.	%	No.	%
	0 - 2	6	3	1	1		0		0	
	3 - 5	36	13	6	0		2		4	
	6 - 8	24	10	2	0		1		1	
	9 - 11	11	5	2	1		0		1	
	12	3	1	1	0		1		0	
	13 - 15	25	13	5	1		3		1	
	16 - 18	17	10	7	4		1		2	
	19 - 21	2	2	1	0		0		1	
	22 - 24	2	1	1	0		1		0	
	Over 24	0	0	0	0		0		0	
12 Months										
14.0202										
Peripheral Equipment Operators (Total)		1	0	0	0	0.0	0	0.0	0	0.0
	7	1	0	0	0		0		0	
12 Months										
14.020201										
Keypunch and Coding Equipment Operators (Total)		185	85	41	11	48.2	16	18.8	14	16.5
	0 - 2	31	9	5	3		0		2	
	3 - 5	52	23	11	3		3		5	
	6 - 8	12	4	1	0		0		1	
	9 - 11	18	6	2	0		2		0	
	12	67	40	21	5		11		5	
	13 - 15	1	0	0	0		0		0	
	16 - 18	3	2	1	0		0		1	
	19 - 21	0	0	0	0		0		0	
	22 - 24	1	1	0	0		0		0	
	Over 24	0	0	0	0		0		0	
12 Months										
14.0203										
Programmers (Total)		134	46	32	16	34.8	5	10.9	11	23.9
	0 - 2	31	3	1	1		0		0	
	3 - 5	52	19	13	8		0		5	
	6 - 8	30	18	12	6		2		4	
	9 - 11	7	0	0	0		0		0	
	12	14	6	6	1		3		2	
	Over 12	0	0	0	0		0		0	

(continued)

TABLE 18-B (continued)

Length of Program[A] in Months, OE Code[B], and Title of Area Studied	Length of Time in Months Terminees Were Enrolled in Program[C]	No. Students Reported Terminating	No. Returns	No. Indicat. Relatedness of Training	Relatedness of Training to First Job[D]					
					Directly Related		Somewhat Related		Not Related	
					No.	%	No.	%	No.	%
15 Months										
14.0203										
Programmers (Total)		205	91	53	13	14.3	15	16.5	25	27.5
	0 - 2	19	1	0	0		0		0	
	3 - 5	19	6	4	0		1		3	
	6 - 8	14	5	3	0		2		1	
	9 - 11	5	2	1	0		1		0	
	12	5	5	2	2		0		0	
	13 - 15	130	64	35	7		9		19	
	16 - 18	13	8	8	4		2		2	
	Over 18	0	0	0	0		0		0	
18 Months										
14.0201										
Computer and Con-Sole Operators (Total)		74	27	13	2	7.4	4	14.8	7	25.9
	0 - 2	5	0	0	0		0		0	
	3 - 5	10	0	0	0		0		0	
	6 - 8	9	3	2	0		0		2	
	9 - 11	7	2	1	0		0		1	
	12	23	14	9	2		4		3	
	13 - 15	0	0	0	0		0		0	
	16 - 18	6	3	0	0		0		0	
	19 - 21	0	0	0	0		0		0	
	22 - 24	14	5	1	0		0		1	
	Over 24	0	0	0	0		0		0	

[A]Program length as reported by teachers

[B]OE Code as reported by teachers

[C]Period of time terminees were in particular program as reported by teachers

[D]The terminees made the judgment as to how their first job was related to the training they received in their data processing program

NOTE: Percentages based on number of returns for each OE Code.

TABLE 18-C

DESCRIPTION OF 1973-74 JUNIOR COLLEGE DATA PROCESSING TERMINEES BY INSTITUTION, OE CODE AREA STUDIED, AND RELATEDNESS OF TRAINING TO FIRST JOB

Name of Junior College	OE Code[A] and Area Studied	No. Students Reported Terminating	No. Returns	No. Indicat. Relatedness of Training	Relatedness of Training to First Job[B]					
					Directly Related		Somewhat Related		Not Related	
					No.	%	No.	%	No.	%
Gadsden State Junior College	(Total)	101	31	24	4	12.9	8	25.8	12	38.7
	14.0201 Computer and Console Operators	101	31	24	4		8		12	
Jefferson State Junior College	(Total)	314	115	80	20	17.4	19	16.5	41	35.7
	14.0201 Computer and Console Operators	238	89	64	15		15		34	
	14.0203 Programmers	76	26	16	5		4		7	
S. D. Bishop State Junior College	(Total)	27	7	3	0	0.0	1	14.3	2	28.6
	14.0201 Computer and Console Operators	27	7	3	0		1		2	
TOTAL		442	153	107	24	15.7	28	18.3	55	35.9

[A]OE Code as reported by teachers

[B]The terminees made the judgment as to how their first job was related to the training they received in their data processing program

NOTE: Percentages based on number of returns for each OE Code.

TABLE 18-D

DESCRIPTION OF 1973-74 VOCATIONAL-TECHNICAL INSTITUTION DATA PROCESSING TERMINEES BY INSTITUTION, OE CODE AREA STUDIED, AND RELATEDNESS OF TRAINING TO FIRST JOB

Name of Junior College	OE Code[A] and Area Studied	No. Students Reported Terminating	No. Returns	No. Indicat. Relatedness of Training	Relatedness of Training to First Job[B]					
					Directly Related		Somewhat Related		Not Related	
					No.	%	No.	%	No.	%
Alabama Institute for Deaf and Blind	(Total)	19	9	3	1	11.1	1	11.1	1	11.1
	14.020201 Keypunch and Coding Equipment Oper.	19	9	3	1		1		1	
Bessemer State Technical College	(Total)	145	59	37	20	33.9	4	6.8	13	22.0
	14.020201 Keypunch and Coding Equipment Oper.	51	20	11	5		2		4	
	14.0203 Programmers	94	39	26	15		2		9	
George C. Wallace Community College-Tech. Division	(Total)	115	57	32	6	10.5	8	14.0	18	31.6
	14.0203 Programmers	115	57	32	6		8		18	
J. F. Drake State Tech. College	(Total)	54	16	9	1	6.25	5	31.3	3	18.8

(continued)

TABLE 18-D (continued)

Name of Junior College	OE Code[A] and Area Studied	No. Students Reported Terminating	No. Returns	No. Indicat. Relatedness of Training	Relatedness of Training to First Job[B]					
					Directly Related		Somewhat Related		Not Related	
					No.	%	No.	%	No.	%
	14.020201 Keypunch and Coding Equipment Oper.	19	7	4	0		2		2	
	14.0203 Programmers	35	9	5	1		3		1	
Lawson State Junior College-Tech. Division	(Total)	22	6	2	0	0.0	1	16.7	1	16.7
	14.0202 Peripheral Equipment Operators	21	6	2	0		1		1	
	14.0203 Programmers	1	0	0	0		0		0	
MacArthur State Tech. College	(Total)	51	21	7	1	4.8	1	4.8	5	23.8
	14.0000 Office Occupations	11	4	1	0		0		1	
	14.0200 Business Data Processing Systems Occupations	31	12	5	1		1		3	
	14.020201 Keypunch and Coding Equipment Oper.	9	5	1	0		0		1	

(continued)

TABLE 18-D (continued)

Name of Junior College	OE Code[A] and Area Studied	No. Students Reported Terminating	No. Returns	No. Indicat. Relatedness of Training	Relatedness of Training to First Job[B]					
					Directly Related		Somewhat Related		Not Related	
					No.	%	No.	%	No.	%
Muscle Shoals State Technical Institute	(Total)	22	14	10	5	35.7	3	21.4	2	14.3
	14.0200 Business Data Processing Systems Occupations	22	14	10	5		3		2	
Northwest State Technical College	(Total)	73	32	11	1	3.1	5	15.6	5	15.6
	14.0200 Business Data Processing Systems Occupations	73	32	11	1		5		5	
Opelika State Tech. College	(Total)	55	25	16	6	24.0	4	16.0	6	24.0
	14.0203 Programmers	55	25	16	6		4		6	
Patterson State Tech. College	(Total)	41	7	6	1	14.3	3	42.9	2	28.6
	14.0202 Peripheral Equipment Operators	1	0	0	0		0		0	
	14.0203 Programmers	40	7	6	1		3		2	

(continued)

TABLE 18-D (continued)

Name of Junior College	OE Code[A] and Area Studied	No. Students Reported Terminating	No. Returns	No. Indicat. Relatedness of Training	Relatedness of Training to First Job[B]					
					Directly Related		Somewhat Related		Not Related	
					No.	%	No.	%	No.	%
Shelton State Technical College	(Total)	74	27	13	2	7.4	4	14.8	7	25.9
	14.0201 Computer and Console Operators	74	27	13	2		4		7	
Trenholm State Tech. College	(Total)	88	44	22	5	11.7	11	25.0	6	13.6
	14.0000 Office Occupations	1	0	0	0		0		0	
	14.020201 Keypunch and Coding Equipment Oper.	87	44	22	5		11		6	
TOTAL		759	317	168	49	15.5	50	15.8	69	21.8

[A]OE Code as reported by teachers

[B]The terminees made the judgment as to how their first job was related to the training they received in their data processing program

NOTE: Percentages based on number of returns for each OE Code.

Table 19 illustrates the current employment status of the responding terminees by the relatedness of their data processing training to their present jobs. Percentages related to junior colleges were based on 153 (34.6%) returns from 442 junior college Data Processing Occupations terminees. Percentages related to vocational-technical institutes were based on 317 (41.8%) returns from 759 vocational-technical institute Data Processing Occupations terminees. Percentages related to totals were based on the combined 470 (39.1%) returns from 1,201 reported Post-Secondary Data Processing Occupations terminees.

Of the 470 responding Post-Secondary Data Processing Occupations terminees, 233 (49.6%) were presently employed full time and not attending school or employed full time and attending school. Nineteen (4.1%) terminees were employed part time and attending school, 10 (2.2%) terminees were employed part time seeking full-time work and one (0.2%) terminee was employed part time not seeking full-time work. Fifty-eight (12.3%) terminees indicated that they were unemployed and actively seeking employment, while 26 (5.5%) were unavailable for employment (See page 73 for reasons terminees gave for being unavailable for employment).

Of the 153 responding Junior College Data Processing Occupations terminees, 97 (63.4%) were presently employed full time and not attending school or employed full time and attending school. Eight (5.3%) terminees were employed part time and attending school, one (0.7%) terminee was employed part time seeking full-time employment, and one (0.7%) terminee was employed part time not seeking full-time employment. Ten (6.5%) terminees were unemployed and actively seeking a job. While only two (1.3%) terminees indicated they were unavailable for employment, four junior college terminees indicated reasons for not being available for employment (See page 73 for reasons terminees gave).

TABLE 19

CURRENT EMPLOYMENT STATUS OF 1973-74 DATA PROCESSING TERMINEES BY TYPE INSTITUTION BY RELATEDNESS OF TRAINING TO PRESENT JOB[A]

Employment Status	Type Institution	Total Respond-ing		Relatedness of Training to Present Job[B]							
				Directly Related		Somewhat Related		Not Related[E]		Employed No Response	
		No.	%	No.	%	No.	%	No.	%	No.	%
Employed full time and not attending school	(Total)	148	31.5	40	8.5	47	10.0	53	11.3	8	1.7
	Jr. Col.	38	24.8	11	7.2	12	7.8	14	9.1	1	0.7
	Voc. Tech.	110	34.7	29	9.1	35	11.0	39	12.3	7	2.2
Employed full time and attending school	(Total)	85	18.1	21	4.5	22	4.7	39	8.3	3	0.6
	Jr. Col.	59	38.6	15	9.8	14	9.2	28	18.3	2	1.3
	Voc. Tech.	26	8.2	6	1.9	8	2.5	11	3.5	1	0.3
Employed part time and seeking full-time job	(Total)	10	2.2	1	0.2	4	0.9	4	0.9	1	0.2
	Jr. Col.	1	0.7	0	0.0	0	0.0	1	0.7	0	0.0
	Voc. Tech.	9	2.8	1	0.3	4	1.3	3	0.9	1	0.3
Employed part time and not seeking full-time job	(Total)	1	0.2	0	0.0	0	0.0	1	0.2	0	0.0
	Jr. Col.	1	0.7	0	0.0	0	0.0	1	0.7	0	0.0
	Voc. Tech.	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Employed part time and attending school	(Total)	19	4.1	4	0.9	3	0.6	8	1.71	4	0.9
	Jr. Col.	8	5.3	1	0.7	1	0.7	4	2.6	2	1.3
	Voc. Tech.	11	3.5	3	1.0	2	0.6	4	1.3	2	0.6
Unemployed (actively seeking a job)[C]	(Total)	58	12.3	N/A		N/A		N/A		N/A	
	Jr. Col.	10	6.5	N/A		N/A		N/A		N/A	
	Voc. Tech.	48	15.1	N/A		N/A		N/A		N/A	

(continued)

TABLE 19 (continued)

Employment Status	Type Institution	Total Respond-ing		Relatedness of Training to Present Job[B]							
				Directly Related		Somewhat Related		Not Related		Employed No Response	
		No.	%	No.	%	No.	%	No.	%	No.	%
Unavailable for employment[C&D]	(Total)	26	5.5	N/A		N/A		N/A		N/A	
	Jr. Col.	2	1.3	N/A		N/A		N/A		N/A	
	Voc. Tech.	24	7.6	N/A		N/A		N/A		N/A	
No Response	(Total)	123	26.1	N/A		N/A		N/A		N/A	
	Jr. Col.	34	22.1	N/A		N/A		N/A		N/A	
	Voc. Tech.	89	28.1	N/A		N/A		N/A		N/A	
TOTALS	(Total)	470	100.0	66	14.1	76	16.2	105	22.4	16	3.4
	Jr. Col.	153	100.0	27	17.7	27	17.7	48	31.4	5	3.3
	Voc. Tech.	317	100.0	39	12.3	49	15.4	57	18.0	11	3.4

[A]Percentages related to junior colleges were based on 153 responding terminees. Percentages related to vocational-technical institutes were based on 317 responding terminees. Percentages related to total were based on combined (470) responding terminees. Terminees in active full-time military service or attending school full time and had never been employed were included in the "No Response" category.

[B]The terminees made the judgment as to how their present job was related to the training received in their high school vocational program.

[C]The unemployed and unavailable for employment categories do not include persons in the military service and persons who were in school full time and never had a job.

[D]See page 73 for the listing of reasons Data Processing Occupations terminees gave for being unavailable for employment.

[E]See page 133 for reasons terminees who were working in present job not related to vocational training gave for not seeking related job before accepting present job. Totals for unrelated columns may not correspond because terminees failed to respond to one of the two questions from which data was drawn.

Of the 317 responding vocational-technical institute Data Processing Occupations terminees, 136 (42.9%) were presently employed full time and not attending school or employed full time and attending school. Eleven (3.5%) terminees were employed part time and attending school, and nine (2.8%) terminees were employed part time and seeking full-time employment. Forty-eight (15.1%) terminees were unemployed and actively seeking employment, while 24 (7.6%) terminees indicated that they were unavailable for employment.

The "No Response" category in Table 19 includes three groups: (1) terminees in active full-time military service; (2) terminees who were in school full time and had never had a job; and (3) terminees who failed to respond to the item on the questionnaire.

Below is a list of reasons given by the terminees for being unavailable for employment:

Reason Indicated	JC	VTI
In school full time	4	13
Presently not working, not interested in job	0	1
Homemaker	0	11
Pregnancy	0	4
Illness or disability	0	3
Other	0	3

Of the 470 responding Post-Secondary Data Processing terminees, 66 (14.1%) were presently employed full time or part time in an area directly related to their data processing occupations training, 76 (16.2%) were presently employed full time or part time in an area somewhat related to their data processing occupations training, and 105 (22.4%) were employed in areas not related to their data processing training. The terminees made the judgment as to how their present employment was related to the training they received in their data processing occupations program.

Of the 153 responding junior college Data Processing Occupations terminees, 27 (17.7%) were presently employed full time or part time in an area directly related to their data processing occupations training, 27 (17.7%) were presently employed part time or full time in an area somewhat related to their data processing occupations training, and 48 (31.4%) were presently employed in areas not related to their data processing occupations training.

Of the 48 junior college Data Processing Occupations terminees who indicated they were working in areas not related to their data processing occupations training, 21 (43.8%) terminees indicated that before they accepted their unrelated job, they tried to get a job that was related to their vocational training. However, 23 (47.9%) of the terminees did not (See page 132 for list of reasons given by terminees for not seeking jobs related to their data processing occupations training).

Of the 317 responding vocational-technical institute Data Processing Occupations terminees, 39 (12.3%) were presently employed full time or part time in an area directly related to their data processing occupations training, 49 (15.4%) were employed part time or full time in an area somewhat related to their data processing occupations training, and 57 (18.0%) were presently employed in areas not related to their data processing occupations training.

Of the 57 vocational-technical institute Data Processing Occupations terminees who indicated they were working in areas not related to their data processing occupations training, 29 (50.9%) terminees indicated that before they accepted their unrelated job, they tried to get a job that was related to their vocational training. However, 27 (47.4%) terminees did not (See page 133 for list of reasons given by terminees for not seeking jobs related to their data processing occupations training).

Table 20 shows for the present job, by OE Code and type of school, the number of Post-Secondary Data Processing Occupations terminees employed by the relatedness of their data processing training to their present job.

Of the 1,201 Post-Secondary Data Processing Occupations terminees who indicated present employment, 440 (36.6%) terminees studied in the area of Computer and Console Operator, OE Code 14.0201, while 416 (34.6%) terminees studied in the area of Programmers. These two OE Codes represented the largest study groups in Data Processing Occupations.

Of the 440 terminees who studied in the area of Computer and Console Operator, OE Code 14.0201, 366 (83.2%) terminees studied data processing in junior colleges. Of the 336 junior college terminees who studied Computer and Console Operator, 89 (26.5%) indicated relatedness of training to present job. Of the 89 terminees who indicated relatedness of training to present job, 21 (23.6%) indicated they were working in an area directly related to their data processing training, 23 (25.8%) said they were working in an area somewhat related, and 45 (50.6%) said they were not working in an area related to their data processing training.

Of the 416 terminees who studied in the area of Programmer, OE Code 14.0203, 340 (81.7%) terminees studied data processing in a vocational-technical institute. Of the 340 vocational-technical institute terminees who studied the occupational area Programmer, 82 (34.1%) terminees indicated relatedness of training to present job. Of the 82 terminees who indicated relatedness of training to present job, 22 (26.8%) were presently employed in an area directly related to their data processing training, 26 (31.7%) were presently working in an area somewhat related to their training, and 34 (41.5%) said they were not employed in an area related to their data processing training.

TABLE 20

DESCRIPTION OF 1973-74 POST-SECONDARY DATA PROCESSING TERMINEES PRESENT JOB BY OE CODE AREA STUDIED, NUMBER RETURNS, TYPE SCHOOL, AND RELATEDNESS OF TRAINING TO PRESENT JOB[A]

OE Code[B] and Occupational Area Studied	Type of School	No. Students Reported Terminating	Number Returns	Number Indicating Relatedness of Training	Relatedness of Training[C]					
					Directly Related		Somewhat Related		Not Related	
					No.	%	No.	%	No.	%
14.0000 Office Occupations (Total)		12	4	1	0	0.0	0	0.0	1	25.0
	JC[D]	0	0	0	0	0.0	0	0.0	0	0.0
	VTI[E]	12	4	1	0	0.0	0	0.0	1	25.0
14.0200 Business Data Processing Systems Occupations (Total)		126	58	24	7	12.1	9	15.5	8	13.8
	JC	0	0	0	0	0.0	0	0.0	0	0.0
	VTI	126	58	24	7	12.1	9	15.5	8	13.8
14.0201 Computer and Console Oper. (Total)		440	154	102	23	14.9	28	18.2	51	33.1
	JC	366	127	89	21	16.5	23	18.1	45	35.4
	VTI	74	27	13	2	7.4	5	18.5	6	22.2
14.0202 Peripheral Equipment Operators (Total)		22	6	2	0	0.0	1	16.7	1	16.7
	JC	0	0	0	0	0.0	0	0.0	0	0.0
	VTI	22	6	2	0	0.0	1	16.7	1	16.7

(continued)

TABLE 20 (continued)

OE Code[B] and Occupational Area Studied	Type of School	No. Students Reported Terminating	Number Returns	Number Indicating Relatedness of Training	Relatedness of Training[C]					
					Directly Related		Somewhat Related		Not Related	
					No.	%	No.	%	No.	%
14.020201 Keypunch and Coding Equipment Oper. (Total)		185	85	35	11	12.9	12	14.1	12	14.1
	JC	0	0	0	0	0.0	0	0.0	0	0.0
	VTI	185	85	35	11	12.9	12	14.1	12	14.1
14.0203 Programmers (Total)		416	163	102	28	17.2	30	18.4	44	27.0
	JC	76	26	23	6	23.1	4	15.4	10	38.5
	VTI	340	137	82	22	16.1	26	19.0	34	24.8
ALL PROGRAMS (Total)		1201	470	262	69	14.7	80	17.1	113	24.0
	JC	442	153	105	27	17.6	27	17.6	51	33.0
	VTI	759	317	157	42	13.2	53	16.7	62	19.6

[A]Persons who had not had a job since leaving their vocational program, including those in military service and those attending school, were asked not to respond to questions from which data were drawn. Returns were received from 470 terminees. Excluded also were those terminees who indicated they were unemployed or who failed to respond to the question.

[B]OE Code as reported by teachers.

[C]The terminees made the judgment as to how their present job was related to the training received in their data processing program.

[D]JC - Junior College

[E]VTI - Vocational-Technical Institute (Technical colleges, trade schools, technical institutes, and technical divisions which are part of community colleges)

NOTE: Percentages based on number of returns for each OE Code.

Table 20-A is a description of the total population and survey returns by OE Code area, by program length, by length of time terminees were enrolled in the program, and by relatedness of training to present job held by the 1973-74 Junior College Data Processing Occupation terminees.

Table 20-B is a description of the total population and survey returns by OE Code area by program length, by length of time terminees were enrolled in the program, and by relatedness of training to present job held by the 1973-74 Vocational Technical Institute Data Processing Occupations terminees.

Table 20-C is a description of the total population and survey returns by individual junior college, by OE Code area, and by relatedness of training to present job held by the 1973-74 Junior College Data Processing Occupations terminees.

Table 20-D is a description of the total population and survey returns by individual vocational-technical institute, by OE Code area, and by relatedness of training to present job held by the 1973-74 Vocational-Technical Institute Data Processing Occupations terminees.

TABLE 20-A

DESCRIPTION OF 1973-74 JUNIOR COLLEGE DATA PROCESSING TERMINEES BY OE CODE AREA STUDIED, PROGRAM LENGTH, MONTHS TERMINEES ENROLLED IN PROGRAM, AND RELATEDNESS OF TRAINING TO PRESENT JOB

Length of Program[A] in Months, OE Code[B], and Title of Area Studied	Length of Time in Months Terminees Were Enrolled in Program[C]	No. Students Reported Terminating	No. Returns	No. Indicat. Relatedness of Training	Relatedness of Training to Present Job[D]					
					Directly Related		Somewhat Related		Not Related	
					No.	%	No.	%	No.	%
12 Months										
14.0201										
Computer and Console Operators (Total)		238	89	64	16	18.0	16	18.0	32	36.0
	0 - 2	0	0	0	0		0		0	
	3 - 5	18	6	5	1		0		4	
	6 - 8	20	2	2	0		1		1	
	9 - 11	37	16	11	1		4		6	
	12	20	7	4	1		1		2	
	13 - 15	19	8	5	2		0		3	
	16 - 18	17	2	1	0		1		0	
	19 - 21	28	13	8	2		2		4	
	22 - 24	17	7	4	1		0		3	
	25 - 27	14	7	5	2		1		2	
	28 - 30	14	5	5	1		3		1	
	31 - 33	10	3	2	0		1		1	
	34 - 36	2	2	2	1		1		0	
	37 - 39	7	5	4	3		0		1	
	40 - 42	3	2	2	1		1		0	
	43 - 48	5	1	1	0		0		1	
	49 - 54	5	2	2	0		0		2	
	55 - 78	2	1	1	0		0		1	
	Over 78	0	0	0	0		0		0	
12 Months										
14.0203										
Programmers (Total)		76	26	16	6	23.1	4	15.4	6	23.1
	0 - 2	0	0	0	0		0		0	
	3 - 5	14	2	1	1		0		0	
	6 - 8	10	1	1	0		1		0	
	9 - 11	5	1	0	0		0		0	
	12	11	4	2	1		0		1	

(continued)

TABLE 20-A (continued)

Length of Program[A] in Months, OE Code[B], and Title of Area Studied	Length of Time in Months Terminees Were Enrolled in Program[C]	No. Students Reported Terminating	No. Returns	No. Indicat. Relatedness of Training	Relatedness of Training to Present Job[D]					
					Directly Related		Somewhat Related		Not Related	
					No.	%	No.	%	No.	%
	13 - 15	8	6	3	1		0		2	
	16 - 18	5	2	2	1		0		1	
	19 - 21	10	4	3	0		2		1	
	22 - 24	4	1	1	1		0		0	
	25 - 27	2	1	1	1		0		0	
	28 - 30	2	1	0	0		0		0	
	31 - 33	2	2	1	0		0		1	
	34 - 36	1	0	0	0		0		0	
	37 - 39	0	0	0	0		0		0	
	40 - 42	0	0	0	0		0		0	
	43 - 48	2	1	1	0		1		0	
	Over 48	0	0	0	0		0		0	
18 Months										
14.0201										
Computer and Console Operators (Total)		101	31	22	4	12.9	7	22.6	11	35.5
	0 - 2	0	0	0	0		0		0	
	3 - 5	50	9	6	0		3		3	
	6 - 8	19	9	8	2		4		2	
	9 - 11	23	10	6	2		0		4	
	12	9	3	2	0		0		2	
	Over 12	0	0	0	0		0		0	
24 Months										
14.0201										
Computer and Console Operators (Total)		27	7	4	1	14.3	1	14.3	1	28.6
	0 - 2	0	0	0	0		0		0	
	3 - 5	6	0	0	0		0		0	
	6 - 8	12	5	3	0		1		2	
	9 - 11	6	1	0	0		0		0	
	12	3	1	1	1		0		0	
	Over 12	0	0	0	0		0		0	

[A]Program length as reported by teachers

[B]OE Code as reported by teachers

[C]Period of time terminees were in aaparticular program as reported by teachers

[D]The terminees made the judgment as to how their present job related to the training they received in their data processing program

NOTE: Percentages based on number of returns for each OE Code.

TABLE 20-8

DESCRIPTION OF 1973-74 VOCATIONAL-TECHNICAL INSTITUTE DATA PROCESSING TERMINEES BY OE CODE AREA STUDIED, PROGRAM LENGTH, MONTHS TERMINEES ENROLLED IN PROGRAM, AND RELATEDNESS OF TRAINING TO PRESENT JOB

Length of Program[A] in Months, OE Code[B], and Title of Area Studied	Length of Time in Months Terminees Were Enrolled in Program[C]	No. Students Reported Terminating	No. Returns	No. Indicat. Relatedness of Training	Relatedness of Training to Present Job[D]					
					Directly Related		Somewhat Related		Not Related	
					No.	%	No.	%	No.	%
6 Months										
14.0202										
Peripheral Equipment Operators (Total)		21	6	2	0	0.0	1	16.7	1	16.7
	0 - 1	3	0	0	0		0		0	
	2 - 5	3	1	1	0		1		0	
	6	4	0	0	0		0		0	
	7 - 11	2	0	0	0		0		0	
	12	7	1	1	0		0		1	
	Over 12	0	0	0	0		0		0	
6 Months										
14.0203										
Programmers (Total)		1	0	0	0	0.0	0	0.0	0	0.0
	5	1	0	0	0		0		0	
12 Months										
14.0000										
Office Occupations (Total)		12	4	1	0	0.0	0	0.0	1	25.0
	0 - 2	1	0	0	0		0		0	
	3	11	4	1	0		0		1	
	Over 3	0	0	0	0		0		0	
12 Months										
Business Data Processing Systems Occupations (Total)		126	58	24	7	12.1	9	15.5	8	13.8

(continued)

RC

TABLE 20-B (continued)

Length of Program[A] in Months, OE Code[B], and Title of Area Studied	Length of Time in Months Terminees Were Enrolled in Program[C]	No. Students Reported Terminating	No. Returns	No. Indicat. Relatedness of Training	Relatedness of Training to Present Job[D]					
					Directly Related		Somewhat Related		Not Related	
					No.	%	No.	%	No.	%
	0 - 2	6	3	1	1		0		0	
	3 - 5	36	13	5	0		1		4	
	6 - 8	24	10	1	0		1		0	
	9 - 11	11	5	2	1		0		1	
	12	3	1	1	0		1		0	
	13 - 15	25	13	5	2		2		1	
	16 - 18	17	10	7	3		3		1	
	19 - 21	2	2	1	0		0		1	
	22 - 24	2	1	1	0		1		0	
	Over 24	0	0	0	0		0		0	
12 Months										
14.0202										
Peripheral Equipment Operators (Total)		1	0	0	0	0.0	0	0.0	0	0.0
	7	1	0	0	0		0		0	
12 Months										
14.020201										
Keypunch and Coding Equipment Operators (Total)		185	85	35	11	12.9	12	14.1	12	14.1
	0 - 2	31	9	5	1		0		4	
	3 - 5	52	23	9	6		0		3	
	6 - 8	12	4	0	0		0		0	
	9 - 11	18	6	2	0		2		0	
	12	67	40	19	4		10		5	
	13 - 15	1	0	0	0		0		0	
	16 - 18	3	2	0	0		0		0	
	19 - 21	0	0	0	0		0		0	
	22 - 24	1	1	0	0		0		0	
	Over 24	0	0	0	0		0		0	
12 Months										
14.0203										
Programmers (Total)		134	46	32	13	28.3	7	15.2	12	26.1
	0 - 2	31	3	1	0		1		0	
	3 - 5	52	19	13	6		2		5	

(continued)

TABLE 20-B (continued)

Length of Program[A] in Months, OE Code[B], and Title of Area Studied	Length of Time in Months Terminees Were Enrolled in Program[C]	No. Students Reported Terminating	No. Returns	No. Indicating Relatedness of Training	Relatedness of Training to Present Job[D]					
					Directly Related		Somewhat Related		Not Related	
					No.	%	No.	%	No.	%
	6 - 8	30	18	12	6		1		5	
	9 - 11	7	0	0	0		0		0	
	12	14	6	6	1		3		2	
	Over 12	0	0	0	0		0		0	
15 Months										
14.0203										
Programmers (Total)		205	91	50	9	9.9	19	20.9	22	24.2
	0 - 2	19	1	0	0		0		0	
	3 - 5	19	6	4	0		0		4	
	6 - 8	14	5	3	0		2		1	
	9 - 11	5	2	1	0		0		1	
	12	5	5	2	2		0		0	
	13 - 15	130	64	33	5		15		13	
	16 - 18	13	8	7	2		2		3	
	Over 18	0	0	0	0		0		0	
18 Months										
14.0201										
Computer and Console Operators (Total)		74	27	13	2	7.4	5	18.5	6	22.2
	0 - 2	5	0	0	0		0		0	
	3 - 5	10	0	0	0		0		0	
	6 8	9	3	2	0		0		2	
	9 - 11	7	2	1	0		0		1	
	12	23	14	9	2		5		2	
	13 - 15	0	0	0	0		0		0	
	16 - 18	6	3	0	0		0		0	
	19 - 21	0	0	0	0		0		0	
	22 - 24	14	5	1	0		0		1	
	Over 24	0	0	0	0		0		0	

[A]Program length as reported by teachers

[B]OE Code as reported by teachers

[C]Period of time terminees were in particular program as reported by teachers

[D]The terminees made the judgment as to how their present job was related to the training they received in their data processing program

NOTE: Percentages based on number of returns for each OE Code.

TABLE 20-C

DESCRIPTION OF 1973-74 JUNIOR COLLEGE DATA PROCESSING TERMINEES BY INSTITUTION, OE CODE AREA STUDIED, AND RELATEDNESS OF TRAINING TO PRESENT JOB

Name of Junior College	OE Code[A] and Area Studied	No. Students Reported Terminating	No. Returns	No. Indicat. Relatedness of Training	Relatedness of Training to Present Job[B]					
					Directly Related		Somewhat Related		Not Related	
					No.	%	No.	%	No.	%
Gadsden State Junior College	(Total)	101	31	22	4	12.9	7	22.6	11	35.5
	14.0201 Computer and Console Operators	101	31	22	4		7		11	
Jefferson State Junior College	(Total)	314	115	80	22	19.1	20	17.4	38	33.0
	14.0201 Computer and Console Operators	238	89	64	16		16		32	
	14.0203 Programmers	76	26	16	6		4		6	
S. D. Bishop State Junior College	(Total)	27	7	3	1	14.3	0	0.0	2	28.6
	14.0201 Computer and Console Operators	27	7	3	1		0		2	
TOTAL		442	153	105	27	17.6	27	17.6	51	33.3

[A]OE Code as reported by teachers

[B]The terminees made the judgment as to how their present job was related to the training they received in their data processing program

NOTE: Percentages based on number of returns for each OE Code.

TABLE 20-D

DESCRIPTION OF 1973-74 VOCATIONAL-TECHNICAL INSTITUTION DATA PROCESSING TERMINEES BY INSTITUTION, OE CODE AREA STUDIED, AND RELATEDNESS OF TRAINING TO PRESENT JOB

Name of Junior College	OE Code[A] and Area Studied	No. Students Reported Terminating	No. Returns	No. Indicat. Relatedness of Training	Relatedness of Training to Present Job[B]					
					Directly Related		Somewhat Related		Not Related	
					No.	%	No.	%	No.	%
Alabama Institute for Deaf and Blind	(Total)	19	9	2	1	11.1	1	11.1	0	0.0
	14.020201 Keypunch and Coding Equipment Oper.	19	9	2	1		1		0	
Bessemer State Technical College	(Total)	145	59	35	17	28.8	4	6.8	14	23.7
	14.020201 Keypunch and Coding Equipment Oper.	51	20	9	5		0		4	
	14.0203 Programmers	94	39	26	12		4		10	
George C. Wallace Community College-Tech. Division	(Total)	115	57	30	4	7.0	13	22.8	13	22.8
	14.0203 Programmers	115	57	30	4		13		13	
J. F. Drake State Tech. College	(Total)	54	16	8	2	12.5	3	18.8	3	18.8

(continued)

TABLE 20-D (continued)

Name of Junior College	OE Code[A] and Area Studied	No. Students Reported Terminating	No. Returns	No. Indicat. Relatedness of Training	Relatedness of Training to Present Job[B]					
					Directly Related		Somewhat Related		Not Related	
					No.	%	No.	%	No.	%
	14.020201									
	Keypunch and Coding Equipment Oper.	19	7	3	1		1		1	
	14.0203									
	Programmers	35	9	5	1		2		2	
Lawson State Junior College-Tech. Division	(Total)	22	6	2	0	0.0	1	16.7	1	16.7
	14.0202									
	Peripheral Equipment Operators	21	6	2	0		1		1	
	14.0203									
	Programmers	1	0	0	0		0		0	
MacArthur State Tech. College	(Total)	51	21	7	1	4.8	1	4.8	5	23.8
	14.0000									
	Office Occupations	11	4	1	0		0		1	
	14.0200									
	Business Data Processing Systems Occupations	31	12	5	1		1		3	
	14.020201									
	Keypunch and Coding Equipment Oper.	9	5	1	0		0		1	

(continued)

TABLE 20-D (continued)

Name of Junior College	OE Code[A] and Area Studied	No. Students Reported Terminating	No. Returns	No. Indicat. Relatedness of Training	Relatedness of Training to Present Job[B]					
					Directly Related		Somewhat Related		Not Related	
					No.	%	No.	%	No.	%
Muscle Shoals State Technical Institute	(Total)	22	14	10	5	35.7	4	28.6	1	7.1
	14.0200 Business Data Processing Systems Occupations	22	14	10	5		4		1	
Northwest State Technical College	(Total)	73	32	9	1	3.1	4	12.5	4	12.5
	14.0200 Business Data Processing Systems Occupations	73	32	9	1		4		4	
Opelika State Tech. College	(Total)	55	25	15	4	16.0	4	16.0	7	28.0
	Programmers	55	25	15	4		4		7	
Patterson State Tech. College	(Total)	41	7	6	1	14.3	3	4[illegible].9	2	28.6
	14.0202 Peripheral Equipment Operators	1	0	0	0		0		0	
	14.0203 Programmers	40	7	6	1		3		2	

(continued)

TABLE 20-D (continued)

Name of Junior College	OE Code[A] and Area Studied	No. Students Reported Terminating	No. Returns	No. Indicat. Relatedness of Training	Relatedness of Training to Present Job[B]					
					Directly Related		Somewhat Related		Not Related	
					No.	%	No.	%	No.	%
Shelton State Technical College	(Total)	74	27	13	2	7.4	5	18.5	6	22.2
	14.0201 Computer and Console Operators	74	27	13	2		4		7	
Trenholm State Tech. College	(Total)	88	44	18	4	9.1	10	22.7	4	9.1
	14.0000 Office Occupations	1	0	0	0		0		0	
	14.020201 Keypunch and Coding Equipment Oper.	87	44	18	4	9.1	10	22.2	4	9.1
TOTAL		759	317	133	42		53		42	

[A]OE Code as reported by teachers

[B]The terminees made the judgment as to how their present job was related to the training they received in their data processing program

NOTE: Percentages based on number of returns for each OE Code.

Table 21 indicates the first job salary ranges as compared to the present job salary ranges for the 1973-74 Post-Secondary Data Processing Occupations terminees by type institutions.

TABLE 21

FIRST JOB SALARY RANGES AND PRESENT JOB SALARY RANGES FOR 1973-74 POST-SECONDARY DATA PROCESSING OCCUPATIONS BY TYPE INSTITUTIONS

Salary Ranges	First Job						Present Job					
	Combined JC & VTI		JC		VTI		Combined JC & VTI		JC		VTI	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Under $250	48	21.0	16	19.8	32	21.6	19	8.9	8	9.3	11	8.6
$250-$299	20	8.7	4	4.9	16	10.8	9	4.2	2	2.3	7	5.5
$300-$249	38	16.6	14	17.3	24	16.2	13	6.1	2	2.3	11	8.6
$350-$399	35	15.3	9	11.1	26	17.6	24	11.2	3	3.5	21	16.4
$400-$449	30	13.1	10	12.4	20	13.5	33	15.4	10	11.6	23	18.0
$450-$499	18	7.9	7	8.6	11	7.4	18	8.4	3	3.5	15	11.7
$500-$599	19	8.3	7	8.6	12	8.1	32	15.0	14	16.3	18	14.0
$600-$699	12	5.2	6	7.4	6	4.1	26	12.1	14	16.3	12	9.4
$700 or more	9	3.9	8	9.9	1	0.7	40	18.7	30	34.9	10	7.8
TOTAL	229	100.0	81	100.0	148	100.0	214	100.0	86	100.0	128	100.0

Of 229 terminees reporting a salary for their first job, 48 (21.0%) indicated a salary range of under $250 per month. Nine (3.9%) terminees reported a first salary of over $700 per month. The median salary range for the first job fell in the range of $350 to $399 per month. The mean salary range for the first job also fell in the range of $350 to $399 per month.

Of the 81 Junior College terminees reporting a salary range for their first job, 16 (19.8%) indicated a range of under $250 per month. Eight (9.9%) terminees indicated a first salary of over $700 per month. The median salary range for the first job fell in the range of $350 to $399 per month. The mean salary range for the first job fell in the range of $400 to $450 per month.

Of the 148 Vocational-Technical Institute terminees reporting a salary range for their first job, 32 (21.6%) indicated a range of under $250 per month. Only one (0.7%) terminee indicated a first job salary of over $700 per month. The median salary range for the first job fell in the range of $350 to $399 per month. The mean salary range for the first job also fell in the range of $350 to $399 per month.

Of the 214 1973-74 Post-Secondary Data Processing Occupations terminees reporting a salary range for their present job, 33 (15.4%) indicated a present salary range of $400 to $449 per month. Forty (18.7%) terminees indicated that their present salary range was over $700 per month. The median salary range for their present job fell in the range of $450 to $499 per month. The mean salary range for the present job also fell in the range of $450 to $499 per month.

Of the 86 Junior College terminees reporting a present salary, 30 (34.9%) reported a present salary range of over $700 per month. Fifty-eight (67.5%) of the 86 terminees reported a salary range of over $500 per month. The median salary range for the present job fell in the range of $600 to $699 per month. The mean salary range was in the range of $500 to $599 per month. The present salary showed a substantial increase over the first salary as reported by the Junior College Data Processing Occupations terminees.

Of the 128 Vocational-Technical Institute terminees reporting a present salary, 23 (18.0%) reported a present salary range of $400 to $449 per month. Ten (7.8%) terminees indicated a first job salary of over $700 per month. The median salary range for the present job fell in the range of $400 to $449 per month. The mean salary range was also in the range of $400 to $449 per month. While the present salary is an increase over the first salary as reported by the Vocational-Technical Institute Data Processing Occupations terminees. It was not as large as the increase in present salary over first salary as that reported by Junior College Data Processing terminees.

Table 21-A indicates the first job salary ranges by relatedness of training and sex of the Post-Secondary Data Processing terminees.

Forty-six (20.6%) of the 223 responding terminees who indicated relatedness of training to first job employment reported that their first salary was under $250 per month. Of these 46 terminees, two (4.3%) males and nine (19.6%) females were employed in a job directly related to their data processing training, eight (17.4%) males and eight (17.4%) females were employed in jobs somewhat related to their training, while ten (21.7%) males and nine (19.6%) females were employed in jobs not related to their training.

Of the 223 responding terminees, 123 (55.2%) were males and 100 (44.8%) were females. Thirty-five (15.7%) males and 30 (13.5%) females were employed in jobs directly related to their data processing training, 36 (16.1%) males and 27 (12.1%) females were employed in jobs somewhat related to their training, while 52 (23.3%) males and 43 (19.3%) females were employed in jobs not related to their data processing training.

Of the 223 terminees indicating relatedness of training to first job, 79 (35.4%) were junior college terminees and 144 (64.6%) were vocational-technical institute terminees.

Of the 79 junior college terminees, 18 (22.8%) males and three (3.8%) females were employed in first jobs directly related to their data processing training, 18 (22.8%) males and two (2.5%) females were employed in first jobs somewhat related to their training, while 29 (36.7%) males and nine (11.4%) females were employed in first jobs not related to their data processing training.

TABLE 21-A

FIRST JOB SALARY RANGES BY RELATEDNESS OF TRAINING OF 1973-74
DATA PROCESSING OCCUPATIONS TERMINEES BY SEX
AND BY TYPE OF INSTITUTION

Salary Ranges	Type of Institution	Sex of Terminees Indicating Relatedness of Training		Relatedness of Training to First Job[A]					
				Directly Related		Somewhat Related		Not Related	
		Male	Female	Male	Female	Male	Female	Male	Female
Under $250	Total	20	26	2	9	8	8	10	9
	JC	13	2	2	1	5	0	6	1
	VTI	7	24	0	8	3	8	4	8
$250-$299	Total	5	13	1	3	2	3	2	7
	JC	2	2	1	1	0	0	1	1
	VTI	3	11	0	2	2	3	1	6
$300-$349	Total	19	19	5	6	3	4	11	9
	JC	11	3	3	1	2	0	6	2
	VTI	8	16	2	5	1	4	5	7
$350-$399	Total	14	20	2	8	4	4	8	8
	JC	6	3	0	0	1	0	5	3
	VTI	8	17	2	8	3	4	3	5
$400-$449	Total	19	11	8	1	7	5	4	5
	JC	9	1	2	0	5	0	2	1
	VTI	10	10	6	1	2	5	2	4
$450-$499	Total	12	6	4	2	1	1	7	3
	JC	5	2	2	0	0	1	3	1
	VTI	7	4	2	2	1	0	4	2
$500-$599	Total	14	4	3	1	5	1	6	2
	JC	6	0	1	0	2	0	3	0
	VTI	8	4	2	1	3	1	3	2

(continued)

TABLE 21-A (continued)

Salary Ranges	Type of Institution	Sex of Terminees Indicating Relatedness of Training		Relatedness of Training to First Job[A]					
				Directly Related		Somewhat Related		Not Related	
		Male	Female	Male	Female	Male	Female	Male	Female
$600-$699	Total	11	1	5	0	3	1	3	0
	JC	5	1	2	0	1	1	2	0
	VTI	6	0	3	0	2	0	1	0
$700 or more	Total	9	0	5	0	3	0	1	0
	JC	8	0	5	0	2	0	1	0
	VTI	1	0	0	0	1	0	0	0
TOTALS[B]	Total	123	100	35	30	36	27	52	43
	JC	65	14	18	3	18	2	29	9
	VTI	58	86	17	27	18	25	23	34

[A]The terminees made the judgment as to how their first job was related to the training received in their high school vocational program.

[B]Totals do not match those of Table 21 because some terminees did not respond to all questions.

Of the 144 vocational-technical institute terminees, 17 (11.8%) males and 27 (18.7%) females were employed in first jobs directly related to their data processing training, 18 (12.5%) males and 25 (17.4%) females were employed in first jobs in areas somewhat related to their training, while 23 (16.0%) males and 34 (23.6%) females were employed in first jobs not related to their data processing training.

Table 21-B indicates the present job salary ranges by relatedness of training and sex of the Post-Secondary Data Processing terminees.

TABLE 21-B

PRESENT JOB SALARY RANGES BY RELATEDNESS OF TRAINING OF 1973-74
DATA PROCESSING OCCUPATIONS TERMINEES BY SEX
AND BY TYPE OF INSTITUTION

Salary Ranges	Type of Institution	Sex of Terminees Indicating Relatedness of Training		Relatedness of Training to Present Job[A]					
				Directly Related		Somewhat Related		Not Related	
		Male	Female	Male	Female	Male	Female	Male	Female
Under $250	Total	9	10	1	4	0	3	8	3
	JC	6	2	1	1	0	1	5	0
	VTI	3	8	0	3	0	2	3	3
$250-$299	Total	3	6	0	0	2	2	1	4
	JC	1	1	0	0	1	0	0	1
	VTI	2	5	0	0	1	2	1	3
$300-$349	Total	5	7	0	0	2	2	3	5
	JC	2	0	0	0	1	0	1	0
	VTI	3	7	[illegible]	0	1	2	2	5
$350-$399	Total	6	18	1	3	1	7	4	8
	JC	2	1	1	0	1	0	0	1
	VTI	4	17	0	3	0	7	4	7
$400-$449	Total	12	20	4	7	7	7	1	6
	JC	6	4	1	1	4	1	1	2
	VTI	6	16	3	6	3	6	0	4
$450-$499	Total	7	11	3	3	1	3	3	5
	JC	3	0	2	0	1	0	0	0
	VTI	4	11	1	3	0	3	3	5
$500-$599	Total	23	8	7	3	6	2	10	3
	JC	10	4	4	1	1	1	5	2
	VTI	13	4	3	2	5	1	5	1

(continued)

TABLE 21-B (continued)

Salary Ranges	Type of Institution	Sex of Terminees Indicating Relatedness of Training		Relatedness of Training to Present Job[A]					
				Directly Related		Somewhat Related		Not Related	
		Male	Female	Male	Female	Male	Female	Male	Female
$600-$699	Total	22	4	6	0	8	3	8	1
	JC	12	2	3	0	4	2	5	0
	VTI	10	2	3	0	4	1	3	1
$700 or more	Total	40	0	16	0	10	0	14	0
	JC	30	0	10	0	8	0	12	0
	VTI	10	0	6	0	2	0	2	0
TOTALS[B]	Total	127	84	38	20	37	29	52	35
	JC	72	14	22	3	21	5	29	6
	VTI	55	70	16	17	16	24	23	29

[A]The terminees made the judgment as to how their present job was related to the training received in their high school vocational program.

[B]Totals do not match those of Table 21 because some terminees did not respond to all questions.

Forty (19.0%) of the 211 responding terminees who indicated relatedness of training to present job employment reported that their first salary was over $700 per month. Of these 40 terminees, 16 (40.0%) males were employed in jobs directly related to their data processing training, ten (25.0%) males were employed in jobs somewhat related to their data processing training, while 14 (35.0%) males were employed in jobs not related to their data processing training.

Only four (4.8%) of 84 females were presently employed in jobs paying $600 or more per month, while 62 (48.8%) of the 127 males were presently employed in jobs paying $600 or more per month. No female was presently employed in a job paying $700 per month, while 40 (31.5%) of 127 males were presently employed in jobs paying more than $700 per month.

Of the 211 terminees indicating relatedness of training to present jobs, 127 (60.2%) were males and 84 (39.8%) were females. Thirty-eight (18.0%) males and 20 (9.5%) females were employed in jobs directly related to their data processing training, 37 (17.5%) males and 29 (13.8%) females were employed in jobs somewhat related to their training, while 52 (24.6%) males and 35 (16.6%) females were employed in jobs not related to their data processing training.

Of the 211 terminees indicating relatedness of training to present jobs, 86 (40.8%) were junior college terminees, while 125 (59.2%) were terminees of vocational-technical institutes.

Of the 86 junior college terminees, 22 (25.6%) males and three (3.5%) females were employed in present jobs directly related to their data processing training, 21 (24.4%) males and five (5.8%) females were employed in present jobs somewhat related to their training, while 29 (33.7%) males and six (7.0%) females were employed in present jobs not related to their data processing training.

Of the 125 vocational-technical institute terminees, 16 (12.8%) males and 17 (13.6%) females were employed in present jobs directly related to their data processing training, 16 (12.8%) males and 24 (19.2%) females were employed in jobs somewhat related to their training, while 23 (18.4%) males and 29 (23.2%) females were employed in jobs not related to their data processing training.

CONTINUING EDUCATION INFORMATION

Continuing Education Information

The following section of this report presents information relative to the continuing education of the 1973-74 Post-Secondary Data Processing Occupations terminees.

Table 22 shows the additional data processing training the 1973-74 Post-Secondary Data Processing Occupations terminees have taken part in since leaving their data processing program. Data is also reported by the type institution the terminees attended.

Of the 153 junior college data processing terminees, 66 additional data processing programs or courses had been taken. The additional courses or programs taken by the junior college terminees were as follows: 31, on-the-job training (employer-sponsored program); three, private data processing school programs; eight, university or four year college; 17, junior college; one, post-secondary vocational institute (trade school); one, specialized occupational military training; and five, other type courses or programs.

The following lists reports the other type data processing courses or programs the junior college terminees indicated they had taken:

1. P.I. Course
2. IBM School
3. IBM Training Center
4. CCF in Birmingham
5. IBM sponsored by the company I worked for

No junior college terminee reported taking more than one additional data processing course or program.

TABLE 22

ADDITIONAL DATA PROCESSING TRAINING 1973-74 POST-SECONDARY DATA PROCESSING TERMINEES PARTICIPATED IN SINCE LEAVING THEIR POST-SECONDARY DATA PROCESSING PROGRAM BY TYPE INSTITUTION TERMINEES ATTENDED

Type Training[B]	Total Taking Additional Training		Type Institution Terminees Attended			
			Junior College		Voc.-Tech. Institute	
	No.	%	No.	%	No.	%
On-the-job training (employer-sponsored program)	76	16.2	31	20.3	45	14.2
Private data processing school program	5	1.1	3	2.0	2	0.6
University or four year college	20	4.2	8	5.2	12	3.8
Junior college	29	6.2	17	11.1	12	3.8
Post-secondary vocational institute (trade school)	12	2.5	1	0.6	11	3.5
Specialized occupational military training	2	0.4	1	0.6	1	0.3
Other[C&D]	15	3.2	5	3.3	10	3.1
TOTAL	159	33.8	66	43.1	93	29.3

[A]All percentages are based on the total returns from terminees in the type category being explained. The total return was 470 for both type institutions, with 153 being from junior colleges and 317 being from vocational-technical institutes.

[B]The numbers represent courses or programs taken. Some terminees may have taken more than one course. No terminee from a junior college program took more than one additional data processing training program. However, six terminees from the vocational-technical institutes had taken two additional training programs and one terminee had taken three programs.

[C]See page 101 for the "Other" listing as specified by the junior college terminees.

[D]See page 103 for the "Other" listing as specified by the vocational-technical institute terminees.

Ninety-three additional data processing courses or programs had been taken by 317 vocational-technical institute terminees at the time they received the questionnaire. The additional courses or program taken by

the vocational-technical institute terminees were as follows: 45, on-the-job training (employer-sponsored program); two, private data processing school program; 12, university or four year college; 12, junior college; 11, post-secondary vocational institute (trade school); one, specialized occupational military training; and 10, other type courses or programs.

The following list reports the "Other" type data processing courses or programs the Voc.-Tech. Institute terminees indicated they had taken:

1. Terminal communication
2. Keypunching
3. Special classes on the job
4. Computer programming
5. Working on Associate Degree in Computer Science
6. Taking advance Cobal at some school
7. Univac 110 operator class
8. Keypunching
9. (No response)
10. (No response)

Six terminees from the vocational-technical institutes had taken two additional training programs and one terminee had been enrolled in three additional programs or courses.

Table 23 reports the type of schools or educational programs presently attended by the 1973-74 Post-Secondary Data Processing terminees by whether these programs were related to their post-secondary program. Data comparisons are also shown by the type post-secondary institution terminees had attended.

Of the total 470 terminees, 202 (43.0%) were presently continuing their education. One hundred thirty-one (27.9%) of the terminees were continuing their education in an area related to their data processing program and 71 (15.1%) were presently continuing their education in a non-related area.

TABLE 23

TYPE SCHOOLS OR EDUCATIONAL PROGRAMS PRESENTLY ATTENDED BY THE 1973-74 POST-SECONDARY DATA PROCESSING OCCUPATIONS TERMINEES BY WHETHER THESE PROGRAMS WERE RELATED TO THEIR POST-SECONDARY DATA PROCESSING PROGRAM BY TYPE INSTITUTION TERMINEES HAD ATTENDED

Type School or Educational Program Presently Attending	Total Terminees Presently Attending		Type Institution Previously Attended							
			Junior College[B]				Voc-Tech. Institute[C]			
			Program Related				Program Related			
			Yes		No		Yes		No	
	No.	%[A]	No.	%	No.	%	No.	%	No.	%
On-the-job training (employer-sponsored program)	7	1.5	3	2.0	0	0.0	1	0.3	3	1.0
Vocational-technical institute (trade school)	51	10.8	1	0.6	1	0.6	36	11.4	13	4.1
Junior college	95	20.2	52	34.0	19	12.4	15	4.7	9	2.8
Four year college or university	42	8.9	11	7.2	14	9.2	10	3.2	7	2.2
Private business or trade school	2	0.4	0	0.0	0	0.0	1	0.3	1	0.3
Other[D&E]	5	1.0	0	0.0	0	0.0	1	0.3	4	1.3
TOTAL	202	43.0	67	43.8	34	22.2	64	20.2	37	11.7

[A]Percentages are based on the total 470 terminees who returned questionnaires.

[B]Percentages are based on the total 153 junior college terminees who returned questionnaires.

[C]Percentages are based on the total 317 vocational-technical institute terminees who returned questionnaires.

[D]See page 105 for listing of "Other" schools or educational institutions attended by junior college terminees

[E]See page 105 for listing of "Other" schools or educational institutions attended by vocational-technical institute terminees.

Of the 153 junior college terminees, 101 (66.0%) were presently continuing their education. Sixty-seven (43.8%) were continuing their

education in a program related to their data processing program, while 34 (22.2%) were in a non-related program.

Of the 317 vocational-technical institute terminees responding, 101 (31.9%) were presently continuing their education. Sixty-four (22.2%) vocational-technical institute terminees were presently continuing their education in a school or program directly related to their data processing program, while 37 (11.7%) of the terminees were continuing their education in a non-related area.

Following is a listing of "Other" schools or programs presently attended by the vocational-technical institute terminees who indicated "Other" types than those listed by the researchers:

1. Talladega School for Deaf
2. American Institute of Banking
3. Commercial Foods
4. OIC
5. High school

Table 24 illustrates the educational programs presently attended by the 1973-74 junior college terminees by the OE Code area studied by whether it related to their data processing program. No attempt was made to report the no responses to the data items; therefore, many of the totals do not correspond.

Table 25 illustrates the educational programs presently attended by the 1973-74 vocational-technical institute terminees by OE Code area studied by whether it related to their data processing program. No attempt was made to report the no responses to the data items; therefore, many of the totals do not correspond.

TABLE 24

PROGRAMS PRESENTLY ATTENDED BY THE 1973-74 JUNIOR COLLEGE DATA PROCESSING TERMINEES BY OE CODE AREA STUDIED BY WHETHER IT RELATED TO THEIR DATA PROCESSING PROGRAMS[A]

OE Code	Occupational Title	Total Presently Continuing Education	Type School or Educational Program Presently Attending											
			On-the-Job Training		Voc. Tech. School		Junior College		4 Year College or Univ.		Private Business or Trade School		Other	
			Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related
14.0000	Office Occupa.													
14.0200	Business Data Processing Systems													
14.0201	Computer & Console Oper.	85	3	0	1	1	44	17	8	11	0	0	0	0
14.0202	Peripheral Equip. Operators													
14.020201	Keypunch & Coding Equip. Oper.													
14.0203	Programmers	16	0	0	0	0	8	2	3	3	0	0	0	0

[A]Since some terminees did not respond to parts of the questions, totals will not correspond.

TABLE 25

PROGRAMS PRESENTLY ATTENDED BY THE 1973-74 VOCATIONAL TECHNICAL INSTITUTE DATA PROCESSING TERMINEES BY OE CODE AREA STUDIED BY WHETHER IT RELATED TO THEIR DATA PROCESSING PROGRAMS[A]

OE Code	Occupational Title	Total Presently Continuing Education	Type School or Educational Program Presently Attending											
			On-the-Job Training		Voc. Tech. School		Junior College		4 Year College or Univ.		Private Business or Trade School		Other	
			Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related
14.0000	Office Occupa.	1	0	0	1	0	0	0	0	0	0	0	0	0
14.0200	Business Data Processing Systems	26	0	1	10	4	2	1	2	1	1	0	1	3
14.0201	Computer & Console Oper.	6	0	0	5	1	0	0	0	0	0	0	0	0
14.0202	Peripheral Equip. Operators	2	0	0	0	1	0	0	0	0	0	0	0	1
14.020201	Keypunch & Coding Equip. Oper.	16	0	1	6	3	2	1	2	1	0	0	0	0
14.0203	Programmers	50	1	1	14	4	11	7	6	5	0	1	0	0

[A]Since some terminees did not respond to parts of the questions, totals will not correspond.

The follow-up questionnaire continued the question, "Would you like further data processing training?" The following list contains the areas the 1973-74 Post-Secondary Data Processing terminees, who indicated they would like further traning, reported they would choose to take by the institution they attended:

JUNIOR COLLEGES

Institution	Area Terminees Would Choose to Study	Number
Gadsden State Junior College		
	Computer Programming	5
	Computer Science	2
	Computer Operator	1
	Complex Programming	1
	Systems Analyst	1
	Computer and Console Operator	1
	Programming Languages	1
	Maintenance and Repair	1
	Programming and Systems Analysis	1
	Programming Techniques and Structured Programming on Accounting Applications	1
	Would like experience first though	1
	Not decided	1
	TOTAL	17
Jefferson State Junior College		
	Computer Programming	19
	Systems Analysis	6
	Computer Operator	5
	Systems Design	4
	Computer Science	3
	Programming and Systems Study	3
	Programming and Systems Analysis	3
	Business	2
	Cobol applications	2
	Operating and Programming	2
	Systems and Operations Analysis	1
	Statistics	1
	Accounting Systems	1
	Management	1
	Programming and Computer Technology	1
	Systems Design and Production Control and Evaluation	1

(continued)

JUNIOR COLLEGES (continued)

Institution	Area Terminees Would Choose to Study	Number
Jefferson State Junior College (continued)		
	Program Application and Systems Study	1
	Programming Languages	1
	Systems Operations	1
	Business	1
	Technical aspects of computers	1
	Management concept of EDP	1
	Keypunching, Programming Cards	1
	Masters in Computer Science	1
	Keypunching	1
	The best paying	1
	I am not sure yet	1
	TOTAL	66
S. D. Bishop State Junior College		
	Computer Programming	2
	Program Operator	1
	Computer Analysis	1
	Controls or Operations	1
	TOTAL	5

VOCATIONAL-TECHNICAL INSTITUTES

Institution	Area Terminees Would Choose to Study	Number
Alabama Institute for Deaf and Blind		
	Computer Programming	1
	Keypunchign	1
	More training on Data Processing	1
	Computer (I am almost deaf and 50 years old)	1
	I am not sure	1
	TOTAL	5
Bessemer State Technical College		
	Computer Programming	7
	Computer Operations	1
	Computer Science and Electronics	1

(continued)

VOCATIONAL-TECHNICAL INSTITUTES (continued)

Institution	Area Terminees Would Choose to Study	Number
Bessemer State Technical College (continued)		
	COBOL	1
	Computer	1
	Operational - DOS	1
	Data Systems and MACRO Management	1
	Programming - 360 and 370 IBM computers	1
	Systems Analysis and Telecommunications	1
	Programming and Analysis	1
	Data Communications	1
	Computer Operations and Programming	1
	Systems Programming	1
	In all areas	1
	Future developments	1
	Maybe take Keypunch over again from better teacher	1
	TOTAL	22
George C. Wallace Community College (Technical Div.)		
	Computer Programming	9
	More advanced programming	4
	Operating	2
	Fortran	2
	COBOL AND RPG	2
	Undecided	2
	Other languages and to write programs more efficiently	1
	COBOL	1
	Program Analysis or Keypunch	1
	Finish my degree in Data Processing	1
	TOTAL	25
J. F. Drake State Technical College		
	Computer Programming	4
	Cobol Programming	1
	Programming or Computer Operation	1
	Uncertain	1
	TOTAL	7

(continued)

VOCATIONAL-TECHNICAL INSTITUTES (continued)

Institution	Area Terminees Would Choose to Study	Number
Lawson State Junior College (Technical Division)		
	Computer Programming	2
	Operator	1
	Advanced Computer Equipment Operator	1
	The same (Keypunch)	1
	TOTAL	5
MacArthur State Technical College		
	Computer Programming	3
	Computer Operator	1
	Systems Analyst	1
	Programming and Systems Analyst	1
	RPG Fortran	1
	The Complete System	1
	Advanced Data Processing	1
	Keypunch	1
	Additional Coding and other machines related to keypunching	1
	Uncertain	3
	TOTAL	14
Muscle Shoals State Technical Institute		
	Computer Programming	4
	Computer Science	2
	A course in RPG advanced	1
	Cobol language	1
	Languages	1
	Degree in Data Processing	1
	TOTAL	10
Northwest State Technical College		
	Computer Programming	1
	Computer Science	1
	Systems Analysis	1
	Keypunch	1
	Digital Computer Operator	1
	Trade School	1
	As much as I can get	1
	TOTAL	7

(continued)

VOCATIONAL-TECHNICAL INSTITUTES (continued)

Institution	Area Terminees Would Choose to Study	Number
Opelika State Technical College		
	Computer Programming	5
	Systems Analysis	2
	Systems and Programming	1
	Programming in COBOL	1
	RPG and COBOL (Extensive)	1
	Languages	1
	Disc Operating Systems/Virtual Storage (DOS/VS)	1
	Maintenance	1
	Not sure	1
	TOTAL	14
Patterson State Technical College		
	Programming and Data Processing Management	1
	Systems Development	1
	Scientific Programming	1
	Data Computer Operating	1
	All	1
	TOTAL	5
Shelton State Technical College		
	Computer Programming	5
	Computer Operator	1
	Computer Science	1
	Computer Management	1
	COBOL	1
	Data Processing	1
	TOTAL	10
Trenholm State Technical College		
	Computer Programming	11
	Computer Operators	4
	Computer Science	4
	Keypunch and Operation	2
	Keypunch	2
	Computer Equipment and more keypunching	1
	Auburn University	1
	Computers	1
	Keypunch and Coding	1
	Computer Technician	1
	Computer Operator & Programmer	1
	TOTAL	29

Of the total 153 junior college terminees, only 35 (22.9%) reported that they would like no further data processing training. However, 93 (29.3%) of the 317 reporting vocational-technical institute terminees indicated they would like no further data processing training.

JOB PLACEMENT INFORMATION

Job Placement Information

The following section of this report presents information concerning job placement of the 1973-74 Post-Secondary Data Processing terminees before and after program termination.

Table 26 illustrates how the 1973-74 Post-Secondary Data Processing terminees, who had jobs while taking their data processing program, indicated they secured that job. Data is also shown by the type post-secondary institution they attended.

One hundred fifty-four (32.8%) of the 470 Post-Secondary Data Processing terminees indicated they had jobs while taking their data processing program. Seventy (45.8%) of the junior college data processing terminees reported having jobs while taking their program and 84 (26.5%) of the vocational-technical institute terminees indicate the same.

Eight (11.4%) data processing terminees from the junior colleges, who had a job while in the program, reported that their data processing instructor got that job for them, while 21 (25.0%) of the vocational-technical institute terminees who had jobs while in the program reported their instructor got that job for them.

Applications to business or industry and friends or relatives accounted for the two most important ways (50 percent) the terminees got jobs they had while enrolled in their data processing program.

TABLE 26

HOW THE 1973-74 POST-SECONDARY DATA PROCESSING TERMINEES, WHO HAD JOB WHILE TAKING DATA PROCESSING PROGRAM, INDICATED THEY SECURED THAT JOB

Who or What Helped Terminee Get Job?	Total		Type Institution Attended			
			Junior College		Voc.-Tech. Institute	
	No.	%	No.	%	No.	%
Your data processing instructor	29	18.9	8	11.4	21	25.0
Your counselor	1	0.6	1	1.4	0	0.0
Other instructors or administrators	3	1.9	1	1.4	2	2.4
Friend or relative	34	22.1	16	22.9	18	21.4
Applications to business or industry	43	27.9	22	31.4	21	25.0
State (local) employment office	4	2.6	2	2.9	2	2.4
Private employment agency	6	3.9	4	5.7	2	2.4
Radio, T.V., newspaper, or other news media	8	5.2	3	4.3	5	6.0
Other[A&B]	26	16.9	13	18.6	13	15.4
TOTAL	154	100.0	70	100.0	84	100.0

[A]See listing, page 118, for the "Other" ways the junior college terminees, who had job while taking their data processing program, indicated they got those jobs.

[B]See listing, page 119, for the "Other" ways the vocational-technical institute terminees, who had job while taking their data processing program, indicated they got those jobs.

The following list notes the "Other" ways the junior college data processing terminees revealed they secured the jobs they had while in the data processing program:

1. U.S.A.F.
2. Already had it
3. ARNG Technician
4. Myself
5. No help
6. Background and experience

(continued)

7. Father's business
8. Skills
9. Internship then part time
10. Transferred into computer department
11. Quality assurance analyst
12. Computer repair (15 years)
13. U.S.M.C.

Listed below are the "Other" ways the vocational-technical institute terminees noted they got the jobs they had while working and taking their data processing program:

1. Worked in father's office
2. Produce company
3. Application to the state
4. Already employed in executive capacity
5. Part time, not related to data processing
6. worked at Sears
7. I was working before I attended school (plant)
8. (No Response)
9. (No Response)
10. (No Response)
11. (No Response)
12. (No Response)
13. (No Response)

Table 27 illustrates how long it took the 1973-74 Post-Secondary Data Processing terminees to get their first full-time job after they left their data processing program and began seeking full-time employment. Data is also shown by the type institution they attended.

Of the junior college terminees who left their data processing program and began actively seeking full-time employment, 10 (29.4%) found jobs within two weeks, 11 (32.4%) found jobs within three to four weeks, six (17.6%) found jobs within five to twelve weeks, and seven (20.6%) found jobs within 13 or more weeks.

Of the vocational-technical institute terminees who left their data processing program and began actively seeking full-time employment, 36 (40.5%) found jobs within two weeks, 14 (15.7%) found jobs within

three to four weeks, 22 (24.7%) found jobs within five to twelve weeks, and 17 (19.1%) found jobs within 13 weeks or more.

TABLE 27

LENGTH OF TIME IT TOOK THE 1973-74 POST-SECONDARY DATA PROCESSING TERMINEES, BY THE TYPE INSTITUTION THEY ATTENDED, TO SECURE THEIR FIRST FULL-TIME JOB AFTER LEAVING THEIR PROGRAM AND BEGIN ACTIVELY SEEKING FULL-TIME EMPLOYMENT

Time to Secure First Full-Time Job	Total		Type Institution Attended			
			Junior College[A]		Voc.-Tech. Institute[B]	
	No.	%	No.	%	No.	%
0 - 2 weeks	46	37.4	10	29.4	36	40.5
3 - 4 weeks	25	20.3	11	32.4	14	15.7
5 - 8 weeks	17	13.9	5	14.7	12	13.5
9 - 12 weeks	11	8.9	1	2.9	10	11.2
13 or more weeks	24	19.5	7	20.6	17	19.1
TOTAL	123	100.0	34	100.0	89	100.0

[A]Sixty-one (39.9%) junior college data processing terminees indicated they already had a job when they left their data processing program.

[B]Eighty-nine (28.1%) vocational-technical institute terminees reported they already had a job when they left their data processing program.

Table 28 points out whether the 1973-74 Post-Secondary Data Processing terminees were seeking full-time employment when they left their data processing program, and if so, did their data processing instructor attempt to help them secure employment.

Of the total 470 1973-74 Post-Secondary Data Processing terminees, 249 (53.0%) indicated they were looking for jobs when they left their data processing program. Of the 249 terminees who were looking for

jobs, 132 (53.0%) indicated their data processing instructor made no attempt to help them secure employment.

TABLE 28

WHETHER THE DATA PROCESSING INSTRUCTORS ATTEMPTED TO HELP 1973-74 POST-SECONDARY DATA PROCESSING TERMINEES GET A JOB IF TERMINEES WERE SEEKING FULL-TIME JOB UPON LEAVING THEIR DATA PROCESSING PROGRAM

Data Processing Instructors Attempted to Get Terminee a Job	Total		Type Institution Attended			
			Junior College		Voc.-Tech. Institute	
	No.	%	No.	%	No.	%
Yes	117	47.0	20	31.7	97	52.2
No	132	53.0	43	68.3	89	47.8
TOTAL	249	100.0	63	100.0	186	100.0

Of the 153 junior college data processing terminees, 63 (41.2%) reported they were looking for jobs. Forty-three (68.3%) of the junior college data processing terminees who were looking for jobs indicated their data processing instructor made no attempt to help them find a job.

Of the total 317 vocational-technical institute terminees, 186 (58.7%) reported they were looking for a full-time job when they left their data processing program. Of the 186 terminees who were seeking a full-time job when they left their data processing program, 89 (47.8%) reported that their data processing instructor made no attempt to help them secure employment.

Table 29 illustrates how the 1973-74 Post-Secondary Data Processing terminees indicated they got their first full-time job after leaving their data processing program by the type institution they attended.

TABLE 29

HOW THE 1973-74 POST-SECONDARY DATA PROCESSING TERMINEES INDICATED THEY GOT THEIR FIRST FULL-TIME JOB AFTER LEAVING THEIR DATA PROCESSING PROGRAM BY THE TYPE INSTITUTION THEY ATTENDED

How Terminees Secured First Full-Time Job	Total		Type Institution Attended			
			Junior College		Voc.-Tech. Institute	
	No.	%	No.	%	No.	%
Through your data processing instructor	19	12.2	2	4.5	17	15.2
Through a counselor	6	3.9	0	0.0	6	5.4
Through other instructors or administrators	5	3.2	1	2.3	4	3.6
Through a friend or relative	40	25.7	15	34.1	25	22.3
Through applications to business or industry	48	30.8	10	22.8	38	33.9
Through state (local) employment agency	13	8.2	4	9.1	9	8.0
Through a private employment agency	7	4.5	3	6.8	4	3.5
Through radio, T.V., newspaper, or other news media	5	3.2	2	4.5	3	2.7
Other[A&B]	13	8.3	7	15.9	6	5.4
TOTAL	156	100.0	44	100.0	112	100.0

[A]See page 123 for the listing of "Other" ways junior college terminees reported they got their first job after leaving their data processing program.

[B]See page 123 for the listing of "Other" ways vocational technical institute terminees reported they got their first job after leaving their data processing program.

Of the 156 1973-74 Post-Secondary Data Processing terminees who reported how they got their first full-time job after leaving their data processing program, 48 (30.8%) indicated they got that job through applications to business and industry. Forty (25.7%) of the terminees reported getting their first full-time job after leaving the program through a friend or relative. These two methods represent the two

ways the largest number of Post-Secondary Data Processing terminees secured their first full-time job after leaving their data processing program. Only 19 (12.2%) of the terminees reported getting their first full-time job through their data processing instructor. As reported by the terminees, counselors accounted for getting only six (3.9%) terminees employment.

Of the junior college data processing terminees reporting how they got their first full-time job after leaving the program, data processing instructors were reported to have gotten only two (4.5%) terminees' jobs, while counselors got no terminees' jobs.

The following list reports the "Other" ways the junior college terminees revealed how they got their first full-time job after leaving their data processing program:

1. Cooperative Education counselor
2. Had previous job
3. Took state civil service test
4. Promoted to Data Processing
5. (No Response)
6. (No Response)
7. (No Response)

Of the vocational-technical institute terminees who reported how they got their first full-time job after leaving the program, data processing instructors were given credit for getting only 17 (15.2%) of the terminees' jobs, while counselors were reported as having gotten only six (5.4%) terminees' jobs.

The following list notes the "Other" ways the vocational-technical institute terminees reported they got their first full-time job after leaving their data processing program:

1. Worked there before
2. Supervisor
3. Asking

(continued)

4. Still employed at previous job
5. Ran down on the street
6. (No Response)

Table 30 reports the indications of the 1973-74 Post-Secondary Data Processing terminees, by type institution attended, as to where they looked for their first job before taking it by how their first job related to their training.

TABLE 30

INDICATIONS OF THE 1973-74 POST-SECONDARY DATA PROCESSING TERMINEES AS TO WHERE THEY LOOKED FOR THEIR FIRST JOB BEFORE TAKING ONE BY HOW THEIR FIRST JOB RELATED TO THEIR TRAINING

Type Institution Attended by Where Terminees Looked for Employment Before Taking First Job	Total Reporting		Total Reporting by Relatedness of First Job to Data Processing Training					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Junior College								
Within daily walking or driving distance of home	62	86.1	14	82.4	11	84.6	37	88.1
Beyond daily walking or driving distance of home	10	13.9	3	17.6	2	15.4	5	11.9
TOTAL	72	100.0	17	100.0	13	100.0	42	100.0
Vocational-Tech. Institute								
Within daily walking or driving distance of home	104	83.2	34	94.4	29	76.3	41	80.4
Beyond daily walking or driving distance of home	21	16.8	2	5.6	9	23.7	10	19.6
TOTAL	125	100.0	36	100.0	38	100.0	51	100.0

See listing, page 125 for reasons junior college terminees gave for seeking their first job beyond daily walking or driving distance of their home.

See listing, page 125 for reasons vocational-technical institute terminees gave for seeking their first job beyond daily walking or driving distance of their home.

Only five (11.9%) of the 42 junior college terminees and 10 (19.6%) of the vocational-technical institute terminees who reported taking jobs in areas unrelated to their data processing program noted that they sought their first job beyond daily walking or driving distance of home.

The following list of reasons is what the vocational-technical institute data processing terminees gave for seeking a job beyond daily walking or driving distance of home before taking their first job:

1. None available
2. No jobs near home
3. No jobs within driving distance
4. Could not find one around here
5. No jobs in home town

Table 31 reports the indications of the 1973-74 Post-Secondary Data Processing terminees who worked in their first jobs not related to their data processing training by whether or not they tried to get a job related to their training by where they looked for employment before they accepted their first job. Data is also presented by the type institution they attended.

Only three (7.7%) of the 39 junior college data processing terminees who were working in a non-related area reported seeking related employment beyond daily walking or driving distance of home.

The following list reports the reasons the junior college data processing terminees whose first job was not related to their training, but who sought a job related to their data processing training, gave for not getting their first job in a related area:

1. None available and experience
2. Wrong training; job used tape computer
3. Not enough experience
4. Not enough experience
5. None available
6. No experience
7. No openings
8. Not qualified

TABLE 31

INDICATIONS OF THE 1973-74 POST-SECONDARY DATA PROCESSING TERMINEES WORKING IN FIRST JOBS NOT RELATED TO THEIR TRAINING BY WHETHER OR NOT THEY TRIED TO GET A JOB RELATED TO THEIR TRAINING BY WHERE THEY LOOKED FOR EMPLOYMENT BEFORE ACCEPTING FIRST JOB

By Type Institution Attended, Where Terminees Working in Non-Related Areas Looked for Employment Before Accepting First Job	Total		Before Accepting This First Job Unrelated to Training Whether Terminees Sought Job in Related Area			
			Yes[A&C]		No[B&D]	
	No.	%	No.	%	No.	%
Junior College						
Sought employment within daily walking or driving distance of home	35	89.7	14	82.4	21	95.5
Sought employment beyond daily walking or driving distance of home	4	10.3	3	17.6	1	4.5
TOTAL	39	100.0	17	100.0	22	100.0
Vocational-Tech. Institutes						
Sought employment within daily walking or driving distance of home	39	79.6	22	75.9	17	85.0
Sought employment beyond daily walking or driving distance of home	10	20.4	7	24.1	3	15.0
TOTAL	49	100.0	29	100.0	20	100.0

See listing, page 127, for reasons junior college terminees working in non-related jobs, but sought employment in related areas, gave for not securing job in related area.

See listing, page 127, for reasons junior college terminees working in non-related jobs, and who did not seek related employment, gave for not seeking related employment.

See listing, page 128, for reasons vocational-technical institute terminees working in non-related jobs, but sought employment in related areas, gave for not securing job in related area.

See listing, page 128, for reasons vocational-technical institute terminees working in non-related jobs, and who did not seek related employment, gave for not seeking related employment.

Listed below are the reasons the junior college data processing terminees whose first job was unrelated to their data processing training and who did not try to get a job related to their training gave for not attempting to get related employment:

1. Not enough training
2. Office work mostly typing
3. Did not complete course
4. Did not have any training
5. Already had job
6. Did not have qualifications
7. Only thing I could find
8. Not looking for EDP
9. Didn't finish course
10. Work in bank--balancing control
11. Job in production
12. Was not in E.O.P.
13. Took up drafting

Only seven (14.3%) of the 49 vocational-technical institute terminees who were working in non-related areas reported seeking related employment beyond daily walking or driving distance of home.

The following list reports the reasons the 1973-74 vocational-technical institute terminees whose first job was not related to their training but who sought a job related to their data processing training gave for not getting their first job in a related area:

1. Couldn't find one available
2. I couldn't find one
3. Could not find one
4. Didn't have opening yet
5. There was no opening in this field
6. Someone else picked
7. Not interested in finding a job in that field
8. Wasn't hiring
9. Not enough jobs in D.P.
10. No openings at the time and no job experience
11. Money and distance from home
12. None to be found

Listed below are the reasons the 1973-74 vocational-technical institute terminees whose first job was unrelated to their data processing

training and who did not try to get a job related to their training gave for not attempting to get a related job:

1. Low pay
2. Already had a job
3. Not interested
4. Did not complete course
5. I hadn't planned to work until this job came up and I took it
6. Already had this job
7. Because there weren't any available
8. Had job while in porgram
9. I did not like data processing
10. Not satisfied with field
11. Wasn't available
12. I didn't think I was qualified
13. Attended four year college for more training
14. Didn't want that kind of job

Table 32 reports the indications of the 1973-74 Post-Secondary Data Processing terminees, by type institution attended, as to where they looked for their present job before taking it by how their present job related to their training.

Of the 41 junior college data processing terminees who had a present job in an unrelated area, only six (14.6%) looked for a job beyond daily walking or driving distance of home before they took that present job.

Listed below are the reasons offered by the junior college data processing terminees for looking for a job away from home:

1. No jobs in that area
2. I live in the country
3. Because of opening in my field
4. No jobs available in home town
5. More job opportunities in other town
6. Needed employment

Only 12 (26.1%) of the 46 vocational-technical institute terminees who had present jobs unrelated to their data processing training, reported that they looked for a job beyond daily walking or driving distance of home.

TABLE 32

INDICATIONS OF THE 1973-74 POST-SECONDARY DATA PROCESSING TERMINEES AS TO WHERE THEY LOOKED FOR THEIR PRESENT JOB BEFORE TAKING THEIR PRESENT JOB BY HOW THEIR PRESENT JOB RELATED TO THEIR TRAINING

Type Institution Attended by Where Terminees Looked for Employment Before Taking Present Job	Total Reporting		Total Reporting by Relatedness of Present Job to Data Processing Training					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Junior Colleges								
Within daily walking or driving distance of home	63	87.5	16	88.9	12	92.3	35	85.4
Beyond daily walking or driving distance of home	9	12.5	2	11.1	1	7.7	6	14.6
TOTAL	72	100.0	18	100.0	13	100.0	41	100.0
Vocational-Tech. Institutes								
Within daily walking or driving distance of home	98	79.7	32	97.0	32	72.7	34	73.9
Beyond daily walking or driving distance of home	25	20.3	1	3.0	12	27.2	12	26.1
TOTAL	123	100.0	33	100.0	44	100.0	46	100.0

[A]See listing, page 130, for reasons junior college terminees gave for seeking their present job beyond daily walking or driving distance of their home.

[B]See listing, page 130, for reasons vocational-technical institute terminees gave for seeking their present job beyond daily walking or driving distance of their home.

Listed below are the reasons the 1973-74 vocational-technical institute terminees gave for seeking a job beyond daily walking or driving distance of home before accepting their present job:

1. No job openings near home
2. No jobs in home town
3. A larger city
4. I looked everywhere. No possibility or location was refused
5. I was interviewed in _____(city)_____
6. To find a job
7. Nothing in field close to home
8. Nothing close by
9. Better pay, just to get a job
10. No computers in home town
11. No jobs available within driving distance
12. Financial independence
13. Only place available
14. Where recommended to me
15. Only place available
16. Montgomery IBM
17. I moved

Table 33 reports the indications of the 1973-74 Post-Secondary Data Processing terminees who worked in their present jobs not related to their data processing training by whether or not they tried to get a job related to their training by where they looked for employment before they accepted their present job. Data is also presented by the type institution they attended.

Only three (8.3%) of the 36 junior college data processing terminees who were working in non-related areas indicated that they sought related employment beyond daily walking or driving distance of home.

Listed below are the reasons the 1973-74 junior college data processing terminees whose present job was not related to their training, but who sought a job related to their data processing training, gave for not getting their present job in a related area:

Reasons	Number
Could not find job in field	6
Not enough training	3
Trained on old IBM card--job had tape computer	1
No experience	8

(continued)

Reasons	Number
Not qualified	2
Unknown	1
I didn't finish the course	1
Found better paying job	1

TABLE 33

INDICATIONS OF THE 1973-74 POST-SECONDARY DATA PROCESSING TERMINEES WORKING IN PRESENT JOB NOT RELATED TO THEIR TRAINING BY WHETHER OR NOT THEY TRIED TO GET A JOB RELATED TO THEIR TRAINING BY WHERE THEY LOOKED FOR EMPLOYMENT BEFORE ACCEPTING PRESENT JOB

By Type Institution Attended, Where Terminees Working in Non-Related Areas Looked for Employment Before Accepting Present Job	Total		Before Accepting This Present Job Unrelated to Training Whether Terminees Sought Job in Related Area			
			Yes[A&C]		No[B&D]	
	No.	%	No.	%	No.	%
Junior College						
Sought employment within daily walking or driving distance of home	31	86.1	18	85.7	13	86.7
Sought employment beyond daily walking or driving distance of home	5	13.9	3	14.3	2	13.3
TOTAL	36	100.0	21	100.0	15	100.0
Vocational-Tech. Institutes						
Sought employment within daily walking or driving distance of home	31	70.5	19	65.5	12	80.0
Sought employment beyond daily walking or driving distance of home	13	29.5	10	34.5	3	20.0
TOTAL	44	100.0	29	100.0	15	100.0

[A]See listing, page 130, for reasons junior college terminees working in non-related jobs, but sought employment in related areas gave, for not securing job in related area.

[B]See listing, page 132, for reasons junior college terminees working in non-related jobs, and who did not seek related employment, gave for not seeking related employment.

[C]See listing, page 132, for reasons vocational-technical institute terminees working in non-related job, but sought employment in related areas, gave for not securing job in related area.

[D]See listing, page 133, for reasons vocational-technical institute terminees working in non-related jobs, and who did not seek related employment, gave for not seeking related employment.

Below are listed the reasons the junior college data processing terminees whose present job was not related to their data processing training and who did not try to get a related job gave for not seeking related employment:

Reasons	Number
Did not feel properly trained or qualified	8
Didn't want a change	6
No related job available	2
Was not qualified	2
Lost interest	2
Did not complete course	1
Not enough pay	1
Taught on obsolete IBM 130 equipment	1
Illness in family had to have any job	1
People said things but didn't back-up offers	1
Just needed to earn to finish school in any job	1

Only ten (22.7%) of the 44 vocational-technical institute terminees working in non-related area reported seeking related employment beyond daily walking or driving distance of home.

Listed below are reasons the 1973-74 vocational-technical institute terminees whose present jobs were in areas not related to their data processing training gave for not getting their present job in a related area:

Reasons	Number
Could not find job in field	14
Needed experience	4
Not enough training	2
Was not sure what I wanted	2
Had job in Data Processing but didn't like it	1
Because of my race	1
Not needed--not too many data processing jobs	1
Because I went to _____ community college	1
Because I did not have a college degree and three years experience	1
The college I attended was not accredited	1

Below are listed the reasons the vocational-technical institute terminees, whose present job was not related to their data processing training and who did not seek related employment, gave for not seeking a related job:

Reasons	Number
No jobs available	5
Still had same job that I started with	4
Still in school	3
Didn't want job related to data processing	2
Did not complete course	2
Changed interest	2
Worked for father	1
Low pay	1
Didn't try	1
Selected secretarial	1
Not enough training at the time	1
Did not feel qualified	1
Not enough experience	1

APPENDIX

PRESENT JOB AND FIRST JOB TITLES OF THE 1973-74 DATA PROCESSING OCCUPATIONS TERMINEES

PRESENT JOB AND FIRST JOB TITLES OF THE 1973-74 DATA PROCESSING OCCUPATIONS TERMINEES

For those terminees who indicated present or first job occupations, this appendix lists the present job title and first job title by their school vocational training area (OE Codes). The job titles are listed as the terminees reported them. The number of full-time jobs held by these terminees since completing their high school vocational course is listed, current employment status is listed, and whether the student intended to get a job in the area while in the program.

The following code is used to identify the employment status of the terminees:

0. Unemployed, but seeking employment
1. Employed full time
2. Employed part time, seeking full-time job
3. Employed part time, not seeking full-time job
4. Employed full time and attending school
5. Employed part time and attending school
6. Unavailable for employment

The following code is used to identify whether the student intended to get a job in the area while in the program:

1. No
2. Was not sure
3. Yes

The number in parenthesis behind the job titles indicates the relatedness of the school vocational training to these jobs. The terminees made

the judgment as to the relatedness of their training to these jobs. The following code is used to identify this relatedness:

1. Directly related
2. Somewhat related
3. Not related

The total in each occupational title area may not correspond to the total in each OF Code as listed in Table 1. Some of the terminees failed to indicate the title of their present position. If the first job title was the same as the present job title, the first job title is included under the present job title.

Junior College Job Titles

JUNIOR COLLEGES

OE Code 14.0201 - Gadsden State Junior College

No.	Employment Status	Full-Time Jobs Held Since Data Processing Course	Intent of Employment in Area	Present Job	First Job
1	4	1	1	Bulldozer Oper. (Power Co.)(3)	
2	4	1	1	Comp. Oper. (1)	
3	4	1	1	Supervisory Clerk (2)	
4	0	1	1		Mailroom Clerk(3)
5	4	1	1	Tire builder (3)	
6	4	0	1	Elec. Foreman(3)	
7	4	1	1	Fireman (3)	
8	1	0	2	Postman (2)	
9	0	1	1		Programmer (2)
10	5	0	2	Keypuncher (1)	
11	4	0	1	Comp. Oper. (1)	
12	0	1	2		Laborer (3)
13	4	1	1	Comp. Oper. (1)	
14	1	1	1	Comp. Oper. (2)	
15	1	1	2	Secretary (3)	
16	4	1	1	Serviceman (3)	
17	4	1	1	Tire Builder (3)	
18	4	0	1	Quality Analyst (2)	
19	1	1	2	Clerk/Typist(3)	
20	4	0	1	Supervisor/Comp. Dept. (2)	
21	4	1	2	Calculator (3)	
22	4	1	1	Field Engineer (2)	
23	4	1	2	Clerk (2)	

OE Code 14.0201 - Jefferson State Junior College

1	4	1	1	Marketing Mgr.(3)	
2	4	1	1	Control Spec. (1)	
3	4	5	1	Revenue Examiner (3)	Data Processing (1)
4	1	2	1	Data Processing (2)	Keypunching(1)
5	1	2	1	Traffic Analyst (2)	
6	4	1	2	Highway Design Asst. II (3)	
7	4	2	1	Grinder (3)	
8	1	1	1	Comp. Oper. (1)	

(continued)

OE Code 14.0201 - Jefferson State Junior College (con't.)

No.	Employment Status	Full-Time Jobs Held Since Data Processing Course	Intent of Employment in Area	Present Job	First Job
9	5	0	1		Helper (3)
10	4	2	1	Asst. Mgr. Serv. Station (3)	Helper (3)
11	1	2	1	Wine Salesman(3)	
12	1	1	1	Data Oper. supervisor(1)	Comp. Oper.(2)
13	5	2	1	Work study (2)	Typist (3)
14	4	3	1	Truck Driver (3)	Laborer (3)
15	1	1	1	Sales (3)	Keypunch (3)
16	1	1	1	Comp. Oper. (2)	
17	4	1	1	Collection Spec. (3)	Ass. Mgr. Tire Dept. (3)
18	1	1	2	Welder (3)	
19	1	2	1	Metals Lab Tech. (2)	Stock clerk (3)
20	4	1	1	Office Clerk(2)	
21	5	0	1	Inventroy Spec. (3)	
22	4	1	1	Secretary (3)	
23	2	2	1	Laborer (3)	
24	4	0	1	Membership (3) record clerk	
25	4	1	1	Comp. Oper. (1)	
26	1	2	1	Laborer (3)	Autoclave Oper. (3)
27	1	2	1	Faculty Dir.(1)	Programmer (1)
28	4	0	2	Mold Finisher(3)	Programmer (1)
29	4	1	1	Printer (1)	
30	4	1	1	Computer Programmer (1)	
31	4	1	2	Data processing (3)	Stock Clerk (3)
32	1	0	1	Laborer (3)	
33	1	1	1	Comp. Oper. (1)	
34	4	1	2	Supervisor of Data Pro. (1)	
35	4	1	2	Co-op student Asst. (3)	Salesman (3)
36	1	2	1		Data checker(2)
37	1	2	2	Payroll Clerk(2)	Bookkeeper (2)
38	1	1	1	Comp. Oper. (1)	Comp. Quality Control (1)
39	4	1	2	Construction lineman (3)	
40	1	1	1	Comp. Oper.(1)	

(continued)

OE Code 14.0201 - Jefferson State Junior College (con't.)

No.	Employment Status	Full-Time Jobs Held Since Data Processing Course	Intent of Employment in Area	Present Job	First Job
41	4	2	1	Cust. Ser. (3)	Insur. Sales.(3)
42	4	1	1	2nd Shift Super. (2)	
43	1	1	1	Data Processing (2)	
44	1	1	2	Teletype Oper. (3)	
45	1	1	2	Mechanic (3)	
46	1	1	1	Comp. Oper. (2)	
47	1	1	1	Truck Driver(3)	
48	1	0	1	Comp. Oper. (1)	
49	4	1	0	Comp. Oper. (1)	
50	4	2	1	Comp. Oper. (2)	
51	1	1	1	Pipe recorder(3)	
52	5	1	1	Truck loader (3)	
53	1	2	1	Application Programmer (1)	Programmer Oper.(1)
54	4	0	1	Warehouseman (3)	Processing foreman (3)
55	4	4	1	Keypuncher (2)	Counter Clerk(3)
56	3	0	-	Production Manager (3)	
57	1	1	1	Comp. Oper. (2)	
58	4	1	1	Shift leader (2)	
59	5	0	1	Printer (3)	Clothing Sales(3)
60	1	2	1	Comp. Oper. (1)	Service Station Attend. (3)

OE Code 14.0203 - Jefferson State Junior College

1	4	1	1	Comp. Programming Super.(2)	
2	4	1	1	Comp. Oper. (2)	
3	4	1	2	Campus police(3)	
4	4	2	1	Programmer trainee (1)	Stock clerk
5	4	0	2	Mail clerk (3)	Warehouseman
6	4	1	1	Asst. Mgr. (3)	Comp. Oper. (1)
7	4	1	1	Asst. Mgr. Grocery (3)	Comp. Oper. (1)
8	4	1	1	Stenographer(3)	Office Clerk(1)
9	4	2	1	Comp. Oper. (1)	Animal Keeper(3)
10	0	1	1	Control Clerk(3)	
11	4	1	1	Comp. Programmer (1)	

(continued)

OE Code 14.0203 - Jefferson State Junior College (con't.)

No.	Employment Status	Full-Time Jobs Held Since Data Processing Course	Intent of Employment in Area	Present Job	First Job
12	1	1	1	Keypuncher (1)	
13	4	1	1	Machinist (2)	
14	1	1	1	Corp. Sec. (3)	
15	1	1	1	Comp. Oper. (2)	
16	4	3	1	Comp. Oper. (1)	Gardener(3)
17	1	1	1	Dir. of Comp. center (1)	Programmer Oper. (1)

OE Code 14.0201 - S. D. Bishop State Junior College

1	4	1	1	Comp. Oper. (1)	
2	1	3	1	General Utility (3)	
3	0	1	1	Chlorine Oper. (3)	

Vocational-Technical Institute Job Titles

VOCATIONAL-TECHNICAL INSTITUTES

OE Code 14.020201 - Alabama Institute for Deaf and Blind

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
1	1	0	2	Keypunch Operator II (1)	
2	0	1	3		Waitress, Cook(3)
3	2	1	3	Keypunch Operator (2)	

OE Code 14.020300 - Bessemer State Technical College

1	1	1	3	Programmer I (1)	
2	1	2	3	Not given (2)	Control clerk (1)
3	1	1	3	Processing clerk, bank(1)	Not given (1)
4	1	1	2	Programmer/ Operator (1)	
5	1	1	3	Keypunch Operator (1)	
6	4	2	3	Burster Operator (2)	Computer Operator (1)
7	1	3	3	Keypunch Operator (1)	Keypunch Operator (1)
8	1	1	3	Processing supervisor(1)	
9	1	1	3	Keypunch Operator (2)	
10	1	1	2	Ingraver (badges) (3)	
11	1	1	2	Bookkeeper (3)	
12	1	1	3	Computer Programmer (1)	
13	1	2	3	Truck driver(3)	Supervisor, Dept. store (3)
14	4	2	2	Steel hook-on man (3)	Laborer (3)
15	4	1	2	Clerk-Typist I (3)	
16	4	0	3	Engr. Aide (surveyor)(3)	
17	4	1	3	Keypunch Operator (3)	Keypunch Operator (1)
18	1	1	3	Stock clerk (3)	
19	1	1	3	Computer Operator (1)	

(continued)

OE Code 14.020300 - Bessemer State Technical College (con't.)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
20	5	0	3	Computer Operator (1)	
21	1	1	3	Programmer (1)	
22	1	3	1	Applications Spec. (2)	Supply Spec. (3)
23	4	2	3	Computer Operator (1)	Computer Operator (2)
24	1	2	3	Not giver (3)	Keypunch Oper. (1)
25	4	2	3	Environmental Service (3)	
26	1	1	3	Computer Oper. (1)	

OE Code 14.020201 - Bessemer State Technical College

1	6	1	3	Keypunch Oper. (1)	
2	1	2	2	Keypunch Oper. (1)	Keypunch Oper. (2)
3	1	2	3	Keypunch and terminal oper. (1)	Data Processing clerk (2)
4	0	0	3	Keypunch Oper. (1)	Keypunch Oper. (1)
5	1	1	3	Cable splicer (3)	Not given (3)
6	1	2	3	Keypunch Oper. (1)	Typist (3)
7	1	1	3	General Office clerk (3)	
8	1	1	3	Pharmacy Tech. (3)	Keypunch Oper. (1)
9	1	3	3	Receptionist, typist (3)	Keypunch Oper. (1)
10	1	1	3	Keypunch Oper. (1)	

OE Code 14.0203 - George C. Wallace Community College
(Technical Division)

No.	Employment Status	Full-Time Jobs Held Since Data Processing Course	Intent of Employment in Area	Present Job	First Job
1	0	2	2		Clerk/Typist(2)
2	0	0	1	Waitress (3)	
3	4	1	1	Loan Officer(2)	
4	1	1	1	Laborer (3)	Ship. laborer(3)
5	1	2	1	Ins. Agent (3)	
6	4	1	1	Director (3)	
7	4	1	1	Inventory clerk (3)	
8	4	2	1	Secretary (3)	Bookkeeper (1)
9	1	2	1	Secretary (2)	Billing Clerk (3)
10	1	1	1	Clerk (3)	
11	1	1	1	Office Clerk(2)	
12	1	2	2	Records clerk(2)	Folding shirts(3)
13	1	1	1	Farming (3)	
14	5	0	2	Filing clerk (2)	Waitress/Cook (3)
15	1	1	1	Office Clerk (1)	
16	5	2	1	Night Clerk (3)	Maintenance (3)
17	1	1	1	Data Processing (2)	
18	1	2	1	File Clerk (3)	Secretary (3)
19	2	1	1	Office Clerk (3)	
20	5	0	1	Collecting Agent	
21	1	1	1	Keypuncher (2)	
22	0	1	1	Account. Clerk(2)	
23	0	1	1	Tire changer	
24	1	2	2	Bookkeeper (2)	Carpenter's Helper (3)
25	1	1	2	File Clerk (2)	Office Clerk (3)
26	2	0	2	Switchboard Oper. (3)	Desk Clerk (3)
27	6	1		Office Clerk	
28	1	1	1	Keypuncher (2)	
29	4	1	1	Data Processing (1)	
30	0	1	2	Secretary (3)	
31	4	1	1	Data Processing (1)	
32	1	1	1	Acct. Records Clerk (2)	
33	1	2	1	Comp. Oper. (1)	Comp. Oper. (1)
34	1	4	1	Bookkeeper (2)	

OE Code 14.020201 - J. F. Drake State Technical College

No.	Employment Status	Full-Time Jobs Held Since Data Processing Course	Intent of Employment in Area	Present Job	First Job
1	6	1	1		Keypunch Oper. (2)
2	1	1	1	Keypuncher (1)	Bookkeeper(3)
3	0	1	2	Keypuncher (2)	

OE Code 14.0203 - J. F. Drake State Technical College

1	1	1	2	Data Process.(2)	Stock Clerk (2)
2	4	1	2	Security Guard(3)	Data Reducation Tech. (2)
3	1	1	1	Comp. Oper. (2)	
4	4	1	1	Comp. Oper. (1)	

OE Code 14.0202 - Lawson State Technical College

1	1	1	1	Letter sorter(2)	
2	1	1	2	Coal loader (3)	

OE Code 14.0000 - MacArthur State Technical College

1	1	1	1	Cashier (3)	

OE Code 14.0200 - MacArthur State Technical College

1	4	1	1	Instructor (1)	Comp. Oper. (2)
2	1	2	1	Payroll Clerk(2)	Comp. Oper. (1)
3	1	1	1	Admitting Clerk (3)	
4	1	2	2	Clerk (3)	
5	1	1	1	Band shirt collars (3)	

OE Code 14.020201 - MacArthur State Technical College

1	1	1	1	Secretary (3)	

OE Code 14.0200 - Muscle Shoals State Technical Institute

No.	Employment Status	Full-Time Jobs Held Since Data Processing Course	Intent of Employment in Area	Present Job	First Job
1	5	1	1	Comp. Oper.(1)	
2	4	1	1	Comp. Oper.(2)	
3	1	1	1	Keypuncher (1)	
4	1	1	1	Comp. Oper.(1)	
5	2	0	1	Keypuncher (2)	
6	2	0	1	Keypuncher (1)	
7	4	2	2	Engineer Aide(2)	Comp. Oper.(3)
8	0	1	1	Fork-lift Oper. (3)	

OE Code 14.0200 - Northwest State Technical College

1	5	0	1	Nurses Aide (3)	
2	1	1	1	Secretary (2)	
3	4	1	1	Radio Comm. (2)	
4	1	1	1	Ship. Clerk (3)	
5	1	1	2	Clerk for Tele. Co. (3)	
6	0	2	1	Batcher Oper.	Clean reactor tanks (3)
7	1	1	-	Comp. Oper. (1)	
8	1	1	1	Quality Control Tech. (3)	Supervisor D.O. students (3)
9	0	4	2	Comp. Oper.	Truck driver (2)

OE Code 14.0203 - Opelika State Technical College

1	1	2	1	Inspector (3)	Keypuncher (2)
2	1	1	1	Bookkeeper (2)	
3	1	0	2	Truck Driver (3)	Cloth Inspec.(3)
4	1	1	1	Acct. Clerk(2)	Office Clerk (3)
5	1	1	2	Personnel Clerk (3)	
6	5	0	2	Comp. Oper. (1)	
7	1	2	1	Clerk/Typist(3)	Keypuncher (1)
8	1	1	1	Oiler (3)	
9	5	1	2	Lay-up (Textile) (3)	
10	1	1	1	Comp. Oper. (2)	
11	1	2	1	Comp. Oper. (1)	
12	1	1	1	Elec. Tech. (2)	

(continued)

OE Code 14.0203 - Opelika State Technical College (con't.)

No.	Employment Status	Full-Time Jobs Held Since Data Processing Course	Intent of Employment in Area	Present Job	First Job
13	0	1	2		Comp. Oper. (1)
14	1	0	1	Office Clerk (3)	
15	4	1	1	Comp. Oper. (1)	
16	1	1	1	Programmer (1)	

OE Code 14.0203 - Patterson State Technical College

1	1	1	1	Comp. Oper. (1)	
2	1	1	1	Comp. Oper. (2)	
3	1	1	1	Comp. Oper. (2)	
4	4	1	2	Dispatcher (3)	
5	1	1	1	Acct. Clerk (2)	
6	1	1	1	Photo Composition Helper (3)	Stock Clerk (3)

OE Code 14.0201 - Shelton State Technical College

1	1	1	2	Comp. Oper. (1)	
2	1	3	2	Physical Therapy Aide (3)	File Clerk (3)
3	1	1	1	Clerk (3)	
4	1	1	2	Comp. Oper. (1)	
5	1	1	2	Lab. Tech. (3)	
6	5	0	1	Stock Clerk (3)	
7	1	1	1	Bank Teller (2)	
8	0	1	2	Floor Girl (3)	
9	1	2	2	Receptionist (2)	Typist (3)
10	5	0	1	Balancing Clerk (2)	
11	4	0	1	Tire builder (3)	
12	0	0	1	Asst. to Exec. V.P. (2)	

OE Code 14.020201 - Trenholm State Technical College

1	1	1	1	Data Entry Oper. (2)	Keypuncher Oper. (2)
2	1	1	1	Sewing (3)	
3	1	1	2	Keypuncher(2)	
4	1	2	2	Clerk/Typist (3)	

(continued)

OE Code 14.020201 - Trenholm State Technical College (con't.)

No.	Employment Status	Full-Time Jobs Held Since Data Processing Course	Intent of Employment in Area	Present Job	First Job
5	1	1	1	Keypuncher (1)	
6	1	2	1	Radio Comm. (3)	
7	1	1	1	Clerk/Typist(2)	Keypuncher (1)
8	1	1	2	Keypuncher (2)	
9	1	1	1	Keypuncher (1)	
10	1	1	1	Stripping Books (3)	
11	1	1	1	Keypuncher (2)	
12	1	1	1	Keypuncher (2)	
13	0	1	1	Carp. Trainee	
14	1	1	2	Claims Clerk(2)	
15	0	2	2		Keypuncher (1)
16	1	1	2	Keypuncher (2)	
17	2	1	2	Laborer (3)	
18	1	1	1	Keypuncher (2)	
19	1	1	1	Keypuncher (1)	
20	1	1	-	Keypuncher (1)	
21	2	0	1	Claims Clerk(2)	

QUESTIONNAIRE

JUNIOR COLLEGE STUDENT COMMENTS RECEIVED
WITH COMPLETED QUESTIONNAIRES

Mr. Faulkner:

In regard to the questionnaire I received from you, I need to tell you that I changed subjects at school and I am no longer in data processing. I only took that course for six weeks and I changed to low enforcement. So, I couldn't honestly fill out the questionnaire. And don't think I would if I could help in anyway.

Thank you,

Mr. Faulkner:

I am currently undertaking the data processing program at _____ Junior College and don't feel that this questionnaire should apply to me yet after finishing. If you still want it completed, return it.

Sincerely,

Gentlemen:

Enclosed is the questionnaire sent to us. If you have any free materials that you feel may be helpful to our Data Processing Program at _____, please send them to us. Thank you.

Sincerely,

Dear Mr. Faulkner:

I attended junior college for only one quarter. Because of the small training I had in Data Processing, I do not think the questionnaire applies to me. The job I have now is no where related to Data Processing. I am sorry I can't help you.

I can tell you that I truly enjoyed the small amount of training that I did receive. My instructor was very good.

Sincerely,

VOCATIONAL-TECHNICAL INSTITUTE STUDENT COMMENTS
RECEIVED WITH COMPLETED QUESTIONNAIRES

I received a confidential letter from you. I am glad you want to know. I been didn't find job since finished Business College for seven months. My friend help me find job at _____, but I don't like work there because small pay a month. I just first job with training on keypunch, but I hope can get better other job with large earn money, but I hard find one. I hope I can succeed better soon. I am deaf. I still hope I can find better job with good pay.

Thank,

(Letter typed as received from student)

_____ is in the Army. Entered in September of 1974.

To whom it may concern:

I can not complete this form because I have not completed my course as yet. Second, I am not a "Former Data Processing Student." When I do complete the course, I will be glad to complete it at that time.

Dear Sir:

I was not in the data processing class, but I would be interested to know if you have a course in radio broadcasting and an on-the-job training program.

Thank you,

To whom it may concern:

The program I participated in at _____ State Technical in keypunch was excellent and the instructors very good. However, I feel that they have an unrealistic attitude about the job market.

There are very few keypunch jobs without experience, and even with experience the pay is pathetic. I am currently making $90 a week posting payments part of the day and keypunch part of the day. I have no chance for advancement and no hope of ever making more than $100 a week.

Thank you,

Dear Sir:

Please read the attached questionary before reading this letter. The data processing course here at _____ Technical College was and is an excellent one. I graduated with an A- after 17 months of full time study. I was to say the least tremendously interested in this field as a career, however and most unfortunately, this was not to be.

I graduated in May of 1974. I spent the next seven months looking for a job. I applied at literally hundreds of places locally and nationwide. In addition I enlisted the aid of two private employment agencies all to no avail. The real reason that I did not get a job as a computer programer is that employers want and can get college graduates (degreed) with at least three years experience. They dont care how good you work record is or how much training you have had.

Even after seven months of futil effort I still haven't given up. I have been enrolled in an accounting and bookkeeping course at the same school since Oct 1974. Accounting is related to data processing so this may help. To my knowledge only one student that has graduated from the computer programing course since 1972 has obtained employment as a programer. Obviously I dont think this justifies the continuation of this course of instruction here at _____ Technical College. I would surely be interested in any follow up comments that you may have.

Sincerely,

(Letter typed as received from student)

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TITLE: DISTRIBUTIVE EDUCATION OCCUPATIONS FOLLOW-UP. FOLLOW-UP OF 1973-74 DISTRIBUTIVE EDUCATION OCCUPATIONS TERMINEES FROM THE SECONDARY SCHOOL VOCATIONAL PROGRAMS OF ALABAMA. RESEARCH AND DEVELOPMENT REPORT NO. 31.

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ABSTRACT: THIS REPORT RELATES THE FINDINGS OF A STATEWIDE FOLLOWUP SURVEY OF 1973-74 DISTRIBUTIVE EDUCATION OCCUPATIONS TERMINEES FROM THE SECONDARY SCHOOL VOCATIONAL PROGRAMS OF ALABAMA. QUESTIONNAIRES WERE MAILED TO 2,400 STUDENT TERMINEES APPROXIMATELY SEVEN TO EIGHT MONTHS AFTER LEAVING SCHOOL. RETURNS WERE RECEIVED FROM 712 (29.7 PERCENT) DISTRIBUTIVE EDUCATION OCCUPATIONS TERMINEES FROM THE INITIAL MAILING AND ONE FOLLOWUP. DATA ARE PRESENTED IN TABLES WITH ACCOMPANYING NARRATIVE SUMMARIES ORGANIZED ACCORDING TO THESE MAJOR SECTIONS: GENERAL INFORMATION ON THE TERMINEES; BASIC INFORMATION RELATED TO THE VOCATIONAL EDUCATION PROGRAM; BASIC EMPLOYMENT INFORMATION; CONTINUING EDUCATION INFORMATION; AND JOB PLACEMENT INFORMATION. PRESENT AND FIRST JOB TITLES OF THE 1973-74 DISTRIBUTIVE EDUCATION OCCUPATIONS TERMINEES ARE APPENDED. (NJ)

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VT 10 325

Research and Development Report No. 31

1973-1974 ALABAMA SECONDARY DISTRIBUTIVE EDUCATION OCCUPATIONS FOLLOW-UP REPORT

BONNIE J. BURKS

JAMES BOB DRAKE

OCCUPATIONAL RESEARCH AND DEVELOPMENT UNIT
DEPARTMENT OF VOCATIONAL AND ADULT EDUCATION
SCHOOL OF EDUCATION
AUBURN UNIVERSITY
AUBURN, ALABAMA

IN COOPERATION WITH DIVISION OF
VOCATIONAL EDUCATION AND COMMUNITY COLLEGES
STATE DEPARTMENT OF EDUCATION

DECEMBER 1975

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DISTRIBUTIVE EDUCATION OCCUPATIONS FOLLOW-UP

Follow-Up of 1973-74 Distributive Education Occupations
Terminees From the Secondary School
Vocational Programs of Alabama

Research and Development Report No. 31

Bonnie J. Burks, Research Associate
and
Dr. James Bob Drake, Director

Occupational Research and Development Unit
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Auburn, Alabama

In Cooperation with Division of
Vocational Education and Community Colleges
State Department of Education

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FOLLOW-UP OF 1973-74 DISTRIBUTIVE EDUCATION OCCUPATIONS TERMINEES FROM THE SECONDARY SCHOOL VOCATIONAL PROGRAMS OF ALABAMA

Alabama continues to support one of the most progressive and comprehensive vocational education programs in the nation. In addition to serving youth and adults by training them for gainful and useful employment, the diversification of vocational courses meets a serious job need and contributes to the industrial development in the state.

With the millions of tax dollars being spent on vocational education, it is necessary to attempt to account to the taxpayer and decision-makers on the results of those expenditures. Terminee student follow-up studies constitute one of the most valuable techniques for assessing vocational education system outcomes.

The Alabama State Department of Education, Division of Vocational Education and Community Colleges, recognizing this important phase of accountability and evaluation, initiated the development of a statewide follow-up system for its vocational education program terminees at the secondary school level. The Division, under the direction of Dr. T. L. Faulkner, State Director, contracted with the Occupational Research and Development Unit at Auburn University to develop and implement the statewide follow-up system for all its secondary vocational terminees in all service areas.

This report relates the findings of the survey instrument mailed to the 1973-74 Distributive Education Occupations terminees from the

secondary school vocational programs of Alabama. When the terminees received the questionnaire, most had been out of school seven to eight months.

General Information

Student rosters with names and addresses of 1973-74 Distributive Education Occupations terminees were received from 89 secondary school vocational teachers in Alabama. Of the 89 teachers from which student rosters were received, 12 were in Secondary Area Vocational Centers (AVC) and 77 were in programs in schools of other settings. The total 2400 student terminees reported to the ORDU were mailed the follow-up forms. Returns were received from 712 (29.7%) Distributive Education Occupations terminees from the initial mailing and one follow-up. At least one student questionnaire was received from each of the 89 teachers.

All terminees reported in this study were in programs administered only by the Distributive Education, Section of the Division of Vocational Education and Community Colleges, State Department of Education.

Table 1 presents data relative to the total population of Distributive Education Occupations terminees and the number of returns categorized by OE codes as reported by teachers.

TABLE 1

DESCRIPTION OF TOTAL POPULATION AND RETURNS
BY OE CODE OF 1973-74 DISTRIBUTIVE
EDUCATION OCCUPATIONS TERMINEES[A]

OE Code[B]	Occupational Title	Total Number of Students	Percent of Health Students by OE Code	Number of Returns	Percent of Returns for OE Code Area
04.0000	Distributive Education	41	1.7	7	17.1
04.0100	Advertising	35	1.5	16	45.7
04.0200	Apparel & Accessories	261	10.9	100	38.3
04.0300	Automotive	109	4.5	32	29.4
04.0400	Finance & Credit	53	2.2	24	45.3
04.0500	Floristry	41	1.7	15	36.6
04.0600	Food Distribution	496	20.7	149	30.0
04.0700	Food Services	267	11.1	71	26.6
04.0800	General Merchandise	552	23.0	157	28.4
04.0801	Sales & Marketing	1	0.0	0	0.0
04.0900	Hardware, Building Materials, Farm & Garden Supplies, and Equipment	85	3.5	26	30.6
04.1000	Home Furnishings	53	2.2	16	30.2
04.1100	Hotel & Lodging	12	0.5	3	25.0
04.1200	Industrial Marketing	44	1.8	12	27.3
04.1300	Insurance	8	0.3	5	62.5
04.1500	Personal Services	90	3.8	25	27.8
04.1600	Petroleum	36	1.5	6	16.7
04.1700	Real Estate	12	0.5	3	25.0
04.1800	Recreation & Tourism	52	2.2	12	23.1
04.1900	Transportation	25	1.0	4	16.0
04.2000	Other Retail Trade	52	2.2	13	25.0
04.3100	Other Wholesale Trade	14	0.6	4	28.6
04.9900	Distributive Education, Other	50	2.1	9	18.0
Other OE Codes[C]:					
07.0100	Dental	1	0.0	0	0.0
14.0103	Cashiers	4	0.2	1	25.0
14.0105	Tellers	1	0.0	0	0.0

(continued)

TABLE 1 (continued)

OE Code[B]	Occupational Title	Total Number of Students	Percent of Health Students by OE Code	Number of Returns	Percent of Returns for OE Code Area
14.0300	Filing, Office Machines, and General Office Clerical Occupations	3	0.1	1	33.3
14.0402	Correspondence Clerks	1	0.0	0	0.0
14.0406	Receptionists and Information Clerks	1	0.0	1	100.0
	TOTAL ALL AREAS	2400	100.0	712	29.7

[A]These terminees were in programs administered only under the Distributive Education Section of the Division of Vocational Education and Community Colleges, State Department of Education.

[B]OE Codes as reported by teachers.

[C]Other OE Codes were indicated by Distributive Education instructors that did not fall within the Distributive Education categories.

Of the 1973-74 Distributive Education Occupations terminees reported by the teachers, the largest number in any OE code was in the occupational title area of General Merchandise. This 552 represented 23.0 percent of the reported Distributive Education Occupations terminees. There were 496 (20.7%) terminees listed as studying Food Distribution, 267 (11.1%) as studying Food Services, and 261 (10.9%) as studying Apparel & Accessories. The combined enrollment of General Merchandise, Food Distribution, Food Services and Apparel & Accessories was 1576. This represented 66.7 percent of the total enrollment in the Distributive Education Occupations area.

Table 1A is a description of the total population and returns by OE Code area, type school, and termination status of the 1973-74 Distributive Education Occupations terminees.

TABLE 1A

DESCRIPTION OF TOTAL POPULATION AND RETURNS BY OE CODE AREA, TYPE SCHOOL, AND TERMINATION STATUS OF THE 1973-74 DISTRIBUTIVE EDUCATION OCCUPATIONS TERMINEES

OE Code Area Studied[A]	Occupational Title Studied by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
04.0000	Distributive Education (Total)	41	7	17.1
	AVC (Total)[B]	0	0	0.0
	Completers[C]	0	0	0.0
	Dropouts[D]	0	0	0.0
	Other Type Schools (Total)	41	7	17.1
	Completers	28	7	25.0
	Dropouts	13	0	0.0
04.0100	Advertising (Total)	35	16	45.7
	AVC (Total)	5	3	60.0
	Completers	5	3	60.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	30	13	43.3
	Completers	26	11	42.3
	Dropouts	4	2	50.0
04.0200	Apparel & Accessories (Total)	261	100	38.3
	AVC (Total)	28	12	42.6
	Completers	25	12	48.0
	Dropouts	3	0	0.0
	Other Type Schools (Total)	233	88	37.8
	Completers	215	85	39.5
	Dropouts	18	3	16.7
04.0300	Automotive (Total)	109	32	29.4

(continued)

TABLE 1A (continued)

OE Code Area Studied	Occupational Title Studied by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
	AVC (Total)	11	3	27.3
	Completers	11	3	27.3
	Dropouts	0	0	0.0
	Other Type Schools (Total)	98	29	29.6
	Completers	84	27	32.1
	Dropouts	14	2	14.3
04.0400	Finance & Credit (Total)	53	24	45.3
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	53	24	45.3
	Completers	51	24	47.1
	Dropouts	2	0	0.0
04.0500	Floristry (Total)	41	15	36.6
	AVC (Total)	2	2	100.0
	Completers	2	2	100.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	39	13	33.3
	Completers	36	12	33.3
	Dropouts	3	1	33.3
04.0600	Food Distribution (Total)	496	149	30.0
	AVC (Total)	53	19	35.8
	Completers	41	15	36.6
	Dropouts	12	4	33.3
	Other Type Schools (Total)	443	130	29.3
	Completers	387	118	30.5
	Dropouts	56	12	21.4
04.0700	Food Services (Total)	267	71	26.6
	AVC (Total)	16	7	43.8
	Completers	12	6	50.0
	Dropouts	4	1	25.0

(continued)

TABLE 1A (continued)

OE Code Area Studied	Occupational Title Studied by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
	Other Type Schools (Total)	251	64	25.5
	Completers	214	53	24.8
	Dropouts	37	11	29.7
04.0800	General Merchandise (Total)	552	157	28.4
	AVC (Total)	75	20	26.7
	Completers	66	18	27.3
	Dropouts	9	2	22.2
	Other Type Schools (Total)	477	137	28.7
	Completers	415	122	29.4
	Dropouts	62	15	24.2
04.0801	Sales & Marketing (Total)	1	0	0.0
	AVC (Total)	1	0	0.0
	Completers	1	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
04.0900	Hardware, Building Materials, Farm & Garden Supplies, and Equipment (Total)	85	26	30.6
	AVC (Total)	17	5	29.4
	Completers	15	4	26.7
	Dropouts	2	1	50.0
	Other Type Schools (Total)	68	21	30.9
	Completers	60	20	33.3
	Dropouts	8	1	12.5
04.1000	Home Furnishings (Total)	53	16	30.2
	AVC (Total)	5	2	40.0
	Completers	5	2	40.0
	Dropouts	0	0	0.0

(continued)

TABLE 1A (continued)

OE Code Area Studied	Occupational Title Studied by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
	Other Type Schools (Total)	48	14	29.2
	Completers	43	12	27.9
	Dropouts	5	2	40.0
04.1100	Hotel & Lodging (Total)	12	3	25.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	12	3	25.0
	Completers	10	3	30.0
	Dropouts	2	0	0.0
04.1200	Industrial Marketing (Total)	44	12	27.3
	AVC (Total)	4	2	50.0
	Completers	2	1	50.0
	Dropouts	2	1	50.0
	Other Type Schools (Total)	40	10	25.0
	Completers	29	8	27.6
	Dropouts	11	2	18.2
04.1300	Insurance (Total)	8	5	62.5
	AVC (Total)	1	1	100.0
	Completers	0	0	0.0
	Dropouts	1	1	100.0
	Other Type Schools (Total)	7	4	57.1
	Completers	6	3	50.0
	Dropouts	1	1	100.0
04.1500	Personal Services (Total)	90	25	27.8
	AVC (Total)	10	0	0.0
	Completers	10	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	80	25	31.2
	Completers	64	22	34.4
	Dropouts	16	3	18.8

(continued)

TABLE 4A (continued)

OE Code Area Studied	Occupational Title Studied by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
04.1600	Petroleum (Total)	36	6	16.7
	AVC (Total)	5	1	20.0
	Completers	4	1	25.0
	Dropouts	1	0	0.0
	Other Type Schools (Total)	31	5	16.1
	Completers	26	4	15.4
	Dropouts	5	1	20.0
04.1700	Real Estate (Total)	12	3	25.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	12	3	25.0
	Completers	9	3	33.3
	Dropouts	3	0	0.0
04.1800	Recreation & Tourism (Total)	52	12	23.1
	AVC (Total)	4	0	0.0
	Completers	3	0	0.0
	Dropouts	1	0	0.0
	Other Type Schools	48	12	25.0
	Completers	43	11	25.6
	Dropouts	5	1	20.0
04.1900	Transportation (Total)	25	4	16.0
	AVC (Total)	1	0	0.0
	Completers	1	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	24	4	16.7
	Completers	24	4	16.7
	Dropouts	0	0	0.0

(continued)

TABLE 1A (continued)

OE Code Area Studied	Occupational Title Studied by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
04.2000	Other Retail Trade (Total)	52	13	25.0
	AVC (Total)	1	0	0.0
	Completers	1	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	51	13	25.5
	Completers	47	12	25.6
	Dropouts	4	1	25.0
04.3100	Other Wholesale Trade (Total)	14	4	28.6
	AVC (Total)	1	1	100.0
	Completers	1	1	100.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	13	3	23.1
	Completers	12	3	25.0
	Dropouts	1	0	0.0
04.9900	Distributive Education, Other (Total)	50	9	18.0
	AVC (Total)	3	2	66.7
	Completers	3	2	66.7
	Dropouts	0	0	0.0
	Other Type Schools (Total)	47	7	14.9
	Completers	30	6	20.0
	Dropouts	17	1	5.9
Other OE Codes:				
07.0100	Dental	1	0	0.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0

(continued)

TABLE 1A (continued)

OE Code Area Studied	Occupational Title Study by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
	Other Type Schools (Total)	1	0	0.0
	Completers	1	0	0.0
	Dropouts	0	0	0.0
14.0103	Cashiers	4	1	25.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	4	1	25.0
	Completers	4	1	25.0
	Dropouts	0	0	0.0
14.0105	Tellers	1	0	0.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	1	0	0.0
	Completers	1	0	0.0
	Dropouts	0	0	0.0
14.0300	Filing, Office Machines, and General Office Clerical Occupations	3	1	33.3
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	3	1	33.3
	Completers	3	1	33,3
	Dropouts	0	0	0.0
14.0402	Correspondence Clerks	1	0	0.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0

(continued)

TABLE 1A (continued)

OE Code Area Studied	Occupational Title Study by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
	Other Type Schools (Total)	1	0	0.0
	Completers	1	0	0.0
	Dropouts	0	0	0.0
14.0406	Receptionists and Information Clerks	1	1	100.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	1	1	100.0
	Completers	1	1	100.0
	Dropouts	0	0	0.0
TOTAL ALL AREAS		2400	712	29.7
	AVC (Total)	243	80	32.9
	Completers	208	70	33.7
	Dropouts	35	10	28.6
	Other Type Schools (Total)	2157	632	29.3
	Completers	1870	573	30.6
	Dropouts	287	59	20.6

[A]OE Code areas as reported by teachers

[B]Area Vocational Centers

[C]Any terminee who left the program by completing or by high school graduation

[D]Any terminee who the instructor reported as having dropped out of school

Table 2 illustrates the sex characteristics of those Distributive Education Occupations terminees reported by the instructors and those who returned survey forms.

TABLE 2

SEX OF THE 1973-74 DISTRIBUTIVE EDUCATION OCCUPATIONS TERMINEES REPORTED AND BY WHO RETURNED QUESTIONNAIRES

Sex[A]	Reported		Returns	
	Number	Percent	Number	Percent
Male	1331	55.4	370	52.0
Female	1053	43.9	337	47.3
Not Known	16	0.7	5	0.7
TOTAL	2400	100.0	712	100.0

[A]Sex as reported by teacher.

Table 3 presents the racial or ethnic characteristics of those 1973-74 Distributive Education Occupations terminees reported by instructors and who returned survey forms.

TABLE 3

RACIAL OR ETHNIC CHARACTERISTICS OF THE 1973-74 DISTRIBUTIVE EDUCATION OCCUPATIONS TERMINEES REPORTED AND BY WHO RETURNED QUESTIONNAIRES

Racial or Ethnic Group[A]	Reported		Returns	
	Number	Percent	Number	Percent
American Indian	4	0.2	0	0.0
Black	447	18.6	108	15.2
Oriental	2	0.1	0	0.0
Spanish Surnamed American	1	0.0	0	0.0
White	1890	78.8	595	83.6
Other	3	0.1	0	0.0
Not Known	53	2.2	9	1.2
TOTAL	2400	100.0	712	100.0

[A]Racial or Ethnic Group as reported by teacher.

Table 4 illustrated the number and grade level of the 1973-74 Distributive Education Occupations terminees reported who dropped out of school during the academic year and by who returned the questionnaire.

TABLE 4

NUMBER OF THE 1973-74 DISTRIBUTIVE EDUCATION OCCUPATIONS TERMINEES REPORTED WHO DROPPED OUT OF SCHOOL DURING THE 1973-74 SCHOOL YEAR BY GRADE LEVEL

Grade Level Upon Dropping Out of School	Reported		Returns	
	Number	Percent[A]	Number	Percent[B]
Tenth	28	1.2	7	25.0
Eleventh	115	4.8	24	20.9
Twelfth	154	6.4	27	17.5
Grade Level Not Indicated by Teacher	25	1.0	11	44.0
TOTAL	322	13.4	69	21.4

[A]Percentage is based on 2400 total reported terminees.
[B]Percentage is based on returns by grade.

Table 5 shows the number of 1973-74 Distributive Education Occupations terminees who indicated active full-time military service.

TABLE 5

ACTIVE FULL-TIME MILITARY STATUS OF 1973-74 DISTRIBUTIVE EDUCATION OCCUPATIONS TERMINEES WHO RETURNED QUESTIONNAIRES

Active Full-Time Military Status	Number	Percent
Yes	19	2.7
No	670	94.1
No Response	23	3.2
TOTAL	712	100.0

Basic Information Related to the Vocational Education Program

Table 6 points out the number of 1973-74 Distributive Education Occupations terminees who indicated whether this vocational program was a school requirement.

TABLE 6

1973-74 DISTRIBUTIVE EDUCATION OCCUPATIONS TERMINEES WHO INDICATED WHETHER THEIR VOCATIONAL PROGRAM WAS A SCHOOL REQUIREMENT

Vocational Courses Was a School Requirement	Number	Percent
Yes	20	2.8
No	687	96.5
No Response	5	0.7
TOTAL	712	100.0

Table 7 indicates, according to the 1973-74 Distributive Education Occupations terminees, the primary source of influence in selecting their vocational course.

Another student in the VED Program appeared to be the greatest outside influence on terminees (12.5%) enrolling the Distributive Education program. Sixty-eight (9.6%) of the terminees responding indicated their vocational teacher influenced them most in selecting their Distributive Education course. Sixty terminees (8.4%) indicated that a friend or relative influenced them most in selecting their program, and 38 (5.3%) of the terminees indicated their parents or guardians influenced them most in selecting their course in Distributive Education. However, 396 (55.7%) indicated they selected their course of study on their own.

TABLE 7

PRIMARY INFLUENCES ON THE 1973-74 DISTRIBUTIVE EDUCATION OCCUPATIONS TERMINEES IN SELECTING THEIR VOCATIONAL COURSE

Group or Individual Terminees Felt Influenced Them Most in Selecting Vocational Course	Number	Percent
Parent(s) or Guardian(s)	38	5.3
Guidance Counselor	32	4.5
Your Vocational Teacher	68	9.6
Another Teacher or Principal	5	0.7
Student in VED Program	89	12.5
A Friend or Relative	60	8.4
A Businessman	12	1.7
Made Choice Yourself	399	56.0
Other[A]	8	1.1
No Response	1	0.1
TOTAL	712	100.0

[A]See below for listing of "Others" who influenced Distributive Education terminees in selecting their VED course.

Below is the response given to the "Others" category indicated in Table 7 as the primary source of influence in selecting the vocational course.

"Other" Persons or Groups Who Most Influenced Terminees in Selecting Their VED Course	Number
Junior Achievement	1
Only one offered	1
I needed a job	2
Only way to get out early	1
Got on program to keep summer job full time	1
Had to for me to graduate	1
Money & position	1
	8

Table 8 indicates terminees' opinions as to whether they had adequate job or occupational information and school experiences to make as realistic career choice.

TABLE 8

OPINIONS OF 1973-74 DISTRIBUTIVE EDUCATION OCCURATIONS TERMINEES AS TO WHETHER THEY HAD ADEQUATE JOB OR OCCUPATIONAL INFORMATION AND SCHOOL EXPERIENCES TO MAKE A REALISTIC CAREER CHOICE

	Number	Percent
Yes	502	70.5
No	198	27.8
No Response	12	1.7
TOTAL	712	100.0

Table 9 indicates whether, during the time they were taking their high school vocational program, the reporting 1973-74 terminees intended to get a job in their area of study.

TABLE 9

INDICATIONS OF 1973-74 DISTRIBUTIVE EDUCATION OCCUPATIONS TERMINEES AS TO WHETHER, DURING THE TIME THEY WERE TAKING THEIR HIGH SCHOOL VED PROGRAM, THEY PLANNED TO GET A JOB IN THEIR AREA OF STUDY

Intended To Get Job In Area of Study	Number	Percent
Yes	312	43.8
No	151	21.2
Was Not Sure	244	34.3
No Response	5	0.7
TOTAL	712	100.0

It is interesting to note that only 312 (43.8%) of the 1973-74 reporting Distributive Education Occupations terminees indicated that during the time they were taking their Distributive Education Occupations program, they intended to get a job in the area they were studying.

Table 10 indicates terminees' opinions on choosing the Distributive Education Occupations program if they had the selection to make again.

A noteworthy point was revealed by the data. Of the 1973-74 Distributive Education Occupations terminees, 521 (73.2%) indicated they would select the same vocational program if they had the choice to make again. Sixty-six (9.3%) of the responding terminees indicated they would not take a vocational program.

TABLE 10

OPINIONS OF 1973-74 DISTRIBUTIVE EDUCATION OCCUPATIONS TERMINEES REGARDING THEIR VOCATIONAL PROGRAM

Question: If You Had It To Do Over Again, Would You . .?	Number	Percent
Take the same vocational program	521	73.2
Not take a vocational program	66	9.3
Choose another vocational program offered in your school, such as _____ [A]	69	9.7
Choose another vocational program if it had been offered in your school, such as _____ [B]	41	5.8
No Response	15	2.1
TOTAL	712	100.0

[A] See listing IA below for those other vocational programs offered in terminees' school that they would have taken instead of their Distributive Education programs.

[B] See listing IB below for the vocational programs the terminee would have taken instead of their Distributive Education program if it had been offered in their school.

Listing I-A -- Courses offered in their school that Distributive Education Occupations terminees indicated they would have taken if they had it all to do over again.

Course	Number
Business and Office Education	24
Data Processing	4
Shorthand	1
Accounting	1
Management Operation	1
Distributive Education	1
Merchandising	1
Nursing	2
Physician's Assistant	1
Medical	2
Occupational Home Economics	1
Trade and Industry	17
Auto Mechanics	2
Electronics	1
Welding	2
Drafting	1
Radio and TV	1
Hairstyling	1
Cosmetology	2
Personal Relations	1
Work-Study	2
None	1
Uncertain	4

Listing I-B -- Courses Distributive Education Occupations terminees indicated they would have taken if they had it all to do over again and the course were offered in their school.

Course	Number
Advanced Distributive Education	2
Business	4
Bookkeeping/Accounting	4
Typewriting	1
Computer Science	2
Trade and Industrial	1
Printing	1
Auto Mechanics	4
Auto Parts Clerk	1

(continued)

Listing I-B -- (continued)

Course	Number
Machine Shop	2
Welding	2
Electronics	2
Electrician/Carpenter	1
Refrigeration & Air Conditioning	1
Radiological Technology	1
Medical	1
Nursing Training	1
Sewing	1
Law Enforcement	4
Conservation	1
Engineering	1
Mining Technology	1
Modeling	1
Psychology	1
ROTC	1
Job Experience	1
Individual Study	1
A Trade	1

Table 11 indicates the extent to which the reporting 1973-74 Distributive Education Occupations terminees felt their high school vocational programs prepared them for their first job. This data was also broken down by how that first job related to their vocational program.

Terminees who were in full-time active military service or who had never been employed were not asked to respond to the questions from which this data was reported. Also, the terminees who failed to respond to the question items were not indicated in the table.

TABLE 11

PERCEPTIONS OF THE 1973-74 DISTRIBUTIVE EDUCATION OCCUPATIONS TERMINEES AS TO THE EXTENT THEIR HIGH SCHOOL VOCATIONAL PROGRAM PREPARED THEM FOR THEIR FIRST FULL-TIME JOB BY HOW FIRST FULL-TIME JOB RELATED TO TRAINING

Extent Vocational Course Prepared for First Full-Time Job	Total Reporting		Number Reporting by Relatedness of First Full-Time Job to Training Received					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Excellent	54	15.1	30	26.8	14	10.1	10	9.3
Well Prepared	141	39.4	65	58.0	59	42.8	17	15.7
Fair	74	20.7	14	12.5	40	29.0	20	18.5
Poorly Prepared	17	4.7	2	1.8	9	6.5	6	5.6
Preparation not related to job	72	20.1	1	0.9	16	11.6	55	50.9
TOTAL	358	100.0	112	100.0	138	100.0	108	100.0

In noting the extent to which the 1973-74 Distributive Education Occupations terminees felt their high school vocational course prepared them for their first full-time job by how their first full-time job related to the training they received in their high school health program, some interesting points were revealed. Of the 1973-74 Distributive Education Occupations terminees responding to this item, 195 (54.5%) indicated "Excellent" or "Well Prepared" for their first full-time job as a result of the training received in their high school vocational education program. Ninety-five (84.8%) of the 112 terminees whose first full-time job related directly to their training felt they were excellent or well prepared for this first job. Only two terminees

working in an area directly related to their vocational training felt that they were poorly prepared for their first jobs. One additional terminee indicated he was working in an area directly related to his vocational course but felt that his preparation did not relate to his job. Of all the responding terminees, seventeen (4.7%) felt they were poorly prepared for their first full-time job. Of these 17, only two were working in an area directly related to his vocational course.

Table 12 indicates the extent to which the reporting 1973-74 Distributive Education Occupations terminees felt their high school vocational course prepared them for their present job. Also shown in the table is a breakdown of the data by how their present job was related to their vocational program.

Terminees in active full-time military service and students attending school full time and had not had a job were not asked to respond to the question from which Table 12 was prepared. Also, students who failed to respond to the items were not shown on the table.

Of the 461 terminees responding to these items, 245 (53.2%) indicated "Excellent" or "Well Prepared" for their present job as a result of their high school vocational program. Only 18 (3.9%) felt poorly prepared for their present jobs as a result of their training.

Of the 153 responding terminees working in an area directly related to their high school vocational program, 128 (83.6%) indicated they felt excellent or well prepared by their training.

TABLE 12

PERCEPTIONS OF THE 1973-74 DISTRIBUTIVE EDUCATION OCCUPATIONS TERMINEES AS TO THE EXTENT THEIR HIGH SCHOOL VOCATIONAL COURSE PREPARED THEM FOR THEIR PRESENT JOB BY HOW THEIR PRESENT JOB RELATED TO TRAINING

Extent Vocational Course Prepared for Present Job	Total Reporting		Number Reporting by Relatedness of Present Job to Training Received					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Excellent	46	10.0	27	17.6	14	8.5	5	3.5
Well Prepared	199	43.2	101	66.0	75	45.4	23	16.1
Fair[A]	68	14.8	18	11.8	43	26.1	7	4.9
Poorly Prepared	18	3.9	3	2.0	9	5.5	6	4.2
Preparation not related to job	130	28.2	4	2.6	24	14.5	102	71.3
TOTAL	461	100.0	153	100.0	165	100.0	143	100.0

[A]See listing below for reasons terminees specified for only being trained "Fair" by their vocational course for their present job.

Sixty-eight (14.8%) terminees indicated "Fair" as the extent their vocational program prepared them for their present jobs. The following list presents reasons the 1973-74 Distributive Education Occupations terminees indicated for being trained only "Fair" by their vocational course for their present job:

Reason Given	Number
Already had a job	3
Not enough materials and supplies	6
Inadequate time and materials	2
Not enough information	2
Course too general	6
Not advanced enough	2

(continued)

(continued)

Reason Given	Number
Not related	9
Somewhat related	2
Most training on the job	2
Not in same type job now	2
Instructor not interested	2
Little classroom work or instruction	1
Taught me public relations	1
Learned by experience	1
Worked at night full time--had hard time studying	1
Not enough material on grocery store bookkeeping	1
Very little sales	1
No preparation in jewelry	1
Selling of ads	1
Not much training supplied	1
Changed departments	1
Just helped to apply for a job	1
Didn't know what to expect	1
Did some woodwork	1

Eighteen (3.9%) indicated they were "poorly prepared" for their present job by their vocational program. The following list is the reasons the terminees gave to explain their rating the program "poor":

Teacher not interested - 2
Most information was useless
Didn't learn job in school
Does not refer to present job
Teacher did not relate to banking
Teacher almost never tried to teach anything
Studies related to sales; work related to secretarial
No equipment
I took something in sales and got a job in medical work
I learned everything on the job
Wrong kind of materials text
No training
Too many students for one instructor

Table 13 focuses on the Distributive Education Occupations student club. The researchers sought to determine the extent to which the 1973-74 Distributive Education Occupations terminees felt that their high school student club aided in preparing them for their present job. Data are also broken down by the relationship of the present job to the vocational training received.

TABLE 13

PERCEPTIONS OF 1973-74 DISTRIBUTIVE EDUCATION OCCUPATIONS TERMINEES AS TO THE EXTENT THEIR HIGH SCHOOL VOCATIONAL STUDENT CLUB PREPARED THEM FOR THEIR PRESENT JOB BY HOW THEIR PRESENT JOB RELATED TO TRAINING

Extent High School Vocational Student Club Helped Prepare for Present Job	Total Reporting		Total Reporting by Relatedness of Present Job to Vocational Training					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Excellent	65	16.0	30	20.3	19	12.2	16	15.3
Well Prepared	144	35.5	63	42.6	50	32.3	31	30.1
Fair	116	28.5	39	26.3	49	31.6	28	27.3
Poorly Prepared	81	20.0	16	10.8	37	23.9	28	27.3
TOTAL	406	100.0	148	100.0	155	100.0	103	100.0

Of the 466 who responded, 23 (4.9%) had no related student club available, and 37 (7.9%) were not members of a related student club.

Only respondents who had had a job since terminating their high school vocational Distributive Education program were asked to respond to the question reported in Table 13. Students in active full-time military service were excluded. Twenty-three (4.9%) of the 466 terminees reported no related student club was available, while 37 (7.9%) were not members of a related student club.

Of the 406 terminees who participated in student club activities, 209 (51.5%) indicated they were "Excellent" or "Well Prepared" by their related student clubs for their present job. Eighty-one (20.0%) indicated they were "Poorly Prepared" by their related student clubs for their present job. Of those 81, 16 (19.8%) were in related jobs, while 37 (45.6%)

were in somewhat related jobs. Twenty-eight (34.6%) were in non-related jobs.

Of those terminees working in an area directly related to the training they received in their high school vocational program, 93 (62.9%) indicated they were "Excellent" or "Well Prepared" for their present job by their related student club. Only 16 (10.8%) of the 148 terminees working in a job directly related to the training they received indicated they were "Poorly Prepared" for their present jobs by their related student clubs.

Table 14 reports how the 1973-74 Distributive Education Occupations terminees rated the quality of teaching by their high school vocational instructors.

TABLE 14

1973-74 DISTRIBUTIVE EDUCATION OCCUPATIONS TERMINEES' RATINGS OF THE QUALITY OF TEACHING BY THEIR HIGH SCHOOL VOCATIONAL INSTRUCTORS

Rating	Number	Percent
Excellent	256	36.0
Good	281	39.5
Fair	111	15.6
Poor	41	5.7
Very Poor	19	2.7
No Response	4	0.5
TOTAL	712	100.0

Of the 712 reporting 1973-74 Distributive Education Occupations terminees, 537 (75.5%) rated the quality of teaching by their vocational instructor either "Good" or "Excellent." Sixty (8.4%) rated the quality of teaching by their instructors "Poor" or "Very Poor."

Table 15 illustrates how the 1973-74 Distributive Education Occupations terminees rated their high school vocational instructor's interest in their class work.

TABLE 15

1973-74 DISTRIBUTIVE EDUCATION OCCUPATIONS TERMINEES' RATINGS OF THEIR HIGH SCHOOL VOCATIONAL INSTRUCTOR'S INTEREST IN THE STUDENT'S CLASS WORK

Rating	Number	Percent
Excellent	303	42.6
Good	248	34.8
Fair	101	14.2
Poor	43	6.0
Very Poor	15	2.1
No Response	2	0.3
TOTAL	712	100.0

Of the 712 reporting 1973-74 Distributive Education Occupations terminees, 551 (77.4%) rated the interest exhibited by their high school vocational instructor in their class work as "Good" or "Excellent." Fifty-eight (8.1%) of the terminees rated the interest their vocational instructors showed in their class work as "Poor" or "Very Poor."

Table 16 points out how the 1973-74 Distributive Education Occupations terminees subjectively rated the knowledge their vocational teachers possessed about their field of study. This rating is also shown in the table by a breakdown of how the terminees present jobs related to the training they received in their high school vocational program. Terminees were asked to base their judgments on their current knowledge of their jobs and responsibilities.

TABLE 16

1973-74 DISTRIBUTIVE EDUCATION OCCUPATIONS TERMINEES' RATINGS OF THE KNOWLEDGE THEIR HIGH SCHOOL VOCATIONAL TEACHER POSSESSED ABOUT THEIR FIELD OF STUDY BY HOW THE TERMINEES' PRESENT JOB RELATED TO THE TRAINING THEY RECEIVED

Ratings[A]	Total Reporting		Number Reporting by Relatedness of Present Job to Training Received					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Excellent	137	28.8	57	36.6	41	24.3	39	26.0
Good	196	41.3	63	40.4	73	43.2	60	40.0
Fair	112	23.6	32	20.5	46	27.2	34	22.7
Poor	25	5.3	3	1.9	8	4.7	14	9.3
Very Poor	5	1.0	1	0.6	1	0.6	3	2.0
TOTAL	475	100.0	156	100.0	169	100.0	150	100.0

[A]Ratings were to be based on terminee's judgment of their current knowledge of their job and responsibilities.

Total responses to this item indicates that 333 (70.1%) of the 475 responding 1973-74 Distributive Education Occupations terminees rated the knowledge their vocational teachers possissed about their field of study either "Good" or "Excellent." Of the 156 terminees working in an area directly related to the training they received, 120 (77.0%) rated the knowledge their teachers possessed about their field of study as "Good" or "Excellent." A favorable point was revealed in that only 4 (2.5%) of those terminees rated the knowledge their vocational teachers possessed about their field of study as "Poor" or "Very Poor."

If the respondent was working in an area related to his training, he was asked to compare the facilities and equipment in his high school vocational program with those on his present job. Table 17 illustrates how the 1973-74 Distributive Education Occupations terminees responded.

TABLE 17

HOW 1973-74 DISTRIBUTIVE EDUCATION OCCUPATIONS TERMINEES WORKING IN A RELATED AREA RATED THE FACILITIES AND EQUIPMENT IN THEIR HIGH SCHOOL VOCATIONAL PROGRAM[A]

Rating[B]	Number	Percent
Better than those on present job	23	8.7
Similar to those on present job	104	39.4
Not as good as those on present job	137	51.9
TOTAL	264	100.0

[A]Of the responding 497 terminees, 233 (46.9%) indicated that their present job was not related to their vocational training enough to compare facilities and equipment.

[B]Persons who had not had a job since leaving their vocational program, including those in military service and those who attended school, were asked not to respond to questions from which data was drawn. Returns were received from 712 terminees.

Twenty-three (8.7%) of the 264 responding 1973-74 Distributive Education Occupations terminees working in an area related to their training rated the facilities and equipment in their high school vocational program as better than those on their present jobs. One hundred four (39.4%) rated the facilities and equipment in their high school vocational programs as similar to those on their present jobs; however, 137 (51.9%) rated the facilities and equipment not as good as those on their present jobs.

Table 18 shows how the 1973-74 Distributive Education Occupations terminees who were in a cooperative work program in school and were now

working in an area related to their vocational training rated the facilities and equipment used in their cooperative work station.

TABLE 18

HOW 1973-74 DISTRIBUTIVE EDUCATION OCCUPATIONS TERMINEES NOW WORKING IN A RELATED AREA, WHOSE VOCATIONAL PROGRAMS INCLUDED COOPERATIVE WORK, RATED FACILITIES AND EQUIPMENT USED IN THEIR COOPERATIVE WORK STATIONS

Rating	Number	Percent
Better than those on present job	15	6.6
Similar to those on present job	63	27.7
Working at same place where cooperative training was done	91	40.1
Not as good as those on present job	58	25.6
TOTAL	227	100.0

Fifty-three (11.3%) of the responding 471 Distributive Education Occupations terminees indicated their vocational program was not a cooperative program. As 191 (40.6%) terminees indicated they were not working in an area related to their cooperative work, they did not complete this item on the questionnaire.

Persons who had not had a job since leaving their vocational program, including those in military service and those attending school, were asked not to respond to questions from which data was drawn. Returns were received from 712 terminees.

Only 15 (6.6%) of the 227 responding 1973-74 Distributive Education Occupations terminees whose vocational programs had included cooperative work and were now working in an area related to their vocational training rated the facilities and equipment in his cooperative work station as better than those on his present job. Sixty-three (27.7%) rated the facilities and equipment in their cooperative training stations as similar to those on their present jobs. Fifty-eight (25.6%) rated the facilities and equipment in their cooperative work station not as good as those in

their present jobs. It was significant to note that 91 (40.1%) indicated they were working at the same establishments where they did their cooperative training.

Basic Employment Information

The following section of this report offers information relative to employment and job characteristics of the 1973-74 secondary Distributive Education Occupations terminees.

Table 19 illustrates the number of full-time jobs the responding 1973-74 Distributive Education Occupations terminees have had since leaving their high school vocational course.

TABLE 19

NUMBER OF FULL-TIME JOBS HELD BY THE 1973-74 DISTRIBUTIVE EDUCATION OCCUPATIONS TERMINEES SINCE LEAVING THEIR HIGH SCHOOL VOCATIONAL COURSE

Number of Full-Time Jobs Held	Number	Percent[A]
One	342	48.0
Two	72	10.1
Three	17	2.4
Four	3	0.4
Five or more	4	0.6
TOTAL	438	61.5

[A]Percentage is based on the 712 terminees who returned the questionnaire.

There were 342 (48.0%) of the total 712 responding 1973-74 Distributive Education Occupations terminees who had been employed in just one job since leaving their high school vocational program; 72 (10.1%) had two full-time jobs since leaving high school. Twenty-four (3.4%) of the

terminees reported having three or more jobs since leaving their high school vocational courses seven to eight months ago.

Table 20 reveals the first-job employment status of Distributive Education Occupations terminees who returned the survey by the relatedness of their vocational training to their first job.

TABLE 20

FIRST-JOB EMPLOYMENT STATUS OF DISTRIBUTIVE EDUCATION OCCUPATIONS TERMINEES (1973-74) BY RELATEDNESS OF VOCATIONAL TRAINING TO FIRST JOB[A]

First Job After Leaving High School Vocational Program	Total Reporting		Relatedness of Vocational Training to First Job[B]					
			Directly Related		Somewhat Related		Not Related[C]	
	No.	%	No.	%	No.	%	No.	%
Full-Time	366	51.4	114	16.0	141	19.8	111	15.6
Part-Time	126	17.7	55	7.7	42	5.9	29	4.1
TOTAL	492	69.1	169	23.7	183	25.7	140	19.7

[A]All percentages were based on the 712 (29.7%) of 2400 terminees who returned the survey form.

[B]The terminees made the judgment as to how their first job was related to the training received in their high school vocational program.

[C]See page 33 for reasons terminees who were working in first job unrelated to this vocational training gave for not seeking job that was related before accepting their first job.

Of the 712 responding 1973-74 Distributive Education Occupations terminees, 366 (51.4%) were employed full time in their first job after leaving their high school vocational program, and 126 terminees' first jobs were on a part-time basis.

Of the 712 responding terminees, 126 (17.7%) held first jobs (full-time or part-time) in an area directly related to the training they

received in their high school vocational course; 183 (25.7%) were employed in an area somewhat related; and 140 (19.7%) were employed in a first job not related to the training they received. The terminees made the judgment as to how their first job was related to the training they received in their high school vocational program.

Of the 146 terminees who indicated their jobs were not related to their vocational course, 51 (34.9%) terminees indicated that before they accepted their unrelated job, they tried to get a job that was related to their vocational training. However, 95 (65.1%) of the terminees did not. (Note: the 146 terminees reported here does not match the total in Table 20 because some respondees failed to complete the question on full-time or part-time status.)

The following is a list of reasons given by the terminees who, before taking their first unrelated job indicated they did not seek a job that was related to their vocational training.

Reasons	Number
Wanted work in a different field	15
Not interested	10
Low pay	10
Already had job & didn't want to change	6
Received no training	3
No job available	2
Had better offer	2
Didn't like the work	2
Quit trying to find related job	1
Didn't know where to look	1
DECA	1
Nursing child	1
Trying to make enough money to leave	1
Wanted change of pace	1
Travel	1
Teacher	1
Was pushed into it	1

Table 21 shows by OE Code for the first job of the 1973-74 Distributive Education Occupations terminees the relatedness of their training to this first job.

TABLE 21

1973-74 DISTRIBUTIVE EDUCATION OCCUPATIONS TERMINEES' FIRST JOB BY OE CODE STUDIED AND RELATEDNESS OF TRAINING[A]

OE Code	Title of Occupational Objective Studied	Total Employed by Area Studied		Relatedness of Training to First Job[B]					
				Directly Related		Somewhat Related		Not Related	
		No.	%	No.	%	No.	%	No.	%
04.0000	Distributive Education	3	0.6	1	33.3	1	33.3	1	33.3
04.0100	Advertising	10	2.0	4	40.0	4	40.0	2	20.0
04.0200	Apparel & Accessories	65	12.8	28	43.1	19	29.2	18	27.7
04.0300	Automotive	25	4.9	12	48.0	10	40.0	3	12.0
04.0400	Finance & Credit	21	4.1	4	19.1	10	47.6	7	33.3
04.0500	Floristry	11	2.2	5	45.4	3	27.3	3	27.3
04.0600	Food Distribution	121	23.8	44	36.3	48	39.7	29	24.0
04.0700	Food Service	44	8.7	12	27.3	14	31.8	18	40.9
04.0800	General Merchandise	98	19.3	29	29.6	44	44.9	25	25.5
04.0900	Hardware, Building Materials, Farm & Garden Supplies, & Equipment	20	3.9	6	30.0	6	30.0	8	40.0
04.1000	Home Furnishings	13	2.6	5	38.4	2	15.4	6	46.2
04.1100	Hotel & Lodging	2	0.4	1	50.0	1	50.0	0	0.0
04.1200	Industrial Marketing	8	1.6	3	37.5	2	25.0	3	37.5

(continued)

TABLE 21 (continued)

OE Code	Title of Occupational Objective Studied	Total Employed by Area Studied		Relatedness of Training to First Job					
				Directly Related		Somewhat Related		Not Related	
		No.	%	No.	%	No.	%	No.	%
04.1300	Insurance	4	0.7	0	0.0	4	100.0	0	0.0
04.1500	Personal Service	14	2.8	6	42.9	5	35.7	3	21.4
04.1600	Petroleum	6	1.2	2	33.3	0	0.0	4	66.7
04.1700	Real Estate	2	0.4	1	50.0	1	50.0	0	0.0
04.1800	Recreation & Tourism	12	2.4	4	33.3	3	25.0	5	41.7
04.1900	Transportation	4	0.7	1	25.0	1	25.0	2	50.0
04.2000	Other Retail Trade	11	2.2	2	18.2	4	36.4	5	45.4
04.3100	Other Wholesale Trade	4	0.7	0	0.0	1	25.0	3	75.0
04.9900	Distributive Education, Other	8	1.6	2	25.0	4	50.0	2	25.0
14.0103	Cashiers	0	0.0	0	0.0	0	0.0	0	0.0
14.0300	Filing, Office Machines, & General Office Clerical Occupations	1	0.2	1	100.0	0	0.0	0	0.0
14.0406	Receptionists & Information Clerks	1	0.2	0	0.0	0	0.0	1	100.0
	TOTAL ALL AREAS	508	100.0	173	34.1	187	36.8	148	29.1

[A]Of 2400 Distributive Education Occupations terminees, 712 (29.7%) returned the questionnaire.

[B]The terminees made the judgment as to how their first job was related to the training received in their high school vocational program.

Of the 508 responding 1973-74 Distributive Education Occupations terminees who indicated how their first job related to the training they

received in their high school vocational program, 173 (34.1%) were employed in directly related areas; 187 (36.8%) were employed in somewhat related areas; and 148 (29.1%) terminees were employed in areas not related to their training. The terminees made the judgment as to how their first job was related to the training received in their high school vocational program.

Of the 121 employed 1973-74 terminees who studied Food Distribution (OE Code 04.0600) and indicated relatedness of training, 44 (36.3%) were employed in an area directly related to that training. Fourteen (31.8%) were employed in their first job in an area somewhat related to their training, and 18 (40.9%) of these responding terminees indicated that their first job was not related to the training they received in their Distributive Education Occupations program. Of the 98 terminees who studied General Merchandise (OE Code 04.0800), 29 (29.6%) were employed in jobs directly related to their training. Forty-four (44.9%) were employed in jobs somewhat related, and 25 (25.5%) were employed in jobs not related to their training.

Table 21A is a description of 1973-74 Distributive Education Occupations terminees' first job by OE code area studied, number of returns, type school, termination status, and relatedness of training.

TABLE 21A

DESCRIPTION OF 1973-74 DISTRIBUTIVE EDUCATION OCCUPATIONS TERMINEES' FIRST JOB BY OE CODE AREA STUDIED, NUMBER OF RETURNS, TYPE SCHOOL, TERMINATION STATUS, AND RELATEDNESS OF TRAINING

OE Code Area Studied[A]	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
04.0000	Distributive Education (Total)	7	3	42.9	1	14.3	1	14.3	1	14.3
	AVC (Total)[B]	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers[C]	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts[D]	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	7	3	42.9	1	14.3	1	14.3	1	14.3
	Completers	7	3	42.9	1	14.3	1	14.3	1	14.3
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
04.0100	Advertising (Total)	16	10	62.5	4	25.0	4	25.0	2	12.5
	AVC (Total)	3	1	33.3	1	33.3	0	0.0	0	0.0
	Completers	3	1	33.3	1	33.3	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	13	9	69.2	3	23.1	4	30.7	2	15.4
	Completers	11	8	72.7	2	18.2	4	36.3	2	18.2
	Dropouts	2	1	50.0	1	50.0	0	0.0	0	0.0
04.0200	Apparel & Accessories (Total)	100	65	65.0	28	28.0	19	19.0	18	18.0
	AVC (Total)	12	7	58.3	2	16.7	0	0.0	5	41.6
	Completers	12	7	58.3	2	16.7	0	0.0	5	41.6
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	88	58	65.9	26	29.5	19	21.6	13	14.8
	Completers	85	56	65.9	25	29.4	19	22.4	12	14.1
	Dropouts	3	2	66.7	1	33.3	0	0.0	1	33.4
04.0300	Automotive (Total)	32	25	78.1	12	37.5	10	31.3	3	9.4

(continued)

TABLE 21A (continued)

OE Code Area Studied	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied No.	%	Relatedness of Training to First Job: Directly Related No.	%	Somewhat Related No.	%	Not Related No.	%
	AVC (Total)	3	3	100.0	1	33.3	1	33.3	1	33.3
	Completers	3	3	100.0	1	33.3	1	33.3	1	33.3
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	29	22	75.8	11	37.9	9	31.0	2	6.9
	Completers	27	20	74.1	11	40.7	7	25.9	2	7.4
	Dropouts	2	2	100.0	0	0.0	2	100.0	0	0.0
04.0400	Finance & Credit	24	21	87.5	4	16.7	10	41.7	7	29.1
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	24	21	87.5	4	16.7	10	41.7	7	29.1
	Completers	24	21	87.5	4	16.7	10	41.7	7	29.1
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
04.0500	Floristry	15	11	73.3	5	33.3	3	20.0	3	76.9
	AVC (Total)	2	1	50.0	1	50.0	0	0.0	0	0.0
	Completers	2	1	50.0	1	50.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	13	10	76.9	4	30.8	3	23.1	3	23.1
	Completers	12	9	75.0	4	33.3	3	25.0	2	16.7
	Dropouts	1	1	100.0	0	0.0	0	0.0	1	100.0
04.0600	Food Distribution (Total)	149	121	81.2	44	29.5	48	32.2	29	19.5
	AVC (Total)	19	18	94.7	8	42.0	9	47.4	1	5.3
	Completers	15	14	93.3	8	53.3	6	40.0	0	0.0
	Dropouts	4	4	100.0	0	0.0	3	75.0	1	25.0
	Other Type Schools (Total)	130	103	79.2	36	27.7	39	30.0	28	21.5
	Completers	118	96	81.3	34	28.8	36	30.5	26	22.0
	Dropouts	12	7	58.3	2	16.7	3	25.0	2	16.7
04.0700	Food Services	71	44	62.0	12	16.9	14	19.7	18	25.4

(continued)

TABLE 21A (continued)

OE Code Area Studied	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied No.	%	Relatedness of Training to First Job: Directly Related No.	%	Somewhat Related No.	%	Not Related No.	%
	AVC (Total)	7	4	57.2	0	0.0	2	28.6	2	28.6
	Completers	6	4	66.7	0	0.0	2	33.3	2	33.0
	Dropouts	1	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	64	40	62.5	12	18.8	12	18.8	16	25.0
	Completers	53	32	60.4	10	18.9	9	17.0	13	24.5
	Dropouts	11	8	72.7	2	18.2	3	27.3	3	27.3
04.0800	General Merchandise	157	98	62.4	29	18.5	44	28.0	25	15.9
	AVC (Total)	20	9	45.0	1	5.0	3	15.0	5	25.0
	Completers	18	9	50.0	1	5.6	3	16.7	5	27.7
	Dropouts	2	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	137	89	65.0	28	20.4	41	29.9	20	14.6
	Completers	122	81	66.4	25	20.5	36	29.5	20	16.4
	Dropouts	15	8	53.3	3	20.0	5	33.3	0	0.0
04.0900	Hardware, Building Materials, Farm & Garden Supplies, and Equipment	26	20	76.9	6	23.1	6	23.1	8	30.8
	AVC (Total)	5	3	60.0	0	0.0	1	20.0	2	40.0
	Completers	4	3	75.0	0	0.0	1	25.0	2	50.0
	Dropouts	1	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	21	17	81.0	6	28.6	5	23.8	6	28.6
	Completers	20	16	80.0	6	30.0	4	20.0	6	30.0
	Dropouts	1	1	100.0	0	0.0	1	100.0	0	0.0
04.1000	Home Furnishings	16	13	81.3	5	31.3	2	12.5	6	37.5
	AVC (Total)	2	2	100.0	2	100.0	0	0.0	0	0.0
	Completers	2	2	100.0	2	100.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	14	11	78.6	3	21.4	2	14.3	6	42.9
	Completers	12	9	75.0	3	25.0	1	8.3	5	41.7
	Dropouts	2	2	100.0	0	0.0	1	100.0	1	100.0

(continued)

TABLE 21A (continued)

OE Code Area Studied	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
04.1100	Hotel & Lodging	3	2	66.7	1	33.3	1	33.3	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	3	2	66.7	1	33.3	1	33.3	0	0.0
	Completers	3	2	66.7	1	33.3	1	33.3	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
04.1200	Industrial Marketing	12	8	66.7	3	25.0	2	16.7	3	25.0
	AVC (Total)	2	1	50.0	0	0.0	1	50.0	0	0.0
	Completers	1	1	100.0	0	0.0	1	100.0	0	0.0
	Dropouts	1	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	10	7	70.0	3	30.0	1	10.0	3	30.0
	Completers	8	6	75.0	2	25.0	1	12.5	3	37.5
	Dropouts	2	1	50.0	1	50.0	0	0.0	0	0.0
04.1300	Insurance	5	4	80.0	0	0.0	4	80.0	0	0.0
	AVC (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	1	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	4	4	100.0	0	0.0	4	100.0	0	0.0
	Completers	3	3	100.0	0	0.0	3	100.0	0	0.0
	Dropouts	1	1	100.0	0	0.0	1	100.0	0	0.0
04.1500	Personal Services	25	14	56.0	6	24.0	5	20.0	3	12.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	25	14	56.0	6	24.0	5	20.0	3	12.0
	Completers	22	12	54.5	5	22.7	4	18.2	3	13.6
	Dropouts	3	2	66.7	1	33.3	1	33.3	0	0.0

(continued)

TABLE 21A (continued)

OE Code Area Studied	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
04.1600	Petroleum	6	6	100.0	2	33.3	0	0.0	4	66.7
	AVC (Total)	1	1	100.0	0	0.0	0	0.0	1	100.0
	Completers	1	1	100.0	0	0.0	0	0.0	1	100.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	5	5	100.0	2	40.0	0	0.0	3	60.0
	Completers	4	4	100.0	2	50.0	0	0.0	2	50.0
	Dropouts	1	1	100.0	0	0.0	0	0.0	1	100.0
04.1700	Real Estate	3	2	66.7	1	33.3	1	33.3	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	3	2	66.7	1	33.3	1	33.3	0	0.0
	Completers	3	2	66.7	1	33.3	1	33.3	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
04.1800	Recreation & Tourism	12	12	100.0	4	33.3	3	25.0	5	45.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	12	12	100.0	4	33.3	3	25.0	5	41.7
	Completers	11	11	100.0	4	33.3	2	18.2	5	45.5
	Dropouts	1	1	100.0	0	0.0	1	100.0	0	0.0
14.1900	Transportation	4	4	100.0	1	25.0	1	25.0	2	50.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	4	4	100.0	1	25.0	1	25.0	2	50.0
	Completers	4	4	100.0	1	25.0	1	25.0	2	50.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 21A (continued)

OE Code Area Studied	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
04.2000	Other Retail Trade	13	11	84.6	2	15.4	4	30.8	5	38.4
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	13	11	84.6	2	15.4	4	30.8	5	38.4
	Completers	12	10	83.3	1	8.3	4	33.3	5	41.7
	Dropouts	1	1	100.0	1	100.0	0	0.0	0	0.0
04.3100	Other Wholesale Trade	4	4	100.0	0	0.0	1	25.0	3	75.0
	AVC (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	Completers	1	1	100.0	0	0.0	1	100.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	3	3	100.0	0	0.0	0	0.0	3	100.0
	Completers	3	3	100.0	0	0.0	0	0.0	3	100.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
04.9900	Distributive Education, Other	9	8	88.9	2	22.2	4	44.4	2	22.2
	AVC (Total)	2	1	50.0	0	0.0	1	50.0	0	0.0
	Completers	2	1	50.0	0	0.0	1	50.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	7	7	100.0	2	28.6	3	42.9	2	28.6
	Completers	6	6	100.0	2	33.3	3	50.0	1	16.7
	Dropouts	1	1	100.0	0	0.0	0	0.0	1	100.0
Other OE Codes:										
14.0103	Cashiers	1	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 21A (continued)

OE Code Area Studied	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied No.	%	Relatedness of Training to First Job: Directly Related No.	%	Somewhat Related No.	%	Not Related No.	%
	Other Type Schools (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
14.0300	Filing, Office Machines, & General Office Clerical Occupations	1	1	100.0	1	100.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	1	100.0	0	0.0	0	0.0
	Completers	1	1	100.0	1	100.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
14.0406	Receptionists & Information Clerks	1	1	100.0	0	0.0	0	0.0	1	100.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	0	0.0	0	0.0	1	100.0
	Completers	1	1	100.0	0	0.0	0	0.0	1	100.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
TOTAL ALL AREAS		712	508	71.3	173	24.3	187	26.3	148	20.8
	AVC (Total)	80	52	65.0	16	20.0	19	23.8	17	21.3
	Completers	70	48	68.6	16	22.9	16	22.9	16	22.9
	Dropouts	10	4	40.0	0	0.0	3	30.0	1	10.0
	Other Type Schools (Total)	632	456	72.2	157	24.8	168	26.6	131	20.7
	Completers	573	416	72.6	145	25.3	150	26.2	121	21.1
	Dropouts	59	40	67.8	12	20.3	18	30.5	10	16.9

[A] OE Code areas as reported by teachers
[B] Area Vocational Centers
[C] Any terminee who left the program by completing or by high school graduation
[D] Any terminee who the instructor reported as having dropped out of school
[E] The terminees made the judgment as to how their first job was related to the training received in their high school vocational porgram

Table 22 illustrates the current employment status of the responding terminees by the relatedness of their vocational training to their present jobs. All percentages figured in the table were based on the 712 (29.7%) returns from the 2400 Distributive Education Occupations terminees.

Of the 712 responding 1973-74 secondary Distributive Education Occupations terminees, 316 (44.3%) were presently employed full time and not attending school or employed full time and attending school. One hundred six (14.9%) of the terminees were employed part time and attending school, while 61 (8.6%) were unavailable for employment. (See page 46 for reasons terminees were unavailable for employment). Sixty-four (9.0%) of the terminees were unemployed and actively seeking employment, while 18 (2.5%) were employed part time and seeking full-time employment.

The "No Response" category in Table 22 includes three groups: (1) terminees in active full-time military service; (2) terminees who were in school full time and had never had a job; and (3) terminees who failed to respond to the item on the questionnaire.

Of the 712 secondary Distributive Education Occupations respondees, 146 (20.5%) were presently employed full time or part time in an area directly related to the training received in their high school vocational course. One hundred fifty-six (21.9%) were employed either part time or full time in an area somewhat related to their training, while 139 (19.5%) were employed in areas not related to training. The terminees made the judgment as to how their present employment was related to the training received in their high school vocational course.

TABLE 22

CURRENT EMPLOYMENT STATUS OF DISTRIBUTIVE EDUCATION OCCUPATIONS TERMINEES (1973-74) BY RELATEDNESS OF TRAINING TO PRESENT JOB[A]

Employment Status	Total Respond-ing		Relatedness of Training to Present Job[B]							
			Directly Related		Somewhat Related		Not Related[E]		Employed No Response	
	No.	%	No.	%	No.	%	No.	%	No.	%
Employed full time and not attending school	236	33.1	61	8.6	77	10.8	94	13.2	4	0.6
Employed full time and attending school	80	11.2	29	4.1	30	4.2	20	2.8	1	0.1
Employed part time and seeking full-time job	18	2.5	7	1.0	7	1.0	4	0.6	0	0.0
Employed part time and not seeking full-time job	12	1.7	5	0.7	4	0.6	2	0.3	1	0.1
Employed part time and attending school	106	14.9	44	6.2	38	5.3	19	2.7	5	0.7
Unemployed (actively seeking a job)[C]	64	9.0	N/A		N/A		N/A		N/A	
Unavailable for employment[C&D]	61	8.6	N/A		N/A		N/A		N/A	
No Response	135	19.0	N/A		N/A		N/A		N/A	
TOTAL	712	100.0	146	20.5	156	21.9	139	19.5	11	1.5

[A]All percentages were based on the 712 (29.7%) respondents of the total 2400 terminees. Terminees in active full-time military service or attending school full time and had never been employed were included in the "No Response" category.

[B]The terminees made the judgment as to how their present job was related to the training received in their high school vocational program.

[C]The unemployed and unavailable for employment categories do not include persons in the military service and persons who were in school full time and never had a job.

[D]See page 46 for the listing of reasons Distributive Education Occupations terminees gave for being unavailable for employment.

[E]See page 46 for reasons terminees who were working in present job not related to vocational training gave for not seeking related job before accepting present job. Totals for unrelated columns may not correspond because terminees failed to respond to one of the two questions from which data was drawn.

Below is a list of the reasons given by the terminees for being unavailable for employment. Some respondees indicated two reasons:

Reason	Number
In school full time	39
Presently not working, not interested in a job	2
Homemaker	12
Pregnancy	11
Illness or disability	1
Other	6

Of the 151 terminees who indicated their present jobs were not related to their vocational course, 51 (33.8%) terminees indicated that before they accepted their unrelated job, they tried to get a job that was related to their vocational training. However, 107 (70.9%) of the terminees did not. (The percentages are based on the responses as recorded on the questionnaires).

The following is a list of reasons given by 94 of the 107 terminees who, before taking their present unrelated job, indicated they did not seek a job that was related to their vocational training:

Reason	Number
Wanted different type work	25
Not enough money	19
Not interested	18
Already had a job	14
No job available	5
Not enough training in related jobs	4
Not sure of what I wanted to do	3
Had better job offer	2
Needed to take first job available	2
In school	1
Moved	1

Table 23 shows for the present job, by OE code, the number of 1973-74 secondary Distributive Education Occupations terminees employed by the relatedness of their vocational training to their present job.

TABLE 23

EMPLOYED 1973-74 DISTRIBUTIVE EDUCATION OCCUPATIONS TERMINEES BY OE CODE AREA STUDIED AND BY RELATEDNESS OF TRAINING TO PRESENT JOB[A]

OE Code	Title of Occupational Objective Studied	Total Employed by Area Studied		Relatedness of Training to Present Job[B]					
				Directly Related		Somewhat Related		Not Related	
		No.	%	No.	%	No.	%	No.	%
04.0000	Distributive Education	3	0.4	1	0.1	1	0.1	1	0.1
04.0100	Advertising	10	1.4	3	0.4	5	0.7	2	0.2
04.0200	Apparel & Accessories	61	8.5	23	3.2	20	2.8	18	2.5
04.0300	Automotive	25	3.5	15	2.1	5	0.7	5	0.7
04.0400	Finance & Credit	20	2.8	5	0.7	10	1.4	5	0.7
04.0500	Floristry	10	1.4	3	0.4	3	0.4	4	0.5
04.0600	Food Distribution	110	15.4	46	6.4	36	5.0	28	3.9
04.0700	Food Services	42	5.8	10	1.4	14	1.9	18	2.5
04.0800	General Merchandise	92	12.9	26	3.6	39	5.4	27	3.7
04.0900	Hardware, Building Materials, Farm & Garden Supplies, & Equipment	18	2.5	4	0.5	7	0.9	7	0.9
04.1000	Home Furnishings	12	1.6	5	0.7	3	0.4	4	0.5
04.1100	Hotel & Lodging	2	0.2	0	0.0	0	0.0	2	0.2
04.1200	Industrial Marketing	9	1.2	2	0.2	4	0.5	3	0.4
04.1300	Insurance	4	0.5	0	0.0	3	0.4	1	0.1

(continued)

TABLE 23 (continued)

OE Code	Title of Occupational Objective Studied	Total Employed by Area Studied		Relatedness of Training to Present Job					
				Directly Related		Somewhat Related		Not Related	
		No.	%	No.	%	No.	%	No.	%
04.1500	Personal Services	13	1.8	4	0.5	6	0.8	3	0.4
04.1600	Petroleum	6	0.8	1	0.1	1	0.1	4	0.5
04.1700	Real Estate	1	0.1	1	0.1	0	0.0	0	0.0
04.1800	Recreation & Tourism	12	1.6	3	0.4	3	0.4	6	0.8
04.1900	Transportation	4	0.5	1	0.1	1	0.1	2	0.2
04.2000	Other Retail Trade	10	1.4	1	0.1	2	0.2	7	0.9
04.3100	Other Wholesale Trade	4	0.5	0	0.0	2	0.2	2	0.2
04.9900	Distributive Education, Other	7	0.9	1	0.1	5	0.7	1	0.1
14.0103	Cashiers	0	0.0	0	0.0	0	0.0	0	0.0
14.0300	Filing, Office Machines, & General Office Clerical Occupations	1	0.1	1	0.1	0	0.0	0	0.0
14.0406	Receptionists, & Information Clerks	1	0.0	0	0.0	0	0.0	1	0.1
	TOTAL ALL AREAS	477	66.9	156	21.9	170	23.8	151	21.2

[A]All percentages were based on the 712 (29.7%) of the 2400 terminees who returned the questionnaire. (Due to rounding, the percentage may not add to the total indicated).

[B]Terminees made the judgment as to how their first job was related to training received in their high school vocational program.

Of the 477 secondary Distributive Education Occupations terminees who indicated present employment, 110 (15.4%) who studied in the area of Food Distribution (Co-op), OE Code 04.0600, were employed. This represented the largest number of employed terminees that studied in any OE Code area.

Of the 110 terminees presently employed that studied Food Distribution, 46 (41.8%) were employed in an area directly related to the training received in their high school vocational program. Twenty-eight (25.5%) terminees who studied in Food Distribution indicated their present job was not related to their high school vocational training. The terminees made the judgment as to how their present job related to the training received in their high school vocational program.

Table 23A is a description of 1973-74 Distributive Education Occupations terminees' present job by OE code area studied, number of returns, type school, termination status, and relatedness of training.

TABLE 23A

DESCRIPTION OF 1973-74 DISTRIBUTIVE EDUCATION OCCUPATIONS TERMINEES' PRESENT JOB BY OE CODE AREA STUDIED, NUMBER OF RETURNS, TYPE SCHOOL, TERMINATION STATUS, AND RELATEDNESS OF TRAINING

OE Code Area[A]	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to Present Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
04.0000	Distributive Education (Total)	7	3	42.9	1	14.3	1	14.3	1	14.3
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0			0	0.0	0	0.0	0	0.0

(continued)

TABLE 23A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to Present Job					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	7	3	42.9	1	14.3	1	14.3	1	14.3
	Completers	7	3	42.9	1	14.3	1	14.3	1	14.3
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
04.0100	Advertising (Total)	16	10	62.5	3	18.8	5	31.3	2	12.5
	AVC (Total)	3	1	33.3	1	33.3	0	0.0	0	0.0
	Completers	3	1	33.3	1	33.3	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	13	9	69.2	2	15.4	5	38.5	2	15.4
	Completers	11	8	72.7	2	18.2	4	36.4	2	18.2
	Dropouts	2	1	50.0	0	0.0	1	50.0	0	0.0
04.0200	Apparel & Accessories (Total)	100	61	61.0	23	23.0	20	20.0	18	18.0
	AVC (Total)	12	6	50.0	2	16.7	0	0.0	4	33.3
	Completers	12	6	50.0	2	16.7	0	0.0	4	33.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	88	55	62.5	21	23.9	20	22.7	14	15.9
	Completers	85	53	62.4	21	24.7	18	21.2	14	16.5
	Dropouts	3	2	66.7	0	0.0	2	66.7	0	0.0
04.0300	Automotive (Total)	32	25	78.1	15	46.8	5	15.6	5	15.6
	AVC (Total)	3	3	100.0	2	66.7	0	0.0	1	33.3
	Completers	3	3	100.0	2	66.7	0	0.0	1	33.3
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	29	22	75.9	13	44.8	5	17.2	4	13.8
	Completers	27	20	74.1	12	44.4	4	14.8	4	14.8
	Dropouts	2	2	100.0	1	50.0	1	50.0	0	0.0
04.0400	Finance & Credit (Total)	24	20	83.3	5	20.8	10	41.7	5	20.8

(continued)

TABLE 23A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied No.	%	Relatedness of Training to Present Job: Directly Related No.	%	Somewhat Related No.	%	Not Related No.	%
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	24	20	83.3	5	20.8	10	41.7	5	20.8
	Completers	24	20	83.3	5	20.8	10	41.7	5	20.8
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
04.0500	Floristry	15	10	66.7	3	20.0	3	20.0	4	26.7
	AVC (Total)	2	1	50.0	1	50.0	0	0.0	0	0.0
	Completers	2	1	50.0	1	50.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	13	9	69.2	2	15.4	3	23.1	4	30.8
	Completers	12	8	66.7	2	16.7	3	25.0	3	25.0
	Dropouts	1	1	100.0	0	0.0	0	0.0	1	100.0
04.0600	Food Distribution (Total)	149	110	73.8	46	30.9	36	24.2	28	18.8
	AVC (Total)	19	17	89.5	9	47.4	5	26.3	3	15.8
	Completers	15	14	93.3	8	53.3	4	26.7	2	13.3
	Dropouts	4	3	75.0	1	25.0	1	25.0	1	25.0
	Other Type Schools (Total)	130	93	71.5	37	28.5	31	23.8	25	19.2
	Completers	118	89	75.4	36	30.5	29	24.6	24	20.3
	Dropouts	12	4	33.3	1	8.3	2	16.7	1	8.3
04.0700	Food Services (Total)	71	42	59.2	10	14.1	14	19.7	18	25.4
	AVC (Total)	7	4	57.2	0	0.0	2	28.6	2	28.6
	Completers	6	4	66.7	0	0.0	2	33.3	2	33.3
	Dropouts	1	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	64	38	59.4	10	15.6	12	18.8	16	25.0
	Completers	53	31	58.5	8	15.1	8	15.1	15	28.3
	Dropouts	11	7	63.6	2	18.2	4	36.4	1	9.1

(continued)

TABLE 23A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to Present Job					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
04.0800	General Merchandise (Total)	157	92	58.6	26	16.6	39	24.9	27	17.2
	AVC (Total)	20	8	40.0	2	10.0	2	10.0	4	20.0
	Completers	18	8	44.4	2	11.1	2	11.1	4	22.2
	Dropouts	2	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	137	84	61.3	24	17.5	37	27.0	23	16.8
	Completers	122	77	63.1	22	18.0	33	27.1	22	18.0
	Dropouts	15	7	46.7	2	13.3	4	26.7	1	6.7
04.0900	Hardware, Building Materials, Farm & Garden Supplies, & Equipment (Total)	26	18	69.2	4	15.4	7	26.9	7	26.9
	AVC (Total)	5	3	60.0	0	0.0	2	40.0	1	20.0
	Completers	4	3	75.0	0	0.0	2	50.0	1	25.0
	Dropouts	1	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	21	15	71.4	4	19.0	5	23.8	6	28.6
	Completers	20	14	70.0	4	20.0	4	20.0	6	30.0
	Dropouts	1	1	100.0	0	0.0	1	100.0	0	0.0
04.1000	Home Furnishings (Total)	16	12	75.0	5	31.3	3	18.8	4	25.0
	AVC (Total)	2	2	100.0	1	50.0	1	50.0	0	0.0
	Completers	2	2	100.0	1	50.0	1	50.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	14	10	71.4	4	28.6	2	14.3	4	28.6
	Completers	12	8	66.7	4	33.3	1	8.3	3	25.0
	Dropouts	2	2	100.0	0	0.0	1	50.0	1	50.0
04.1100	Hotel & Lodging (Total)	3	2	66.7	0	0.0	0	0.0	2	66.7
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 23A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied No.	%	Relatedness of Training to Present Job: Directly Related No.	%	Somewhat Related No.	%	Not Related No.	%
	Other Type Schools (Total)	3	2	66.7	0	0.0	0	0.0	2	66.7
	Completers	3	2	66.7	0	0.0	0	0.0	2	66.7
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
04.1200	Industrial Marketing (Total)	12	9	75.0	2	16.7	4	33.3	3	25.0
	AVC (Total)	2	1	50.0	0	0.0	1	50.0	0	0.0
	Completers	1	1	100.0	0	0.0	1	100.0	0	0.0
	Dropouts	1	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	10	8	80.0	2	20.0	3	30.0	3	30.0
	Completers	8	7	87.5	2	25.0	3	37.5	2	25.0
	Dropouts	2	1	50.0	0	0.0	0	0.0	1	50.0
0[illegible]300	Insurance (Total)	5	4	80.0	0	0.0	3	60.0	1	20.0
	AVC (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	1	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	4	4	100.0	0	0.0	3	75.0	1	25.0
	Completers	3	3	100.0	0	0.0	2	66.7	1	33.3
	Dropouts	1	1	100.0	0	0.0	1	100.0	0	0.0
04.1500	Personal Services (Total)	25	13	52.0	4	16.0	6	24.0	3	12.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	25	13	52.0	4	16.0	6	24.0	3	12.0
	Completers	22	11	50.0	3	13.6	5	22.7	3	13.6
	Dropouts	3	2	66.7	1	33.3	1	33.3	0	0.0
04.1600	Petroleum (Total)	6	6	100.0	1	16.7	1	16.7	4	66.7
	AVC (Total)	1	1	100.0	0	0.0	0	0.0	1	100.0
	Completers	1	1	100.0	0	0.0	0	0.0	1	100.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 23A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to Present Job					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	5	5	100.0	1	20.0	1	20.0	3	60.0
	Completers	4	4	100.0	1	25.0	1	25.0	2	50.0
	Dropouts	1	1	100.0	0	0.0	0	0.0	1	100.0
04.1700	Real Estate (Total)	3	1	33.3	1	33.3	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	3	1	33.3	1	33.3	0	0.0	0	0.0
	Completers	3	1	33.3	1	33.3	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
04.1800	Recreation & Tourism (Total)	12	12	100.0	3	25.0	3	25.0	6	50.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	12	12	100.0	3	25.0	3	25.0	6	50.0
	Completers	11	11	100.0	3	27.2	3	27.2	5	45.5
	Dropouts	1	1	100.0	0	0.0	0	0.0	1	100.0
04.1900	Transportation (Total)	4	4	100.0	1	25.0	1	25.0	2	50.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	4	4	100.0	1	25.0	1	25.0	2	50.0
	Completers	4	4	100.0	1	25.0	1	25.0	2	50.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
04.2000	Other Retail Trade (Total)	13	10	76.9	1	7.7	2	15.4	7	53.8

(continued)

TABLE 23A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied No.	%	Relatedness of Training to Present Job: Directly Related No.	%	Somewhat Related No.	%	Not Related No.	%
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	13	10	76.9	1	7.7	2	15.4	7	53.8
	Completers	12	10	83.3	1	8.3	2	16.7	7	58.3
	Dropouts	1	0	0.0	0	0.0	0	0.0	0	0.0
04.3100	Other Wholesale Trade (Total)	4	4	100.0	0	0.0	2	50.0	2	50.0
	AVC (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	Completers	1	1	100.0	0	0.0	1	100.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	3	3	100.0	0	0.0	1	33.3	2	66.7
	Completers	3	3	100.0	0	0.0	1	33.3	2	66.7
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
04.9900	Distributive Education, Other (Total)	9	7	77.8	1	11.1	5	55.6	1	11.1
	AVC (Total)	2	1	50.0	0	0.0	1	50.0	0	0.0
	Completers	2	1	50.0	0	0.0	1	50.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	7	6	85.7	1	14.3	4	57.1	1	14.3
	Completers	6	6	100.0	1	16.7	4	66.7	1	16.7
	Dropouts	1	0	0.0	0	0.0	0	0.0	0	0.0
Other OE Codes:										
14.0103	Cashiers (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 23A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied No.	%	Relatedness of Training to Present Job: Directly Related No.	%	Somewhat Related No.	%	Not Related No.	%
14.0300	Filing, Office Machines, & Clerical Occupations (Total)	1	1	100.0	1	100.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	1	100.0	0	0.0	0	0.0
	Completers	1	1	100.0	1	100.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
14.0406	Receptionists & Information Clerks (Total)	1	1	100.0	0	0.0	0	0.0	1	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	0	0.0	0	0.0	1	100.0
	Completers	1	1	100.0	0	0.0	0	0.0	1	100.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	TOTAL ALL AREAS (Total)	712	477	67.0	156	21.9	170	23.9	151	21.2
	AVC (Total)	80	49	61.3	18	22.5	15	18.8	16	20.0
	Completers	70	46	65.7	17	24.3	14	20.0	15	21.4
	Dropouts	10	3	30.0	1	10.0	1	10.0	1	10.0
	Other Type Schools (Total)	632	428	67.7	138	21.8	155	24.5	135	21.4
	Completers	573	396	69.1	131	22.9	138	24.1	127	22.2
	Dropouts	59	32	54.2	7	11.9	17	28.8	8	13.6

[A]OE Code areas as reported by teachers
[B]Area Vocational Centers
[C]Any terminee who left the program by completing or by high school graduation
[D]Any terminee who the instructor reported as having dropped out of school
[E]The terminees made the judgment as to how their first job was related to the training received in their high school vocational program.

Table 24 indicates the first job salary ranges as compared to the present job salary ranges for the 1973-74 Distributive Education Occupations terminees.

TABLE 24

FIRST-JOB SALARY RANGES AND PRESENT-JOB SALARY RANGES FOR 1973-74 DISTRIBUTIVE EDUCATION OCCUPATIONS TERMINEES

Salary Ranges	First Job		Present Job	
	No.	%	No.	%
Under $250	274	57.4	127	29.8
$250 - $299	65	13.6	61	14.3
$300 - $349	56	11.7	49	11.5
$350 - $399	26	5.5	47	11.0
$400 - $449	26	5.5	49	11.5
$450 - $499	10	2.1	26	6.1
$500 - $599	7	1.5	30	7.0
$600 - $699	4	0.8	20	4.7
$700 or more	9	1.9	17	4.0
TOTAL	477	100.0	426	100.0

Of the 477 terminees reporting a salary range for their first job, 274 (57.4%) indicated a range of under $250 per month. Thirteen terminees reported a first salary of over $600 per month. The median salary range for the first job fell in the range of under $250 per month. The mean salary range for the first job also fell in the range of $250 - $299 per month.

Of the 426 1973-74 Distributive Education Occupations terminees reporting a salary range for their present job, 127 (29.8%) indicated under $250 per month. This salary range was indicative of the mode of the reporting students. The median and mean salary ranges for the present job also fell within the range of $350 - $399 per month. The

median and mean salary ranges of present jobs over first jobs indicate an increase for the reporting Distributive Education Occupations terminees.

Table 24A indicates the first-job salary ranges by relatedness of training and sex of the Distributive Education Occupations terminees.

TABLE 24A

FIRST-JOB SALARY RANGES BY RELATEDNESS OF TRAINING OF 1973-74 DISTRIBUTIVE EDUCATION OCCUPATIONS TERMINEES BY SEX

Salary Ranges	Sex of Terminees Responding		Relatedness of Training to First Job[B]					
			Directly Related		Somewhat Related		Not Related	
	Male	Female	Male	Female	Male	Female	Male	Female
Under $250	138	125	44	49	59	43	35	33
$250 - $299	36	23	14	7	11	10	11	6
$300 - $349	33	21	13	6	12	8	8	7
$350 - $399	16	10	3	3	10	5	3	2
$400 - $449	21	4	7	3	6	1	8	-
$450 - $499	9	1	2	-	5	1	2	-
$500 - $599	7	-	3	-	1	-	3	-
$600 - $699	4	-	1	-	-	-	3	-
$700 or more	8	1	-	-	1	1	7	-
TOTAL[A]	272	185	87	68	105	69	80	48

[A]Totals do not match those of Table 24 because some terminees did not respond to all questions.

[B]The terminees made the judgment as to how their first job was related to the training received in their high school vocational program.

Of the 457 responding terminees 263 (57.5%) were employed at less than $250 per month. Of these 263 terminees, 44 (16.7%) males and 49 (18.6%) females were employed in a job directly related to their training; 59 (22.4%) males and 43 (16.3%) females were employed in jobs somewhat related to their training; while 35 (13.3%) males and 33 (12.5%) females were employed in jobs not related to their training.

Of the 457 responding terminees, 272 (59.5%) were males and 185 (40.5%) were females. Eighty-seven (19.0%) males and 68 (14.9%) females were employed in jobs directly related to their vocational training; 105 (23.0%) males and 69 (15.1%) females were employed in jobs somewhat related to their training; while 80 (17.5%) males and 48 (10.5%) females were employed in jobs not related to their training.

Table 24B indicates the present-job salary ranges by relatedness of training and sex of the Distributive Education Occupations terminees.

TABLE 24B

PRESENT-JOB SALARY RANGES BY RELATEDNESS OF TRAINING OF 1973-74 DISTRIBUTIVE EDUCATION OCCUPATIONS TERMINEES BY SEX

Salary Ranges	Sex of Terminees Responding		Relatedness of Training to Present Job[B]					
			Directly Related		Somewhat Related		Not Related	
	Male	Female	Male	Female	Male	Female	Male	Female
Under $250	54	69	18	25	23	31	13	13
$250 - $299	23	31	9	14	8	11	6	6
$300 - $349	26	22	7	6	14	9	5	7
$350 - $399	26	21	5	5	7	8	14	8
$400 - $449	37	10	12	5	13	2	12	3
$450 - $499	20	5	8	2	4	1	8	2
$500 - $599	29	1	12	-	9	1	8	-
$600 - $699	20	-	3	-	7	-	10	-
$700 or more	16	1	3	-	3	1	10	-
TOTAL[A]	251	160	77	57	88	64	86	39

[A]Totals do not match those of Table 24 because some terminees did not respond to all questions.

[B]The terminees made the judgment as to how their present job was related to the training received in their high school vocational program.

Of the 411 responding terminees, 123 (29.9%) were employed at less than $250 per month. Of these 123 terminees, 18 (14.6%) males and 25 (20.3%) females were employed in a job directly related to their training;

23 (18.7%) males and 31 (25.2%) females were employed in jobs somewhat related to their training; while 13 (10.6%) males and 13 (10.6%) females were employed in jobs not related to their training.

Of the 411 responding terminees, 251 (61.1%) were males and 160 (38.9%) were females. Of these 411 terminees, 77 (18.7%) males and 57 (13.9%) females were employed in jobs directly related to their vocational training; 88 (21.4%) males and 64 (15.6%) females were employed in jobs somewhat related to their training; while 86 (20.9%) males and 39 (9.5%) females were employed in jobs not related to their training.

Continuing Education Information

The following section of this report presents information relative to the continuing education of the 1973-74 secondary Distributive Education Occupations terminees.

Table 25 shows the vocational educational training opportunities terminees have participated in since leaving their high school vocational program.

TABLE 25

ADDITIONAL VOCATIONAL EDUCATIONAL TRAINING 1973-74
SECONDARY DISTRIBUTIVE EDUCATION OCCUPATIONS
TERMINEES PARTICIPATED IN SINCE LEAVING
THEIR HIGH SCHOOL VOCATIONAL PROGRAM[A]

Type Training	Number	Percent[B]
On-the-job training (employer-sponsored program)	133	18.7
Public school adult vocational program	13	1.8
Private vocational school program	4	0.6
University of four year college	73	10.3
Junior college	64	9.0
Post-secondary vocational-technical institute (trade school)	26	3.6
Apprenticeship training program	19	2.6
Specialized occupational military training	9	1.3
Other[C]	26	3.6
TOTAL[D]	367	51.5

[A]Of the 712 terminees, 404 (56.7%) gave no indication of being involved in additional vocational training. Of the 712 terminees, 297 (41.7%) took part in one additional vocational training opportunity since leaving their high school program. Thirty-six (5.1%) took part in two and 34 (4.8%) terminees took part in the three additional training opportunities.

[B]Percentages are based on the 712 (29.7%) respondents of the total 269 terminees who returned questionnaires.

[C]See page 62 for the "Other" listing as specified by the terminees.

[D]The total indicated the number of different training programs in which terminees enrolled. As footnoted above, several terminees had enrolled in more than one training program.

Of the responding terminees, 133 (18.7%) participated in the on-the-job training (employer-sponsored program). This represented the largest area where terminees had taken additional vocational training.

Of the 712 responding terminees, 297 (41.7%) had taken part in one additional vocational training program since leaving their high school program. Thirty-six (5.1%) enrolled in two training programs, and 34

(4.8%) terminees had enrolled in three vocational training programs. A large segment of the terminees, 404 (56.7%), indicated they had not enrolled in additional vocational training.

The following is a listing of the "Other" (Table 25) vocational education training terminees indicated they had participated in:

"Other" Vocational Training	Number
College	5
Business College	5
Technical College	2
Construction	2
Data Processing	1
Bible College	1
Nursing School	1
Army Reserve	1
Still in High School	1
American Institute of Banking	1
R. N. Program	1
Industrial Electricity	1
F. C. C. Study Information	1
Police Department Cadet Program	1
Towboat Pilot	1
Crime Lab	1
Metropolitan Area Skills Center	1
Railroad Training Services	1
Plumbing	1
VISTA	1
Welder's Helper	1
Professional Careers of America	1
Deca Alumni	1

Table 26 points out the additional programs the 1973-74 secondary Distributive Education Occupations terminees were presently attending beyond their high school training by whether these programs were related to their high school vocational program.

Of the 712 1973-74 secondary Distributive Education Occupations terminees who responded to the survey, 52 (7.3%) were attending an on-the-job training program (employer-sponsored), 23 (3.2%) were attending a vocational-technical institute, 110 (15.4%) were attending a junior

college, 136 (19.1%) were attending a four-year college or university, 5 (0.7%) were attending a public adult vocational program, 17 (2.4%) were attending private business or trade school, 26 (3.7%) were attending an apprenticeship program, and 26 (3.7%) were attending some other type of school or educational program. (See page 64 for the listing of the other types of schools or educational programs students were attending.)

TABLE 26

PROGRAMS PRESENTLY ATTENDED BY THE 1973-74 SECONDARY DISTRIBUTIVE EDUCATION OCCUPATIONS TERMINEES BY WHETHER THESE PROGRAMS WERE RELATED TO THEIR HIGH SCHOOL VOCATIONAL EDUCATION PROGRAM[A]

Programs Attended	Terminees		Program Related to High School VED Program					
			Yes		No		No Response	
	No.	%	No.	%	No.	%	No.	%
On-the-job training (employer-sponsored)	52	7.3	9	1.3	11	1.5	32	4.5
Vocational-technical institute (Trade School)	23	3.2	8	1.1	12	1.7	3	0.4
Junior college	110	15.4	19	2.7	85	11.9	6	0.8
Four-year college or university	136	19.1	16	2.2	115	16.2	5	0.7
Public school adult vocational program	5	0.7	0	0.0	5	0.7	0	0.0
Private business or trade school	17	2.4	6	0.8	8	1.1	3	0.4
Apprenticeship program	7	1.0	0	0.0	3	0.4	4	0.5
Other[B]	26	3.7	6	0.8	17	2.4	3	0.4
TOTAL	376	52.8	64	9.0	256	36.0	56	7.8

[A]All percentages were based on the 712 responding terminees.

[B]See page 64 for listing of "Other" schools or educational institutions terminees were attending.

Of the 712 Distributive Education Occupations terminees, 376 (52.8%) were presently continuing their education. Sixty-four (9.0%) of the terminees were continuing their education in a program related to their high school vocational program, whereas 256 (36.0%) were attending a program in an area not related to their high school vocational program.

The following is a listing of the "Other" category (Table 26) of additional programs the 1973-74 Distributive Education Occupations terminees were attending:

"Other" School or Program	Number
College	7
High School	7
Trade/Technical School	5
Business College	4
Nursing School	3
Military	2
Bible College	1
Air Traffic Control	1
American Institute of Banking Course	1
La Salle Units	1
Management Training	1
Automotive Electricity	1

Of the 712 responding terminees, 345 (48.5%) indicated they were not attending a school or program but would like to do so. The following is a list of the areas in which these terminees desired to study:

Area of Study	Number
Uncertain	33
Distributive Education	16
Food Service/Distribution	10
Advertising	8
Marketing	7
Fashion Merchandising	7
General Merchandising	5
Hardware & Building Materials	1

(continued)

Area of Study	Number
Sales Representative	1
Cashier	1
Wholesale Trade	1
Finance & Credit	1
Business and Office	44
Management	21
Computer Programming	10
Accounting	8
Data Processing	3
Shorthand	3
Banking	2
IBM	2
Business Law	1
Health Services	8
Nursing	8
Pharmacy	3
Dental Assistant	2
Biological Research	1
X-Ray Technician	1
Forestry	2
Electronics	17
Mechanics	9
Automotive	8
Welding	8
Electricity	6
Engineering	5
Cosmetology	5
Commercial Art	5
Law Enforcement	4
Interior Decorating	4
Drafting	3
Construction	2
Woodworking	2
Electrical Engineering	2
Meat Cutting	1
Machine Shop	1
Printing	1
Photography	1
Boat Repair	1
Broadcasting	1
Plumbing	1
Heating/Air Conditioning	1
Platemaking	1
Business Machines	1
Aeronautics	1
Air Traffic Control	1

Other professions listed:

(continued)

Area of Study	Number
Teacher	3
Lawyer	1
Architect	1

Of the 712 responding terminees, 301 (42.3%) indicated they were not attending a school or program and did not desire to do so. Sixty-six (9.3%) terminees did not respond to the question.

Table 27 illustrates the programs presently attended by the terminees by OE Code area studied by whether it related to their high school vocational programs. No attempt was made to show the "no responses" to the data items; therefore, many of the totals do not correspond.

TABLE 27

PROGRAMS PRESENTLY ATTENDED BY THE 1973-74 SECONDARY DISTRIBUTIVE EDUCATION OCCUPATIONS TERMINEES BY OE CODE AREA STUDIED BY WHETHER IT RELATED TO THEIR HIGH SCHOOL VOCATIONAL PROGRAMS[A]

OE Code	Occupational Title	TOTAL Presently Continuing Education	Type School or Educational Program Presently Attending															
			On-the-Job Training		Vo. Tech. School		Junior College		4 Year College or Univ.		Public School Adult VED Program		Private Business or Trade School		Apprenticeship Program		Other	
			Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related
04.0000	Distributive Education	5							5									
04.0100	Advertising	8		1	1			2		4								
04.0200	Apparel & Accessories	62	1	2		1	4	16		30		2	1	1			1	3
04.0300	Automotive	14	1	1	1		1	5		5								
04.0400	Finance & Credit	7	1					3	1	2								
04.0500	Floristry	7							1	3				1				2
04.0600	Food Distribution	56	2	1		4	4	16	1	16		1	2	2		2		5
04.0700	Food Services	29	1	1		1	1	10	1	7				2			4	1
04.0800	General Merchandise	74	2	2	4	5	5	16	4	24		2	3	1		1	1	4
04.0900	Hardware, Building Materials, Farm & Garden Supplies, & Equipment	9			1			5		2				1				

(continued)

TABLE 27 (continued)

OE Code	Occupational Title	TOTAL Presently Continuing Education	Type School or Educational Program Presently Attending: On-the-Job Training		Vo. Tech. School		Junior College		4 Year College or Univ.		Public School Adult VED Program		Private Business or Trade School		Apprenticeship Program		Other	
			Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related
04.1000	Home Furnishings	8	1	1				2	1	2								1
04.1100	Hotel & Lodging	3					1			2								
04.1200	Industrial Marketing	3			1		1											1
04.1300	Insurance	1								1								
04.1500	Personal Services	12					1	3	1	7								
04.1600	Petroleum	2						1		1								
04.1700	Real Estate	2				1				1								
04.1800	Recreation & Tourism	6		2				2		2								
04.1900	Transportation	1							1									
04.2000	Other Retail Trade	5					1	2		2								
04.3100	Other Wholesale Trade	2						2										
04.9900	Distributive Education, Other	4								4								

(continued)

TABLE 27 (continued)

OE Code	Occupational Title	TOTAL Presently Continuing Education	Type School or Educational Program Presently Attending															
			On-the-Job Training		Vo. Tech. School		Junior College		4 Year College or Univ.		Public School Adult VED Program		Private Business or Trade School		Apprenticeship Program		Other	
			Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related
14.0103	Cashiers	0																
14.0300	Filing, Office Machines, & General Office Clerical Occupations	0																
14.0406	Receptionists & Information Clerks	0																

[A]Since some terminees did not respond to parts of the questions, totals will not correspond.

Job Placement Information

The following section of this report presents information concerning job placement of the 1973-74 secondary Distributive Education Occupations terminees.

Table 28 points out whether the 1973-74 Distributive Education Occupations terminees were seeking full-time employment when they left their high school vocational program and if their vocational teacher attempted to help them get a job.

TABLE 28

WHETHER VOCATIONAL TEACHER ATTEMPTED TO HELP 1973-74 DISTRIBUTIVE EDUCATION OCCUPATIONS TERMINEES GET A JOB IF SEEKING FULL-TIME EMPLOYMENT UPON LEAVING THE HIGH SCHOOL VOCATIONAL PROGRAM[A]

Vocational Teacher Attempted To Get Terminee A Job	Number	Percent
Yes	101	33.1
No	194	63.6
No Response	10	3.3
TOTAL	305	100.0

[A]Of the responding terminees, 397 (55.8%) indicated they were not seeking full-time employment when they left their high school vocational program. Ten (1.4%) of the terminees did not respond to the question.

Of the 305 1973-74 Distributive Education Occupations terminees indicating they were seeking full-time employment when they left their high school vocational program, 101 (33.1%) indicated that their vocational teacher attempted to help them get a job. However, 194 (63.6%)

of the terminees seeking full-time employment indicated that their vocational teacher did not attempt to help them secure employment. It was interesting to note that 397 (55.8%) of the reporting 1973-74 Distributive Education Occupations terminees indicated they were not seeking full-time employment when they left their high school vocational program.

Table 29 illustrates how long it took the 1973-74 Distributive Education Occupations terminees to get their first full-time job after they left their high school vocational program and began actively seeking full-time employment.

TABLE 29

LENGTH OF TIME IT TOOK THE 1973-74 DISTRIBUTIVE EDUCATION OCCUPATIONS TERMINEES TO SECURE FIRST FULL-TIME JOB AFTER LEAVING HIGH SCHOOL VOCATIONAL PROGRAM AND BEGINNING ACTIVELY SEEKING FULL-TIME EMPLOYMENT[A]

Time to Secure First Full-Time Job	Number	Percent
0 - 2 weeks	77	42.6
3 - 4 weeks	42	23.2
5 - 8 weeks	21	11.6
9 - 12 weeks	18	9.9
13 or more weeks	23	12.7
TOTAL	181	100.0

[A]Three hundred six (306) terminees indicated they already had a job when they left their high school vocational program.

Seventy-seven (42.6%) of the 181 secondary Distributive Education Occupations terminees secured their first full-time job within two weeks after they left their high school vocational program and began actively seeking full-time employment. However, 23 (12.7%) of the terminees took

13 or more weeks to secure their first full-time job. There were 306 terminees who indicated they already had a job when they left their high school vocational program.

Table 30 shows how the 1973-74 secondary Distributive Education Occupations terminees indicated they got their first full-time job after leaving their high school vocational program.

TABLE 30

HOW THE 1973-74 DISTRIBUTIVE EDUCATION OCCUPATIONS TERMINEES INDICATED THEY GOT THEIR FIRST FULL-TIME JOB AFTER LEAVING THEIR HIGH SCHOOL VOCATIONAL PROGRAM

How Terminees Secured First Full-Time Job	Number	Percent
Through your vocational teacher	10	4.9
Through your counselor	0	0
Through other school teachers or administrators	2	1.0
Through a friend or relative	89	43.6
Through applications to business or industry	59	28.9
Through state (local) employment office	7	3.4
Through a private employment agency	5	2.5
Through radio, T.V., newspaper, or other news media	5	2.5
Other[A]	27	13.2
TOTAL	204	100.0

[A]See listing on page 73 for the "Other" ways terminees indicated they secured their first full-time job after leaving their high school vocational program.

Of the 204 1973-74 Distributive Education Occupations terminees who responded to the survey item, 89 (43.6%) indicated they got their first full-time job after leaving their high school vocational program through a friend or relative, and 59 (28.9%) of the terminees indicated they got their first full-time job through applications to business or industry.

These represented the two methods that the largest number of Distributive Education Occupations terminees utilized to secure their first full-time job. Only 10 (4.9%) of the terminees indicated they secured their first job through their vocational teacher. No student indicated that a counselor got them their first full-time job after leaving their vocational program. Those students who already had a job before leaving their high school vocational program were not shown in Table 30. (See Table 31, page 74).

The following list indicates the "Other" means the terminees indicated to secure their first full-time jobs after leaving their high school vocational programs.

"Other" Means for Securing First Full-Time Job	Number
Myself	6
Boss/Owner	2
School	1
Advertising Director	1
Transfer from last job	1
Went from part-time to full-time	1
College aid	1
Self-employed	1
Saw sign ("Dishwasher's Needed")	1
Offered job	1
Help of God	1
Interview	1
Army	1

Table 31 shows how the 1973-74 Distributive Education Occupations terminees who were working while in high school taking their vocational program indicated they got those jobs.

Of the 712 reporting 1973-74 Distributive Education Occupations terminees, 548 (77.0%) indicated they were working during the time they

were in high school taking their vocational program. Of those terminees working while in high school, 161 (29.4%) got their job through their vocational instructor, 208 (38.0%) through a friend or relative, and 97 (17.7%) got their jobs through applications to business or industry. These three means were the ways most of the terminees secured a job while they were still in high school taking their vocational program.

TABLE 31

HOW THE 1973-74 DISTRIBUTIVE EDUCATION OCCUPATIONS TERMINEES WHO WERE WORKING WHILE IN HIGH SCHOOL TAKING THEIR VOCATIONAL PROGRAM INDICATED THEY GOT THAT JOB[A]

Who or What Helped Terminee Get Job	Number	Percent
Your vocational teacher	161	29.4
Your counselor	8	1.5
Other school teachers or administrators	6	1.1
Friend or relative	208	38.0
Applications to business or industry	97	17.7
State (local) employment office	3	0.5
Private employment agency	4	0.7
Radio, T.V., newspaper, or other news media	5	0.9
Other	56	10.2
TOTAL	548	100.0

[A]One hundred fifty-six (156) (21.9%) terminees indicated they had no job during the time they were in high school taking their vocational course.

Table 32 reveals the indications of the 1973-74 Distributive Education Occupations terminees as whether, before taking their first jobs, they looked for employment within daily walking or driving distance of home by how their first job related to their vocational training.

Of the 1973-74 Distributive Education Occupations terminees, 250 (85.9%) who were employed in their first job indicated they sought

employment within daily walking or driving distance of home. Forty-one (14.1%) terminees indicated before taking their first job, they looked for a job beyond daily walking or driving distance of home.

Of the 81 terminees who were working in a directly related area, only 10 (12.3%) sought employment beyond daily walking or driving distance of home.

TABLE 32

INDICATIONS OF 1973-74 DISTRIBUTIVE EDUCATION OCCUPATIONS TERMINEES AS TO WHERE THEY LOOKED FOR THEIR FIRST JOB BEFORE TAKING ONE BY HOW THEIR FIRST JOB RELATED TO THEIR TRAINING[A]

Before Taking First Job, Where Terminees Looked for Job	Total Reporting		Total Reporting by Relatedness of First Job to Vocational Training					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Within daily walking or driving distance of home	250	85.9	71	87.7	88	83.8	91	86.7
Beyond daily walking or driving distance of home[B]	41	14.1	10	12.3	17	16.2	14	13.3
TOTAL	291	100.0	81	100.0	105	100.0	105	100.0

[A]One hundred ninety-four (194) terminees indicated they already had their first job while in high school. Of those 194 terminees, 85 (43.8%) were working in a directly related area, 75 (38.6%) in a somewhat related area, while 34 (17.5%) were working in a non-related area.

[B]See listing, page 76, for rersons terminees gave for seeking their first job away from home.

It is interesting to note that of the 105 terminees whose first jobs did not relate to their training, only 14 (13.3%) of those terminees sought employment beyond daily walking or driving distance of home.

One hundred ninety-four (194) terminees indicated they had their first job while in high school. Of those 194 terminees, 85 (43.8%) were

working in a directly related area, 75 (38.6%) in a somewhat related area, and 34 (17.5%) were working in a non-related area.

The following is a listing of reasons terminees gave for seeking a job beyond daily walking or driving distance of their home before accepting their first job:

Reasons for Seeking Job Beyond Daily Walking or Driving Distance Before Accepting First Job	Number
Needed a job	3
No job available	3
Moved	3
Lived out of town	2
Like to travel	1
Cities are close together	1
Friend knew of a job	1
Told of a job	1
Had own transportation	1
Liked the district better	1
Asked to fill in for Mother	1
Wanted to work with computers	1

Table 33 reveals the indications of the 1973-74 Distributive Education Occupations terminees who were working in their first job not related to their training by whether or not they tried to get a job related to their training by where they looked for employment before accepting that first job.

It is important to note that of the 102 terminees who were working in a non-related first job, only three (2.9%) sought related employment beyond daily walking or driving distance of home before accepting his first job.

TABLE 33

INDICATIONS OF THE 1973-74 DISTRIBUTIVE EDUCATION OCCUPATIONS TERMINEES WORKING IN FIRST JOB NOT RELATED TO THEIR TRAINING BY WHETHER OR NOT THEY TRIED TO GET A JOB RELATED TO THEIR TRAINING BY WHERE THEY LOOKED FOR EMPLOYMENT BEFORE ACCEPTING FIRST JOB[A]

Where Terminees Working in Non-Related Areas Looked for Employment Before Accepting First Job	Total Reporting		Before Accepting This First Job Unrelated to Training Whether Terminees Sought Job in Related Area			
			Yes		No[B]	
	No.	%	No.	%	No.	%
Sought employment within daily walking or driving distance of their home	88	86.3	34	91.9	54	83.1
Sought employment beyond daily walking or driving distance of their home	14	13.7	3	8.1	11	16.9
TOTAL	102	100.0	37	100.0	65	100.0

[A]Total in this table may not correspond with totals of terminees for non-related categories in other tables for the following reasons: (1) some terminees had jobs when leaving program and did not have to seek employment and (2) some terminees failed to respond to one or more of the related questions from which data was drawn.

[B]See page 46 for the listing of reasons terminees who were working in non-related jobs gave for not trying to secure a job that was related to their training.

Table 34 illustrates the indications of the 1973-74 Distributive Education Occupations terminees as to where they looked for a job before taking their present job by how their present job is related to their vocational training.

Of the presently employed 1973-74 Distributive Education Occupations terminees, 223 (82.6%) indicated they sought employment within daily walking or driving distance of home. Forty-seven (17.4%) terminees indicated they sought employment beyond daily walking or driving distance of home.

TABLE 34

INDICATIONS OF 1973-74 DISTRIBUTIVE EDUCATION OCCUPATIONS TERMINEES AS TO WHERE THEY LOOKED FOR A JOB BEFORE TAKING THEIR PRESENT JOB BY HOW THEIR PRESENT JOB RELATED TO THEIR TRAINING[A]

Where Terminees Looked for Job Before Taking Present Job	Total Reporting		Total Reporting by Relatedness of Present Job to Vocational Training					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Within daily walking or driving distance of home	223	82.6	55	85.9	79	81.4	89	81.7
Beyond daily walking or driving distance of home[B]	47	17.4	9	14.1	18	18.6	20	18.3
TOTAL	270	100.0	64	100.0	97	100.0	109	100.0

[A]One hundred ninety-three (193) terminees reported they already had their present job while in high school. Of those 193 terminees, 86 (44.5%) were in a directly related area, 69 (35.8%) in a somewhat related area, while 38 (19.7%) were working in a non-related area.

[B]See listing, page 79, for reasons terminees gave for seeking their present job away from home.

Of the 64 terminees who were working in a directly related area, only nine (14.1%) sought employment beyond daily walking or driving distance of home.

Of the 109 terminees who were presently working in a non-related area, 20 (18.3%) sought employment beyond daily walking or driving distance of his home.

Some 193 terminees reported they already had their present job while in high school. Of those 193 terminees, 86 (44.5%) were in directly related areas, 69 (35.8%) in somewhat related areas, and 38 (19.7%) were in non-related areas.

The following is a list of reasons terminees gave for seeking a job beyond daily walking or driving distance of their home before accepting their present job:

Reasons for Seeking Job Beyond Daily Walking or Driving Distance Before Accepting Present Job	Number
No job available	10
Couldn't find job	5
Moved	4
More money	4
No special reason	3
Where school was located	2
Live out of town	2
Needed a job	2
Liked district better	1
Meet more people	1
Taught myself trade	1
My age met the qualifications	1
Needed certain hours	1
More jobs available in larger town	1
Wanted career in computers	1
Wanted to travel	1
Cities close together	1
Had job waiting	1
Church music requires it	1

Table 35 reveals the indications of the 1973-74 Distributive Education Occupations terminees who were working in present jobs not related to their training by whether or not they tried to get a job related to their training by where they looked for employment before accepting that present job.

TABLE 35

INDICATIONS OF THE 1973-74 DISTRIBUTIVE EDUCATION OCCUPATIONS TERMINEES WORKING IN PRESENT JOB NOT RELATED TO THEIR TRAINING BY WHETHER OR NOT THEY TRIED TO GET A JOB RELATED TO THEIR TRAINING BY WHERE THEY LOOKED FOR EMPLOYMENT BEFORE ACCEPTING PRESENT JOB[A]

Before Accepting Present Job Where Terminees Working in Non-Related Areas Looked for Employment	Total Reporting		Before Accepting This Present Job Unrelated to Training Whether or Not Terminees Sought Job in Related Area			
			Yes		No[B]	
	No.	%	No.	%	No.	%
Sought employment within daily walking or driving distance of their home	93	81.6	35	85.4	58	79.5
Sought employment beyond daily walking or driving distance of their home	21	18.4	6	14.6	15	20.5
TOTAL	114	100.0	41	100.0	73	100.0

[A]Totals in this table may not correspond with totals of terminees for non-related categories in other tables for the following reasons: (1) some terminees had jobs when leaving programs and did not have to seek employment and (2) some terminees failed to respond to one or more of the related questions from which data was drawn.

[B]See page 46 for the listing of reasons terminees who were working in non-related jobs gave for not trying to secure a job that was related to their training.

Only six (5.3%) of the 114 terminees who were working in a non-related area sought related employment beyond daily walking or driving distance of home before accepting his present job.

APPENDIX

PRESENT JOB AND FIRST JOB TITLES OF THE 1973-74 DISTRIBUTIVE EDUCATION OCCUPATIONS TERMINEES

PRESENT JOB AND FIRST JOB TITLES OF THE 1973-74 DISTRIBUTIVE EDUCATION OCCUPATIONS TERMINEES

For those terminees who indicated present or first job occupations, this appendix lists the present job title and first job title by their high school vocational training area (OE Codes). The job titles are listed as the terminees reported them. The number of full-time jobs held by these terminees since completing their high school vocational course is listed, current employment status is listed, and whether the student intended to get a job in the area while in the program.

The following code is used to identify the employment status of the terminees:

0. Unemployed, but seeking employment
1. Employed full time
2. Employed part time, seeking full-time job
3. Employed part time, not seeking full-time job
4. Employed full time and attending school
5. Employed part time and attending school
6. Unavailable for employment

The following code is used to identify whether the student intended to get a job in the area while in the program:

1. No
2. Was not sure
3. Yes

The number in parentheses behind the job titles indicates the relatedness of the high school vocational training to these jobs. The

terminees made the judgment as to the relatedness of their training to these jobs. The following code is used to identify this relatedness:

1. Directly related
2. Somewhat related
3. Not related

The total in each occupational title area may not correspond to the total in each OE Code as listed in Table 23. Some of the terminees failed to indicate the title of their present position. If the first job title was the same as the present job title, the first job title is included under the present job title.

OE Code 04.0000 - Distributive Education

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
1	1	1	2	DC Coil Winder (3)	
2	0	1	2	Cashier (1)	
3	6	0	1	Night Manager (Delicatessen) (1)	
4	6	1	2	Office Clerk (2)	

OE Code 04.0100 - Advertising

1	5	0	1	Office Clerk(3)	Waitress (3)
2	1	1	2	Microfile Camera Operator (3)	
3	3	1	2	Production Asst. (2)	
4	4	1	2	Platform Secretary (2)	Secretary (2)
5	1	1	3	Disc Jockey (2)	
6	4	1	2	Mailroom Supervisor (2)	
7	2	0	3	Clerk (2)	Clerk-Typist(1)
8	5	0	3	Salesgirl (1)	
9	5	1	3	Advertising Dir. (1)	
10	1	1	3	Advertisement Compositor (1)	Advertisement Compositor (1)

OE Code 04.0200 - Apparel and Accessories

1	1		3	Manager (1)	
2	1	1	1		Stock (3)
3	4	1	2	Cashier (2)	
4	5	1	2	Teacher (Day Care Center (3)	
5	1	1	3	Service Support Clerk (3)	Salesgirl/ Cashier (3)
6	1	2	2	Secretary (2)	Central Supply Girl (3)

(continued)

OE Code 04.0200 - Apparel and Accessories (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
7	1	1	3	Telephone Sales (2)	Security Guard (1)
8	1	0	3	Manager (2)	
9	4	1	1	Everything (Food Systems, Inc.) (1)	Saleslady (1)
10	2	0	3	Cashier/Sales Clerk (2)	
11	1	1	3	Lab. Tech. (Dental Lab) (3)	Salesman (3)
12	1	0	2	Cook/Window Service(3)	Clerical Aide (3)
13	4	1	2	Cashier (3)	Seamstress (3)
14	5	1	3	Asst. Manager (Country Club) (1)	
15		1	3	Bookkeeper (2)	Bookkeeper (2)
16	4	1	3	Buyer/Stock Clerk (2)	
17	1	1	3	Take-Off Man (Parts) (3)	
18	5	1	1	Cashier (2)	Shoe Clerk (1)
19	4	1	3	Sales Clerk(1)	
20	1	1	3	Sales Clerk(1)	
21	0	0	3		Salesman (3)
22	4	1	1	Sales Clerk(2)	Sales Clerk (2)
23	5	0	1	Clerk (2)	
24	4	0	3	Stock Clerk(2)	
25	4	1	2	Sales Clerk(1)	
26	5	1	2	Photographer (3)	Sales Clerk (2)
27	5	0	2	Sales Clerk(1)	Sales Clerk (1)
28	5	1	3	Cashier (1)	
29	6	1	3		Salesman (1)
30	5	0	3	Sales Person (2)	
31	5	1	3	Sales/Stock(2)	
32	6	0	1		Sales Clerk (2)
33	1	1	3	Material Handler (3)	Salesman (3)
34	0	1	3	Manager--Children's Dept. (1)	
35	1	1	1	Sewer (3)	

(continued)

OE Code 04.0200 - Apparel and Accessories (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
36	4	2	3	Floor Manager (Dept. Store) (2)	Laborer (Construction (3)
37	1	1	3	Teller (3)	Sales Clerk(1)
38	5	1	3	Clerk, Cashier (2)	Sales Clerk, Cashier (2)
39	4	1	3	Salesman (1)	
40	1	2	3	Serviceman(3)	Sheet Rock Fin. (2)
41	5	1	3	Sales Clerk(1)	
42	6	1	2	Cashier (1)	
43	0	1	3	Sales Clerk (2)	
44	0	1	2		Teller (1)
45	5	0	1	Salesman (1)	Clerk (1)
46	4	1	2	Salesman (1)	
47	5	1	2	Salesman (1)	
48	5	0	1	Sales Clerk (1)	
49	1	1	3	Asst. Manager (1)	
50	4	1	1	Salesman/Clerk (1)	
51	1	2	2	Clerk (3)	Clerk (3)
52	1	0	3	Asst. Manager (Book Dept.) (1)	
53	4	1	3	Salesman (1)	
54	5	0	3	Sales Clerk (1)	
55	6	0	3	Sales Clerk (2)	Sales Clerk (1)
56	1	1	3	Sales Girl (2)	
57	2	1	1	Tomgirl (2)	Sales Clerk (1)
58	5	1	2	Sales (3)	
59	5	0	3	Salesman (1)	Salesman (1)
60	5	1	3	Worker (Bottling Co.) (3)	Worker (Bottling Co.) (3)

OE Code 04.0300 - Automotive

1	1	1	2	Truck Driver (2)	
2	4	1	2	Ship. Clerk (1)	
3	1	1	3	Ship./Receiv.(1)	
4	1	1	0	Truck Driver (1)	Truck Driver (2)
5	1	1	1	Pharm. Asst. (3)	Musician (3)
6	5	0	2	Cashier (1)	Gift Wrapping(1)
7	1	2	3	Friction aw (3)	Mechanic (1)
8	1	0	2	Pipe. Straightener (3)	Stock Boy (2)
9	1	2	3	Night Manager(1)	Grillman (1)

(continued)

OE Code 04.0300 - Automotive (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
10	1	1	2	Materials Handler (1)	
11	5	1	3	Jack-of-all trades (Auto dealer) (2)	Stock Boy (1)
12	1	2	2	General Helper (2)	Packer (2)
13	1	1	3	Salesman (1)	
14	5	0	3	Parts Counterman (1)	
15	1	1	3	Stock Clerk (2)	
16	1	3	2	Truck Driver (3)	Cleanup Man (3)
17	5	1	2	Parts Salesman (1)	
18	5	0	2	Warehouse Stockman (1)	
19	1	1	3	Partsman (Auto) (1)	Partsman (2)
20	4	1	2	Partsman (Auto) (1)	Delivery/Service Furniture (1)
21	2	1	3	Salesman (2)	Salesman (2)
22	1	2	3	Sales Manager (1)	
23	1	1	2	Parts/Salesman (1)	Parts/Sales (2)
24	1	2	1	Service (3)	Service (3)
25	4	1	3	Secretary (1)	

OE Code 04.0400 - Finance and Credit

1	1	1	3	Credit Reporter (2)	Credit Clerk (1)
2	1	1	3	Clerk (2)	
3	1	3	3	Auditor (1)	Auditor (3)
4	2	0	2	Sales Clerk (1)	Waitress (3)
5	1	1	1	Dental Asst. (2)	Dental Asst. (2)
6	1	1	3	Teller (1)	Proof Operator (1)
7	1	1	3	Posting Clerk (3)	Tele. Sales Oper. (3)
8	0	1	1	Sheet Metal Worker (3)	
9	1	1	3	Customer Serv. (bank) (3)	Sales Clerk (3)
10	1	1	2	Auto Class Coor. (2)	Cashier (2)

(continued)

OE Code 04.0400 - Finance and Credit (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
11	5	0	1	Secretary (2)	Sales Clerk (2)
12	1	1	3	Teller (2)	
13	4	1	2	Teller (2)	
14	2	0	3	Asst. Bookkeeper (1)	
15	5	1	3	Bookkeeper (2)	
16	1	1	3	Asst. Bookkeeper (1)	
17	0	1	1	General Office Worker (1)	Checker (2)
18	1	2	3	EKG Tech. (3)	Doctor's Asst.(3)
19	5	1	2	Jr. Asst. Auditor/ Acctnt. (2)	
20	4	1	1	Management Trainee (Credit Bureau) (3)	

OE Code 04.0500 - Florists

1	5	0	3	Apprentice Tech. (3)	
2	5	1	1	File Clerk (2)	Sales Clerk (3)
3	3	0	3	Floristry (1)	STock Clerk (1)
4	1	1	3	Florist (1)	
5	1	1	1	Designer (2)	Wiatress (2)
6	5	0	3	Greenhouse Partner (1)	Greenhouse Partner (1)
7	0	1	3		General Florist (2)
8	1	2	1	Molder (3)	Stock Clerk (1)
9	1	1	2	Credit Clerk/ Secretary(3)	Cashier (1)
10	1	1	1	Produce Clerk (2)	
11	1	2	1	Office Work(3)	Sewing (3)

OE Code 04.0600 - Food Distribution

1	4	2	2	Control Clerk (3)	Salesman, Deliv. Boy (2)
2	4	1	3	Stock Clerk(1)	Checker/Cook (1)

(continued)

OE Code 04.0600 - Food Distribution (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
3	1	1	1	Price Checking (Competitive Stores) (2)	Frozen Food Dept. Manager (2)
4	1	2	1	Data Processing	Shipping Clerk (1)
5	1	1	2	Sales Clerk/ Produce Worker (1)	
6	6	1	2	Receptionist/ Secretary(2)	
7	1	4	2	Painter's Helper (3)	Helper (3)
8	1	1	2	Apprentice Butcher (3)	Stock Boy (2)
9	1	1	2	Shoe Specialist (2)	
10	1	1	3	Environment Serv. (3)	
11	4	0	3		Price Marking(2)
12	1	1	3	Cashier/Bookkeeper (1)	Typist/Filing Clerk (3)
13	1	3	2	Cashier/ Stocker (1)	T.S. Control(3)
14	4	1	2	Document Control Agent (2)	Document Control Agent (2)
15	4	1	3		Carry-Out Clerk (2)
16	1	3	2	Helper (Radiator Shop)(3)	Delivery Boy(2)
17	5	1	2	Cook/Cashier (1)	Stacker/Cashier (2)
18	4	1	1	Pipe Fitter(3)	
19	4	1	2	Apprentice Pipe Fitter (3)	Customer Service (3)
20	4	2	1	Apprentice Electrician (3)	
21	4	1	2	Pressman (Printing Press) (2)	Laborer (3) Produce Assistant (2)
22	1	1	3	Stock Clerk(2)	Stock/Stacker(2)
23	1	1	1	Cashier (2)	
24	3	0	3	Cashier (1)	Cashier (1)
25	1	1	3	Cashier (1)	Cashier (1)
26	1	1	3	Grinder (3)	Stocker (3)

(continued)

OE Code 04.0600 - Food Distribution (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
27	5	0	2	Heavy Duty Stock Clerk (1)	Newspaper Distributor (1)
28	1	1	3	Laborer (3)	
29	0	0	2		Cashier
30	1	1	3	Produce Clerk(1)	
31	1	1	2	Produce Manager (1)	Head Skate Boy (Skating Rink) (2)
32	5	0	2	Cashier (1)	
33	1	1	2	Produce Worker (1)	
33	1	1	2	Stock Clerk(1)	Stocker (2)
34	4	1	3	Night Manager (Del Champe) (1)	
35	5	0	2	Student Librarian (3)	
36	6	2	2	Furniture Craftsman(3)	Cashier (3)
37	1	2	2	Door Making(3)	Shift Manager (Serv. Station) (3)
38	1	2	2	Stock Crew Chief (2)	Gas Boy (3)
39	1	1	3	Shipping (2)	
40	1	1	3	Stock Clerk (1)	
41	0	0	1	Laborer (3)	Cashier (2)
42	1	1	3	Stockman (Grocery) (2)	
43	6	2	3		Welder's Helper (3)
44	0	1	2	Jewelry Repair (1)	Cashier (2)
45	0	1	3	Setup Machinist (2)	
46	1	1	3	Cashier (1)	
47	4	1	3	2nd Man (Produce) (2)	
48	1	2	3	Incentive Clerk (3)	Asst. Manager (Grocery Store) (1)
49	1	1	2	Electrician's Helper (2)	Salesman (2)
50	1	2	3	Helper (Dairy) (2)	Produce Stocker (3)
51	5	0	2	Checker Cashier (2)	
52	5	0	3	Stock Clerk(1)	

(continued)

No.	Employment Status	Full-Time Jobs Held Since High School Vo. Course	Intent of Employment in Area	Present Job	First Job
53	0	1	3	Cashier/Utility Clerk (1)	Cashier/Stocker (1)
54	1	1	3	Asst. Bookkeeper (1)	
55	3	0	2	Stock Clerk(1)	
56	4	1	3	Stock Clerk(1)	
57	4	1	3	Stock Clerk(2)	
58	5	1	1	Office Machine Operator(3)	Pool Construction (3)
59	4	1	3	Stock Man (1)	Stock Man
60	5	1	1		Price Changer/ Stock Man(2)
61	0	1	2		Stock Clerk (1)
62	0	2	2	Crew Chief Food Dis.) (1)	Sales Clerk (1)
63	1	1	2	Laborer (2)	
64	1	1	2	Stock Clerk (1)	
65	1	1	3	Stock Clerk (2)	
66	1	3	1	Agent (Life Ins. Co.) (2)	Cashier (2)
67	1	2	3	Bus Boy (1)	Mover (3)
68	1	1	3	Blueprint Machine Operator (3)	Cashier (3)
69	4	1	1	Stock Clerk (1)	Salesman (1)
70	2	0	2	Stocker (1)	
71	3	0	3	Service Clerk (1)	
72	1	1	3	Asst. Manager Trainee (2)	
73	4	1	2	Worker (Tire Service) (3)	
74	0	2	3		Stock Boy (1)
75	1	2	2	General Service (1)	Stock Clerk (1)
76	0	5	2		Marble Pourer (3)
77	0	1	3	Carpenter (1)	
78	1	1	1	Sales Clerk (2)	Cashier (2)
79	4	1	3	Asst. Manager (Supermarket) (1)	
80	1	1	3	Stock Clerk (1)	
81	4	1	2	Cook (2)	
82	1	1	3	Stock Clerk (1)	Stock Clerk (1)
83	4	1	1	Cashier (1)	
84	5	0	1	Waitress (3)	Clerk (3)
85	5	0	3	Cashier (1)	PBX Oper. (1)

(continued)

OE Code 04.0600 - Food Distribution (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
86	4	2	3	Cashier (1)	Stock Clerk (3)
87	4	1	1	Apprentice (Surveyor)(3)	Clerk (3)
88	2	0	2	Cashier (2)	
89	0	1	2	Waitress (2)	Cashier (1)
90	1	1	2	Stocker (2)	
91	1	1	1	Cashier (2)	Cashier/Waitress (2)
92	5	0	2	Stocker (1)	
93	5	2	3	Night Operations Agent (Air Freight) (2)	Stock Clerk (1)
94	4	1	1	Stocker/Stacker (2)	Chef (2)
95	5	0	1	General Worker (Grocery)(2)	General Worker (Grocery)(2)
96	1	1	1	Cashier (3)	Cashier (2)
97	1	1	3	Stockman (2)	
98	1	1	2	Cashier (1)	
99	1	1	3	Stock Clerk (1)	
100	1	2	2	Asst. Shipping Clerk (2)	Meat Cutter (2)
101	1	1	3	Laborer (1)	Stockman (1)
102	1	1	3	Stock Clerk(2)	
103	2	1	3	Stock Clerk(2)	Stock Clerk (2)
104	5	1	3	Bookkeeper/ Stock/Sales (1)	
105	1	5	3	Loading Truck	Service Station Attendant (3)
106	1	2	2	Truck Driver(3)	Ice Crusher (3)
107	0	1	3		Salesgirl (2)
108	0	3	3	Cashier (1)	Cashier (2)
109	1	1	2	Chicken Sexer (3)	Cashier (3)
110	1	1	3	Manager (Shoe Store) (3)	Manager (Shoe Store) (2)
111	2	0	0	Utility Clerk (1)	
112	5	0	1	Stock (1)	
113	5	0	1	Clerk (1)	
114	1	1	3	Produce Clerk(1)	
115	4	1	3	Stocker (1)	
116	1	1	3	Asst. Manager (Variety Store) (2)	

OE Code 04.0700 - Food Services

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
1	1	1	3	Cashier (3)	
2	5	0	2	Cashier (2)	
3	5	0	2	Secretary (2)	Cashier (2)
4	1	3	3	Accounts Payable Clerk(3)	Night Manager (3)
5	4	1	3	Waitress (1)	
6	1	2	3	Alloy Weighter (3)	Assistant Manager (1)
7	1	2	2	Presser (2)	Waiter (3)
8	5	0	3	Salesman (2)	Salesman (2)
9	5	1	1	Asst. Manager (Rest.) (1)	
10	1	1	1	Cook (2)	
11	4	1	3	Receptionist/ Secretary(2)	
12	4	1	2	Broiler (Steakhouse) (2)	Sanitation (2)
13	4	1	1	Scrap Burner (Steel) (3)	Grillman (Restaurant) (3)
14	1	1	1	Hardware Manager (1)	Cashier (2)
15	1	1	2	File Clerk (3)	Checker (3)
16	1	1	2	Counter Supervisor (1)	
17	0	1	3	Secretary (1)	Cashier (1)
18	1	1	2	Chipper (Shipyard) ( )	Roofer (3)
19	5	0	3	Dishwasher(1)	
20	3	5	1	Cabinet Builder (1)	Driver (3)
21	2	1	2	Grill Clerk(3)	Teacher (Day Care Center)
22	1	1	1	Cashier (2)	
23	5	0	1	Credit Clerk(2)	Waitress (1)
24	6	2	2	Delivery Boy(3)	Waitress (1)
25	1	2	1	Laborer (3)	Bus Boy (3)
26	5	0	1	Sales Clerk (3)	
27	2	1	3	Waitress (1)	
28	4	1	3	Environmental Control Specialist (Engineer) (2)	Training Assistant Manager (Food Service) (2)
29	1	1	2	Roofer (3)	Cook (3)
30	1	1	1	Cashier (3)	
31	1	1	2	Crew Chief (Food Service) (1)	Grill Cook (1)
32	1	2	1	Janitor (3)	Crew Chief (Food Service) (3)

(continued)

OE Code 04.0700 - Food Services (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
33	1	1	2	Waitress (1)	Waitress (1)
34	1	1	3	Manager Trainee (Dept. Store) (3)	Cook/Cleanup (3)
35	2	0	2	Telephone Collection (3)	Counter Girl (2)
36	1	3	2	Cashier (2)	Cashier/Waitress (2)
37	1	1	3	Production Worker (3)	Hamburger Maker (1)
38	6	1	1	Waitress (1)	
39	1	1	1	General Worker (3)	General Worker (2)
40	6	1	3		Waitress (3)
41	1	1	3	General Worker (Moving Co.) (3)	Cook (3)
42	1	2	3	Cashier (2)	Cashier (3)

OE Code 04.0800 - General Merchandise

1	4	2	3	Sitter or Male Nurse	Salesman
2	6	0	3	Cashier/Sales Clerk (1)	Cashier (2)
3	5	2	3	Cashier/Drug Asst. (2)	Work Study Student (3)
4	2	0	3	Sales Hostess & Cashier(2)	Cashier (2)
5	1	2	2	Mixer (cement) (3)	Salesman (2)
6	4	1	2	Mail Clerk (2)	
7	3	0	1	Dorm Desk Girl (3)	Cashier (1)
8	0	1	1		Salesman (2)
9	1	3	2	Salesman (2)	Salesman/Shipping Clerk(2)
10	2	0	3	Credit Sales (1)	
11	5	1	1	Sales Clerk(1)	Sales Clerk (1)
12	5	0	3	Salesman (1)	
13	5	0	2	Switchboard Oper. and Personnel (3)	

(continued)

OE Code 04.0800 - General Merchandise (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
14	5	0	2	Art Director (Adv. Agency) (2)	Service Station Attendant (2)
15	4	1	3	Machine Operator (Steel) (3)	Asst. Manager (K-Mart) (3)
16	5	0	3	Cashier (1)	
17	5	1	1	Sales/Stocking (2)	
18	1	2	3	Worker (Supermarket) (3)	Salesman (1)
19	2	1	3	Laboratory Aid (1)	Sales Person (2)
20	6	0	3	Salesman's Helper (2)	Helper (Carpet) (2)
21	1	2	3	Verification (2)	Cashier (2)
22	1	1	2	Attendant (hospital) (3)	Stock Clerk (3)
23	1	2	0	Pipe Preparer (3)	Stock/Toy Clerk (1)
24	4	1	3	Salesman (3)	Office Work (2)
25	1	2	3	Semi-Skilled Laborer (2)	Maid/Clerk (2)
26	0	1	3		Office Clerk (2)
27	2	0	3	Laborer (3)	
28	5	2	2	Salesman/Deliveryman (2)	
29	0	1	2	Sales Clerk (2)	Sales Clerk (3)
30	0	0	3	Sales Person (3)	
31	1	1	2	Warehouseman (2)	Semi-Asst. Manager (Drug Store) (1)
32	1	1	3	Chipper (Ship Bldg.) (2)	Towmotor Oper. (3)
33	5	1	3	Audio-Tech. (2)	
34	1	1	3	Jewelry Sales (1)	
35	5	0	3	Hostess/Cashier (2)	Ice Cream Clerk (2)
36	5	1	2	Electric Motor Winding (2)	Motor Repair (2)
37	1	1	3	Warehouseman (3)	Stockboy
38	1	0	3	Salesman (Door-to-door) (1)	Sales Clerk (1)
39	1	1	3	Saw Filer (1)	
40	3	1	3	Sign Painter (2)	
41	4	1	3	Asst. Manager (Bookstore) (2)	Clerk/Cashier (2)

(continued)

OE Code 04.0800 - General Merchandise (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
42	5	1	2	Sales Person(1)	
43	1	4	1	Male Aide(Hospital) (3)	Delivery (3)
44	1	2	2	Tape Edge Operator (3)	Stock Boy (2)
45	4	1	2	Receiver/Shipper (2)	Marker (Stockroom) (2)
46	1	2	1	Survey Work (Highway Dept.) (3)	Cashier and Stocker (1)
47	1	1	1	Sales Clerk(2)	
48	1	1	1	Medical Record Clerk (3)	Cashier (3)
49	1	1	2	Stockroom (2)	
50	5	0	1	Package Pick-up Clerk (1)	
51	5	1	3	Sales Clerk (1)	
52	3	1	3	Sales Clerk (1)	
53	1	1	1	Merchandiser(1)	
54	5	1	1	Clerk (1)	
55	1	1	1	Computer Operator (3)	Helper (3)
56	1	1	3	Office Worker (1)	
57	1	1	3	Cashier (1)	Cashier/Sales Person (1)
58	4	1	2	Hardware Clerk (1)	
59	5	1	2	Maintenance/ Disposal Operator (2)	Maintenance/ Disposal Operator
60	1	3	2	Cashier (2)	Cashier (2)
61	6	1	2	Cashier/Bookkeeper/ Clerk (1)	
62	1	1	2	Sewing (3)	Sewing (3)
63	4	2	3	Nurse's Aide (3)	
64	1	3	2	Helper (Corporation)(3)	Cleaning (Hospital) (3)
65	3	1	1	Sales Clerk/ Cashier (2)	Sales Clerk (2)
66	5	0	2	Office Worker (2)	
67	4	1	3	Salesman (3)	Salesman (2)
68	1	1	3	Sales Clerk/ Cashier (2)	

(continued)

OE Code 04.0800 - General Merchandise (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
69	5	1	1	Salesman (2)	
70	4	1	3	Stock Clerk (1)	
71	4	1	3	Salesman (2)	
72	4	1	3	Inspector (3)	
73	4	1	3	Stock Records Clerk (2)	Stock Clerk(2)
74	1	1	3	Stock (1)	Warehouse Worker (1)
75	1	1	3	Asst. Manager (Discount Store (2)	Bagboy (2)
76	1	1	2	Medical Records Receptionist (3)	Clerk/Stock-room (3)
77	4	1	2	Sales Clerk (1)	Asst. Manager (2)
78	1	1	3	Guardette (Security)(3)	Waitress (2)
79	6	0	3		Waitress
80	6	1	3	Employee Super-visor (Book-store) (1)	
81	6	1	3		Sewer (3)
82	1	1	3	Secretary/Clerk (2)	Clerk (1)
83	0	3	2	Machinist (2)	Bus Boy (3)
84	6	1	3		Asst. Operator (Coin Shop) (2)
85	4	1	2	Receptionist(1)	Sales (2)
86	4	1	2	Materials Planner (3)	Expeditor (2)
87	2	1	2	Sales Clerk (1)	Sales Clerk (1)
88	0	1	2	Stock Clerk (1)	
89	1	1	2	Cashier (1)	Clerk/Cashier (1)
90	1	1	2	Cashier (2)	
91	1	2	2	Sales Clerk (2)	Sales Clerk (2)
92	3	0	2	Typist/Clerical (3)	
93	1	1	2	Sales Clerk (1)	Display/Sales Clerk (2)
94	6	2	3		Battery Filler(3)
95	1	2	2	Cashier (2)	Clerk/Cashier(1)
96	5	0	1	Mailorder Clerk (2)	
97	1	1	3	Operator (Con-struction equipment)(2)	Sales/Stock(2)

(continued)

OE Code 04.0800 - General Merchandise (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
98	1	2	2	Engineering Asst. (3)	
99	1	1	3	Saw Sharpener (1)	Saw Filer (3)
100	5	0	1	Salesman (2)	Cook (3)
101	4	1	3	Delivery/Stockman (1)	
102	6	0	3		Stockman (2) Porter/Cashier

OE Code 04.0900 - Hardware, Building Materials, Farm and Garden Supplies, and Equipment

1	1	1	2	Asst. Manager(1)	Everything (1)
2	1	1	3	Salesman/Clerk (3)	Salesman/Clerk (3)
3	1	2	3	Delivery Man (2)	
4	0	1	2		Salesman (1)
5	1	1	1	Stuffer (3)	
6	1	1	3	Secretary (1)	
7	0	1	2	Apprentice (Electrical) (2)	Bagboy (2)
8	1	1	2	Instrument Tech. (3)	
9	5	0	2	Office Work(1)	
10	5	1	1	Sales (2)	
11	0	1	2	Iron Worker(3)	
12	1	1	3	Sample Tester (Peanut Co.) (2)	
13	1	1	2		Run Shearer (3)
14	0	1	2	Truck Driver	
15	4	2	2	Partsman (Auto Serv.) (2)	Salesman (2)
16	4	3	3	Fireman (3)	Sales Clerk (1)
17	1	1	2	Clerk (1)	
18	4	1	3	Salesman/Craftsman (Cabinetry) (1)	
19	5	1	3	Carpenter (2)	Foreman (Fence Co.) (2)
20	1	2	2	Yard Superintendent (Building Supply) (2)	Assistant Manager (Gas Station) (3)
21	0	4	1		Saleslady (3)

OE Code 04.1000 - Home Furnishings

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
1	1	1	3	Supervisor of Warehouse(1)	
2	1	1	2	Cabinet Maker(3)	
3	5	1	2	Upholsterer(2)	
4	1	2	2	Ship Fitter (3)	Mason Tender(3)
5	1	2	2	Clerk (3)	Delivery (3)
6	1	1	3	Data Tele-typist (1)	
7	4	1	2	Sheetmetal - RA (3)	
8	1	1	2	Head Delivery(1)	Delivery (2)
9	4	1	1	Delivery Man (2)	Sales Clerk
10	0	2	3		Sales Person(3)
11	5	1	3	Sales Clerk (1)	
12	5	0	3	Secretary (1)	
13	1	1	2	Deliveryman (2)	Deliveryman (1)

OE Code 04.1100 - Hotel and Lodging

1	5	0	3	"None" (Motel Worker) (3)	
2	4	2	3	Insulator Laborer (3)	Porter (1)

OE Code 04.1200 - Industrial Marketing

1	5	1	3	Salesman (2)	Machine Operator (3)
2	1	2	2	Grinder (Value & Fitting Co.) (3)	Lineman (3)
3	1	1	3	Secretary (2)	
4	1	1	2	Switchboard Operator/ Receptionist (1)	
5	1	1	3	Accounting (3)	
6	1	3	3	Packer (3)	Sales/Cashier(1)
7	1	2	2	Stock/Sales(1)	Stock/Sales(3)
8	1	1	1	Cabinet Worker (2)	
9	1	2	3	Electrician(2)	Lift Driver (1)

OE Code 04.1300 - Insurance

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
1	4	1	2	Accounting Clerk (2)	
2	1	1	3	Cashier/ Secretary(2)	Receptionist(2)
3	1	1	3	Machine Operator (3)	Secretary (2)
4	1	1	2	Secretary (2)	Waitress (2)

OE Code 04.1500 - Personal Services

1	1	1	2	Exterminator(2)	
2	5	0	2	Heavy Duty Clerk (2)	Stocker (2)
3	5	0	2	Asst. Brand Manager (Newspaper) (1)	
4	6	1	2	Frame Maker (2)	
5	1	1	2	EKG Tech. (Heart Clinic) (3)	Cashier (3)
6	5	2	1	Cashier/Bookkeeper (2)	Cashier/Sales (3)
7	1	1	3	Typist (2)	Secretary (2)
8	0	1	2		Student Photographer
9	1	1	3	Housing Spector (2)	General Helper (Water and Gas Co.) (2)
10	1	1	3	Teacher's Aide (1)	
11	0	1	2	Set Sleeves (Sewing Factory) (1)	Set Sleeves (3)
12	5	0	3	General Employee (1)	
13	1	2	3	Receptionist/ Secretary (3)	Saleslady/Bookkeeper (1)
14	1	1	3	Deliveryman (1)	Paperboy (1)
15	2	1	2	Deliveryman (3)	Worker (Wood Shop) (1)

OE Code 04.1600 - Petroleum

1	1	1	1	Storeroom Packer (3)	
2	5	0	1	Attendant (Serv. Station) (1)	

(continued)

OE Code 04.1600 - Petroleum (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
3	1	1	2	Operate ICORE Selector(3)	
4	5	1	1	Salesman (2)	Service Station Attendant (1)
5	1	1	2	Mate/Steelman (Sand & Gravel Co.) (3)	
6	1	1	2	Meat Cutter (3)	Service Station Attendant (3)

OE Code 04.1700 - Real Estate

1	6	0	3		Desk Clerk (2)
2	5	1	1	Clerical Assistant (1)	Sales Clerk (1)

OE Code 04.1800 - Recreation and Tourism

1	1	1	3	Mechanic (3)	Cashier/Asst. Manager/ Manager (3)
2	1	3	2	Plater (3)	Cook (2)
3	1	1	3	Instructor/ Director (Karate School)(1)	
4	6	0	3	Gymnastics Teacher - YMCA (3)	
5	4	1	1	Apprentice Electrician (3)	Counter Boy(3)
6	1	1	1	Merchandise Handler(3)	Usher (1)
7	4	2	3	Disc Jockey(1)	Disc Jockey(1)
8	5	2	1	Saleswoman (2)	Saleswoman (3)
9	5	0	3	Salesman (Sporting Goods) (1)	
10	4	0	2	Salesman (2)	
11	4	1	2	Salesman (2)	
12	6	1	2	Sales Person(3)	

OE Code 04.1900 - Transportation

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
1	1	1	3	Office Manager (Truck/Tire Center) (2)	
2	4	1	3	Driver (1)	
3	1	1	2	Textile Worker (3)	
4	1	1	3	General Worker (Warehouse) (3)	

OE Code 04.2000 - Other Retail Trade

1	6	1	2	No Title (1)	
2	1	2	2	General Laborer (Railroad) (3)	Salesman (3)
3	1	1	3	Sales Clerk (3)	Bagger (Shirt Factory) (1)
4	1	1	3	Laborer Helper (3)	Laborer Helper (3)
5	1	1	2	Pressman (2)	
6	4	1	2	Clerk (2)	
7	0	2	3		Asst. Manager (Music Co.) (1)
8	5	1	2	Office Worker (3)	
9	5	1	3	Maintenance (3)	Construction (3)
10	5	1	1	Desk Worker (3)	Cashier (2)
11	1	1	3	Secretary/ Cashier (3)	Cashier (3)
12	1	0	2	Stock Clerk (1)	Salesman (2)

OE Code 04.3100 - Other Wholesale Trade

1	5	1	2	Clerk (3)	Packer (3)
2	1	1	2	Order Selector (Warehouse) (2)	Cleanup Stock-Boy (3)
3	4	1	1	Minister of Music (3)	
4	1	1	1	Deliveryman (2)	Presscrew (Rubber Parts) (2)

OE Code 04.9900 - Distributive Education, Other

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
1	5	0	1	Secretary (1)	
2	5	1	1	Cashier (2)	Stockman (2)
3	1	2	2	Apprentice (Electrical) (3)	Salesman (1)
4	1	1	1	Clerk/Cashier (2)	Clerk/Counter Clerk (3)
5	3	0	1	Photographer(2)	
6	1	1	3	Head Tone Guide (2)	
7	0	5	2		Helper (Manu. Co.) (3)
8	4	1	1	Mailroom Clerk (2)	

OE Code 14.0300 - Filing, Office Machines, and General Office Clerical Occupations

1	1	3	3	Asst. Manager/ Collection (Finance Co.) (1)	

OE Code 14.0406 - Receptionists and Information Clerks

1	1	2	2	Cashier (3)	Cashier/Sales Clerk (3)

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ABSTRACT: THIS REPORT CONTAINS FOLLOWUP INFORMATION REGARDING 1973-74 AGRIBUSINESS OCCUPATIONS TERMINEES FROM SECONDARY SCHOOL VOCATIONAL PROGRAMS IN ALABAMA. THE INFORMATION WAS COLLECTED THROUGH A QUESTIONNAIRE SURVEY OF 5,109 STUDENT TERMINEES WHO HAD BEEN OUT OF SCHOOL SEVEN TO EIGHT MONTHS. ONE THOUSAND THREE HUNDRED AND FIFTY-TWO OF THE TERMINEES RESPONDED AFTER THE INITIAL MAILING AND ONE FOLLOWUP. INCLUDED IN THE REPORT ARE SECTIONS CONVEYING GENERAL INFORMATION ABOUT THE SURVEY POPULATION, BASIC EMPLOYMENT INFORMATION, CONTINUING EDUCATION INFORMATION, AND JOB PLACEMENT INFORMATION. THE MAJOR PORTION OF EACH SECTION CONSISTS OF TABULAR DATA SUMMARIES. PRESENT JOB AND FIRST JOB TITLES OF THE 1973-74 AGRIBUSINESS TERMINEES ARE APPENDED. (AUTHOR/AB)

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2

AGRIBUSINESS OCCUPATIONS FOLLOW-UP

Follow-Up of 1973-74 Agribusiness Occupations
Terminees from the Secondary School
Vocational Programs of Alabama

Research and Development Report No. 32

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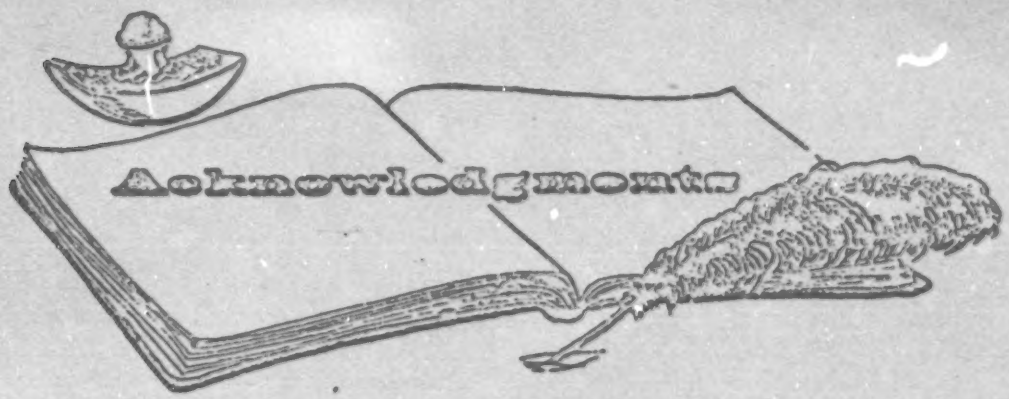

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FOLLOW-UP OF 1973-74 AGRIBUSINESS OCCUPATIONS
TERMINEES FROM THE SECONDARY SCHOOL
VOCATIONAL PROGRAMS OF ALABAMA

Alabama continues to support one of the most progressive and comprehensive vocational education programs in the nation. In addition to serving youth and adults by training them for gainful and useful employment, the diversification of vocational courses meets a serious job need and contributes to the industrial development in the state.

With the millions of tax dollars being spent on vocational education, it is necessary to attempt to account to the taxpayer and decision-makers on the results of those expenditures. Terminee student follow-up studies constitute one of the most valuable techniques for assessing vocational education system outcomes.

The Alabama State Department of Education, Division of Vocational Education and Community Colleges, recognizing this important phase of accountability and evaluation, initiated the development of a statewide follow-up system for its vocational education program terminees at the secondary school level. The Division, under the direction of Dr. T. L. Faulkner, State Director, contracted with the Occupational Research and Development Unit at Auburn University to develop and implement the statewide follow-up system for all its secondary vocational terminees in all service areas.

This report relates the findings of the survey instrument mailed to the 1973-74 Agribusiness Occupations terminees from the secondary

school vocational programs of Alabama. When the terminees received the questionnaire, most had been out of school seven to eight months.

General Information

Student rosters with names and addresses of 1973-74 Agribusiness Occupations terminees were received from 311 secondary school vocational teachers in Alabama. Of the 311 teachers from which student rosters were received, 33 were in Secondary Area Vocational Centers (AVC) and 278 were in programs in schools of other settings. The total of 5,109 student terminees reported to the ORDU were mailed the follow-up forms. Returns were received from 1,352 (26.5%) of the Agribusiness Occupations terminees from the initial mailing and one follow-up. At least one student questionnaire was received from 286 of the 311 teachers.

All terminees reported in this study were in programs administered only by the Division of Agribusiness Occupations Education, State Department of Education.

Table 1 presents data relative to the total population of Agribusiness Occupations terminees and the number of returns categorized by OE codes as reported by teachers.

TABLE 1

DESCRIPTION OF TOTAL POPULATION AND RETURNS
BY OE CODE OF 1973-74 AGRIBUSINESS
OCCUPATIONS TERMINEERS[A]

OE Code[B]	Occupational Title	Total Number of Students	Percent of Agribusiness Students by OE Code	Number of Returns	Percent of Returns for OE Code Area
	Unidentified	43	0.8	0	0.0
01.0000	Agribusiness	37	0.7	6	16.2
01.0100	Agricultural Production	33	0.6	10	30.3
01.0101	Livestock Production	350	6.9	85	24.3
01.0102	Crop Production	49	1.0	15	30.6
01.0105	General Farming	206	4.0	63	30.6
01.0199	Agricultural, Production, Other	1	*	0	0.0
01.0200	Agricultural Supplies & Services	85	1.7	29	34.1
01.0299	Agricultural Supplies & Services, Other	1	*	0	0.0
01.0300	Agricultural Mech.	293	5.7	81	27.6
01.0301	Agricultural Power Mechanics	693	13.6	171	24.7
01.0302	Agricultural Structures & Conveniences	1	*	0	0.0
01.0304	Water Management	1	*	1	100.0
01.0305	General Agribusiness Mechanics	660	12.9	153	23.2
01.0306	Building Construction & Maint.	290	5.7	79	27.2
01.0307	Agribusiness Electricity	270	5.3	77	28.6
01.0308	Agribusiness Metalworking	398	7.8	106	26.6
01.0309	Agribusiness Woodworking	345	6.8	71	20.6
01.0310	Agribusiness Masonry	137	2.7	38	27.7
01.0399	Agricultural Mechanics, Other	7	0.1	3	42.9
01.0400	Agricultural Products	59	1.2	17	28.8
01.0500	Horticulture	261	5.1	109	41.8

(continued)

TABLE 1 (continued)

OE Code[B]	Occupational Title	Total Number of Students	Percent of Agribusiness Students by OE Code	Number of Returns	Percent of Returns for OE Code Area
01.0600	Agricultural Resources	44	0.9	14	31.8
01.0601	Forests	1	*	1	100.0
01.0700	Forestry	130	2.5	40	30.8
01.9900	Pre-Professional Agriculture	454	8.9	149	32.8
17.1900	Graphic Arts	1	*	1	100.0
99.0101	Career Guidance	259	5.1	33	12.7
	TOTAL ALL AREAS	5109	100.0	1352	26.5

[A]These Agribusiness Occupations terminees were terminees in programs administered only under the Division of Agribusiness Occupations Education, State Department of Education.

[B]OE Codes as reported by teachers.

* Less than 0.1 percent

Of the 1973-74 Agribusiness Occupations terminees reported by the teachers, the largest number in any specific OE Code was in the occupational title of Agricultural Power Mechanics. This 693 represented 13.6 percent of the reported Agribusiness Occupations terminees. There were 639 (12.5%) terminees listed as studying in the Agribusiness Production cluster (OE Code 01.01-- series), 86 (1.7%) in the Agribusiness Supplies and Services cluster (OE Code 01.02-- series), and 3095 (60.6%) in the Agribusiness Mechanics cluster (OE Code 01.03-- series).

Table 1A is a description of total population and returns by OE Code area, type school, and termination status of the 1973-74 Agribusiness Occupations terminees.

TABLE 1A

DESCRIPTION OF TOTAL POPULATION AND RETURNS BY OE CODE AREA, TYPE SCHOOL, AND TERMINATION STATUS OF THE 1973-74 AGRIBUSINESS OCCUPATIONS TERMINEES

OE Code Area Studied[A]	Occupational Title Studied by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
	Unidentified (Total)	43	0	0.0
	AVC (Total)[B]	0	0	0.0
	Completers[C]	0	0	0.0
	Dropouts[D]	0	0	0.0
	Other Type Schools (Total)	43	0	0.0
	Completers	19	0	0.0
	Dropouts	24	0	0.0
01.0000	Agribusiness (Total)	37	6	16.2
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	37	6	16.2
	Completers	33	4	12.1
	Dropouts	4	2	50.0
01.0100	Agricultural Production (Total)	33	10	30.3
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	33	10	30.3
	Completers	23	7	30.4
	Dropouts	10	3	30.0
01.0101	Livestock Production (Total)	350	85	24.3
	AVC (Total)	19	2	10.5
	Completers	1	1	100.0
	Dropouts	18	1	5.6
	Other Type Schools (Total)	331	83	25.1
	Completers	207	74	35.7
	Dropouts	124	9	7.3

(continued)

TABLE 1A (continued)

OE Code Area Studied[A]	Occupational Title Studied by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
01.0102	Crop Production (Total)	49	15	30.6
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	49	15	30.6
	Completers	43	15	34.9
	Dropouts	6	0	0.0
01.0105	General Farming (Total)	206	63	30.6
	AVC (Total)	8	4	50.0
	Completers	8	4	50.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	198	59	29.8
	Completers	163	51	31.3
	Dropouts	35	8	22.9
01.0199	Agricultural Production, Other (Total)	1	0	0.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	1	0	0.0
	Completers	1	0	0.0
	Dropouts	0	0	0.0
01.0200	Agricultural Supplies and Services (Total)	85	29	34.1
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	85	29	34.1
	Completers	77	26	33.8
	Dropouts	8	3	37.5

(continued)

TABLE 1A (continued)

OE Code Area Studied[A]	Occupational Title Studied by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
01.0299	Agricultural Supplies and Services, Other (Total)	1	0	0.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	1	0	0.0
	Completers	1	0	0.0
	Dropouts	0	0	0.0
01.0300	Agricultural Mech. (Total)	293	81	27.6
	AVC (Total)	20	8	40.0
	Completers	12	6	50.0
	Dropouts	8	2	25.0
	Other Type Schools (Total)	273	73	26.7
	Completers	247	69	27.9
	Dropouts	26	4	15.4
01.0301	Agricultural Power Mechanics (Total)	693	171	24.7
	AVC (Total)	69	13	18.8
	Completers	43	10	23.3
	Dropouts	26	3	11.5
	Other Type Schools (Total)	624	158	25.3
	Completers	516	143	27.7
	Dropouts	108	15	13.9
01.0302	Agricultural Structures and Conveniences (Total)	1	0	0.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	1	0	0.0
	Completers	1	0	0.0
	Dropouts	0	0	0.0

(continued)

TABLE 1A (continued)

OE Code Area Studied[A]	Occupational Title Studied by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
01.0304	Water Management (Total)	1	1	100.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools	1	1	100.0
	Completers	1	1	100.0
	Dropouts	0	0	0.0
01.0305	General Agribusiness Mechanics (Total)	660	153	23.2
	AVC (Total)	4	0	0.0
	Completers	0	0	0.0
	Dropouts	4	0	0.0
	Other Type Schools (Total)	656	153	23.3
	Completers	564	134	23.8
	Dropouts	92	19	20.7
01.0306	Building Construction and Maintenance (Total)	290	79	27.2
	AVC (Total)	56	16	28.6
	Completers	40	12	30.0
	Dropouts	16	4	25.0
	Other Type Schools (Total)	234	63	26.9
	Completers	214	59	27.6
	Dropouts	20	4	20.0
01.0307	Agribusiness Electricity (Total)	270	77	28.5
	AVC (Total)	10	1	10.0
	Completers	10	1	10.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	260	76	29.2
	Completers	244	75	30.7
	Dropouts	16	1	6.3

(continued)

TABLE 1A (continued)

OE Code Area Studied[A]	Occupational Title Studied by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
01.0308	Agribusiness Metalworking (Total)	398	106	26.6
	AVC (Total)	3	1	33.3
	Completers	3	1	33.3
	Dropouts	0	0	0.0
	Other Type Schools (Total)	395	105	26.6
	Completers	339	94	27.7
	Dropouts	56	11	19.6
01.0309	Agribusiness Woodworking (Total)	345	71	20.6
	AVC (Total)	3	0	0.0
	Completers	3	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	342	71	20.8
	Completers	294	64	21.8
	Dropouts	48	7	14.6
01.0310	Agribusiness Masonry (Total)	137	38	27.7
	AVC (Total)	1	1	100.0
	Completers	1	1	100.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	136	37	27.2
	Completers	123	33	26.8
	Dropouts	13	4	30.8
01.0399	Agricultural Mechanics, Other (Total)	7	3	42.9
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	7	3	42.9
	Completers	6	3	50.0
	Dropouts	1	0	0.0

(continued)

TABLE 1A (continued)

OE Code Area Studied[A]	Occupational Title Studied by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
01.0400	Agricultural Products (Total)	59	17	28.8
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	59	17	28.8
	Completers	55	16	29.1
	Dropouts	4	1	25.0
01.0500	Horticulture (Total)	261	109	41.9
	AVC (Total)	89	28	31.5
	Completers	52	21	40.4
	Dropouts	37	7	18.9
	Other Type Schools (Total)	172	81	47.4
	Completers	157	78	50.0
	Dropouts	15	3	20.0
01.0600	Agricultural Resources (Total)	44	14	31.8
	AVC (Total)	1	0	0.0
	Completers	0	0	0.0
	Dropouts	1	0	0.0
	Other Type Schools (Total)	43	14	32.6
	Completers	41	14	34.1
	Dropouts	2	0	0.0
01.0601	Forests (Total)	1	1	100.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	1	1	100.0
	Completers	0	0	0.0
	Dropouts	1	1	100.0

(continued)

TABLE 1A (continued)

OE Code Area Studied[A]	Occupational Title Studied by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
01.0700	Forestry (Total)	130	40	30.8
	AVC (Total)	2	1	50.0
	Completers	2	1	50.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	128	39	30.5
	Completers	112	36	32.1
	Dropouts	16	3	18.6
01.9900	Pre-Professional Agriculture (Total)	454	149	32.8
	AVC (Total)	13	4	30.8
	Completers	13	4	30.8
	Dropouts	0	0	0.0
	Other Type Schools (Total)	441	145	32.9
	Completers	389	133	34.2
	Dropouts	52	12	23.1
17.1900	Graphic Arts (Total)	1	1	100.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	1	1	100.0
	Completers	1	1	100.0
	Dropouts	0	0	0.0
99.0101	Career Guidance (Total)	259	33	12.7
	AVC (Total)	9	1	11.1
	Completers	1	1	100.0
	Dropouts	8	0	0.0
	Other Type Schools ITotal)	250	32	12.8
	Completers	57	15	26.3
	Dropouts	193	17	8.8

(continued)

TABLE 1A (continued)

OE Code Area Studied[A]	Occupational Title Studied by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
	TOTAL ALL AREAS	5109	1352	26.5
	AVC (Total)	307	80	26.1
	Completers	189	63	33.3
	Dropouts	118	17	14.4
	Other Type Schools (Total)	4802	1272	26.5
	Completers	3928	1145	29.1
	Dropouts	874	127	14.5

[A]OE Code areas as reported by teachers

[B]Area Vocational Centers

[C]Any terminee who left the program by completing or by high school graduation

[D]Any terminee who the instructor reported as having dropped out of school

Table 2 illustrates the sex characteristics of those 1973-74 Agibusiness Occupations terminees reported by the instructors and those who returned survey forms.

TABLE 2

SEX OF THE 1973-74 AGRIBUSINESS OCCUPATIONS TERMINEES REPORTED AND BY WHO RETURNED QUESTIONNAIRES

Sex[A]	Reported		Returns	
	Number	Percent	Number	Percent
Male	4696	91.9	1255	92.8
Female	160	3.1	56	4.1
Not Known	253	5.0	41	3.0
TOTAL	5109	100.0	1352	100.0

[A]Sex as reported by teacher

Table 3 presents the racial or ethnic characteristics of those 1973-74 Agribusiness Occupations terminees reported by instructors and who returned survey forms.

TABLE 3

RACIAL OR ETHNIC CHARACTERISTICS OF THE 1973-74 AGRIBUSINESS OCCUPATIONS TERMINEES REPORTED AND BY WHO RETURNED QUESTIONNAIRES

Racial or Ethnic Group[A]	Reported		Returns	
	Number	Percent	Number	Percent
American Indian	21	0.4	5	0.4
Black	1629	31.9	285	21.1
Oriental	3	0.1	0	0.0
Spanish Surnamed American	0	0.0	0	0.0
White	3351	65.6	1047	77.4
Other	1	*	0	0.0
Not Known	104	2.0	15	1.1
TOTAL	5109	100.0	1352	100.0

[A]Racial or Ethnic Group as reported by teacher.

* Less than 0.1 percent

Table 4 illustrates the number and grade level of the 1973-74 Agribusiness Occupations terminees reported who dropped out of school during the academic year and by who returned the questionnaire.

TABLE 4

NUMBER OF THE 1973-74 AGRIBUSINESS OCCUPATIONS TERMINEES REPORTED WHO DROPPED OUT OF SCHOOL DURING THE 1973-74 SCHOOL YEAR BY GRADE LEVEL

Grade Level Upon Dropping Out of School	Reported		Returns	
	Number	Percent[A]	Number	Percent[B]
Eighth and below	48	0.9	3	6.3
Ninth	161	3.2	18	11.2
Tenth	190	3.7	20	10.5
Eleventh	159	3.1	31	19.5
Twelfth	241	4.7	45	18.7
Grade Level Not Indicated by Teacher	193	3.8	27	14.0
TOTAL	992	19.4	144	14.5

[A]Percentage is based on 5109 total reported terminees.

[B]Percentage is based on returns by grade.

Table 5 shows the number of 1973-74 Agribusiness Occupations terminees who indicated whether they were in active full-time military service.

TABLE 5

ACTIVE FULL-TIME MILITARY STATUS OF 1973-74 AGRIBUSINESS OCCUPATIONS TERMINEES WHO RETURNED QUESTIONNAIRES

Active Full-Time Military Status	Number	Percent
Yes	70	5.2
No	1239	91.6
No Response	43	3.2
TOTAL	1352	100.0

Basic Information Related to the Vocational Education Program

Table 6 points out the number of 1973-74 Agribusiness Occupations terminees who indicated whether this vocational program was a school requirement.

TABLE 6

1973-74 AGRIBUSINESS OCCUPATIONS TERMINEES WHO INDICATED WHETHER THEIR VOCATIONAL PROGRAM WAS A SCHOOL REQUIREMENT

Vocational Courses Was a School Requirement	Number	Percent
Yes	157	11.6
No	1177	87.1
No Response	18	1.3
TOTAL	1352	100.0

Table 7 indicates, according to the 1973-74 Agribusiness Occupations terminees, the primary source of influence in selecting their vocational course.

TABLE 7

PRIMARY INFLUENCES ON THE 1973-74 AGRIBUSINESS OCCUPATIONS TERMINEES IN SELECTING THEIR VOCATIONAL COURSE

Group or Individual Terminees Felt Influenced Them Most in Selecting Vocational Course	Number	Percent
Parent(s) or Guardian(s)	62	4.6
Guidance Counselor	36	2.7
Your Vocational Teacher	171	12.6
Another Teacher or Principal	9	0.7
Student in VED Program	115	8.5
A Friend or Relative	49	3.6
A Businessman	12	0.9
Made Choice Yourself	871	64.4
Other[A]	20	1.5
No Response	7	0.5
TOTAL	1352	100.0

[A]See page 16 for listing of "Others" who influenced Agribusiness terminees in selecting their VED course.

Vocational teachers appeared to be the greatest outside influence on those terminees enrolling in the Agribusiness Occupations program. One hundred seventy-one (12.6%) of the terminees responding indicated that their vocational teacher influenced them most in selecting their Agribusiness Occupations course. However, 871 (64.4%) indicated that they selected their course of study on their own. One hundred fifteen terminees (8.5%) indicated that students in the VED program influenced them most in selecting their program. Sixty-two (4.6%) of the terminees indicated that their parent(s) or guardian(s) influenced them most in selecting their course in Agribusiness Occupations, while 36 (2.7%) indicated a guidance counselor.

Below is the response given to the "Others" category indicated in Table 7 as to the primary source of influence in selecting their vocational course. Although the question asked for a person who influenced the terminees, several provided an influencing factor.

"Other" Factors, Persons, or Groups Who Most Influenced Terminees in Selecting Their VED Course	Number
Specific interest in subject	9
Me/no one else/myself/etc.	6
Course was required (for graduation)	3
Brother	2
Grandmother	1
Coach	1

Table 8 indicates terminees' opinions as to whether they had adequate job or occupational information and school experiences to make a realistic career choice.

TABLE 8

OPINIONS OF 1973-74 AGRIBUSINESS OCCUPATIONS TERMINEES AS TO WHETHER THEY HAD ADEQUATE JOB OR OCCUPATIONAL INFORMATION AND SCHOOL EXPERIENCES TO MAKE A REALISTIC CAREER CHOICE

	Number	Percent
Yes	933	69.0
No	394	29.1
No Response	25	1.8
TOTAL	1352	100.0

Table 9 indicates whether, during the time they were taking their high school vocational program, the reporting 1973-74 terminees intended to get a job in Agribusiness Occupations.

TABLE 9

INDICATIONS OF 1973-74 AGRIBUSINESS OCCUPATIONS TERMINEES AS TO WHETHER, DURING THE TIME THEY WERE TAKING THEIR HIGH SCHOOL VED PROGRAM, THEY PLANNED TO GET A JOB IN THEIR AREA OF STUDY

Intended to Get Job in Area of Study	Number	Percent
Yes	427	31.6
No	229	16.9
Was Not Sure	694	51.3
No Response	2	0.1
TOTAL	1352	100.0

It is interesting to note that only 427 (31.6%) of the 1973-74 reporting Agribusiness Occupations terminees indicated that during

the time they were taking their Agribusiness Occupations program, they intended to get a job in the area they were studying.

Table 10 indicates terminees' opinions on choosing the Agribusiness Occupations program if they had the selection to make again.

A noteworthy point was revealed by the data. Of the 1973-74 Agribusiness Occupations terminees, 1,079 (79.8%) indicated that they would select the same vocational program if they had the choice to make again. Only 68 (5.0%) of the responding terminees indicated that they would not take a vocational program.

TABLE 10

OPINIONS OF 1973-74 AGRIBUSINESS OCCUPATIONS TERMINEES REGARDING THEIR VOCATIONAL PROGRAM

Question: If You Had It To Do Over Again, Would You...?	Number	Percent
Take the same vocational program	1079	79.8
Not take a vocational program	68	5.0
Choose another vocational program offered in your school, such as _____ [A]	115	8.5
Choose another vocational program if it had been offered in your school, such as _____ [B]	71	5.3
No Response	19	1.4
TOTAL	1352	100.0

[A]See listing I-A, page 19, for those other vocational programs offered in terminees' school that they would have taken instead of their agribusiness program.

[B]See listing I-B, page 19, for the vocational programs the terminees would have taken instead of their agribusiness program if it had been offered in their school.

Listing I-A -- Courses offered in their school that Agribusiness Occupations terminees indicated they would have taken if they had it all to do over again.

Course	Number of Terminees
Welding	18
Mechanics	17
Forestry	11
Electricity	8
Electronics	4
BOE	3
Metalworking	3
Livestock Production	3
Woodworking	3
Carpentry	2
Drafting	2
General Farming	2
Landscaping	2
Masonry	2
Business	2
Child Care	1
Auto Body Repair	1
Construction	1
Agriculture	1
Record Keeping	1
Engineering	1
Maintenance	1
Animal Care	1
Career (Guidance)	1
College	1
Sewing	1
Army	1
Machine Shop	1
Pipe Fitter	1
Plumbing	1
Heavy Equipment	1
Locksmith	1
General Repairs	1
Agricultural Management	1

Listing I-B -- Courses Agribusiness Occupations terminees indicated they would have taken if they had it all to do over again and the course was offered in their school.

Course	Number of Terminees
Mechanics	13
Electronics	8
Forestry	6

(continued)

Course	Number of Terminees
Electricity	6
Welding	4
Drafting	4
Heavy Equipment	3
Masonry	2
Art	2
Machine Shop	2
Photography	1
Agriculture	1
Aeronautics	1
Cabinetmaking	1
General Farming	1
Shop	1
Metalworking	1
Wrestling	1
Refrigeration	1
Livestock	1
Horticulture	1
A More Specialized Area	1
Forestry Wildlife	1
Auto Body Repair	1
Landscaping	1
Operating Machinery	1
Environmental Control	1
Cars	1
Technical School	1
Veterinary Medicine	1
Four-Year Agribusiness Program	1
Medical or Dental Assistant	1
Don't Know	1

Table 11 indicates the extent to which the reporting 1973-74 Agribusiness Occupations terminees felt their high school vocational programs prepared them for their first job. This data was also broken down by how that first job related to their vocational program.

Terminees who were in full-time active military service or who had never been employed were not asked to respond to the questions from which this data was reported. Also, the terminees who failed to respond to the question items were not indicated in the table.

In noting the extent to which the 1973-74 Agribusiness Occupations terminees felt their high school vocational course prepared them for their

first full-time job by how their first full-time job related to training they received in their high school Agribusiness program, some interesting points were revealed.

TABLE 11

PERCEPTIONS OF 1973-74 AGRIBUSINESS OCCUPATIONS TERMINEES AS TO THE EXTENT THEIR HIGH SCHOOL VOCATIONAL PROGRAM PREPARED THEM FOR THEIR FIRST FULL-TIME JOB BY HOW FIRST FULL-TIME JOB RELATED TO TRAINING

Extent Vocational Course Prepared for First Full-Time Job	Total Reporting		Number Reporting by Relatedness of First Full-Time Job to Training Received					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Excellent	63	8.2	34	30.9	18	6.0	11	3.1
Well Prepared	203	26.4	53	48.2	110	36.4	40	11.2
Fair	191	24.8	17	15.5	121	40.1	53	14.8
Poorly Prepared	40	5.2	4	3.6	16	5.3	20	5.6
Preparation not related to job	273	35.4	2	1.8	37	12.2	234	65.3
TOTAL	770	100.0	110	100.0	302	100.0	358	100.0

Two hundred sixty-six (34.5%) of the 1973-74 Agribusiness Occupations terminees responding to this item indicated "Excellent" or "Well Prepared" for their first full-time job as a result of the training received in their high school vocational education program. Eighty-seven (79.1%) of the 110 terminees employed in their first full-time job related directly to their training felt they were excellent or well prepared for this first job. Only four terminees who were working in an area directly related to their

vocational training felt that they were poorly prepared for their first job. There were two additional terminees who indicated that they were working in an area directly related to their vocational course and felt that their preparation did not relate to their jobs. Of all responding terminees, only 40 (5.2%) felt that they were poorly prepared for their first full-time job. Of these, only four were working in an area directly related to their vocational course.

Table 12 indicates the extent to which the reporting 1973-74 Agribusiness Occupations terminees felt their high school vocational course prepared them for their present job. Also shown in the table is a breakdown of the data by how their present job was related to their vocational program.

TABLE 12

PERCEPTIONS OF 1973-74 AGRIBUSINESS OCCUPATIONS TERMINEES AS TO THE EXTENT THEIR HIGH SCHOOL VOCATIONAL COURSE PREPARED THEM FOR THEIR PRESENT JOB BY HOW THEIR PRESENT JOB RELATED TO TRAINING

Extent Vocational Course Prepared for Present Job	Total Reporting		Number Reporting by Relatedness of Present Job to Training Received					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Excellent	44	5.4	22	18.6	11	3.6	11	2.9
Well Prepared	232	28.7	64	54.2	128	41.7	40	10.4
Fair[A]	135	16.7	27	22.9	84	27.3	24	6.3
Poorly Prepared[B]	33	4.1	4	3.4	19	6.2	10	2.6
Preparation not related to job	364	45.1	1	0.9	65	21.2	298	27.8
TOTAL	808	100.0	118	100.0	307	100.0	383	100.0

[A]See listing, page 23, for reasons terminees specified for only being trained "Fair" by their vocational course for their present job.
[B]See listing, page 25, for reasons terminees specified for only being "Poorly Prepared" by their vocational course for their present job.

Terminees in active full-time military service, and students who were attending school full time and had not had a job, were not asked to respond to the question from which Table 12 was prepared. Also, those other students who failed to respond to the items were not shown on the table.

Of the 808 terminees responding to these items, 276 (34.2%) indicated "Excellent" or "Well Prepared" for their present job as a result of their high school vocational program. Only 33 (4.1%) terminees reported feeling poorly prepared for their present job as a result of their training.

Eighty-six (72.9%) of the 118 responding terminees working in an area directly related to their high school vocational program indicated that they felt excellent or well prepared by their training.

One hundred terminees who indicated "Fair" as the extent their vocational program prepared them for this present job indicated reasons for this. The following lists the reasons the 1973-74 Agribusiness Occupations terminees indicated for being trained only "Fair" by their vocational course for their present job.

1. Found out more was to involved
2. Not enough time
3. Welding
4. Started interest in job
5. Did not cover much
6. Not long enough courses
7. Didn't know enough
8. Wasn't fully equipted
9. Not enough outside training
10. Teacher
11. Not very much auto body work
12. Little experience
13. Not have equipment
14. One year
15. Because of relation to job
16. I already knew most of the things we were doing
17. Ability to work with others

(continued)

18. Doing some of the same thing
19. Same training
20. I am assistant manager and butcher of a grocery store, and I'm the "fix-it" man too
21. Worked with machinery
22. Related work
23. Some of the things they had were too technical
24. Different training
25. Did little classwork
26. Work on farm with father
27. I did not get to weld ever day
28. I learn a little about machinery
29. Needing very little training
30. No information
31. Because I'm farming
32. Did not finish school
33. Closely related
34. Covered the field
35. Service truck
36. I'm doing different stuff
37. Not enough training offered
38. Bookwork in class
39. I had an idea what I would be required to do
40. I went from metal work to animal specialist, but we had a well rounded out vocational program
41. Could only go ½ a year
42. Not closely related
43. Sometimes I have certain jobs not related to course I took
44. I drive trucks and tractors
45. Responsibility
46. Farming
47. I used training sometimes
48. Didn't teach refrigeration
49. Use training part time
50. Doesn't related completely to what I took in Agribusiness
51. Not directly related
52. It didn't consist of row crops or truck crops
53. Didn't learn much new information
54. We never studied D.C. Voltage or very high voltage. We never studied about motor and the different fields.
55. We worked in shop a lot of the year
56. Did not directly relate to it
57. Not that closely related
58. Because the class was short
59. Learned a little welding
60. Study and job relationship
61. Work in woodwork
62. The company has welding, woodworking, sanding, drilling
63. Work part time with lumber company
64. Auto mechanic
65. Funeral home
66. Farming

(continued)

67. Not related much
68. No training
69. Offered flat welding
70. I already knew how to milk cows
71. Construction
72. Did small amount of it
73. All phases weren't covered
74. Supplies were short
75. Because it was in the same field I was already interested in
76. Use of hands
77. Broad area
78. Learned a lot of general training
79. Already knew job
80. Because I work with oxygen tanks
81. Gave training
82. There are a few useful things learned related to job
83. It helped my machanical ability.
84. Out of date
85. Showed how cotton textile mill worked
86. Not enough study materials
87. Both consisted of agriculture
88. I use my learning
89. Already had job
90. Not interested
91. Because of the instructors
92. Not closely related
93. Oil-on-machinery
94. Dealing with people
95. Somewhat related
96. Not directly related
97. Study some about it
98. Learn fundamentals of shop mechanics and tools
99. Metal construction not wood
100. Not needed for the job

Twenty-one of the terminees indicated they were "Poorly Prepared" for their present job by their vocational program. The following lists the reasons Agribusiness Occupations terminees indicated for being "Poorly Prepared."

1. Business near home did not pay enough
2. We didn't have an iron lathe in Agribusiness
3. Teacher
4. Not related
5. Not offered
6. Students know this much about (Vocation)
7. Not a lot of relation
8. Didn't cover it fully
9. Teachers

(continued)

10. Not related to schooling
11. Not available
12. No tools or books or teachers
13. Not enough training
14. Instructor talked very little in the area of automotive mechanics
15. No classes
16. No relations
17. Not interested
18. Did not have proper equipment or teacher in school
19. Not related
20. Poor training
21. No teaching in class

Table 13 focuses on the Agribusiness Occupations student club. The researchers sought to determine the extent to which the 1973-74 Agribusiness Occupations terminees felt that their high school student club aided in preparing them for their present job. Data are also broken down by the relationship of the present job to the vocational training received.

TABLE 13

PERCEPTIONS OF 1973-74 AGRIBUSINESS OCCUPATIONS TERMINEES AS TO THE EXTENT THEIR HIGH SCHOOL VOCATIONAL STUDENT CLUB PREPARED THEM FOR THEIR PRESENT JOB BY HOW THEIR PRESENT JOB RELATED TO TRAINING

Extent High School Vocational Student Club Helped Prepare for Present Job	Total Reporting		Total Reporting by Relatedness of Present Job to Vocational Training					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Excellent	92	13.9	28	25.0	32	11.7	32	11.5
Well Prepared	179	27.0	36	32.1	83	30.4	60	21.6
Fair	258	38.9	36	32.1	115	42.1	107	38.5
Poorly Prepared	134	20.2	12	10.7	43	15.8	79	28.4
TOTAL	663	100.0	112	100.0	273	100.0	278	100.0

[A]Of the 810 who responded, 89 (11.0%) had no related student club available, and 58 (7.2%) were not members of a related student club.

Only respondents who had had a job since terminating their high school vocational Agribusiness program were asked to respond to the question reported in Table 13. Students in active full-time military service were excluded. Eighty-nine (11.0%) of the 810 terminees reported no related student club was available, while 58 (7.2%) were not members of a related student club.

Two hundred seventy-one (40.9%) of the 663 terminees who participated in student club activities indicated they were "Excellent" or "Well Prepared" by their related student club for their present job. One hundred thirty-four (20.2%) indicated they were "Poorly Prepared" by their related student club for their present job. Of those 134, 12 (9.0%) were in a related job, 43 (32.1%) were in somewhat related jobs, and 79 (58.9%) were in non-related jobs.

Of those terminees who were working in an area directly related to the training they received in their high school vocational program, 64 (57.1%) revealed that they were "Excellent" or "Well Prepared" for their present job by their related student club. Only 12 (10.7%) of the 112 terminees who were working in a job directly related to the training they received indicated they were "Poorly Prepared" for their present job by their related student club.

Table 14 reports how the 1973-74 Agribusiness Occupations terminees rated the quality of teaching by their high school vocational instructors.

One thousand seventy-nine (79.8%) of the 1,352 reporting 1973-74 Agribusiness Occupations terminees rated the quality of teaching by their vocational instructor either "Good" or "Excellent." Only 68 (5.0%) rated the quality of teaching by their instructors "Poor" or "Very Poor."

TABLE 14

1973-74 AGRIBUSINESS OCCUPATIONS TERMINEES' RATINGS OF THE QUALITY OF TEACHING BY THEIR HIGH SCHOOL VOCATIONAL INSTRUCTORS

Rating	Number	Percent
Excellent	564	41.7
Good	515	38.1
Fair	200	14.8
Poor	46	3.4
Very Poor	22	1.6
No Response	5	0.4
TOTAL	1352	100.0

Table 15 illustrates how the 1973-74 Agribusiness Occupations terminees rated their high school vocational instructor's interest in their classwork.

TABLE 15

1973-74 AGRIBUSINESS OCCUPATIONS TERMINEES' RATINGS OF THEIR HIGH SCHOOL VOCATIONAL INSTRUCTOR'S INTEREST IN THE STUDENT'S CLASS WORK

Rating	Number	Percent
Excellent	591	43.7
Good	510	37.7
Fair	185	13.7
Poor	40	3.0
Very Poor	21	1.6
No Response	5	0.4
TOTAL	1352	100.0

One thousand one hundred one (81.4%) of the 1,352 reporting 1973-74 Agribusiness Occupations terminees rated the interest exhibited by their

high school vocational instructor in their classwork as "Good" or "Excellent." Only 61 (4.5%) of the terminees rated the interest their vocational instructors showed in their classwork as "Poor" or "Very Poor."

Table 16 points out how the 1973-74 Agribusiness Occupations terminees subjectively rated the knowledge their vocational teachers possessed about their field of study. This rating is also shown in the table by a breakdown of how terminees' present job related to the training they received in their high school vocational program. Terminees were asked to base their judgments on their current knowledge of their job and responsibilities.

TABLE 16

1973-74 AGRIBUSINESS OCCUPATIONS TERMINEES RATINGS OF THE KNOWLEDGE THEIR HIGH SCHOOL VOCATIONAL TEACHER POSSESSED ABOUT THEIR FIELD OF STUDY BY HOW THE TERMINEES' PRESENT JOB RELATED TO THE TRAINING THEY RECEIVED

Ratings[A]	Total Reporting		Number Reporting by Relatedness of Present Job to Training Received					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Excellent	218	26.3	42	35.3	70	22.3	106	26.7
Good	390	47.0	50	42.0	168	53.5	172	43.3
Fair	168	20.2	20	16.8	61	19.4	87	21.9
Poor	45	5.4	6	5.1	13	4.2	26	6.6
Very Poor	9	1.1	1	0.8	2	0.6	6	1.5
TOTAL	830	100.0	119	100.0	314	100.0	397	100.0

[A]Ratings were to be based on terminee's judgment of their current knowledge of their job and responsibilities.

Total responses to this item indicate that 608 (73.3%) of the 830 responding 1973-74 Agribusiness Occupations terminees rated the knowledge their vocational teachers possessed about their field of study either "Good" or "Excellent." For those 119 terminees working in an area directly related to the training they received, 92 (77.3%) rated the knowledge their teachers possessed about their field of study as "Good" or "Excellent." A favorable point was revealed in that only seven (5.9%) of those terminees rated the knowledge their vocational teachers possessed about their field of study as "Poor" or "Very Poor."

If the respondent was working in an area related to his training, he was asked to compare the facilities and equipment in his high school vocational program with those on his present job. Table 17 illustrates how the 1973-74 Agribusiness Occupations terminees responded.

TABLE 17

HOW 1973-74 AGRIBUSINESS OCCUPATIONS TERMINEES WORKING IN A RELATED AREA RATED THE FACILITIES AND EQUIPMENT IN THEIR HIGH SCHOOL VOCATIONAL PROGRAM[A]

Rating[B]	Number	Percent
Better than those on present job	80	21.7
Similar to those on present job	161	43.8
Not as good as those on present job	127	34.5
TOTAL	368	100.0

[A]Five hundred sixty-one (60.4%) of the responding 929 terminees indicated that their present job was not related to their vocational training enough to compare facilities and equipment.

[B]Persons who had not had a job since leaving their vocational program, including those in military service and those who attended school, were asked not to respond to questions from which data was drawn. Returns were received from 1,352 terminees.

Only 80 (21.7%) of the 368 responding 1973-74 Agribusiness Occupations terminees working in an area related to their training rated the facilities and equipment in his high school vocational program as better than those on his present job. One hundred sixty-one (43.8%) rated the facilities and equipment in their high school vocational program as similar to those on their present job; however, 127 (34.5%) rated the facilities and equipment not as good as those on their present job.

Table 18 shows how 1973-74 Agribusiness Occupations terminees, who were in a cooperative work program in school and were now working in an area related to their vocational training, rated the facilities and equipment used in their cooperative work station.

TABLE 18

HOW 1973-74 AGRIBUSINESS OCCUPATIONS TERMINEES NOW WORKING IN A RELATED AREA, WHOSE VOCATIONAL PROGRAM INCLUDED COOPERATIVE WORK, RATED FACILITIES AND EQUIPMENT USED IN THEIR COOPERATIVE WORK STATION[A]

Rating[B]	Number	Percent
Better than those on present job	45	17.1
Similar to those on present job	120	45.6
Working at same place where cooperative training was done	19	7.3
Not as good as those on present job	79	30.0
TOTAL	263	100.0

[A]One hundred eighty-nine (21.9%) of the responding 864 Agribusiness Occupations terminees indicated their vocational program was not a cooperative program. Four hundred twelve (47.7%) terminees indicated they were not working in an area related to their cooperative work; therefore, they did not complete this item on the questionnaire.

[B]Persons who had not had a job since leaving their vocational program, including those in military service and those attending shcool, were asked not to respond to questions from which data was drawn. Returns were received from 1,352 terminees.

Only 45 (17.1%) of the 263 responding 1973-74 Agribusiness Occupations terminees whose vocational programs had included cooperative work and were now working in an area related to their vocational training, rated the facilities and equipment in his cooperative work station as better than those on his present job. One hundred twenty (45.6%) rated the facilities and equipment in their cooperative training station as similar to those on their present job. Seventy-nine (30.0%) rated the facilities and equipment in their cooperative work station not as good as those in their present job. It was noted that only 19 (7.3%) indicated they were working at the same establishment where they did their cooperative training.

Basic Employment Information

The following section of this report offers information relative to employment and job characteristics of the 1973-74 secondary Agribusiness Occupations terminees.

Table 19 illustrates the number of full-time jobs the responding 1973-74 Agribusiness Occupations terminees have had since leaving their high school vocational course.

TABLE 19

NUMBER OF FULL-TIME JOBS HELD BY THE 1973-74 AGRIBUSINESS OCCUPATIONS TERMINEES SINCE LEAVING THEIR HIGH SCHOOL VOCATIONAL COURSE

Number of Full-Time Jobs Held	Number	Percent[A]
One	560	41.4
Two	239	17.7
Three	67	5.0
Four	13	1.0
Five or more	6	0.4
TOTAL	885	65.5

[A]Percentage is based on the 1,352 terminees who returned the questionnaire.

There were 560 (41.4%) of the total 1,352 responding 1973-74 Agribusiness Occupations terminees who had been employed in just one job since leaving their high school vocational program. Two hundred thirty-nine (17.7%) of the terminees reported having two jobs, and 67 (5.0%) reported having three jobs. Nineteen (1.4%) reported having four or more jobs since leaving their high school vocational course seven to eight months ago.

Table 20 reveals the first-job employment status of Agribusiness Occupations terminees who returned the survey by the relatedness of their vocational training to their first job.

TABLE 20

FIRST-JOB EMPLOYMENT STATUS OF AGRIBUSINESS OCCUPATIONS TERMINEES (1973-74) BY RELATEDNESS OF VOCATIONAL TRAINING TO FIRST JOB[A]

First Job After Leaving High School Vocational Program	Total Reporting		Relatedness of Vocational Training to First Job[B]					
			Directly Related		Somewhat Related		Not Related[C]	
	No.	%	No.	%	No.	%	No.	%
Full-Time	778	57.5	110	8.1	305	22.6	363	26.8
Part-Time	131	9.7	17	1.3	49	3.6	65	4.8
TOTAL	909	67.2	127	9.4	354	26.2	428	31.6

[A]All percentages were based on the 1,352 (26.5%) of 5,109 terminees who returned the survey form.

[B]The terminees made the judgment as to how their first job was related to the training received in their high school vocational program.

[C]See page 34 for reasons terminees who were working in first job unrelated to this vocational training gave for not seeking job that was related before accepting their first job.

Of the 1,352 responding 1973-74 Agribusiness Occupations terminees, 778 (57.5%) were employed full time in their first job after leaving their high school vocational program. One hundred thirty-one terminees' first jobs were on a part-time basis.

One hundred twenty-seven (9.4%) of the 111 responding terminees' first jobs (full-time or part-time) were in an area directly related to the training they received in their high school vocational course. Three hundred fifty-four (26.2%) were employed in an area somewhat related while 428 (31.6%) were employed in a first job not related to the training they received. The terminees made the judgment as to how their first job was related to the training they received in their high school vocational program.

Of the 428 terminees who indicated their jobs were not related to their vocational course, 152 (35.5%) terminees indicated that before they accepted their unrelated job, they tried to get a job that was related to their vocational training. However, 276 (64.5%) of the terminees did not.

The following is a list of reasons given by 125 of the 276 terminees who, before taking their first unrelated job, indicated they did not seek a job that was related to their vocational training.

Reason	Number
Couldn't find a related job	12
Didn't consider self adequately qualified/ trained	11
Already had a job	9
Needed job/money quickly, took first job available	9
Lost interest/developed other interests	9
Too young	4
Job not available	3
"Other" job pay was better	3
Was not studying Agribusiness at the time	2

(continued)

Reason	Number
Vocational training was for hobby/own knowledge	2
Don't know	2
Didn't want to	2
More job opportunity outside of field	1
Didn't like vocation	1
Didn't have it in school	1
Still in school	1
Didn't want it	1
No first job after school	1
I really didn't have any in mind	1
Service	1
Did not need any help	1
Had not had training at time	1
No reason	
I was tired up in farming for two years before graduation from high school	1
No help or information	1
Too far to go	1
This is the first full-time job I've ever had	1
Didn't know if I liked it	1
Wanted to be a farmer	1
Didn't know where to try	1
I helped my family farm	1
Other plans	1
I enjoyed what I was doing	1
Wanted job with the railroad	1
Not available for training	1
Did not look	1
Joined the National Guard, off for four months	1
Not presently employed	1
Didn't care	1
Chemical plant	1
I decided I didn't want a vocation job	1
I thought electronics was a better field	1
I asked about one myself	1
Because I couldn't make up my mind on which school to choose	1
Wanted to be a lifeguard at the time	1
Other occupation	1
Took vocational training only for high school credit	1
Because I wanted the other job	1
Was not sure what I wanted to do	1
Because they didn't study how to drive a forklift	1
Just got what I could	1
Wanted inside job	1
No contacts	1
Jobs already taken	1
Knew grocery work only	1
It was cleaning mostly	1
Grocery work	1

(continued)

There was no vocational work in it	1
Didn't like it enough to make a career out of it	1
No experience	1
No course	1
I wanted the training	1
Making money to start trade school	1
I wanted to travel some	1
Before I took the program	1
No opening at the time, so I waited	1
Didn't like	1

Table 21 shows by OE Code for the first job of the 1973-74 Agribusiness Occupations terminees the relatedness of their training to this first job.

TABLE 21

1973-74 AGRIBUSINESS OCCUPATIONS TERMINEES' FIRST JOB BY OE CODE STUDIED AND RELATEDNESS OF TRAINING[A]

OE Code	Title of Occupational Objective Studied	Total Employed by Area Studied		Relatedness of Training to First Job[B]					
				Directly Related		Somewhat Related		Not Related	
		No.	%	No.	%	No.	%	No.	%
01.0000	Agribusiness	3	0.3	0	0.0	2	66.7	1	33.3
01.0100	Agricultural Production	8	0.8	0	0.0	2	25.0	6	75.0
01.0101	Livestock Production	62	6.6	9	14.5	24	38.7	29	46.8
01.0102	Crop Production	13	1.4	5	38.5	5	38.5	3	23.0
01.0105	General Farming	45	4.8	17	37.8	12	26.7	16	35.5
01.0200	Agricultural Supplies & Services	23	2.5	5	21.7	6	26.1	12	52.2
01.0300	Agricultural Mech.	48	5.1	5	10.4	21	43.8	22	45.8
01.0301	Agricultural Power Mechanics	125	13.4	10	8.0	48	38.4	67	53.6
01.0304	Water Management	1	0.1	0	0.0	0	0.0	1	100.0
01.0305	General Agribusiness Mechanics	111	11.9	13	11.7	57	51.4	41	36.9
01.0306	Building Construction	59	6.3	6	10.2	27	45.7	26	44.1
01.0307	Agribusiness Electricity	52	5.6	4	7.7	17	32.7	31	59.6

(continued)

TABLE 21 (continued)

OE Code	Title of Occupational Objective Studied	Total Employed by Area Studied		Relatedness of Training to First Job[B]					
				Directly Related		Somewhat Related		Not Related	
		No.	%	No.	%	No.	%	No.	%
01.0308	Agribusiness Metal-working	85	9.1	14	16.5	28	32.9	43	50.6
01.0309	Agribusiness Wood-working	48	5.1	2	4.2	23	47.9	23	47.9
01.0310	Agribusiness Masonry	26	2.8	6	23.1	6	23.1	14	53.8
01.0399	Agricultural Mechanics, Other	1	0.1	0	0.0	0	0.0	1	100.0
01.0400	Agricultural Products	11	1.2	4	36.4	6	54.5	1	9.1
01.0500	Horticulture	67	7.2	8	11.9	13	19.4	46	68.7
01.0600	Agricultural Resources	13	1.4	2	15.4	9	69.2	2	15.4
01.0700	Forestry	28	3.0	6	21.4	9	32.2	13	46.4
01.9900	Pre-Professional Agriculture	91	9.7	13	14.2	39	42.9	39	42.9
99.0101	Career Guidance	14	1.5	0	0.0	7	40.0	7	50.0
	TOTAL ALL AREAS	934	100.0	129	13.8	361	38.7	444	47.5

[A]Of 5,109 Agribusiness Occupations terminees, 1,352 (26.5%) returned the questionnaire.

[B]The terminees made the judgment as to how their first job was related to the training received in their high school vocational program.

Of the 934 responding 1973-74 Agribusiness Occupations terminees who indicated how their first job related to the training they received in their high school vocational program, 129 (13.8%) were employed in directly related areas. Three hundred sixty-one (38.7%) were employed in somewhat related areas, while 444 (47.5%) terminees were employed in areas not related to their training. The terminees made the judgment as to how their first job was related to the training received in their high school vocational program.

More responding terminees who studied in Agricultural Power Mechanics (OE Code 01.0301) indicated first job employment. This was to be expected since more terminees studied in this occupational objective area (See Table 1). Of the 125 employed 1973-74 terminees who studied in the Occupational area of Agricultural Power Mechanics and indicated relatedness of training, 10 (8.0%) were employed in an area directly related to that training. Forty-eight (38.4%) were employed in their first job in an area somewhat related to their training. However, 67 (53.6%) of these responding terminees indicated that their first job was not related to the training they received in their Agribusiness Occupations program.

Table 21A is a description of 1973-74 Agribusiness Occupations terminees' first job by OE Code area studied, number of returns, type school, termination status, and relatedness of training.

TABLE 21A

DESCRIPTION OF 1973-74 AGRIBUSINESS OCCUPATIONS TERMINEES' FIRST JOB BY OE CODE AREA STUDIED, NUMBER OF RETURNS, TYPE SCHOOL, TERMINATION STATUS, AND RELATEDNESS OF TRAINING

OE Code Area[A]	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
01.0000	Agribusiness (Total)	6	3	50.0	0	0.0	2	33.3	1	16.7
	AVC (Total)[B]	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers[C]	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts[D]	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	6	3	50.0	0	0.0	2	33.3	1	16.7
	Completers	4	1	25.0	0	0.0	1	25.0	0	0.0
	Dropouts	2	2	100.0	0	0.0	1	50.0	1	50.0

(continued)

TABLE 21A (continued)

OE Code Area[A]	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
01.0100	Agricultural Production (Total)	10	8	80.0	0	0.0	2	20.0	6	60.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	10	8	80.0	0	0.0	2	20.0	6	60.0
	Completers	7	5	71.4	0	0.0	1	14.3	4	57.1
	Dropouts	3	3	100.0	0	0.0	1	33.3	2	66.7
01.0101	Livestock Production (Total)	85	62	72.9	9	10.6	24	28.2	29	34.1
	AVC (Total)	2	1	50.0	0	0.0	1	50.0	0	0.0
	Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	1	1	100.0	0	0.0	1	100.0	0	0.0
	Other Type Schools (Total)	83	61	73.5	9	10.8	23	27.7	29	34.9
	Completers	74	57	77.0	8	10.8	23	31.1	26	35.1
	Dropouts	9	4	44.4	1	11.1	0	0.0	3	33.3
01.0102	Crop Production (Total)	15	13	86.7	5	33.3	5	33.3	3	20.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	15	13	86.7	5	33.3	5	33.3	3	20.0
	Completers	15	13	86.7	5	33.3	5	33.3	3	20.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
01.0105	General Farming (Total)	63	45	71.4	17	30.0	12	19.0	16	25.4
	AVC (Total)	4	4	100.0	1	25.0	2	50.0	1	25.0
	Completers	4	4	100.0	1	25.0	2	50.0	1	25.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	59	41	69.5	16	27.1	10	17.0	15	25.4
	Completers	51	36	70.6	15	29.4	7	13.7	14	27.5
	Dropouts	8	5	62.5	1	12.5	3	37.5	1	12.5

(continued)

TABLE 21A (continued)

OE Code Area[A]	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
01.0200	Agricultural Supplies & Services (Total)	29	23	79.3	5	17.2	6	20.7	12	41.4
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	29	23	79.3	5	17.2	6	20.7	12	41.4
	Completers	26	21	80.8	5	19.2	5	19.2	11	42.3
	Dropouts	3	2	66.7	0	0.0	1	33.3	1	33.3
01.0300	Agricultural Mechanics (Total)	81	48	59.3	5	6.2	21	25.9	22	27.2
	AVC (Total)	8	6	75.0	1	12.5	2	25.0	3	37.5
	Completers	6	5	83.3	0	0.0	2	33.3	3	50.0
	Dropouts	2	1	50.0	1	50.0	0	0.0	0	0.0
	Other Type Schools (Total)	73	42	57.5	4	5.5	19	26.0	19	26.0
	Completers	69	40	60.0	4	5.8	17	24.6	19	27.5
	Dropouts	4	2	50.0	0	0.0	2	50.0	0	0.0
01.0301	Agricultural Power Mechanics (Total)	171	125	73.1	10	5.8	48	28.1	67	39.2
	AVC (Total)	13	8	61.5	1	7.7	3	23.1	4	30.8
	Completers	10	6	60.0	0	0.0	3	30.0	3	30.0
	Dropouts	3	2	66.7	1	33.3	0	0.0	1	33.3
	Other Type Schools (Total)	158	117	74.1	9	5.7	45	28.5	63	39.9
	Completers	143	109	76.2	9	6.3	41	28.7	59	41.3
	Dropouts	15	8	53.3	0	0.0	4	26.6	4	26.6
01.0304	Water Management (Total)	1	1	100.0	0	0.0	0	0.0	1	100.0
	AVC (Total)	0	0	0.0	0	0.0	0.	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	0	0.0	0	0.0	1	100.0
	Completers	1	1	100.0	0	0.0	0	0.0	1	100.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 21A (continued)

OE Code Area[A]	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
01.0305	General Agribusiness Mechanics (Total)	153	111	72.5	13	8.5	57	37.3	41	26.8
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	153	111	72.5	13	8.5	57	37.3	41	26.8
	Completers	134	99	73.8	12	9.0	52	38.8	35	26.1
	Dropouts	19	12	63.2	1	5.2	5	26.3	6	31.6
01.0306	Building Construction (Total)	79	59	74.7	6	7.6	27	34.2	26	32.9
	AVC (Total)	16	12	75.0	3	18.6	5	31.3	4	25.0
	Completers	12	9	75.0	3	25.0	4	33.3	2	16.7
	Dropouts	4	3	75.0	0	0.0	1	25.0	2	50.0
	Other Type Schools (Total)	63	47	74.6	3	4.8	22	34.9	22	34.9
	Completers	59	43	72.9	3	5.1	21	35.6	19	32.2
	Dropouts	4	4	100.0	0	0.0	1	25.0	3	75.0
01.0307	Agribusiness Electricity (Total)	77	52	67.5	4	5.2	17	22.1	31	40.3
	AVC (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	76	52	68.4	4	5.3	17	22.4	31	40.8
	Completers	75	52	69.3	4	5.3	17	22.7	31	41.3
	Dropouts	1	0	0.0	0	0.0	0	0.0	0	0.0
01.0308	Agribusiness Metalworking (Total)	106	85	80.2	14	13.2	28	26.4	43	40.6
	AVC (Total)	1	1	100.0	0	0.0	0	0.0	1	100.0
	Completers	1	1	100.0	0	0.0	0	0.0	1	100.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	105	84	80.0	14	13.3	28	26.7	42	40.0
	Completers	94	74	78.7	12	12.8	26	27.7	36	38.3
	Dropouts	11	10	90.9	2	18.2	2	18.2	6	54.4

(continued)

TABLE 21A (continued)

OE Code Area[A]	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
01.0309	Agribusiness Woodworking (Total)	71	48	67.6	2	2.8	23	32.4	23	32.4
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	71	48	67.6	2	2.8	23	32.4	23	32.4
	Completers	64	44	68.8	2	3.1	20	31.3	22	34.4
	Dropouts	7	4	57.1	0	0.0	3	42.9	1	14.3
01.0310	Agribusiness Masonry (Total)	38	26	68.4	6	15.8	6	15.8	14	36.8
	AVC (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	37	26	70.3	6	16.2	6	16.2	14	37.8
	Completers	33	24	72.7	6	18.2	4	15.2	13	39.4
	Dropouts	4	2	50.0	0	0.0	1	25.0	1	25.0
01.0399	Agricultural Mechanics, Other (Total)	3	1	33.3	0	0.0	0	0.0	1	33.3
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	3	1	33.3	0	0.0	0	0.0	1	33.3
	Completers	3	1	33.3	0	0.0	0	0.0	1	33.3
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
01.0400	Agricultural Products (Total)	17	11	64.7	4	23.5	6	35.3	1	5.9
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	17	11	64.7	4	23.5	6	35.3	1	5.9
	Completers	16	10	62.5	3	18.8	6	37.5	1	6.3
	Dropouts	1	1	100.0	1	100.0	0	0.0	0	0.0

(continued)

TABLE 21A (continued)

OE Code Area[A]	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
01.0500	Horticulture (Total)	109	67	61.5	8	7.4	13	11.9	46	42.2
	AVC (Total)	28	15	53.6	3	10.7	0	0.0	12	42.9
	Completers	21	13	61.9	3	14.3	0	0.0	10	47.6
	Dropouts	7	2	28.6	0	0.0	0	0.0	2	28.6
	Other Type Schools (Total)	81	52	64.2	5	6.2	13	16.0	34	42.0
	Completers	78	50	64.1	5	6.4	12	15.4	33	42.3
	Dropouts	3	2	66.7	0	0.0	1	33.3	1	33.3
01.0600	Agricultural Resources (Total)	14	13	92.9	2	14.3	9	64.3	2	14.3
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	00	0.0	0	0.0
	Other Type Schools (Total)	14	13	92.9	2	14.3	9	64.3	2	14.3
	Completers	14	13	92.9	2	14.3	9	64.3	2	14.3
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
01.0601	Forests (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	1	0	0.0	0	0.0	0	0.0	0	0.0
01.0700	Forestry (Total)	40	28	70.0	6	15.0	9	22.5	13	32.5
	AVC (Total)	1	1	100.0	0	0.0	0	0.0	1	100.0
	Completers	1	1	100.0	0	0.0	0	0.0	1	100.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	39	27	69.2	6	15.4	9	23.1	12	30.8
	Completers	36	26	72.2	6	16.7	9	25.0	11	30.6
	Dropouts	3	1	33.3	0	0.0	0	0.0	1	33.3

(continued)

TABLE 21A (continued)

OE Code Area[A]	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
01.9900	Preprofessional Agriculture (Total)	149	91	61.1	13	8.7	39	26.2	39	26.2
	AVC (Total)	4	3	75.0	1	25.0	1	25.0	1	25.0
	Completers	4	3	75.0	1	25.0	1	25.0	1	25.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	145	88	60.7	12	8.3	38	26.2	38	26.2
	Completers	133	83	62.4	12	9.0	36	27.1	35	26.3
	Dropouts	12	5	41.7	0	0.0	2	16.7	3	25.0
17.1900	Graphic Arts (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
99.0101	Career Guidance (Total)	33	14	42.4	0	0.0	7	21.2	7	21.2
	AVC (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	32	14	43.8	0	0.0	7	21.9	7	21.9
	Completers	15	8	53.3	0	0.0	6	40.0	2	13.3
	Dropouts	17	6	35.3	0	0.0	1	5.9	5	29.4

(continued)

TABLE 21A (continued)

OE Code Area[A]	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	TOTAL ALL AREAS	1352	934	69.1	129	9.5	361	26.7	444	32.8
	AVC (Total)	80	51	63.8	10	12.5	14	17.5	27	33.8
	Completers	63	42	66.7	8	12.7	12	19.0	22	34.9
	Dropouts	17	9	52.9	2	11.8	2	11.8	5	29.4
	Other Type Schools (Total)	1272	883	69.4	119	9.4	347	27.3	417	32.8
	Completers	1145	810	70.7	113	9.9	319	27.9	378	33.0
	Dropouts	127	73	57.5	6	4.7	29	22.0	39	30.7

[A]OE Code areas as reported by teachers

[B]Area Vocational Centers

[C]Any terminee who left the program by completing or by high school graduation

[D]Any terminee who the instructor reported as having dropped out of school

[E]The terminees made the judgment as to how their first job was related to the training received in their high school vocational program

Table 22 illustrates the current employment status of the responding terminees by the relatedness of their vocational training to their present jobs. All percentages figured in the table were based on the 1,352 (26.5%) returns from the 5,109 Agribusiness Occupations terminees.

Of the 1,352 responding 1973-74 secondary Agribusiness Occupations terminees, 651 (48.2%) were presently employed full time and not attending school or employed full time and attending school. One hundred three (7.6%) of the terminees were employed part time and attending school, while 84 (6.2%) were unavailable for employment (See page 47 for reasons terminees

were unavailable for employment). One hundred sixty-four (12.1%) of the terminees were unemployed and actively seeking employment, while 36 (2.7%) were employed part time and seeking full-time employment.

TABLE 22

CURRENT EMPLOYMENT STATUS OF AGRIBUSINESS OCCUPATIONS TERMINEES (1973-74) BY RELATEDNESS OF TRAINING TO PRESENT JOB[A]

Employment Status	Total Respondi-ng		Relatedness of Training to Present Job[B]							
			Directly Related		Somewhat Related		Not Related[E]		Employed No Response	
	No.	%	No.	%	No.	%	No.	%	No.	%
Employed full time and not attending school	565	41.8	84	6.2	204	15.1	249	18.4	18	1.3
Employed full time and attending school	86	6.4	10	0.7	31	2.3	38	2.8	0	0.0
Employed part time and seeking full-time job	36	2.7	5	0.4	8	0.6	17	1.3	2	0.1
Employed part time and not seeking full-time job	13	1.0	2	0.1	2	0.1	8	0.6	1	0.1
Employed part time and attending school	103	7.6	10	0.7	39	2.9	49	3.6	3	0.2
Unemployed (actively seeking a job)[C]	164	12.1	N/A		N/A		N/A		N/A	
Unavailable for employment[C&D]	84	6.2	N/A		N/A		N/A		N/A	
No Response	301	22.3	N/A		N/A		N/A		N/A	
TOTAL	1352	100.0	111	8.2	284	18.8	361	26.7	24	1.8

[A]All percentages were based on the 1,352 (26.5%) respondents of the total 5,109 terminees. Terminees in active full-time military service or attending school full-time and had never been employed were included in the "No Response" category.

[B]The terminees made the judgment as to how their present job was related to the training received in their high school vocational program.

[C]The unemployed and unavailable for employment categories do not include persons in the military service and persons who were in school full time and never had a job.

[D]See page 47 for the listing of reasons Agribusiness Occupations terminees gave for being unavailable for employment.

[E]See page 48 for reasons terminees who were working in present job not related to vocatinal training gave for not seeking related job before accepting present job. Totals for unrelated columns may not correspond because terminees failed to respond to one of the two questions from which data was drawn.

The "No Response" category in Table 22 includes three groups: (1) terminees in active full-time military service; (2) terminees who were in school full time and had never had a job; and (3) terminees who failed to respond to the item on the questionnaire.

Of the 1,352 secondary Agribusiness Occupations respondees, 111 (8.2%) were presently employed full time or part time in an area directly related to the training received in their high school vocational course. Two hundred eighty-four (18.8%) were employed either part time or full time in an area somewhat related to their training, while 361 (26.7%) were employed in areas not related to training. The terminees made the judgment as to how their present employment was related to the training received in their high school vocational course.

Below is a list of the reasons given by the terminees for being unavailable for employment. The numbers indicated, in total, exceed the number indicated in Table 22 as "Unavailable for Employment" because some terminees did not respond to all questions.

Reason	Number
In school full time	70
Other	20
Illness or disability	7
Presently not working, not interested in a job	5
Pregnancy	4
Homemaker	3
Laid off	3

Of a total 410 terminees who indicated their present jobs were not related to their vocational course, 144 (35.1%) terminees indicated that before they accepted their unrelated job, they tried to get a job that was related to their vocational training. However, 266 (64.9%) of the terminees did not.

The following is a list of reasons given by terminees who, before taking their present unrelated job, indicated they did not seek a job that was related to their vocational training.

Reason	Number
No job opportunities	56
Already had a job	22
Lack of interest/lost interest	20
Didn't feel adequately qualified	16
Interested in something else	14
Just wanted a job	10
Desired higher paying job	9
Didn't want to	8
Took first job available	8
Desired "better" job	7
Had "other" job opportunity	5
Working with relative	5
Did not know how to find a job in vocation for which trained	4
Don't know	4
Wanted different kind of work	3
Took vocational training for personal, not employment goal	3
Didn't try	2
Lack of experience	2
Still in school	2
Personal	2
Not old enough	2
Laid off	2
Getting ready for career job	1
Not sure what area of training best suited for	1
Had to get married	1
Not enough money to start farm	1
Had one year of mechanics	1
Pipe shop dresser	1
I wanted to go to trade school in the future	1
Taught me the "foots" of lumber	1
Had not started this job at the time	1
I was late getting into my field	1
Not able to finance school	1
Just looking for a summer job	1
Other plans	1
I decided to change courses	1
I was and still am not sure what I want to do	1
I didn't want a vocational job at that time	1
It is a work-study job	1
No reason	1

(continued)

Reason	Number
I needed money for payment of tuition	1
Only needed part-time job to go to school	1
Still in basic training	1
Want none	1
Because I have not made up my mind on what school	1
We just saw what they could do	1
Cows too cheap	1
Because I need an education and got a bank job	1
I was not taking vocational training them	1
The job I have is related to my second choice of training	1
Convenience of the job	1
Because of the employer	1

Table 23 shows for the present job, by OE code, the number of 1973-74 secondary Agribusiness Occupations terminees employed by the relatedness of their vocational training to their present job.

Of the 838 secondary Agribusiness Occupations terminees who indicated present employment, 111 (13.3%) who studied in the area of Agricultural Power Mechanics, OE Code 01.0301, were employed. This represented the largest number of employed terminees that studied in any OE code area.

Of the 111 terminees presently employed that studied Agricultural Power Mechanics, five (4.5%) were employed in an area directly related to the training received in their high school vocational program. Forty-six (41.4%) terminees who studied Agricultural Power Mechanics indicated their present job was somewhat related to their high school vocational training, and 60 (54.1%) indicated their job was not related to their high school vocational training. The terminees made the judgment as to how their present job related to the training received in their high school vocational program.

TABLE 23

EMPLOYED 1973-74 AGRIBUSINESS OCCUPATIONS TERMINEES BY OE CODE AREA STUDIED AND BY RELATEDNESS OF TRAINING TO PRESENT JOB[A]

OE Code	Title of Occupational Objective Studied	Total Employed by Area Studied		Relatedness of Training to Present Job[B]					
				Directly Related		Somewhat Related		Not Related	
		No.	%	No.	%	No.	%	No.	%
01.0000	Agribusiness	3	0.2	0	0.0	2	0.1	1	0.1
01.0100	Agricultural Production	8	0.6	1	0.1	1	0.1	6	0.4
01.0101	Livestock Production	52	3.8	9	0.7	20	1.5	23	1.7
01.0102	Crop Production	11	0.8	4	0.3	4	0.3	3	0.2
01.0105	General Farming	39	2.9	18	1.3	9	0.7	12	0.9
01.0200	Agricultural Supplies and Services	21	1.6	4	0.3	6	0.4	11	0.8
01.0300	Agricultural Mechanics	41	3.0	5	0.4	18	1.3	18	1.3
01.0301	Agricultural Power Mechanics	111	8.2	5	0.4	46	3.4	60	4.4
01.0304	Water Management	1	0.1	0	0.0	0	0.0	1	0.1
01.0305	General Agribusiness Mechanics	97	7.2	13	1.0	50	3.7	34	2.5
01.0306	Building Construction & Maintenance	56	4.1	12	0.9	24	1.8	20	1.5
01.0307	Agribusiness Electricity	46	3.4	4	0.3	14	0.9	28	1.7
01.0308	Agribusiness Metalworking	77	5.7	14	1.0	25	1.8	38	2.8
01.0309	Agribusiness Woodworking	41	3.0	2	0.1	19	1.4	20	1.4
01.0310	Agribusiness Masonry	23	1.7	6	0.4	4	0.3	13	1.0
01.0399	Agricultural Mechanics, Other	1	0.1	0	0.0	0	0.0	1	0.1
01.0400	Agricultural Products	11	0.8	3	0.2	5	0.4	3	0.2
01.0500	Horticulture	62	4.6	8	0.6	9	0.7	45	3.3
01.0600	Agricultural Resources	13	1.0	0	0.0	7	0.5	6	0.4
01.0700	Forestry	26	1.9	3	0.2	8	0.6	15	1.1
01.9900	Pre-Professional Agribusiness	86	6.4	8	0.6	37	2.7	41	3.0
99.0101	Career Guidance	12	0.9	0	0.0	6	0.4	6	0.4
	TOTAL ALL AREAS	838	62.0	119	8.8	314	23.2	405	30.0

[A]All percentages were based on the 1,352 (26.5%) of the 5,109 terminees who returned the questionnaire.

[B]Terminees made the judgment as to how their first job was related to training received in their high school vocational program.

Table 23A is a description of 1973-74 Agribusiness Occupations terminees' present job by OE code area studied, number of returns, type school, termination status, and relatedness of training.

TABLE 23A

DESCRIPTION OF 1973-74 AGRIBUSINESS OCCUPATIONS TERMINEES' PRESENT JOB BY OE CODE AREA STUDIED, NUMBER OF RETURNS, TYPE SCHOOL, TERMINATION STATUS, AND RELATEDNESS OF TRAINING

OE Code Area[A]	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to Present Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
01.0000	Agribusiness (Total)	6	3	50.0	0	0.0	2	33.3	1	16.7
	AVC (Total)[B]	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers[C]	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts[D]	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	6	3	50.0	0	0.0	2	33.3	1	16.7
	Completers	4	1	25.0	0	0.0	1	25.0	0	0.0
	Dropouts	2	2	100.0	0	0.0	1	50.0	1	50.0
01.0100	Agricultural Production (Total)	10	8	80.0	1	10.0	1	10.0	6	60.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	10	8	80.0	1	10.0	1	10.0	6	60.0
	Completers	7	5	71.4	1	14.3	0	0.0	4	57.1
	Dropouts	3	3	100.0	0	0.0	1	33.3	2	66.7
01.0101	Livestock Production (Total)	85	52	61.2	9	10.6	20	23.5	23	27.1
	AVC (Total)	2	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	1	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	83	52	62.7	9	10.8	20	24.1	23	27.7
	Completers	74	50	67.6	9	12.2	19	25.7	22	29.7
	Dropouts	9	2	22.2	0	0.0	1	11.1	1	11.1

(continued)

TABLE 23A (continued)

OE Code Area[A]	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to Present Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
01.0102	Crop Production (Total)	15	11	73.3	4	26.7	4	26.7	3	20.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	15	11	73.3	4	26.7	4	26.7	3	20.0
	Completers	15	11	73.3	4	26.7	4	26.7	3	20.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
01.0105	General Farming (Total)	63	39	61.9	18	28.6	9	14.3	12	19.0
	AVC (Total)	4	3	75.0	1	25.0	1	25.0	1	25.0
	Completers	4	3	75.0	1	25.0	1	25.0	1	25.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	59	36	61.0	17	28.8	8	13.6	11	18.6
	Completers	51	32	62.7	17	33.3	5	9.8	10	19.6
	Dropouts	8	4	50.0	0	0.0	3	37.5	1	12.5
01.0200	Agricultural Supplies and Services (Total)	29	21	72.4	4	13.8	6	20.7	11	38.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	29	21	72.4	4	13.8	6	20.7	11	38.0
	Completers	26	19	73.1	4	15.4	5	19.2	10	38.5
	Dropouts	3	2	66.7	0	0.0	1	33.3	1	33.3
01.0300	Agricultural Mechanics (Total)	81	41	50.6	5	6.2	18	22.2	18	22.2
	AVC (Total)	8	5	62.5	0	0.0	1	12.5	4	50.0
	Completers	6	4	66.7	0	0.0	0	0.0	4	66.7
	Dropouts	2	1	50.0	0	0.0	1	50.0	0	0.0
	Other Type Schools (Total)	73	36	49.3	5	6.8	17	23.3	14	19.2
	Completers	69	34	49.3	5	7.2	15	21.7	14	20.3
	Dropouts	4	2	50.0	0	0.0	2	50.0	0	0.0

(continued)

TABLE 23A (continued)

OE Code Area[A]	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to Present Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
01.0301	Agricultural Power Mechanics (Total)	171	111	64.9	5	2.9	46	26.9	60	35.1
	AVC (Total)	13	7	53.8	0	0.0	1	7.7	6	46.2
	Completers	10	5	50.0	0	0.0	1	10.0	4	40.0
	Dropouts	3	2	66.7	0	0.0	0	0.0	2	66.7
	Other Type Schools (Total)	158	104	65.8	5	3.2	45	28.5	54	34.2
	Completers	143	96	67.1	5	3.5	41	28.7	50	35.0
	Dropouts	15	8	53.3	0	0.0	4	26.7	4	26.7
01.0304	Water Management (Total)	1	1	100.0	0	0.0	0	0.0	1	100.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	0	0.0	0	0.0	1	100.0
	Completers	1	1	100.0	0	0.0	0	0.0	1	100.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
01.0305	General Agribusiness Mechanics (Total)	153	97	63.4	13	8.5	50	32.7	34	22.2
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	153	97	63.4	13	8.5	50	32.7	34	22.2
	Completers	134	86	64.2	10	7.5	46	34.3	30	22.4
	Dropouts	19	11	57.9	3	15.8	4	21.1	4	21.1
01.0306	Building Construction and Maintenance (Total)	79	56	70.9	12	15.2	24	30.4	20	25.3
	AVC (Total)	16	12	75.0	5	31.3	3	18.8	4	25.0
	Completers	12	9	75.0	5	41.7	2	16.7	2	16.7
	Dropouts	4	3	75.0	0	0.0	1	25.0	2	50.0
	Other Type Schools (Total)	63	44	69.8	7	11.1	21	33.3	16	25.4
	Completers	59	40	67.8	6	10.2	19	32.2	15	25.4
	Dropouts	4	4	100.0	1	25.0	2	50.0	1	25.0

(continued)

TABLE 23A (continued)

OE Code Area[A]	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to Present Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
01.0307	Agribusiness Electricity (Total)	77	46	59.7	4	5.2	14	18.2	28	36.4
	AVC (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	76	46	60.5	4	5.3	14	18.4	28	0.0
	Completers	75	46	61.3	4	5.3	14	18.7	28	0.0
	Dropouts	1	0	0.0	0	0.0	0	0.0	0	0.0
01.0308	Agribusiness Metalworking (Total)	106	77	72.6	14	13.2	25	23.6	38	35.8
	AVC (Total)	1	1	100.0	0	0.0	0	0.0	1	100.0
	Completers	1	1	100.0	0	0.0	0	0.0	1	100.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	105	76	72.4	14	13.3	25	23.8	37	35.2
	Completers	94	67	71.3	12	12.8	22	23.4	33	35.1
	Dropouts	11	9	81.8	2	18.2	3	27.3	4	36.4
01.0309	Agribusiness Woodworking (Total)	71	41	57.7	2	2.8	19	26.8	20	28.2
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	71	41	57.7	2	2.8	19	26.8	20	28.2
	Completers	64	38	59.4	2	3.1	16	25.0	20	31.3
	Dropouts	7	3	42.9	0	0.0	3	42.9	0	0.0
01.0310	Agribusiness Masonry (Total)	38	23	60.5	6	15.8	4	10.5	13	34.2
	AVC (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	37	23	62.2	6	16.2	4	10.8	13	35.1
	Completers	33	22	66.7	6	18.2	4	12.1	12	36.4
	Dropouts	4	1	25.0	0	0.0	0	0.0	1	25.0

(continued)

TABLE 23A (continued)

OE Code Area[A]	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to Present Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
01.0399	Agricultural Mechanics, Other (Total)	3	1	33.3	0	0.0	0	0.0	1	33.3
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	3	1	33.3	0	0.0	0	0.0	1	33.3
	Completers	3	1	33.0	0	0.0	0	0.0	1	33.3
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
01.0400	Agricultural Products (Total)	17	11	64.7	3	17.6	5	29.4	3	17.6
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	17	11	64.7	3	17.6	5	29.4	3	17.6
	Completers	16	10	62.5	2	12.5	5	31.3	3	18.8
	Dropouts	1	1	100.0	1	100.0	0	0.0	0	0.0
01.0500	Horticulture (Total)	109	62	56.9	8	7.3	9	8.3	45	41.3
	AVC (Total)	28	14	50.0	3	10.7	0	0.0	11	39.3
	Completers	21	13	61.9	3	14.3	0	0.0	10	47.6
	Dropouts	7	1	14.3	0	0.0	0	0.0	1	14.3
	Other Type Schools (Total)	81	48	59.3	5	6.2	9	11.1	34	42.0
	Completers	78	46	59.0	5	6.4	8	10.3	33	42.3
	Dropouts	3	2	66.7	0	0.0	1	33.3	1	33.3
01.0600	Agricultural Resources (Total)	14	13	92.9	0	0.0	7	50.0	6	42.9
	AVC (Total)	0	0.	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	14	13	92.9	0	0.0	7	50.0	6	42.9
	Completers	14	13	92.9	0	0.0	7	50.0	6	42.9
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 23A (continued)

OE Code Area[A]	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to Present Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
01.0601	Forests (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	1	0	0.0	0	0.0	0	0.0	0	0.0
01.0700	Forestry (Total)	40	26	65.0	3	7.5	8	20.0	15	37.5
	AVC (Total)	1	1	100.0	0	0.0	0	0.0	1	100.0
	Completers	1	1	100.0	0	0.0	0	0.0	1	100.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	39	25	64.1	3	7.7	8	20.5	14	35.9
	Completers	36	24	66.7	3	8.3	8	22.2	13	36.1
	Dropouts	3	1	33.3	0	0.0	0	0.0	1	33.3
01.9900	Pre-Professional Agribusiness (Total)	149	85	57.0	8	5.4	37	24.8	40	26.8
	AVC (Total)	4	3	75.0	1	25.0	1	25.0	1	25.0
	Completers	4	3	75.0	1	25.0	1	25.0	1	25.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	145	82	56.6	7	4.8	36	24.8	39	26.9
	Completers	133	78	58.6	7	5.3	34	25.6	37	27.8
	Dropouts	12	4	33.3	0	0.0	2	16.7	2	16.7
17.1900	Graphic Arts (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 23A (continued)

OE Code Area[A]	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to Present Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
99.0101	Career Guidance (Total)	33	12	36.4	0	0.0	6	18.2	6	18.2
	AVC (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	32	12	37.5	0	0.0	6	18.8	6	18.8
	Completers	15	8	53.3	0	0.0	5	33.3	3	20.0
	Dropouts	17	4	23.5	0	0.0	1	5.9	3	17.6
	TOTAL ALL AREAS	1352	838	62.0	119	8.8	314	23.2	405	30.0
	AVC (Total)	80	46	57.5	10	12.5	7	8.8	29	36.3
	Completers	63	39	61.9	10	15.9	5	7.9	24	38.1
	Dropouts	17	7	41.2	0	0.0	2	11.8	5	29.4
	Other Type Schools (Total)	1272	792	62.3	109	8.6	307	24.1	376	29.6
	Completers	1145	728	63.6	102	8.9	278	24.2	348	30.4
	Dropouts	127	64	50.4	7	5.5	29	22.8	28	22.0

[A]OE Code areas as reported by teachers

[B]Area Vocational Centers

[C]Any terminee who left the program by completing or by high school graduation

[D]Any terminee who the instructor reported as having dropped out of school

[E]The terminees made the judgment as to how their first job was related to the training received in their high school vocational program

Table 24 indicates the first-job salary ranges as compared to the present-job salary ranges for the 1973-74 Agribusiness Occupations terminees.

TABLE 24

FIRST-JOB SALARY RANGES AND PRESENT-JOB SALARY RANGES FOR 1973-74 AGRIBUSINESS OCCUPATIONS TERMINEES

Salary Ranges	First Job		Present Job	
	No.	%	No.	%
Under $250	275	32.0	152	21.0
$250 - $299	122	14.2	91	12.6
$300 - $349	138	16.0	85	11.8
$350 - $399	97	11.3	90	12.4
$400 - $449	106	12.3	106	14.7
$450 - $499	40	4.7	59	8.2
$500 - $599	45	5.2	79	10.9
$600 - $699	23	2.7	29	4.0
$700 or more	14	1.6	32	4.4
TOTAL	860	100.0	723	100.0

Of the 860 terminees reporting a salary range for their first job, 275 (32.0%) indicated a range of under $250 per month. Fourteen terminees reported a first salary of $700 or more per month. The median salary range for the first job fell in the range of $300 - $349 per month. The mean salary range for the first job also fell high in the range of $300 - $349 per month.

Of the 723 1973-74 Agribusiness Occupations terminees reporting a salary range for their present job, 152 (21.0%) indicated under $250 per month. This salary range was indicative of the mode of the reporting students. The median of salary for present jobs of reporting students was in the $350 - $399 range and the mean salary range for the present job fell high in the $350 - $399 per month range. The median and mean salary ranges of present jobs over first jobs do not indicate a considerable increase for the reporting Agribusiness Occupations terminees.

Table 24A indicates the first-job salary ranges by relatedness of training and sex of the Agribusiness Occupations terminees.

TABLE 24A

FIRST-JOB SALARY RANGES BY RELATEDNESS OF TRAINING OF 1973-74 AGRIBUSINESS OCCUPATIONS TERMINEES BY SEX

Salary Ranges	Sex of Terminees Responding		Relatedness of Training to First Job[B]					
			Directly Related		Somewhat Related		Not Related	
	Male	Female	Male	Female	Male	Female	Male	Female
Under $250	243	17	42	2	91	-	110	15
$250 - $299	107	6	16	-	37	2	54	4
$300 - $349	121	2	12	-	47	-	62	2
$350 - $399	90	1	6	-	42	1	42	-
$400 - $449	99	1	13	-	39	-	47	1
$450 - $499	38	-	5	-	15	-	18	-
$500 - $599	43	-	5	-	22	-	16	-
$600 - $699	20	-	3	-	10	-	7	-
$700 or more	13	-	3	-	6	-	4	-
TOTAL[A]	774	27	105	2	309	3	360	22

[A]Totals do not match those of Table 24 because some terminees did not respond to all questions.

[B]The terminees made the judgment as to how their first job was related to the training received in their high school vocational program.

Two hundred sixty (32.5%) of the 801 responding terminees were employed at less than $250 per month; this represents 31.4% of the males and 63.0% of the females reporting. Of those 260 terminees, 42 (16.1%) males and two (0.8%) females were employed in a job directly related to their training, 91 males (35.0%) and no females were employed in jobs somewhat related to their training, while 110 (42.3%) males and 15 (5.8%) females were employed in jobs not related to their training.

Of the 801 responding terminees, 774 (96.6%) were males and 27 (3.4%) were females. One hundred five (13.1%) and two (0.3%) females were employed in jobs directly related to their vocational training, 309 (38.6%) males and three (0.4%) females were employed in jobs somewhat related to their training, while 360 (44.9%) males and 22 (2.7%) females were employed in jobs not related to their training.

Table 24B indicates the present-job salary ranges by relatedness of training and sex of the Agribusiness Occupations terminees.

TABLE 24B

PRESENT-JOB SALARY RANGES BY RELATEDNESS OF TRAINING OF 1973-74 AGRIBUSINESS OCCUPATIONS TERMINEES BY SEX

Salary Ranges	Sex of Terminees Responding		Relatedness of Training to Present Job[B]					
			Directly Related		Somewhat Related		Not Related	
	Male	Female	Male	Female	Male	Female	Male	Female
Under $250	131	8	15	1	48	-	68	7
$250 - $299	76	7	12	1	24	1	40	5
$300 - $349	78	1	10	-	30	-	38	1
$350 - $399	80	1	12	-	35	-	33	1
$400 - $449	102	-	13	-	37	-	52	-
$450 - $499	56	1	7	-	28	-	21	1
$500 - $599	73	1	16	-	31	1	26	-
$600 - $699	25	-	1	-	12	-	12	-
$700 or more	27	1	2	-	11	-	14	1
TOTAL[A]	648	20	88	2	256	2	304	16

[A]Totals do not match those of Table 24 because some terminees did not respond to all questions.

[B]The terminees made the judgment as to how their present job was related to the training received in their high school vocational program.

One hundred thirty-nine (20.8%) of the 668 responding terminees were employed at less than $250 per month. Of these 139 terminees, 15 (10.8%)

males and one (0.7%) females were employed in a job directly related to their training, 48 (34.5%) males and no females were employed in jobs somewhat related to their training, while 68 (48.9%) males and seven (5.1%) females were employed in jobs not related to their training.

Of the 668 responding terminees, 648 (97.0%) were males and 20 (3.0%) were females. Eighty-eight (13.2%) males and two (0.3%) females were employed in jobs directly related to their vocational training, 256 (38.3%) males and two (0.3%) females were employed in jobs somewhat related to their training, while 304 (45.5%) males and 16 (2.4%) females were employed in jobs not related to their training.

Continuing Education Information

The following section of this report presents information relative to the continuing education of the 1973-74 secondary Agribusiness Occupations terminees.

Table 25 shows the vocational educational training opportunities terminees have participated in since leaving their high school vocational program.

Of the total terminees, the 244 (18.1%) who were engaged in on-the-job training represented the largest area where terminees had taken additional vocational training. One hundred thirty (9.6%) terminees have enrolled in Junior Colleges and represent the second largest group engaged in continuing education.

Of the 1,352 responding terminees, 628 (46.5%) had taken part in one additional vocational training program since leaving their high school program. Sixty-eight (5.0%) enrolled in two training programs, and 27

(2.0%) terminees had enrolled in three vocational training programs. Six hundred twenty-nine (46.5%) indicated they had not enrolled in any additional vocational training.

TABLE 25

ADDITIONAL VOCATIONAL EDUCATIONAL TRAINING 1973-74 SECONDARY AGRIBUSINESS OCCUPATIONS TERMINEES PARTICIPATED IN SINCE LEAVING THEIR HIGH SCHOOL VOCATIONAL PROGRAM[A]

Type Training	Number	Percent[B]
On-the-job training (employer-sponsored program)	244	18.1
Public school adult vocational program	19	1.4
Private vocational school program	10	0.7
University or four year college	65	4.8
Junior college	130	9.6
Post-secondary vocational-technical institute (trade school)	86	6.4
Apprenticeship training program	42	3.1
Specialized occupational military training	49	3.6
Other[C]	78	5.8
TOTAL[D]	723	53.5

[A]Six hundred twenty-nine (46.5%) of the 1,352 terminees gave no indication of being involved in additional vocational training. Of the 1,352 terminees, 628 (46.5%) took part in one additional vocational training opportunity since leaving their high school program. Sixty-eight (5.0%) took part in two and 27 (2.0%) terminees took part in the three or more additional training opportunities.

[B]Percentages are based on the 1,352 (26.5%) respondents of the total 5,109 terminees who returned questionnaires.

[C]See page 63 for the "Other" listing as specified by the terminees.

[D]The total indicated the number of different training programs in which terminees enrolled. As footnoted above, several terminees had enrolled in more than one training program.

The following is a listing of the "Other" vocational education training terminees indicated they had participated in:

"Other" Vocational Training	Number
On-the-job training with father	5
Practical application/practice of what was taught	3
Agricultural mechanics	3
Work/work experience	3
Farming	2
Home nursery	1
Raising a beef cow	1
Technical school	1
Classroom flight training	1
Backyard mechanic	1
Studying by myself using my schoolbooks	1
Welding	1
Building vocational school	1
Body work	1
Saw filing	1
Correspondence school	1
Some carpenter work	1
Cottonmill	1
Tree planter	1
Trade school	1
Home training	1
Cattle raising	1
Sent by employer to O.M.C. school in Dallas	1
Technical college	1
University	1
On-the-job training with gold kist	1
On-the-job welding training	1
Part-time with mechanic	1
Plumbing trailers	1
Changed major to criminal justice	1
Technical school	1
Farrier (horseshoeing)	1
Construction company	1
Carpenter	1
Agribusiness woodworking	1
Wireglass Extension - Headland	1
Just working at a fertilizer plant	1
Dozen operator	1
Butcher - own my own	1
I am a technician	1
Heavy equipment	1
Co-op (farm work)	1
Doing as I see fit to do	1
Have been working in construction	1
Industrial development training	1
High school teacher helping me alone	1
VIE in the 13 & 11 grade	1
Went to training center to be sewing machine repairman	1
To increase learning	1
Textile work	1

(continued)

"Other" Vocational Training	Number
High school vocational trade school	1
Woodworking	1
Doing hobby work	1
Electrician work	1
I plan to teach vocational-ag.	1
Trade school	1
On-the-job training	1
Air conditioner ref.	1
Drafting technology	1
Vocational school	1

Table 26 points out the additional programs the 1973-74 secondary Agribusiness Occupations terminees were presently attending beyond their high school training by whether these programs were related to their high school vocational program.

TABLE 26

PROGRAMS PRESENTLY ATTENDED BY THE 1973-74 SECONDARY AGRIBUSINESS OCCUPATIONS TERMINEES BY WHETHER THESE PROGRAMS WERE RELATED TO THEIR HIGH SCHOOL VOCATIONAL EDUCATION PROGRAM[A]

Programs Attended	Terminees		Program Related to High School VED Program					
			Yes		No		No Response	
	No.	%	No.	%	No.	%	No.	%
On-the-job training (employer-sponsored)	97	7.2	12	0.9	7	0.5	78	5.8
Vocational-technical institute (trade school)	78	5.8	29	2.1	36	2.7	13	1.0
Junior college	204	15.1	40	3.0	156	11.5	8	0.6
Four year college or university	117	8.7	25	1.8	86	6.4	6	0.4
Public school adult vocational program	6	0.4	2	0.1	3	0.2	1	0.1
Private business or trade school	16	1.2	6	0.4	8	0.6	2	0.4
Apprenticeship program	11	0.8	1	0.1	2	0.1	6	0.6
Other[B]	53	3.9	15	1.1	20	1.5	18	1.3
TOTAL	582	43.0	130	9.6	318	23.5	134	9.9

[A]All percentages were based on the 1,352 responding terminees.

[B]See page 65 for listing of "Other" schools or educational institutions terminees were attending.

Of the 1,352 1973-74 secondary Agribusiness Occupations terminees who responded to the survey, 97 (7.2%) were attending an on-the-job training program (employer-sponsored), 78 (5.8%) were attending a vocational-technical institute, 204 (15.1%) were attending a junior college, 117 (8.7%) were attending a four year college or university, six (0.4%) were attending a public adult vocational program, 16 (1.2%) were attending private business or trade school, 11 (0.8%) were attending an apprenticeship program, and 53 (3.9%) were attending some other type of school or educational program. (See page 65 for the listing of the other types of schools or educational programs students were attending.)

Five hundred eighty-two (43.0%) of the 1,352 Agribusiness Occupations terminees were presently continuing their education. One hundred thirty (9.6%) of the terminees were continuing their education in a program related to their high school vocational program. Three hundred eighteen (23.5%) were attending a program in an area not related to their high school vocational program.

The following is a listing of the "Other" category (Table 26) of additional programs the 1973-74 Agribusiness Occupations terminees were attending:

"Other" School or Program	Number
High school (undefined)	20
Military service schools	6
Vocational high schools	3
Night school	3
Forestry	2
Correspondence school	2
Railroad training	1
School of nursing	1
Community credit	1
Grocery business	1
Emergency medical training	1
Civil Service	1
Plumbing trailers	1
State employers	1

(continued)

"Other" School or Program	Number
Electronic institute	1
Farming	1
Manage a shoe store	1
Horticulture	1
Agribusiness technology	1
Textile mills	1
Heavy Equipment operator	1

Of the 1,352 responding terminees, 771 (57.0%) indicated they would like further vocational training. The following is a list of the areas in which these terminees desired to study:

Area of Study	Number
Auto/Diesel mechanics	61
Welding	56
Annimal science/livestock production	49
Carpenter/woodwork	39
Forestry	38
Agricultural power mechanics	37
Electricity	35
Machinist/metalworking	33
Electronics	28
Not sure/undecided	27
Farming	25
Agriculture/agribusiness	16
Horticulture	15
Drafting	13
Agribusiness education/teaching	13
Building construction	12
Auto body and fender repair	11
Medical field	9
Business	8
Veterinary medicine	7
Masonry	6
Landscape architecture/design	5
Air conditioning/refrigeration	5
Anything	5
Engineering technician	5
Conservation	4
Heavy equipment operator	4
Agribusiness supplies	3
Architecture	3
General repairs	3
Wildlife/game management	3
Data processing	2
Plumbing	2
Art welding	2
Printing	2
Pipefitting	2

(continued)

Area of Study	Number
Biology	2
Radio and TV broadcasting	2
Electrical engineering	2
Photography	1
Psychology	1
Clothing	1
Marine biology	1
Surveying	1
Management	1
Patternmaking	1
Appliance repair	1
Fire safety and first aid	1
Occupational sewing	1
Chemistry	1
Art	1
Butcher	1
Textiles	1
Criminal science	1
Restaurant management	1
Commercial art	1
Natural resources	1
Music	1
Mathematics	1
Truck driving	1
Meteorology	1
Science	1
Florist	1

Four hundred eleven (30.4%) of the 1,352 responding terminees indicated they did not desire to have further vocational training. One hundred seventy (12.6%) terminees did not respond to the question.

Table 27 illustrates the programs presently attended by the terminees by OE Code area studied by whether it related to their high school vocational program. No attempt was made to show the no response to the data items; therefore, many of the totals do not correspond.

TABLE 27

PROGRAMS PRESENTLY ATTENDED BY THE 1973-74 SECONDARY AGRIBUSINESS OCCUPATIONS TERMINEES BY OE CODE AREA STUDIED BY WHETHER IT RELATED TO THEIR HIGH SCHOOL VOCATIONAL PROGRAMS[A]

OE Code	Occupational Title	TOTAL	Type School or Educational Program Presently Attending															
			On-the-Job Training		Voc. Tech. School		Junior College		4 Year College or Univ.		Public School Adult VED Program		Private Business or Trade School		Apprenticeship Program		Other	
		Presently Continuing Education	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related
01.0100	Agricultural Production	2						1										1
01.0101	Livestock Production	28		1		2	3	14	2	4				1				1
01.0102	Crop Production	5				2	1	1		1								
01.0105	General Farming	22	1	2	2	2	2	6	3	1			1				1	1
01.0200	Agricultural Supplies & Services	7				1	1	2	1	1								1
01.0300	Agricultural Mechanics	31			6	6		8	3	1			2				4	1
01.0301	Agricultural Power Mechanics	42	1	1	8	2		14	1	6	1	1	1		1		4	1
01.0305	General Agribusiness Mechanics	44	5		5	4	4	13	1	8							1	3

(continued)

TABLE 27 (continued)

OE Code	Occupational Title	TOTAL	Type School or Educational Program Presently Attending															
			On-the-Job Training		Voc. Tech. School		Junior College		4 Year College or Univ.		Public School Adult VED Program		Private Business or Trade School		Apprenticeship Program		Other	
		Presently Continuing Education	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related
01.0306	Building Construction & Maintenance	18	1		1			4		6							3	3
01.0307	Agribusiness Electricity	22		1	2		2	9	1	5			1			1		
01.0308	Agribusiness Metalworking	22	3	1	1	2	1	5	1	4				2		1		1
01.0309	Agribusiness Woodworking	23			1	6		8	2	2	1			2			1	
01.0310	Agribusiness Masonry	12			2	2		5		2								
01.0400	Agricultural Products	3	1					2										1
01.0500	Horticulture	47		1	1	1	3	16	2	14		1		3				5
01.0600	Agricultural Resources	6				1		3		2								
01.0700	Forestry	12				2	1	5	1	3								
01.9900	Pre-Professional Agribusiness	92				3	21	37	6	22			1				1	1
17.1900	Graphic Arts	1					1											
99.0101	Career Guidance	9						3	1	4		1						

[A]Since some of the terminees did not respond to parts of the questions, totals will not correspond.

Job Placement Information

The following section of this report presents information concerning job placement of the 1973-74 secondary Agribusiness Occupations terminees.

Table 28 points out whether the 1973-74 Agribusiness Occupations terminees were seeking full-time employment when they left their high school vocational program and if their vocational teacher attempted to help them get a job.

TABLE 28

WHETHER VOCATIONAL TEACHER ATTEMPTED TO HELP 1973-74 AGRIBUSINESS OCCUPATIONS TERMINEES GET A JOB IF SEEKING FULL-TIME EMPLOYMENT UPON LEAVING THE HIGH SCHOOL VOCATIONAL PROGRAM[A]

Vocational Teacher Attempted To Get Terminee A Job	Number	Percent
Yes	224	32.8
No	458	67.2
TOTAL	682	100.0

[A]Six hundred twenty-five (46.2%) of the responding terminees indicated they were not seeking full-time employment when they left their high school vocational program. Forty-five (3.3%) of the terminees did not respond to the question.

Of the 682 responding 1973-74 Agribusiness Occupations terminees who indicated they were seeking full-time employment when they left their high school vocational program, 224 (32.8%) indicated that their vocational teacher attempted to help them get a job. However, 458 (67.2%) of the terminees seeking full-time employment indicated that their vocational teacher did not attempt to help them secure employment. It

was interesting to note that 625 (46.2%) of the reporting 1973-74 Agribusiness Occupations terminees indicated that they were not seeking full-time employment when they left their high school vocational program.

Table 29 illustrates how long it took the 1973-74 Agribusiness Occupations terminees to get their first full-time job after they left their high school vocational program and began actively seeking full-time employment.

TABLE 29

LENGTH OF TIME IT TOOK THE 1973-74 AGRIBUSINESS OCCUPATIONS TERMINEES TO SECURE FIRST FULL-TIME JOB AFTER LEAVING HIGH SCHOOL VOCATIONAL PROGRAM AND BEGINNING ACTIVELY SEEKING FULL-TIME EMPLOYMENT[A]

Time to Secure First Full-Time Job	Number	Percent
0 - 2 weeks	278	51.7
3 - 4 weeks	111	20.6
5 - 8 weeks	63	11.7
9 - 12 weeks	39	7.3
13 or more weeks	47	8.7
TOTAL	538	100.0

[A]Four hundred terminees indicated they already had a job when they left their high school vocational program.

Two hundred seventy-eight (51.7%) of the 538 secondary Agribusiness Occupations terminees secured their first full-time job within two weeks after they left their high school vocational program and began actively seeking full-time employment. However, 47 (8.7%) of the terminees took 13 or more weeks to secure their first full-time job. There were 400 terminees who indicated they already had a job when they left their high school vocational program.

Table 30 shows how the 1973-74 secondary Agribusiness Occupations terminees indicated they got their first full-time job after leaving their high school vocational program.

TABLE 30

HOW THE 1973-74 AGRIBUSINESS OCCUPATIONS TERMINEES INDICATED THEY GOT THEIR FIRST FULL-TIME JOB AFTER LEAVING THEIR HIGH SCHOOL VOCATIONAL PROGRAM

How Terminees Secured First Full-Time Job	Number	Percent
Through your vocational teacher	21	3.5
Through your counselor	4	0.7
Through other school teachers or administrators	10	1.7
Through a friend or relative	342	57.3
Through applications to business or industry	148	24.8
Through state (local) employment office	20	3.3
Through a private employment agency	5	0.8
Through radio, T.V., newspaper, or other news media	9	1.5
Other[A]	38	6.4
TOTAL	597	100.0

[A]See listing on page 73 for the "Other" ways terminees indicated they secured their first full-time job after leaving their high school vocational program.

Of the 597 1973-74 Agribusiness Occupations terminees who responded to the survey item, 342 (57.3%) indicated they got their first full-time job after leaving their high school vocational program through a friend or relative. One hundred forty-eight (24.8%) of the terminees indicated they got their first full-time job through applications to business or industry. These represented the two methods that the largest number of

Agribusiness Occupations terminees utilized to secure their first full-time job. Only 21 (3.5%) of the terminees indicated they secured their first job through their vocational teacher. Four (0.7%) students indicated that a counselor got them their first full-time job after leaving their vocational program. Those students who already had a job before leaving their high school vocational program were not shown in Table 30. (See Table 31, page 74)

The following list indicates the "Other" means the terminees indicated for securing their first full-time job:

"Other" Means for Securing First Full-Time Job	Number
Joined military service/National Guard	3
Solicitation from business/industry to individual	2
Work at school/work-study program	2
Started own business	1
By scoring on test	1
Through Labor Union	1
Farming	1
Had worked three years part time, but it was trimming houses; first job	1
Only worked one week	1
Part time	1
Haven't gotten it yet; part time	1

Table 31 shows how the 1973-74 Agribusiness Occupations terminees who were working while in high school taking their vocational program indicated they got that job.

Six hundred twenty-nine (46.5%) of the 1,352 reporting 1973-74 Agribusiness Occupations terminees indicated they were working during the time they were in high school taking their vocational program. Of those terminees working while in high school, 310 (49.3%) got their job through a friend or relative, 88 (14.0%) through applications to business or industry, and 66 (10.5%) got jobs through their vocational instructor. These three means were the ways most of the terminees secured a job while they were still in high school taking their vocational program.

TABLE 31

HOW THE 1973-74 AGRIBUSINESS OCCUPATIONS TERMINEES WHO WERE WORKING WHILE IN HIGH SCHOOL TAKING THEIR VOCATIONAL PROGRAM INDICATED THEY GOT THAT JOB[A]

Who or What Helped Terminees Get Job	Number	Percent
Your vocational teacher	66	10.5
Your counselor	7	1.1
Other school teachers or administrators	22	3.5
Friend or relative	310	49.3
Applications to business or industry	88	14.0
State (local) employment office	10	1.6
Private employment agency	12	1.9
Radio, T.V., newspaper, or other news media	2	0.3
Other[B]	112	17.8
TOTAL	629	100.0

[A]Seven hundred fourteen (52.8%) terminees indicated they had no job during the time they were in high school taking their vocational course.

[B]See listing below for the "Other" means the terminee indicated in securing a job while they were still taking their vocational program.

The following list indicates "Other" means the terminee indicated in securing a job while they were still taking their vocational program:

"Other" Means of Securing Job While Still in High School Vocational Program	Number
Worked/lived on farm	13
Bus driver/bus route	2
Experience in mechanics/knowledge of machinery	2
Textile mill/yarn mill	2
Agriculture/agribusiness	1
Green house manager	1
Neither	1
Poultry processing	1
The man called me	1
Not sure	1
Paper route	1
No one	1
Gas plant	1
Undecided	1
I had two jobs	1

Table 32 reveals the indications of the 1973-74 Agribusiness Occupations terminees as whether, before taking their first job, they looked for employment within daily walking or driving distance of home by how their first job related to their vocational training.

TABLE 32

INDICATIONS OF 1973-74 AGRIBUSINESS OCCUPATIONS TERMINEES AS TO WHERE THEY LOOKED FOR THEIR FIRST JOB BEFORE TAKING ONE BY HOW THEIR FIRST JOB RELATED TO THEIR TRAINING[A]

Before Taking First Job, Where Terminees Looked for Job	Total Reporting		Total Reporting by Relatedness of First Job to Vocational Training					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Within daily walking or driving distance of home	462	76.4	54	81.8	171	75.7	237	75.7
Beyond daily walking or driving distance of home[B]	143	23.6	12	18.2	55	24.3	76	24.3
TOTAL	605	100.0	66	100.0	226	100.0	313	100.0

[A]Two hundred eighty terminees indicated they already had their first job while in high school. Of the 280 terminees, 60 (21.4%) were working in a directly related area, 114 (40.7%) in a somewhat related area, while 106 (37.9%) were working in a non-related area.

[B]See listing, page 77, for reasons terminees gave for seeking their first job away from home.

Four hundred sixty-two (76.4%) of the 1973-74 Agribusiness Occupations terminees who were employed in their first job indicated they sought employment within daily walking or driving distance of home. One hundred forty-three (23.6%) terminees indicated before taking their first job, they looked for a job beyond daily walking or driving distance of home.

Of the 66 terminees who were working in a directly related area, only 12 (18.2%) sought employment beyond daily walking or driving distance of home.

It is interesting to note that of the 313 terminees whose first jobs did not relate to their training, only 76 (24.3%) of those terminees sought employment beyond daily walking or driving distance of home.

Two hundred eighty terminees indicated they had their first job while in high school. Of those 280 terminees, 60 (21.4%) were working in a directly related area, 114 (40.7%) in a somewhat related area, and 106 (37.9%) were working in a non-related area.

The following is a listing of reasons terminees gave for seeking a job beyond daily walking or driving distance of their home before accepting their first job. Of the 143 terminees who indicated they sought a job beyond daily walking or driving distance of home before accepting their first job, 52 gave reasons why they sought that job.

Reasons for Seeking Job Beyond Daily Walking or Driving Distance Before Accepting First Job	Number
No jobs around home/none close by	18
Desired more money/better pay	7
Better salary and opportunities	1
I didn't like to work close to home	1
Went into service	1
I didn't look, it came to me	1
Live out of town ten miles	1
Decater	1
Three or four other places	1
Wanted a job with railroad	1
To get away from home	1
To do my business	1
Within distance of home	1
Nearest town	1
That's where my school is	1
I moved from home and married	1

(continued)

Reasons for Seeking Job Beyond Daily Walking or Driving Distance Before Accepting First Job	Number
Because that was the only place I looked	1
Am a seasonal ranger in Great Smokies National Park	1
50 miles	1
Considered working away from home	1
A friend	1
Hometown isn't an industrial town	1
Married	1
Because I needed a job	1
Live out of town	1
No factories where we live	1
Cause I need a job	1
For training	1
I was going to school full time	1

Table 33 reveals the indications of the 1973-74 Agribusiness Occupations terminees who were working in their first job not related to their training by whether or not they tried to get a job related to their training by where they looked for employment before accepting that first job.

TABLE 33

INDICATIONS OF THE 1973-74 AGRIBUSINESS OCCUPATIONS TERMINEES WORKING IN FIRST JOB NOT RELATED TO THEIR TRAINING BY WHETHER OR NOT THEY TRIED TO GET A JOB RELATED TO THEIR TRAINING BY WHERE THEY LOOKED FOR EMPLOYMENT BEFORE ACCEPTING FIRST JOB[A]

Where Terminees Working in Non-Related Areas Looked for Employment Before Accepting First Job	Total Reporting		Before Accepting This First Job Unrelated to Training Whether Terminees Sought Job in Related Area			
			Yes		No	
	No.	%	No.	%	No.	%
Sought employment within daily walking or driving distance of home	232	75.3	96	78.0	136	73.5
Sought employment beyond daily walking or driving distance of home	76	24.7	27	22.0	49	26.5
TOTAL	308	100.0	123	100.0	185	100.0

[A]Total in this table may not correspond with totals of terminees for non-related categories in other tables for the following reasons: (1) some terminees had jobs when leaving program and did not have to seek employment and (2) some terminees failed to respond to one or more of the related questions from which data was drawn.

[B]See page 34 for the listing of reasons terminees who were working in non-related jobs gave for not trying to secure a job that was related to their training.

It is important to note that of the 308 terminees who were working in a non-related first job, only 27 (8.8%) sought related employment beyond daily walking or driving distance of home before accepting his first job.

Table 34 illustrates the indications of the 1973-74 Agribusiness Occupations terminees as to where they looked for a job before taking their present job by how their present job is related to their vocational training.

TABLE 34

INDICATIONS OF 1973-74 AGRIBUSINESS OCCUPATIONS TERMINEES AS TO WHERE THEY LOOKED FOR A JOB BEFORE TAKING THEIR PRESENT JOB BY HOW THEIR PRESENT JOB RELATED TO THEIR TRAINING[A]

Where Terminees Looked for Job Before Taking Present Job	Total Reporting		Total Reporting by Relatedness of Present Job to Vocational Training					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Within daily walking or driving distance of home	413	75.9	44	71.0	137	71.0	232	80.3
Beyond daily walking or driving distance of home[B]	131	24.1	18	29.0	56	29.0	57	19.7
TOTAL	544	100.0	62	100.0	193	100.0	289	100.0

[A]Two hundred fifty-two terminees reported they already had their present job while in high school. Of those 252 terminees, 51 (20.2%) were in a directly related area, 111 (44.1%) in a somewhat related area, while 90 (35.7%) were working in a non-related area.

[B]See listing, page 80, for reasons terminees gave for seeking their present job away from home.

Four hundred thirteen (75.9%) of the presently employed 1973-74 Agribusiness Occupations terminees indicated they sought employment within

daily walking or driving distance of home. One hundred thirty-one (24.1%) terminees indicated they sought employment beyond daily walking or driving distance of home.

Of the 62 terminees who were working in a directly related area, 18 (29.0%) sought employment beyond daily walking or driving distance of home.

Of the 289 terminees who were presently working in a non-related area, 57 (19.7%) sought employment beyond daily walking or driving distance of his home.

Two hundred fifty-two terminees reported they already had their present job while in high school. Of those 252 terminees, 51 (20.2%) were in directly related areas, 111 (44.1%) in somewhat related areas, and 90 (35.7%) were in non-related areas.

The following is a list of reasons terminees gave for seeking a job beyond daily walking or driving distance of their home before accepting their present job.

Reasons for Seeking Job Beyond Daily Walking or Driving Distance Before Accepting Present Job	Number
None (jobs) available near home	29
Better pay	14
Live in the country	3
Better job/more opportunity	3
There was no close job I was interested in	1
Was waiting on this job but had another	1
Easily acceptable, regular pay	1
My dad's company was in Birmingham	1
Because it was the job I preferred	1
Closest to home	1
Went into service	1
Necessity	1
I had worked there before	
Larger town	1
Full-time employment, higher wages	1
New York state	1
Wanted to see the U.S.	1

(continued)

Reasons for Seeking Job Beyond Daily Walking or Driving Distance Before Accepting Present Job	Number
Wanted to start my own	1
My business	1
I wanted to work away from home	1
Moved out of state	1
Lived too far away	1
I travel to my work	1
Look for anything I could find	1
I couldn't get a descent one until now	1
Nearest town	1
That is where my school is	1
Away from parents	1
I moved from home and married	1
Travelling was involved	1
Yes, I did	1
Wanted job close to college	1
The only place to look	1
Don't have a car	1
Because I'm living in another city, away from home	1
Hometown isn't industrial	1
Go to school there	1
Married	1
Birmingham	1
To move into town	1
Main office APCO	1
It was near school	1
Because I wnated training	1
Because my father got me the job	1
Because better pay and no good job	1

Table 35 reveals the indications of the 1973-74 Agribusiness Occupations terminees who were working in their present job not related to their training by whether or not they tried to get a job related to their training by where they looked for employment before accepting that present job.

Only 23 (7.9%) of the 292 terminees who were working in a non-related area sought related employment beyond daily walking or driving distance of home before accepting his present job.

TABLE 35

INDICATIONS OF THE 1973-74 AGRIBUSINESS OCCUPATIONS TERMINEES WORKING IN PRESENT JOB NOT RELATED TO THEIR TRAINING BY WHETHER OR NOT THEY TRIED TO GET A JOB RELATED TO THEIR TRAINING BY WHERE THEY LOOKED FOR EMPLOYMENT BEFORE ACCEPTING THEIR PRESENT JOB[A]

Before Accepting Present Job Where Terminees Working in Non-Related Areas Looked for Employment	Total Reporting		Before Accepting This Present Job Unrelated to Training Whether or Not Terminees Sought Job in Related Area			
			Yes		No	
	No.	%	No.	%	No.	%
Sought employment within daily walking or driving distance of their home	231	79.1	100	81.3	131	77.5
Sought employment beyond daily walking or driving distance of their home	61	20.9	23	18.7	38	22.5
TOTAL	292	100.0	123	100.0	169	100.0

[A]Totals in this table may not correspond with totals of terminees for non-related categories in other tables for the following reasons: (1) some terminees had jobs when leaving programs and did not have to seek employment and (2) some terminees failed to respond to one or more of the related questions from which data was drawn.

[B]See page 48 for the listing of reasons terminees who were working in non-related jobs gave for not trying to secure a job that was related to their training.

APPENDIX

PRESENT JOB AND FIRST JOB TITLES OF THE 1973-74
AGRIBUSINESS OCCUPATIONS TERMINEES

PRESENT JOB AND FIRST JOB TITLES OF THE 1973-74 AGRIBUSINESS OCCUPATIONS TERMINEES

For those terminees who indicated present or first job occupations, this appendix lists the present job title and first job title by their high school vocational training area (OE Codes). The job titles are listed as the terminees reported them. The number of full-time jobs held by these terminees since completing their high school vocational course is listed, current employment status is listed, and whether the student intended to get a job in the area while in the program.

The following code is used to identify the employment status of the terminees:

0. Unemployed, but seeking employment
1. Employed full time
2. Employed part time, seeking full-time job
3. Employed part time, not seeking full-time job
4. Employed full time and attending school
5. Employed part time and attending school
6. Unavailable for employment

The following code is used to identify whether the student intended to get a job in the area while in the program:

1. No
2. Was not sure
3. Yes

The number in parenthesis behind the job titles indicates the relatedness of the high school vocational training to these jobs. The terminees

made the judgment as to the relatedness of their training to these jobs. The following code is used to identify this relatedness:

1. Directly related
2. Somewhat related
3. Not related

The total in each occupations title area may not correspond to the total in each OE Code as listed in Table 23. Some of the terminees failed to indicate the title of their present position. If the first job title was the same as the present job title, the first job title is included under the present job title.

OE Code 01.0000 - Agribusiness

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
1	1	1	3	Farmer (2)	
2	2	0	2	Meat Clerk (3)	Bag boy (3)
3	6	2	2		Mobile home serviceman (2)

OE Code 01.0100 - Agricultural Production

1	5	2	2	Delivery boy(3)	Cabinet maker (2)
2	2	1	2	Laborer (1)	Military Serv.(3)
3	1	1	3	Slubber Tech.(3)	Caretaker (3)
4	4	1	2	Inspector/Supply Man (3)	
5	1	3	2	Service station employee (3)	Service Station employee (3)
6	2	0	2	Livestock market helper (2)	
7	3	3	2	Tree planter (3)	
8	0	1	2	Apprentice Electrician (3)	

OE Code 01.0101 - Livestock Production

1	1	0	2	Farmer (2)	
2	1	2	2	Farmer (2)	Farmer (2)
3	5	0	2	Salesman (3)	
4	1	1	2	Store Mgr.(3)	
5	1	2	3	Site Reserve crewman (3)	Planer Oper.(3)
6	0	2	1		Truck driver(3)
7	1	1	2	Hand cutter(3)	Bundle boy (3)
8	2	1	2	Furniture deliverer(2)	Eqpt. Oper. (2)
9	4	2	3	Maint. Man (2)	
10	1	2	2	Bill runner (3)	Skilled worker(2)
11	1	1	1	Orderly (3)	Orderly (3)
12	1	1	3	Boxcar loader(3)	
13	1	1	1	Male Attendent (hosp.) (3)	
14	1	2	3	Millwright helper (2)	Stacker Oper.(3)

(continued)

OE Code 01.0101 - Livestock Production (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
15	1	3	3	Construction worker (2)	Metal Hanger (3)
16	1	1	1	Bandsaw Oper.(2)	
17	1	1	2	Bagger	
18	0	1	3	Materials Handler (3)	
19	6	0	2	Cattle feeder(1)	Cattle feeder(1)
20	1	1	2	Maintenance(3)	
21	0	0	2		Pine Straw
22	1	1	3	Farm worker(1)	
23	5	1	3	Farmer (1)	
24	5	1	1	Feedmill worker (2)	Carpenter helper (3)
25	0	1	3	Nursery worker(1)	
26	1	1	3	Machine Oper.(2)	
27	0	1	1	General laborer (1)	General laborer (2)
28	0	1	2	Bull block helper (1)	Deliver and Maint. (2)
29	1	1	3	Knitting Machine Oper. (3)	
30	1	2	3	Dairy worker (1)	Trailer Construction(3)
31	0	2	3	Furnace tender(1)	Gen. laborer(3)
32	1	1	3	Textile Stockman (3)	
33	0	0	3		Garment worker (2)
34	1	1	3	Pipe bender (3)	Pipe bender (2)
35	4	2	3	Auto Muffler Constructor (2)	Grain Barge loader (1)
36	1	2	2	Laborer (2)	Elevator Mech. helper (2)
37	5	0	1	Stock boy (3)	
38	1	3	2	Ass't. Foreman(2)	
39	5	1	2	Kitchen helper(3)	Assistant (2)
40	1	2	2	Pulpwooder (3)	Weaver (3)
41	1	1	3	Moulder (3)	
42	1	1	[illegible]	Welder (2)	
43	1	1	[illegible]	Roofer helper(2)	
44	0	5	2		Carpenter helper (3)
45	1	1	3	Livestock farming (1)	
46	6	1	2	Farmer (3)	
47	5	1	3	Farm Super. (2)	Laborer (2)

(continued)

OE Code 01.0101 - Livestock Production (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
48	1	2	1	Cover stacker(3)	Asst. Warehouse Manager (3)
49	1	1	2	Knee Patcher (3)	
50	1	2	2	Mechanic (3)	Assemblyman (3)
51	5	0	2	Farm Manager (1)	Farm Manager (1)
52	1	1	2	Groc. Selector(2)	
53	5	1	2	Stockman (2)	
54	1	2	3	Farrier (1)	
55	1	1	2	Salesman (1)	
56	4	2	3	Farmer (2)	Vet. Asst. (2)
57	2	0	2	Farmer (1)	
58	1	2	1	Welder (2)	Forklift Oper.(3)
59	4	1	2	Greeler (3)	Produce Man (2)

OE Code 01.0102 - Crop Production

1	1	1	3	Farmer (1)	
2	1	2	1	Road Equip. Oper. (2)	Garment Worker (3)
3	1	1	1	Bakery Worker(1)	
4	1	1	3	Laborer (2)	Laborer (2)
5	1	1	3	Gen. Farmer (1)	Gen. Farmer (1)
6	1	2	3	Grinder (3)	Farmer (2)
7	5	1	3	Farmer (1)	
8	1	1	3	Farmer (1)	
9	6	1	2	Cement Finisher helper (2)	
10	3	0	2	Farmer (1)	

OE Code 01.0105 - General Farming

1	4	1	3	Farmer (1)	
2	6	1	3		Laborer (1)
3	1	0	2	Degreaser (3)	
4	0	1	2	Furniture Maker (1)	Grease Monkey (3)
5	5	0	2	Bus Driver (3)	
6	3	1	2	Tree Planter(2)	
7	1	1	3	Furniture Assembler (1)	
8	0	2	2		Laborer (3)
9	5	0	1	Maint. Man (3)	
10	0	1	3		Gen. Farming

(continued)

OE Code 01.0105 - General Farming (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
11	4	1	3	Laborer (1)	
12	1	1	3	Farmer (1)	Farmer (1)
13	1	2	2	Gen. helper(2)	Warehouse helper (2)
14	3	1	2	Farmer (1)	Laborer (3)
15	1	0	2	Insulator Asst. (3)	Factory Gen. worker (3)
16	0	2	3	Railroad Gen. helper (1)	Welder helper (1)
17	4	1	3	Construction helper (1)	
18	1	1	3	Farm hand (1)	Truck driver (2)
19	4	1	2	Maint. man (3)	
20	0	0	2	Farm hand (2)	
21	1	1	2	Grocery stock clerk (2)	
22	1	3	2	Garment worker (3)	Textile worker (3)
23	4	1	2	Farmer (1)	
24	0	3	2		Receiving clerk (3)
25	1	1	1	Farmer (2)	
26	1	1	3	Service Station Attend. (3)	Farm hand (2)
27	1	1	3	Skidder Oper.(2)	
28	1	1	3	Farmer (1)	
29	1	1	3	Dairy farm worker (2)	
30	1	1	3	Farmer (1)	
31	5	1	2	Auto parts clerk (3)	
32	0	1	2	Foundry core helper (3)	
33	4	1	2	Elec. Appren.(3)	Elec. Appren.(3)
34	1	1	3	Farm Tractor driver (1)	
35	1	1	3	Sliding Gate Oper. (1)	
36	4	1	3	Dairy Farmer(1)	
37	1	1	1	Plumber (3)	
38	1	1	3	Farmer (1)	
39	1	2	3	Herdsman (1)	Military (3)
40	1	1	2	Farmer (2)	
41	1	1	3	Farmer (2)	
42	1	1	3	Farmer (1)	
43	1	1	3	Farmer (1)	

OE Code 01.0200 - Agricultural Supplies & Services

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
1	1	1	2	Stockroom Supervisor (2)	Sack boy (3)
2	4	1	3	Salesman (1)	
3	1	2	2	Gas pumper (2)	Welder (2)
4	1	1	2	Lot man (3)	
5	1	2	3	App. Welder(1)	App. Welder (2)
6	1	1	1	Helper (2)	
7	5	1	3	Bookkeeper (3)	Bookkeeper (1)
8	1	1	2	Pork Worker(3)	Park Worker (3)
9	1	1	3	Lineman (3)	
10	1	2	3	Contractor laborer (1)	Plumber's helper (1)
11	1	3	3	Auto supplies salesman(1)	Butcher (3)
12	5	1	1	Grocery stockboy (2)	
13	0	1	2	Shipping clerk (1)	Knitter (3)
14	1	1	2	Counterman (3)	Delivery man (1)
15	0	2	3	Laborer (1)	Truck driver (1)
16	1	1	3	Furnace Oper.(3)	
17	1	1	2	Line Serviceman (3)	
18	1	1	2	Sales Clerk (2)	
19	4	1	3	Grocery bag boy (2)	Grocery bag boy (2)
20	1	1	3	Water pump repairman(3)	
21	1	1	2	Ambulance Atten. (3)	

OE Code 01.0300 - Agricultural Mechanics

1	0	1	3	Roofer	
2	1	1	3	Auto Mech. (1)	Auto Mech. (1)
3	6	1	2		County laborer(3)
4	1	1	3	Cutter (3)	
5	1	2	2	Jigg Punch helper (1)	Unload trucks(2)
6	1	1	2	Mech. helper(3)	
7	2	0	2	Laborer (3)	
8	1	2	2	Mail Delivery(3)	Salesman (2)
9	4	1	1	Processing clerk (1)	
10	1	2	2	Driller (2)	Salesman (3)
11	1	3	3	Laborer (1)	Laborer (1)

(continued)

OE Code 01.0300 - Agricultural Mechanics (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
12	5	2	2	Laborer (2)	Carpenter (2)
13	1	2	3	Spinning Room worker (3)	A/C Installer (2)
14	1	1	2	Skidder Oper.(3)	
15	1	1	2	Yarn Twister Oper. (3)	
16	0	2	2		Quilt Trimmer(2)
17	1	1	2	Ride Foreman(2)	Electrician (1)
18	0	2	2		Laborer (2)
19	1	2	1	Cook (3)	Furniture assembler (3)
20	1	1	2	Salesman (2)	
21	1	3	2	Carpenter (3)	Fabrication Machine Oper. (3)
22	1	2	3	Carpenter (1)	Laborer (2)
23	4	2	2	Bus driver (2)	Cabinet setter(3)
24	1	1	2	Logger (2)	
25	1	2	3	Gen. helper in Foundry (2)	Auto Mech. (1)
26	1	2	2	Truck dirver(3)	Plywood grader
27	1	2	3	Construction laborer (2)	Brick mason helper (2)
28	5	1	1	Used car lot helper (2)	
29	1	2	3	Timber Crewman (3)	Log decker (3)
30	1	2	1	Laborer (3)	Laborer (2)
31	0	1	2	Laborer (3)	Boat Service Atten. (3)
32	4	1	2	Orderly (3)	Cook (3)
33	1	1	1	Backhoe Oper.(2)	Backhoe Oper. (2)
34	1	1	2	Tractor Oper.(3)	
35	1	2	3	Tire builder(2)	Equip. oiler (2)
36	1	1	2	Plywood stacker (2)	
37	1	2	3	Stockman (2)	Brick stacker(3)
38	4	1	2	Salesman (1)	
39	5	1	2	Preloader (2)	Clerk (2)
40	0	2	2	Construction worker (2)	Stock boy (3)
41	6	1	1		Construction worker (3)
42	1	3	3	Warehouseman(3)	Painter (3)
43	5	0	2		Janitor (3)
44	1	3	2	Box boy (3)	Receiving man(3)

OE Code 01.0301 - Agricultural Power Mechanics

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Cours	Intent of Employment in Area	Present Job	First Job
1	1	1	2	Clean-up (3)	Clean-up (3)
2	1	1	3	Welder (2)	
3	1	1	2	Sheet metal Mech. (3)	
4	5	1	2	Inventory Spec. (3)	Mechanic (1)
5	1	1	2	Mechanic (3)	
6	1	2	2	Saw Miller (3)	
7	4	1	3	Laborer (3)	
8	4	5	3	Laborer (3)	Laborer (3)
9	1	1	2	Tacker/burner(2)	
10	1	2	2	Pallet maker(3)	Pipe layer(2)
11	5	0	3	Bagboy (3)	
12	0	2	2		Doffer (3)
13	1	2	2	Welder's Appren. (2)	Farm hand (3)
14	1	1	2	Machinist (2)	
15	4	1	3	Inspector/packer (3)	Farm hand (2)
16	0	1	2	Construction worker (2)	Construction worker (2)
17	1	1	2	Body shop helper (2)	Body shop helper (2)
18	1	1	3	Warehouseman(2)	Street cleaner(2)
19	1	1	2	Saw filer (2)	Clean-up (3)
20	1	1	2	Deck hand (3)	
21	1	2	2	Truck driver (3)	Press Oper. (2)
22	2	1	3	Plumber (3)	Mechanic (1)
23	5	2	2	Foundry worker (3)	
24	1	1	1	Rigger (2)	Rigger (2)
25	1	1	3	Die-cut Oper. (2)	
26	1	2	3	Roofer (3)	Packer (3)
27	1	1	2	Textile hand cutter (2)	
28	1	1	3	Ship. Clerk(2)	Laborer (1)
29	1	1	3	Housekeeper(3)	
30	1	1	2	Self-employed(2)	
31	6	1	2	Laborer (2)	
32	5	0	2	Sales clerk (2)	
33	1	3	2	Stock man (3)	Metal cutter (3)
34	1	1	2	Stem buffer (1)	
35	1	2	2	Woodworker (2)	Helper (2)
36	1	1	2	Stock clerk (3)	
37	1	2	2	Farm hand (2)	Lift Oper. (3)
38	1	1	3	Mechanic (2)	

(continued)

OE Code 01.0301 - Agricultural Power Mechanics (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
39	2	2	2	Nursery man(3)	Poultry worker (3)
40	0	4	2	Farm laborer(1)	Construction laborer (3)
41	1	4	2	Truck driver(3)	Poultry farmer (3)
42	1	1	3	Tire Man. Mach. Oper. (3)	Nursing Home orderly (3)
43	1	1	1	Construction worker (3)	
44	1	1	2	Autoparts Counterman (2)	
45	1	2	3	Carpenter helper (2)	Equip. Oper.(2)
46	1	1	2	Tire Man. Mach. Oper. (3)	Auto salesman(2)
47	1	1	2	Farm Equip. salesman (2)	
48	1	1	2	Truck driver(2)	Truck driver(3)
49	1	1	2	Weaver (3)	Weaver (3)
50	1	2	2	Pipe welder (3)	Clothing Ship. clerk (3)
51	1	2	2	Povetry plant maint. (2)	Building Construction helper(2)
52	4	3	2	Auto muffler manu. (3)	Upholsterer (3)
53	1	1	3	Bobbin stripper (2)	Bobbin stripper (2)
54	1	2	3	Mech/truck driver (2)	Doffer (3)
55	1	1	2	Mail clerk (3)	
56	1	1	3	Soft drink salesman(3)	
57	1	1	2	Gen. laborer(1)	
58	1	0	1	Lumber yard worker (3)	Assembly line welder (2)
59	1	2	2	Brick helper(3)	Farmer (3)
60	1	1	1	Pipe fitter(3)	Banquet manager Asst. (3)
61	1	2	3	Grease rack Attend. (2)	Slubber Tender(3)
62	1	1	2	Mechanic (2)	
63	0	2	3		Glazer (3)
64	0	1	3		Packer (2)
65	1	2	3	Grade checker(3)	
66	0	2	1		Electrician (3)
67	0	1	2	Farm hand (1)	Farmer (3)
68	0	2	3		Receiving clerk(3)

(continued)

OE Code 01.0301 - Agricultural Power Mechanics (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
69	1	2	3	Lumber yard chipper (3)	Carpenter (1)
70	4	2	3	Shipping/Receiving clerk(3)	Mechanic (1)
71	1	1	2	Laborer (2)	Service Station Attend. (2)
72	1	1	2	Textile worker(3)	
73	1	1	2	Textile packer(2)	
74	5	1	3	Janitor (3)	Electrician (3)
75	0	0	3	Welder (2)	
76	0	1	3	Lumber stacker(1)	Lumber Stacker(3)
77	1	1	2	Ship. Clerk (2)	Laborer (2)
78	1	1	3	Chain hand (3)	Chain hand (3)
79	1	0	2	Orderly (3)	
80	1	1	3	Mechanic (1)	
81	5	1	1	File Clerk (3)	
82	1	1	1	Dairy Farmer (1)	
83	1	1	2	Utility man (3)	
84	4	2	3	Machine Oper. (2)	Welder (2)
85	1	1	2	Desk Sgt. (3)	
86	1	2	3	Bus driver (1)	
87	1	2	3	Mechanic (2)	Mechanic (2)
88	1	2	3	Laborer (3)	Wire twist Oper. (3)
89	1	1	3	Doffer (2)	Doffer (2)
90	0	1	3	Laborer (1)	
91	1	2	2	Dair Equip. Oper. (2)	Tire changer (2)
92	4	0	3	Yarn pusher(2)	Yarn pusher (2)
93	6	2	3	Jet Mech. (3)	Sewing machine Oper. (3)
94	2	0	2	Chem. Plant Oper. (2)	Mech. helper(1)
95	1	1	2	Bale press Oper. (2)	Bale press Oper. (2)
96	1	1	3	Millwright(1)	Asst. parts manager (1)
97	5	0	2	Doffer (3)	
98	2	1	2	Weaver (3)	
99	4	3	1	Soul saver(3)	Asst. foreman(1)
100	1	1	2	Clerk (3)	
101	0	1	2		Selector (3)
102	1	4	3	Mechanic (2)	Loader (3)
103	3	1	3	Teacher's aid (3)	
104	1	1	3	Mach. Oper.(2)	Mach. Oper. (2)
105	1	2	2	Lumber grader(2)	Laborer (3)
106	1	3	2	Truck unloader(3)	Laborer (2)

OE Code 01.0305 - General Agribusiness Mechanics

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
1	1	2	3	Parts delivery (2)	Mechanic/Saw Sales (2)
2	1	3	3	Prep. man (2)	Construction helper (1)
3	1	1	2	Mach. helper(2)	
4	2	1	3	Mechanic (1)	
5	1	1	3	Welder (2)	
6	0	1	2	Machinist (2)	
7	0	1	3	Run card machine (1)	
8	1	2	2	Welder (2)	
9	1	3	1	Warehouse Manager (3)	Door maker (2)
10	1	1	1	Frozen food manager (3)	Bag boy (3)
11	1	4	1	Tractor driver (1)	Asst. Clerk(2)
12	1	1	3	Parts Sales/ Mech. (1)	
13	5	2	2	Body man (2)	Elevator Repairman (2)
14	4	3	3	Assembly man(2)	Mach. Oper. (2)
15	1	1	1	Dragline oiler (2)	Truck loader (3)
16	1	1	2	Giblet chiller (2)	
17	1	1	1	Lathe Oper.(3)	
18	1	1	1	Supervisor (3)	
19	4	2	3	Mechanic (2)	Loader (3)
20	1	1	3	Diesel Mech.(1)	
21	1	1	2	Dust feeder(2)	
22	6	1	1	Military Ser.(3)	Laborer (2)
23	1	0	1	Stock Mgr. (3)	
24	1	1	2	Service Station Atten. (3)	
25	1	1	2	Rodman (2)	Furniture deliverer (3)
26	1	1	2	Construction worker (2)	
27	1	1	2	Elevator (3)	
28	1	3	2	Loom cleaner(2)	Spinning doffer(2)
29	2	2	2	Press Oper. (3)	Laborer (2)
30	1	0	2	Utility man(3)	
31	2	3	1	Operator (3)	Owner (2)
32	5	1	2	Pool hall Atten. (1)	Pool hall Atten. (2)
33	1	1	2	Sander (2)	

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OE Code 01.0305 - General Agribusiness Mechanics (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
34	1	2	3	Carpenter (2)	Foreman Asst.(1)
35	1	2	2	Welder (2)	Cashier (2)
36	1	1	1		Hosp. Atten.(3)
37	1	1	2	Gen. laborer(2)	Laborer (2)
38	1	1	2	Butcher (2)	
39	1	1	2	Printer (2)	
40	1	2	2	Bundle clerk(3)	Radio Oper. (3)
41	1	2	2	Mill Oper. (2)	Mach. Oper. (2)
42	0	2	2	Construction worker (1)	Laborer (3)
43	0	2	2		Laborer (3)
44	1	2	3	Carpenter (2)	Helper (2)
45	1	3	2	Stock man (2)	Supply man (3)
46	1	3	3	Heavy Equipment Oper. (2)	Helper (3)
47	1	1	2	Painter/sander (3)	Builder (2)
48	6	1	2	Farmer (2)	
49	4	2	3	Military (2)	Cutting Table Oper. (3)
50	1	2	2	Dock checker(2)	Dock checker (2)
51	1	1	2	Mechanic (2)	
52	1	1	2	Laborer (2)	Mech. (2)
53	1	1	2	Mechanic (2)	
54	1	1	2	Card hand (2)	Laborer (2)
55	0	1	3		Welder's helper(3)
56	1	1	2	Asst. Mgr.(2)	
57	1	3	2	Auto body repairman(3)	Trainee (1)
58	1	1	3	Farmer (2)	
59	1	1	2	Butcher (2)	Butcher (2)
60	1	2	3	Construction worker (3)	Truck driver(2)
61	5	0	1	Maint. man (2)	
62	1	1	2	Construction eng. asst.(3)	
63	6	1	2	Truck unloader (1)	
64	1	1	3	Weigh master(3)	
65	1	2	3	Auto Mech. (1)	Military (1)
66	1	2	2	Welder (1)	Painter (2)
67	1	2	2	Truck driver(3)	Truck driver (3)
68	0	1	1		Laborer (2)
69	1	1	2	Fork lift Oper. (3)	Fork lift Oper. (3)
70	1	1	3	Sewing Mach. repairman(2)	
71	1	3	3	Laborer (3)	Laborer (3)

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OE Code 01.0305 - General Agribusiness Mechanics (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
72	0	1	2	Combine Oper. (2)	Farmer (2)
73	5	0	2	Truck Maint. (2)	
74	4	1	1	Grocery clerk(2)	Store Clerk (3)
75	1	1	3	Polyline Oper.(3)	Grocery clerk(3)
76	4	2	1	Appren. Elect.(2)	Doffer (2)
77	5	1	1	Bus driver (3)	Grocery bagger(3)
78	1	2	2	Electrician(2)	Textile worker(2)
79	1	1	1	General repairman (3)	
80	0	1	2	Metal casting worker (3)	
81	1	3	2	Laborer (2)	Laborer (2)
82	4	5	3	Stockroom clerk (3)	Electrician helper (3)
83	1	1	2	Culvert maker(1)	
84	1	5	3	Oiler (1)	Grocery bag boy(3)
85	1	1	3	Coal handler(3)	Coal handler (3)
86	1	1	2	Driver (3)	

OE Code 01.0306 - Building Construction & Maintenance

1	1	2	2	Warehouseman(3)	
2	1	1	2	Farmer (3)	
3	6	1	3	Military (1)	
4	1	2	3	Carpenter (1)	Construction (2)
5	1	1	2	Construction(1)	Laborer (2)
6	1	5	3	Carpenter's helper (1)	Dog Exerciser(3)
7	1	3	2	Farm laborer(3)	
8	1	1	2	Truck driver(2)	
9	1	1	3	Saw Oper. (2)	Carpenter (1)
10	1	1	3	Mach. Oper.(3)	
11	1	2	1	Draftsman(1)	Laborer (2)
12	1	2	2	Builder (2)	
13	1	3	2	Grocery clerk(2)	Grocery clerk (3)
14	1	3	2	Saw mill worker (2)	Well drilling Oper. (2)
15	1	1	2	Plywood mill worker (2)	Plywood mill worker (3)
16	1	2	3	Structural steel worker (2)	Feed mill worker (2)
17	1	2	2	Steel mill worker (2)	Bldg. Construction helper (3)
18	1	1	2	Roustabout (2)	

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OE Code 01.0306 - Building Construction & Maintenance (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
19	4	1	2	Planer Mill man	
20	1	1	3	Carpenter's helper (1)	
21	1	3	3	Drug store clerk (3)	Carpenter's Helper (1)
22	1	2	1	Green House worker (2)	Box shipper (2)
23	1	2	2	Mach. Oper. (3)	Laborer (3)
24	1	1	1	Textile worker (3)	
25	1	3	3	Brick mason Appren. (2)	Brick mason Appren. (2)
26	1	1	2	Ship. clerk (3)	
27	6	1	2	Grocery clerk(2)	
28	1	1	2	Ser. Sta. Mgr.(3)	
29	6	1	2	Farmer (2)	Farm hand (2)
30	0	1	2	Asst. Mgr. (1)	
31	0	1	2		Lifeguard (3)
32	2	1	1	Salesman (3)	
33	1	1	2	Doffer (3)	
34	0	1	2	Laborer (2)	
35	1	1	1	Shirt Factory packer (3)	Janitor (3)
36	1	2	1	Carpenter (1)	Scale oper. (3)
37	1	2	3	Carpenter's helper (1)	
38	1	1	3	Warp man (3)	
39	1	1	2	Utility man(3)	Utility man (3)
40	1	3	3	Stock boy (2)	Stock boy (3)
41	1	2	2		Packer (3)
42	1	1	3	Survey rodman(2)	Survey rodman (2)
43	1	1	2	Parts clerk (3)	Mechanic (3)
44	1	3	2	Pipefitter (2)	Welder (2)
45	1	4	1	Farm hand (3)	Carpenter's helper (3)
46	6	1	3	Saw mill worker (1)	
47	5	0	3	Sheet metal worker (2)	

Code 01.0307 - Agribusiness Electricity

1	1	2	2	Kitchen worker(3)	Janitor (3)
2	1	2	1	Tree planter (1)	Truck washer (3)
3	1	1	3	Laborer (3)	Laborer (1)
4	4	2	3	Brushhook Oper.	

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OE Code 01.0307 - Agribusiness Electeicity (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
5	1	1	2	Spot welder (2)	
6	1	1	1	Highway laborer(1)	
7	1	1	3	Beam installer(2)	
8	1	1	3	Farmer (3)	Elec. helper(3)
9	5	1	2	Skidder Oper.(3)	Press Oper.(3)
10	6	1	2	Laborer (1)	
11	4	2	2	Butcher (1)	Card Tender (3)
12	1	1	3	Laborer (3)	Asst. foreman(3)
13	1	1	2	Gen. Maint.(2)	
14	4	2	2	Millwright (2)	Swamper (2)
15	2	0	3	Furn. Assembler (3)	Farmer (2)
16	1	0	-	Lumberyard worker (3)	Bag boy (3)
17	1	0	3	Weaving & Yarn man (2)	
18	5	1	2	Vet. Asst. (3)	
19	0	2	3	Laborer (1)	
20	1	1	3	Hosp. orderly(3)	Laborer (2)
21	1	1	3	Prod. equip. Oper. (2)	
22	1	1	3	Woodyard laborer (3)	Textile beamer (3)
23	5	1	2	Sales clerk (3)	Stock boy (3)
24	1	1	2	Truck driver (3)	
25	4	1	3	Welder (1)	
26	1	1	2	Textile worker (3)	Laborer (3)
27	6	0	2	Metal molding worker (3)	Hosp. orderly(3)
28	1	1	2	Plastic pipe packer (3)	
29	0	1	2	Textile packer (1)	
30	0	1	1		Truck driver (3)
31	1	1	2	Metal grinder and packer(2)	Sawer (2)
32	1	2	3	Survey crew axeman (3)	Grocery clerk(3)
33	1	1	1	Cloth cutter(3)	Sewer (3)
34	1	1	3	Laborer (1)	
35	1	1	3	Survey rodman (3)	
36	0	1	2		Cloth cutter (3)
37	1	1	1	Laborer (2)	
38	1	2	2	Formulator (3)	Loader Oper. (3)
39	1	1	2		Glass packer (2)
40	6	2	2	Night watchman(2)	Facilities Maint. (3)

(continued)

OE Code 01.0307 - Agribusiness Electricity (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
41	6	2	2		Truck driver (3)
42	0	1	2		Laborer (2)
43	1	1	2	Mach. Oper. (3)	Mach. Oper. (2)
44	1	2	1	Janitor (3)	Cook (3)
45	1	1	3	Elec. helper(1)	
46	1	1	3	Electrician(2)	
47	5	0	2	Cashier (3)	
48	5	1	2	Bellman (3)	Laborer (2)
49	1	3	3	Felt racker (2)	Asst. Mgr. (3)
50	1	1	1	Shipper (3)	
51	1	1	2	Meat cutter (3)	
52	1	1	1	Asst. Toy Dept. manager (3)	
53	1	1	2	Fence erector(3)	
54	5	1	3	Stock man (2)	Stock man (2)

OE Code 01.0308 - Agribusiness Metalworking

1	1	1	3	Laborer (1)	
2	0	0	2		Truck driver (1)
3	1	2	3	Shipping/ receiving(1)	Welder (2)
4	1	1	2	Welder (1)	
5	1	2	2	Press helper(2)	Clean-up (1)
6	1	1	3	Weaver (3)	
7	1	1	2	Doffer (3)	
8	1	1	3	"B" helper (3)	
9	2	0	3	Furn. helper(3)	Military (3)
10	1	1	3	Heavy Equip. oper. (3)	
11	1	1	1	Mech. helper(3)	
12	1	1	2	Farmer (2)	
13	1	2	3	Gen. laborer(2)	Salesman (3)
14	0	1	3	Welder (1)	
15	1	2	2	Mach. Oper. (1)	Door maker (2)
16	1	3	2	Utility man (3)	Cement finisher(3)
17	4	3	2	Grocery bagger (3)	Gen. laborer(3)
18	4	2	1	Appren. (3)	Newspaper clerk(3)
19	1	1	2	Farm	Farmer (3)
20	1	3	2	House painter(2)	Warehouseman(3)
21	4	1	3	Mech. helper(2)	
22	1	1	2	Partsman(2)	
23	0	2	2	Construction worker (1)	Top builder (2)
24	1	3	1	Trainee (3)	Helper (3)

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OE Code 01.0308 - Agribusiness Metalworking (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
25	1	1	3	Sani. worker(3)	Sani. worker (3)
26	1	2	3	Pipe welder(1)	Welder helper(2)
27	6	1	3	Steel Construction Super.(1)	
28	1	1	2	Animal Spec. (2)	
29	1	1	2	Dairy Farm worker (3)	Dairy Farm worker (3)
30	5	0	2	Drug store clerk (3)	Campground Maint. (3)
31	1	2	2	Construction worker (3)	Mechanic (3)
32	4	3	2	Grocery store helper (3)	Gen. laborer, Warehouse(3)
33	1	1	3	Millwright helper (2)	
34	0	3	3	Welder (1)	Iron worker (2)
35	1	1	3	Package boy (3)	
36	1	1	2	Ply doffer (3)	Sheet metal worker (2)
37	1	1	3	Construction helper (2)	Cook (3)
38	1	1	3	Welder (1)	
39	1	2	2	Shipping clerk (3)	Doffer (3)
40	1	1	2	Truck driver(3)	
41	1	2	2	Decorator (2)	Painter (2)
42	0	0	3	Doffer (3)	Doffer (3)
43	3	1	2	Heavy Equip. Oper. (3)	
44	1	1	3	Appren. Tinsmith (1)	
45	1	2	3	Salesman (2)	Dye pot Oper. (3)
46	1	1	2	Serv. Station Atten. (3)	Serv. Station Atten. (3)
47	1	5	2	Carpenter (1)	Light Equip.Oper.(1)
48	1	2	2	Prod. Equip. Oper. (2)	Auto. Repair. (2)
49	1	2	2	Medical aide(2)	Furn. Inspec. (2)
50	1	1	3	Welder (1)	
51	1	2	2	Roofing helper (3)	
52	1	2	3	Welder (1)	
53	1	1	2	Road/street repairs (2)	
54	1	1	1	Prod. scaler(2)	
55	1	1	2	Knitting Mach. mech. (2)	
56	1	1	2	Doffer (3)	
57	1	0	3	Repair shop mgr.	

(continued)

OE Code 01.0308 - Agribusiness Metalworking (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
58	1	2	2	Laborer (3)	Laborer (2)
59	1	0	3	Metal molder(1)	Textile slubber(2)
60	2	1	2	Farming (2)	
61	1	2	2	Textile worker (3)	Talc bagger (3)
62	5	1	2	Grocery bagger (3)	
63	2	0	1	Bus driver (3)	Bus driver (3)
64	6	1	2		Sheet metal Oper. (1)
65	1	1	3	Drydock helper (3)	
66	1	4	2	Psychiatric aide (3)	Insulation installer(2)
67	4	3	3	Logger (3)	
68	3	2	2	Asst. Mgr.(3)	Store room clerk(3)
69	1	1	2	Farm driver (2)	
70	1	1	2	Winder fixer(2)	
71	1	2	3	Layout man(2)	Welder (3)
72	1	2	3	Floor builder(3)	Hyd. Oper. (3)
73	1	2	2	Pipe layer (3)	Fork lift Oper.(3)
74	1	1	2	Equip. Oper.(2)	Truck driver (3)
75	1	1	2	Laborer (3)	
76	1	4	2	Maint. man (2)	Mechanic (2)
77	1	1	2	Laborer (1)	
78	1	1	1	Farmer (2)	
79	0	3	2		Utility man(3)
80	0	2	3	Welder (2)	
81	5	1	1	Service Station Mgr. (2)	Construction worker (1)

OE Code 01.0309 - Agribusiness Woodworking

1	1	3	2	Bucket Oper.(2)	Machinist (2)
2	1	2	2	Weighman (3)	Wire boxer (3)
3	1	1	2	Skid driver(2)	Stock boy (2)
4	0	2	2		Laborer (3)
5	0	1	3	Cement Mason's helper (2)	
6	1	1	3	Tow Motor Oper. (3)	
7	1	1	2	Warehouseman(3)	
8	1	1	3	Janitor (3)	
9	1	1	2	Backhoe trainee (2)	
10	1	1	3	Construction worker (1)	

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(continued)

OE Code 01.0309 - Agribusiness Woodworking (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
11	4	1	2	Stock clerk (3)	
12	1	2	2	Dept. store salesman(3)	Noturary helper(2)
13	0	2	3		Tire changer(3)
14	1	1	1	Hosp. orderly(3)	
15	4	1	2	Dairy farmer(2)	
16	0	1	2		Pipefitter (2)
17	4	1	2	Grocery clerk(3)	
18	5	0	2	Gen. Labor (2)	Gen. labor (3)
19	1	1	2	Warehouseman	
20	5	2	1	Mechanic (2)	Tractor driver(1)
21	5	0	1	Cashier (3)	
22	0	1	1	Janitor (2)	Janitor (2)
23	4	0	1	Woodworker(3)	Woodworker (2)
24	4	2	1	Construction man (1)	Pipefitter (2)
25	5	0	2	Printer (2)	
26	1	1	2	Yarn man (3)	Dish washer (3)
27	6	1	2	Finisher (3)	
28	0	1	1	Sports adviser (1)	
29	4	1	1	Janitor (3)	
30	1	1	3	Sports camper construc.(2)	
31	4	1	2	Jailer (2)	Jailer (2)
32	0	1	2	Carpenter's helper (1)	
33	1	2	1	C.T. tender(3)	Stocker (3)
34	1	1	3	Night stocker(2)	Errand boy (2)
35	1	2	3	Tire builder(3)	Carpenter (2)
36	0	2	2		Tree trimmer (3)
37	4	1	2	Welder (2)	
38	1	1	1	Mechanic (3)	
39	0	0	1		Text. worker(3)

OE Code 01.0310 - Agribusiness Masonry

1	1	1	2	Mechanic (3)	
2	1	1	2	Carpenter (3)	
3	1	1	3	Tile setter(2)	
4	5	1	3		Forklift Oper.(3)
5	2	1	2	Wood hooker(3)	Clean-up (3)
6	1	1	3	Mason (1)	
7	2	1	3	Truck driver(2)	Lumbermill worker (2)
8	1	2	3	Bag plant pressman (3)	Doffer (3)

(continued)

OE Code 01.0310 - Agribusiness Masonry (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
9	5	2	2	Laborer (3)	Laborer (2)
10	1	1	3	Welder (1)	Welder (1)
11	1	1	3	Brick layer (1)	
12	1	3	2	Body man (1)	Painter's helper (1)
13	4	1	2	Text. worker(1)	Text. worker (3)
14	1	1	2	Brick mason (1)	
15	1	4	3	Concrete worker (2)	Text. worker (3)
16	1	1	2	Mech. helper(2)	Mech. helper (2)
17	1	2	2	Brass Insp. (3)	Plumber (3)
18	1	1	3	Text. worker (3)	
19	0	2	2		Mason's helper(1)
20	4	1	2	Spreader (3)	
21	1	1	3		Laborer (3)

OE Code 01.0399 - Agricultural Mechanics, Other

1	1	1	1	Slashing helper (3)	

OE Code 01.0400 - Agricultural Products

1	1	2	1	Elec. helper(3)	Produce man (2)
2	1	1	3	Farmer (1)	
3	4	1	1	E.A.J. (2)	Produce man (1)
4	1	2	2	Linesman (3)	
5	1	3	3	Farm hand (1)	
6	2	2	2	Service Station Atten. (3)	Meat cutter (2)
7	1	1	2	Grocery stock clerk (2)	
8	2	1	2	Grocery stock clerk (2)	
9	2	0	3	Grocery clerk(1)	
10	1	1	2	Supply clerk(2)	Laborer (2)

OE Code 01.0500 - Horticulture

1	1	2	3	Asst. stock mgr. (3)	Ice delivery (3)
2	0	0	1		Greenhouse worker (3)

(continued)

OE Code 01.0500 - Horticulture (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
3	1	0	3	Foral designer(1)	
4	1	2	3	Moulder helper(3)	Elec. helper (3)
5	1	1	3	Roofer (3)	
6	1	2	2	Parts Dis. (3)	Warehouseman (3)
7	1	2	2	Mechanic (3)	
8	1	2	2	Painter (3)	Carpenter (3)
9	4	2	2	Gen. Nursery work (1)	
10	1	1	1	Self-employed(3)	
11	1	1	3	Clerk (3)	Seamstress (3)
12	1	1	3	Sales clerk/ cashier (3)	
13	1	1	2	Nursery worker (1)	
14	5	1	1	Asst. foreman(3)	Laborer (3)
15	1	1	1	Stockkeeper (3)	
16	4	2	2	Rodman (2)	Parts trainee(2)
17	1	1	1	Janitor (3)	
18	1	3	2	Picker room Oper. (2)	Laborer (2)
19	1	1	1	Plater (3)	
20	1	1	1	Process finisher (2)	Carpenter (2)
21	6	1	3	Farm hand (2)	
22	4	2	1	Carp. Asst.(1)	Sack boy (2)
23	1	2	2	Mach. Oper.(3)	Delivery man(2)
24	1	2	2	Spreader (3)	Trainee (3)
25	2	0	2	Gift wrapper(3)	
26	4	1	2	Clerk/typist(3)	Clerk (3)
27	5	0	1	Interviewer (3)	
28	5	1	1	Public Relations Asst. (3)	
29	6	1	1		Construction worker (3)
30	1	1	2	Cashier (2)	
31	1	2	1	Busboy (3)	Mach. Oper.(2)
32	5	0	2	Ins. poster(3)	
33	1	2	2	Seamstress (3)	
34	0	0	2		Saleslady (3)
35	1	1	3	Mach. Oper.(3)	Waitress (3)
36	6	1	1	Sewing factory inspec. (1)	
37	0	2	1	Mail handler(3)	
38	2	0	1	Cotton comp. helper (3)	Kitchen helper(3)
39	4	1	1	Sewing factory bander (3)	
40	6	1	2		Waitress

(continued)

OE Code 01.0500 - Horticulture (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
41	0	1	1	Animal keeper(1)	Animal keeper (2)
42	0	0	3		Stock boy (3)
43	0	1	2	Construction helper (1)	
44	5	1	2	Bagboy (3)	
45	1	2	3	Screen printing Oper. (3)	Gen. helper - floral shop(1)
46	5	0	2	Grocery clerk(3)	
47	3	0	2	Maint. man(3)	Paper carrier(3)
48	1	2	2	Greenhouse asst. (1)	Park aide (3)
49	4	1	3	Mach. Oper.(3)	Grounds keeper(3)
50	4	1	3	Nursery field foreman(1)	Stock clerk (1)
51	4	1	3	Jet Mech. (3)	Nursery laborer(3)
52	1	1	2	Nurs. salesman (1)	
53	1	2	2	Garment rack girl (3)	Quilting machine Oper. (3)
54	1	1	1	Delivery man(3)	Painter (3)
55	1	1	2	Lineman (2)	
56	6	2	2	Papermill cleaning crew (3)	Papermill cleaning crew (3)
57	6	1	2	Grocery clerk(1)	
58	1	1	3	Forklift Oper. (3)	Laborer (3)
59	1	1	2	Water works helper (3)	
60	5	0	1	Nursery salesman (2)	

OE Code 01.0600 - Agricultural Resources

1	1	1	3	Bundle boy (3)	Box builder (2)
2	5	3	2	Laborer (2)	Bag man (2)
3	5	0	2	Asst. parts salesman(2)	
4	1	2	1	Telephone installer(3)	Brick mason (2)
5	5	0	2	Laborer (2)	
6	5	0	2	Tree planter(2)	Tree planter (1)
7	5	1	2	Carpenter's helper (2)	Laborer (2)
8	1	4	1	Service Station Atten. (3)	Boat rigger (1)

(continued)

OE Code 01.0600 - Agricultural Resources (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
9	0	2	2		Woodwork assembler (2)
10	1	1	2	Mech. helper(3)	
11	1	1	2	Production Equip. oper. (2)	
12	1	4	3	Laborer (2)	Laborer (2)
13	1	1	2	Turbo Oper. (3)	

OE Code 01.0700 - Forestry

1	2	0	2	Forest worker(1)	
2	1	1	1	Welder (3)	Toymaker (3)
3	1	2	2	Mach. helper(3)	
4	5	1	1	Sparehand (3)	
5	1	1	3	Procurement Asst. (1)	
6	1	1	3	Logger (2)	
7	1	2	2	Asst. Mgr. (2)	
8	4	4	3	Fireman (3)	Pulpwood laborer (1)
9	1	1	2	Gen. helper(3)	
10	3	0	3	Farming (3)	
11	1	1	3	Timber marker(2)	Timber marker (3)
12	1	1	1	Stockboy (3)	
13	6	1	3	Ag. construction worker (3)	
14	0	3	2		Janitor (3)
15	1	1	2	Dock hand (3)	Laborer (2)
16	6	2	2		Grocery sacker(2)
17	1	0	2	Auto parts clerk (2)	Carpenter (3)
18	2	0	1	Meat cutter (1)	Bag boy (2)
19	1	2	2	Chem. reactor oper. (3)	
20	5	0	3	Upholstery appren. (3)	Upholstery appren. (3)
21	1	1	3	Text. oper.(3)	
22	1	1	3	Asst. forestry foreman (1)	
23	4	3	2	Admin. Asst.(3)	Gen. laborer (1)
24	6	1	2	Job hand (3)	
25	5	0	2	Salesman (2)	
26	1	1	2	Shop hand (2)	

OE Code 01.9900 - Pre-Professional Agriculture

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
1	5	1	3	Worker (3)	Worker (1)
2	5	1	2	Tractor driver (2)	
3	1	1	2	Helper (3)	
4	5	1	3	Laborer (2)	
5	5	0	1	Orderly (3)	
6	0	3	1		Surveyor (3)
7	5	0	1	Asst. Computer Oper. (3)	Asst. - Hatchery (1)
8	4	2	1	Stock boy (2)	Iron work helper (1)
9	3	0	2	Janitor (3)	
10	1	3	2	Rotoblast Belt Oper. (3)	Stock clerk (3)
11	4	1	2	Cook (3)	Service Station Atten. (3)
12	0	1	2	Wire man (1)	
13	5	1	3	Handyman (3)	Survey helper(1)
14	5	1	3	Cow milker(3)	
15	6	0	2	Appren. painter (2)	
16	5	0	3	Fork lift Oper. (3)	Bus driver (3)
17	5	0	2	Student nurse (3)	Stock boy (3)
18	1	2	2	Beam installer (2)	Chipper (2)
19	1	1	2	Wall cabinet assembler(1)	
20	1	2	2	Pressman's helper (3)	Clean-up boy(3)
21	1	1	2	Receiv. clerk (2)	
22	1	1	2	Tender (3)	
23	5	0	3	Pet caretaker (1)	
24	1	1	3	Iron worker(2)	
25	0	2	2		Salesman (1)
26	1	2	2	Parts Mgr.(3)	Eng. Asst. (3)
27	5	1	3	Construction worker (2)	
28	1	4	3	Bricklayer Asst. (1)	Weaver (2)
29	4	1	2	Farmer (2)	
30	1	1	2	Slubber Oper.(2)	
31	1	1	2	Bundle boy (3)	
32	1	1	2	Grocery stock clerk (2)	
33	6	0	2	Carpenter Asst. (1)	

(continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
34	5	0	3	College bookstore salesman (3)	
35	4	1	3	Carpenter (2)	
36	0	1	3		Railroad switchman (3)
37	4	1	3	Drugstore clerk (2)	
38	1	3	2	Garment worker (2)	Lumber worker (2)
39	0	1	2	Bull block helper (3)	
40	5	0	3	Grocery stock boy (3)	
41	4	1	3	Warp checker(2)	
42	1	1	3	Laborer (2)	
43	0	0	2	Laborer (2)	
44	1	1	2	Salesman (2)	
45	1	2	2	Shoe store manager (3)	Mach. Oper. (3)
46	2	1	2	Delivery/ Maint.man(3)	
47	5	0	3	Sack boy (1)	
48	5	2	1	Press. Oper.(2)	Psychiatric aide (3)
49	1	0	1	Tree planter(1)	Grocery clerk (3)
50	1	2	2	Prod. Mach. Oper. (2)	Prod. Machine Oper. (2)
51	1	0	3	Grocery stock clerk (2)	
52	5	1	3	Clothing salesman (2)	Vet. Asst. (2)
53	1	1	1	Laborer (2)	
54	6	2	3	Text. packer(1)	Sawmill Oper.(2)
55	4	2	2	Welder (2)	Nurs. aide (2)
56	1	2	2	Text. worker(3)	
57	4	2	2	Welder (2)	Nurs. aide (1)
58	6	1	2	Laborer (3)	
59	4	1	2	Service Station atten. (3)	
60	5	0	1	Salesman (2)	
61	3	1	1	Slubber tender (2)	
62	4	2	3	Bank teller (3)	Machine Oper. (2)
63	4	1	1	Warp/change man (3)	
64	5	1	2	Laborer (2)	
65	1	1	2	Admitting clerk (3)	

(continued)

OE Code 01.9900 - Pre-Professional Agriculture (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
66	5	2	1	Lab Asst. (3)	Floor layer (3)
67	4	1	1	Social worker(3)	Text. worker(3)
68	0	1	2	Text. drawing mach. oper.(1)	
69	5	0	1	Garment folder/ insp. (3)	Cashier (3)
70	4	1	3	Greenhouse worker (2)	
71	5	1	3	Textile insp.(3)	
72	1	3	3	Warehouse stocker (3)	Text. Machine Oper. (3)
73	4	1	1	Police Comm. officer (3)	Tex. worker (3)
74	5	1	1	Cloth Inspec.(3)	
75	1	2	1	Janitor (2)	Laborer (1)
76	2	1	1	Grocery stock clerk (3)	Grocery bag boy(3)
77	1	2	2	Iron fabrication helper (3)	Auto parts delivery man (3)
78	1	1	2	Truck driver (2)	
79	5	1	1	Laborer (2)	Laborer (2)
80	5	0	3	Farmer (1)	
81	1	1	2	Inventory clerk (3)	
82	4	1	2	Mailer (2)	
83	6	2	2		Gas Atten.
84	0	2	2		Laborer (2)
85	1	2	3	Packer (3)	Packer (3)
86	5	0	2	Clerk (2)	
87	0	0	3	Laborer (2)	
88	5	1	3	Laborer (2)	
89	1	1	2	Ship. clerk(3)	Machinist (1)
90	1	1	1	Shakeout man(3)	
91	5	2	3	Roofer (2)	Stockboy (3)

OE Code 99.0101 - Career Guidance

1	1	3	2	Truck loader(3)	Furniture maker (2)
2	1	1	3	Lumber worker(2)	
3	0	2	2		Farm irrigation worker (3)
4	1	3	2	Text. worker(3)	
5	5	0	3	Cook (2)	

(continued)

OE Code 99.0101 - Career Guidance (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
6	5	0	1	Service Station Atten. (3)	
7	5	0	1	Grocery clerk(3)	Gen. laborer(2)
8	1	1	2	Text. winder man (2)	
9	1	1	2	Maint. man (2)	
10	0	1	3		Laborer (2)
11	0	1	2		Meat wrapper (3)
12	1	3	2	Garment worker (3)	Service station Atten. (3)

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ABSTRACT: THIS REPORT RELATES THE FINDINGS OF A STATEWIDE FOLLOWUP SURVEY OF 1973-74 OCCUPATIONAL HOME ECONOMICS OCCUPATIONS TERMINEES FROM THE SECONDARY SCHOOL VOCATIONAL PROGRAMS IN ALABAMA. QUESTIONNAIRES WERE MAILED TO 1,339 STUDENT TERMINEES APPROXIMATELY SEVEN TO EIGHT MONTHS AFTER LEAVING SCHOOL. RETURNS WERE RECEIVED FROM 474 (33.4 PERCENT) HOME ECONOMICS OCCUPATIONS TERMINEES FROM THE INITIAL MAILING AND ONE FOLLOWUP. DATA ARE PRESENTED IN TABLES WITH ACCOMPANYING NARRATIVE SUMMARIES ORGANIZED ACCORDING TO THESE MAJOR SECTIONS: GENERAL INFORMATION ON THE TERMINEES; BASIC INFORMATION RELATED TO THE VOCATIONAL PROGRAM; BASIC EMPLOYMENT INFORMATION; CONTINUING EDUCATION INFORMATION; AND JOB PLACEMENT INFORMATION. PRESENT AND FIRST JOB TITLES OF THE 1973-74 HOME ECONOMICS OCCUPATIONS TERMINEES ARE APPENDED. (NJ)

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Vocational Programs of Alabama

Research and Development Report No. 33

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FOLLOW-UP OF 1973-74 OCCUPATIONAL HOME ECONOMICS
TERMINEES FROM THE SECONDARY SCHOOL
VOCATIONAL PROGRAMS OF ALABAMA

Alabama continues to support one of the most progressive and comprehensive vocational education programs in the nation. In addition to serving youth and adults by training them for gainful and useful employment, the diversification of vocational courses meets a serious job need and contributes to the industrial development in the state.

With the millions of tax dollars being spent on vocational education, it is necessary to attempt to account to the taxpayer and decision-makers on the results of those expenditures. Terminee student follow-up studies constitute one of the most valuable techniques for assessing vocational education system outcomes.

The Alabama State Department of Education, Division of Vocational Education and Community Colleges, recognizing this important phase of accountability and evaluation, initiated the development of a statewide follow-up system for its vocational education program terminees at the secondary school level. The Division, under the direction of Dr. T. L. Faulkner, State Director, contracted with the Occupational Research and Development Unit at Auburn University to Develop and implement the statewide follow-up system for all its secondary vocational terminees in all service areas.

This report relates the findings of the survey instrument mailed to the 1973-74 Occupational Home Economics terminees from the secondary

school vocational programs of Alabama. When the terminees received the questionnaire, most had been out of school seven to eight months.

General Information

Student rosters with names and addresses of 1973-74 Occupational Home Economics terminees were received from 93 secondary school vocational teachers in Alabama. Of the 93 teachers from which student rosters were received, 47 were in Secondary Area Vocational Centers (AVC) and 46 were in programs in schools of other settings. The total of 1,399 student terminees reported to the ORDU were mailed the follow-up forms. Returns were received from 474 (33.9%) of the Occupational Home Economics terminees from the initial mailing and one follow-up. At least one student questionnaire was received from 88 of the 93 teachers.

All terminees reported in this study were in programs administered only by the Division of Home Economics Education, State Department of Education.

Table 1 presents data relative to the total population of Occupational Home Economics terminees and the number of returns categorized by OE codes as reported by teachers.

TABLE 1

DESCRIPTION OF TOTAL POPULATION AND RETURNS BY OE CODE OF 1973-74 OCCUPATIONAL HOME ECONOMICS TERMINEES[A]

OE Code[B]	Occupational Title	Total Number of Students	Percent of Students by OE Code	Number of Returns	Percent of Returns for OE Code Area
07.0303	Nursing Assistance	5	0.4	3	60.0
09.0200	Occupational Preparation	136	9.7	38	27.9
09.0201	Care & Guidance of Children	328	23.4	138	42.1
09.0202	Clothing Management, Production and Services	387	27.7	155	40.1
09.0203	Food Management, Production and Services	331	23.6	100	30.2
09.0205	Institutional & Home Management & Supporting Services	5	0.4	1	20.0
09.0299	Occupational Preparation, Other	179	12.8	30	16.8
14.0702	Secretaries	3	0.2	1	33.3
17.3302	Tailoring	25	1.8	8	32.0
	TOTAL ALL AREAS	1399	100.0	474	33.9

[A]These Occupational Home Economics terminees were terminees in programs administered only under the Divison of Home Economics Education, State Department of Education.

[B]OE Codes as reported by teachers.

Of the 1973-74 Occupational Home Economics terminees reported by the teachers, the largest number in any OE code was in the occupational title area of Clothing Management, Production, and Services. This 387 represented 27.7 percent of the reported Occupational Home Economics terminees. There

were 331 (23.6%) terminees reported in Food Management, Production, and Services; and 328 (23.4%) listed as studying Care and Guidance of Children. The combined enrollments of these three areas was 1046, and this represented 74.8 percent of the total enrollment in the Occupational Home Economics area.

Table 1A is a description of total population and returns by OE Code area, type school, and termination status of the 1973-74 Occupational Home Economics terminees.

TABLE 1A

DESCRIPTION OF TOTAL POPULATION AND RETURNS BY OE CODE AREA, TYPE SCHOOL, AND TERMINATION STATUS OF THE 1973-74 OCCUPATIONAL HOME ECONOMICS TERMINEES

OE Code Area Studied[A]	Occupational Title Study by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
07.0303 Nursing Assistance (Total)		5	3	60.0
	AVC (Total)[B]	0	0	0.0
	Completers[C]	0	0	0.0
	Dropouts[D]	0	0	0.0
	Other Type Schools (Total)	5	3	60.0
	Completers	5	3	60.0
	Dropouts	0	0	0.0
09.0200 Occu. Preparation (Total)		136	38	27.9
	AVC (Total)	35	10	28.6
	Completers	18	8	44.4
	Dropouts	17	2	11.8
	Other Type Schools (Total)	101	28	27.7
	Completers	55	17	30.9
	Dropouts	46	11	23.9

(continued)

TABLE 1A (continued)

OE Code Area Studied[A]	Occupational Title Studied by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
09.0201	Care and Guidance of Children (Total)	328	138	42.1
	AVC (Total)	168	81	48.2
	Completers	133	68	51.1
	Dropouts	35	13	37.1
	Other Type Schools (Total)	160	57	35.6
	Completers	138	53	38.4
	Dropouts	22	4	18.2
09.0202	Clothing Mgmt., Production and Services (Total)	387	155	40.1
	AVC (Total)	259	100	38.6
	Completers	169	74	43.8
	Dropouts	90	26	28.9
	Other Type Schools (Total)	128	55	43.0
	Completers	104	48	46.2
	Dropouts	24	7	29.2
09.0203	Food Mgmt., Production and Services (Total)	331	100	30.2
	AVC (Total)	106	37	34.9
	Completers	61	25	41.0
	Dropouts	45	12	26.7
	Other Type Schools (Total)	225	63	28.0
	Completers	190	57	30.0
	Dropouts	35	6	17.1
09.0205	Institutional & Home Mgmt. and Supporting Serv. (Total)	5	1	20.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	5	1	20.0
	Completers	4	0	0.0
	Dropouts	1	1	100.0

(continued)

TABLE 1A (continued)

OE Code Area Studied[A]	Occupational Title Studied by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
09.0299	Occu. Prep., Other (Total)	179	30	16.8
	AVC (Total)	12	1	8.3
	Completers	0	0	0.0
	Dropouts	12	1	8.3
	Other Type Schools (Total)	167	29	17.4
	Completers	109	19	17.4
	Dropouts	58	10	17.2
14.0702	Secretaries (Total)	3	1	33.3
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	3	1	33.3
	Completers	3	1	33.3
	Dropouts	0	0	0.0
17.3302	Tailoring (Total)	25	8	32.0
	AVC (Total)	25	8	32.0
	Completers	18	7	38.8
	Dropouts	7	1	14.3
	Other Type Schools (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	TOTAL ALL AREAS	1399	474	33.9
	AVC (Total)	605	237	39.2
	Completers	399	182	45.6
	Dropouts	206	55	26.7
	Other Type Schools (Total)	794	237	29.8
	Completers	608	198	32.6
	Dropouts	186	39	21.0

[A]OE Code areas as reported by teachers.
[B]Area Vocational Centers.
[C]Any terminee who left the program by completing or by high school graduation.
[D]Any terminee who the instructor reported as having dropped out of school.

Table 2 illustrates the sex characteristics of those 1973-74 Occupational Home Economics terminees reported by the instructors and those who returned survey forms.

TABLE 2

SEX OF THE 1973-74 OCCUPATIONAL HOME ECONOMICS TERMINEES REPORTED AND BY WHO RETURNED QUESTIONNAIRES

Sex[A]	Reported		Returns	
	Number	Percent	Number	Percent
Male	93	6.7	18	3.8
Female	1236	88.3	438	92.4
Not Known	70	5.0	18	3.8
TOTAL	1399	100.0	474	100.0

[A]Sex as reported by teacher.

Table 3 presents the racial or ethnic characteristics of those 1973-74 Occupational Home Economics terminees reported by instructors and who returned survey forms.

TABLE 3

RACIAL OR ETHNIC CHARACTERISTICS OF THE 1973-74 OCCUPATIONAL HOME ECONOMICS TERMINEES REPORTED AND BY WHO RETURNED QUESTIONNAIRES

Racial or Ethnic Group[A]	Reported		Returns	
	Number	Percent	Number	Percent
American Indian	0	0.0	0	0.0
Black	708	50.6	239	50.4
Oriental	1	0.1	0	0.0
Spanish Surnamed American	1	0.1	1	0.2
White	594	42.4	200	42.2
Other	3	0.2	2	0.4
Not Known	92	6.6	32	6.8
TOTAL	1399	100.0	474	100.0

[A]Racial or Ethnic Group as reported by teacher.

Table 4 illustrates the number and grade level of the 1973-74 Occupational Home Economics terminees reported who dropped out of school during the academic year and by who returned the questionnaire.

TABLE 4

NUMBER OF THE 1973-74 OCCUPATIONAL HOME ECONOMICS TERMINEES REPORTED WHO DROPPED OUT OF SCHOOL DURING THE 1973-74 SCHOOL YEAR BY GRADE LEVEL

Grade Level Upon Dropping Out of School	Reported		Returns	
	Number	Percent A	Number	Percent B
Eighth	6	0.4	0	0.0
Ninth	32	2.3	8	25.0
Tenth	107	7.7	26	24.3
Eleventh	100	7.1	15	15.0
Twelfth	67	4.8	19	28.4
Grade Level Not Indicated by Teacher	80	5.7	26	32.5
TOTAL	392	28.0	94	24.0

[A]Percentage is based on 1399 total reported terminees.
[B]Percentage is based on returns by grade.

Table 5 shows the number of 1973-74 Occupational Home Economics terminees who indicated whether they were in active full-time military service.

TABLE 5

ACTIVE FULL-TIME MILITARY STATUS OF 1973-74 OCCUPATIONAL HOME ECONOMICS TERMINEES WHO RETURNED QUESTIONNAIRES

Active Full-Time Military Status	Number	Percent
Yes	20	4.2
No	427	90.1
No Response	27	5.7
TOTAL	474	100.0

Basic Information Related to the Vocational Education Program

Table 6 points out the number of 1973-74 Occupational Home Economics terminees who indicated whether this vocational program was a school requirement.

TABLE 6

1973-74 OCCUPATIONAL HOME ECONOMICS TERMINEES WHO INDICATED WHETHER THEIR VOCATIONAL PROGRAM WAS A SCHOOL REQUIREMENT

Vocational Courses Was a School Requirement	Number	Percent
Yes	60	12.6
No	408	86.1
No Response	6	1.3
Total	474	100.0

Table 7 indicates, according to the 1973-74 Occupational Home Economics terminees, the primary source of influence in selecting their vocational course.

TABLE 7

PRIMARY INFLUENCES ON THE 1973-74 OCCUPATIONAL HOME ECONOMICS TERMINEES IN SELECTING THEIR VOCATIONAL COURSE

Group or Individual Terminees Felt Influenced Them Most in Selecting Vocational Course	Number	Percent
Parent(s) or Guardian(s)	19	4.0
Guidance Counselor	25	5.3
Your Vocational Teacher	26	5.5
Another Teacher or Principal	11	2.3
Student in VED Program	53	11.2
A Friend or Relative	28	5.9
A Businessman	2	0.4
Made Choice Yourself	299	63.1
Other (husband)[A]	8	1.7
No Response	3	0.6
TOTAL	474	100.0

[A]See page 10 for listing of "Others" who influenced Occupational Home Economics terminees in selecting their VED course.

A student in the VED Program appeared to be the greatest outside influence on those terminees enrolling in the Occupational Home Economics program. Fifty-three (11.2%) of the terminees responding indicated that another student in the VED program influenced them most in selecting their Occupational Home Economics course. However, 299 (63.1%) indicated that they selected their course of study on their own. Only 25 terminees (5.3%) indicated that a guidance counselor influenced them most in selecting their program. Twenty-six (5.5%) of the terminees indicated that their vocational teacher influenced them most in selecting their course in Occupational Home Economics.

Below are the responses given to the "Others" category indicated in Table 7 as to the primary source of influence in selecting their vocational course.

"Other" Persons or Groups Who Most Influenced Terminees in Selecting Their VED Course	Number
Two credits (no interest)	1
Took it for credit	1
Husband	1
No discussion	1
Enjoy children	1
Like to sew	1

Table 8 indicates terminees' opinions as to whether they had adequate job or occupational information and school experiences to make as realistic career choice.

TABLE 8

OPINIONS OF 1973-74 OCCUPATIONAL HOME ECONOMICS TERMINEES AS TO WHETHER THEY HAD ADEQUATE JOB OR OCCUPATIONAL INFORMATION AND SCHOOL EXPERIENCES TO MAKE A REALISTIC CAREER CHOICE

	Number	Percent
Yes	344	72.6
No	112	23.6
No Response	18	3.8
TOTAL	474	100.0

Table 9 indicates whether, during the time they were taking their high school vocational program, the reporting 1973-74 terminees intended to get a job in Occupational Home Economics.

TABLE 9

INDICATIONS OF 1973-74 OCCUPATIONAL HOME ECONOMICS TERMINEES AS TO WHETHER, DURING THE TIME THEY WERE TAKING THEIR HIGH SCHOOL VED PROGRAM, THEY PLANNED TO GET A JOB IN THEIR AREA OF STUDY

Intended To Get Job In Area of Study	Number	Percent
Yes	185	39.0
No	77	16.3
Was Not Sure	210	44.3
No Response	2	0.4
TOTAL	474	100.0

It is interesting to note that only 185 (39.0%) of the 1973-74 reporting Occupational Home Economics terminees indicated that during the time they were taking their Occupational Home Economics program, they intended to get a job in the area they were studying.

Table 10 indicates terminees' opinions on choosing the Occupational Home Economics program if they had the selection to make again.

A noteworthy point was revealed by the data. Of the 1973-74 Occupational Home Economics terminees, 366 (77.2%) indicated that they would select the same vocational program if they had the choice to make again. Only 15 (3.2%) of the responding terminees indicated that they would not take a vocational program.

TABLE 10

OPINIONS OF 1973-74 OCCUPATIONAL HOME ECONOMICS TERMINEES REGARDING THEIR VOCATIONAL PROGRAM

Question: If You Had It To Do Over Again, Would You...?	Number	Percent
Take the same vocational program	366	77.2
Not take a vocational program	15	3.2
Choose another vocational program offered in your school, such as _____ [A]	63	13.3
Choose another vocational program if it had been offered in your school, such as _____ [B]	19	4.0
No Response	11	2.3
TOTAL	474	100.0

[A]See listing IA below for those other vocational programs offered in terminees' school that they would have taken instead of their occupational home economics programs.

[B]See listing IB below for the vocational programs the terminee would have taken instead of their occupational home economics program if it had been offered in their school.

Listing I-A -- Courses offered in their school that occupational home economics terminees indicated they would have taken if they had it all to do over again.

Courses	Number
Business Office Occupations	34
Nursing	6
Sewing	9
Foods	4
Distributive Education	3
Art	2
Child Care	1
Drafting	1
Modeling	1
Cosmetology	2

Courses	Number
Teaching	1
Science	1
Electronics	1
Air Conditioning	1
ITC	1
Co-op	1

Listing I-B -- Courses Occupational Home Economics terminees indicated they would have taken if they had it all to do over again and the course were offered in their school.

Courses	Number
Business & Office Education	6
Nursing	9
Cosmetology	2
Interior Decorating	1
Cooking	1
Distributive Education	1
Industrial	1
Sewing	1
Vet	1
Art	1
Child Care	1
Modeling	1
Special Education	1
Teacher	1
Graphic Arts	1
Printing & Photography	1

Table 11 indicates the extent to which the reporting 1973-74 Occupational Home Economics terminees felt their high school vocational programs prepared them for their first job. This data was also broken down by how that first job related to their vocational program.

Terminees who were in full-time active military service or who had never been employed were not asked to respond to the questions from which this data was reported. Also, the terminees who failed to respond to the question items were not indicated in the table.

In noting the extent to which the 1973-74 Occupational Home Economics terminees felt their high school vocational course prepared them for their

first full-time job by how their first full-time job related to the training they received in their high school occupational home economics program, some interesting points were revealed.

TABLE 11

PERCEPTIONS OF 1973-74 OCCUPATIONAL HOME ECONOMICS TERMINEES AS TO THE EXTENT THEIR HIGH SCHOOL VOCATIONAL PROGRAM PREPARED THEM FOR THEIR FIRST FULL-TIME JOB BY HOW FIRST FULL-TIME JOB RELATED TO TRAINING

Extent Vocational Course Prepared for Present Job	Total Reporting		Number Reporting by Relatedness of Present Job to Training Received					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Excellent	19	14.5	13	41.9	3	10.0	3	4.3
Well Prepared	40	30.5	16	51.6	16	53.4	8	11.4
Fair	6	4.6	0	0.0	4	13.3	2	2.9
Poorly Prepared	6	4.6	2	6.5	3	10.0	1	1.4
Preparation not related to job	60	45.8	0	0.0	4	13.3	56	80.0
TOTAL	131	100.0	31	100.0	30	100.0	70	100.0

Fifty-nine (45.0%) of the 1973-74 Occupational Home Economics terminees responding to this item indicated "Excellent" or "Well Prepared" for their first full-time job as a result of the training received in their high school vocational education program. Twenty-nine (93.5%) of the 31 terminees employed in their first full-time job related directly to their training felt they were excellent or well prepared for this first job. Only two terminees who were working in an area directly related to their vocational training felt they were poorly prepared for their first job. There were no terminees who indicated

they were working in an area directly related to their vocational course and felt that their preparation did not relate to their job. Of all the responding terminees, only six (4.6%) felt that they were poorly prepared for their first full-time job. Of these, only two were working in an area directly related to their vocational course.

Table 12 indicates the extent to which the reporting 1973-74 Occupational Home Economics terminees felt their high school vocational course prepared them for their present job. Also shown in the table is a breakdown of the data by how their present job was related to their vocational program.

TABLE 12

PERCEPTIONS OF 1973-74 OCCUPATIONAL HOME ECONOMICS TERMINEES AS TO THE EXTENT THEIR HIGH SCHOOL VOCATIONAL COURSE PREPARED THEM FOR THEIR PRESENT JOB BY HOW THEIR PRESENT JOB RELATED TO TRAINING

Extent Vocational Course Prepared for Present Job	Total Reporting		Number Reporting by Relatedness of Present Job to Training Received					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Excellent	15	10.0	11	40.0	1	3.0	3	3.3
Well Prepared	46	30.7	16	60.0	18	54.5	12	13.4
Fair[A]	8	5.3	0	0.0	5	15.2	3	3.3
Poorly Prepared	3	2.0	0	0.0	2	6.1	1	1.1
Preparation not related to job	78	52.0	0	0.0	7	21.2	71	78.9
TOTAL	150	100.0	27	100.0	33	100.0	90	100.0

[A]See listing p. 16 for reasons terminees specified for only being trained "Fair" by their vocational course for their present job.

Terminees in active full-time military service, and students who were attending school full time and had not had a job, were not asked to respond to the question from which Table 12 was prepared. Also, those other students who failed to respond to the items were not shown on the table.

Of the 150 terminees responding to these items, 61 (40.7%) indicated "Excellent" or "Well Prepared" for their present job as a result of their high school vocational program. Only three terminees (2.0%) reported feeling poorly prepared for their present job as a result of their training.

All 27 (100.0%) of the 27 responding terminees working in an area directly related to their high school vocational program indicated that they felt excellent or well prepared by their training.

Three terminees who indicated "fair" as the extent their vocational program prepared them for this present job indicated reasons for this. The following lists the reasons the 1973-74 Occupational Home Economics terminees indicated for being trained only "fair" by their vocational course for their present job.

1. Didn't finish
2. They didn't care
3. Some was not taught

Two of the terminees who indicated they were "poorly prepared" for their present job by their vocational program gave reasons why they felt that way. The following are the reasons given:

1. No English involved
2. Never sewed draperies

Table 13 focuses on the Occupational Home Economics student club. The researchers sought to determine the extent to which the 1973-74 Occupational Home Economics terminees felt that their high school student club aided in preparing them for their present job. Data are also broken down by the relationship of the present job to the vocational training received.

TABLE 13

PERCEPTIONS OF 1973-74 OCCUPATIONAL HOME ECONOMICS TERMINEES AS TO THE EXTENT THEIR HIGH SCHOOL VOCATIONAL STUDENT CLUB PREPARED THEM FOR THEIR PRESENT JOB BY HOW THEIR PRESENT JOB RELATED TO TRAINING[A]

Extent High School Vocational Student Club Helped Prepare for Present Job	Total Reporting		Total Reporting by Relatedness of Present Job to Vocational Training					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Excellent	16	19.0	5	31.3	2	8.0	9	20.9
Well Prepared	28	33.3	5	31.3	10	40.0	13	30.2
Fair	25	29.8	5	31.3	10	40.0	10	23.3
Poorly Prepared	15	17.9	1	6.2	3	12.0	11	25.6
TOTAL	84	100.0	16	100.0	25	100.0	43	100.0

[A]Of the 178 who responded, 20 (11.2%) had no related student club available, and 74 (41.6%) were not members of a related student club.

Only respondents who had had a job since terminating their high school vocational Occupational Home Economics program were asked to respond to the question reported in Table 13. Students in active full-time military service were excluded, 20 (11.2%) of the 178 terminees reported no related student club was available, while 74 were not members of a related student club.

Forty-four (52.3%) of the 84 terminees who participated in student club activities indicated they were "Excellent" or "Well Prepared" by their related student club for their present job. Fifteen (17.9%) indicated they were "Poorly Prepared" by their related student club for their present job. Of those 15, one (6.7%) was in a related job, three (20.0%) were in a somewhat related job, and 11 (73.3%) were in a non-related job.

Of those terminees who were working in an area directly related to the training they received in their high school vocational program, 10 (62.6%) revealed that they were "Excellent" or "Well Prepared" for their present job by their related student club. Only one (6.2%) of the 16 terminees who were working in a job directly related to the training they received indicated he was "Poorly Prepared" for his present job by his related student club.

Table 14 reports how the 1973-74 Occupational Home Economics terminees rated the quality of teaching by their high school vocational instructors.

TABLE 14

1973-74 OCCUPATIONAL HOME ECONOMICS TERMINEES' RATINGS OF THE QUALITY OF TEACHING BY THEIR HIGH SCHOOL VOCATIONAL INSTRUCTORS

Rating	Number	Percent
Excellent	239	50.4
Good	173	36.5
Fair	46	9.7
Poor	9	1.9
Very Poor	5	1.1
No Response	2	0.4
TOTAL	474	100.0

Four hundred twelve (86.9%) of the 474 reporting 1973-74 Occupational Home Economics terminees rated the quality of teaching by their vocational instructor either "Good" or "Excellent". Only 7 (1.5%) rated the quality of teaching by their instructors "Poor" or "Very Poor".

Table 15 illustrates how the 1973-74 Occupational Home Economics terminees rated their high school vocational instructor's interest in their class work.

TABLE 15

1973-74 OCCUPATIONAL HOME ECONOMICS TERMINEES' RATINGS OF THEIR HIGH SCHOOL VOCATIONAL INSTRUCTOR'S INTEREST IN THE STUDENT'S CLASS WORK

Rating	Number	Percent
Excellent	235	49.6
Good	172	36.3
Fair	46	9.7
Poor	12	2.5
Very Poor	7	1.5
No Response	2	0.4
TOTAL	474	100.0

Four hundred seven (85.9%) of the 474 reporting 1973-74 Occupational Home Economics terminees rated the interest exhibited by their high school vocational instructor in their class work as "Good" or "Excellent" Only 19 (4.0%) of the terminees rated the interest their vocational instructors showed in their class work as "Poor" or "Very Poor".

Table 16 points out how the 1973-74 Occupational Home Economics terminees subjectively rated the knowledge their vocational teachers possessed about their field of study. This rating is also shown in

the table by a breakdown of how the terminees' present job related to the training they received in their high school vocational program. Terminees were asked to base their judgments on their current knowledge of their job and responsibilities.

TABLE 16

1973-74 OCCUPATIONAL HOME ECONOMICS TERMINEES' RATINGS OF THE KNOWLEDGE THEIR HIGH SCHOOL VOCATIONAL TEACHER POSSESSED ABOUT THEIR FIELD OF STUDY BY HOW THE TERMINEES' PRESENT JOB RELATED TO THE TRAINING THEY RECEIVED

Ratings[A]	Total Reporting		Number Reporting by Relatedness of Present Job to Training Received					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Excellent	61	38.4	12	42.9	10	29.4	39	40.2
Good	75	47.2	14	50.0	19	55.9	42	43.3
Fair	17	10.7	2	7.1	4	11.8	11	11.4
Poor	4	2.5	0	0.0	0	0.0	4	4.1
Very Poor	2	1.2	0	0.0	1	2.9	1	1.0
TOTAL	159	100.0	28	100.0	34	100.0	97	100.0

[A]Ratings were to be based on terminee's judgment of their current knowledge of their job and responsibilities.

Total responses to this item indicates that 136 (85.6%) of the 159 responding 1973-74 Occupational Home Economics terminees rated the knowledge their vocational teachers possessed about their field of study either "Good" or "Excellent". For those 28 terminees working in an area directly related to the training they received, 26 (92.9%) rated the knowledge their teachers

possessed about their field of study as "Good" or "Excellent". A favorable point was revealed in that only six (3.7%) of those terminees rated the knowledge their vocational teachers possessed about their field of study as "Poor" or "Very Poor".

If the respondent was working in an area related to his training, he was asked to compare the facilities and equipment in his high school vocational program with those on his present job. Table 17 illustrates how the 1973-74 Occupational Home Economics terminees responded.

TABLE 17

HOW 1973-74 OCCUPATIONAL HOME ECONOMICS TERMINEES WORKING IN A RELATED AREA RATED THE FACILITIES AND EQUIPMENT IN THEIR HIGH SCHOOL VOCATIONAL PROGRAM[A]

Rating[B]	Number	Percent
Better than those on present job	9	16.7
Similar to those on present job	37	63.8
Not as good as those on present job	6	10.3
TOTAL	58	100.0

[A]One hundred nineteen (67.2%) of the responding 177 terminees indicated that their present job was not related to their vocational training enough to compare facilities and equipment.

[B]Persons who had not had a job since leaving their vocational program, including those in military service and those who attended school, were asked not to respond to questions from which data was drawn. Returns were received from 474 terminees.

Only 15 (25.9%) of the 58 responding 1973-74 Occupational Home Economics terminees working in an area related to their training rated the facilities and equipment in their high school vocational program as better than those on their present job. Thirty-seven (63.8%) rated the facilities and equipment in their high school vocational program as

similar to those on their present job; however, six (10.3%) rated the facilities and equipment not as good as those on their present job.

Table 18 shows how 1973-74 Occupational Home Economics terminees, who were in a cooperative work program in school and were now working in an area related to their vocational training, rated the facilities and equipment used in their cooperative work station.

TABLE 18

HOW 1973-74 OCCUPATIONAL HOME ECONOMICS TERMINEES NOW WORKING IN A RELATED AREA, WHOSE VOCATIONAL PROGRAM INCLUDED COOPERATIVE WORK, RATED FACILITIES AND EQUIPMENT USED IN THEIR COOPERATIVE WORK STATION[A]

Rating[B]	Number	Percent
Better than those on present job	9	16.7
Similar to those on present job	29	53.7
Working at same place where cooperative training was done	12	22.2
Not as good as those on present job	4	7.4
TOTAL	54	100.0

[A]Twenty-three (13.2%) of the responding 174 Occupational Home Economics terminees indicated their vocational program was not a cooperative program. Ninety-seven (55.7%) terminees indicated they were not working in an area reltated to their cooperative work; therefore, they did not complete this item on the questionniare.

[B]Persons who had not had a job since leaving their vocational program, including those in military service and those attending school, were asked not to respond to questions from which data was drawn. Returns were received from 474 terminees.

Only nine (16.7%) of the 54 responding 1973-74 Occupational Home Economics terminees whose vocational programs had included cooperative work and were now working in an area related to their vocational training,

rated the facilities and equipment in his cooperative work station as better than those on his present job. Twenty-nine (53.7%) rated the facilities and equipment in their cooperative training station as similar to those on their present job. Only four (7.4%) rated the facilities and equipment in their cooperative owrk station not as good as those in their present job. It was significant to note that 12 (22.2%) indicated they were working at the same establishment where they did their cooperative training.

Basic Employment Information

The following section of this report offers information relative to employment and job characteristics of the 1973-74 secondary Occupational Home Economics terminees.

Table 19 illustrates the number of full-time jobs the responding 1973-74 Occupational Home Economics terminees have had since leaving their high school vocational course.

TABLE 19

NUMBER OF FULL-TIME JOBS HELD BY THE 1973-74 OCCUPATIONAL HOME ECONOMICS TERMINEES SINCE LEAVING THEIR HIGH SCHOOL VOCATIONAL COURSE

Number of Full-Time Jobs Held	Number	Percent[A]
One	129	27.2
Two	27	5.7
Three	2	0.4
Four	1	0.2
Five or more	3	0.6
TOTAL	162	34.1

[A]Percentage is based on the 474 terminees who returned the questionnaire.

There were 129 (29.2%) of the total 474 responding 1973-74 Occupational Home Economics terminees who had been employed in just one job since leaving their high school vocational program. Only 33 (6.9%) of of the terminees reported having two or more jobs since leaving their high school vocational course seven to eight months ago.

Table 20 reveals the first job employment status of Occupational Home Economics terminees who returned the survey by the relatedness of their vocational training to their first job.

TABLE 20

FIRST-JOB EMPLOYMENT STATUS OF OCCUPATIONAL HOME ECONOMICS TERMINEES (1973-74) BY RELATEDNESS OF VOCATIONAL TRAINING TO FIRST JOB[A]

First Job After Leaving High School Vocational Program	Total Reporting		Relatedness of Vocational Training to First Job[B]					
			Directly Related		Somewhat Related		Not Related[C]	
	No.	%	No.	%	No.	%	No.	%
Full-Time	133	28.1	31	6.5	31	6.5	71	15.0
Part-Time	48	10.1	7	1.5	10	2.1	31	6.5
TOTAL	181	38.2	38	8.0	41	8.6	102	21.5

[A]All percentages were based on the 474 (33.9%) of 1399 terminees who returned the survey form.

[B]The terminees made the judgment as to how their first job was related to the training received in their high school vocational program.

[C]See page 25 for reasons terminees who were working in first job unrelated to this vocational training gave for not seeking job that was related before accepting their first job.

Of the 474 responding 1973-74 Occupational Home Economics terminees 133 (28.1%) were employed full time in their first job after leaving their high school vocational program. Forty-eight terminees' first jobs were on

a part-time basis.

Thirty-eight (8.0%) of the 474 responding terminees' first jobs (full-time or part-time) were in an area directly related to the training they received in their high school vocational course. Forty-one (8.6%) were employed in an area somewhat related while 102 (21.5%) were employed in a first job not related to the training they received. The terminees made the judgment as to how their first job was related to the training they received. The terminees made the judgment as to how their first job was related to the training they received in their high school vocational program.

Of the 102 terminees who indicated their jobs were not related to their vocational course, 57 (55.9%) terminees indicated that before they accepted their unrelated job, they tried to get a job that was related to their vocational training. However, 45 (44.1%) of the terminees did not.

The following is a list of reasons given by the terminees who, before taking their first unrelated job indicated they did not seek a job that was related to their vocational training.

Reasons	Number
Lack of interest	7
None available	4
Not enough training	3
Changed interests	3
Already had job	1
Got married	1

Table 21 shows by OE Code for the first job of the 1973-74 Occupational Home Economics terminees the relatedness of their training to this first job.

TABLE 21

1973-74 OCCUPATIONAL HOME ECONOMICS TERMINEES' FIRST JOB BY OE CODE STUDIED AND RELATEDNESS OF TRAINING[A]

OE Code	Title of Occupational Objective Studied	Total Employed by Area Studied		Relatedness of Training to First Job[B]					
				Directly Related		Somewhat Related		Not Related	
		No.	%	No.	%	No.	%	No.	%
07.0303	Nursing Assistance	1	0.5	0	0.0	1	100.0	0	0.0
09.0200	Occupational Preparation	12	6.3	0	0.0	5	41.7	7	58.3
09.0201	Care & Guidance of Children	59	30.9	5	8.5	10	16.9	44	74.6
09.0202	Clothing Management, Production and Services	61	31.9	17	27.9	18	29.5	26	42.6
09.0203	Food Management, Production and Services	44	23.0	17	38.6	5	11.4	22	50.0
09.0205	Institutional & Home Management & Supporting Services	0	0.0	0	0.0	0	0.0	0	0.0
09.0299	Occupational Preparation, Other	10	5.3	2	20.0	2	20.0	6	60.0
14.0702	Secretaries	0	0.0	0	0.0	0	0.0	0	0.0
17.3302	Tailoring	4	2.1	0	0.0	0	0.0	4	100.0
	TOTAL ALL AREAS	191	100.0	41	21.5	41	21.5	109	57.0

[A]Of 1399 Occupational Home Economics terminees, 474 (33.9%) returned the questionnaire.

[B]The terminees made the judgment as to how their first job was related to the training received in their high school vocational program.

Of the 191 responding 1973-74 Occupational Home Economics terminees who indicated how their first job related to the training they received in their high school vocational program 41 (21.5%) were employed in directly related areas. Forty-one (21.5%) were employed in somewhat related areas while 109 (57.0%) terminees were employed in areas not related to their training.

The terminees made the judgment as to how their first job was related to the training received in their high school vocational program.

More responding terminees who studied in Clothing Management, Production & Services (09.0202) indicated first job employment. This was to be expected since more terminees studied in this occupational objective area (See Table 1). Of the 61 employed 1973-74 terminees who studied in this Occupational area and indicated relatedness of training, 17 (27.9%) were employed in an area directly related to that training. Eighteen (29.5%) were employed in their first job in an area somewhat related to their training. However, 26 (42.6%) of these responding terminees indicated that their first job was not related to the training they received in their Occupational Home Economics program.

Table 21A is a description of 1973-74 Occupational Home Economics terminees' first job by OE code area studied, number of returns, type school, termination status, and relatedness of training.

TABLE 21A

DESCRIPTION OF 1973-74 OCCUPATIONAL HOME ECONOMICS TERMINEES' FIRST JOB BY OE CODE AREA STUDIED, NUMBER OF RETURNS, TYPE SCHOOL, TERMINATION STATUS, AND RELATEDNESS OF TRAINING

OE Code Area[A]	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
07.0303	Nursing Assistance	3	1	33.3	0	0.0	1	33.3	0	0.0
	AVC (Total)[B]	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers[C]	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts[D]	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	3	1	33.3	0	0.0	1	33.3	0	0.0
	Completers	3	1	33.3	0	0.0	1	33.3	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 21A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
09.0200	Occupational Preparation	38	12	31.6	0	0.0	5	13.2	7	18.4
	AVC (Total)	10	1	0.0	0	0.0	1	10.0	0	0.0
	Completers	8	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	2	1	10.0	0	0.0	1	10.0	0	0.0
	Other Type Schools (Total)	28	11	39.3	0	0.0	4	14.3	7	25.0
	Completers									
09.0201	Care & Guidance of Children	138	59	42.8	5	3.6	10	7.2	44	31.9
	AVC (Total)	81	34	42.0	4	4.9	3	3.7	27	33.3
	Completers	68	29	42.6	4	5.9	2	2.9	23	33.8
	Dropouts	13	5	38.5	0	0.0	1	7.7	4	30.8
09.0202	Clothing Management & Producation	155	61	39.4	17	11.0	18	11.6	26	16.8
	AVC (Total)	100	40	40.0	11	11.0	11	11.0	18	18.0
	Completers	74	32	43.2	9	12.2	9	12.2	18	18.9
	Dropouts	26	8	30.8	2	7.7	2	7.7	4	15.4
	Other Type Schools (Total)	55	21	38.2	6	10.9	7	12.7	8	14.5
	Completers	48	19	39.6	5	10.4	7	14.6	7	14.6
	Dropouts	7	2	28.6	1	14.3	0	0.0	1	14.3
09.0203	Food Management, Production and Services	100	44	44.0	17	17.0	5	5.0	22	22.0
	AVC (Total)	37	15	40.5	7	18.9	1	2.7	7	18.9
	Completers	25	11	44.0	5	20.0	1	4.0	5	20.0
	Dropouts	12	4	33.3	2	16.7	0	0.0	2	16.7
	Other Type Schools (Total)	63	29	46.0	10	15.9	4	6.3	15	23.8
	Completers	57	27	47.4	9	15.8	4	7.1	14	24.6

(continued)

TABLE 21A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
09.0205	Institutional and Home Management and Supporting Services	1	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
09.0299	Occupational Preparation, Other	30	10	33.3	2	6.7	2	6.7	6	20.0
	AVC (Total)	1	1	100.0	0	0.0	0	0.0	1	100.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	1	1	100.0	0	0.0	0	0.0	1	100.0
	Other Type Schools (Total)	29	9	31.0	2	6.9	2	6.9	5	17.2
	Completers	19	7	36.8	2	10.5	2	10.5	3	15.8
	Dropouts	10	2	20.0	0	0.0	0	0.0	2	20.0
14.0702	Secretaries	1	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.3302	Tailoring	8	4	50.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	8	4	50.0	0	0.0	0	0.0	4	50.0
	Completers	7	3	42.9	0	0.0	0	0.0	3	42.9
	Dropouts	1	1	100.0	0	0.0	0	0.0	1	100.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 21A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	TOTAL ALL AREAS	474	191	40.3	41	8.6	41	8.6	109	23.0
	AVC (Total	237	95	40.1	22	9.3	16	6.8	57	24.0
	Completers	182	75	41.2	18	10.0	12	6.6	45	24.7
	Dropouts	55	20	36.4	4	7.3	4	7.3	12	21.8
	Other Type Schools (Total	237	96	40.5	19	8.0	25	10.5	52	21.9
	Completers	198	86	43.4	17	8.6	23	11.6	46	23.2
	Dropouts	39	10	25.6	2	5.1	2	5.1	6	15.4

[A]OE Code areas as reported by teachers.
[B]Area Vocational Centers.
[C]Any terminee who left the program by completing or by high school graduation.
[D]Any terminee who the instructor reported as having dropped out of school.
[E]The terminees made the judgment as to how their first job was related to the training received in their high school vocational program.

Table 22 illustrates the current employment status of the responding terminees by the relatedness of their vocational training to their present jobs. All percentages figured in the table were based on the 474 (33.9%) returns from the 1399 Occupational Home Economics terminees.

Of the 474 responding 1973-74 secondary Occupational Home Economics terminees, 101 (21.3%) were presently employed full time and not attending school or employed full time and attending school. Twenty-three (4.9%) of the terminees were employed part time and attending school, while 13 (2.7%) were unavailable for employment (See page 32 for reasons terminees were unavailable for employment). Only 43 (9.1%) of the terminees were unemployed and actively seeking employment, while 12 (3.5%) were employed part time and seeking full-time employment.

TABLE 22

CURRENT EMPLOYMENT STATUS OF OCCUPATIONAL HOME ECONOMICS TERMINEES (1973-74) BY RELATEDNESS OF TRAINING TO PRESENT JOB[A]

Employment Status	Total Responding		Relatedness of Training to Present Job[B]							
			Directly Related		Somewhat Related		Not Related[E]		Employed No Response	
	No.	%	No.	%	No.	%	No.	%	No.	%
Employed full time and not attending school	94	19.8	16	3.4	21	4.4	55	11.6	2	0.4
Employed full time and attending school	7	1.5	1	0.2	1	0.2	3	0.6	2	0.4
Employed part time and seeking full-time job	12	2.5	1	0.2	3	0.6	8	1.7	0	0.0
Employed part-time and not seeking full-time job	3	0.6	1	0.2	0	0.0	2	0.4	0	0.0
Employed part time and attending school	23	4.9	4	0.8	5	1.1	14	3.0	0	0.0
Unemployed (actively seeking a job)[C]	43	9.1	NA	NA	NA	NA	NA	NA	NA	NA
Unavailable for employment[C&D]	13	2.7	NA	NA	NA	NA	NA	NA	NA	NA
No Response	279	58.9	NA	NA	NA	NA	NA	NA	NA	NA
TOTAL	474	100.0	23	4.8	30	6.3	82	17.3	4	0.8

[A]All percentages were based on the 474 (33.9%) respondents of the total 1399 terminees. Terminees in active full-time military service or attending school full-time and had never been employed were included in the "No Response" category.

[B]The terminees made the judgment as to how their present job was related to the training received in their high school vocational program.

[C]The unemployed and unavailable for employment categories do not include persons in the military service and persons who were in school full time and never had a job.

[D]See page 29 for the listing of reasons Occupational Home Economics terminees gave for being unavailable for employment.

[E]See page 30 for reasons terminees who were working in present job not related to vocational training gave for not seeking related job before accepting present job. Totals for unrelated columns may not correspond because terminees failed to respond to one of the two questions from which data was drawn.

The "No Response" category in Table 22 includes three groups: (1) terminees in active full-time military service; (2) terminees who were in school full time and had never had a job; and (3) terminees who failed to respond to the item on the questionnaire.

Of the 474 secondary Occupational Home Economics respondees, 23 (4.8%) were presently employed full time or part time in an area directly related to the training received in their high school vocational course. Thirty (6.3%) were employed either part time or full time in an area somewhat related to their training, while 82 (17.3%) were employed in areas not related to their training. The terminees made the judgment as to how their present employment was related to the training received in their high school vocational course.

Below is a list of the reasons given by the terminees for being unavailable for employment.

Reason	Number
In school full time	26
Presently not working, not interested in a job	8
Homemaker	22
Pregnancy	30
Illness or disability	3
Other	15

Of the 102 terminees who indicated their present jobs were not related to their vocational course, 54 (52.9%) terminees indicated that before they accepted their unrelated job, they tried to get a job that was related to their vocational training. However, 48 (47.1%) of the terminees did not.

The following is a list of reasons given by the terminees who, before taking their present unrelated job, indicated they did not seek a job that was related to their vocational training.

Reasons	Number
Money	5
None available	9
Not interested	11
Not enough training	3
Changed interests	8
Needed a job	5
Had a job	3
Convenient hours	3
Not working	1

Table 23 shows for the present job, by OE code, the number of 1973-74 secondary Occupational Home Economics terminees employed by the relatedness of their vocational training to their present job.

Of the 160 secondary Occupational Home Economics who indicated present employment, 51 (10.8%) who studied in the area of Care & Guidance of Children, OE Code 09.0201, and 49 (10.4%) who studied in the area of Clothing Management & Production, OE Code 09.0202 were employed. These represented the largest numbers of employed terminees that studied in the OE Code areas.

Of the 100 terminees presently employed that studied in these two areas, 16 (16.0%) were employed in an area directly related to the training received in their high school vocational program. Sixty-four (6.4%) of the 100 employed terminees who studied in these two areas indicated their present jobs were not related to their high school vocational training. The terminees made the judgment as to how their present job related to the training received in their high school vocational program.

TABLE 23

EMPLOYED 1973-74 OCCUPATIONAL HOME ECONOMICS TERMINEES BY OE CODE AREA STUDIED AND BY RELATEDNESS OF TRAINING TO PRESENT JOB[A]

OE Code	Title of Occupational Objective Studied	Total Employed by Area Studied		Relatedness of Training to Present Job[B]					
				Directly Related		Somewhat Related		Not Related	
		No.	%	No.	%	No.	%	No.	%
07.0303	Nursing Assistance	1	0.2	0	0.0	1	0.2	0	0.0
09.0200	Occupational Preparation	8	1.7	0	0.0	4	0.8	4	0.8
09.0201	Care & Guidance of Children	51	10.8	3	0.6	9	1.9	39	8.2
09.0202	Clothing Management, Production and Services	49	10.4	13	2.8	11	2.3	25	5.3
09.0203	Food Management, Production and Services	39	8.2	11	2.3	8	1.7	20	4.2
09.0205	Institutional & Home Management & Supporting Services	0	0.0	0	0.0	0	0.0	0	0.0
09.0299	Occupational Preparation, Other	9	1.9	1	0.2	2	0.4	6	1.3
14.0702	Secretaries	0	0.0	0	0.0	0	0.0	0	0.0
17.3302	Tailoring	3	0.6	0	0.0	0	0.0	3	0.6
	TOTAL ALL AREAS	160	33.8	28	5.9	35	7.3	97	20.4

[A]All percentages were based on the 474 (33.9%) of the 1399 terminees who returned the questionnaire.

[B]Terminees made the judgment as to how their first job was related to training received in their high school vocational program.

Table 23A is a description of 1973-74 Occupational Home Economics terminees' present job by OE code area studied, number of returns, type school, termination status, and relatedness of training.

TABLE 23A

DESCRIPTION OF 1973-74 OCCUPATIONAL HOME ECONOMICS TERMINEES' PRESENT JOB BY OE CODE AREA STUDIED, NUMBER OF RETURNS, TYPE SCHOOL, TERMINATION STATUS, AND RELATEDNESS OF TRAINING

OE Code Area[A]	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to Present Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
07.0303	Nursing Assistance (Total)	3	1	33.3	0	0.0	1	33.3	0	0.0
	AVC (Total)[B]	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers[C]	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts[D]	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	3	1	33.3	0	0.0	1	33.3	0	0.0
	Completers	3	1	33.3	0	0.0	1	33.3	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
09.0200	Occu. Preparation (Total)	38	8	21.1	0	0.0	4	10.5	4	10.5
	AVC (Total)	10	1	10.0	0	0.0	1	10.0	0	0.0
	Completers	8	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	2	1	50.0	0	0.0	1	50.0	0	0.0
	Other Type Schools (Total)	28	7	25.0	0	0.0	3	10.7	4	14.3
	Completers	17	7	41.2	0	0.0	3	17.6	4	23.5
	Dropouts	11	0	0.0	0	0.0	0	0.0	0	0.0
09.0201	Care & Guidance of Children (Total)	138	51	37.0	3	2.2	9	6.5	39	28.3
	AVC (Total)	81	27	33.3	2	2.5	2	2.5	23	28.4
	Completers	68	25	36.8	2	2.9	1	1.5	22	32.4
	Dropouts	13	2	15.4	0	0.0	1	7.7	1	7.7
	Other Type Schools (Total)	57	24	42.1	1	1.8	7	12.3	16	28.1
	Completers	53	23	43.4	1	1.9	6	11.3	16	30.2
	Dropouts	4	1	25.0	0	0.0	1	25.0	0	0.0
09.0202	Clothing Management, Production and Services (Total)	155	49	31.6	13	8.4	11	7.1	25	16.1
	AVC (Total)	100	31	31.0	8	8.0	6	6.0	17	17.0
	Completers	74	25	33.8	8	10.8	5	6.8	12	16.2
	Dropouts	26	6	23.1	0	0.0	1	3.8	5	19.2

(continued)

TABLE 23A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to Present Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	55	18	32.7	5	9.1	6	6.0	17	17.0
	Completers	48	17	35.4	5	10.4	5	10.4	7	14.6
	Dropouts	7	1	14.3	0	0.0	0	0.0	1	14.3
09.0203	Food Mgmt., Production and Services (Total)	100	39	39.0	11	11.0	8	8.0	20	20.0
	AVC (Total)	37	13	35.1	5	13.5	1	2.7	7	18.9
	Completers	25	11	44.0	4	16.0	0	0.0	7	28.0
	Dropouts	12	2	16.7	1	8.3	1	8.3	0	0.0
	Other Type Schools (Total)	63	26	41.3	6	9.5	7	11.1	13	20.6
	Completers	57	24	42.1	6	10.5	6	10.5	12	21.1
	Dropouts	6	2	33.3	0	0.0	1	16.7	1	16.7
09.0205	Institutional & Home Management and Supporting Services (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
09.0299	Occu. Preparation, Other (Total)	30	9	30.0	1	3.3	2	6.7	6	20.0
	AVC (Total)	1	1	100.0	0	0.0	0	0.0	1	100.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	1	1	100.0	0	0.0	0	0.0	1	100.0
	Other Type Schools (Total)	29	8	27.[illegible]	1	3.4	2	6.9	5	17.2
	Completers	19	6	3[illegible].6	1	5.3	2	10.5	3	15.8
	Dropouts	10	2	20.0	0	0.0	0	0.0	2	20.0
14.0702	Secretaries (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 23A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to Present Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	AVC (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.3302	Tailoring (Total)	8	3	37.5	0	0.0	0	0.0	3	37.5
	AVC (Total)	8	3	37.5	0	0.0	0	0.0	3	37.5
	Completers	7	2	28.6	0	0.0	0	0.0	2	28.6
	Dropouts	1	1	100.0	0	0.0	0	0.0	1	100.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	TOTAL ALL AREAS	474	160	33.8	28	5.9	35	7.4	97	20.5
	AVC (Total)	237	76	32.1	15	6.3	10	4.2	51	21.5
	Completers	182	63	34.6	14	7.7	6	3.3	43	23.6
	Dropouts	55	13	23.6	1	1.8	4	7.3	8	14.5
	Other Type Schools (Total)	237	84	35.4	13	5.5	25	10.5	46	19.4
	Completers	198	78	39.4	13	6.6	23	11.6	42	21.2
	Dropouts	39	6	15.4	0	0.0	2	5.1	4	10.3

[A]OE Code areas as reported by teachers.

[B]Area Vocational Centers.

[C]Any terminee who left the program by completing or by high school graduation.

[D]Any terminee who the instructor reported as having dropped out of school.

[E]The terminees made the judgment as to how their first job was related to the training received in their high school vocational program.

Table 24 indicates the first job salary ranges as compared to the present job salary ranges for the 1973-74 Occupational Home Economics terminees.

TABLE 24

FIRST-JOB SALARY RANGES AND PRESENT-JOB SALARY RANGES FOR 1973-74 OCCUPATIONAL HOME ECONOMICS TERMINEES

Salary Ranges	First Job		Present Job	
	No.	%	No.	%
Under $250	107	62.9	63	51.7
$250 - $299	30	17.6	20	16.4
$300 - $349	19	11.1	15	12.3
$350 - $399	4	2.4	6	4.9
$400 - $449	3	1.8	10	8.2
$450 - $499	1	0.6	2	1.6
$500 - $599	3	1.8	5	4.1
$600 - $699	1	0.6	1	0.8
$700 or more	2	1.2	0	0.0
TOTAL	170	100.0	122	100.0

Of the 170 terminees reporting a salary range for their first job, 107 (62.9%) indicated a range of under $250 per month. Three terminees reported a first salary of more than $600 per month. The median salary range for the first job fell in the range of under $250 per month. The mean salary range for the first job fell in the range of $250 - $299 per month.

Of the 122 1973-74 Occupational Home Economics terminees reporting a salary range for their present job, 63 (51.7%) indicated under $250 per month. This salary range was indicative of the mode of the reporting students. The median and mean salary ranges for the present job fell within the range of $250 - $299 per month or less. The salary ranges of

present jobs over first jobs do not indicate a considerable increase for the reporting Occupational Home Economics terminees.

Table 24A indicates the first-job salary ranges by relatedness of training and sex of the Occupational Home Economics terminees.

TABLE 24A

FIRST-JOB SALARY RANGES BY RELATEDNESS OF TRAINING OF 1973-74 OCCUPATIONAL HOME ECONOMICS TERMINEES BY SEX

Salary Ranges	Sex of Terminees Responding		Relatedness of Training to First Job[B]					
			Directly Related		Somewhat Related		Not Related	
	Male	Female	Male	Female	Male	Female	Male	Female
Under $250	7	87	1	22	0	19	6	46
$250 - $299	2	28	2	5	0	7	0	16
$300 - $349	0	14	0	3	0	2	0	9
$350 - $399	2	2	1	0	0	0	1	2
$400 - $449	0	3	0	0	0	1	0	2
$450 - $499	0	1	0	0	0	0	0	1
$500 - $599	1	2	0	0	0	1	1	1
$600 - $699	0	1	0	0	0	0	0	1
$700 or more	0	2	0	0	0	1	0	1
TOTAL[A]	12	140	4	30	0	31	8	79

[A]Totals do not match those of Table 24 because some terminees did not respond to all questions.

[B]The terminees made the judgment as to how their first job was related to the training received in their high school vocational program.

Ninety-four (61.8%) of the 152 responding terminees were employed at less than $250 per month. Of these 94 terminees, one (1.1%) male and 22 (23.4%) females were employed in a job directly related to their training, 19 (20.2%) females were employed in jobs somewhat related to their training, while six (6.4%) males and 46 (48.9%) females were employed in jobs not related to their training.

Of the 152 responding terminees, 12 (7.9%) were males and 140 (92.1%) were females. Four (2.6%) males and 30 (19.7%) females were employed in jobs directly related to their vocational training, no males and 31 (20.4%) females were employed in jobs somewhat related to their training, while 8 (5.3%) males and 79 (52.0%) females were employed in jobs not related to their training.

Table 24B indicates the present-job salary ranges by relatedness of training and sex of the Occupational Home Economics terminees.

TABLE 24B

PRESENT-JOB SALARY RANGES BY RELATEDNESS OF TRAINING OF 1973-74 OCCUPATIONAL HOME ECONOMICS TERMINEES BY SEX

Salary Ranges	Sex of Terminees Responding		Relatedness of Training to First Job[B]					
			Directly Related		Somewhat Related		Not Related	
	Male	Female	Male	Female	Male	Female	Male	Female
Under $250	3	58	2	11	0	13	1	34
$250 - $299	4	15	1	4	0	5	3	6
$300 - $349	0	14	0	2	0	4	0	8
$350 - $399	1	5	0	1	1	1	0	3
$400 - $449	0	10	0	1	0	3	0	6
$450 - $499	1	1	0	0	0	0	1	1
$500 - $599	2	3	0	1	0	0	2	2
$600 - $699	0	1	0	0	0	0	0	1
$700 or more	0	0	0	0	0	0	0	0
TOTAL[A]	11	107	3	20	1	26	7	61

[A]Totals do not match those of Table 24 because some terminees did not respond to all questions.

[B]The terminees made the judgment as to how their present job was related to the training received in their high school vocational program.

Sixty-one (51.7%) of the 118 responding terminees were employed at less than $250 per month. Of these 61 terminees, 11 (18.0%) females and two (3.3%)

males were employed in a job directly related to their training, 15 (21.3%) females were employed in jobs somewhat related to their training, while one (1.6%) male and 34 (55.7%) females were employed in jobs not related to their training.

Of the 118 responding terminees, 11 (9.3%) were males and 107 (90.7%) were females. Three (2.6%) males and 20 (17.0%) females were employed in jobs directly related to their vocational training, one (0.8%) male and 26 (22.0%) females were employed in jobs somewhat related to their training, while seven (5.9%) males and 61 (51.7%) females were employed in jobs not related to their training.

Continuing Education Information

The following section of this report presents information relative to the continuing education of the 1973-74 secondary Occupational Home Economics terminees.

Table 25 shows the vocational educational training opportunities terminees have participated in since leaving their high school vocational program.

Of the total terminees, the 34 (7.2%) who were enrolled in a university or four-year college, and the 33 (7.0%) who were enrolled in Junior Colleges represented the largest areas where terminees had taken additional vocational training.

Of the 474 responding terminees, 154 (32.5%) had taken part in one additional vocational training program since leaving their high school program. Thirteen (2.7%) enrolled in two training programs, and one (0.1%) terminee had enrolled in three vocational training programs. Three hundred twenty (67.5%) indicated they had not enrolled in any additional vocational

training.

TABLE 25

ADDITIONAL VOCATIONAL EDUCATIONAL TRAINING 1973-74 SECONDARY OCCUPATIONAL HOME ECONOMICS TERMINEES PARTICIPATED IN SINCE LEAVING THEIR HIGH SCHOOL VOCATIONAL PROGRAM[A]

Type Training	Number	Percent[B]
On-the-job training (employer-sponsored program)	29	6.1
Public school adult vocational program	7	1.5
Private vocational school program	4	0.8
University or four-year college	34	7.2
Junior college	33	7.0
Post-secondary vocational-technical institute (trade school)	27	5.7
Apprenticeship training program	6	1.3
Specialized occupational military training	1	0.2
Other[C]	27	5.7
TOTAL[D]	168	35.5

[A]Three hundred twenty (67.5%) of the 474 terminees gave no indication of being involved in additional vocational training. Of the 474 terminees 154 (32.5%) took part in one additional vocational training opportunity since leaving their high school program. Thirteen (2.7%) took part in two and one (0.2%) took part in the three additional training opportunities.

[B]Percentages are based on the 474 (33.9%) respondents of the total 1399 terminees who returned questionnaires.

[C]See page 43 for the "Other" listing as specified by the terminees.

[D]The total indicates the number of different training programs in which terminees enrolled. As footnoted above, several terminees had enrolled in more than one training program.

The following is a listing of the "Other" (Table 25) vocational education training terminees indicated they had participated in:

"Other" Vocational Training	Number
Business College	5
Nursing School	3
Home Economics	2
At home	3
Part-time	8
K.P. Cook	1
Special Education	1
Substitute Teaching	1

Table 26 points out the additional programs the 1973-74 secondary Occupational Home Economics terminees were presently attending beyond their high school training by whether these programs were related to their high school vocational program.

TABLE 26

PROGRAMS PRESENTLY ATTENDED BY THE 1973-74 SECONDARY OCCUPATIONAL HOME ECONOMICS TERMINEES BY WHETHER THESE PROGRAMS WERE RELATED TO THEIR HIGH SCHOOL VOCATIONAL EDUCATION PROGRAM[A]

Programs Attended	Terminees		Program Related to High School VED Program					
			Yes		No		No Response	
	No.	%	No.	%	No.	%	No.	%
On-the-job training (employer-sponsored)	6	1.3	2	0.4	3	0.6	1	0.2
Vocational-technical institute (Trade School)	28	5.9	10	2.1	15	3.2	3	0.6
Junior College	41	8.6	12	2.5	29	6.1	0	0.0
Four year college or university	29	6.1	9	1.9	20	4.2	0	0.0
Public school adult vocational program	5	1.1	2	0.4	3	0.6	0	0.0
Private business or trade school	7	1.4	2	0.4	5	1.1	0	0.0
Apprenticeship program	1	0.2	0	0.0	1	0.2	0	0.0
Other[B]	14	3.0	4	0.8	10	2.1	0	0.0
TOTAL	131	27.6	41	8.6	86	18.1	4	0.8

[A]All percentages were based on the 474 responding terminees.

[B]See page 44 for listing of "Other" colleges or educational institutions terminees were attending.

Of the 474 1973-74 secondary Occupational Home Economics terminees who responded to the survey, six (1.3%) were attending an on-the-job training program (employer-sponsored) 28 (5.9%) were attending a vocational-technical institute, 41 (8.6%) were attending a junior college, 29 (6.1%) were attending a four year college or university, 5 (1.1%) were attending a public adult vocational program, seven (1.4%) were attending private business or trade school, one (0.2%) was attending an apprenticeship program, and 14 (3.0%) were attending some other type of school or education program. (See below for the listing of the other types of schools or educational programs students were attending.)

One hundred thirty-one (27.6%) of the 474 Occupational Home Economics terminees were presently continuing their education. Forty-one (8.6%) of the terminees were continuing their education in a program related to their high school vocational program. Eighty-six (18.1%) were attending a program in an area not related to their high school vocational program.

The following is a listing of the "Other" category (Table 25) of additional programs the 1973-74 Occupational Home Economics terminees were attending:

"Other" School or Program	Number
American School (correspondence course)	1
Home Study	2
Teacher's Aide	2
National Guard	1

Of the 474 responding terminees, 278 (58.7%) indicated they were not attending a school or program but would like to do so. The following is a list of the areas in which these terminees desired to study:

Area of Study	Number
Business	48
Clothing	69
Nursing	28
Child Care	44
Foods	23
Cosmetology	4
Sales	2
Interior Decorating	6
Teacher	7
Brick Mason	1
Welding	1
Telephone Operator	1
Electronics	1
Vet	1
Undecided	11
Industrial	3
Modeling	2
Auto Mechanical	1
Home Economics	6
Floristry	1

One hundred twenty-nine (27.2%) of the 474 responding terminees indicated they were not attending a school or program and did not desire to do so. Sixty-seven (14.1%) terminees did not respond to the question.

Table 27 illustrates the programs presently attended by the terminees by OE Code area studied by whether it related to their high school vocational program. No attempt was made to show the no responses to the data items; therefore, many of the totals do not correspond.

TABLE 27

PROGRAMS PRESENTLY ATTENDED BY THE 1973-74 SECONDARY OCCUPATIONAL HOME ECONOMICS TERMINEES BY OE CODE AREA STUDIED BY WHETHER IT RELATED TO THEIR HIGH SCHOOL VOCATIONAL PROGRAMS[A]

OE Code	Occupational Title	Presently Continuing Education	Type School or Educational Program Presently Attending															
			On-the-Job Training		Voc. Tech. School		Junior College		4 Year College or Univ.		Public School Adult VED Program		Private Business or Trade School		Apprenticeship Program		Other	
			Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related
07.0303	Nursing Assistance	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09.0200	Occupational Preparation	6	0	0	2	0	0	1	0	1	0	0	0	0	0	0	1	1
09.0201	Care & Guidance of Children	42	1	1	1	5	4	9	4	6	1	0	1	2	0	0	2	5
09.0202	Clothing Mgmt. Prod. and Services	41	1	1	3	8	2	10	4	5	0	2	0	2	0	0	1	2
09.0203	Food Mgmt. Prod. and Services	29	0	1	4	2	3	7	1	5	0	1	1	1	0	1	0	2
09.0205	Institutional & Home Mgmt. & Supporting Services	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
09.0299	Occu.Prep., Other	7	0	0	0	0	3	1	0	2	1	0	0	0	0	0	0	0
14.0702	Secretaries	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.3302	Tailoring	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0

[A]Since some terminees did not respond to parts of the questions, totals will not correspond.

Job Placement Information

The following section of this report presents information concerning job placement of the 1973-74 secondary Occupational Home Economics terminees.

Table 28 points out whether the 1973-74 Occupational Home Economics terminees were seeking full-time employment when they left their high school vocational program and if their vocational teacher attempted to help them get a job.

TABLE 28

WHETHER VOCATIONAL TEACHER ATTEMPTED TO HELP 1973-74 OCCUPATIONAL HOME ECONOMICS TERMINEES GET A JOB IF SEEKING FULL-TIME EMPLOYMENT UPON LEAVING THE HIGH SCHOOL VOCATIONAL PROGRAM[A]

Vocational Teacher Attempted To Get Terminee A Job	Number	Percent
Yes	111	48.3
No	119	51.7
TOTAL	230	100.0

[A]Two hundred thirty-one (48.7%) of the responding terminees indicated they were not seeking full-time employment when they left their high school vocational program. Thirteen (2.7%) of the terminees did not respond to the question.

Of the 232 responding 1973-74 Occupational Home Economics terminees indicating they were seeking full-time employment when they left their high school vocational program, 111 (48.3%) indicated that their vocational teacher attempted to help them get a job. However, 119 (51.7%)

of the terminees seeking full-time employment indicated that their vocational teacher did not attempt to help them secure employment. It was interesting to note that 231 (48.7%) of the reporting 1973-74 Occupational Home Economics terminees indicated that they were not seeking full-time employment when they left their high school vocational program.

Table 29 illustrates how long it took the 1973-74 Occupational Home Economics terminees to get their first full-time job after they left their high school vocational program and began actively seeking full-time employment.

TABLE 29

LENGTH OF TIME IT TOOK THE 1973-74 OCCUPATIONAL HOME ECONOMICS TERMINEES TO SECURE FIRST FULL-TIME JOB AFTER LEAVING HIGH SCHOOL VOCATIONAL PROGRAM AND BEGINNING ACTIVELY SEEKING FULL-TIME EMPLOYMENT[A]

Time to Secure First Full-Time Job	Number	Percent
0 - 2 weeks	42	33.6
3 - 4 weeks	20	16.0
5 - 8 weeks	13	10.4
9 - 12 weeks	22	17.6
13 or more weeks	28	22.4

[A]Forty-six terminees indicated they already had a job when they left their high school vocational program.

Forty-two (33.6%) of the 125 secondary Occupational Home Economics terminees secured their first full-time job within two weeks after they left their high school vocational program and began actively full-time employment. However, twenty-eight (22.4%) of the terminees took 13

or more weeks to secure their first full-time job. There were 46 terminees who indicated they already had a job when they left their high school vocational program.

Table 30 shows how the 1973-74 secondary Occupational Home Economics terminees indicated they got their first full-time job after leaving their high school vocational program.

TABLE 30

HOW THE 1973-74 OCCUPATIONAL HOME ECONOMICS TERMINEES INDICATED THEY GOT THEIR FIRST FULL-TIME JOB AFTER LEAVING THEIR HIGH SCHOOL VOCATIONAL PROGRAM

How Terminees Secured First Full-Time Job	Number	Percent
Through your vocational teacher	11	7.5
Through your counselor	1	0.7
Through other school teachers or administrators	1	0.7
Through a friend or relative	51	34.9
Through applications to business or industry	49	33.6
Through state (local) employment office	13	8.9
Through a private employment agency	4	2.7
Through radio, T.V., newspaper, or other news media	2	1.4
Other[A]	14	9.6
TOTAL	146	100.0

[A]See listing on page 50 for the "Other" ways terminees indicated they secured their first full-time job after leaving their high school vocational program.

Of the 146 1973-74 Occupational Home Economics terminees who responded to the survey item, 49 (33.6%) indicated they got their first full-time job after leaving their high school vocational program through applications to business and industry. Fifty-one (34.9%) of

the termineee also indicated they got their first full-time job through a friend or relative. These represented the two methods that the largest number of Occupational Home Economics termineee utilized to secure their first full-time job. Only 11 (7.5%) of the termineee indicated they secured their first job through their vocational teacher. Only one student indicated that a counselor got her the first full-time job after leaving her vocational program. Those students who already had a job before leaving their high school vocational program were not shown in Table 30. (See Table 31, page 51).

Several of the termineee who checked the "Other" category specified the means by how they secured their first full-time job after leaving their high school vocational program. The following list indicates the "Other" means the termineee indicated.

"Other" Means for Securing First Full-Time Job	Number
Haven't had one	4
They called me	3
Myself	2
Sign outside	1
Vocational School	1

Table 31 shows how the 1973-74 Occupational Home Economice termineee who were working while in high school taking vocational program indicated they got that job.

One hundred one (21.3%) of the 474 reporting 1973-74 Occupational Home Economics termineee indicated they were working during the time they were in high school taking their vocational program. Of those termineee working while in high school, 30 (29.7%) got their job through their vocational instructor, 34 (33.7%) through a friend or relative, and 18 (17.8%) got jobs through applications to business or industry.

These three means were the ways most of the terminees secured a job while they were still in high school taking their vocational program.

TABLE 31

HOW THE 1973-74 OCCUPATIONAL HOME ECONOMICS TERMINEES WHO WERE WORKING WHILE IN HIGH SCHOOL TAKING THEIR VOCATIONAL PROGRAM INDICATED THEY GOT THAT JOB[A]

Who or What Helped Terminee Get Job	Number	Percent
Your vocational teacher	30	29.7
Your counselor	2	2.0
Other school teachers or administrators	6	5.9
Friend or relative	34	33.7
Applications to business or industry	18	17.8
State (local) employment office	3	3.0
Private employment agency	1	1.0
Radio, T.V., newspaper, or other news media	0	0.0
Other	7	6.9
TOTAL	101	100.0

[A]Three hundred seventy-three (78.7%) terminees indicated they had no job during the time they were in high school taking their vocational course.

Table 32 reveals the indications of the 1973-74 Occupational Home Economics terminees as whether, before taking their first job, they looked for employment within daily walking or driving distance of home by how their first job related to their vocational training.

One hundred four (78.8%) of the 1973-74 Occupational Home Economics terminees who were employed in their first job indicated they sought employment within daily walking or driving distance of home. Twenty-eight (21.2%) terminees indicated before taking their first job they looked for a job beyond daily walking or driving distance of home.

Of the 32 terminees who were working in a directly related area,

only six (18.7%) sought employment beyond daily walking or driving distance of home.

TABLE 32

INDICATIONS OF 1973-74 OCCUPATIONAL HOME ECONOMICS TERMINEES AS TO WHERE THEY LOOKED FOR THEIR FIRST JOB BEFORE TAKING ONE BY HOW THEIR FIRST JOB RELATED TO THEIR TRAINING[A]

Before Taking First Job Where Terminees Looked for Job	Total Reporting		Total Reporting by Relatedness of First Job to Vocational Training					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Within daily walking or driving distance of home	104	78.8	26	81.3	22	73.3	56	80.0
Beyond daily walking or driving distance of home[B]	28	21.2	6	18.7	8	26.7	14	20.0
TOTAL	132	100.0	32	100.0	30	100.0	70	100.0

[A]Thirty-seven terminees indicated they already had their first job while in high school. Of those 37 terminees, five (13.5%) were working in a directly related area, eight (21.6%) in a somewhat related area, while 24 (64.9%) were working in a non-related area.

[B]See listing, page 53, for reasons terminees gave for seeking their first job away from home.

It is interesting to note that of the 70 terminees whose first jobs did not relate to their training, only 14 (20.0%) of those terminees sought employment beyond daily walking or driving distance of home.

Thirty-seven terminees indicated they had their first job while in high school. Of those 37 terminees, five (13.5%) were working in a directly related area, eight (21.6%) in a somewhat related area, and 24 (64.9%) were working in a non-related area.

The following is a listing of reasons terminees gave for seeking a job beyond daily walking or driving distance of their home before accepting their first job. Of the 28 terminees who indicated they sought a job beyond daily walking or driving distance of home before accepting their first job, nine gave reasons why they sought that job.

Reasons for Seeking Job Beyond Daily Walking or Driving Distance Before Accepting First Job	Number
None available	4
More opportunity	3
Good pay	2

Table 33 reveals the indications of the 1973-74 Occupational Home Economics terminees who were working in their first job not related to their training by where they looked for employment before accepting that first job.

TABLE 33

INDICATIONS OF THE 1973-74 OCCUPATIONAL HOME ECONOMICS TERMINEES WORKING IN FIRST JOB NOT RELATED TO THEIR TRAINING BY WHETHER OR NOT THEY TRIED TO GET A JOB RELATED TO THEIR TRAINING BY WHERE THEY LOOKED FOR EMPLOYMENT BEFORE ACCEPTING FIRST JOB[A]

Where Terminees Working in Non-Related Areas Looked for Employment Before Accepting First Job	Total Reporting		Before Accepting This First Job Unrelated to Training Whether Terminees Sought Job in Related Area			
			Yes		No[B]	
	No.	%	No.	%	No.	%
Sought employment within daily walking or driving distance of their home	57	82.6	38	80.9	19	84.4
Sought employment beyond daily walking or driving distance of their home	12	17.4	9	19.1	3	13.6
TOTAL	69	100.0	47	100.0	22	100.0

[A]Totals in this table may not correspond with totals of terminees for non-related categories in other tables for the following reasons: (1) some terminees had jobs when leaving program and did not have to seek employment questions from which data was drawn.

[B]See page 25 for the listing of reasons terminees who were working in non-related jobs gave for not trying to secure a job that was related to their training.

It is important to note that of the 69 terminees who were working in a non-related first job, only nine (13.0%) sought related employment beyond daily walking or driving distance of home before accepting his first job.

Table 34 illustrates the indications of the 1973-74 Occupational Home Economics terminees as to where they looked for a job before taking their present job by how their present job is related to their vocational training.

TABLE 34

INDICATIONS OF 1973-74 OCCUPATIONAL HOME ECONOMICS TERMINEES AS TO WHERE THEY LOOKED FOR A JOB BEFORE TAKING THEIR PRESENT JOB BY HOW THEIR PRESENT JOB RELATED TO THEIR TRAINING[A]

Where Terminees Looked for Job Before Taking Present Job	Total Reporting		Total Reporting by Relatedness of Present Job to Vocational Training					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Within daily walking or driving distance of home	91	76.5	17	77.3	18	64.3	56	81.2
Beyond daily walking or driving distance of home[B]	28	23.5	5	22.7	10	35.7	13	18.8
TOTAL	119	100.0	22	100.0	28	100.0	69	100.0

[A]Thirty terminees reported they already had their present job while in high school. Of those 30 terminees, four (13.3%) were in a directly related area, six (20.0%) in a somewhat related area, while 20 (66.7%) were working in a non-related area.

[B]See listing, page 55 for reasons terminees gave for seeking their present job away from home.

Ninety-one (76.5%) of the presently employed 1973-74 Occupational Home Economics terminees indicated they sought employment within daily

walking or driving distance of home. Twenty-eight (23.5%) terminees indicated they sought employment beyond daily walking or driving distance of home.

Of the 22 terminees who were working in a directly related area, only five (22.7%) sought employment beyond daily walking or driving distance of home.

Of the 69 terminees who were presently working in a non-related area, only 13 (18.8%) sought employment beyond daily walking or driving distance of his home.

Thirty terminees reported they already had their present job while in high school. Of those 30 terminees, four (13.3%) were in directly related areas, six (20.0%) in somewhat related areas, and 20 (66.7%) were in non-related areas.

The following is a list of reasons terminees gave for seeking a job beyond daily walking or driving distance of their home before accepting their present job. Of the 28 terminees who indicated they sought a job beyond daily walking or driving distance of home before accepting their present job, 24 gave reasons why they sought that job.

Reasons for Seeking Job Beyond Daily Walking or Driving Distance Before Accepting Present Job	Number
None available	17
Moved	3
Money	2
Not interested	1
In school	1

Table 35 reveals the indications of the 1973-74 Occupational Home Economics terminees who were working in their present job not related to their training by whether or not they tried to get a job related to their training by where they looked for employment before accepting that present job.

TABLE 35

INDICATIONS OF THE 1973-74 OCCUPATIONAL HOME ECONOMICS TERMINEES WORKING IN PRESENT JOB NOT RELATED TO THEIR TRAINING BY WHETHER OR NOT THEY TRIED TO GET A JOB RELATED TO THEIR TRAINING BY WHERE THEY LOOKED FOR EMPLOYMENT BEFORE ACCEPTING PRESENT JOB[A]

Before Accepting Present Job Where Terminees Working in Non-Related Areas Looked for Employment	Total Reporting		Before Accepting This Present Job Unrelated to Training Whether or Not Terminees Sought Job in Related Area			
			Yes		No[B]	
	No.	%	No.	%	No.	%
Sought employment within daily walking or driving distance of their home	56	80.0	39	81.3	17	77.3
Sought employment beyond daily walking or driving distance of their home	14	20.0	9	18.7	5	22.7
TOTAL	70	100.0	48	100.0	22	100.0

[A]Totals in this table may not correspond with totals of terminees for non-related categories in other tables for the following reasons: (1) some terminees had jobs when leaving programs and did not have to seek employment and (2) some terminees failed to respond to one or more of the related questions from which data was drawn.

[B]See page 33 for the listing of reasons terminees who were working in non-related jobs gave for not trying to secure a job that was related to their training.

Only nine (12.9%) of the 70 terminees who were working in a non-related area sought related employment beyond daily walking or driving distance of home before accepting his present job.

APPENDIX

PRESENT JOB AND FIRST JOB TITLES OF THE 1973-74
OCCUPATIONAL HOME ECONOMICS TERMINEES

PRESENT JOB AND FIRST JOB TITLES OF THE 1973-74 OCCUPATIONAL HOME ECONOMICS TERMINEES

For those terminees who indicated present or first job occupations, this appendix lists the present job title and first job title by their high school vocational training area (OE Codes). The job titles are listed as the terminees reported them. The number of full-time jobs held by these terminees since completing their high school vocational course is listed, current employment status is listed, and whether the student intended to get a job in the area while in the program.

The following code is used to identify the employment status of the terminees:

0. Unemployed, but seeking employment
1. Employed full time
2. Employed part time, seeking full-time job
3. Employed part time, not seeking full-time job
4. Employed full time and attending school
5. Employed part time and attending school
6. Unavailable for employment

The following code is used to identify whether the student intended to get a job in the area while in the program:

1. No
2. Was not sure
3. Yes

The number in parenthesis behind the job titles indicates the relatedness of the high school vocational training to these jobs. The terminees made the judgment as to the relatedness of their training

to these jobs. The following code is used to identify this relatedness:

1. Directly related
2. Somewhat related
3. Not related

The total in each occupational title area may not correspond to the total in each OE Code as listed in Table 23. Some of the terminees failed to indicate the title of their present position. If the first job title was the same as the present job title, the first job title is included under the present job title.

OE Code 07.0303 - Nursing Assistance

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
1	1	0	2	Clipper (textiles) (2)	
2	0	0	-	Writer (Court House)	

OE Code 09.0200 - Occupational Preparation

1	0	2	2		Cook (2)
2	1	1	2	Cuff Setter (textiles)	Cook (3)
3	1	1	3	Machine Operator	
4	1	1	3	Secretary (2)	Drug Store Sales (2)
5	1	2	2	Telephone Operator (3)	Cashier (3)
6	1	1	2	Fill Magazine Machines (3)	Office Clerk (2)
7	0	1	2	Batter Filler (meal)	Batter Filler (meal)

OE Code 09.0201 - Care & Guidance of Children

1	1	2	3	Receptionist Bookkeeper (3)	Teacher's Aide (1)
2	2	0	3	Dress Hamburgers (3)	
3	1	1	3	Sales & Cashier (3)	
4	0	0	3	Packer (mfg.)	
5	1	3	1	Hamburger Cook (3)	Mount film Strips (3)
6	1	1	2	Nurse's Aide (3)	Temporary file clerk (3)
7	5	1	2	Clerk (clothing) (3)	

(continued)

OE Code 09.0201 - Care & Guidance of Children (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
8	4	1	2	Sheet metal (3)	
9	2	1	2	Teacher (1)	
10	1	0	2	Bookkeeper (3)	
11	4	1	2	Pharmacy Clerk (2)	
12	1	1	2	Seamstress (3)	
13	1	1	2	Teacher's Aide (3)	
14	5	0	2	Caterer's Aide (3)	
15	1	1	1	Collar Runner (3)	
16	1	1	2	Florist Designer (3)	Waitress (3)
17	1	2	3	Cashier	Secretary (2)
18	1	1	2	Safety Stitcher (3)	
19	6	0	2		Tupperware Dealer
20	1	2	2	Sales Lady	Sales Lady
21	6	2	3		Desk Clerk(3)
22	2	0	2	Babysitter(2)	
23	6	0	2		Cashier (3)
24	0	1	3		Seamstress(3)
25	1	1	3	Sewing Machine Operator	Seamstress(2)
26	0	1	3		Babysitter(1)
27	6	0	2		Waitress (3)
28	1	1	3	Common Laborer (3)	
29	6	1	3	Cashier (3)	Teacher Aide(3)
30	1	1	3	Teacher Aide(1)	
31	1	1	2	Solder Operator (electronics)	
32	0	3	3		Seamstress (3)
33	1	1	3	Packing & Assembling Telephones	
34	1	1	2	Production Operator	
35	1	1	3	Insurance Clerk	
36	1	1	2	Seamstress(3)	
37	1	1	2	Cashier (2)	
38	1	1	2	Secretary (3)	Hamburger Sales Girl (3)

(continued)

OE Code 09.0201 - Care & Guidance of Children (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
39	6	0	2		Concession Worker(3)
40	1	0	2	Switchboard Operator(3)	
41	1	1	2	Cashier(3)	
42	5	0	1	Drug Store Clerk (3)	Drug Store Clerk (3)
43	5	1	1	Motel Desk Clerk (2)	
44	5	0	1	Gas Pumper & Oil Changer	Dept. Store Sales Clerk
45	1	1	3	Sewing (3)	
46	1	1	3	Shoe Sales Clerk (3)	
47	5	1	2	Millhand (3)	Sales Clerk(3)
48	5	0	1	Seamstress(3)	
49	3	0	2	Discount Store Clerk (3)	
50	1	1	2	Folder (mill) (2)	
51	5	0	1	Sewing Machine Operator	
52	0	1	3		Actress
53	1	1	2	Spooling (3)	Nurse's Aide(3)
54	1	0	3	Child Care (3)	Sewing (3)
55	1	1	2	Nursing (2)	

OE Code 09.0202 - Clothing Management, Production and Services

1	0	1	1	Textile inspector(2)	Cashier (2)
2	1	1	3	Dental Assistent (3)	Sales Clerk(3)
3	5	0	2	Sales Clerk(1)	
4	1	1	3	Cashier & Grill lady (3)	
5	0	0	3		Salad Maker(3)
6	2	1	1	Sales Clerk(3)	
7	5	1	3	Sales Clerk(2)	Sales Clerk(2)
8	1	1	3	Teacher's Aide (3)	

(continued)

OE Code 09.0202 Clothing Management, Production and Services (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
9	5	1	1	Sewing (1)	
10	5	0	2	Cashier(3)	Substitute Mail Carrier(1)
11	1	1	3	Cashier (3)	
12	2	2	3	Pull Patterns (2)	
13	5	0	2	Cashier (2)	
14	1	1	2	Switchboard Operator (3)	
15	5	0	2	Sales Clerk(3)	
16	1	1	2	Seamstress(2)	
17	1	2	2		Textile Mill Baster (2)
18	1	1	3	Sewing Machine Operator (1)	Sewing Machine Operator(1)
19	1	1	2	Electronics(3)	Textile Mill Binder(1)
20	0	1	2	Making boxes (3)	
21	1	1	2	Clerk, Cashier (3)	
22	0	1	3		Dishwasher(3)
23	0	1	1	Textile Spooler	
24	0	1	2	Seamstress	
25	1	1	3	Seamstress(1)	
26	1	1	3	Seamstress(2)	
27	0	2	3		Seamstress(1)
28	1	1	2	Motel Maid(3)	Motel Maid(3)
29	2	1	3	Countergirl(3)	Parts Assembler (3)
30	1	1	3	Seamstress(1)	
31	1	1	3	Seamstress(1)	
32	1	1	3	Machine Operator (serger)	Machine Operator (serger)
33	0	2	3	Sewing Machine Operator	Sewing Machine Operator(1)
34	0	2	2	Assembler (mfg. co.) (3)	Seamstress(2)
35	0	1	2		Chicken wing machine operator (2)
36	0	2	2		Order drugs & change prices(3)
37	1	1	2	Blind stitcher operator(2)	

(continued)

OE Code 09.0202 - Clothing Management, Production and Services (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
38	1	1	3	Cylinder (seam-(seamstress) (1) .	
39	1	1	2	Chicken plant laborer (3)	
40	1	1	3	Cafe Worker(3)	
41	1	1	3	Waitress & Cashier (3)	
42	0	1	3	Examiner-sewing	Examiner-sewing (2)
43	1	1	3	Seamstress(1)	
44	1	1	1	Seamstress(2)	Seamstress(2)
45	1	1	2	Seamstress(1)	
46	1	1	2	Cashier(3)	
47	0	2	2		Shoe Clerk(2)
48	1	2	2	Seamstress(2)	Seamstress(2)
49	5	0	2	Clothes Alteration (2)	
50	1	1	2	Mfg.Assembly line (3)	
51	1	1	1	Sewing Machine Operator (serger)(1)	
52	1	1	1	Teacher's helper (3)	
53	0	2	2		Checker (textiles) (2)
54	6	0	2	MTC Worker	Nurse's Aide
55	0	0	1	Dietician(3)	
56	0	0	2		Cashier
57	0	1	2	Base binder seamstress(1)	Base binder seamstress(2)

OE Code 09.0203 - Food Management, Production and Services

1	1	1	3	Grocery sacker	Bus boy (3)
2	1	2	2	Sales clerk(2)	Sales clerk(2)
3	4	1	3	Waitress(1)	
4	1	2	2	Order Selector (2)	General laborer(3)
5	2	0	3	Gas Station Assist. Mgr.(3)	Restaurant hostess(1)

(continued)

OE Code 09.0203 - Food Management, Production and Services (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
6	1	2	3	Apprentice Machine Shop (3)	Storeroom Manager(1)
7	1	1	2	Salesgirl (2)	Sales Clerk
8	6	1	3		Waitress,cook (
9	1	1	3	Cook, club(1)	
10	1	1	2	Keypunch Operator(3)	Waitress(1)
11	0	0	3		Washing Machine Operator(3)
12	0	0	1	Textile worker	
13	1	1	2	Order Clerk(2)	Shoe Salesman(3)
14	6	0	2		Secretary,Accountant (2)
15	0	1	3	Social worker aide (2)	Social worker aide (3)
16	1	2	2	Office clerk (2)	Cashier, cook(3)
17	1	2	3	Secretary, teller (1)	Secretary (1)
18	0	0	1	Kennel groomer	
19	2	0	2	Secretary (3)	
20	1	1	3	Saleslady (3)	Saleswoman (3)
21	5	1	1	Receptionist(2)	Typist (3)
22	1	1	1	Washcloth, seamstress(3)	
23	5	1	2	Textile twister hand (3)	
24	0	1	2	Chicken neck cutter	
25	1	1	3	Cashier (2)	
26	0	0	3	Waitress, Cashier (1)	Waitress, Cashier (1)
27	6	1	3		Waitress(1)
28	2	0	1	Cashier (3)	Cashier (3)
29	3	0	3	Cook (1)	
30	1	1	2	Telephone lineman (3)	
31	1	1	3	Assistant Secretary (1)	
32	1	1	3	Cashier (1)	
33	0	0	1	Day Care Assistant (3)	
34	1	1	3	Housekeeping(3)	

(continued)

OE Code 09.0203 - Food Management, Production and Services (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
35	5	2	1	Veterinarian's Assistant(3)	
36	1	1	3	Dairy Queen worker (1)	
37	5	0	1	Babysitter(3)	
38	6	1	2	Welder (3)	Delivery boy(3)
39	4	1	1	Textile packer (3)	
40	2	1	2	Salesgirl/ Cashier (3)	Seamstress (3)
41	5	0	1	Grocery Cashier (3)	Dept. Store Saleslady (3)
42	0	0	1	Switchboard operator (3)	
43	0	1	3	Waitress	
44	4	2	2	Switchboard training (3)	Cook, Cashier(2)
45	5	1	3	Cook (1)	Cook (1)
46	0	2	3	Cook (1)	

OE Code 09.0299 - Occupational Preparation, Other

1	1	1	3	Nurse's Aide(1)	
2	2	2	2	Cashier (3)	Cashier, Sales(3)
3	0	1	3	Textile Mill-winder (3)	Textile Mill-winder (3)
4	1	1	1	Knife line (cutting chickens) (3)	
5	6	1	2	Shoe sales girl (2)	
6	1	2	3	Seamstress(2)	Seamstress(2)
7	1	1	2	Seamstress(3)	
8	0	0	2	Textile spinner	
9	1	1	3	Sewing (3)	Sewing (3)
10	0	1	2		Therapist (1)

OE Code 17.3302 - Tailoring

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
1	1	4	3	Molding (3)	Machine Operator(3)
2	1	1	1	Dietary aide (3)	
3	0	2	3		Washing cars
4	1	1	1	Porter (hospital) (3)	

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ABSTRACT: THIS REPORT RELATES THE FINDINGS OF A STATEWIDE FOLLOWUP SURVEY OF 1973-74 COSMETOLOGY TERMINEES FROM THE SECONDARY SCHOOL VOCATIONAL PROGRAMS IN ALABAMA. QUESTIONNAIRES WERE MAILED TO 182 STUDENT TERMINEES APPROXIMATELY SEVEN TO EIGHT MONTHS AFTER LEAVING SCHOOL. RETURNS WERE RECEIVED FROM 59 (32.4 PERCENT) COSMETOLOGY TERMINEES FROM THE INITIAL MAILING AND ONE FOLLOWUP. DATA ARE PRESENTED IN TABLES WITH ACCOMPANYING NARRATIVE SUMMARIES ORGANIZED ACCORDING TO THESE MAJOR SECTIONS: GENERAL INFORMATION ON THE TERMINEES; BASIC INFORMATION RELATED TO THE VOCATIONAL PROGRAM; BASIC EMPLOYMENT INFORMATION; CONTINUING EDUCATION INFORMATION; AND JOB PLACEMENT INFORMATION. PRESENT AND FIRST JOB TITLES OF THE 1973-74 COSMETOLOGY TERMINEES ARE APPENDED. (NJ)

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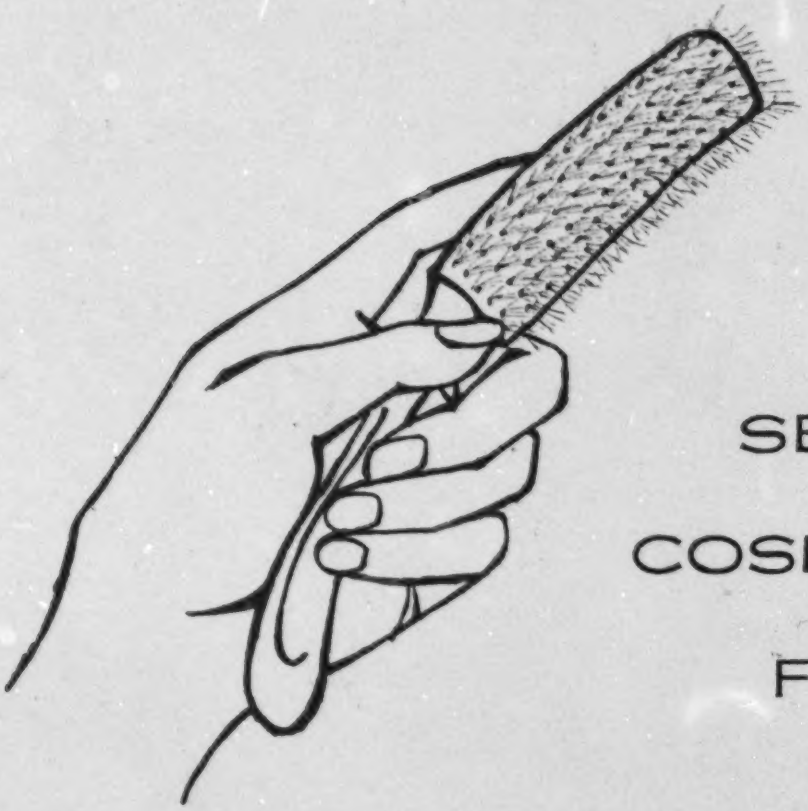

1973-1974 ALABAMA SECONDARY COSMETOLOGY FOLLOW-UP REPORT

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COSMETOLOGY FOLLOW-UP

Follow-Up of 1973-74 Cosmetology Terminees
From the Secondary School Vocational
Programs of Alabama

Research and Development Report No. 34

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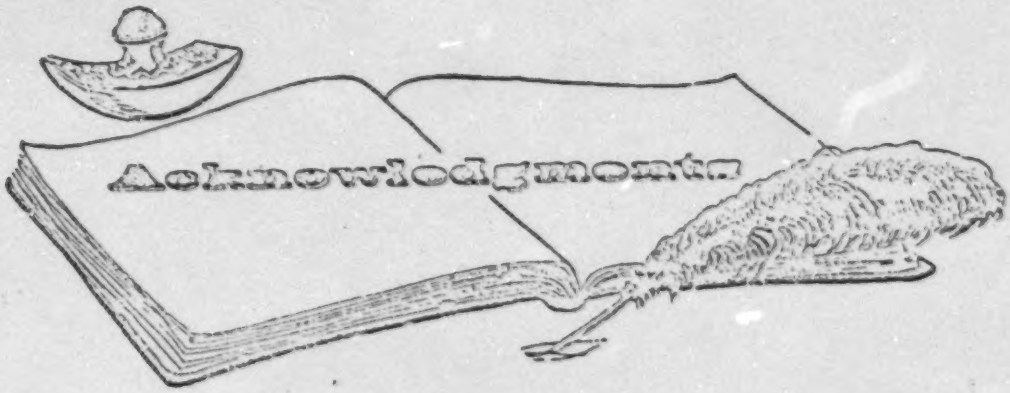

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FOLLOW-UP OF 1973-74 COSMETOLOGY TERMINEES
FROM THE SECONDARY SCHOOL VOCATIONAL
PROGRAMS OF ALABAMA

Alabama continues to support one of the most progressive and comprehensive vocational education programs in the nation. In addition to serving youth and adults by training them for gainful and useful employment, the diversification of vocational courses meets a serious job need and contributes to the industrial development in the state.

With the millions of tax dollars being spent on vocational education, it is necessary to attempt to account to the taxpayer and decision-makers on the results of those expenditures. Terminee student follow-up studies constitute one of the most valuable techniques for assessing vocational education system outcomes.

The Alabama State Department of Education, Division of Vocational Education and Community Colleges, recognizing this important phase of accountability and evaluation, initiated the development of a statewide follow-up system for its vocational education program terminees at the secondary school level. The Division, under the direction of Dr. T. L. Faulkner, State Director, contracted with the Occupational Research and Development Unit at Auburn University to develop and implement the statewide follow-up system for all its secondary vocational terminees in all service areas.

This report relates the findings of the survey instrument mailed to the 1973-74 Cosmetology terminees from the secondary school vocational

programs of Alabama. When the terminees received the questionnaire, most had been out of school seven to eight months.

General Information

Student rosters with names and addresses of 1973-74 Cosmetology terminees were received from 16 secondary school vocational teachers in Alabama. Of the 16 teachers from which student rosters were received, eight were in Secondary Area Vocational Centers (AVC) and eight were in programs in schools of other settings. The total of 182 student terminees reported to the ORDU were mailed the follow-up forms. Returns were received from 59 (32.4%) of the Cosmetology terminees from the initial mailing and one follow-up. At least one student questionnaire was received from 15 of the 16 programs.

At the time this information was collected, all terminees reported in this study were in programs administered only by the Division of Home Economics Education, State Department of Education.

Table 1 presents data relative to the total population of Cosmetology terminees and the number of returns categorized by type school and termination status.

TABLE 1

DESCRIPTION OF TOTAL POPULATION AND RETURNS OF 1973-74 COSMETOLOGY TERMINEES BY TYPE SCHOOL AND TERMINATION STATUS[A]

Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns
Area Vocational Centers			
Total	87	31	35.6
Completers[B]	66	23	34.8
Dropouts[C]	21	8	38.1
Other Type Schools			
Total	95	28	29.5
Completers	75	23	30.7
Dropouts	20	5	25.0
Grand Total	182	59	32.4
Completers	141	46	32.6
Dropouts	41	13	31.7

[A]These Cosmetology terminees were in programs administered only under the service area of Home Economics Education, State Department of Education.

[B]Any terminee who left the program by completing or by high school graduation.

[C]Any terminee the instructor reported as having dropped out of school.

Table 2 illustrates the sex characteristics of those 1973-74 Cosmetology terminees reported by the instructors and those who returned survey forms.

TABLE 2

SEX OF THE 1973-74 COSMETOLOGY TERMINEES REPORTED AND BY WHO RETURNED QUESTIONNAIRES

Sex[A]	Reported		Returns	
	Number	Percent	Number	Percent
Male	2	1.1	2	3.4
Female	178	97.8	56	94.9
Not Known	2	1.1	1	1.7
TOTAL	182	100.0	59	100.0

[A]Sex as reported by teacher.

Table 3 presents the racial or ethnic characteristics of those 1973-74 Cosmetology terminees reported by instructors and who returned survey forms.

TABLE 3

RACIAL OR ETHNIC CHARACTERISTICS OF THE 1973-74 COSMETOLOGY TERMINEES REPORTED AND BY WHO RETURNED QUESTIONNAIRES

Racial or Ethnic Group[A]	Reported		Returns	
	Number	Percent	Number	Percent
American Indian	0	0.0	0	0.0
Black	97	53.3	34	57.6
Oriental	0	0.0	0	0.0
Spanish Surnamed American	0	0.0	0	0.0
White	85	46.7	25	42.4
Other	0	0.0	0	0.0
Not Known	0	0.0	0	0.0
TOTAL	182	100.0	59	100.0

[A]Racial or Ethnic Group as reported by teacher.

Table 4 illustrates the number and grade level of the 1973-74 Cosmetology terminees reported who dropped out of school during the academic year and by who returned the questionnaire.

TABLE 4

NUMBER OF THE 1973-74 COSMETOLOGY TERMINEES REPORTED WHO DROPPED OUT OF SCHOOL DURING THE 1973-74 SCHOOL YEAR BY GRADE LEVEL

Grade Level Upon Dropping Out of School	Reported		Returns	
	Number	Percent[A]	Number	Percent[B]
Ninth	5	2.8	2	40.0
Tenth	3	1.6	1	33.3
Eleventh	15	8.2	2	13.3
Twelfth	4	2.2	1	25.0
Grade Level Not Indicated by Teacher	14	7.7	7	50.0
TOTAL	41	22.5	13	31.7

[A]Percentage is based on 182 total reported terminees.

[B]Percentage is based on returns by grade.

Table 5 shows the number of 1973-74 Cosmetology terminees who indicated whether they were in active full-time military service.

TABLE 5

ACTIVE FULL-TIME MILITARY STATUS OF 1973-74 COSMETOLOGY TERMINEES WHO RETURNED QUESTIONNAIRES

Active Full-Time Military Status	Number	Percent
Yes	3	5.1
No	47	79.6
No Response	9	15.3
TOTAL	59	100.0

Basic Information Related to the Vocational Education Program

Table 6 points out the number of 1973-74 Cosmetology terminees who indicated whether this vocational program was a school requirement.

TABLE 6

1973-74 COSMETOLOGY TERMINEES WHO INDICATED WHETHER THEIR VOCATIONAL PROGRAM WAS A SCHOOL REQUIREMENT

Vocational Courses Was a School Requirement	Number	Percent
Yes	3	5.1
No	49	83.1
No Response	7	11.8
TOTAL	59	100.0

Table 7 indicates, according to the 1973-74 Cosmetology terminees, the primary source of influence in selecting their vocational course.

TABLE 7

PRIMARY INFLUENCES ON THE 1973-74 COSMETOLOGY TERMINEES IN SELECTING THEIR VOCATIONAL COURSE

Group or Individual Terminees Felt Influenced Them Most in Selecting Vocational Course	Number	Percent
Parent(s) or Guardian(s)	7	11.9
Guidance Counselor	6	10.2
Your Vocational Teacher	3	5.1
Another Teacher or Principal	0	0.0
Student in VED Program	6	10.2
A Friend or Relative	5	8.4
A Businessman	0	0.0
Made Choice Yourself	32	54.2
Other	0	0.0
No Response	0	0.0
TOTAL	59	100.0

Parents or Guardians appeared to be the greatest outside influence on those terminees enrolling in the Cosmetology program. Seven (11.9%) of the terminees responding indicated that their Parent(s) or Guardian(s) influenced them most in selecting their Cosmetology course. However, 32 (54.2%) indicated that they selected their course of study on their own. Six terminees (10.2%) indicated that a guidance counselor influenced them most in selecting their program. Only three (5.1%) of the terminees indicated that their vocational teacher influenced them most in selecting their course in Cosmetology.

Table 8 indicates terminees' opinions as to whether they had adequate job or occupational information and school experiences to make as realistic career choice.

TABLE 8

OPINIONS OF 1973-74 COSMETOLOGY TERMINEES AS TO WHETHER THEY HAD ADEQUATE JOB OR OCCUPATIONAL INFORMATION AND SCHOOL EXPERIENCES TO MAKE A REALISTIC CAREER CHOICE

	Number	Percent
Yes	36	61.0
No	14	23.7
No Response	9	15.3
TOTAL	59	100.0

Table 9 indicates whether, during the time they were taking their high school vocational program, the reporting 1973-74 terminees intended to get a job in Cosmetology.

TABLE 9

INDICATIONS OF 1973-74 COSMETOLOGY TERMINEES AS TO WHETHER, DURING THE TIME THEY WERE TAKING THEIR HIGH SCHOOL VED PROGRAM, THEY PLANNED TO GET A JOB IN THEIR AREA OF STUDY

Intended to Get Job in Area of Study	Number	Percent
Yes	23	39.0
No	31	52.5
Was Not Sure	5	8.5
No Response	0	0.0
TOTAL	59	100.0

It is interesting to note that only 23 (39.0%) of the 1973-74 reporting Cosmetology terminees indicated that during the time they were taking their Cosmetology program, they intended to get a job in the area they were studying.

Table 10 indicates terminees' opinions on choosing the Cosmetology program if they had the selection to make again.

A noteworthy point was revealed by the data. Of the 1973-74 Cosmetology terminees, 36 (61.0%) indicated that they would select the same vocational program if they had the choice to make again. Only two (3.4%) of the responding terminees indicated that they would not take a vocational program.

TABLE 10

OPINIONS OF 1973-74 COSMETOLOGY TERMINEES REGARDING THEIR VOCATIONAL PROGRAM

Question: If You Had It To Do Over Again, Would You...?	Number	Percent
Take the same vocational program	36	61.0
Not take a vocational program	2	3.4
Choose another vocational program offered in your school, such as _____ [A]	12	20.3
Choose another vocational program if it had been offered in your school, such as _____ [B]	4	6.8
No Response	5	8.5
TOTAL	59	100.0

[A]See listing IA below for those other vocational programs offered in terminees' school that they would have taken instead of their Cosmetology programs.

[B]See listing IB, page 10, for the vocational programs the terminee would have taken instead of their Cosmetology program if it had been offered in their school.

Listing IA -- Courses offered in their school that Cosmetology terminees indicated they would have taken if they had it all to do over again.

Course	Number
Business	5
Nursing	2
Sales and Marketing	2
Cooking	1
Tailoring	1
Auto Mechanics	1
Physical Education	1
Sewing	1

Listing IB -- Courses Cosmetology terminees indicated they would have taken if they had it all to do over again and the course were offered in their school.

Course	Number
Nursing	3
Interior Decorating	1

Table 11 indicates the extent to which the reporting 1973-74 Cosmetology terminees felt their high school vocational programs prepared them for their first job. This data was also broken down by how that first job related to their vocational program.

Terminees who were in full-time active military service or who had never been employed were not asked to respond to the questions from which this data was reported. Also, the terminees who failed to respond to the question items were not indicated in the table.

TABLE 11

PERCEPTIONS OF 1973-74 COSMETOLOGY TERMINEES AS TO THE EXTENT THEIR HIGH SCHOOL VOCATIONAL PROGRAM PREPARED THEM FOR THEIR FIRST FULL-TIME JOB BY HOW FIRST FULL-TIME JOB RELATED TO TRAINING

Extent Vocational Course Prepared for First Full-Time Job	Total Reporting		Number Reporting by Relatedness of First Full-Time Job to Training Received					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Excellent	3	16.6	2	100.0	0	0.0	1	7.1
Well Prepared	1	5.6	0	0.0	1	50.0	0	0.0
Fair	1	5.6	0	0.0	1	50.0	0	0.0
Poorly Prepared	0	0.0	0	0.0	0	0.0	0	0.0
Preparation not related to job	13	72.2	0	0.0	0	0.0	13	92.9
TOTAL	18	100.0	2	100.0	2	100.0	14	100.0

In noting the extent to which the 1973-74 Cosmetology terminees felt their high school vocational course prepared them for their first full-time job related to the training they received in their high school Cosmetology program, some interesting points were revealed. Four (22.2%) of the 1973-74 Cosmetology terminees responding to this item indicated "Excellent" or "Well Prepared" for their first full-time job as a result of the training received in their high school vocational education program. Both terminees employed in their first full-time job related directly to their training felt they were excellently prepared for this first job. Fourteen of the eighteen terminees felt that preparation did not relate to their job.

Table 12 indicates the extent to which the reporting 1973-74 Cosmetology terminees felt their high school vocational course prepared them for their present job. Also shown in the table is a breakdown of the data by how their present job was related to their vocational program.

Terminees in active full-time military service, and students who were attending school full time and had not had a job, were not asked to respond to the question from which Table 12 was prepared. Also, those other students who failed to respond to the items were not shown on the table.

Of the 13 terminees responding to these items, two (15.4%) indicated "Excellent" or "Well Prepared" for their present job as a result of their high school vocational program. Only one terminee reported feeling poorly prepared for her present job as a result of her training.

One (50.0%) of the two responding terminees working in an area directly related to their high school vocational program indicated that she felt excellent or well prepared by her training, and one (50.0%) reported fair. This terminee indicated she did not get to finish her course.

TABLE 12

PERCEPTIONS OF 1973-74 COSMETOLOGY TERMINEES AS TO THE EXTENT THEIR HIGH SCHOOL VOCATIONAL COURSE PREPARED THEM FOR THEIR PRESENT JOB BY HOW THEIR PRESENT JOB RELATED TO TRAINING

Extent Vocational Course Prepared for Present Job	Total Reporting		Number Reporting by Relatedness of Present Job to Training Received					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Excellent	1	7.7	1	50.0	0	0.0	0	0.0
Well Prepared	1	7.7	0	0.0	0	0.0	1	10.0
Fair[A]	1	7.7	1	50.0	0	0.0	0	0.0
Poorly Prepared	1	7.7	0	0.0	1	100.0	0	0.0
Preparation not related to job	9	69.2	0	0.0	0	0.0	9	90.0
TOTAL	13	100.0	2	100.0	1	100.0	10	100.0

[A]The reason the terminee specified for only being trained "Fair" by her vocational course for her present job was that she didn't get to finish the course.

The terminee who indicated she was "Poorly Prepared" for her present job by her vocational program gave no reason why she felt that way.

Table 13 focuses on the Cosmetology student club. The researchers sought to determine the extent to which the 1973-74 Cosmetology terminees felt that their high school student club aided in preparing them for their present job. Data are also broken down by the relationship of the present job to the vocational training received.

TABLE 13

PERCEPTIONS OF 1973-74 COSMETOLOGY TERMINEES AS TO THE EXTENT THEIR HIGH SCHOOL VOCATIONAL STUDENT CLUB PREPARED THEM FOR THEIR PRESENT JOB BY HOW THEIR PRESENT JOB RELATED TO TRAINING[A]

Extent High School Vocational Student Club Helped Prepare for Present Job	Total Reporting		Total Reporting by Relatedness of Present Job to Vocational Training					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Excellent	1	20.0	0	0.0	0	0.0	1	25.0
Well Prepared	1	20.0	0	0.0	1	100.0	0	0.0
Fair	2	40.0	0	0.0	0	0.0	2	50.0
Poorly Prepared	1	20.0	0	0.0	0	0.0	1	25.0
TOTAL	5	100.0	0	100.0	1	100.0	4	100.0

[A]Of the 23 who responded, four (17.4%) had no related student club available, and 14 (60.9%) were not members of a related student club.

Only respondents who had had a job since terminating their high school vocational Cosmetology program were asked to respond to the question reported in Table 13. Students in active full-time military service were excluded. Four (17.4%) of the 23 terminees reported no related student club was available, while 14 (60.9%) were not members of a related student club.

Two (40.0%) of the five terminees who participated in student club activities indicated they were "Excellent" or "Well Prepared" by their related student club for their present job. One (20.0%) indicated she was "Poorly Prepared" by her related student club for her present job. She was in a non-related job.

No terminees were working in an area directly related to the training they received in their high school vocational program.

Table 14 reports how the 1973-74 Cosmetology terminees rated the quality of teaching by their high school vocational instructors.

TABLE 14

1973-74 COSMETOLOGY TERMINEES' RATINGS OF THE QUALITY OF TEACHING BY THEIR HIGH SCHOOL VOCATIONAL INSTRUCTORS

Rating	Number	Percent
Excellent	25	42.4
Good	18	30.5
Fair	10	16.9
Poor	6	10.2
Very Poor	0	0.0
No Response	0	0.0
TOTAL	59	100.0

Forty-three (72.9%) of the 59 reporting 1973-74 Cosmetology terminees rated the quality of teaching by their vocational instructor either "Good" or "Excellent." Only six (10.2%) rated the quality of teaching by their instructors "Poor" and none "Very Poor."

Table 15 illustrates how the 1973-74 Cosmetology terminees rated their high school vocational instructor's interest in their class work.

Forty-seven (79.6%) of the 59 reporting 1973-74 Cosmetology terminees rated the interest exhibited by their high school vocational instructor in their class work as "Good" or "Excellent." Only seven (11.9%) of the terminees rated the interest their vocational instructors showed in their class work as "Poor" or "Very Poor."

TABLE 15

1973-74 COSMETOLOGY TERMINEES' RATINGS OF THEIR HIGH SCHOOL VOCATIONAL INSTRUCTOR'S INTEREST IN THE STUDENT'S CLASS WORK

Rating	Number	Percent
Excellent	30	50.8
Good	17	28.8
Fair	5	8.5
Poor	5	8.5
Very Poor	2	3.4
TOTAL	59	100.0

Table 16 points out how the 1973-74 Cosmetology terminees subjectively rated the knowledge their vocational teachers possessed about their field of study. This rating is also shown in the table by a breakdown of how the terminees' present job related to the training they received in their high school vocational program. Terminees were asked to base their judgments on their current knowledge of their job and responsibilities.

Total responses to this item indicates that 13 (92.8%) of the 14 responding 1973-74 Cosmetology terminees rated the knowledge their vocational teachers possessed about their field of study either "Good" or "Excellent." For those terminees working in an area directly related to the training they received, both rated the knowledge their teachers possessed about their field of study "Excellent." A favorable point was revealed in that only one of those terminees rated the knowledge their vocational teachers possessed about their field of study as "Poor," and she was working in an unrelated area.

TABLE 16

1973-74 COSMETOLOGY TERMINEES' RATINGS OF THE KNOWLEDGE THEIR HIGH SCHOOL VOCATIONAL TEACHER POSSESSED ABOUT THEIR FIELD OF STUDY BY HOW THE TERMINEES' PRESENT JOB RELATED TO THE TRAINING THEY RECEIVED

Ratings[A]	Total Reporting		Number Reporting by Relatedness of Present Job to Training Received					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Excellent	8	57.1	2	100.0	1	100.0	5	45.5
Good	5	35.7	0	0.0	0	0.0	5	45.5
Fair	0	0.0	0	0.0	0	0.0	0	0.0
Poor	1	7.2	0	0.0	0	0.0	1	9.0
Very Poor	0	0.0	0	0.0	0	0.0	0	0.0
TOTAL	14	100.0	2	100.0	1	100.0	11	100.0

[A]Ratings were to be based on terminee's judgment of their current knowledge of their job and responsibilities.

If the respondent was working in an area related to his training, he was asked to compare the facilities and equipment in his high school vocational program with those on his present job. Table 17 illustrates how the 1973-74 Cosmetology terminees responded.

Only one (16.7%) of the six responding 1973-74 Cosmetology terminees working in an area related to their training rated the facilities and equipment in her high school vocational program as better than those on her present job. Three (50.0%) rated the facilities and equipment in their high school vocational program as similar to those on their present job; however, two (33.3%) rated the facilities and equipment not as good as those on their present job.

TABLE 17

HOW 1973-74 COSMETOLOGY TERMINEES WORKING IN A RELATED AREA RATED THE FACILITIES AND EQUIPMENT IN THEIR HIGH SCHOOL VOCATIONAL PROGRAM[A]

Rating[B]	Number	Percent
Better than those on present job	1	16.7
Similar to those on present job	3	50.0
Not as good as those on present job	2	33.3
TOTAL	6	100.0

[A]Thirteen (72.2%) of the responding 18 terminees indicated that their present job was not related to their vocational training enough to compare facilities and equipment.

[B]Persons who had not had a job since leaving their vocational program, including those in military service and those who attended school, were asked not to respond to questions from which data was drawn. Returns were received from 59 terminees.

Table 18 shows how 1973-74 Cosmetology terminees, who were in a cooperative work program in school and were now working in an area related to their vocational training, rated the facilities and equipment used in their cooperative work station.

None of the four responding 1973-74 Cosmetology terminees whose vocational programs had included cooperative work and were now working in an area related to their vocational training, rated the facilities and equipment in cooperative work station as better than those on present job. Three (75.0%) rated the facilities and equipment in their cooperative training station as similar to those on their present job. Only one (25.0%) rated the facilities and equipment in their cooperative work station not as good as those in their present job. None of the terminees indicated they were working at the same establishment where they did their cooperative training.

TABLE 18

HOW 1973-74 COSMETOLOGY TERMINEES NOW WORKING IN A RELATED AREA, WHOSE VOCATIONAL PROGRAM INCLUDED COOPERATIVE WORK, RATED FACILITIES AND EQUIPMENT USED IN THEIR COOPERATIVE WORK STATION[A]

Rating[B]	Number	Percent
Better than those on present job	0	0.0
Similar to those on present job	3	75.0
Working at same place where cooperative training was done	0	0.0
Not as good as those on present job	1	25.0
TOTAL	4	100.0

[A]One (16.7%) of the responding 18 Cosmetology terminees indicated her vocational program was not a cooperative program. Thirteen (72.2%) terminees indicated they were not working in an area related to their cooperative work; therefore, they did not complete this item on the questionnaire.

[B]Persons who had not had a job since leaving their vocational program, including those in military service and those attending school, were asked not to respond to questions from which data was drawn. Returns were received from 59 terminees.

Basic Employment Information

The following section of this report offers information relative to employment and job characteristics of the 1973-74 secondary Cosmetology terminees.

Table 19 illustrates the number of full-time jobs the responding 1973-74 Cosmetology terminees have had since leaving their high school vocational course.

There were 11 (18.6%) of the total 59 responding 1973-74 Cosmetology terminees who had been employed in just one job since leaving their high

school vocational program. Only four (6.8%) of the terminees reported having two or more jobs since leaving their high school vocational course seven to eight months ago.

TABLE 19

NUMBER OF FULL-TIME JOBS HELD BY THE 1973-74 COSMETOLOGY TERMINEES SINCE LEAVING THEIR HIGH SCHOOL VOCATIONAL COURSE

Number of Full-Time Jobs Held	Number	Percent[A]
One	11	18.6
Two	4	6.8
Three	0	0.0
Four	0	0.0
Five or more	0	0.0
TOTAL	15	25.4

[A]Percentage is based on the 59 terminees who returned the questionnaire.

Table 20 reveals the first-job employment status of Cosmetology terminees who returned the survey by the relatedness of their vocational training to their first job.

Of the 59 responding 1973-74 Cosmetology terminees, 19 (32.2%) were employed full time in their first job after leaving their high school vocational program. None of the responding terminees' first jobs were on a part-time basis.

Two (3.4%) of the 59 responding terminees' first jobs were in an area directly related to the training they received in their high school vocational course. Two (3.4%) were employed in an area somewhat related while 15 (25.4%) were employed in a first job not related to the training they received. The terminees made the judgment as to

how their first job was related to the training they received in their high school vocational program.

TABLE 20

FIRST-JOB EMPLOYMENT STATUS OF COSMETOLOGY TERMINEES (1973-74) BY RELATEDNESS OF VOCATIONAL TRAINING TO FIRST JOB[A]

First Job After Leaving High School Vocational Program	Total Reporting		Relatedness of Vocational Training to First Job[B]					
			Directly Related		Somewhat Related		Not Related[C]	
	No.	%	No.	%	No.	%	No.	%
Full-Time	19	32.2	2	3.4	2	3.4	15	25.4
Part-Time	0	0.0	0	0.0	0	0.0	0	0.0
TOTAL	19	32.2	2	3.4	2	3.4	15	25.4

[A]All percentages were based on the 59 (32.4%) of 182 terminees who returned the survey form.

[B]The terminees made the judgment as to how their first job was related to the training received in their high school vocational program.

[C]See page 21 for reasons terminees who were working in first job unrelated to this vocational training gave for not seeking job that was related before accepting their first job.

Of the 15 terminees who indicated their jobs were not related to their vocational course, six (40.0%) terminees indicated that before they accepted their unrelated job, they tried to get a job that was related to their vocational training. However, nine (60.0%) of the terminees did not.

The following is a list of reasons given by eight of the nine terminees who, before taking their first unrelated job, indicated they did not seek a job that was related to their vocational training.

Reasons	Number
Money	1
Unlicensed	1
Already employed	1
Couldn't go to school and work	1
Changed interests	1
Needed job	1
None available	1
Small town	1

Table 21 shows number of returns by type school and termination status for the first job of the 1973-74 Cosmetology terminees, and the relatedness of their training to this first job.

TABLE 21

NUMBER OF RETURNS BY TYPE SCHOOL AND TERMINATION STATUS FOR 1973-74 COSMETOLOGY TERMINEES FIRST JOB, AND RELATEDNESS OF TRAINING

Type School and Termination Status	Number of Returns[A]	Total Employed		Relatedness of Training to First Job[E]					
				Directly Related		Somewhat Related		Not Related	
		No.	%	No.	%	No.	%	No.	%
Area Voc. Centers[B]									
Total	31	11	57.9	0	0.0	0	0.0	11	100.0
Completers[C]	23	8	42.1	0	0.0	0	0.0	8	100.0
Dropouts[D]	8	3	15.8	0	0.0	0	0.0	3	100.0
Other Type Schools									
Total	28	8	42.1	2	25.0	2	25.0	4	50.0
Completers	23	8	42.1	2	25.0	2	25.0	4	50.0
Dropouts	5	0	0.0	0	0.0	0	0.0	0	0.0
Grand Total	59	19	100.0	2	10.5	2	10.5	15	79.0
Completers	46	16	84.2	2	12.5	2	12.5	12	75.0
Dropouts	13	3	15.8	0	0.0	0	0.0	3	100.0

[A]Of 182 Cosmetology terminees, 59 (32.4%) returned the questionnaire.
[B]Area Vocational Centers.
[C]Any terminee who left the program by completing or by high school graduation.
[D]Any terminee who the instructor reported as having dropped out of school.
[E]The terminees made the judgment as to how their first job was related to the training received in their high school vocational program.

Table 22 illustrates the current employment status of the responding terminees by the relatedness of their vocational training to their present jobs. All percentages figured in the table were based on the 59 (32.4%) returns from the 182 Cosmetology terminees.

Of the 59 responding 1973-74 secondary Cosmetology terminees, eight (13.6%) were presently employed full time and not attending school or employed full time and attending school. None of the terminees were employed part time and attending school, and only one was unavailable for employment (See page 24 for reasons terminees gave for being unavailable for employment). Only nine (15.2%) of the terminees were unemployed and actively seeking employment, while two (3.4%) were employed part time and seeking full-time employment.

The "No Response" category in Table 22 inlcudes three groups: (1) terminees in active full-time military service; (2) terminees who were in school full time and had never had a job; and (3) terminees who failed to respond to the item on the questionnaire.

Of the 59 secondary Cosmetology respondees, only one was presently employed full time or part time in an area directly related to the training received in their high school vocational course. None were employed either part time or full time in an area somewhat related to their training, while eight (13.6%) were employed in areas not related to training. The terminees made the judgment as to how their present employment was related to the training received in their high school vocational course.

Of the 12 terminees who indicated their present jobs were not related to their vocational course, four (25.0%) terminees indicated that before they accepted their unrelated job, they tried to get a job that was related to their vocational training. However, eight (75.0%) of the terminees did not.

TABLE 22

CURRENT EMPLOYMENT STATUS OF COSMETOLOGY TERMINEES (1973-74) BY RELATEDNESS OF TRAINING TO PRESENT JOB[A]

Employment Status	Total Respond-ing		Relatedness of Training to Present Job[B]							
			Directly Related		Somewhat Related		Not Related[E]		Employed No Response	
	No.	%	No.	%	No.	%	No.	%	No.	%
Employed full time and not attending school	7	11.9	1	1.7	0	0.0	6	10.2	0	0.0
Employed full time and attending school	1	1.7	0	0.0	0	0.0	1	1.7	0	0.0
Employed part time and seeking full-time job	2	3.4	0	0.0	0	0.0	1	1.7	1	1.7
Employed part time and not seeking full-time job	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Employed part time and attending school	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Unemployed (actively seeking a job)[C]	9	15.2	N/A		N/A		N/A		N/A	
Unavailable for employment[C&D]	1	1.7	N/A		N/A		N/A		N/A	
No Response	39	66.1	N/A		N/A		N/A		N/A	
TOTAL	59	100.0	1	1.7	0	0.0	8	13.6	1	1.7

[A]All percentages were based on the 59 (32.4%) respondents of the total 182 terminees. Terminees in active full-time military service or attending school full-time and had never been employed were included in the "No Response" category.

[B]The terminees made the judgment as to how their present job was related to the training received in their high school vocational program.

[C]The unemployed and unavailable for employment categories do not include persons in the military service and persons who were in school full time and never had a job.

[D]See page 24 for the listing of reasons Cosmetology terminees gave for being unavailable for employment.

[E]See page 24 for reasons terminees who were working in present job not related to vocational training gave for not seeking related job before accepting present job. Totals for unrelated columns may not correspond because terminees failed to respond to one of the two questions from which data was drawn.

Below is a list of the reasons given by the terminees for being unavailable for employment.

Reason	Number
In school full time	7
Homemaker	4
Pregnancy	3
Other	3
Presently not working, not interested in a job	0
Illness or disability	0

The following is a list of reasons given by the terminees who, before taking their present unrelated job, indicated they did not seek a job that was was related to their vocational training.

Reason	Number
None available	2
Needed job	1
Already employed	1
Changed fields	1
Couldn't go to school and work	1
Not interested	1
Money	1

Table 23 shows for the present job, the number of 1973-74 secondary Cosmetology terminees employed by the relatedness of their vocational training to their present job.

Of the 14 Cosmetology terminees presently employed, only two (14.3%) were employed in an area directly related to the training received in their high school vocational program, while 11 indicated their present job was not related to their high school vocational training. The terminees made the judgment as to how their present job related to the training received in their high school vocational program.

TABLE 23

NUMBER OF RETURNS BY TYPE SCHOOL AND TERMINATION STATUS FOR 1973-74 COSMETOLOGY TERMINEES PRESENT JOB, AND RELATEDNESS OF TRAINING

Type School and Termination Status	Number of Returns[A]	Total Employed		Relatedness of Training to Present Job[E]					
				Directly Related		Somewhat Related		Not Related	
		No.	%	No.	%	No.	%	No.	%
Area Voc. Centers[B]									
Total	31	8	13.6	0	0.0	0	0.0	8	13.6
Completers[C]	23	7	11.9	0	0.0	0	0.0	7	11.9
Dropouts[D]	8	1	1.7	0	0.0	0	0.0	1	1.7
Other Type Schools									
Total	28	6	10.2	2	3.4	1	1.7	3	5.1
Completers	23	5	8.5	1	1.7	1	1.7	3	5.1
Dropouts	5	1	1.7	1	1.7	0	0.0	0	0.0
Grand Total	59	14	23.7	2	3.4	1	1.7	11	18.6
Completers	46	12	20.3	1	1.7	1	1.7	10	16.9
Dropouts	13	2	3.4	1	1.7	0	0.0	1	1.7

[A]All percentages were based on the 59 (32.4%) of the 182 terminees who returned the questionnaire.

[B]Area Vocational Centers.

[C]Any terminee who left the program by completing or by high school graduation.

[D]Any terminee who the instructor reported as having dropped out of school.

[E]The terminees made the judgment as to how their first job was related to the training received in their high school vocational program.

Table 24 indicates the first job salary ranges as compared to the present job salary ranges for the 1973-74 Cosmetology terminees.

Of the 18 terminees reporting a salary range for their first job, 14 (77.8%) indicated a range of under $250 per month. No terminee reported a first salary of over $600 per month. The median and mean salary ranges for the first job fell in the range of under $250 per month.

TABLE 24

FIRST-JOB SALARY RANGES AND PRESENT-JOB SALARY RANGES FOR 1973-74 COSMETOLOGY TERMINEES

Salary Ranges	First Job		Present Job	
	No.	%	No.	%
Under $250	14	77.8	4	40.0
$250 - $299	2	11.1	4	40.0
$300 - $349	0	0.0	1	10.0
$350 - $399	0	0.0	0	0.0
$400 - $449	0	0.0	0	0.0
$450 - $499	0	0.0	1	10.0
$500 - $599	2	11.1	0	0.0
$600 - $699	0	0.0	0	0.0
$700 or more	0	0.0	0	0.0
TOTAL	18	100.0	10	100.0

Of the ten 1973-74 Cosmetology terminees reporting a salary range for their present job, four (40.0%) indicated under $250 per month. The median and mean salary ranges for the present job fell within the range of $250 - $299 per month.

Table 24A indicates the first-job salary ranges by relatedness of training of the Cosmetology terminees.

Fourteen (82.4%) of the 17 responding terminees were employed at less than $250 per month. Of these 14 terminees, one (7.1%) was employed in a job directly related to her training, two (14.3%) were employed in jobs somewhat related to their training, while 11 (78.1%) were employed in jobs not related to their training.

All of the 17 responding terminees were females. Two (11.8%) were employed in jobs directly related to their vocational training, two (11.8%) were employed in jobs somewhat related to their training, while 13 (76.4%) were employed in jobs not related to their training.

TABLE 24A

FIRST-JOB SALARY RANGES BY RELATEDNESS OF TRAINING OF 1973-74 COSMETOLOGY TERMINEES

Salary Ranges	Total Responding	Relatedness of Training to First Job[B]		
		Directly Related	Somewhat Related	Not Related
Under $250	14	1	2	11
$250 - $299	2	0	0	2
$300 - $349	0	0	0	0
$350 - $399	0	0	0	0
$400 - $449	0	0	0	0
$450 - $499	0	0	0	0
$500 - $599	1	1	0	0
$600 - $699	0	0	0	0
$700 or more	0	0	0	0
TOTAL[A]	17	2	2	13

[A]Totals do not match those of Table 24 because some terminees did not respond to all questions.

[B]The terminees made the judgment as to how their first job was related to the training received in their high school vocational program.

Table 24B indicates the present-job salary ranges by relatedness of training of the Cosmetology terminees.

Four (40.0%) of the ten responding terminees were employed at less than $250 per month. Of these four terminees, none were employed in a job directly related to their training, one was employed in a job somewhat related to her training, while three were employed in jobs not related to their training.

All of the ten responding terminees were females. Only two (20.0%) were employed in jobs directly related to their vocational training, one (10.0%) was employed in a job somewhat related to her training, while seven (70.0%) were employed in jobs not related to their training.

TABLE 24B

PRESENT-JOB SALARY RANGES BY RELATEDNESS OF TRAINING
OF 1973-74 COSMETOLOGY TERMINEES

Salary Ranges	Total Responding	Relatedness of Training to Present Job[B]		
		Directly Related	Somewhat Related	Not Related
Under $250	4	0	1	3
$250 - $299	4	1	0	3
$300 - $349	1	1	0	0
$350 - $399	0	0	0	0
$400 - $449	0	0	0	0
$450 - $499	1	0	0	1
$500 - $599	0	0	0	0
$600 - $699	0	0	0	0
$700 or more	0	0	0	0
TOTAL[A]	10	2	1	7

[A]Totals do not match those of Table 24 because some terminees did not respond to all the questions.

[B]The terminees made the judgment as to how their present job was related to the training received in their high school vocational program.

Continuing Education Information

The following section of this report presents information relative to the continuing education of the 1973-74 secondary Cosmetology terminees.

Table 25 shows the vocational educational training opportunities terminees have participated in since leaving their high school vocational program.

Of the total terminees, the 33 (58.9%) who were enrolled in on-the-job training represented the largest area where terminees had taken additional vocational training.

TABLE 25

ADDITIONAL VOCATIONAL EDUCATIONAL TRAINING 1973-74 SECONDARY COSMETOLOGY TERMINEES PARTICIPATED IN SINCE LEAVING THEIR HIGH SCHOOL VOCATIONAL PROGRAM[A]

Type Training	Number	Percent[B]
On-the-job training (employer-sponsored program)	33	55.9
Public school adult vocational program	2	3.4
Private vocational school program	1	1.7
University or four year college	3	5.1
Junior college	0	0.0
Post-secondary vocational-technical institute (trade school)	1	1.7
Apprenticeship training program	8	13.6
Specialized occupational military training	1	1.7
Other[C]	7	11.9
TOTAL[D]	56	95.0

[A]Only four (6.7%) of the 59 terminees gave no indication of being involved in additional vocational training. Of the 59 terminees, 55 (93.2%) took part in one additional vocational training opportunity since leaving their high school program. One (1.7%) took part in two and no terminees took part in the three additional training opportunities.

[B]Percentages are based on the 59 (32.4%) respondents of the total 182 terminees who returned questionnaires.

[C]See page 30 for the "Other" listing as specified by the terminees.

[D]The total indicated the number of different training programs in which terminees enrolled. As footnoted above, one terminee had enrolled in more than one training program.

Of the 59 responding terminees, 55 (93.2%) had taken part in one additional vocational training program since leaving their high school program. One (1.7%) enrolled in two training programs, and no terminee had enrolled in three vocational training programs. Only four (6.7%) indicated they had not enrolled in any additional vocational training.

The following is a listing of the "Other" (Table 25) vocational education training terminees indicated they had participated in:

"Other" Vocational Training	Number
Home study	1
Career training institution	1
Part-time	1
Aviation school	1
Still in school	1

Table 26 points out the additional programs the 1973-74 secondary Cosmetology terminees were presently attending beyond their high school training by whether these programs were related to their high school vocational program.

TABLE 26

PROGRAMS PRESENTLY ATTENDED BY THE 1973-74 SECONDARY COSMETOLOGY TERMINEES BY WHETHER THESE PROGRAMS WERE RELATED TO THEIR HIGH SCHOOL VOCATIONAL EDUCATION PROGRAM[A]

Programs Attended	Terminees		Program Related to High School VED Program					
			Yes		No		No Response	
	No.	%	No.	%	No.	%	No.	%
On-the-job training (employer-sponsored)	2	3.4	0	0.0	1	1.7	1	1.7
Vocational-technical institute (trade school)	12	20.3	8	13.6	3	5.1	1	1.7
Junior college	3	5.1	0	0.0	2	3.4	1	1.7
Four year college or university	2	3.4	0	0.0	2	3.4	0	0.0
Public school adult vocational program	0	0.0	0	0.0	0	0.0	0	0.0
Private business or trade school	3	5.1	0	0.0	3	5.1	0	0.0
Apprenticeship program	0	0.0	0	0.0	0	0.0	0	0.0
Other[B]	3	5.1	0	0.0	3	5.1	0	0.0
TOTAL	25	42.4	8	13.6	14	23.7	3	5.1

[A]All percentages were based on the 59 responding terminees.

[B]See page 31 for listing of "Other" schools or educational institutions terminees were attending.

Of the 59 1973-74 secondary Cosmetology terminees who responded to the survey, two (3.4%) were attending an on-the-job training program (employer-sponsored), 12 (20.3%) were attending a vocational-technical institute, three (5.1%) were attending a junior college, two (3.4%) were attending a four year college or university, none were attending a public adult vocational program, three (5.1%) were attending private business or trade school, none were attending an apprenticeship program, and three (5.1%) were attending some other type of school or educational program. (See below for the listing of the other types of schools or educational programs students were attending.)

Twenty-five (42.4%) of the 59 Cosmetology terminees were presently continuing their education. Eight (13.6%) of the terminees were continuing their education in a program related to their high school vocational program. Fourteen (23.7%) were attending a program in an area not related to their high school vocational program.

The following is a listing of the "Other" category (Table 26) of additional programs the 1973-74 Cosmetology terminees were attending:

"Other" School or Program	Number
Career training institute	1
Aviation school	1
Night school	1
Still in high school	1

Of the 59 responding terminees, 35 (59.3%) indicated they would like further vocational training. The following is a list of the areas in which these terminees desired to study:

Area of Study	Number
Nursing	12
Cosmetology	10
Business	5
Welding	1

(continued)

Area of Study	Number
Cooking	1
Sewing	1
Auto Mechanics	1
Modeling	1
Interior decorating	1
Sales	1
Not sure	1

Fourteen (23.7%) of the 59 responding terminees indicated they did not desire further training. Ten (16.9%) terminees did not respond to the question.

Job Placement Information

The following section of this report presents information concerning job placement of the 1973-74 secondary Cosmetology terminees.

Table 27 points out whether the 1973-74 Cosmetology terminees were seeking full-time employment when they left their high school vocational program and if their vocational teacher attempted to help them get a job.

TABLE 27

WHETHER VOCATIONAL TEACHER ATTEMPTED TO HELP 1973-74 COSMETOLOGY TERMINEES GET A JOB IF SEEKING FULL-TIME EMPLOYMENT UPON LEAVING THE HIGH SCHOOL VOCATIONAL PROGRAM[A]

Vocational Teacher Attempted to Get Terminee a Job	Number	Percent
Yes	11	44.0
No	14	56.0
TOTAL	25	100.0

[A]Thirty-three (55.9%) of the responding terminees indicated they were not seeking full-time employment when they left their high school vocational program. One (1.7%) of the terminees did not respond to the question.

Of the 25 responding 1973-74 Cosmetology terminees indicating they were seeking full-time employment when they left their high school vocational program, 11 (44.0%) indicated that their vocational teacher attempted to help them get a job. However, 14 (56.0%) of the terminees seeking full-time employment indicated that their vocational teacher did not attempt to help them secure employment. It was interesting to note that 33 (55.9%) of the reporting 1973-74 Cosmetology terminees indicated that they were not seeking full-time employment when they left their high school vocational program.

Table 28 illustrates how long it took the 1973-74 Cosmetology terminees to get their first full-time job after they left their high school vocational program and began actively seeking full-time employment.

TABLE 28

LENGTH OF TIME IT TOOK THE 1973-74 COSMETOLOGY TERMINEES TO SECURE FIRST FULL-TIME JOB AFTER LEAVING HIGH SCHOOL VOCATIONAL PROGRAM AND BEGINNING ACTIVELY SEEKING FULL-TIME EMPLOYMENT[A]

Time to Secure First Full-Time	Number	Percent
0 - 2 weeks	2	14.3
3 - 4 weeks	2	14.3
5 - 8 weeks	3	21.4
9 - 12 weeks	0	0.0
13 or more weeks	7	50.0
TOTAL	14	100.0

[A]Six terminees indicated they already had a job when they left their high school vocational program.

Two (14.3%) of the 14 secondary Cosmetology terminees secured their first full-time job within two weeks after they left their high school vocational program and began actively seeking full-time employment.

However, seven (50.0%) of the terminees took 13 or more weeks to secure their first full-time job. There were six terminees who indicated they already had a job when they left their high school vocational program.

Table 29 shows how the 1973-74 secondary Cosmetology terminees indicated they got their first full-time job after leaving their high school vocational program.

TABLE 29

HOW THE 1973-74 COSMETOLOGY TERMINEES INDICATED THEY GOT THEIR FIRST FULL-TIME JOB AFTER LEAVING THEIR HIGH SCHOOL VOCATIONAL PROGRAM

How Terminees Secured First Full-Time Job	Number	Percent
Through your vocational teacher	1	5.0
Through your counselor	0	0.0
Through other school teachers or administrators	0	0.0
Through a friend or relative	4	20.0
Through applications to business or industry	6	30.0
Through state (local) employment office	7	35.0
Through a private employment agency	0	0.0
Through radio, T.V., newspaper, or other news media	1	5.0
Other[A]	1	5.0
TOTAL	20	100.0

[A]See listing on page 35 for the "Other" ways terminees indicated they secured their first full-time job after leaving their high school vocational program.

Of the 20 1973-74 Cosmetology terminees who responded to the survey item, seven (35.0%) indicated they got their first full-time job after leaving their high school vocational program through the state employment office, and six (30.0%) through applications to business and industry.

Four (20.0%) of the terminees also indicated they got their first full-time job through a friend or relative. These represented the three methods that the largest number of Cosmetology terminees utilized to secure their first full-time job. Only one (5.0%) of the terminees indicated they secured their first job through their vocational teacher. No student indicated that a counselor got them their first full-time job after leaving their vocational program. Those students who already had a job before leaving their high school vocational program were not shown in Table 29. (See Table 30, page 36)

The terminee who checked the "Other" category specified the means by how he secured his first full-time job after leaving his high school vocational program as follows:

"Other" Means for Securing First Full-Time Job	Number
School Placement	1

Table 30 shows how the 1973-74 Cosmetology terminees who were working while in high school taking their vocational program indicated they got that job.

Ten (16.9%) of the 59 reporting 1973-74 Cosmetology terminees indicated they were working during the time they were in high school taking their vocational program. Of those terminees working while in high school, four (40.0%) got their job through their vocational instructor, and three (30.0%) through their counselor. These two means were the ways most of the terminees secured a job while they were still in high school taking their vocational program.

TABLE 30

HOW THE 1973-74 COSMETOLOGY TERMINEES WHO WERE WORKING WHILE IN HIGH SCHOOL TAKING THEIR VOCATIONAL PROGRAM INDICATED THEY GOT THAT JOB[A]

Who or What Helped Terminee Get Job	Number	Percent
Your vocational teacher	4	40.0
Your counselor	3	30.0
Other school teachers or administrators	1	10.0
Friend or relative	1	10.0
Applications to business or industry	0	0.0
State (local) employment office	0	0.0
Private employment agency	0	0.0
Radio, T.V., newspaper, or other news media	0	0.0
Other	1	10.0
TOTAL	10	100.0

[A]Forty-nine (83.1%) terminees indicated they had no job during the time they were in high school taking their vocational course.

Table 31 reveals the indications of the 1973-74 Cosmetology terminees as whether, before taking their first job, they looked for employment within daily walking or driving distance of home by how their first job related to their vocational training.

Six (60.0%) of the 1973-74 Cosmetology terminees who were employed in their first job indicated they sought employment within daily walking or driving distance of home. Four (40.0%) terminees indicated before taking their first job, they looked for a job beyond daily walking or driving distance of home.

All ten terminees first jobs were in areas not related to their vocational training.

Four terminees indicated they had their first job while in high school. Of those four terminees, none were working in a directly

related area, one (25.0%) in a somewhat related area, and three (75.0%) were working in a non-related area.

TABLE 31

INDICATIONS OF 1973-74 COSMETOLOGY TERMINEES AS TO WHERE THEY LOOKED FOR THEIR FIRST JOB BEFORE TAKING ONE BY HOW THEIR FIRST JOB RELATED TO THEIR TRAINING[A]

Before Taking First Job, Where Terminees Looked for Job	Total Reporting		Total Reporting by Relatedness of First Job to Vocational Training					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Within daily walking or driving distance of home	6	60.0	0	0.0	0	0.0	6	60.0
Beyond daily walking or driving distance of home[B]	4	40.0	0	0.0	0	0.0	4	40.0
TOTAL	10	100.0	0	100.0	0	100.0	10	100.0

[A]Four terminees indicated they already had their first job while in high school. Of those four terminees, none were working in a directly related area, one (25.0%) in a somewhat related area, while three (75.0%) were working in a non-related area.

[B]See listing below for reasons terminees gave for seeking their first job away from home.

The following is a listing of reasons terminees gave for seeking a job beyond daily walking or driving distance of their home before accepting their first job. The four terminees who indicated they sought a job beyond daily walking or driving distance of home before accepting their first job gave reasons why they sought that job.

Reasons for Seeking Job Beyond Daily Walking or Driving Distance Before Accepting First Job	Number
No job close to home	1
Money	1
No license	1
Already employed	1

Table 32 reveals the indications of the 1973-74 Cosmetology terminees who were working in their first job not related to their training by whether or not they tried to get a job related to their training by where they looked for employment before accepting that first job.

TABLE 32

INDICATIONS OF THE 1973-74 COSMETOLOGY TERMINEES WORKING IN FIRST JOB NOT RELATED TO THEIR TRAINING BY WHETHER OR NOT THEY TRIED TO GET A JOB RELATED TO THEIR TRAINING BY WHERE THEY LOOKED FOR EMPLOYMENT BEFORE ACCEPTING FIRST JOB[A]

Where Terminees Working in Non-Related Areas Looked for Employment Before Accepting First Job	Total Reporting		Before Accepting This First Job Unrelated to Training Whether Terminees Sought Job in Related Area			
			Yes		No[B]	
	No.	%	No.	%	No.	%
Sought employment within daily walking or driving distance of their home	6	60.0	2	50.0	4	66.7
Sought employment beyond daily walking or driving distance of their home	4	40.0	2	50.0	2	33.3
TOTAL	10	100.0	4	100.0	6	100.0

[A]Totals in this table may not correspond with totals of terminees for non-related categories in other tables for the following reasons: (1) some terminees had jobs when leaving program and did not have to seek employment and (2) some terminees failed to respond to one or more of the related questions from which data was drawn.

[B]See page 21 for the listing of reasons terminees who were working in non-related jobs gave for not trying to secure a job that was related to their training.

Of the ten terminees who were working in a non-related first job, only two (20.0%) sought related employment beyond daily walking or driving distance of home before accepting their first job.

Table 33 illustrates the indications of the 1973-74 Cosmetology terminees as to where they looked for a job before taking their present job by how their present job is related to their vocational training.

TABLE 33

INDICATIONS OF 1973-74 COSMETOLOGY TERMINEES AS TO WHERE THEY LOOKED FOR A JOB BEFORE TAKING THEIR PRESENT JOB BY HOW THEIR PRESENT JOB RELATED TO THEIR TRAINING[A]

Where Terminees Looked for Job Before Taking Present Job	Total Reporting		Total Reporting by Relatedness of Present Job to Vocational Training					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Within daily walking or driving distance of home	4	50.0	0	0.0	0	0.0	4	50.0
Beyond daily walking or driving distance of home[B]	4	50.0	0	0.0	0	0.0	4	50.0
TOTAL	8	100.0	0	100.0	0	100.0	8	100.0

[A]Two terminees reported they already had their present job while in high school. Both were working in non-related areas.

[B]See listing, page 40, for reasons terminees gave for seeking their present job away from home.

Four (50.0%) of the presently employed 1973-74 Cosmetology terminees indicated they sought employment within daily walking or driving distance of home. Four (50.0%) terminees indicated they sought employment beyond daily walking or driving distance of home.

All eight terminees who were presently working were in a non-related area. Four (50.0%) sought employment beyond daily walking or driving distance of his home.

Two terminees reported they already had their present job while in high school. Both were in non-related areas.

The following is a list of reasons terminees gave for seeking a job beyond daily walking or driving distance of their home before accepting their present job. The four terminees who indicated they sought a job beyond daily walking or driving distance of home before accepting their present job gave reasons why they sought that job.

Reasons for Seeking Job Beyond Daily Walking or Driving Distance Before Accepting Present Job	Number
No jobs in small town	2
Was not many choices around	1
Not trained	1

Table 34 reveals the indications of the 1973-74 Cosmetology terminees who were working in their present job not related to their training by whether or not they tried to get a job related to their training by where they looked for employment before accepting that present job.

Only two (25.0%) of the eight terminees who were working in a non-related area sought related employment beyond daily walking or driving distance of home before accepting their present job.

TABLE 34

INDICATIONS OF THE 1973-74 COSMETOLOGY TERMINEES WORKING IN PRESENT JOB NOT RELATED TO THEIR TRAINING BY WHETHER OR NOT THEY TRIED TO GET A JOB RELATED TO THEIR TRAINING BY WHERE THEY LOOKED FOR EMPLOYMENT BEFORE ACCEPTING PRESENT JOB[A]

Before Accepting Present Job Where Terminees Working in Non-Related Areas Looked for Employment	Total Reporting		Before Accepting This Present Job Unrelated to Training Whether or Not Terminees Sought Job In Related Area			
			Yes		No[B]	
	No.	%	No.	%	No.	%
Sought employment within daily walking or driving distance of their home	4	50.0	1	33.3	3	60.0
Sought employment beyond daily walking or driving distance of their home	4	50.0	2	66.7	2	40.0
TOTAL	8	100.0	3	100.0	5	100.0

[A]Totals in this table may not correspond with totals of terminees for non-related categories in other tables for the following reasons: (1) some terminees had jobs when leaving programs and did not have to seek employment and (2) some terminees failed to respond to one or more of the related questions from which data was drawn.

[B]See page 24 for the listing of reasons terminees who were working in non-related jobs gave for not trying to secure a job that was related to their training.

APPENDIX

PRESENT JOB AND FIRST JOB TITLES OF THE 1973-74
COSMETOLOGY TERMINEES

PRESENT JOB AND FIRST JOB TITLES OF THE 1973-74 COSMETOLOGY TERMINEES

For those terminees who indicated present or first job occupations, this appendix lists the present job title and first job title. The job titles are listed as the terminees reported them. The number of full-time jobs held by these terminees since completing their high school vocational course is listed, current employment status is listed, and whether the student intended to get a job in the area while in the program.

The following code is used to identify the employment status of the terminees:

0. Unemployed, but seeking employment
1. Employed full time
2. Employed part time, seeking full-time job
3. Employed part time, not seeking full-time job
4. Employed full time and attending school
5. Employed part time and attending school
6. Unavailable for employment

The following code is used to identify whether the student intended to get a job in the area while in the program:

1. No
2. Was not sure
3. Yes

The number in parenthesis behind the job titles indicates the relatedness of the high school vocational training to these jobs. The terminees

made the judgment as to the relatedness of their training to these jobs. The following is used to identify this relatedness:

1. Directly related
2. Somewhat related
3. Not related

The total does not correspond to the total reporting since some of the terminees failed to indicate the title of their present position. If the first job title was the same as the present job title, the first job title is included under the present job title.

OE Code 17.2602 - Cosmetology

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
1	0	0	2	Stock cashier, helper (1)	
2	4	0	1	N.Y.C. desk reces. (3)	Out-reach field worker (3)
3	1	1	3	Cosmetologist (1)	
4	0	0	3	Food service worker (3)	
5	1	1	3	Cotton mill winder hand (3)	
6	1	1	2	Ticket server (3)	
7	1	1	3	Waitress (3)	Waitress (3)
8	1	1	3	Secretary (3)	
9	0	2	3	Shampooing hair	
10	0	0	2	NYCP city cleaner (3)	
11	1	1	2	Packer (3)	Babysitter, housekeeper (3)
12	2	2	2	Waitress (3)	
13	1	1	2	Cashier (3)	
14	0	1	2		Floristry (2)
15	0	2	3	Crealing and cleaning up (3)	Sleeve setter (3)

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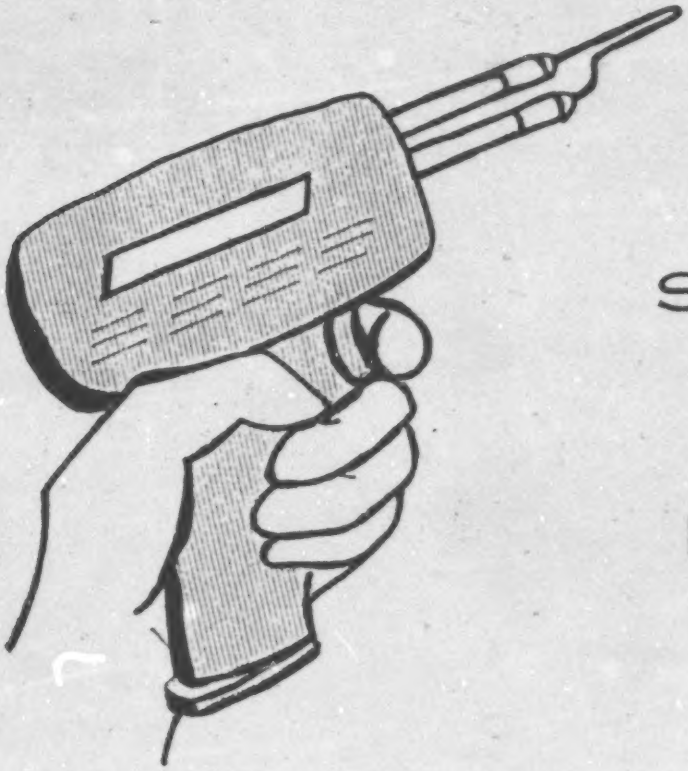

1973-1974 ALABAMA SECONDARY WELDING FOLLOW-UP REPORT

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IN COOPERATION WITH DIVISION OF
VOCATIONAL EDUCATION AND COMMUNITY COLLEGES
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WELDING FOLLOW-UP

Follow-Up of 1973-74 Welding Terminees
From the Secondary School Vocational
Programs of Alabama

Research and Development Report No. 35

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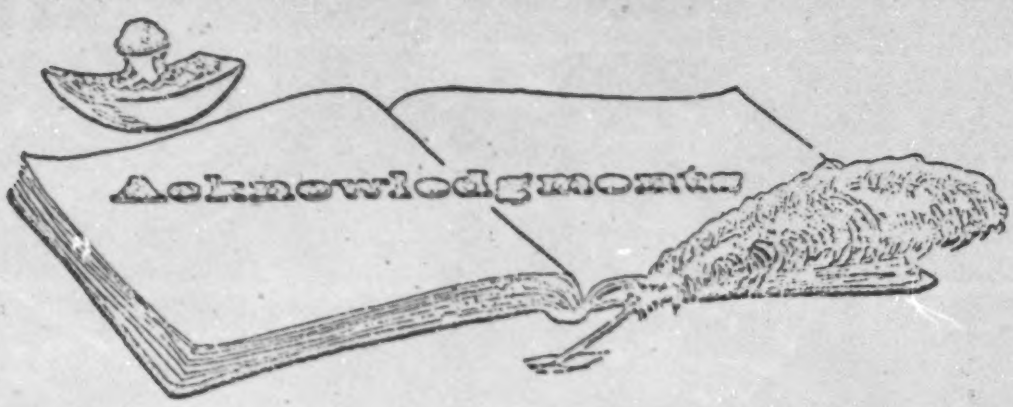

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FOLLOW-UP OF 1973-74 WELDING TERMINEES
FROM THE SECONDARY SCHOOL VOCATIONAL
PROGRAMS OF ALABAMA

Alabama continues to support one of the most progressive and comprehensive vocational education programs in the nation. In addition to serving youth and adults by training them for gainful and useful employment, the diversification of vocational courses meets a serious job need and contributes to the industrial development in the state.

With the millions of tax dollars being spent on vocational education, it is necessary to attempt to account to the taxpayer and decision-makers on the results of those expenditures. Terminee student follow-up studies constitute one of the most valuable techniques for assessing vocational education system outcomes.

The Alabama State Department of Education, Division of Vocational Education and Community Colleges, recognizing this important phase of accountability and evaluation, initiated the development of a statewide follow-up system for its vocational education program terminees at the secondary school level. The Division, under the direction of Dr. T. L. Faulkner, State Director, contracted with the Occupational Research and Development Unit at Auburn University to develop and implement the statewide follow-up system for all its secondary vocational terminees in all service areas.

This report relates the findings of the survey instrument mailed to the 1973-74 Welding terminees from the secondary school vocational

programs of Alabama. When the terminees received the questionnaire, most had been out of school seven to eight months.

General Information

Student rosters with names and addresses of 1973-74 Welding terminees were received from 54 secondary school vocational teachers in Alabama. Of the 54 teachers from which student rosters were received, 26 were in Secondary Area Vocational Centers (AVC) and 28 were in programs in schools of other settings. The total of 469 student terminees reported to the ORDU were mailed the follow-up forms. Returns were received from 130 (27.7%) of the Welding terminees from the initial mailing and one follow-up. At least one student questionnaire was received from 36 of the 54 programs.

All terminees reported in this study were in programs administered only by the Division of Trade & Industrial Education, State Department of Education.

Table 1 presents data relative to the total population of Welding terminees and the number of returns categorized by type school and termination status.

TABLE 1

DESCRIPTION OF TOTAL POPULATION AND RETURNS OF 1973-74 WELDING TERMINEES BY TYPE SCHOOL AND TERMINATION STATUS[A]

Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns
Area Vocational Centers			
Total	275	85	30.9
Completers[B]	192	72	37.5
Dropouts[C]	83	13	15.7
Other Type Schools			
Total	194	45	23.2
Completers	128	40	31.3
Dropouts	66	5	7.6
Grand Total	469	130	27.7
Completers	320	112	35.0
Dropouts	149	18	12.1

[A]These Welding terminees were in programs administered only under the service area of Trade and Industrial Education, State Department of Education.

[B]Any terminee who left the program by completing or by high school graduation.

[C]Any terminee the instructor reported as having dropped out of school.

Table 2 illustrates the sex characteristics of those 1973-74 Welding terminees reported by the instructors and those who returned survey forms.

TABLE 2

SEX OF THE 1973-74 WELDING TERMINEES REPORTED AND BY WHO RETURNED QUESTIONNAIRES

Sex[A]	Reported		Returns	
	Number	Percent	Number	Percent
Male	446	95.1	124	95.4
Female	1	0.2	1	0.8
Not Known	22	4.7	5	3.8
TOTAL	469	100.0	130	100.0

[A]Sex as reported by teacher.

Table 3 presents the racial or ethnic characteristics of those 1973-74 Welding terminees reported by instructors and who returned survey forms.

TABLE 3

RACIAL OR ETHNIC CHARACTERISTICS OF THE 1973-74 WELDING TERMINEES REPORTED AND BY WHO RETURNED QUESTIONNAIRES

Racial or Ethnic Group[A]	Reported		Returns	
	Number	Percent	Number	Percent
American Indian	0	0.0	0	0.0
Black	126	26.9	21	16.2
Oriental	0	0.0	0	0.0
Spanish Surnamed American	0	0.0	0	0.0
White	335	71.4	107	82.3
Other	0	0.0	0	0.0
Not Known	8	1.7	2	1.5
TOTAL	469	100.0	130	100.0

[A]Racial or Ethnic Group as reported by teacher.

Table 4 illustrates the number and grade level of the 1973-74 Welding terminees reported who dropped out of school during the academic year and by who returned the questionnaire.

TABLE 4

NUMBER OF THE 1973-74 WELDING TERMINEES REPORTED WHO DROPPED OUT OF SCHOOL DURING THE 1973-74 SCHOOL YEAR BY GRADE LEVEL

Grade Level Upon Dropping Out of School	Reported		Returns	
	Number	Percent[A]	Number	Percent[B]
Ninth	12	2.6	1	8.3
Tenth	33	7.0	4	12.1
Eleventh	46	9.8	5	10.9
Twelfth	24	5.1	3	12.5
Grade Level Not Indicated by Teacher	34	7.2	5	14.7
TOTAL	149	31.7	18	12.1

[A]Percentage is based on 469 total reported terminees.

[B]Percentage is based on returns by grade.

Table 5 shows the number of 1973-74 Welding terminees who indicated whether they were in active full-time military service.

TABLE 5

ACTIVE FULL-TIME MILITARY STATUS OF 1973-74 WELDING TERMINEES WHO RETURNED QUESTIONNAIRES

Active Full-Time Military Status	Number	Percent
Yes	4	3.1
No	119	91.5
No Response	7	5.4
TOTAL	130	100.0

Basic Information Related to the Vocational Education Program

Table 6 points out the number of 1973-74 Welding terminees who indicated whether this vocational program was a school requirement.

TABLE 6

1973-74 WELDING TERMINEES WHO INDICATED WHETHER THEIR VOCATIONAL PROGRAM WAS A SCHOOL REQUIREMENT

Vocational Courses Was a School Requirement	Number	Percent
Yes	9	6.9
No	120	92.3
No Response	1	0.8
TOTAL	130	100.0

Table 7 indicates, according to the 1973-74 Welding terminees, the primary source of influence in selecting their vocational course.

TABLE 7

PRIMARY INFLUENCES ON THE 1973-74 WELDING TERMINEES IN SELECTING THEIR VOCATIONAL COURSE

Group or Individual Terminees Felt Influenced Them Most in Selecting Vocational Course	Number	Percent
Parent(s) or Guardian(s)	11	8.5
Guidance Counselor	6	4.6
Your Vocational Teacher	4	3.1
Another Teacher or Principal	3	2.3
Student in VED Program	4	3.1
A Friend or Relative	3	2.3
A Businessman	1	0.8
Made Choice Yourself	97	74.6
Other (Brother)	1	0.8
No Response	0	0.0
TOTAL	130	100.0

Parents or Guardians appeared to be the greatest outside influence on those terminees enrolling in the Welding program. Eleven (8.5%) of the terminees responding indicated that their Parent(s) or Guardian(s) influenced them most in selecting their Welding course. However, 97 (74.6%) indicated that they selected their course of study on their own. Six terminees (4.6%) indicated that a guidance counselor influenced them most in selecting their program. Four (3.1%) of the terminees indicated that their vocational teacher influenced them most in selecting their course in Welding.

Table 8 indicates terminees' opinions as to whether they had adequate job or occupational information and school experiences to make a realistic career choice.

TABLE 8

OPINIONS OF 1973-74 WELDING TERMINEES AS TO WHETHER THEY HAD ADEQUATE JOB OR OCCUPATIONAL INFORMATION AND SCHOOL EXPERIENCES TO MAKE A REALISTIC CAREER CHOICE

	Number	Percent
Yes	113	86.9
No	16	12.3
No Response	1	0.8
TOTAL	130	100.0

Table 9 indicates whether, during the time they were taking their high school vocational program, the reporting 1973-74 terminees intended to get a job in Welding.

TABLE 9

INDICATIONS OF 1973-74 WELDING TERMINEES AS TO WHETHER, DURING THE TIME THEY WERE TAKING THEIR HIGH SCHOOL VED PROGRAM, THEY PLANNED TO GET A JOB IN THEIR AREA OF STUDY

Intended To Get Job In Area of Study	Number	Percent
Yes	92	70.8
No	7	5.4
Was Not Sure	31	23.8
No Response	0	0.0
TOTAL	130	100.0

It is interesting to note that 92 (70.8%) of the 1973-74 reporting Welding terminees indicated that during the time they were taking their Welding program, they intended to get a job in the area they were studying.

Table 10 indicates terminees' opinions on choosing the Welding program if they had the selection to make again.

A noteworthy point was revealed by the data. Of the 1973-74 Welding terminees, 116 (89.2%) indicated that they would select the same vocational program if they had the choice to make again. Only one (0.8%) of the responding terminees indicated that they would not take a vocational program.

TABLE 10

OPINIONS OF 1973-74 WELDING TERMINEES REGARDING THEIR VOCATIONAL PROGRAM

Question: If You Had It To Do Over Again, Would You...?	Number	Percent
Take the same vocational program	116	89.2
Not take a vocational program	1	0.8
Choose another vocational program offered in your school, such as _____ [A]	10	7.7
Choose another vocational program if it had been offered in your school, such as _____ [B]	1	0.8
No Response	2	1.5
TOTAL	130	100.0

[A]See listing I-A below for those other vocational programs offered in terminees' school that they would have taken instead of their Welding programs.

[B]See listing I-B below for the vocational programs the terminee would have taken instead of their Welding program if it had been offered in their school.

Listing I-A -- Courses offered in their school that Welding terminees indicated they would have taken if they had it all to do over again.

Course	Number
Auto mechanics	2
Commercial art	1
Mechanics	1
Air conditioning/refrigeration	1
Electricity	1
Electronics	1

Listing I-B -- Courses Welding terminees indicated they would have taken if they had it all to do over again and the course were offered in their school.

Course	Number
Electricity	2
Electronics	1
Landscaping	1
Auto mechanics	1

Table 11 indicates the extent to which the reporting 1973-74 Welding terminees felt their high school vocational programs prepared them for their first job. This data was also broken down by how that first job related to their vocational program.

Terminees who were in full-time active military service or who had never been employed were not asked to respond to the questions from which this data was reported. Also, the terminees who failed to respond to the question items were not indicated in the table.

TABLE 11

PERCEPTIONS OF 1973-74 WELDING TERMINEES AS TO THE EXTENT THEIR HIGH SCHOOL VOCATIONAL PROGRAM PREPARED THEM FOR THEIR FIRST FULL-TIME JOB BY HOW FIRST FULL-TIME JOB RELATED TO TRAINING

Extent Vocational Course Prepared for First Full-Time Job	Total Reporting		Number Reporting by Relatedness of First Full-Time Job to Training Received					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Excellent	23	25.6	16	44.4	3	15.8	4	11.4
Well Prepared	29	32.2	14	38.9	12	63.1	3	8.6
Fair	9	10.0	5	13.9	2	10.5	2	5.7
Poorly Prepared	3	3.3	1	2.8	1	5.3	1	2.9
Preparation not related to job	26	28.9	0	0.0	1	5.3	25	71.4
TOTAL	90	100.0	36	100.0	19	100.0	35	100.0

In noting the extent to which the 1973-74 Welding terminees felt their high school vocational course prepared them for their first full-time job by how their first full-time job related to the training they

received in their high school Welding program, some intersting points were revealed. Fifty-two (57.8%) of the 1973-74 Welding terminees responding to this item indicated "Excellent" or "Well Prepared" for their first full-time job as a result of the training received in their high school vocational education program. Thirty (83.3%) of the 36 terminees employed in their first full-time job related directly to their training felt they were excellent or well prepared for this first job. Thirty-five of the 90 terminees felt that their preparation did not relate to their job. Of all the responding terminees, only three (3.3%) felt that they were poorly prepared for their first full-time job. Of these, only one was working in an area directly related to his vocational course.

Table 12 indicates the extent to which the reporting 1973-74 Welding terminees felt their high school vocational course prepared them for their present job. Also shown in the table is a breakdown of the data by how their present job was related to their vocational program.

Terminees in active full-time military service, and students who were attending school full time and had not had a job, were not asked to respond to the question from which Table 12 was prepared. Also, those other students who failed to respond to the items were not shown on the table.

Of the 88 terminees responding to these items, 45 (51.2%) indicated "Excellent" or "Well Prepared" for their present job as a result of their high school vocational program. Only two (2.3%) terminees reported feeling poorly prepared for their present job as a result of their training.

TABLE 12

PERCEPTIONS OF 1973-74 WELDING TERMINEES AS TO THE EXTENT THEIR HIGH SCHOOL VOCATINAL COURSE PREPARED THEM FOR THEIR PRESENT JOB BY HOW THEIR PRESENT JOB RELATED TO TRAINING

Extent Vocational Course Prepared for Present Job	Total Reporting		Number Reporting by Relatedness of Present Job to Training Received					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Excellent	13	14.8	6	20.0	4	19.0	3	8.1
Well Prepared	32	36.4	14	46.7	14	66.7	4	10.8
Fair[A]	12	13.6	9	30.0	2	9.5	1	2.7
Poorly Prepared	2	2.3	1	3.3	0	0.0	1	2.7
Preparation not related to job	29	32.9	0	0.0	1	4.8	28	75.7
TOTAL	88	100.0	30	100.0	21	100.0	37	100.0

[A]See listing below for reasons terminees specified for only being trained "Fair" by their vocational course for their present job.

Twenty (66.7%) of the 30 responding terminees working in an area directly related to their high school vocational program indicated that they felt excellent or well prepared by their training.

Several terminees who indicated "Fair" as the extent their vocational program prepared them for this present job indicated reasons for this. The following lists the reasons the 1973-74 Welding terminees indicated for being trained only "Fair" by their vocational course for their present job:

1. Used wrong techniques
2. Did well one year
3. Only had three years

(continued)

4. Not enough
5. Do some welding
6. Enrolled too late
7. Waiting for building
8. Different type machines
9. Not enough time
10. Needed different type welding

None of the terminees who indicated they were "Poorly Prepared" for their present job by their vocational program gave reasons why they felt that way.

Table 13 focuses on the Welding student club. The researchers sought to determine the extent to which the 1973-74 Welding terminees felt that their high school student club aided in preparing them for their present job. Data are also broken down by the relationship of the present job to the vocational training received.

TABLE 13

PERCEPTIONS OF 1973-74 WELDING TERMINEES AS TO THE EXTENT THEIR HIGH SCHOOL VOCATIONAL STUDENT CLUB PREPARED THEM FOR THEIR PRESENT JOB BY HOW THEIR PRESENT JOB RELATED TO TRAINING[A]

Extent High School Vocational Student Club Helped Prepare for Present Job	Total Reporting		Total Reporting by Relatedness of Present Job to Vocational Training					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Excellent	8	15.7	4	21.0	2	14.3	2	11.1
Well Prepared	12	23.5	6	31.6	2	14.3	4	22.2
Fair	28	54.9	8	42.1	9	64.3	11	61.1
Poorly Prepared	3	5.9	1	5.3	1	7.1	1	5.6
TOTAL	51	100.0	19	100.0	14	100.0	18	100.0

[A]Of the 94 who responded, 13 (13.8%) had no related student club available, and 30 (19.1%) were not members of a related student club.

Only respondents who had had a job since terminating their high school vocational Welding program were asked to respond to the question reported in Table 13. Students in active full-time military service were excluded. Thirteen (13.8%) of the 94 terminees reported no related student club was available, while 30 (19.1%) were not members of a related student club.

Twenty (39.2%) of the 51 terminees who participated in student club activities indicated they were "Excellent" or "Well Prepared" by their related student club for their present job. Three (5.9%) indicated they were "Poorly Prepared" by their related student club for their present job. Of those three, only one (33.3%) was in a related job.

Of those terminees who were working in an area directly related to the training they received in their high school vocational program, ten (52.6%) revealed that they were "Excellent" or "Well Prepared" for their present job by their related student club. Only one (5.3%) of the 19 terminees who were working in a job directly related to the training they received indicated he was "Poorly Prepared" for his present job by his related student club.

Table 14 reports how the 1973-74 Welding terminees rated the quality of teaching by their high school vocational instructors.

One hundred eighteen (90.8%) of the 130 reporting 1973-74 Welding terminees rated the quality of teaching by their vocational instructor either "Good" or "Excellent." Only two (1.5%) rated the quality of teaching by their instructors "Poor" or "Very Poor."

TABLE 14

1973-74 WELDING TERMINEES' RATINGS OF THE QUALITY OF TEACHING BY THEIR HIGH SCHOOL VOCATIONAL INSTRUCTORS

Rating	Number	Percent
Excellent	85	65.4
Good	33	25.4
Fair	9	6.9
Poor	0	0.0
Very Poor	2	1.5
No Response	1	0.8
TOTAL	130	100.0

Table 15 illustrates how the 1973-74 Welding terminees rated their high school vocational instructor's interest in their class work.

TABLE 15

1973-74 WELDING TERMINEES' RATINGS OF THEIR HIGH SCHOOL VOCATIONAL INSTRUCTOR'S INTEREST IN THE STUDENT'S CLASS WORK

Rating	Number	Percent
Excellent	80	61.5
Good	41	31.5
Fair	7	5.4
Poor	0	0.0
Very Poor	2	1.5
No Response	0	0.0
TOTAL	130	100.0

One hundred twenty-one (93.0%) of the 130 reporting 1973-74 Welding terminees rated the interest exhibited by their high school vocational

instructor in their class work as "Good" or "Excellent." Only two (1.5%) of the terminees rated the interest their vocational instructors showed in their class work as "Poor" or "Very Poor."

Table 16 points out how the 1973-74 Welding terminees subjectively rated the knowledge their vocational teachers possessed about their field of study. This rating is also shown in the table by a breakdown of how the terminees' present job related to the training they received in their high school vocational program. Terminees were asked to base their judgments on their current knowledge of their job and responsibilities.

TABLE 16

1973-74 WELDING TERMINEES' RATINGS OF THE KNOWLEDGE THEIR HIGH SCHOOL VOCATIONAL TEACHER POSSESSED ABOUT THEIR FIELD OF STUDY BY HOW THE TERMINEES' PRESENT JOB RELATED TO THE TRAINING THEY RECEIVED

Rating[A]	Total Reporting		Number Reporting by Relatedness of Present Job to Training Received					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Excellent	49	52.7	19	63.3	10	47.6	20	47.6
Good	31	33.3	5	16.7	11	52.4	15	35.7
Fair	12	12.9	6	20.0	0	0.0	6	14.3
Poor	1	1.1	0	0.0	0	0.0	1	2.4
Very Poor	0	0.0	0	0.0	0	0.0	0	0.0
TOTAL	93	100.0	30	100.0	21	100.0	42	100.0

[A]Ratings were to be based on terminee's judgment of their current knowledge of their job and responsibilities.

Total responses to this item indicates that 80 (86.0%) of the 93 responding 1973-74 Welding terminees rated the knowledge their vocational teachers possessed about their field of study either "Good" or "Excellent." For those 30 terminees working in an area directly related to the training they received, 24 (80.0%) rated the knowledge their teachers possessed about their field of study as "Good" or "Excellent." A favorable point was revealed in that only one of those terminees rated the knowledge their vocational teachers possessed about their field of study as "Poor" and none "Very Poor."

If the respondent was working in an area related to his training, he was asked to compare the facilities and equipment in his high school vocational program with those on his present job. Table 17 illustrates how the 1973-74 Welding terminees responded.

TABLE 17

HOW 1973-74 WELDING TERMINEES WORKING IN A RELATED AREA RATED THE FACILITIES AND EQUIPMENT IN THEIR HIGH SCHOOL VOCATIONAL PROGRAM[A]

Rating[B]	Number	Percent
Better than those on present job	8	26.7
Similar to those on present job	17	56.7
Not as good as those on present job	5	16.6
TOTAL	30	100.0

[A]Thirty-five (53.8%) of the responding 65 terminees indicated that their present job was not related to their vocational training enough to compare facilities and equipment.

[B]Persons who had not had a job since leaving their vocational program, including those in military service and those who attended school, were asked not to respond to questions from which data was drawn. Returns were received from 130 terminees.

Eight (26.7%) of the 30 responding 1973-74 Welding terminees working in an area related to their training rated the facilities and equipment in their high school vocational program as better than those on their present job. Seventeen (56.7%) rated the facilities and equipment in their high school vocational program as similar to those on their present job, while five (16.6%) rated the facilities and equipment not as good as those on their present job.

Table 18 shows how 1973-74 Welding terminees, who were in a cooperative work program in school and were now working in an area related to their vocational training, rated the facilities and equipment used in their cooperative work station.

TABLE 18

HOW 1973-74 WELDING TERMINEES NOW WORKING IN A RELATED AREA, WHOSE VOCATIONAL PROGRAM INCLUDED COOPERATIVE WORK, RATED FACILITIES AND EQUIPMENT USED IN THEIR COOPERATIVE WORK STATION[A]

Rating[B]	Number	Percent
Better than those on present job	6	24.0
Similar to those on present job	15	60.0
Working at same place where cooperative training was done	0	0.0
Not as good as those on present job	4	16.0
TOTAL	25	100.0

[A]Four (6.7%) of the responding 60 Welding terminees indicated their vocational program was not a cooperative program. Thirty-one (51.7%) terminees indicated they were not working in an area related to their cooperative work; therefore, they did not complete this item on the questionnaire.

[B]Persons who had not had a job since leaving their vocational program, including those in military service and those attending school, were asked not to respond to questions from which data was drawn. Returns were received from 130 terminees.

Six (24.0%) of the 25 responding 1973-74 Welding terminees whose vocational programs had included cooperative work and were now working in an area related to their vocational training, rated the facilities and equipment in his cooperative work station as better than those on his present job. Fifteen (60.0%) rated the facilities and equipment in their cooperative training station as similar to those on their present job. Only four (16.0%) rated the facilities and equipment in their cooperative work station not as good as those in their present job. It was significant to note that none indicated they were working at the same establishment where they did their cooperative training.

Basic Employment Information

The following section of this report offers information relative to employment and job characteristics of the 1973-74 secondary Welding terminees.

Table 19 illustrates the number of full-time jobs the responding 1973-74 Welding terminees have had since leaving their high school vocational course.

TABLE 19

NUMBER OF FULL-TIME JOBS HELD BY THE 1973-74 WELDING TERMINEES SINCE LEAVING THEIR HIGH SCHOOL VOCATIONAL COURSE

Number of Full-Time Jobs Held	Number	Percent[A]
One	35	26.9
Two	26	20.0
Three	5	3.9
Four	0	0.0
Five or more	0	0.0
TOTAL	66	50.8

[A]Percentage is based on the 130 terminees who returned the questionnaire.

There were 35 (26.9%) of the total 130 responding 1973-74 Welding terminees who had been employed in just one job since leaving their high school vocational program. Twenty-six (20.9%) of the terminees reported having two jobs since leaving their high school vocational course seven to eight months ago, and five (3.9%) reported three jobs.

Table 20 reveals the first-job employment status of Welding terminees who returned the survey by the relatedness of their vocational training to their first job.

TABLE 20

FIRST-JOB EMPLOYMENT STATUS OF WELDING TERMINEES (1973-74) BY RELATEDNESS OF VOCATIONAL TRAINING TO FIRST JOB[A]

First Job After Leaving High School Vocational Program	Total Reporting		Relatedness of Vocational Training to First Job[B]					
			Directly Related		Somewhat Related		Not Related[C]	
	No.	%	No.	%	No.	%	No.	%
Full-Time	93	71.5	36	27.7	19	14.6	38	29.2
Part-Time	5	3.8	0	0.0	1	0.8	4	3.1
TOTAL	98	75.3	36	27.7	20	15.4	42	32.3

[A]All percentages were based on the 130 (27.7%) of 469 terminees who returned the survey form.

[B]The terminees made the judgment as to how their first job was related to the training received in their high school vocational program.

[C]See page 21 for reasons terminees who were working in first job unrelated to this vocational training gave for not seeking job that was related before accepting their first job.

Of the 130 responding 1973-74 Welding terminees, 93 (71.5%) were employed full time in their first job after leaving their high school vocational program. Five terminees' first jobs were on a part-time basis.

Thirty-six (27.7%) of the 130 responding terminees' first jobs (full-time or part-time) were in an area directly related to the training they received in their high school vocational course. Twenty (15.4%) were employed in an area somewhat related, while 42 (32.3%) were employed in a first job not related to the training they received. The terminees made the judgment as to how their first job was related to the training they received in their high school vocational program.

Of the 42 terminees who indicated their jobs were not related to their vocational course, 27 (64.3%) terminees indicated that before they accepted their unrelated job, they tried to get a job that was related to their vocational training. However, 15 (35.7%) of the terminees did not.

The following is a list of reasons given by the terminees who, before taking their first unrelated job, indicated they did not seek a job that was related to their vocational training.

Reason	Number
Not enough experience	1
Already had a job	1
Layoffs in the field	1
Didn't want to	1
Didn't learn how	1
Only had one half year	1
No trade school	1

Table 21 shows number of returns by type school and termination status for the first job of the 1973-74 Welding terminees, and the relatedness of their training to this first job.

TABLE 21

NUMBER OF RETURNS BY TYPE SCHOOL AND TERMINATION STATUS FOR 1973-74 WELDING TERMINEES FIRST JOB, AND RELATEDNESS OF TRAINING

Type School and Termination Status	Number of Returns[A]	Total Employed		Relatedness of Training to First Job[E]					
				Directly Related		Somewhat Related		Not Related	
		No.	%	No.	%	No.	%	No.	%
AVC[B]									
Total	85	66	65.3	21	31.8	10	15.2	35	53.0
Completers[C]	72	59	58.4	20	33.9	10	16.9	29	49.2
Dropouts[D]	13	7	6.9	1	14.3	0	0.0	6	85.7
Other Type Schools									
Total	45	35	34.7	15	42.8	10	28.6	10	28.6
Completers	40	33	32.7	15	45.5	10	30.3	8	24.2
Dropouts	5	2	2.0	0	0.0	0	0.0	2	100.0
Grand Total	130	101	100.0	36	35.6	20	19.8	45	44.6
Completers	112	92	91.1	35	38.1	20	21.7	37	40.2
Dropouts	18	9	8.9	1	11.1	0	0.0	8	88.9

[A]Of 469 Welding terminees, 130 (27.7%) returned the questionnaires.

[B]Area Vocational Centers.

[C]Any terminee who left the program by completing or by high school graduation.

[D]Any terminee who the instructor reported as having dropped out of school.

[E]The terminees made the judgment as to how their first job was related to the training received in their high school vocational program.

Table 22 illustrates the current employment status of the responding terminees by the relatedness of their vocational training to their present jobs. All percentages figured in the table were based on the 130 (27.7%) returns from the 469 Welding terminees.

TABLE 22

CURRENT EMPLOYMENT STATUS OF WELDING TERMINEES (1973-74)
BY RELATEDNESS OF TRAINING TO PRESENT JOB[A]

Employmens Status	Total Respond-ing		Relatedness of Training to Present Job[B]							
			Directly Related		Somewhat Related		Not Related[E]		Employed No Response	
	No.	%	No.	%	No.	%	No.	%	No.	%
Employed full time and not attending school	75	57.7	26	20.0	17	13.1	32	24.6	0	0.0
Employed full time and attending school	6	4.6	2	1.5	1	0.8	3	2.3	0	0.0
Employed part time and seeking full-time job	4	3.1	0	0.0	2	1.5	1	0.8	1	0.8
Employed part time and not seeking full-time job	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Employed part time and attending school	5	3.8	1	0.8	0	0.0	4	3.1	0	0.0
Unemployed (actively seeking a job)[C]	13	10.0	N/A		N/A		N/A		N/A	
Unavailable for employment[C&D]	1	0.8	N/A		N/A		N/A		N/A	
No Response	26	20.0	N/A		N/A		N/A		N/A	
TOTAL	130	100.0	29	22.3	20	15.4	40	30.8	1	0.8

[A]All percentages were based on the 130 (27.7%) respondents of the total 469 terminees. Terminees in active full-time military service or attending school full time and had never been employed were included in the "No Response" category.

[B]The terminees made the judgment as to how their present job was related to the training received in their high school vocational program.

[C]The unemployed and unavailable for employment categories do not include persons in the military service and persons who were in school full time and never had a job.

[D]See page 24 for the listing of reasons Welding terminees gave for being unavailable for employment.

[E]See page 25 for reasons terminees who were working in present job not related to vocational training gave for not seeking related job before accepting present job. Totals for unrelated columns may not correspond because terminees failed to respond to one of the two questions from which data was drawn.

Of the 130 responding 1973-74 secondary Welding terminees, 81 (62.3%) were presently employed full time and not attending school or employed full time and attending school. Five (3.8%) of the terminees were employed part time and attending school, while only one (0.8%) was unavailable for employment (See page 24 for reasons terminees were unavailable for employment). Only 13 (10.0%) of the terminees were unemployed and actively seeking employment, while four (3.1%) were employed part time and seeking full-time employment.

The "No Response" category in Table 22 includes three groups: (1) terminees in active full-time military service; (2) terminees who were in school full time and had never had a job; and (3) terminees who failed to respond to the item on the questionnaire.

Of the 130 secondary Welding respondees, 29 (22.3%) were presently employed full time or part time in an area directly related to the training received in their high school vocational course. Twenty (15.4%) were employed either part time or full time in an area somewhat related to their training, while 40 (30.8%) were employed in areas not related to their training. The terminees made the judgment as to how their present employment was related to the training received in their high school vocational course.

Below is a list of the reasons given by the terminees for being unavailable for employment.

Reason	Number
In school full time	4
Presently not working, not	0
interested in a job	0
Homemaker	0
Pregnancy	0
Illness or disability	0
Other	0

Of the 43 terminees who indicated their present jobs were not related to their vocational course, 29 (67.4%) terminees indicated that before

they accepted their unrelated job, they tried to get a job that was related to their vocational training. However, 14 (32.6%) of the terminees did not.

The following is a list of reasons given by the terminees who, before taking their present unrelated job, indicated they did not seek a job that was related to their vocational training.

Reason	Number
Worked full time	1
Left Welding	1
Already had job	1
Didn't finish	1
Money	1
No jobs	1
Not enough training	1
Changed fields	1
No part-time jobs	1
Pay too low	1
Have asthma	1

Table 23 shows for the present job, by termination status, the number of 1973-74 secondary Welding terminees employed by the relatedness of their vocational training to their present job. The terminees made the judgment as to how their present job related to the training received in their high school vocational program.

TABLE 23

NUMBER OF RETURNS BY TYPE SCHOOL AND TERMINATION STATUS FOR 1973-74 WELDING TERMINEES PRESENT JOB, AND RELATEDNESS OF TRAINING

Type School and Termination Status	Number of Returns[A]	Total Employed		Relatedness of Training to Present Job[E]					
				Directly Related		Somewhat Related		Not Related	
		No.	%	No.	%	No.	%	No.	%
AVC[B]									
Total	85	63	48.5	21	16.2	10	7.7	32	24.6
Completers[C]	72	57	43.9	20	15.4	10	7.7	27	20.8
Dropouts[D]	13	6	4.6	1	0.8	0	0.0	5	3.8
Other Type Schools									
Total	45	30	23.1	9	6.9	11	8.5	10	7.7
Completers	40	28	21.6	9	6.9	11	8.5	8	6.2
Dropouts	5	2	1.5	0	0.0	0	0.0	2	1.5
Grand Total	130	93	71.6	30	23.1	21	16.2	42	32.3
Completers	112	85	65.4	29	22.3	21	16.2	35	26.9
Dropouts	18	8	6.2	1	0.8	0	0.0	7	5.4

[A]All percentages were based on the 130 (27.7%) of the 469 terminees who returned the questionnaire.

[B]Area Vocational Centers.

[C]Any terminee who left the program by completing or by high school graduation.

[D]Any terminee who the instructor reported as having dropped out of school.

[E]The terminees made the judgment as to how their first job related to the training received in their high school vocational program.

Table 24 indicates the first-job salary ranges as compared to the present-job salary ranges for the 1973-74 Welding terminees.

Of the 94 terminees reporting a salary range for their first job, 19 (20.2%) indicated a range of under $250 per month. Six terminees reported a first salary of over $600 per month. The median and mean

salary ranges for the first job fell in the range of $300 - $349 per month.

TABLE 24

FIRST-JOB SALARY RANGES AND PRESENT-JOB SALARY RANGES FOR 1973-74 WELDING TERMINEES

Salary Ranges	First Job		Present Job	
	No.	%	No.	%
Under $250	19	20.2	11	12.5
$250 - $299	16	17.0	4	4.5
$300 - $349	17	18.1	15	17.0
$350 - $399	8	8.5	10	11.4
$400 - $449	13	13.8	10	11.4
$450 - $499	8	8.5	10	11.4
$500 - $599	7	7.5	14	15.9
$600 - $699	2	2.1	7	8.0
$700 or more	4	4.3	7	8.0
TOTAL	94	100.0	88	100.0

Of the 88 1973-74 Welding terminees reporting a salary range for their present job, 15 (17.0%) indicated between $300 - $349 per month. This salary range was indicative of the mode of the reporting students. The median and mean salary ranges for the present job fell within the range of $350 - $399 per month or less. The median and mean salary ranges of present jobs over first jobs indicate some increase for the reporting Welding terminees.

Table 24A indicates the first-job salary ranges by relatedness of training of the Welding terminees.

Seventeen (19.3%) of the 88 responding terminees were employed at less than $250 per month. Of these 17 terminees, five (29.4%) were employed in a job directly related to their training, three (17.7%) were employed in jobs somewhat related to their training, while nine (52.9%) were employed in jobs not related to their training.

TABLE 24A

FIRST-JOB SALARY RANGES BY RELATEDNESS OF TRAINING OF 1973-74 WELDING TERMINEES

Salary Ranges	Total Terminees Responding	Relatedness of Training to First Job[B]		
		Directly Related	Somewhat Related	Not Related
Under $250	17	5	3	9
$250 - $299	13	3	3	7
$300 - $349	17	5	1	11
$350 - $399	8	4	1	3
$400 - $449	13	6	1	6
$450 - $499	7	2	3	2
$500 - $599	7	1	4	2
$600 - $699	2	2	0	0
$700 or more	4	2	2	0
TOTAL[A]	88	30	18	40

[A]Totals do not match those of Table 24 because some terminees did not respond to all questions.

[B]The terminees made the judgment as to how their first job was related to the training received in their high school vocational program.

All of the 88 responding terminees were males. Thirty (34.1%) were employed in jobs directly related to their vocational training, 18 (20.5%) were employed in jobs somewhat related to their training, while 40 (45.4%) were employed in jobs not related to their training.

Table 24B indicates the present-job salary ranges by relatedness of training of the Welding terminees.

Ten (11.8%) of the 85 responding terminees were employed at less than $250 per month. Of these ten terminees, one (10.0%) was employed in a job directly related to his training, one (10.0%) was employed in a job somewhat related to his training, while eight (80.0%) were employed in jobs not related to their training.

TABLE 24B

PRESENT-JOB SALARY RANGES BY RELATEDNESS OF TRAINING OF 1973-74 WELDING TERMINEES

Salary Ranges	Total Terminees Responding	Relatedness of Training to Present Job[B]		
		Directly Related	Somewhat Related	Not Related
Under $250	10	1	1	8
$250 - $299	4	1	0	3
$300 - $349	14	3	5	6
$350 - $399	10	3	0	7
$400 - $449	10	4	1	5
$450 - $499	10	3	3	4
$500 - $599	13	6	5	2
$600 - $699	7	2	3	2
$700 or more	7	4	2	1
TOTAL[A]	85	27	20	38

[A]Totals do not match those of Table 24 because some terminees did not respond to all questions.

[B]The terminees made the judgment as to how their present job was related to the training received in their high school vocational program.

All of the 85 responding terminees were males. Twenty-seven (31.8%) were employed in jobs directly related to their vocational training. Twenty (23.5%) were employed in jobs somewhat related to their training, while 38 (44.7%) were employed in jobs not related to their training.

Continuing Education Information

The following section of this report presents information relative to the continuing education of the 1973-74 secondary Welding terminees.

Table 25 shows the vocational educational training opportunities terminees have participated in since leaving their high school vocational program.

TABLE 25

ADDITIONAL VOCATIONAL EDUCATIONAL TRAINING 1973-74 SECONDARY WELDING TERMINEES PARTICIPATED IN SINCE LEAVING THEIR HIGH SCHOOL VOCATIONAL PROGRAM[A]

Type Training	Number	Percent[B]
On-the-job training (employer-sponsored program)	17	13.1
Public school adult vocational program	7	5.4
Private vocational school program	1	0.8
University or four year college	1	0.8
Junior college	5	3.8
Post-secondary vocational-technical institute (trade school)	9	6.9
Apprenticeship training program	7	5.4
Specialized occupational military training	2	1.5
Other[C]	5	3.8
TOTAL[D]	54	41.5

[A]Eighty-two (63.1%) of the 130 terminees gave no indication of being involved in additional vocational training. Of the 130 terminees, 42 (32.3%) took part in one additional vocational training opportunity since leaving their high school program. Three (2.3%) took part in two and three (2.3%) terminees took part in the three additional training opportunities.

[B]Percentages are based on the 130 (27.7%) respondents of the total 469 terminees who returned questionnaires.

[C]See page 31 for the "Other" listing as specified by the terminees.

[D]The total indicated the number of different training programs in which terminees enrolled. As footnoted above, several terminees had enrolled in more than one training program.

Of the total terminees, the 17 (13.1%) who were enrolled in on-the-job training represented the largest area where terminees had taken additional vocational training.

Of the 130 responding terminees, 42 (32.3%) had taken part in one additional vocational training program since leaving their high school program. Three (2.3%) enrolled in two training programs, and three (2.3%) terminees had enrolled in three vocational training program. Eighty-two (63.1%) indicated they had not enrolled in any additional vocational training.

The following is a listing of the "Other" (Table 25) vocational education training terminees indicated they had participated in:

"Other" Vocational Training	Number
Learn on the job	1
Not in Welding	1
No work in the area	1
Practice at work	1
Welding training school	1
Builder's school	1

Table 26 points out the additional programs the 1973-74 secondary Welding terminees were presently attending beyond their high school training by whether these programs were related to their high school vocational program.

Of the 130 1973-74 secondary Welding terminees who responded to the survey, one (0.8%) was attending an on-the-job training program (employer-sponsored), five (3.7%) were attending a vocational-technical institute, seven (5.4%) were attending a junior college, four (3.0%) were attending a four year college or university, one (0.8%) was attending a public adult vocational program, one (0.8%) was attending private business or trade school, one (0.8%) was attending an apprenticeship program, and two (1.6%) were attending some other type of school or educational program. (See page 33 for the listing of the other types of school or educational programs students were attending.)

TABLE 26

PROGRAMS PRESENTLY ATTENDED BY THE 1973-74 SECONDARY WELDING TERMINEES BY WHETHER THESE PROGRAMS WERE RELATED TO THEIR HIGH SCHOOL VOCATIONAL EDUCATION PROGRAM[A]

Programs Attended	Terminees		Program Related to High School VED Program			
			Yes		No	
	No.	%	No.	%	No.	%
On-the-job training (employer-sponsored)	1	0.8	1	0.8	0	0.0
Vocational-technical institute (trade school)	5	3.7	5	3.7	0	0.0
Junior college	7	5.4	1	0.8	6	4.6
Four year college or university	4	3.0	0	0.0	4	3.0
Public school adult vocational program	1	0.8	1	0.8	0	0.0
Private business or trade school	1	0.8	0	0.0	1	0.8
Apprenticeship program	1	0.8	1	0.8	0	0.0
Other[B]	2	1.6	1	0.8	1	0.8
TOTAL	22	16.9	10	7.7	12	9.2

[A]All percentages were based on the 130 responding terminees.

[B]See page 33 for listing of "Other" schools or educational institutions terminees were attending.

Twenty-two (16.9%) of the 130 Welding terminees were presently continuing their education. Ten (7.7%) of the terminees were continuing their education in a program related to their high school vocational program. Twelve (9.2%) were attending a program in an area not related to their high school vocational program.

The following is a listing of the "Other" category (Table 26) of additional programs the 1973-74 Welding terminees were attending:

"Other" School or Program	Number
High school vocational	1
Job corps	1
Vocational-technical	1

Of the 130 responding terminees, 83 (63.9%) indicated they would like further vocational training. The following is a list of the areas in which these terminees desired to study:

Area of Study	Number
Welding	46
Electricity	6
Auto mechanics	4
Mechanics	3
Welding and diesel mechanics	2
Conservation forestry	1
Supervisor	1
Respiratory therapy	1
Drafting	1
Blueprint reading	1
Carpenter	1
Pipe fitter	1
Power plant operation	1
Not sure	1

Twenty-nine (22.3%) of the 130 responding terminees indicated they did not desire further training. Eighteen (13.8%) terminees did not respond to the question.

Job Placement Information

The following section of this report presents information concerning job placement of the 1973-74 secondary Welding terminees.

Table 27 points out whether the 1973-74 Welding terminees were seeking full-time employment when they left their high school vocational program and if their vocational teacher attempted to help them get a job.

TABLE 27

WHETHER VOCATIONAL TEACHER ATTEMPTED TO HELP 1973-74 WELDING TERMINEES GET A JOB IF SEEKING FULL-TIME EMPLOYMENT UPON LEAVING THE HIGH SCHOOL VOCATIONAL PROGRAM[A]

Vocational Teacher Attempted To Get Terminee A Job	Number	Percent
Yes	72	81.8
No	16	18.2
TOTAL	88	100.0

[A]Thirty-nine (30.0%) of the responding terminees indicated they were not seeking full-time employment when they left their high school vocational program. Three (2.3%) of the terminees did not respond to the question.

Of the 88 responding 1973-74 Welding terminees indicating they were seeking full-time employment when they left their high school vocational program, 72 (81.8%) indicated that their vocational teacher attempted to help them get a job. However, 16 (18.2%) of the termienes seeking full-time employment indicated that their vocational teacher did not attempt to help them secure employment. It was interesting to note that 39 (30.0%) of the reporting 1973-74 Welding terminees indicated that they were not seeking full-time employment when they left their high school vocational program.

Table 28 illustrates how long it took the 1973-74 Welding terminees to get their first full-time job after they left their high school vocational program and began actively seeking full-time employment.

Thirty-five (56.5%) of the 62 secondary Welding terminees secured their first full-time job within two weeks after they left their high

school vocational program and began actively seeking full-time employment. However, six (9.7%) of the terminees took 13 or more weeks to secure their first full-time job. There were 40 terminees who indicated they already had a job when they left their high school vocational program.

TABLE 28

LENGTH OF TIME IT TOOK THE 1973-74 WELDING TERMINEES TO SECURE FIRST FULL-TIME JOB AFTER LEAVING HIGH SCHOOL VOCATIONAL PROGRAM AND BEGINNING ACTIVELY SEEKING FULL-TIME EMPLOYMENT[A]

Time to Secure First Full-Time Job	Number	Percent
0 - 2 weeks	35	56.5
3 - 4 weeks	7	11.3
5 - 8 weeks	10	16.1
9 - 12 weeks	4	6.4
13 or more weeks	6	9.7
TOTAL	62	100.0

[A]Forty terminees indicated they already had a job when they left their high school vocational program.

Table 29 shows how the 1973-74 secondary Welding terminees indicated they got their first full-time job after leaving their high school vocational program.

Of the 65 1973-74 Welding terminees who responded to the survey item, 25 (38.5%) indicated they got their first full-time job after leaving their high school vocational program through a friend or relative. Fourteen (21.5%) of the terminees also indicated they got their first full-time job through applications to business and industry. These represented the two methods that the largest number of Welding terminees utilized to secure their first full-time job. Only ten (15.4%)

of the terminees indicated they secured their first job through their vocational teacher. One student indicated that a counselor got him his first full-time job after leaving his vocational program. Those students who already had a job before leaving their high school vocational program were not shown in Table 29. (See Table 30, page 37)

TABLE 29

HOW THE 1973-74 WELDING TERMINEES INDICATED THEY GOT THEIR FIRST FULL-TIME JOB AFTER LEAVING THEIR HIGH SCHOOL VOCATIONAL PROGRAM

How Terminees Secured First Full-Time Job	Number	Percent
Through your vocational teacher	10	15.4
Through your counselor	1	1.5
Through other school teachers or administrators	2	3.1
Through a friend or relative	25	38.5
Through applications to business or industry	14	21.5
Through state (local) employment office	8	12.3
Through a private employment agency	0	0.0
Through radio, T.V., newspaper, or other news media	2	3.1
Other[A]	3	4.6
TOTAL	65	100.0

[A]See listing on page 36 for the "Other" ways terminees indicated they secured their first full-time job after leaving their high school vocational program.

The following list indicates the "Other" means the terminees indicated for securing their first full-time job after leaving their high school vocational program.

"Other" Means for Securing First Full-Time Job	Number
Myself	1
Teacher and parent	1

Table 30 shows how the 1973-74 Welding terminees who were working while in high school taking their vocational program indicated they got that job.

TABLE 30

HOW THE 1973-74 WELDING TERMINEES WHO WERE WORKING WHILE IN HIGH SCHOOL TAKING THEIR VOCATIONAL PROGRAM INDICATED THEY GOT THAT JOB[A]

Who or What Helped Terminee Get Job	Number	Percent
Your vocational teacher	6	11.1
Your counselor	1	1.9
Other school teachers or administrators	3	5.6
Friend or relative	22	40.7
Applications to business or industry	8	14.8
State (local) employment office	3	5.6
Private employment agency	0	0.0
Radio, T.V., newspaper, or other news media	1	1.9
Other[B]	10	18.5
TOTAL	54	100.0

[A]Seventy-six (58.5%) terminees indicated they had no job during the time they were in high school taking their vocational course.

[B]See listing, page 38, for "Other" ways terminees listed for securing their job held while in high school.

Fifty-four (41.5%) of the 130 reporting 1973-74 Welding terminees indicated they were working during the time they were in high school taking their vocational program. Of those terminees working while in high school, 22 (40.7%) got their job through a friend or relative, eight (14.8%) got jobs through applications to business or industry, and six (11.1%) through their vocational instructor. These three means were the ways most of the terminees secured a job while they were still in high school taking their vocational program.

The following list indicates the "Other" means the terminees indicated for securing their job while in high school.

"Other" Means for Securing Job While in High School	Number
Myself	2
Father gave job	1
Employer came to school	1
Vocational-technical janitor	1

Table 31 reveals the indications of the 1973-74 Welding terminees as whether, before taking their first job, they looked for employment within daily walking or driving distance of home by how their first job related to their vocational training.

TABLE 31

INDICATIONS OF 1973-74 WELDING TERMINEES AS TO WHERE THEY LOOKED FOR THEIR FIRST JOB BEFORE TAKING ONE BY HOW THEIR FIRST JOB RELATED TO THEIR TRAINING[A]

Before Taking First Job, Where Terminees Looked for Job	Total Reporting		Total Reporting by Relatedness of First Job to Vocational Training					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Within daily walking or driving distance of home	59	83.1	18	81.8	10	83.3	31	83.8
Beyond daily walking or driving distance of home	12	16.9	4	18.2	2	16.7	6	16.2
TOTAL	71	100.0	22	100.0	12	100.0	37	100.0

[A]Twenty-five terminees indicated they already had their first job while in high school. Of those 25 terminees, 11 (44.0%) were working in a directly related area, eight (32.0%) in a somewhat related area, while six (24.0%) were working in a non-related area.

Fifty-nine (83.1%) of the 1973-74 Welding terminees who were employed in their first job indicated they sought employment within daily walking or driving distance of home. Twelve (16.9%) terminees indicated before taking their first job, they looked for a job beyond daily walking or driving distance of home.

Of the 22 terminees who were working in a directly related area, only four (18.2%) sought employment beyond daily walking or driving distance of home.

It is intersting to note that of the 37 terminees whose first jobs did not relate to their training, only six (16.2%) of those terminees sought employment beyond daily walking or driving distance of home.

Twenty-five terminees indicated they had their first job while in high school. Of those 25 terminees, 11 (44.0%) were working in a directly related area, eight (32.0%) in a somewhat related area, and six (24.0%) were working in a non-related area.

None of the terminees who indicated they sought a job beyond daily walking or driving distance of home before accepting their first job, gave reasons why they sought that job.

Table 32 reveals the indications of the 1973-74 Welding terminees who were working in their first job not related to their training by whether or not they tried to get a job related to their training by where they looked for employment before accepting that first job.

It is important to note that of the 35 terminees who were work-in in a non-related first job, only three (8.6%) sought related employment beyond daily walking or driving distance of home before accepting their first job.

TABLE 32

INDICATIONS OF THE 1973-74 WELDING TERMINEES WORKING IN FIRST JOB NOT RELATED TO THEIR TRAINING BY WHETHER OR NOT THEY TRIED TO GET A JOB RELATED TO THEIR TRAINING BY WHERE THEY LOOKED FOR EMPLOYMENT BEFORE ACCEPTING FIRST JOB[A]

Where Terminees Working in Non-Related Areas Looked for Employment Before Accepting First Job	Total Reporting		Before Accepting This First Job Unrelated to Training Whether Terminees Sought Job in Related Area			
			Yes		No[B]	
	No.	%	No.	%	No.	%
Sought employment within daily walking or driving distance of their home	29	82.9	21	87.5	8	72.7
Sought employment beyond daily walking or driving distance of their homg	6	17.1	3	12.5	3	27.3
TOTAL	35	100.0	24	100.0	11	100.0

[A]Totals in this table may not correspond with totals of terminees for non-related categories in other tables for the following reasons: (1) some terminees had jobs when leaving program and did not have to seek employment and (2) some terminees failed to respond to one or more of the related questions from which data was drawn.

[B]See page 21 for the listing of reasons terminees who were working in non-related jobs gave for not trying to secure a job that was related to their training.

Table 33 illustrates the indications of the 1973-74 Welding terminees as to where they looked for a job before taking their present job by how their present job is related to their vocational training.

Fifty-four (78.3%) of the presently employed 1973-74 Welding terminees indicated they sought employment within daily walking or driving distance of home. Fifteen (21.7%) terminees indicated they sought employment beyond daily walking or driving distance of home.

TABLE 33

INDICATIONS OF 1973-74 WELDING TERMINEES AS TO WHERE THEY LOOKED FOR A JOB BEFORE TAKING THEIR PRESENT JOB BY HOW THEIR PRESENT JOB RELATED TO THEIR TRAINING[A]

Where Terminees Looked for Job Before Taking Present Job	Total Reporting		Total Reporting by Relatedness of Present Job to Vocational Training					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Within daily walking or driving distance of home	54	78.3	17	77.3	8	72.7	29	80.6
Beyond daily walking or driving distance of home[B]	15	21.7	5	22.7	3	27.3	7	19.4
TOTAL	69	100.0	22	100.0	11	100.0	36	100.0

[A]Twenty-two terminees reported they already had their present job while in high school. Of those 22 terminees, seven (31.8%) were in a directly related area, ten (45.5%) in a somewhat related area, while five (22.7%) were working in a non-related area.

[B]See listing, page 42, for reasons terminees gave for seeking their present job away from home.

Of the 22 terminees who were working in a directly related area, only five (22.7%) sought employment beyond daily walking or driving distance of home.

Twenty-two terminees reported they already had their present job while in high school. Of those 22 terminees, seven (31.8%) were in directly related areas, ten (45.5%) in somewhat related areas, and five (22.7%) were in non-related areas.

The following is a list of reasons terminees gave for seeking a job beyond daily walking or driving distance of their home before accepting

their present job. The terminees who indicated they sought a job beyond daily walking or driving distance of home before accepting their present job gave the following reasons.

Reasons for Seeking Job Beyond Daily Walking or Driving Distance Before Accepting Present Job	Number
No jobs	4
Good pay	3
Needed job badly	2
Looked in three states	1
To make it on my own	1
Chance of advancement	1
Only people hiring	1
Called by counselor	1
Uncertain	1
Full-time work	1

Table 34 reveals the indications of the 1973-74 Welding terminees who were working in their present job not related to their training by whether or not they tried to get a job related to their training by where they looked for employment before accepting that present job.

Only four (11.1%) of the 36 terminees who were working in a non-related area sought related employment beyond daily walking or driving distance of home before accepting their present job.

TABLE 34

INDICATIONS OF THE 1973-74 WELDING TERMINEES WORKING IN PRESENT JOB NOT RELATED TO THEIR TRAINING BY WHETHER OR NOT THEY TRIED TO GET A JOB RELATED TO THEIR TRAINING BY WHERE THEY LOOKED FOR EMPLOYMENT BEFORE ACCEPTING PRESENT JOB[A]

Before Accepting Present Job Where Terminees Working in Non-Related Areas Looked for Employment	Total Reporting		Before Accepting This Present Job Unrelated to Training Whether or Not Terminees Sought Job in Related Area			
			Yes		No[B]	
	No.	%	No.	%	No.	%
Sought employment within daily walking or driving distance of their home	29	80.5	22	84.6	7	70.0
Sought employment beyond daily walking or driving distance of their home	7	19.5	4	15.4	3	30.0
TOTAL	36	100.0	26	100.0	10	100.0

[A]Totals in this table may not correspond with totals of terminees for non-related categories in other tables for the following reasons: (1) some terminees had jobs when leaving programs and did not have to seek employment and (2) some terminees failed to respond to one or more of the related questions from which data was drawn.

[B]See page 25 for the listing of reasons terminees who were working in non-related jobs gave for not trying to secure a job that was related to their training.

APPENDIX

PRESENT JOB AND FIRST JOB TITLES OF THE
1973-74 WELDING TERMINEES

PRESENT JOB AND FIRST JOB TITLES OF THE 1973-74 WELDING TERMINEES

For those terminees who indicated present or first job occupations, this appendix lists the present job title and first job title. The job titles are listed as the terminees reported them. The number of full-time jobs held by these terminees since completing their high school vocational course is listed, current employment status is listed, and whether the student intended to get a job in the area while in the program.

The following code is used to identify the employment status of the terminees:

0. Unemployed, but seeking employment
1. Employed full time
2. Employed part time, seeking full-time job
3. Employed part time, not seeking full-time job
4. Employed full time and attending school
5. Employed part time and attending school
6. Unavailable for employment

The following code is used to identify whether the student intended to get a job in the area while in the program:

1. No
2. Was not sure
3. Yes

The number in parenthesis behind the job titles indicates the relatedness of the high school vocational training to these jobs. The terminees

made the judgment as to the relatedness of their training to these jobs. The following code is used to identify this relatedness:

1. Directly related
2. Somewhat related
3. Not related

The total does not correspond to the total reporting, since some of the terminees failed to indicate the title of their present position. If the first job title was the same as the present job title, the first job title is included under the present job title.

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No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
1	5	1	2	Workstudy at swim. pool(3)	Forklift Oper. (3)
2	1	3	3	Carpenter (3)	Stock boy (3)
3	1	1	3	Mech. helper(2)	
4	1	2	2	Mech. trainee (3)	Welder (2)
5	4	1	3	Payroll employee(2)	
6	0	1	3		Porter (3)
7	1	1	3	Stencil painter (2)	
8	1	1	3	Stock work (3)	
9	1	1	3	Mechanic (3)	
10	1	0	3	Welder (1)	Pour iron (1)
11	0	3	3		Tacker (1)
12	1	2	3	Dockman (2)	
13	1	2	3	Laborer (3)	
14	1	1	2	Truck driver(3)	
15	1	1	2	Record Spec.(3)	
16	1	1	3	Surveyor (3)	
17	0	1	2	Mach. Oper.(3)	Floor cleaner(3)
18	1	3	3	Welding (1)	
19	4	1	3	Welding (1)	Welding (1)
20	1	2	3	Ship repair burner (2)	Sawman (3)
21	1	1	3	Saw Oper. (3)	
22	0	1	2	Roof repair-man (3)	Roof Repairman(3)
23	1	2	3	Tree trimmer(3)	Welder (1)
24	4	2	3	Gen. Maint.(1)	Welder (1)
25	1	3	2	Paint & Welding helper (2)	Tele. Co. laborer (3)
26	0	2	3		Welder (1)
27	1	1	3	Warehouseman(3)	Warehouseman (3)
28	1	1	3	Welder (1)	
29	1	0	2	Welding (1)	
30	1	1	3	Welder (1)	
31	1	1	3	Welder (1)	
32	1	1	3	A. Oper. (3)	A. Oper. (3)
33	1	2	3	Hosp. Tech.(2)	Welder's helper(1)
34	1	1	3	Welder (1)	
35	1	2	3	Welder (1)	Welder (1)
36	5	0	3	Machine work/ welding (1)	
37	1	0	3	Welder (1)	
38	1	1	3	Service trucks (2)	Service trucks (2)
39	1	2	3	Welder (2)	Welder (2)

(continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
40	1	2	3	Mailer (3)	Welder (1)
41	4	1	3	Spreader (3)	
42	1	1	3	Welder (1)	
43	1	2	2	Lumber stacker (3)	Dye house worker (3)
44	1	2	3	Acid rack worker (3)	Welder (1)
45	1	2	3	Lumber mill(3)	Carpet layer(3)
46	1	1	2	Shoe Dept. Asst. Mgr.(3)	
47	1	2	2	Belt Attdnt.(3)	
48	0	3	3	Body/Fender man (3)	
49	1	1	3	Welder (1)	
50	2	2	3	Welder (2)	
51	1	2	3	Welder (1)	
52	1	1	3	Steel erection (2)	
53	0	3	3	Pipe welder(3)	
54	1	2	3	Welder (1)	Welder (1)
55	1	1	3	Welder (10	Welder (1)
56	0	0	2	Welder apprentice (2)	
57	1	1	3	Electric lift oper. (3)	
58	1	2	2	Textile Mach. oper. (3)	Warehouse worker(3)
59	0	1	2	Upholstery helper	
60	5	1	2	Gen. laborer(3)	Fork lift Oper.(3)
61	1	1	3	Welder (1	Welder (1)
62	4	2	1	Stockboy/ cashier(3)	Roustebout (2)
63	1	3	3	Welder (1)	Welder (1)
64	0	3	3	Fuse welder(2)	Welder (1)
65	5	0	3	Sacking groceries	
66	5	0	3	Food Service worker (3)	
67	1	2	3	Hosp. aide(3)	Farming (3)
68	0	1	3	Highway Dept. laborer (1)	Delivery boy (3)
69	2	1	3	Carpenter's helper (3)	Carpenter's helper (3)
70	1	2	3	Pipe welder(1)	

(continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
71	0	1	3	Floor Tiler (2)	
72	1	1	2	Wash cloth (3)	
73	1	1	3	Construction worker (3)	
74	1	2	2	Timber cutter(2)	
75	1	1	3	Welding (1)	
76	1	2	3	Welder (1)	Welder (2)
77	1	2	2	Rod baster (2)	Carpenter (3)
78	1	1	3	Plate burner(2)	
79	1	2	3	Welder (1)	Welder (2)
80	1	2	3	Build thermo-stats (3)	Welder (1)
81	1	1	2	Farm systems manager (2)	
82	1	3	2	Pinkerton guard (3)	
83	1	1	1	Farming (2)	
84	2	3	3	Welder (2)	Welder (1)
85	1	2	3	Auto parts salesman(3)	Welder (3)
86	0	1	3		Welding (1)
87	6	0	3	Road laborer (3)	
88	1	2	2	Tapping (3)	Stock man Mgr.(3)
89	1	2	3	Welder (2)	Welder (2)
90	1	1	3	Laborer (2)	
91	1	1	2	Carpenters' Asst. (3)	
92	1	2	3	Millwright(1)	Prefab. building laborer (3)
93	0	1	3	Welder (2)	
94	1	2	3	Elec. helper (3)	Tractor driver(3)
95	1	1	3	Construction worker (2)	
96	1	1	2	Machinery guard maker (1)	
97	1	0	3	Bus driver (3)	Clean-up boy (3)
98	1	1	3	Maint. man(1)	
99	4	2	3	Fire Extingu. leak dect.(3)	Burner/Welder(1)

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ABSTRACT: THIS REPORT RELATES THE FINDINGS OF A STATEWIDE FOLLOWUP SURVEY OF 1973-74 CONSUMER HOME ECONOMICS TERMINEES FROM THE SECONDARY SCHOOL VOCATIONAL PROGRAMS IN ALABAMA. QUESTIONNAIRES WERE MAILED TO 9,006 STUDENT TERMINEES APPROXIMATELY SEVEN TO EIGHT MONTHS AFTER LEAVING SCHOOL. RETURNS WERE RECEIVED FROM 2,714 (30.1 PERCENT) CONSUMER HOME ECONOMICS TERMINEES FROM THE INITIAL MAILING AND ONE FOLLOWUP. DATA ARE PRESENTED IN TABLES WITH ACCOMPANYING NARRATIVE SUMMARIES ORGANIZED ACCORDING TO THESE MAJOR SECTIONS: GENERAL INFORMATION ON THE TERMINEES; BASIC INFORMATION RELATED TO THE VOCATIONAL PROGRAM; BASIC EMPLOYMENT INFORMATION; CONTINUING EDUCATION INFORMATION; AND JOB PLACEMENT INFORMATION. PRESENT AND FIRST JOB TITLES OF THE 1973-74 CONSUMER HOME ECONOMICS TERMINEES ARE APPENDED. (NJ)

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Research and Development Report No. 36

1973-1974 ALABAMA SECONDARY CONSUMER HOME ECONOMICS FOLLOW-UP REPORT

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AND

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IN COOPERATION WITH DIVISION OF
VOCATIONAL EDUCATION AND COMMUNITY COLLEGES
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CONSUMER HOME ECONOMICS FOLLOW-UP

Follow-Up of 1973-74 Consumer Home Economics
Terminees From the Secondary School
Vocational Programs of Alabama

Research and Development Report No. 36

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In Cooperation with Division of
Vocational Education and Community Colleges
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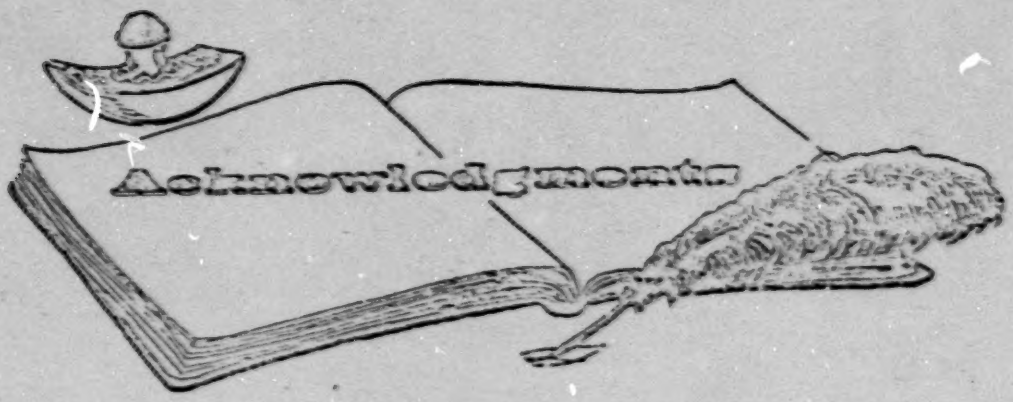

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FOLLOW-UP OF 1973-74 CONSUMER HOME ECONOMICS
TERMINEES FROM THE SECONDARY SCHOOL
VOCATIONAL PROGRAMS OF ALABAMA

The State of Alabama continues to support one of the most progressive and comprehensive consumer homemaking programs in the nation. In addition to serving youth and adults by training them in consumer homemaking the diversification of consumer home economics program meets a serious job need and contributes to the industrial development in the state.

With millions of dollars being spent in consumer home economics education and vocational education, it is necessary to attempt to account to the taxpayer and decisionmakers on the results of those expenditures. Terminee student follow-up studies constitute one of the most valuable techniques for assessing educational systems outcomes.

The Alabama State Department of Education, Division of Vocational Education and Community Colleges, recognizing this important phase of accountability and evaluation, initiated the development of a statewide follow-up system for its program terminees at the secondary level. The Division, under the direction of Dr. T. L. Faulkner, State Director, contracted with the Occupational Research and Development Unit at Auburn University to develop and implement the state-wide follow-up system for all its secondary terminees in all service areas.

Fully realizing the many goals and objectives of the consumer home economics program in the state and with no intention of de-emphasizing any aspect of that program, the follow-up focused primarily on the employment and world of work aspects of the program.

This report related the findings of the survey instrument mailed to all the 1973-74 Consumer Home Economics terminees from the secondary school programs of Alabama. When the terminees received the questionnaire most had been out of school 7 to 8 months.

General Information

Student rosters with names and addresses were received from 341 secondary school consumer home economics teachers in Alabama. The total of 9,006 student terminees reported to the Occupational Research and Development Unit were mailed the follow-up form. Returns were received from 2,714 (30.1%) of the Consumer Home Economics terminees from the initial mailing and one follow-up. At least one student questionnaire was received from 326 of the 341 programs.

Table 1 presents data relative to the total population of Consumer Home Economics terminees and the number of returns categorized by OE codes as reported by teachers.

Of the 1973-74 Consumer Home Economics terminees reported by the teachers, the largest number in any OE code was in the occupational title area of Homemaking: Preparation for Personal, Home and Family Living. This represented 74.1% percent of the reported Consumer Home Economics terminees.

TABLE 1

DESCRIPTION OF TOTAL POPULATION AND RETURNS BY OE CODE AREA STUDIED OF 1973-74 CONSUMER HOME ECONOMICS TERMINEES[A]

OE Code	Title of Occupational Objective Studied	Total Number of Terminees Who Studied in OE Code Area	Percent of Consumer Home Economics Students Who Studied in OE Code Area	Number of Returns by OE Code Area Studied	Percent of Returns for OE Code Area Studied
9.0100	Homemaking: Preparation for Personal, Home and Family Living	6,432	74.1	1,934	30.1
9.0101	Comprehensive Homemaking or Home Economics	407	4.5	123	30.2
9.0102	Child Development	80	0.9	28	35.0
9.0103	Clothing and Textiles	119	1.3	37	31.1
9.0104	Consumer Education	101	1.1	23	22.8
9.0105	Family Health	23	0.3	5	21.7
9.0106	Family Relations	718	8.0	212	29.5
9.0107	Foods and Nutrition	26	0.3	8	30.8
9.0108	Home Management	8	0.1	4	50.0
9.0109	Housing and Home Furnishings	5	0.1	1	20.0
9.0199	Homemaking, Other	1,083	12.0	338	31.2
9.0201	Care and Guidance of Children	2	0.0	1	50.0
9.0299	Occupational Preparation, Other	2	0.0	0	0.0
	TOTAL ALL AREAS	9,006	100.0	2,714	30.0

[A]OE Codes as reported by teachers.

TABLE 2

SEX OF THE 1973-74 CONSUMER HOME ECONOMICS TERMINEES WHO RETURNED QUESTIONNAIRES

Sex	Number	Percent
Male	184	6.8
Female	2,515	92.6
No Response	15	0.6
TOTAL	2,714	100.0

Table 3 presents the racial or ethnic characteristics of those 1973-74 Consumer Home Economics terminees who returned survey forms.

TABLE 3

RACIAL OR ETHNIC CHARACTERISTICS OF THE 1973-74 CONSUMER HOME ECONOMICS TERMINEES WHO RETURNED QUESTIONNAIRES

Racial or Ethnic Group	Number	Percent
American Indian	4	0.2
Black	927	34.2
Oriental	0	0.0[A]
Spanish Surnamed American	1	0.0[A]
White	1,751	64.5
Other	0	0.0
No Response	31	1.1
TOTAL	2,714	100.0

[A]Zero was indicated if percentage was less than .01

Table 4 points out the marital status of the 1973-74 Consumer Home Economics terminees.

TABLE 4

MARITAL STATUS OF THE 1973-74 CONSUMER HOME ECONOMICS TERMINEES WHO RETURNED THE QUESTIONNAIRE

Marital Status	Number	Percent
Single	2,098	77.3
Married	582	21.5
Divorced	14	0.5
Separated	13	0.5
Widowed	1	0.0
No Response	6	0.2
TOTAL	2,714	100.0

Table 5 shows the number of children that the 1973-74 Consumer Home Economics terminees presently have.

TABLE 5

NUMBER OF CHILDREN OF THE 1973-74 CONSUMER HOME ECONOMICS TERMINEES

Children	Number	Percent
0	2,245	82.7
1	348	12.8
2	29	1.1
3	6	0.2
4 or more	1	0.0
No Response	85	3.2
TOTAL	2,714	100.0

Table 6 shows the number of 1973-74 Consumer Home Economics terminees who indicated whether or not they were in active full-time military service.

TABLE 6

ACTIVE FULL-TIME MILITARY STATUS OF 1973-74
CONSUMER HOME ECONOMICS TERMINEES
WHO RETURNED QUESTIONNAIRES

Active Full-Time Military Status	Number	Status
Yes	70	2.6
No	2,548	93.9
No Response	96	3.5
TOTAL	2,714	100.0

Basic Information Related to the Consumer Home Economics Education Program

Table 7 reveals whether or not the 1973-74 Consumer Home Economics terminees took another vocational course or courses while enrolled in high school.

There were 1,298 (47.8%) of the reporting 2,714 1973-74 Consumer Home Economics terminees who indicated that they took another vocational course while in high school.

Table 8 shows the other types of vocational course or courses that the terminees indicated they took while in high school.

TABLE 7

WHETHER OR NOT THE 1973-74 CONSUMER HOME MAKING TERMINEES TOOK ANOTHER VOCATIONAL COURSE OR COURSES WHILE IN HIGH SCHOOL

Enrolled in Other Vocational Course(s) While in High School	Number	Percent
Yes	1,298	47.8
No	1,394	51.4
No Response	22	0.8
TOTAL	2,714	100.0

TABLE 8

OTHER VOCATIONAL COURSE OR COURSES THAT THE 1973-74 CONSUMER HOME ECONOMICS TERMINEES INDICATED THEY TOOK WHILE IN HIGH SCHOOL

Type Courses	Number Courses Taken by Terminees[A]	Percent of Courses Taken by Total Terminees[B]
Agribusiness Education	77	2.8
Business and Office Education	809	29.8
Distributive Education	81	3.0
Health Occupations Education	89	3.3
Occupational Home Economics	215	7.9
Trade and Industrial Education	76	2.8
TOTAL COURSES TAKEN[C]	1,347	49.6

[A]Some terminees may have taken more than one additional vocational course. There were 1,192 (43.9%) of the 2,714 total responding terminees who took one additional vocational course. Fifty-eight (2.1%) terminees took two additional vocational courses while 13 (0.5%) terminees took three vocational program.

[B]The percentages were based on the total 2,714 terminees who responded to the survey.

[C]There were 35 terminees who stated that they took an additional course or courses and gave no indication as to what those courses were.

There were 1,192 (43.9%) of the 2,714 total responding terminees who took one additional vocational course while still in high school. Fifty-eight (2.1%) terminees took two additional vocational courses, while 13 (0.5%) terminees took three vocational programs.

Eight hundred nine (29.8%) of all responding 1973-74 Consumer Home Economics terminees indicated they took Business and Office Education while in high school. Also, 215 (7.9%) terminees indicated they took Occupational Home Economics while in high school. It was interesting to note that 46.5 percent of the 1973-74 Consumer Home Economics terminees took another vocational course or courses while in high school.

Table 9 indicates, according to the 1973-74 Consumer Home Economics terminees, the primary source of influence in selecting their Consumer Home Economics program.

Students themselves appeared to be the greatest influence on the Consumer Home Economics terminees enrolling in the Consumer Home Economics program. Eighteen hundred forty (67.8%) of the responding terminees indicated that they made the choice themselves in selecting their Consumer Home Economics course. Two hundred twenty-three (8.2%) terminees revealed that parents or guardian primarily influenced them in selecting their Consumer Home Economics course. Sixty-nine (2.5%) terminees indicated influences other than the categories listed by the researchers as being primary in their selection of their Consumer Home Economics program. (See page 10 for the categorization of "Other" listings as the primary influence on terminee's selection of the Consumer Home Economics program.)

TABLE 9

WHO THE 1973-74 CONSUMER HOME ECONOMICS TERMINEES
FELT INFLUENCED THEM MOST IN SELECTING
THEIR VOCATIONAL COURSE

Group or Individual Terminees Felt Influenced Them Most In Selecting Consumer Home Economics	Number	Percent
Parent(s) or Guardian	223	8.2
Guidance Counselor	53	2.0
Your Home Economics Teacher	177	6.5
Another Teacher or Principal	30	1.1
A Student in the Home Economics Program	178	6.6
A Friend or Relative	120	4.4
A Businessman	1	0.0[B]
Made Choice Yourself	1,840	67.8
Other[A]	69	2.5
No Response	23	0.9
TOTAL	2,714	100.0

[A]See page 10 for listing of "Others" who influenced Consumer Home Economics terminees in selecting their consumer home course.

[B]Less than 0.1 of one percent.

Table 10 lists by frequency count the breakdown of the "Other" category indicated in Table 9 as to the primary source of influence in selecting their Consumer Home Economics course.

TABLE 10

"OTHER" PERSONS OR GROUPS WHO MOST INFLUENCED 1973-74 CONSUMER HOME ECONOMICS TERMINEES IN SELECTING THEIR CONSUMER HOME ECONOMICS COURSE[A]

Other Persons or Groups Who Most Influenced Terminees in Selecting Their Consumer Home Economics Course	Number	Percent of Total Returns
Self Interest	27	1.0
Required course	26	1.0
Relatives	1	*
School curriculum very limited	5	0.2
Only thing available	6	0.2
An easy course	1	*
Because course was important	1	*
The great program	1	*
Office worker	1	*
TOTAL	69	

[A]If percentage less than 0.1%, percentage was not shown.

Twenty-seven (1.0%) terminees indicated that they selected their Consumer Home Economics program because of self interest. Another 26 (1.0%) revealed that it was a required course.

Table 11 reveals, when the terminees were taking their Consumer Home Economics course, how they planned to use it.

TABLE 11

WHEN THE 1973-74 CONSUMER HOME ECONOMICS TERMINEES WERE TAKING THEIR COURSE HOW THEY PLANNED TO USE IT

How Terminees Planned to Use Course	Number	Percent
A. Use the instruction in homemaking	1,491	54.9
B. Major in home economics in college	94	3.5
C. Get a job which utilized home economics knowledge and skills	152	5.6
D. A, B, and C above	20	0.7
E. A and B above	42	1.6
F. A and C above	63	2.3
G. B and C above	14	0.5
H. Was not sure	809	29.8
No Response	29	1.1
TOTAL	2,714	100.0

Of the 2,714 terminees, 1,491 (54.9%) indicated they just planned to utilize the instruction in homemaking. Ninety-four (3.5%) revealed that they planned to utilize the course to major in home economics in college. There were 152 (5.6%) terminees who indicated they planned to utilize the course to get a job which utilized home economics knowledge and skills. It was also noted that 809 (29.8%) terminees were not sure how they planned to use their home economics course during the time they were taking it.

Table 12 points out the extent to which the reporting 1973-74 Consumer Home Economics terminees felt their high school Consumer

Home Economics program prepared them for success in their first job. This data was also broken down by how that first full-time job related to their Consumer Home Economics program.

TABLE 12

PERCEPTIONS OF 1973-74 CONSUMER HOME ECONOMICS TERMINEES AS TO THE EXTENT THEIR HIGH SCHOOL CONSUMER HOME ECONOMICS PROGRAM PREPARED THEM FOR SUCCESS IN THEIR FIRST FULL-TIME JOB BY HOW FIRST JOB RELATED TO TRAINING

Extent Consumer Home Economics Training Prepared for Success in First Full-Time Job	Total Reporting		Number Reporting by Relatedness of First Full-Time Job to Training Received					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Excellent	105	8.6	32	33.3	51	11.8	22	3.2
Good	357	29.2	55	57.3	218	50.2	84	12.1
Fair	138	11.3	6	6.3	88	20.3	44	6.4
Poor	40	3.3	1	1.0	17	3.9	22	3.2
Preparation not related to job	582	47.6	2	2.1	60	13.8	520	75.1
TOTALS	1,222	100.0	96	100.0	434	100.0	692	100.0

Terminees in active full-time military service, and students who were attending school full time and had not had a job, were not asked to respond to the question from which Table 12 was prepared. Also, those other terminees who failed to respond to the question items were not shown on the table.

Of the 1,222 terminees responding to these items, 462 (37.8%) indicated "Excellent" to "Well Prepared" for success in their first job as a result of their Consumer Home Economics Program. Five hundred eighty-two (47.6%) terminees indicated that their preparation was not related

to their first job. However, it was also noted that 520 (89.3%) of the 582 terminees who indicated that their preparation was not related to their first job were working in areas not related to their high school Consumer Home Economics program.

It was revealing in that 87 (90.6%) of the 96 terminees who were working in areas directly related to their high school Consumer Home Economics program indicated that they were "Excellent" to "Well Prepared" for success in their first full-time job. Only one terminee working in an area directly related to the Home Economics program indicated that she was "Poorly Prepared" for success in her first full-time job.

Table 13 shows the extent to which the reporting 1973-74 Consumer Home Economics terminees felt their high school Consumer Home Economics program prepared them for success in their present job.

TABLE 13

PERCEPTIONS OF 1973-74 CONSUMER HOME ECONOMICS TERMINEES AS TO THE EXTENT THEIR HIGH SCHOOL CONSUMER HOME ECONOMICS PROGRAM PREPARED THEM FOR SUCCESS IN THEIR PRESENT JOB BY HOW THEIR PRESENT JOB RELATED TO TRAINING

Extent Consumer Home Economics Training Prepared for Success	Total Reporting		Number Reporting by Relatedness of Present Job to Training Received					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Excellent	63	6.1	15	19.7	31	9.0	17	2.8
Good	320	31.0	49	64.5	203	58.5	68	11.1
Fair	65	6.3	8	10.5	49	14.1	8	1.3
Poor	19	1.8	0	0.0	7	2.0	12	2.0
Preparation not related to job	566	54.8	4	5.3	57	16.4	505	82.8
TOTALS	1,033	100.0	76	100.0	347	100.0	610	100.0

Of the 76 terminees who were presently working in an area directly related to the training they received in their Consumer Home Economics program, 64 (84.2%) pointed out that they were "Excellent" to "Well Prepared" for success in their present job. None of the terminees working in an area directly related to their training indicated that they were "Poorly Prepared" for success in their present job.

Table 14 focuses on the job preparation aspects of the Consumer Home Economics youth club, Future Homemakers of America (FHA). The researchers sought to determine the extent to which the 1973-74 Consumer Home Economics terminees felt that their high school youth club (FHA) aided in preparing them for their present job. Data are also broken down by the relationship of the present job to the training received.

TABLE 14

PERCEPTIONS OF 1973-74 CONSUMER HOME ECONOMICS TERMINEES AS TO THE EXTENT THEIR HIGH SCHOOL YOUTH CLUB, FUTURE HOMEMAKERS OF AMERICA (FHA), PREPARED THEM FOR THEIR PRESENT JOB BY HOW PRESENT JOB RELATED TO TRAINING[A]

Extent to Which FHA Helped Prepare Terminees for Present Job	Total Reporting		Total Reporting by Relatedness of Present Job to Consumer Home Economics Training					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Excellent	69	10.3	10	16.1	32	12.8	27	7.5
Well Prepared	236	35.2	27	43.6	103	41.4	106	29.5
Fair	190	28.3	18	29.0	74	29.7	98	27.2
Poorly Prepared	176	26.2	7	11.3	40	16.1	129	35.8
TOTALS	671	100.0	62	100.0	249	100.0	360	100.0

[A]Of the 1,327 terminees who responded to the question, 25 indicated that no club was available and 341 were not members of FHA. There were 290 terminees who indicated they were not employed, therefore, they were not included in table data. Terminees who were in active full-time military service and terminees who had not had a job were not asked to respond to the related survey questions.

Only respondents who had had a job since terminating their high school Consumer Home Economics program were asked to respond to the question reported in Table 14. Students who were in active full-time military service were excluded. Of the 1,327 responding terminees 341 were not members of FHA, while 25 terminees indicated that no FHA club was available.

Three hundred five (45.5%) terminees who participated in FHA indicated they were from "Excellent" to "Well Prepared" for their present job as a result of their FHA club. However, 37 (59.7%) of the terminees who were working in an area directly related to their Consumer Home Economics program reported they were from "Excellent" to "Well Prepared" for their present job as a result of their youth club. Only seven (11.3%) terminees who were working in an area directly related to their Consumer Home Economics training indicated they were "Poorly Prepared" for their present job. Of the 176 (26.2%) terminees who indicated they were "Poorly Prepared" for their present job, 129 (73.3%) were working in areas not related to their Consumer Home Economics training.

Table 15 reports how the 1973-74 Consumer Home Economics terminees rated the quality of teaching by their high school Consumer Home Economics instructors.

Of the 2,714 responding terminees, 2,059 (75.9%) rated the quality of teaching by their Consumer Home Economics teachers from "Good" to "Excellent". Only 160 (5.9%) terminees rated the quality of teaching by their instructors from "Poor" to "Very Poor".

Table 16 illustrates how the 1973-74 Consumer Home Economics terminees rated their high school Consumer Home Economics instructors interest in their class work.

TABLE 15

1973-74 CONSUMER HOME ECONOMICS TERMINEE'S RATINGS OF THE QUALITY OF TEACHING BY THEIR HIGH SCHOOL CONSUMER HOME ECONOMICS INSTRUCTORS

Rating	Number	Percent
Excellent	872	32.1
Good	1,187	43.8
Fair	481	17.7
Poor	95	3.5
Very Poor	65	2.4
No Response	14	0.5
TOTAL	2,714	100.0

TABLE 16

1973-74 CONSUMER HOME ECONOMICS TERMINEES' RATINGS OF THEIR HIGH SCHOOL CONSUMER HOME ECONOMICS INSTRUCTOR'S INTEREST IN THE TERMINEES' CLASS WORK

Rating	Number	Percent
Excellent	1,063	39.1
Good	1,045	38.5
Fair	431	15.9
Poor	106	3.9
Very Poor	48	1.8
No Response	21	0.8
TOTAL	2,714	100.0

Of the 2,714 responding 1973-74 Consumer Home Economics terminees, 2,108 (77.6%) rated their instructor's interest in their class work

from "Good" to "Excellent". However, 154 (5.7%) terminees rated their instructor's interest in their class work from "Poor" to "Very Poor".

Table 17 points out how the 1973-74 Consumer Home Economics terminees subjectively rated the knowledge of their Home Economics teachers. Terminees were asked to base their judgments on their current knowledge of their job and responsibilities. The rating is also shown in the table by a breakdown of how the terminees' present job related to the training they received in their Consumer Home Economics Program.

Terminees who were in active full-time military service, presently unemployed, in school full time, and/or had never had a job were not asked to respond to the questions from which data were drawn for interpretation.

TABLE 17

1973-74 CONSUMER HOME ECONOMICS TERMINEES' RATINGS OF THE KNOWLEDGE THEIR HIGH SCHOOL CONSUMER HOME ECONOMICS TEACHER POSSESSED ABOUT THEIR FIELD OF STUDY BY HOW THE TERMINEES' PRESENT JOB RELATED TO THE TRAINING THEY RECEIVED[A]

Ratings[B]	Total Reporting		Number Reporting By Relatedness of Present Job to Training Received					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Excellent	213	20.8	27	33.7	79	22.0	107	18.3
Good	440	42.9	34	42.5	181	50.3	225	38.4
Fair	232	22.6	16	20.0	84	23.3	132	22.5
Poor	89	8.7	2	2.5	12	3.3	75	12.8
Very Poor	52	5.0	1	1.3	4	1.1	47	8.0
TOTAL	1,026	100.0	80	100.0	360	100.0	586	100.0

[A]Terminees who were in active full-time military service, in school full time, and/or had never had a job were not asked to respond to the questions from which data were drawn for interpretation. Those not presently employed and those not responding to the questions were not included in the table.

[B]Ratings were to be based on terminees' judgment of their current knowledge of their job and responsibilities.

Of the 1,026 responding 1973-74 Consumer Home Economics terminees, 653 (63.7%) rated the knowledge the Consumer Home Economics teacher possessed about their field of study from "Good" to "Excellent". Sixty-one (76.2%) of the 80 terminees who were working in areas directly related to their home economics training rated their teacher's knowledge about their field of study from "Good" to "Excellent". A very favorable point was revealed in that only three (3.8%) terminees working in areas directly related to their training rated their teacher's knowledge of their field of study as "Poor or Very Poor".

Table 18 reveals how the 1973-74 Consumer Home Economics terminees, if they were homemakers, felt the facilities and equipment in their high school Consumer Home Economics program compared with those in their home.

TABLE 18

HOW THE 1973-74 CONSUMER HOME ECONOMICS TERMINEES, IF THEY WERE HOMEMAKERS, FELT THE FACILITIES AND EQUIPMENT IN THEIR CONSUMER HOME ECONOMICS PROGRAM COMPARED WITH THOSE IN THEIR HOME[A]

Comparison Ratings	Number	Percent
Better than those in your home	147	17.4
Similar to those in your home	583	69.0
Not as good as those in your home	115	13.6
TOTAL	845	100.0

[A]Five hundred sixty-nine terminees indicated they were not homemakers. The following terminees were not asked to respond to the question from which data were drawn for interpretation: (1) terminees in active full-time military service and had not had a job since leaving high school; (2) terminees who were in school full time and had never been employed since leaving school; and (3) terminees who had never had a job.

The following terminees were not asked to respond to the question from which the data were drawn for interpretation: (1) terminees in active full-time military service and had not had a job since leaving high school; (2) terminees who were in school full time and had never been employed since leaving school; and (3) terminees who had never had a job. There were 569 terminees who indicated they were not homemakers.

The following indicated how the 1973-74 Consumer Home Economics terminees, if they were homemakers, felt the facilities and equipment in their high school Consumer Home Economics program compared with those in their home: (1) 147 (17.4%) indicated they were better than those in their home (2) 115 (13.6%) indicated they were not as good as those in their home; and (3) 583 (69.0%) reported they were similar to those in their homes.

If the respondent was working in an area related to the training received in her Consumer Home Economics program, she was asked to compare the facilities and equipment in her high school Consumer Home Economics program with those on her present job. Table 19 illustrates how the 1973-74 Consumer Home Economics terminees responded.

Sixty-seven (22.9%) of the 293 responding 1973-74 Consumer Home Economics terminees rated the facilities and equipment in their high school Consumer Home Economics program as better than those on their present job. One hundred sixty-seven (57.0%) terminees rated the facilities and equipment in their home economics program as similar to those on their present job; however, 59 (20.1%) rated the facilities and equipment not as good as those on their present job.

TABLE 19

HOW 1973-74 CONSUMER HOME ECONOMICS TERMINEES WORKING IN AREAS RELATED TO TRAINING COMPARED THE FACILITIES AND EQUIPMENT IN THEIR HIGH SCHOOL CONSUMER HOME ECONOMICS PROGRAM WITH THOSE ON THEIR PRESENT JOB[A]

Comparison Rating	Number	Percent
Better than those on your present job	67	22.9
Similar to those on your present job	167	57.0
Not as good as those on your present job	59	20.1
TOTAL	293	100.0

[A]There were 987 terminees who indicated they were not working in an area related to their Consumer Home Economics training. Therefore, they did not rate the facilities and equipment item.

Table 20 reports terminees opinions as to whether they had adequate job or occupational information and school experiences to make a realistic career choice.

TABLE 20

OPINIONS OF 1973-74 CONSUMER HOME ECONOMICS TERMINEES AS TO WHETHER THEY HAD ADEQUATE JOB OR OCCUPATIONAL INFORMATION AND SCHOOL EXPERIENCES TO MAKE A REALISTIC CAREER CHOICE

Adequate Job or Occupational Information and School Experiences	Number	Percent
Yes	1,768	65.1
No	860	31.7
No Response	86	3.2
TOTAL	2,714	100.0

Of the responding terminees, 1,768 (65.1%) felt they had been given adequate job or occupational information and school experiences to make a realistic career choice. However, 860 (31.7%) of the terminees did not feel they had been provided adequate occupational information to make a realistic career choice.

Table 21 indicates terminees' opinions on choosing the Consumer Home Economics program if they had it all to do over again.

TABLE 21

OPINIONS OF 1973-74 CONSUMER HOME ECONOMICS TERMINEES REGARDING CHOOSING THEIR CONSUMER HOME ECONOMICS PROGRAM AGAIN

Question: If you had it all to do over again, which would you choose?	Number	Percent
Take the same home economics program	1,794	66.1
Not take a home economics program	219	8.1
Choose home economics and another vocational course	555	20.4
Choose another vocational program in your school[A]	56	2.1
Choose another vocational program if it had been offered in your school[B]	90	3.3
TOTAL	2,714	100.0

[A]See page 23 for listing of vocational courses terminees would take in their school, if the terminee had it to do over again.

[B]See page 22 for listing of vocational courses terminees would have taken if it had been offered in their school.

Of the 2,714 responding 1973-74 Consumer Home Economics terminees, 1,794 (66.1%) indicated they would select the same Consumer Home Economics program if they had it all to do over again. Only 219 (8.1%) terminees indicated they would not take home economics. Fifty-six (2.1%) terminees reported they would have taken another vocational program in

their school while 555 (20.4%) indicated they would have taken home economics and a vocational course. Ninety (3.3%) terminees revealed that if they had it all to do over, they would choose a vocational program if it had been offered in their school.

The following is a listing by categories of the type vocational program the terminees indicated they would have taken if they had been offered in their school:

Vocational Program Listing That Terminees Would Have Taken If They Had Been Offered in their School	Number
Agriculture for girls	5
Arts or Crafts	6
Auto Body Repair	6
Business Courses or Business Education	16
Computer Technology or Keypunch	4
Cosmetology	5
Distributive Education	5
Drafting or Graphic Design	2
Electician	1
Health Occupations	8
Home Economics - Different Course	6
Home Economics - Bachelor Living	1
Interior Decorating	7
Masonry	2
Mechanics	2
Nursing	6
Occupational Home Economics	9
Secretarial	1
Trade and Industrial Education	1
Welding	1

The following is a listing by categories of the type vocational programs the terminees indicated that, if they had it all to do over again, they would choose in their school:

Vocational Program Listing That Terminees Would Have Taken In Their School If They Had It All To Do Over Again	Number
Agriculture	4
Arts or Crafts	3
Business Courses or Business Education	24
Banking	1
Child Development	1
Commerical Foods	1
Family Living	2
Health Occupations	1
Home Economics - Advanced	4
Home Economics - Occupational	2
Interior Design	1
Nursing	1
Secretarial	1
Some Other Trade Area	2
V.I.C.A.	1

Basic Employment and Homemaking Information

The following section of this report offers information relative to homemaking, employment, and job characteristics of the 1973-74 secondary Consumer Home Economics terminees.

Table 22 illustrates the number of full-time jobs the responding 1973-74 Consumer Home Economics terminees have had since leaving their high school Consumer Home Economics course.

There were 1,111 (41.0%) of the 2,714 responding terminees who reported having full-time jobs since leaving their high school Consumer Home Economics program. There were 854 (31.5%) terminees who had had one full-time job, 214 (7.9%) had had two, 33 (1.2%) had had three, eight (0.3%) had had four, and three (0.1%) had had five or more. Of the responding terminees, 1,603 (59.0%) did not report having a previous full-time job or failed to respond to the related question.

TABLE 22

NUMBER OF FULL-TIME JOBS HELD BY THE 1973-74 CONSUMER HOME ECONOMICS TERMINEES SINCE LEAVING THEIR HIGH SCHOOL CONSUMER HOME ECONOMICS PROGRAM[A]

Full-Time Jobs Held	Number	Percent
One	854	31.5
Two	214	7.9
Three	33	1.2
Four	8	0.3
Five or more	3	0.1
TOTAL	1,111	41.0

[A]There were 2,714 terminees who returned questionnaires and all percentages were figured based on the total returns.

Table 23 reveals the first-job employment status of Consumer Home Economics terminees who returned the survey by the relatedness of their Consumer Home Economics training to their first job.

TABLE 23

FIRST JOB EMPLOYMENT STATUS OF CONSUMER HOME ECONOMICS TERMINEES (1973-74) BY RELATEDNESS OF CONSUMER HOME ECONOMICS TRAINING TO FIRST JOB[A]

First Job After Leaving High School Consumer Home Economics Program	Total Reporting		Relatedness of Consumer Home Economics Training to First Job[B]					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Full-Time	826	30.4	77	2.8	310	11.4	439	16.2
Part-Time	399	14.7	19	0.7	132	4.9	248	9.1
TOTAL	1,225	45.1	96	3.5	442	16.3	687	25.3

[A]All percentages were based on the 2,714 (30.1%) of the 9,006 terminees who returned the survey form.
[B]The terminees made the judgment as to how their first job was related to the training received in their high school vocational program.

Of the 2,714 responding 1973-74 Consumer Home Economics terminees, 826 (30.4%) were employed full time in their first job after leaving their high school Consumer Home Economics program. Three hundred ninety-nine (14.7%) terminees' first jobs were on a part-time basis.

Ninety-six (3.5%) of the 2,714 responding terminees' first jobs (full time or part time) were in areas directly related to the training they received in their high school Consumer Home Economics course. Four hundred forty-two (16.3%) were employed in an area somewhat related while 687 (25.3%) were employed in a first job which was not related to the training they received. The terminees made the judgment as to how their first job was related to the training they received in their Consumer Home Economics program.

Table 24 shows by OE Code for the first job of the 1973-74 Consumer Home Economics terminees by the relatedness of their training to that first job.

Of the 1,265 responding 1973-74 Consumer Home Economics terminees who indicated how their first job related to the training they received in their Consumer Home Economics program, 100 (7.9%) were employed in directly related areas. Four hundred fifty (35.6%) were employed in somewhat related areas, while 715 (56.5%) terminees were employed in areas not related to their training. The terminees made the judgment as to how their first job was related to the training received in their high school Consumer Home Economics program.

More responding terminees who studied in Homemaking: Preparation for Personal, Home and Family Living (OE Code 9.0100) indicated first job employment. This was to be expected since more terminees studied in this occupational objective area (See Table 1). Of the 859 employed 1973-74 terminees in the occupational objective area of "Homemaking: Preparation for Personal, Home and Family Living" OE Code 9.0100),

66 (7.7%) were employed in an area directly related to that training.

TABLE 24

1973-74 CONSUMER HOME ECONOMICS TERMINEES' FIRST JOB BY OE CODE AREA STUDIED AND RELATEDNESS OF TRAINING[A]

OE Code	Title of Occupational Objective Studied	Total Employed by Area Studied		Relatedness of Training to First Job[B]					
				Directly Related		Somewhat Related		Not Related	
		No.	%	No.	%	No.	%	No.	%
9.0100	Homemaking: Preparation for Personal, Home and Family Living	859	67.9	66	7.7	307	35.7	486	56.6
9.0101	Comprehesive Homemaking or Home Economics	63	5.0	7	11.1	27	42.9	29	46.0
9.0102	Child Development	13	1.0	1	7.7	3	23.1	9	69.2
9.0103	Clothing and Textiles	22	1.8	5	22.7	10	45.5	7	31.8
9.0104	Consumer Education	8	0.6	0	0.0	2	25.0	6	50.0
9.0105	Family Health	3	0.2	0	0.0	1	33.0	2	66.7
9.0106	Family Relations	129	10.2	4	3.1	36	27.9	89	69.0
9.0107	Foods and Nutrition	5	0.4	1	20.0	1	20.0	3	60.0
9.0108	Home Management	1	0.1	0	0.0	1	100.0	0	0.0
9.0199	Homemaking, Other	161	12.7	16	9.9	62	38.5	83	51.6
9.0201	Care and Guidance of Children	1	0.1	0	0.0	0	0.0	1	100.0
	TOTAL ALL AREAS	1,265	100.0	100	7.9	450	35.6	715	56.5

[A]All percentages were based on the 2,714 (30.1%) of the 9,006 terminees who returned the survey form.

[B]The terminees made the judgment as to how their first job was related to the training received in their high school vocational program.

Three hundred seven (35.7%) were employed in their first job in an area somewhat related to their training. Four hundred eighty-six (56.6%) of these responding terminees indicated that their first job was not related to the training they received in their Consumer Home Economics program.

Table 25 illustrates the homemaking and/or current employment status of the responding terminees by the relatedness of their Consumer Home Economics training to their present jobs. All percentages figured in the table were based on the 2,714 (30.1%) returns from 9,006 Consumer Home Economics terminees.

Of the 2,714 responding 1973-74 Consumer Home Economics terminees, 622 (22.9%) were presently employed full time. Two hundred fifty-two (9.3%) were gainfully employed part time and attending school. Three hundred fifty-six (13.1%) indicated they were unavailable for gainful employment (See Table 26 for reasons terminees gave for being unavailable for gainful employment). Only 91 (3.4%) terminees noted that they were unemployed because they were solely homemakers. There were 444 (16.4%) terminees who indicated they were unemployed and actively seeking a job.

The "No Response" category included four groups: (1) terminees in active full-time military service and had not had a job since leaving their Consumer Home Economics program; (2) terminees attending school full time and had not had a job; (3) all other terminees who had not had a job; and (4) those terminees who did not respond to the related questions. The "No Response" category include 937 (34.5%) terminees.

Based on the total percentages of returns, 57 (2.1%) were gainfully employed full time in an area directly related to their Consumer Home Economics training, 193 (7.1%) were gainfully employed full time in an area somewhat related, while 323 (11.9%) were gainfully employed full time in an area not related. There were 49 (1.8%) terminees who were gainfully employed full time and did not indicate how their job was related to their training.

TABLE 23

CURRENT EMPLOYMENT STATUS OF 1973-74 CONSUMER HOME ECONOMICS TERMINEES BY RELATEDNESS OF TRAINING TO PRESENT JOB[A]

Employment Status	Total Responding		Relatedness of Training to Present Job[B]							
			Directly Related		Somewhat Related		Not Related		No. Response	
	No.	%	No.	%	No.	%	No.	%	No.	%
Employed full time, not attending school	562	20.7	54	2.0	181	6.7	288	10.6	39	1.4
Employed full time, and attending school	60	2.2	3	0.1	12	0.4	35	1.3	10	0.4
Employed part time, seeking full time job	62	2.3	4	0.1	18	0.7	32	1.2	8	0.3
Employed part time, not seeking full time job	41	1.5	2	+	16	0.6	21	0.8	2	+
Employed part time and attending school	252	9.3	4	0.1	72	2.6	165	6.1	11	0.4
Unemployed (actively seeking a job but have not found one)	444	16.4	N/A		N/A		N/A		N/A	
Unavailable for employment[C]	356	13.1	N/A		N/A		N/A		N/A	
No Response[D]	937	34.5	N/A		N/A		N/A		N/A	
TOTAL	2714	100.0	76	2.5	361	11.0	626	19.9	70	2.6

[A]All percentages were based on the 2,714 (30.1%) respondents of the total 9,006 terminees. Some percentages may be off due to rounding. If percentages were less than 0.1 percent, they were not shown.

[B]The terminees made the judgment as to how their present job was related to the training they received in their Consumer Home Economics program.

[C]See Table 26 for the listing of the reasons Consumer Home Economics terminees gave for being unavailable for employment.

[D]The "No Response" category includes terminees who made no response to the related questions as well as those terminees who were in active full-time military service and had not had a job since leaving their Consumer Home Economics program, terminees attending school full time and had not had a job, and all other terminees who had never had a job.

+ Less than 0.1 of one percent.

Considering the total employment pattern of the 1973-74 Consumer Home Economics terminees, 76 (2.5%) terminees were employed in some manner in directly related areas, 361 (11.0%) were employed in somewhat related areas, and 70 (2.6%) gave no indication as to how their current employment related to the training they received. Four hundred forty-four (16.4%) terminees indicated they were unemployed, actively seeking a job.

Table 26 reports reasons given by the 1973-74 Consumer Home Economics terminees for being unavailable for employment.

TABLE 26

REASONS INDICATED BY 1973-74 SECONDARY CONSUMER HOME ECONOMICS TERMINEES FOR BEING UNAVAILABLE FOR EMPLOYMENT

Reasons	Number	Percent
In school full time	234	50.3
Not working, not interested in a job	24	1.2
Homemaker	91	19.6
Pregnancy	52	11.2
Illness or disability	7	1.5
Other	57	12.3
TOTAL[A]	465	100.0

[A]This total does not correspond with appropriate totals in Table 25. Some terminees who answered other than unavailable for employment also responded to this question category and all responses were reported as indicated.

There were 234 (50.3%) of the 465 terminees who indicated they were unavailable for employment because they were in school full time.

Table 27 shows for the present job, by OE code area studied, the number of 1973-74 secondary Consumer Home Economics terminees employed

by the relatedness of their Consumer Home Economics training to their present job.

TABLE 27

EMPLOYED 1973-74 CONSUMER HOME ECONOMICS TERMINEES BY OE CODE AREA STUDIED AND BY RELATEDNESS OF TRAINING TO PRESENT JOB

OE Code	Title of Occupational Objective Studied	Total Employed by Area Studied[A]		Relatedness of Training to Present Job[B]					
				Directly Related[C]		Somewhat Related		Not Related	
		No.	%	No.	%	No.	%	No.	%
9.0100	Homemaking: Preparation for Personal, Home and Family Living	741	27.3	54	7.3	249	33.6	438	59.1
9.0101	Comprehensive Homemaking or Home Economics	51	1.9	5	9.8	22	43.1	24	47.1
9.0102	Child Development	13	0.5	1	7.7	2	15.4	10	76.9
9.0103	Clothing and Textiles	17	0.6	3	17.6	6	35.3	8	47.1
9.0104	Consumer Education	7	0.3	0	0.0	2	28.6	5	71.4
9.0105	Family Health	2	0.1	0	0.0	0	0.0	2	100.0
9.0106	Family Relations	110	4.0	4	3.6	32	29.1	74	67.3
9.0107	Foods and Nutrition	4	0.1	0	0.0	2	50.0	2	50.0
9.0108	Home Management	1	4	0	0.0	1	100.0	0	0.0
9.0199	Homemaking, Other	140	5.2	13	9.3	52	37.1	75	53.6
TOTAL ALL AREAS		1,086	40.0	80	7.4	368	33.9	638	58.7

[A]Percentage of this column is based on the 2,714 (30.1%) respondents of the 9,006 terminees surveyed.

[B]Terminees made the judgment as to how their present job related to training they received in their Consumer Home Economics program.

[C]Percentages in related columns are based on total employed by area studied.

+ Less than 0.1 of one percent.

Of the 2,714 1973-74 Consumer Home Economics terminees who returned survey forms, 741 (27.3%) who studied in Homemaking: Preparation for Personal, Home and Family Living (OE Code 9.0100) indicated having employment. This was the largest OE Code group indicating employment; however, this was to be expected since more terminees studied in this area than any other area.

Of the 741 employed terminees who studied in Homemaking: Preparation, Home and Family Living (OE Code 9.0100) 54 (7.3%) were working in a directly related area, 249 (33.6%) were working in a somewhat related area, while 438 (59.1%) were working in non-related areas. The terminees made the judgment as to how their job related to the training they received in their Consumer Home Economics program.

A list of the job titles, as indicated by the terminees, for the first job and present job of the 1973-74 Consumer Home Economics terminees is included in the appendix. The listing is according to the OE Code area in which the teacher indicated the terminee studied. The jobs are coded according to the relatedness of Consumer Home Economics training to both the present and first jobs. The terminees made the judgment regarding the relatedness of their Consumer Home Economics training to these present jobs. The current employment status and the number of full-time jobs held since completing the high school Consumer Home Economics course is also included.

Table 28 indicates, by OE Code area studied, the area most closely related to the 1973-74 Consumer Home Economics terminees present job.

Of the 1,251 1973-74 Consumer Home Economics terminees who indicated areas most closely related to their present job, the following

TABLE 28

INDICATIONS OF THE 1973-74 CONSUMER HOME ECONOMICS TERMINEES BY OE CODE AREAS STUDIED BY THE AREA MOST CLOSELY RELATED TO THE TERMINEES PRESENT JOB[A]

OE Code	Title of Occupational Objective Studied	Total Employed by Area Studied[B]		Area Most Closely Related to Present Job[C]: Clothing and Textiles		Foods & Nutrition		Housing and Home Furnishings		Child Development[D]		Consumer Education[E]		Home Management[F]		Other	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
9.0100	Homemaking: Preparation for Personal, Home and Family Living	843	67.4	246	29.2	96	11.4	21	2.5	45	5.3	47	5.6	32	3.8	356	42.2
9.0101	Comprehensive Homamaking or Home Economics	68	5.4	22	32.4	9	13.2	3	4.4	2	2.9	3	4.4	1	1.5	28	41.2
9.0102	Child Development	15	1.2	6	40.0	0	0.0	0	0.0	1	6.7	3	20.0	0	0.0	5	33.3
9.0103	Clothing and Textiles	21	1.7	8	38.0	1	4.8	0	0.0	3	14.3	2	9.5	1	4.8	6	28.6
9.0104	Consumer Education	7	0.6	2	28.6	1	14.3	0	0.0	0	0.0	0	0.0	0	0.0	4	57.1
9.0105	Family Health	2	0.2	0	0.0	1	50.0	0	0.0	0	0.0	0	0.0	0	0.0	1	50.0
9.0106	Family Relations	120	9.6	34	28.4	17	14.2	1	0.8	4	3.3	1	0.8	4	3.3	59	49.2
9.0107	Food and Nutrition	4	0.3	1	25.0	0	0.0	0	0.0	0	0.0	0	0.0	1	25.0	2	50.0
9.0108	Home Management	3	0.2	3	100.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
9.0199	Homemaking, Other	167	13.3	67	40.1	13	7.8	5	3.0	8	4.8	3	1.8	16	9.6	55	32.9
9.0201	Care and Guidance of Child Children	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	100.0
	TOTAL ALL AREAS	,251	100.0	389	31.1	138	11.0	30	2.4	63	5.1	59	4.7	55	4.4	517	41.3

[A]Of 9,006 terminees, 2,714 (30.1%) returned survey forms.
[B]Percentage is based on the 1,251 terminees indicating employment.
[C]Percentages were based on the total terminees in each individual OE Code area where they studied.
[D]Advise or counseling for children.
[E]Advise persons on selection of brands, materials, use of money, etc.
[F]Household aide, housing management aide, waitress, laundress, general maid, etc.

were noted: (1) 389 (31.1%) indicated Clothing and Textiles; (2) 138 (11.0%) indicated Foods and Nutrition; (3) 30 (2.4%) indicated Housing and Home Furnishings; (4) 63 (5.1%) indicated Child Development (advise or counseling for children); (5) 59 (4.7%) indicated Consumer Education (advise persons on selection of brands, materials, use of money, etc.); (6) 55 (4.4%) indicated Home Management (household aide, housing management aide, waitress, laundress, general maid, etc.) and (7) 517 (41.3%) indicated Other areas.

Table 29 indicates the first job salary ranges compared to the present job salary ranges for 1973-74 Consumer Home Economics terminees.

TABLE 29

FIRST JOB SALARY RANGES AND PRESENT JOB SALARY RANGES PER MONTH FOR 1973-74 CONSUMER HOME ECONOMICS TERMINEES[A]

Salary Ranges	First Job		Present Job	
	No.	%	No.	%
Under $250	693	57.1	381	47.3
$250 - $299	196	16.1	124	15.4
$300 - $349	165	13.6	113	14.0
$350 - $399	76	6.2	84	10.4
$400 - $449	47	3.9	52	6.5
$450 - $499	18	1.5	24	3.0
$500 - $599	15	1.2	15	1.9
$600 - $699	2	0.2	7	0.9
$700 or more	2	0.2	5	0.6
TOTAL	1,214	100.0	805	100.0

[A]Overtime not included

Of the 1,171 terminees reporting a salary range for their first job, 693 (57.1%) indicated a range of under $250 per month. Only two (0.2%) terminees reported a salary range for their first job of over $700 per month.

Of the 805 1973-74 Consumer Home Economics terminees reporting salary ranges for their present job, 381 (47.3%) terminees reported making $250 or less. Five (0.6%) terminees reported making $700 or more.

Continuing Education Information

The following section of this report presents information relative to the continuing education of the 1973-74 secondary Consumer Home Economics terminees.

Table 30 shows the vocational educational training opportunities terminees have participated in since leaving their high school vocational program.

Of the enrollment in additional vocational programs, junior colleges with an enrollment of 424 (30.7%) represented the largest training area. Four-year colleges and universities were indicated as the second largest training area with an enrollment of 292 (21.2%) closely followed by on-job-training (employed sponsored program) with an enrollment of 270 (19.6%) terminees

TABLE 30

ADDITIONAL VOCATIONAL EDUCATIONAL TRAINING 1973-74 SECONDARY CONSUMER HOME ECONOMICS TERMINEES PARTICIPATED IN SINCE LEAVING THEIR HIGH SCHOOL VOCATIONAL PROGRAM[A]

Type Training	Number	Percent
On-the-job training (employer-sponsored program)	270	19.6
Public school adult vocational program	42	3.0
Private vocational school program	19	1.4
University or four-year college	292	21.2
Junior college	424	30.7
Post-secondary vocational-technical institute (trade school)	168	12.2
Apprenticeship training program	13	0.9
Specialized occupational military training	15	1.1
Other[B]	136	9.9
TOTAL[C]	1,379	100.0

[A]Of the 2,714 responding terminees, 1,479 (54.5%) gave no indication of being involved in additional vocational training. Of the 2,714 terminees 1,103 (40.6%) took part in one additional vocational training opportunity since leaving their high school program. One hundred twenty (4.4%) took part in two, and 12 (0.4%) took part in three additional training opportunities.

[B]See page 36 for the "Other" listing as specified by the terminees.

[C]The total indicated the number of different training programs in which terminees enrolled. As footnoted above, several terminees had enrolled in more than one training program.

Of the 2,714 responding terminees, 1,103 (40.6%) had taken part in one additional vocational training program since leaving their high school program. One hundred twenty (4.4%) enrolled in two training programs, 12 (0.4%) enrolled in three vocational training programs, and 1,479 (54.5%) indicated they had not enrolled in any additional vocational training.

The following is a listing of the "Other" (Table 30) vocational education training terminees indicated they had participated in:

"Other" Vocational Training	Number
Other - not specified	24
Aribusiness	1
Business Education	8
Cake Decorating	1
Child Day Care	1
College	3
College - Business	18
College - Two Year	4
Computer Technology	1
Keypunch	4
Cosmetology	3
Dental Assistant	2
Drafting and Surveying	1
Fashion Merchandising	1
Health Occupations	1
Hearing Institute	1
Manpower Training	1
Medical Assistant	1
Modeling	1
Nursing	20
Nursery Technology	2
On-Job-Training	9
Pharmacist Clerk	1
ROTC	2
Rehabilitation	1
Retailing	1
School - High or Night	5
School - Trade	5
School - AVC	1
Secretarial Training	2
Sewing	3
Teacher - Substitute or Aide	2
Trade and Industry	2
Typing	1
Y.W.C.A.	1
Youth Home Program	1

Table 31 points out the additional programs the 1973-74 secondary Consumer Home Economics terminees were attending beyond their high school training by whether it was related to their high school vocational program.

TABLE 31

PROGRAMS PRESENTLY ATTENDED BY THE 1973-74 SECONDARY CONSUMER HOME ECONOMICS TERMINEES BY WHETHER IT RELATED TO THEIR HIGH SCHOOL VOCATIONAL EDUCATION PROGRAM[A]

Type Program	Terminees		Program Related to High School VED Program			
			Yes		No	
	No.	%	No.	%	No.	%
On-job-training (employee sponsored program)	32	1.2	9	0.3	23	0.8
Vocational-technical institute (trade school)	128	4.7	17	0.6	111	4.1
Junior college	463	17.1	37	1.4	426	15.7
Four year college/university	368	13.6	64	2.4	304	11.2
Public school adult vocational program	12	0.4	3	0.1	9	0.3
Private business or trade school	30	1.1	1	+	29	1.1
Apprenticeship program	0	0.0	0	0.0	0	0.0
Other[B]	84	3.1	17	0.6	67	2.5
TOTAL	1117	41.2	148	5.4	969	35.7

[A]All percentages were based on the 2,714 responding terminees.

[B]See page 39 for listing of "Other" schools or educational institutions terminees were attending.

+ Less than 0.1 of one percent.

Of the 2,714 1973-74 secondary Consumer Home Economics terminees who responded to the survey, 128 (4.7%) were attending a vocational-technical institute, 463 (17.1%) were attending a junior college, 368 (13.6%) were attending a four year college or university, 12 (0.4%) were attending a public school adult vocational program, 30 (1.1%) were attending private business or trade school, 32 (1.2%) were in on-the-job training (employer sponsored) programs and 84 (3.1%) were attending some other type of school or educational program. (See page 38 for the listing of the other types of schools or educational programs students were attending.)

Of the 2,714 Consumer Home Economics terminees responding, 1,117 (41.2%) were continuing their education. One hundred forty-eight (5.4%) of the terminees were continuing their education in a program related to their high school vocational program. Nine hundred sixty-nine (35.7%) of the terminees were attending a program in an area not related to their high school vocational program.

The following is a list of the "Other" category (Table 31) of additional education programs or schools the 1973-74 Consumer Home Economics terminees were presently attending:

"Other" School or Education Program Presently Attending	Terminees Attending
Accounting	1
Agribusiness	1
Auto Mechanics	1
Banking Course - American Inst.	1
Business Administration	1
Ceramics	1
College - Business	12
College - Community	2
College - Fashion & Design	1
College - Four year	1
College - Technical	5
Computer Technology	2
Correspondence Course	2
Cosmetology	3
Dental Assistant	1
Education - Basic Adult	1
Home Economics	1
Hygiene - License Training	1
Keypunch Operator	2
Manpower Training	1
Medical Assistant	1
Montgomery Area Skill Center	1
Nursing	23
O.I.C.	1
On-Job Training	9
Part-time	1
Rehabilitation	1
Sales Clerk	1
School -Airline Personnel	1
School - Art	1
School - High	28

(continued)

"Other" School or Education Program Presently Attending	Terminees Attending
School - Night	3
School - Private	2
School - X-ray	1
Secretarial Training	2

Of the 2,714 responding terminees, 1,256 (46.3%) indicated they would like further vocational training. The following is a list of the areas in which the terminees desired to study:

Area of Study	Number
Accounting/Bookkeeping	21
Agribusiness	10
Air Conditioning & Refrigeration	1
Apprenticeship	2
Art	9
Art - Commerical	1
Arts & Crafts	5
Assist Un-Wed Mothers	1
Auto Body Repair	2
Auto Mechanics	2
Bachelor Living	1
Banking	1
Baseball - Pro Player	1
Bible	1
Biology	3
Brick Masonry	1
Bridal Consultant	1
Business/Business Education	228
Business Machine Repair	1
Business - Private	2
Carpenter	1
Cashier	1
Child Care & Development	50
Child Psychology	2
Clerical	1
Clothing	2
Clothing Design	1
College	2
Junior College	5
Communication	1

(continued)

Area of Study	Number
Computer Science	26
Construction	1
Cooking	26
Cosmetology	23
Court Reporter	1
Dental Assistant	9
Diesel Mechanics	1
Dietary	4
Distributive Education	6
Drafting	5
Education	8
Education - Early Childhood	1
Education - Elementary	17
Education - Physical	4
Education - Secondary	2
Education - Special	9
Education - Home Economics Teacher	12
Education - Trade	1
Electronics	9
Engineering	10
English	4
Family Living	8
Farming	1
Farming - Livestock	1
Fashion	17
First Aid	1
Flying	1
Foods	3
Foreatry	3
General	1
General Repair	1
Graphic Arts	1
Health Occupations	41
Heavy Equipment Operator	2
History	2
Home Economics	173
Home Economics - Occupational	18
Home Study	1
Horticulture	2
Housing	1
Interior Decorating & Design	31
Journalism	4
Keypunch Operator	4
Kindergarten	1
Laundry	1
Law Enforcement	1
Library	1
Machinist	4
Marketing	1
Manpower Training	1
Marriage	2

(continued)

Area of Study	Number
Math	1
Meat Cutting	1
Mechanics - Auto	2
Medicine - Occupations	15
Mentally Retarded - Work With	1
Merchandising	1
Military Training	1
Modeling	4
Mortuary Science	1
No Where Now	1
Not Sure	59
Nursing	83
Nursing Aide	1
Nutrition	4
Occupational Therapy	1
Office Machine Repair	1
On-Job Training	6
One I qualify best in	1
Oral Hygenist	1
Pediatrics	1
Personnel Specialist	1
Pharmacy	1
Photography	2
Physical Therapy	1
Plumbing	1
Pre-Law	1
Pre-Vet	1
Psychology	1
Public Relations - Journalism	1
ROTC	1
Radiology	2
Rehabilitation	1
Science	1
Seamstress (Not factory)	2
Secretary/Stenography	17
Secretary - Legal	1
Secretary - Medical	3
Sewing & Clothing	97
Speech	1
Social Problems	6
Social Work	6
Sociology	1
Tailoring	4
Teacher Aide	1
Telephone Operator	1
Textiles	1
Trade & Industry	2
Typing	4
Upholstery	2
Vocational Technical College	12
Welding	4
Writing	1

Another interesting observation revealed from the data was that of 2,714 responding Consumer Home Economics terminees, 262 (9.7%) indicated that when they were taking their home economics course in high school they planned to major in home economics in college. One hundred thirty-five (51.5%) of the 262 terminees indicated they were presently attending an educational program or school. Twelve (4.6%) are enrolled in a vocational-technical institute, 43 (16.4%) are in a junior college, 69 (26.3%) are attending a four year college or university, two (0.8%) are in private business or trade school, while nine (3.4%) have listed "Other".

Job Placement Information

The following section of this report presents information concerning job placement of the 1973-74 secondary Consumer Home Economics terminees.

Table 32 points out whether the 1973-74 Consumer Home Economics terminees were seeking full-time employment when they left their high school vocational program and whether their Consumer Home Economics teacher attempted to help them get a job.

Of the 782 responding 1973-74 Consumer Home Economics terminees indicating they were seeking full-time employment when they left their high school Consumer Home Economics program, 133 (14.1%) indicated that their Consumer Home Economics teacher attempted to help them get a job. However, 811 (85.9%) of the terminees seeking full-time employment indicated that their Consumer Home Economics teacher did not attempt to help them secure employment. It was interesting to note that 1,741 (64.8%) of the reporting

TABLE 32

WHETHER CONSUMER HOME ECONOMICS TEACHERS ATTEMPTED TO HELP 1973-74 CONSUMER HOME ECONOMICS TERMINEES GET A JOB IF SEEKING FULL-TIME EMPLOYMENT UPON LEAVING THE HIGH SCHOOL CONSUMER HOME ECONOMICS PROGRAM[A]

Vocational Teacher Attempted to Get Terminees a Job	Number	Percent
Yes	133	14.1
No	811	85.9
TOTAL	944	100.0

[A]Of the responding terminees, 1,741 (64.8%) indicated they were not seeking full-time employment when they left their high school vocational program.

1973-74 Consumer Home Economics terminees indicated they were not seeking full-time employment when they left their high school Consumer Home Economics program.

Table 33 illustrates how long it took the 1973-74 Consumer Home Economics terminees to get their first full-time job after they left their high school Consumer Home Economics program and began actively seeking full-time employment.

Of the 960 secondary Consumer Home Economics terminees, 325 (33.8%) secured their first full-time job within two weeks after they had left their high school Consumer Home Economics program and began actively seeking full-time employment. However, 219 (22.8%) of the terminees took 13 or more weeks to secure their first full-time job. There were 285 terminees who indicated they already had a job when they left their high school Consumer Home Economics program.

TABLE 33

LENGTH OF TIME IT TOOK THE 1973-74 CONSUMER HOME ECONOMICS TERMINEES TO SECURE FIRST FULL-TIME JOB AFTER LEAVING HIGH SCHOOL CONSUMER HOME ECONOMICS PROGRAM AND BEGINNING ACTIVELY SEEKING FULL-TIME EMPLOYMENT[A]

Time to Secure First Full-Time Job	Number	Percent
0 - 2 weeks	325	33.8
3 - 4 weeks	183	19.1
5 - 8 weeks	135	14.1
9 - 12 weeks	98	10.2
13 or more weeks	219	22.8
TOTAL	960	100.0

[A]Of the responding terminees, 285 indicated they already had ajob when they left their high school vocational program.

Table 34 shows how the 1973-74 secondary Consumer Home Economics terminees indicated they got their first full-time job after leaving their high school Consumer Home Economics program.

Of the 1,056 1973-74 Consumer Home Economics terminees who responded to the survey item, 431 (40.8%) indicated they got their first full-time job after leaving their high school Consumer Home Economics program through a friend or relative. This represented the method that the largest number of Consumer Home Economics terminees utilized to secure their first full-time job. Applications to business and industry were used by 383 (36.3%) terminees to secure employment. Seventy-eight (7.4%) terminees utilized the services of the state (local) employment office in securing their first job after leaving their high school Consumer Home Economics program. Those students who already had a job before leaving their high school Consumer

TABLE 34

HOW THE 1973-74 CONSUMER HOME ECONOMICS TERMINEES INDICATED THEY GOT THEIR FIRST FULL-TIME JOB AFTER LEAVING THEIR HIGH SCHOOL CONSUMER HOME ECONOMICS PROGRAM

How Terminees Secured First Full-Time Job	Number	Percent
Through their home economics teacher	7	0.7
Through their counselor	13	1.2
Through other school teachers of administrators	36	3.4
Through a friend or relative	431	40.8
Through applications to business or industry	383	36.3
Through state (local) employment office	78	7.4
Through a private employment agency	9	0.8
Through radio, T.V., newspaper, or other news media	20	1.9
Other[A]	79	7.5
TOTAL	1,056	100.0

[A]See listing below for the "Other" ways terminees indicated they secured their first full-time job after leaving their high school Consumer Home Economics program.

Home Economics program were not shown in this table.

The following list indicates the "Other" means by how 79 terminees indicated they secured their first jobs after leaving their high school vocational program:

"Other" Means for Securing First Full-Time Job	Number
Did not specify	34
On my own	19
Further training	1
Vocational programs	3
Employment agency	1
Former employer	1
College placement	1

(continued)

"Other" Means for Securing First Full-Time Job	Number
Work study program	3
Summer employment	1
Civil Service	2
Part-time work	8
Relative	4
School advisor	1

Table 35 reveals the indications of the 1973-74 Consumer Home Economics Education terminees as whether, before taking their first job, they looked for employment within daily walking or driving distance of home by how their first job related to their vocational training.

Seven hundred forty-four (80.5%) of the 1973-74 Consumer Home Economics Education terminees who were employed in their first job indicated they sought employment within daily walking or driving distance of home. One hundred eighty (19.5%) terminees indicated before taking their first job, they looked for a job beyond daily walking or driving distance of home.

Of the 80 terminees who were working in a directly related area, only 13 (19.5%) sought employment beyond daily walking or driving distance of home. It is interesting to note that of the 516 terminees whose first jobs did not relate to their training, only 97 of those terminees sought employment beyond daily walking or driving distance of home.

Two hundred thirty-five terminees indicated they had their first job while in high school. Of those 235 terminees, 13 (5.5%) were working in a directly related area, 86 (36.6%) in a somewhat related area, and 136 (57.9%) were working in a non-related area.

TABLE 35

INDICATIONS OF 1973-74 CONSUMER HOME ECONOMICS EDUCATION TERMINEES AS TO WHERE THEY LOOKED FOR THEIR FIRST JOB BEFORE TAKING ONE BY HOW THEIR FIRST JOB RELATED TO THEIR TRAINING[A]

Before Taking First Job, Where Terminees Looked for Job	Total Reporting		Total Reporting by Relatedness of First Job to Vocational Training					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Within daily walking or driving distance of home	744	80.5	67	83.7	258	78.7	419	81.2
Beyond daily walking or driving distance of home[B]	180	19.5	13	16.3	70	21.3	97	18.8
TOTAL	924	100.0	80	100.0	328	100.0	516	100.0

[A]Two hundred ninety-nine terminees indicated they already had their first job while in high school. Of those 235 terminees, 13 (5.5%) were working in a directly related area, 86 (36.6%) in a somewhat related area, while 136 (57.9%) were working in a non-related area.

[B]See listing below for reasons terminees gave for seeking their first job away from home.

The following is a listing of reasons terminees gave for seeking a job beyond daily walking or driving distance of their home before accepting their first job.

Reasons for Seeking Job Beyond Daily Walking or Driving Distance Before Accepting First Job	Number
No job near home	32
More choices (Better Opportunities)	4
Money (Better Pay)	3
To be on my own	1
Employment office	1
Moved	3
Transportation	1
Parents	1
Made no difference	2
Previous summer job	1
Wanted to work there	3

Table 36 reveals the indications of the 1973-74 Consumer Home Economics Education terminees who were working in their first job not related to their training by whether or not they tried to get a job related to their training by where they looked for employment before accepting that first job.

TABLE 36

INDICATIONS OF THE 1973-74 CONSUMER HOME ECONOMICS EDUCATION TERMINEES WORKING IN FIRST JOB NOT RELATED TO THEIR TRAINING BY WHETHER OR NOT THEY TRIED TO GET A JOB RELATED TO THEIR TRAINING BY WHERE THEY LOOKED FOR EMPLOYMENT BEFORE ACCEPTING FIRST JOB[A]

Where Terminees Working in Non-Related Areas Looked for Employment Before Accepting First Job	Total Reporting		Before Accepting This First Job Unrelated to Training Whether Terminees Sought Job in Related Area			
			Yes		No	
	No.	%	No.	%	No.	%
Sought employment within daily walking or driving distance of their home	399	80.3	63	73.3	336	81.8
Sought employment beyond daily walking or driving distance of their home	98	19.7	23	26.7	75	18.2
TOTAL	497	100.0	86	100.0	411	100.0

[A]Totals in this table may not correspond with totals of terminees for non-related categories in other tables for the following reasons: (1) some terminees had jobs when leaving program and did not have to seek employment and (2) some terminees failed to respond to one or more of the related questions from which data was drawn.

[B]See page 47 for the listing of reasons terminees who were working in non-related jobs gave for not trying to secure a job that was related to their training.

It is important to note that of the 497 terminees who were working in a non-related first job, only 23 (4.6%) sought related employment beyond daily walking or driving distance of home before accepting their first job.

Table 37 illustrates the indications of the 1973-74 Consumer Home Economics Education terminees as to where they looked for a job before taking their present job by how their present job is related to their vocational training.

Six hundred fifty-nine (80.0%) of the presently employed 1973-74 Consumer Home Economics Education terminees indicated they sought employment within daily walking or driving distance of home. One hundred sixty-five (20.0%) terminees indicated they sought employment beyond daily walking or driving distance of home.

TABLE 37

INDICATIONS OF 1973-74 CONSUMER HOME ECONOMICS EDUCATION TERMINEES AS TO WHERE THEY LOOKED FOR A JOB BEFORE TAKING THEIR PRESENT JOB BY HOW THEIR PRESENT JOB RELATED TO THEIR TRAINING[A]

Where Terminees Looked for Job Before Taking Present Job	Total Reporting		Total Reporting by Relatedness of Present Job to Vocational Training					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Within daily walking or driving distance of home	659	80.0	48	77.4	219	78.2	392	81.3
Beyond daily walking or driving distance of home[B]	165	20.0	14	22.6	61	21.8	90	18.7
TOTAL	824	100.0	62	100.0	280	100.0	482	100.0

[A]One hundred ninety-nine terminees reported they already had their present job while in high school. Of those 199 terminees, 13 (6.5%) were in a directly related area, 66 (33.2%) in a somewhat related area, while 120 (60.3%) were working in a non-related area.

[B]See listing, page 50, for reasons terminees gave for seeking their present job away from home.

Of the 62 terminees who were working in a directly related area, only 14 (22.6%) sought employment beyond daily walking or driving distance of home.

Of the 482 terminees who were presently working in a non-related area, only 90 (18.7%) sought employment beyond daily walking or driving distance of his home.

One hundred ninety-nine terminees reported they already had their present job while in high school. Of those 199 terminees, 13 (6.5%) were in directly related areas, 66 (33.2%) in somewhat related areas, and 120 (60.3%) were in non-related areas.

The following is a list of reasons terminees gave for seeking a job beyond daily walking or driving distance of their home before accepting their present job. Of the 165 terminees who indicated they sought a job beyond daily walking or driving distance of home before accepting their present job, 115 gave reasons why they sought that job.

Reasons for Seeking Job Beyond Daily Walking or Driving Distance Before Accepting Present Job	Number
No job near home	63
More choices (better opportunities)	18
To be on my own	5
Employment office	1
Money (better pay)	6
Moved	2
Transportation	1
Parents or Relative	4
Made no difference	4
Attend school and work	7
Wanted to work there	4

Table 38 reveals the indications of the 1973-74 Consumer Home Economics Education terminees who were working in their present job not related to their training by whether or not they tried to get a job related to

their training by where they looked for employment before accepting that present job.

TABLE 38

INDICATIONS OF THE 1973-74 CONSUMER HOME ECONOMICS EDUCATION TERMINEES WORKING IN PRESENT JOB NOT RELATED TO THEIR TRAINING BY WHETHER OR NOT THEY TRIED TO GET A JOB RELATED TO THEIR TRAINING BY WHERE THEY LOOKED FOR EMPLOYMENT BEFORE ACCEPTING PRESENT JOB[A]

Before Accepting Present Job Where Terminees Working in Non-Related Areas Looked for Employment	Total Reporting		Before Accepting This Present Job Unrelated To Training Whether or Not Terminees Sought Job in Related Area			
			Yes		No[B]	
	No.	%	No.	%	No.	%
Sought employment within daily walking or driving distance of their home	390	78.9	65	74.7	325	79.9
Sought employment beyond daily walking or driving distance of their home	104	21.1	22	25.3	82	20.1
TOTAL	494	100.0	87	100.0	407	100.0

[A]Totals in this table may not correspond with totals of terminees for non-related categories in other tables for the following reasons: (1) some terminees had jobs when leaving programs and did not have to seek employment and (2) some terminees failed to respond to one or more of the related questions from which data was drawn.

[B]See page 48 for the listing of reasons terminees who were working in non-related jobs gave for not trying to secure a job that was related to their training.

Only 22 (4.4%) of the 494 terminees who were working in a non-related area sought related employment beyond daily walking or driving distance of home before accepting their present job.

APPENDIX

PRESENT JOB AND FIRST JOB TITLES OF THE 1973-74 CONSUMER HOME ECONOMICS TERMINEES

PRESENT JOB AND FIRST JOB TITLES OF THE 1973-74 CONSUMER HOME ECONOMICS OCCUPATIONS TERMINEES

For those terminees who indicated present or first job occupations, this appendix lists the present job title and first job title by their high school vocational training area (OE Codes). The job titles are listed as the terminees reported them. The number of full-time jobs held by these terminees since completing their high school vocational course is listed, current employment status is listed, and whether the student intended to get a job in the area while in the program.

The following code is used to identify the employment status of the terminees:

1. Employed full time, not attending school
2. Employed full time and attending school
3. Employed part time, seeking full-time job
4. Employed part time, not seeking full-time job
5. Employed part time and attending school
6. Unemployed (you are actively seeking a job but have not found a job)
7. Unavailable for employment

The following code is used to identify whether the student intended to get a job in the area while in the program:

1. Use the instruction in homemaking
2. Major in home economics in college
3. Get a job which utilized home economics knowledge and skills
4. Was not sure
5. Use the instruction in homemaking and major in home economics in college
6. Use the instruction in homemaking and get a job which utilized home economics knowledge and skills
7. Major in home economics knowledge and skills
8. Use the instruction in homemaking, major in home economics in college, and get a job which utilized home economics knowledge and skills

The number in parenthesis behind the job titles indicates the relatedness of the high school vocational training to these jobs. The terminees made the judgment as to the relatedness of their training to these jobs. The following code is used to identify this relatedness:

1. Directly related
2. Somewhat related
3. Not related

The total in each occupational title area may not correspond to the total in each OE Code as listed in Table 27. Some of the terminees failed to indicate the title of their employment position. If the first job title was the same as the present job title, the first job title is included under the present job title.

OE Code 9.0100 - Homemaking: Preparation for Personal, Home and Family Living

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
1	1	3	1	Laborer, Mfg.Co. (3)	Laborer, Bottling Co. (3)
2	1	2	1	Mechanic, Service Station(3)	Mechanic, Front end shop (3)
3	1	4	1	Patient Care, In homes(2)	Keypuncher,Bank(2)
4	4	0	1	Filing Clerk, Univ.Center(3)	
5	1	2	4	Truck Driver,(2) Paper Recovery	Janitor,Pipe Mfg. (2)
6	5	1	4	WaitressCafe(3)	
7	5	0	1	Work-Study, College(3)	
8	1	1	1		
9	5	0	1	Library Aide, College Work Study(3)	
10	2	1	2		Child Care (2)
11	5	1	3		Child Care (2)
12	1	1	4	Salad Clerk Med.Center(2)	
13	3	0	1	CounterClerk Fast Food(3)	
14	1	3	1	CounterClerk Fast Food	
15	5	0	1	FileClerk, Ambulatory(3)	SalesClerk,Retail(3)
16	1	1	1	OfficeClerk, Distributor(3)	PayrollClerk, Tax Consultant(3)
17	3	5	1	Ward Aide, Hospital	
18	1	2	1	OfficeClerk, Welding Firm(1)	GroceryClerk(3)
19	1	1	2	Planter,Nursery (2)	Sewing,Garment Mfg.(2)
20	3	1	2	Cook,H.S.(1)	Laborer,Nursery(3)
21	5	0	4	Clerk,Variety Store(3)	
22	5	1	1	Writer & Typist Newspaper(3)	
23	5	0	1	GroceryClerk	CounterClerk,Fast Food
24	5	0	8		
25	1	1	1	FileClerk, Hospital(3)	

(continued)

OE Code 9.0100 - Homemaking: Preparation for Personal, Home and Family Living

(continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
26	1	1	1	Legal Secretary Attorney(3)	
27	1	1	1	Teacher Aide(3)	Clerk,Variety Store (3)
28	2	0	1	Office Clerk, Dept.Store(3)	Sales Clerk, Dept. Store(3)
29	1	5	1	OfficeClerk, StateDept.(3)	Sales Clerk, Dept.Store(2)
30	1	1	1	ProcessTechnician,Textile Plant (3)	OfficeClerk, Hospital (2)
31	1	1	1	Service Clerk Garment Mfg.(3)	
32	5	0	1	Nurse's Aide, Nursing Home	
33	1	1	5	Office Clerk, Car Dealer(3)	
34	4	1	4		
35	5	1	4	Sales Clerk,(3) VarietyStore	Warehouse Clerk(3)
36	4	0	1	Counter Clerk Fast Food(2)	
37	1	1	4		
38	5	1	4	Cashier,Grocery Clerk(3)	Sales Clerk, Clothing
39	2	1	1	Machine Oper. Textile Mfg.(3)	
40	2	2	4	Pre-school teacher (1)	Inspector,Textile Mfg.(2)
41	4	1	1	Cashier,Grocery Store (3)	
42	1	2	4	Weaver,Textile Mfg.(3)	
43	1	1	1	Clipper,Textile Mfg. (3)	
44	5	0	2		
45	1	1	4	Secretary,Hospital(3)	
46	5	0	1	Secretary-Church (3)	Sales Clerk,Dept. Store
47	1	2	1		
48	1*	3	6	Waitress/Cashier Restaurant(3)	Laborer,NYC Program (2)
49	1	1	5	Bank Teller(3)	
50	1	1	1	Secretary,Plastics (3)	

(continued)

OE Code 9.0100 - Homemaking: Preparation for Personal, Home and Family Living (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
51	1	1	4		
52	1	2	1	Sewing,Garment Mfg. (1)	
53	1	1	4	Sewing,Garment Mfg. (1)	
54	5	0	1	Office Clerk Mfg.Co.(3)	
55	1	1	4	Poultry Wrapper (3)	
56	1	1	1	Office Clerk MilitaryPost (3)	
57	0	0	8	Sales Clerk Shoes(3)	
58	5	0	1	Office Clerk Dept.Store(3)	
59	1	1	1	Child Care Nursery(2)	
60	1	3	1	Office T.V. Service (3)	Office Clerk, Co. Govt.(3)
61	1	0	4	Service Clerk Garment Mfg.(2)	
62	1	1	4	Fold Garments Garment Mfg.(1)	
63	1	1	1	Findrafter-Carpet Mill	
64	1	1	1	Sewing-Garment Mfg. (1)	Sales Clerk, Jewelry Store(3)
65	1	1	1	Sleeve Setter Garment Mfg.(3)	
66	1	1	1	Sewing-Garment Mfg.(3)	
67	2	2	1	Cosmetologist (3)	
68	1	1	1	Manager,Record Shop (3)	Librarian,High School(3)
69	4	0	1	Office Clerk Auto Supply Store(3)	
70	1	1	4	Dental Assistant (3)	
71	2	3	1	Office Clerk Jewelry Store (3)	Sales Clerk,Clothing (2)
72	1	1	1	Sewing Garment Mfg. (2)	

(continued)

OE Code 9.0100 - Homemaking; Preparation for Personal, Home and Family Living (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
73	1	1	1	Office Clerk JewelryStore (3)	
74	5	0	1	Sales Clerk, IceCream (2)	Sales Clerk, Clothing(2)
75	1	1	1	Reel Tender, Carpet Mfg. (3)	Office Clerk Govt.Service(3)
76	1	1	1	Office Clerk Clinic(2)	
77	5	0	1		
78	5	3	2	Waitress,State Park (2)	
79	3	1	1	Sewing,Garment Mfg. (2)	
80	5	0	1	Office Clerk Jr. College (3)	
81	1	1	4	Inspector,TextilePlant(3)	
82	1	1	1	Supply Clerk, Garment Mfg. (2)	
83	1	1	4	Sewing,Garment Mfg. (1)	Cashier, Retail Store (3)
84	1	0	1	Babysitting	
85	5	0	1	Advertising Sales,T.V.(3)	
86	5	0	1	Teacher Assistant,Jr.College (3)	
87	1	1	1	Office Clerk Lumber Co.(3)	Grocery Clerk(3)
88	5	1	1	Office Clerk FabricMfg.(3)	
89	3	0	1	Nurses Aide, NursingHome(3)	
90	1	1	5	Office Clerk, Hospital(3)	
91	2	2	4	Florist (3)	
92	5	0	1	Counter Clerk Fast Food(3)	
93	3	1	4		
94	1	1	6	Long Distance Telephone Operator (3)	

(continued)

OE Code 9.0100 - Homemaking: Preparation for Personal, Home and Family Living (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
95	5	1	4	Clerk Typist Co.Bd.of Ed. (2)	
96	2	1	1	Secretary,T.V. Store (3)	
97	1	1	6	Seamstress, Clothing Mfg. (1)	
98	5	0	1	Soda Clerk, Drug Store(2)	
99	5	0	1	Sales Clerk, Clothing Store (3)	
100	5	1	1	Counter Clerk, Fast Foods(2)	
101	5	0	4	Nursery Attendent,Church(2)	
102	3	0	4		
103	1	3	1	Clean Machines Bakery(3)	Dishwasher,Restaurant (3)
104	1	1	1	Dental Assistant (2)	
105	2	2	4	Cashier,Theater (3)	Waitress,Restaurant (3)
106	4	1	1	Assistant Mgr. Fast Foods	Waitress, Fast Foods
107	3	0	1	Lunch Room Assistant,H.S.(2)	
108	2	0	1		
109	1	1	1	Seamstress,Clothing Mfg.(2)	
110	3	1	4	Sales Clerk Dept.Store(3)	Waitress (3)
111	1	0	1	Secretary,Elect. Supply (3)	Sales Clerk, Jewelry Store(3)
112	3	0	4	Secretary, Church(3)	
113	5	0	4	Library Clerk Jr.College(3)	Office Clerk,Telephone Co.(3)
114	1	1	4	Keypunch Operator,Dairy(3)	Nurse's Aide (3)
115	1	2	1	Sales Clerk Drug Store(3)	
116	1	2	1	Seamstress,Mfg. Co. (1)	

(continued)

OE Code 9.0100 - Homemaking: Preparation for Personal, Home and Family Living

(continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
117	1	1	4	Assembler,(3) Lighting Mfg.	
118	1	1	1	Laborer,Carpet Mill(3)	
119	3	1	3	Sales, Clothing Store	
120	5	1	1	Seamstress,Clothing Mfg.(2)	
121	1	1	4	Twister,Textile Mill(3)	
122	1	1	3	Sewing,Clothing Mfg.(2)	
123	4	1	4	Teacher's Aide Child Care Center (2)	Secretary, Clothing Mfg. (3)
124	5	0	1	Lab Assistant Jr. College(3)	
125	5	1	1	Sales Clerk,Shoe Store(3)	
126	1	1	1	Dental Assistant (2)	
127	1	1	1	Teller, Bank(3)	
128	1	1	1	Sewing,Clothing Mfg.(2)	
129	5	0	1	Sales Clerk, Ladies Wear(2)	
130	4	1	4	Teacher's Aide Child Care Center (2)	
131	1	2	1	Retail Clerk(3)	Serger, Clothing Mfg. (2)
132	1	1	1	Keypuncher, Rug Mfg. (3)	
133	1	1	1	Sales Clerk, Variety Store (2)	
134	1	1	4	Paint Dept. Mfg. Co. (3)	
135	1	1	1	Close Plackets Clothing Mfg. (1)	
136	1	1	1	Legal Secretary (3)	
137	1	2	4	Clerk Typist Construction Co.(3)	

(continued)

OE Code 9.0101 - Comprehensive Homemaking or Home Economics

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
1	3	0	1	Cook, Elementary School (2)	
2	5	0	1	Office Cerk, Ins. Co. (3)	
3	1	1	1	Keypuncher, Ins. Co. (3)	
4	1	1	1	Mail Clerk, Company (3)	
5	1	1	4	Title 2 Teacher's Aid, Elem.School (3)	
6	1	1	1	Weaver, Textile Mfg. (2)	
7	1	1	1		
8	1	1	4	Collator, Mapping Co.(3)	
9	1	2	4	Waitress (2)	
10	5	0	1	Secretary, Country Club (3)	Waitress, Country Club (2)
11	5	1	4	Cosmetic Sales Person (2)	Bookkeeper, Motel
12	5	0	4	Food Service Military Base (2)	Concession Stand Race Track(2)
13	5	0	1	Office Clerk Hospital(3)	Sales Clerk, Dept. Store (2)
14	5	0	1	Sales, 5&10 Store (3)	
15	5	0	1	Cashier, Supermarket (3)	
16	1	1	6	Seamstress, Clothing Mfg.(1)	
17	1	1	1	Cashier,Restaurant (2)	
18	1	1	6		
19	5	1	4	Nurse's Aide, Hospital(3)	Beautician (3)
20	1	2	1	Inspector,Clothing Mfg.(2)	
21	5	1	4	Sewing, Clothing Mfg. (2)	
22	1	1	4	Sewing, Clothing Mfg. (3)	
23	5	0	4	Sales Clerk, Variety Store (3)	

(continued)

OE Code 9.0101 - Comprehensive Homemaking or Home Economics

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
24	1	1	4	Ward Clerk, Hospital	
25	5	1	4	Sales Clerk, Dept. Store(3)	
26	1	1	3	Laborer-Mfg.Co.	
27	1	1	1	Sales Clerk,Dept. Store(2)	
28	1	1	1	Weaving-Textile Mfg.(3)	
29	1	2	4	Turning Coats Clothing Mfg.(3)	
30	1	1	1	Veg.Cutter,Canning Plant (1)	
31	1	1	7	Machine Operator, Factory	
32	1	0	1	Secretary,Attorney (3)	
33	5	0	1		
34	5	0	1	Work-Study,Univ. (2)	
35	1	1	1	Pants packer Clothing Mfg.(2)	

OE Code 9.0102 - Child Development

1	1	1	1	Office Clerk, Steel Mfg.(3)	
2	3	1	5	Sales Clerk, Craft Shop	
3	1	1	3	Sewing,Garment Mfg.(1)	
4	2	1	1	Dental Assistnat (3)	
5	1	1	1	Medical Clerk Clinia (2)	
6	1	1	1	Grocery Clerk	
7	1	2	3	Cashier, Dime Store(3)	
8	1	1	4	Braider,Textile Mfg. (3)	

(continued)

OE Code 9.0103 - Clothing and Textiles

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
9	1	1	1	Office Clerk, Steel Mfg.(3)	
10	3	1	2	Child Care Center (2)	
11	3	0	1	Bookkeeper,Auto Supply Store(3)	
12	1	1	1	Sales Clerk Drug Store(3)	
13	5	0	1	Sales Clerk Dept. Store(2)	
14	1	1	4	Office Clerk, Newspaper(3)	
15	5	1	1	Cashier,Grocery (3)	
16	3	2	1		
17	1	1	3	Quilting Collar Bank,Shirt Mfg. (1)	
18	5	0	3		
19	1	1	1	Teacher Aide(2)	
20	1	1	3	Sewing-Clothing Mfg.(2)	
21	5	0	4		
22	1	1	4	Gripper Girl Clothing Mfg. (2)	Teacher's Aide High School (2)

OE Code 9.0104 - Consumer Education

1	5	1	1	Sales Clerk, Dept.Store(3)	
2	1	2	4	Waiter,Hotel (2)	
3	3	2	4		
4	5	1	1	Sales Clerk, Dept.Store(2)	
5	5	1	1	Gymnastic Ins. YMCA(3)	
6	3	2	4		
7	5	1	1	Teacher Aid, Jr. College(3)	Clerk/Typist,Co. Extension Agent(2)

(continued)

OE Code 9.0105 - Family Health

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
1	1	1	1	Pipe Stripper, Mfg.Co.(3)	Stock Clerk, Grocery(2)
2	5	0	3		

OE Code 9.0106 - Family Relations

1	1	0	4		
2	2	1	4	Lab.Assistant Health Clinic (3)	Stock Clerk Grocery
3	3	1	4	Stock Clerk Grocery(3)	Book Warehouse Laborer(3)
4	1	1	4	Fork Lift Operator,Pipe Mfg. (3)	
5	3	1	1	Office Clerk, Temporary Services(3)	
6	1	1	4	Clerk,Grocery(1)	
7	1	1	4	Lathe Operator Wheel Co.(3)	
8	1	1	1	Sales Clerk, Hardware(3)	
9	[illegible]	2	4	Clerk, Water Dept.(3)	Office Clerk, Cigar Whse.(3)
10	1	1	4	Grocery Clerk (3)	
11	1	1	1	Grocery Manager Trainee(2)	
12	1	1	1	Machinist, Auto Parts(2)	
13	1	1	1	Butcher's Helper Grocery	
14	5	0	1	Sales Clerk,Dept. Store(3)	Construction Laborer (3)
15	1	2	1	Mechanic Used Car Dealer(3)	
16	4	1	4	Lab Assistant Univ.(3)	
17	1	1	4	Laborer,Metal Galvanizing(3)	
18	1	2	1	Owner, Metal Scrap(3)	

(continued)

OE Code 9.0106 - Family Relations (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
19	1	2	1	Delivery, Auto Parts(3)	Truck Driver Electric Co.(3)
20	5	1	1	Recreation Promoter, Boys Club(2)	Construction Worker(3)
21	4	1	1	Referee, Boys Club(2)	Machinist,Engineer Firm(3)
22	5	1	1	Car Scrapper (3)	
23	1	3	4	Cook,Restaurant (1)	Sales Clerk, Dime Store(3)
24	5	1	4	Stock Clerk GroceryStore (3)	
25	1	2	4	Weaver,Textile Mfg.(3)	
26	1	2	4	Inspector,Textile Mfg.(3)	Cashier,Dept.Store (3)
27	1	1	1	Cutter,Textile Mfg.(3)	
28	1	1	1		
29	5	0	1	Spinner,Textile Mfg.(3)	
30	5	0	4	Librarian(2)	
31	1	2	4	Seamstress,Clothing Mfg.(2)	
32	1	2	3	Seamstress,Clothing Mfg.(2)	
33	1	1	1	Dental Assistant (3)	
34	1	2	1	Owner,Partner Floral Shop(2)	Seamstress,Clothing Mfg.(1)
35	1	1	1	Bundle Boy, Clothing Mfg.(3)	
36	1	1	1	Laborer, Wire Mfg.(3)	
37	1	1	4	Seamstress,Clothing Mfg.(2)	
38	1	1	1	Maid, School(3)	Packer,Poultry(3)
39	1	1	1	Cashier,Restaurant(2)	
40	5	0	3	Cashier,Drug Store(2)	
41	5	0		Laborer, Farm Supply Co.	Warehouseman
42	5	0	4		

(continued)

OE Code 9.0106 - Family Relations (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
43	1	2	1	Cashier, Restaurant(2)	Lifeguard, YMCA
44	4	1	4	Janitor, Textile Mill (3)	
45	5	0	1		
46	1	1	1	Rod Man, Surveying(3)	Sale & Service Scales(3)
47	2	1	1	Mechanic Helper Construction (3)	
48	5	0	4	Teachers Aide Jr.College(3)	Truck Driver, Laundry(3)
49	1	1	4	Farm Laborer	
50	1	1	4	Stock Clerk Grocery	
51	5	2	1	Assistant Coach (3)	Maintenance, H.S. (3)
52	1	2	4	Bookkeeper, Clothing Store (2)	Sales Clerk, Dept. Store (2)
53	1	1	4	Sewing, Garment Mfg.(2)	
54	1	2	4	Auto Repair(3)	Laborer, Construction (3)
55	5	0	4	Cashier, Grocery (3)	
56	1	1	4	Cashier, Grocery (3)	
57	1	1	1	Keypunch Operator, Mental Hospital(3)	
58	5	0	1	Sales Clerk, Dept.Store(3)	
59	1	2	1	Sales Clerk, Dept.Store(2)	Sales Clerk, Jewelry Store(2)

OE Code 9.0107 - Foods and Nutrition

1	1	1	4		
2	1	2	4	Wash Cloth Classer, Textile Co.(2)	Waitress (1)

(continued)

OE Code 9.0107 - Foods and Nutrition (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
3	1	1	1	Clerk Typist Rehab.Office(2)	
4	5	1	1	Typist,Jr.College(3)	

OE Code 9.0199 - Homemaking, Other

1	1	1	4	Dental Assistant (3)	
2	1	1	4	Counter Clerk Fast Food(3)	
3	4	1	4	Cosmetic Sales (3)	
4	2	2	4	Office Clerk(2)	Keypuncher(3)
5	1	1	1	Soda Clerk, Drug Store(2)	Waitress,Restaurant (2)
6	1	1	4	EKG Technician	Counter Clerk, Fast Food (3)
7	1	1	1	Office Clerk, Ins.Adjuster (3)	
8	5	0	1	Clerk, Auto Supply Store (3)	
9	1	1	1	Binder,Printing Shop (2)	Potato Grader(2)
10	1	1	1	Sewing,Garment Mfg. (2)	
11	1	2	6	Laborer,Greenhouse	Pecan Grader
12	1	2	1	Inspector,Assembly Line	Work Handler,Garment Mfg. (2)
13	4	1	1	Florist Assistant	Secretary,Courthouse (2)
14	1	2	1	Waitress, Fast Food (3)	Sewing, Garment Mfg. (3)
15	5	1	5	Sewing, Garment Mfg. (2)	
16	1	1	1	Secretary,Credit Bureau	
17	1	1	5	Cook, Restaurant (3)	Brick Packer(1)

(continued)

OE Code 9,0199 - Homemaking, Other (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
18	1	2	1	Sewing,Garment Mfg. (2)	
19	4	1	1	Postal Clerk(3)	Office Clerk Subscription Agency (3)
20	1	1	1	Sewing,Garment Mfg. (2)	
21	1	1	4	Seamstress,Clothing Mfg.(2)	
22	3	0	1	Sales,Dept.Store (3)	
23	3	0	1	Sales,Dept.Store (2)	
24	1	1	4	Seamstress,Clothing Mfg.(2)	
25	3	1	1	Waitress, Restaurant (3)	Match-Out Girl Clothing Mfg.(2)
26	1	2	3	Seamstress,Clothing Mfg. (2)	
27	1	1	1	Seamstress,Clothing Mfg. (1)	
28	1	3	1		
29	1	2	1	Cashier,Grocery Store (2)	Sales, Dry Goods Store (1)
30	1	3	1	Seamstress, Clothing Mfg.(2)	
31	1	1	1	Tire Card Operator,Mfg.Co.(2)	Waitress, Fast Food (1)
32	1	1	4	Solder Resistors Mfg. Co. (3)	Dental Assistant(2)
33	1	1	6	Home Management (1)	
34	1	2	1	Counter Clerk Restaurant	Nurse's Aide (2)
35	1	2	3	Seamstress (2)	
36	3	0	1		
37	1	0	2		
38	1	2	1	Office Clerk Electronics St. (3)	Sewing, Clothing Mfg.
39	1	1	4	Dental Assistant (2)	
40	1	2	1	Office Clerk, Bank (3)	Office Clerk, Equipment Co.(3)
41	1	1	4	Blueprint Copier, Equip. Co. (3)	

(continued)

OE Code 9.0199 - Homemaking, Other (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
42	5	1	1		
43	1	1	1	Respiratory Therapist (3)	Clerk Typist(3)
44	1	2	1	Bartacker, Garment Mfg.(3)	Inspector, Bottling Co.
45	1	1	1	Bank Teller(2)	
46	2	1	1	Dispatcher, Telephone Co.(3)	
47	2	1	1	Sewing,Garment Mfg. (3)	
48	5	0	1	Cashier, Drug Store (3)	Waitress, Fast Food (3)
49	1	1	4	Sewing,Garment Mfg. (2)	Sales Clerk, Clothing (2)
50	1	3	1	Bookkeeper,Bank (3)	Cashier, Variety Store (3)
51	5	0	1		
52	1	1	4	Spinner,Textile Mill	
53	1	1	1	Seamer,Clothing Mfg.(1)	
54	1	2	4	Sewing, Clothing Mfg. (3)	
55	5	0	1	Nurse's Aide, Hospital (3)	
56	1	1	1	Clerk, Grocery (3)	
57	5	1	1	Nurse's Aide, Nursing Home	
58	5	1	1	Seamer, Clothing Mfg. (3)	
59	1	2	3	Spooler, Textile Mill	Nurse's Aide, Hospital
60	1	1	4	Sewing, Clothing Mfg.(2)	
61	5	0	1	Sewing, Clothing Mfg.(3)	Sales Clerk, Dress Shop (3)
62	1	0	4		
63	5	0	4	Seamer, Clothing Mfg.	
64	3	0	1	Substitute Teacher,Middle School (2)	
65	3	0	3		

(continued)

OE Code 9.0201 - Care and Guidance of Children

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
1	1	2	1	Office Clerk, Service Co.	Office Clerk Ins. Co. (3)

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ABSTRACT: THIS REPORT RELATES THE FINDINGS OF A STATEWIDE FOLLOWUP SURVEY OF 1973-74 MASONRY TERMINEES FROM THE SECONDARY SCHOOL VOCATIONAL PROGRAMS IN ALABAMA. QUESTIONNAIRES WERE MAILED TO 345 STUDENT TERMINEES APPROXIMATELY SEVEN TO EIGHT MONTHS AFTER LEAVING SCHOOL. RETURNS WERE RECEIVED FROM 74 (21.5 PERCENT) MASONRY TERMINEES FROM THE INITIAL MAILING AND ONE FOLLOWUP. DATA ARE PRESENTED IN TABLES WITH ACCOMPANYING NARRATIVE SUMMARIES ORGANIZED ACCORDING TO THESE MAJOR SECTIONS: GENERAL INFORMATION ON THE TERMINEES; BASIC INFORMATION RELATED TO THE VOCATIONAL PROGRAM; BASIC EMPLOYMENT INFORMATION; CONTINUING EDUCATION INFORMATION; AND JOB PLACEMENT INFORMATION. PRESENT AND FIRST JOB TITLES OF THE 1973-74 MASONRY TERMINEES ARE APPENDED. (NJ)

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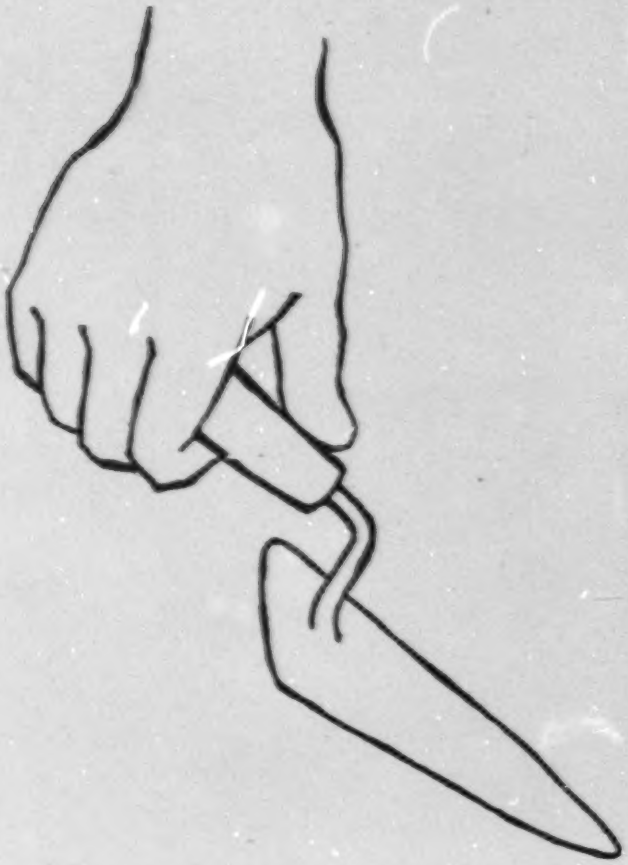

1973-1974 ALABAMA SECONDARY MASONRY FOLLOW-UP REPORT

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IN COOPERATION WITH DIVISION OF
VOCATIONAL EDUCATION AND COMMUNITY COLLEGES
STATE DEPARTMENT OF EDUCATION

MARCH 1976

VT 103 331

MASONRY FOLLOW-UP

Follow-Up of 1973-74 Masonry Terminees
From the Secondary School Vocational
Programs of Alabama

Research and Development Report No. 37

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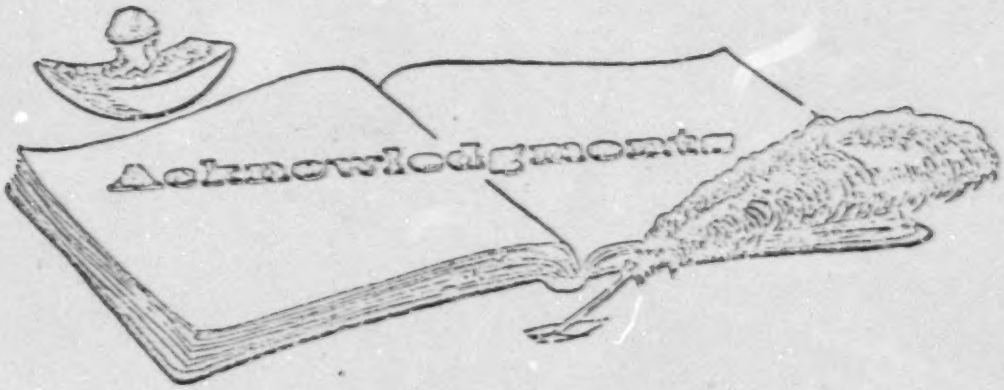
March 1976



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FOLLOW-UP OF 1973-74 MASONRY TERMINEES
FROM THE SECONDARY SCHOOL VOCATIONAL
PROGRAMS OF ALABAMA

Alabama continues to support one of the most progressive and comprehensive vocational education programs in the nation. In addition to serving youth and adults by training them for gainful and useful employment, the diversification of vocational course meets a serious job need and contributes to the industrial development in the state.

With the millions of tax dollars being spent on vocational education, it is necessary to attempt to account to the taxpayer and decisionmakers on the results of those expenditures. Terminee student follow-up studies constitute one of the most valuable techniques for assessing vocational education system outcomes.

The Alabama State Department of Education, Division of Vocational Education and Community Colleges, recognizing this important phase of accountability and evaluation, initiated the development of a statewide follow-up system for its vocational education program terminees at the secondary school level. The Division, under the direction of Dr. T. L. Faulkner, State Director, contracted with the Occupational Research and Development Unit at Auburn University to develop and implement the statewide follow-up system for all its secondary vocational terminees in all service areas.

This report relates the findings of the survey instrument mailed to the 1973-74 Masonry terminees from the secondary school vocational programs of Alabama. When the terminees received the quesionnaire, most had been out of school seven to eight months.

General Information

Student rosters with names and addresses of 1973-74 Masonry terminees were received from 40 secondary school vocational teachers in Alabama. Of the 40 teachers from which student rosters were received, 20 were in Secondary Area Vocational Centers (AVC) and 20 were in programs in schools of other settings. The total of 345 student terminees reported to the ORDU were mailed the follow-up forms. Returns were received from 74 (21.5%) of the Masonry terminees from the initial mailing and one follow-up. At least one student questionnaire was received from 31 of the 40 teachers.

All terminees reported in this study were in programs administered only by the Division of Trade and Industrial Education, State Department of Education.

Table 1 presents data relative to the total population of Masonry terminees and the number of returns categorized by type school and termination status.

TABLE 1

DESCRIPTION OF TOTAL POPULATION AND RETURNS OF 1973-74 MASONRY TERMINEES BY TYPE SCHOOL AND TERMINATION STATUS[A]

Type School and Termination Status	Total No. Reported	Number of Returns	Percent of Returns
Area Vocational Centers			
Total	238	54	22.7
Completers[B]	161	43	26.7
Dropouts[C]	77	11	14.3
Other Type Schools			
Total	107	20	18.7
Completers	74	15	20.3
Dropouts	33	5	15.2
Grand Total	345	74	21.5
Completers	235	58	24.7
Dropouts	110	16	14.5

[A]These Masonry terminees were in programs administered only under the service area of Trade and Industrial Education, State Department of Education.

[B]Any terminee who left the program by completing or by high school graduation.

[C]Any terminee the instructor reported as having dropped out of school.

Table 2 illustrates the sex characteristics of those 1973-74 Masonry terminees reported by the instructors and those who returned survey forms.

TABLE 2

SEX OF THE 1973-74 MASONRY TERMINEES REPORTED AND BY WHO RETURNED QUESTIONNAIRES

Sex[A]	Reported		Returns	
	Number	Percent	Number	Percent
Male	331	95.9	72	97.3
Female	0	0	0	0
Not Known	14	4.1	2	2.7
TOTAL	345	100.0	74	100.0

[A]Sex as reported by teacher.

Table 3 presents the racial or ethnic characteristics of those 1973-74 Masonry terminees reported by instructors and who returned survey forms.

TABLE 3

RACIAL OR ETHNIC CHARACTERISTICS OF THE 1973-74 MASONRY TERMINEES REPORTED AND BY WHO RETURNED QUESTIONNAIRES

Racial or Ethnic Group[A]	Reported		Returns	
	Number	Percent	Number	Percent
American Indian	4	1.2	0	0.0
Black	258	74.8	53	71.6
Oriental	0	0.0	0	0.0
Spanish Surnamed American	0	0.0	0	0.0
White	80	23.2	20	27.0
Other	1	0.3	1	1.4
Not Known	2	0.5	0	0.0
TOTAL	345	100.0	74	100.0

[A]Racial or Ethnic Group as reported by teacher.

Table 4 illustrates the number and grade level of the 1973-74 Masonry terminees reported who dropped out of school during the academic year and by who returned the questionnaire.

TABLE 4

NUMBER OF THE 1973-74 MASONRY TERMINEES REPORTED WHO DROPPED OUT OF SCHOOL DURING THE 1973-74 SCHOOL YEAR BY GRADE LEVEL

Grade Level Upon Dropping Out of School	Reported		Returns	
	Number	Percent[A]	Number	Percent[B]
Ninth	7	2.0	0	0.0
Tenth	26	7.5	6	23.1
Eleventh	38	11.0	6	15.8
Twelfth	26	7.5	4	15.4
Grade Level Not Indicated by Teacher	13	3.8	0	0.0
TOTAL	110	31.8	16	14.5

[A]Percentage is based on 345 total reported terminees.
[B]Percentage is based on returns by grade.

Table 5 shows the number of 1973-74 Masonry terminees who indicated whether they were in active full-time military service.

TABLE 5

ACTIVE FULL-TIME MILITARY STATUS OF 1973-74 MASONRY TERMINEES WHO RETURNED QUESTIONNAIRES

Active Full-Time Military Status	Number	Percent
Yes	3	4.1
No	69	93.2
No Response	2	2.7
TOTAL	74	100.0

Basic Information Related to the Vocational Education Program

Table 6 points out the number of 1973-74 Masonry terminees who indicated whether this vocational program was a school requirement.

TABLE 6

1973-74 MASONRY TERMINEES WHO INDICATED WHETHER THEIR VOCATIONAL PROGRAM WAS A SCHOOL REQUIREMENT

Vocational Course Was a School Requirement	Number	Percent
Yes	5	6.8
No	69	93.2
No Response	0	0.0
TOTAL	74	100.0

Table 7 indicates, according to the 1973-74 Masonry terminees, the primary source of influence in selecting their vocational course.

TABLE 7

PRIMARY INFLUENCES ON THE 1973-74 MASONRY TERMINEES IN SELECTING THEIR VOCATIONAL COURSE

Group or Individual Terminees Felt Influenced Them Most in Selecting Vocational Course	Number	Percent
Parent(s) or Guardian(s)	2	2.7
Guidance Counselor	3	4.1
Your Vocational Teacher	7	9.5
Another Teacher or Principal	1	1.3
Student in VED Program	7	9.5
A Friend or Relative	6	8.1
A Businessman	1	1.3
Made Choice Yourself	46	62.2
Other	1	1.3
No Response	0	0.0
TOTAL	74	100.0

The vocational teacher or a student in the VED program appeared to be the greatest outside influences on those terminees enrolling in the masonry program. Seven (9.5%) of the terminees responding indicated that their vocational teacher influenced them most in selecting their masonry course, and seven (9.5%) indicated a VED student influenced them in their selection. However, 46 (62.6%) indicated that they selected their course of study on their own. Only three terminees (4.1%) indicated that a guidance counselor influenced them most in selecting their program.

Table 8 indicates terminees' opinions as to whether they had adequate job or occupational information and school experiences to make as realistic career choice.

TABLE 8

OPINIONS OF 1973-74 MASONRY TERMINEES AS TO WHETHER THEY HAD ADEQUATE JOB OR OCCUPATIONAL INFORMATION AND SCHOOL EXPERIENCES TO MAKE A REALISTIC CAREER CHOICE

Response	Number	Percent
Yes	55	74.3
No	19	25.7
No Response	0	0.0
TOTAL	74	100.0

Table 9 indicates whether, during the time they were taking their high school vocational program, the reporting 1973-74 terminees intended to get a job in Masonry.

TABLE 9

INDICATIONS OF 1973-74 MASONRY TERMINEES AS TO WHETHER, DURING THE TIME THEY WERE TAKING THEIR HIGH SCHOOL VED PROGRAM, THEY PLANNED TO GET A JOB IN THEIR AREA OF STUDY

Intended To Get Job In Area of Study	Number	Percent
Yes	40	54.0
No	5	6.8
Was Not Sure	29	39.2
No Response	0	0.0
TOTAL	74	100.0

It is interesting to note that only 40 (54.0%) of the 1973-74 reporting Masonry terminees indicated that during the time they were taking their Masonry program, they intended to get a job in the area they were studying.

Table 10 indicates terminees' opinions on choosing the Masonry program if they had the selection to make again.

A noteworthy point was revealed by the data. Of the 1973-74 Masonry terminees, 62 (83.8%) indicated that they would select the same vocational program if they had the choice to make again. Only four (5.4%) of the responding terminees indicated that they would not take a vocational program.

TABLE 10

OPINIONS OF 1973-74 MASONRY TERMINEES REGARDING THEIR VOCATIONAL PROGRAM

Question: If You Had It To Do Over Again, Would You...?	Number	Percent
Take the same vocational program	62	83.8
Not take a vocational program	4	5.4
Choose another vocational program offered in your school, such as _____ A	5	6.8
Choose another vocational program if it had been offered in your school, such as _____ B	3	4.0
No Response	0	0.0
TOTAL	74	100.0

[A]See listing IA below for those other vocational programs offered in terminees' school that they would have taken instead of their Masonry programs.

[B]See listing IB below for the vocational programs the terminee would have taken instead of their masonry program if it had been offered in their school.

Listing I-A-- Courses offered in their school that masonry terminees indicated they would have taken if they had it all to do over again.

1. Auto Mechanics
2. Machine Shop
3. VIE
4. Body Work
5. Electricity

Listing I-B-- Courses masonry terminees indicated they would have taken if they had it all to do over again and the course were offered in their school.

1. Mechanics
2. Shoe Repairing
3. Welding II
4. Body & Fender Repair
5. Cement Finishing
6. Blue Print Reading
7. Electrician
8. Auto Chem.
9. Auto Mechanics

Table 11 indicated the extent to which the reporting 1973-74 masonry terminees felt their high school vocational programs prepared them for their first job. This data was also broken down by how that first job related to their vocational program.

Terminees who were in full-time active military service or who had never been employed were not asked to respond to the questions from which this data was reported. Also, the terminees who failed to respond to the question items were not indicated in the table.

TABLE 11

PERCEPTIONS OF 1973-74 MASONRY TERMINEES AS TO THE EXTENT THEIR HIGH SCHOOL VOCATIONAL PROGRAM PREPARED THEM FOR THEIR FIRST FULL-TIME JOB BY HOW FIRST FULL-TIME JOB RELATED TO TRAINING

Extent Vocational Course Prepared for First Full-Time Job	Total Reporting		Number Reporting by Relatedness of First Full-Time Job to Training Received					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Excellent	8	17.0	5	38.5	1	16.7	2	7.1
Well Prepared	14	29.8	6	46.1	3	50.0	5	17.9
Fair	6	12.8	2	15.4	1	16.7	3	10.7
Poorly Prepared	0	0.0	0	0.0	0	0.0	0	0.0
Preparation not related to job	19	40.4	0	0.0	1	16.7	18	64.3
TOTAL	47	100.0	13	100.0	6	100.0	28	100.0

In noting the extent to which the 1973-74 Masonry terminees felt their high school vocational course prepared them for their first full-time job by how their first full-time job related to the training they received in their high school Masonry program, some interesting points were revealed.

Twenty-two (46.8%) of the 1973-74 Masonry terminees responding to this item indicated "Excellent" or "Well Prepared" for their first full-time job as a result of the training received in their high school vocational education program. Eleven (84.6%) of the 13 terminees employed in their first full-time job related directly to their training felt they were excellent or well prepared for this first job. No terminees working in an area directly related to their vocational training felt they was poorly prepared for their first job. Of all the responding terminees, none felt that they were poorly prepared for their first full-time job.

Table 12 indicated the extent to which the reporting 1973-74 Masonry terminees felt their high school vocational course prepared them for their present job. Also shown in the table is a breakdown of the data by how their present job was related to their vocational program.

TABLE 12

PERCEPTIONS OF 1973-74 MASONRY TERMINEES AS TO THE EXTENT THEIR HIGH SCHOOL VOCATIONAL COURSE PREPARED THEM FOR THEIR PRESENT JOB BY HOW THEIR PRESENT JOB RELATED TO TRAINING

Extent Vocational Course Prepared for Present	Total Reporting		Number Reporting by Relatedness of Present Job to Training Received					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Excellent	5	11.9	1	14.3	2	20.0	2	8.0
Well Prepared	14	33.3	5	71.4	3	30.0	6	24.0
Fair[A]	3	7.2	1	14.3	0	0.0	2	8.0
Poorly Prepared	1	2.4	0	0.0	0	0.0	1	4.0
Preparation not related to job	19	45.2	0	0.0	5	50.0	14	56.0
TOTAL	42	100.0	7	100.0	10	100.0	25	100.0

[A]See listing below for reasons terminees specified for only being trained "Fair" by their vocational course for their present job.

Six (85.7%) of the 7 responding terminees working in an area directly related to their high school vocational program indicated that they felt excellent or well prepared by their training.

Terminees who indicated "fair" as the extent their vocational program prepared them for this present job indicated reasons for this. The following lists the reasons the 1973-74 Masonry terminees indicated for being trained only "fair" by their vocational course for their present job.

1. Teacher not interested
2. Not much training
3. Not enough equipment
4. Poor machine operation

The terminees who indicated he was "poorly prepared" for his present job by his vocational program gave no reason why he felt that way.

Table 13 focuses on the Masonry student club. The researchers sought to determine the extent to which the 1973-74 Masonry terminees felt that their high school student club aided in preparing them for their present job. Data are also broken down by the relationship of the present job to the vocational training received.

Only respondents who had had a job since terminating their high school vocational Masonry program were asked to respond to the question reported in Table 13. Students in active full-time military service were excluded. Nine (26.5%) of the 44 terminees reported no related student club was available, while 16 (36.4%) were not members of a related student club.

Thirteen (68.4%) of the 19 terminees who participated in student club activities indicated they were "Excellent" or "Well Prepared" by their related student club for their present job. Three (15.8%) indicated they were "Poorly Prepared" by their related student club for their present job. Of those 3, all 3 were in a non-related job.

TABLE 13

PERCEPTIONS OF 1973-74 MASONRY TERMINEES AS TO THE EXTENT THEIR HIGH SCHOOL VOCATIONAL STUDENT CLUB PREPARED THEM FOR THEIR PRESENT JOB BY HOW THEIR PRESENT JOB RELATED TO TRAINING[A]

Extent High School Vocational Student Club Helped Prepare for Present Job	Total Reporting		Total Reporting by Relatedness of Present Job to Vocational Training					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Excellent	8	42.1	2	50.0	4	66.6	2	22.2
Well Prepared	5	26.3	2	50.0	1	16.7	2	22.2
Fair	3	15.8	0	0.0	1	16.7	2	22.2
Poorly Prepared	3	15.8	0	0.0	0	0.0	3	33.3
TOTAL	19	100.0	4	100.0	6	100.0	9	100.0

[A]Of the 44 who responded, 9 (26.5%) had no related student club available, and 16 (36.4%) were not members of a related student club.

All 4 of the terminees who were working in an area directly related to the training they received in their high school vocational program revealed that they were "Excellent" or "Well Prepared" for their related student club.

Table 14 reports how the 1973-74 Masonry terminees rated the quality of teaching by their high school vocational instructors.

Sixty-seven (90.5%) of the 74 reporting 1973-74 Masonry terminees rated the quality of teaching by their vocational instructor either "Good" or "Excellent." None rated the quality of teaching by their instructors "Poor" or "Very Poor."

TABLE 14

1973-74 MASONRY TERMINEES' RATINGS OF THE QUALITY OF TEACHING BY THEIR HIGH SCHOOL VOCATIONAL INSTRUCTORS

Rating	Number	Percent
Excellent	38	51.3
Good	29	39.2
Fair	6	8.1
Poor	0	0.0
Very Poor	0	0.0
No Response	1	1.4
TOTAL	74	100.0

Table 15 illustrates how the 1973-74 Masonry terminees rated their high school vocational instructor's interest in their class work.

Sixty-five (87.8%) of the 74 reporting 1973-74 Masonry terminees rated the interest exhibited by their high school vocational instructor in their class work as "Good" or "Excellent." Only 2 (2.8%) of the terminees rated the interest their vocational instructors showed in their class work as "Poor" or "Very Poor."

TABLE 15

1973-74 MASONRY TERMINEE'S RATINGS OF THEIR HIGH SCHOOL VOCATIONAL INSTRUCTOR'S INTEREST IN THE STUDENT'S CLASS WORK

Rating	Number	Percent
Excellent	37	50.0
Good	28	37.8
Fair	6	8.1
Poor	1	1.4
Very Poor	1	1.4
No Response	1	1.4
TOTAL	74	100.0

Table 16 points out how the 1973-74 Masonry terminees subjectively rated the knowledge their vocational teachers possessed about their field of study. This rating is also shown in the table by a breakdown of how the terminees' present job related to the training they received in their high school vocational program. Terminees were asked to base their judgments on their current knowledge of their job and responsibilities.

TABLE 16

1973-74 MASONRY TERMINEES' RATINGS OF THE KNOWLEDGE THEIR HIGH SCHOOL VOCATIONAL TEACHER POSSESSED ABOUT THEIR FIELD OF STUDY BY HOW THE TERMINEES' PRESENT JOB RELATED TO THE TRAINING THEY RECEIVED

Ratings[A]	Total Reporting		Number Reporting by Relatedness of Present Job to Training Received					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Excellent	21	48.8	4	57.1	4	40.0	13	50.0
Good	18	41.8	2	28.6	4	40.0	12	46.2
Fair	2	4.7	1	14.3	0	0.0	1	3.8
Poor	2	4.7	0	0.0	2	20.0	0	0.0
Very Poor	0	0.0	0	0.0	0	0.0	0	0.0
TOTAL	43	100.0	7	100.0	10	100.0	26	100.0

[A]Ratings were to be based on terminee's judgment of their current knowledge of their job and responsibilities.

Total responses to this item indicates that 39 (90.6%) of the 43 responding 1973-74 Masonry terminees rated the knowledge their vocational teachers possessed about their field of study either "Good" or "Excellent." For those seven terminees working in an area direclty related to the training

they received, six (85.7%) rated the knowledge their teachers possessed about their field of study as "Good" or "Excellent." A favorable point was revealed in that only two (3.7%) of the terminees rated the knowledge their vocational teachers possessed about their field of study as "Poor", and none as "Very Poor."

If the respondent was working in an area related to his training, he was asked to compare the facilities and equipment in his his high school vocational program with those on his present job. Table 17 illustrates how the 1973-74 Masonry terminees responded.

TABLE 17

HOW 1973-74 MASONRY TERMINEES WORKING IN A RELATED AREA RATED THE FACILITIES AND EQUIPMENT IN THEIR HIGH SCHOOL VOCATIONAL PROGRAM[A]

Rating[B]	Number	Percent
Better than those on present job	3	21.4
Similar to those on present job	9	64.3
Not as good as those on present job	2	14.3
TOTAL	14	100.0

[A]Thirty-seven (72.5%) of the responding 51 terminees indicated that their present job was not related to their vocational training enough to compare facilities and equipment.

[B]Persons who had not had a job since leaving their vocational program, including those in military service and those who attended school, were asked not to respond to questions from which data was drawn. Returns were received from 74 terminees.

Only three (21.4%) of the 14 responding 1973-74 Masonry terminees working in an area related to their training rated the facilities and equipment in his high school vocational program as better than those on his present job. Nine (64.3%) rated the facilities and equipment in

their high school vocational program as similar to those on their present job; however, two (14.3%) rated the facilities and equipment not as good as those on their present job.

Table 18 shows how 1973-74 Masonry terminees, who were in a cooperative work program in school and were now working in an area related to their vocational training, rated the facilities and equipment used in their cooperative work station.

TABLE 18

HOW 1973-74 MASONRY TERMINEES NOW WORKING IN A RELATED AREA, WHOSE VOCATIONAL PROGRAM INCLUDED COOPERATIVE WORK, RATED FACILITIES AND EQUIPMENT USED IN THEIR COOPERATIVE WORK STATION[A]

Rating[B]	Number	Percent
Better than those on present job	3	21.4
Similar to those on present job	7	50.0
Working at same place where cooperative training was done	2	14.3
Not as good as those on present job	2	14.3
TOTAL	14	100.0

[A]Seven (13.7%) of the responding 51 Masonry terminees indicated their vocational program was not a cooperative program. Thirty (58.8%) terminees indicated they were not working in an area related to their cooperative work; therefore, they did not complete this item on the questionnaire.

[B]Persons who had not had a job since leaving their vocational program, including those in military service and those attending school, were asked not to respond to questions from which data was drawn. Returns were received from 7[illegible] terminees.

Only three (2[illegible].4%) of the 14 responding 1973-74 Masonry terminees whose vocational programs had included cooperative work and were now working in an area related to their vocational training, rated the facilities and equipment in his cooperative work station as better than those on his present job. Seven (50.0%) rated the facilities and equipment

in their cooperative training station as similar to those on their present job. Only 2 (14.3%) rated the facilities and equipment in their cooperative work station not as good as those in their present job. An additional 2 (14.3%) indicated they were working at the same establishment where they did their cooperative training.

Basic Employment Information

The following section of this report offers information relative to employment and job characteristics of the 1973-74 secondary Masonry terminees.

Table 19 illustrates the number-of full-time jobs the responding 1973-74 Masonry terminees have had since leaving their high school vocational course.

TABLE 19

NUMBER OF FULL-TIME JOBS HELD BY THE 1973-74 MASONRY TERMINEES SINCE LEAVING THEIR HIGH SCHOOL VOCATIONAL COURSE

Number of Full-Time Jobs Held	Number	Percent[A]
One	31	41.9
Two	16	21.6
Three	4	5.4
Four	0	0.0
Five or more	0	0.0
TOTAL	51	68.9

[A]Percentage is based on the 74 terminees who returned the questionnaire.

There were 31 (41.9%) of the total 74 responding 1973-74 Masonry terminees who had been employed in just one job since leaving their high school vocational program. Twenty (26.0%) of the terminees reported having two or more jobs since leaving their high school vocational course seven to eight months ago.

Table 20 reveals the first-job employment status of Masonry terminees who returned the survey by the relatedness of their vocational training to their first job.

TABLE 20

FIRST-JOB EMPLOYMENT STATUS OF MASONRY TERMINEES (1973-74) BY RELATEDNESS OF VOCATIONAL TRAINING TO FIRST JOB[A]

First Job After Leaving High School Vocational Program	Total Reporting		Relatedness of Vocational Training to First Job[B]					
			Directly Related		Somewhat Related		Not Related[C]	
	No.	%	No.	%	No.	%	No.	%
Full-Time	47	63.5	13	17.6	6	8.1	28	37.8
Part-Time	4	5.4	0	0.0	0	0.0	4	5.4
TOTAL	51	68.9	13	17.6	6	8.1	32	43.2

[A]All percentages were based on the 74 (21.5%) of 345 terminees who returned the survey form.

[B]The terminees made the judgment as to how their first job was related to the training received in their high school vocational program.

[C]See page 20 for reasons terminees who were working in first job unrelated to this vocational training gave for not seeking job that was related before accepting their first job.

Of the 74 responding 1973-74 Masonry terminees, 47 (63.5%) were employed full time in their first job after leaving their high school vocational program. Four terminee's first jobs were on a part-time basis.

Thirteen (17.6%) of the 74 responding terminees' first jobs (full-time or part-time) were in an area directly related to the training they received in their high school vocational course. Six (8.1%) were employed in an area somewhat related while 32 (43.2%) were employed in a first job not related to the training they received. The terminees made the judgment as to how their first job was related to the training they received in their high school vocational program.

Of the 32 terminees who indicated their jobs were not related to their vocational course, 14 (43.8%) terminees indicated that before they

accepted their unrelated job, they tried to get a job that was related to their vocational training. However, 18 (56.2%) of the terminees did not.

The following is a list of reasons given by the terminees who, before taking their first unrelated job indicated they did not seek a job that was related to their vocational training.

Reasons	Number
Wasn't good enough	1
Didn't want one	1
Couldn't find one	1
Needed a job	1
No one needed	1
Job would have been tiresome	1
Didn't look for one	1

Table 21 shows number of returns, type school & termination status for the first job of the 1973-74 Masonry terminees, and the relatedness of their training to this first job.

TABLE 21

NUMBER OF RETURNS BY TYPE SCHOOL AND TERMINATION STATUS FOR 1973-74 MASONRY TERMINEES' FIRST JOB, AND RELATEDNESS OF TRAINING[A]

Type School & Termination Status	No. Returns	Total Employed		Relatedness of Training to First Job[E]					
				Directly Related		Somewhat Related		Not Related	
		No.	%	No.	%	No.	%	No.	%
AVC [B]									
Total	54	35	67.3	8	22.8	5	14.3	22	62.9
Completers[C]	43	30	57.7	8	26.7	4	13.3	18	60.0
Dropouts[D]	11	5	9.6	0	0.0	1	20.0	4	80.0
Other Type Schools									
Total	20	17	32.7	5	29.4	2	11.8	10	58.8
Completers	15	13	25.0	4	30.8	2	15.4	7	53.8
Dropouts	5	4	7.7	1	25.0	0	0.0	3	75.0
Grand Total	74	52	100.0	13	25.0	7	13.5	32	61.5
Completers	58	43	86.7	12	27.9	6	14.0	25	58.1
Dropouts	16	9	17.3	1	11.1	1	11.1	7	77.8

[A]Of 345 Masonry terminees, 74 (21.5%) returned the questionnaire.
[B]Area Vocational Centers.
[C]Any terminee who left the program by completing or by high school graduation.
[D]Any terminee who the instructor reported as having dropped out of school.
[E]The terminees made the judgment as to how their first job was related to the training received in their high school vocational program.

Table 22 illustrates the current employment status of the responding terminees by the relatedness of their vocational training to their present jobs. All percentages figured in the table were based on the 74 (21.5%) returns from the 345 Masonry terminees.

Of the 74 responding 1973-74 secondary Masonry terminees, 35 (47.3%) were presently employed full time and not attending school or employed full time and attending school. None of the terminees were employed part time and attending school, while three (4.0%) were unavailable for employment). (See page 23 for reasons terminees were unavailable for employment). Only 11 (14.9%) of the terminees were unemployed and actively seeking employment, while four (5.4%) were employed part time and seeking full-time employment.

The "No Response" category in Table 22 includes three groups: (1) terminees in active full-time military service; (2) terminees who were in school full time and had never had a job; and (3) terminees who failed to respond to the item on the questionnaire.

Of the 74 secondary respondees, seven (9.4%) were presently employed full time or part time in an area directly related to the training received in their high school vocational course. Nine (12.2%) were employed either part time or full time in an area somewhat related to their training, while 22 (29.7%) were employed in areas not related to training. The terminees made the judgment as to how their present employment was related to the training received in their high school vocational course.

Of the 28 terminees who indicated their present jobs were not related to their vocational course, 15 (53.6%) terminees indicated that before they accepted their unrelated job, they tried to get a job that was related to their vocational training. However, 13 (46.4%) of the terminees did not.

TABLE 22

CURRENT EMPLOYMENT STATUS OF MASONRY TERMINEES (1973-74) BY RELATEDNESS OF TRAINING TO PRESENT JOB[A]

Employment Status	Total Respond-ing		Relatedness of Training to Present Job[B]							
			Directly Related		Somewhat Related		Not Related[E]		Employed No Response	
	No.	%	No.	%	No.	%	No.	%	No.	%
Employed full time and not attending school	28	37.8	5	6.7	8	10.8	15	20.3	0	0.0
Employed full time and attending school	7	9.5	0	0.0	1	1.4	5	6.7	1	1.4
Employed part time and seeking full-time job	4	5.4	2	2.7	0	0.0	2	2.7	0	0.0
Employed part time and not seeking full-time job	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Employed part-time and attending school	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Unemployed (actively seeking a job)[C]	11	14.9	N/A		N/A		N/A		N/A	
Unavailable for employment[C&D]	3	4.0	N/A		N/A		N/A		N/A	
No Response	21	28.4	N/A		N/A		N/A		N/A	
TOTAL	74	100.0	7	9.4	9	12.2	22	29.7	1	1.4

[A]All percentages were based on the 74 (21.5%) respondents of the total 345 terminees. Terminees in active full-time military service or attending school full-time and had never been employed were included in the "No Response" category.

[B]The terminees made the judgment as to how their present job was related to the training received in their high school vocational program.

[C]The unemployed and unavailable for employment categories do not include persons in the military service and persons who were in school full time and never had a job.

[D]See page 23 for the listing of reasons Masonry terminees gave for being unavailable for employment.

[E]See page 23 for reasons terminees who were working in present job not related to vocational training gave for not seeking related job before accepting present job. Totals for unrelated columns may not correspond because terminees failed to respond to one of the two questions from which data was drawn.

Below is a list of the reasons given by the terminees for being unavailable for employment.

Reason	Number
In school full time	3
Presently not working, not interested in a job	1
Homemaker	0
Pregnancy	0
Illness or disability	0
Other	1

The following is a list of reasons given by the terminees who, before taking their present unrelated job, indicated they did not seek a job that was related to their vocational training.

Reason	Number
Relative found me job	1
Got another job	1
Didn't look for one	3
In yarn business	1
Can't find one	2
Wanted present job	1
Already had job	1
No transportation	1
Wanted traffic management	1
Needed job immediately	1
Don't know	1
Wanted to try something new	1

Table 23 shows for the present job the number of 1973-74 secondary Masonry terminees employed by the relatedness of their vocational training to their present job.

Of the 43 Masonry terminees presently employed, seven (9.5%) were employed in an area directly related to the training received in their high school vocational program, while 26 (35.1%) indicated their present job was not related to their high school vocational training. The terminees made the judgment as to how their present job related to the training received in their high school vocational program.

TABLE 23

NUMBER OF RETURNS BY TYPE SCHOOL AND TERMINATION STATUS
FOR 1973-74 MASONRY TERMINEES PRESENT JOB,
AND RELATEDNESS OF TRAINING

Type School and Termination Status	No. Returns	Total Employed		Relatedness of Training to Present Job[E]					
				Directly Related		Somewhat Related		Not Related	
		No.	%	No.	%	No.	%	No.	%
AVC[B]									
Total	54	29	39.2	4	5.4	7	9.5	18	24.3
Completers[C]	43	25	33.8	4	5.4	5	6.8	16	21.6
Dropouts[D]	11	4	5.4	0	0.0	2	2.7	2	2.7
Other Type Schools									
Total	20	14	18.9	3	4.1	3	4.0	8	10.8
Completers	15	11	14.8	2	2.7	3	4.0	6	8.1
Dropouts	5	3	4.1	1	1.4	0	0.0	2	2.7
Grand Total	74	43	58.1	7	9.5	10	13.5	26	35.1
Completers	58	36	48.6	6	8.1	8	10.8	22	29.7
Dropouts	16	7	9.5	1	1.4	2	2.7	4	5.4

[A]All percentages were based on the 74 (21.5%) of the 345 terminees who returned the questionnaire.

[B]Area Vocational Centers

[C]Any terminee who left the program by completing or by high school graduation.

[D]Any terminee who the instructor reported as having dropped out of school.

[E]The terminees made the judgment as to how their first job was related to the training received in their high school vocational program.

Table 24 indicates the first job salary ranges as compared to the present job salary ranges for the 1973-74 Masonry terminees.

Of the 53 terminees reporting a salary range for their first job, 16 (30.2%) indicated a range of under $250 per month. Only three (5.7%) reported a first salary of over $500 per month. The median salary range for the first job fell in the range of $300-$349 per month. The mean salary range for the first job fell in the range of $350-$399 per month.

Of the 36 1973-74 Masonry terminees reporting a salary range for their present job, 10 (27.8%) indicated under $250 per month. The median salary

range for the present job fell within the range of $300-$349 per month or less, while the mean salary range was $350-$399. The median and mean salary ranges of present jobs over first jobs indicate very little increase for the reporting Masonry terminees.

TABLE 24

FIRST-JOB SALARY RANGES AND PRESENT-JOB SALARY RANGES FOR 1973-74 MASONRY TERMINEES

Salary Ranges	First Job		Present Job	
	No.	%	No.	%
Under $250	16	60.5	10	27.8
$250-$299	10	18.9	5	13.9
$300-$349	6	11.3	8	22.2
$350-$399	6	11.3	2	5.6
$400-$449	8	15.1	2	5.6
$450-$499	4	7.5	3	8.3
$500-$599	0	0.0	2	5.6
$600-$699	1	1.9	3	8.3
$700 or more	2	3.8	1	2.7
TOTAL	53	100.0	36	100.0

Table 24A indicates the first-job salary ranges by relatedness of training of the Masonry terminees.

Fifteen (31.3%) of the 48 responding terminees were employed at less than $250 per month. Of these 15 terminees, two (13.3%) were employed in a job directly related to their training, one (6.7%) was employed in a job somewhat related to his training, while 12 (80.0%) were employed in jobs not related to their training.

All of the 48 responding terminees were males. Thirteen (27.1%) were employed in jobs directly related to their vocational training, six (12.5%) were employed in jobs somewhat related to their training, while 29 (60.4%) were employed in jobs not related to their training.

TABLE 24A

FIRST-JOB SALARY RANGES BY RELATEDNESS OF TRAINING
OF 1973-74 MASONRY TERMINEES

Salary Ranges	Terminees Responding	Relatedness of Training to First Job[B]		
		Directly Related	Somewhat Related	Not Related
Under $250	15	2	1	12
$250-$299	8	3	0	5
$300-$349	4	0	2	2
$350-$399	6	2	2	2
$400-$449	8	1	1	3
$450-$499	4	1	0	3
$500-$599	0	0	0	0
$600-$699	1	1	0	0
$700 or more	2	0	0	2
TOTAL[A]	48	13	6	29

[A]Totals do not match those of Table 24 because some terminees did not respond to all questions.

[B]The terminees made the judgment as to how their first job was related to the training received in their high school vocational program.

Table 24B indicates the present-job salary ranges by relatedness of training of the Masonry terminees.

Eight (25.8%) of the 31 responding terminees were employed at less than $250 per month. Of these eight terminees, two (25.0%) were employed in a job directly related to their training, two (25.0%) were employed in jobs somewhat related to their training, while four (50.0%) were employed in jobs not related to their training.

All of the 31 responding terminees were males. Seven (22.5%) were employed in jobs directly related to their vocational training, six (19.4%) were employed in jobs somewhat related to their training, while 18 (58.1%) were employed in jobs not related to their training.

TABLE 24B
PRESENT-JOB SALARY RANGES BY RELATEDNESS OF TRAINING
OF 1973-74 MASONRY TERMINEES

Salary Ranges	Terminees Responding	Relatedness of Training to Present Job[B]		
		Directly Related	Somewhat Related	Not Related
Under $250	8	2	2	4
$250-$299	5	1	0	4
$300-$349	6	0	2	4
$350-$399	2	0	0	2
$400-$449	2	1	0	1
$450-$499	3	2	0	1
$500-$599	2	0	1	1
$600-$699	3	1	1	1
$700 or more	0	0	0	0
TOTAL[A]	31	7	6	18

[A]Totals do not match those of Table 24 because some terminees did not respond to all questions.

[B]The terminees made the judgment as to how their present job was related to the training received in their high school vocational program.

Continuing Education Information

The following section of this report presents information relative to the continuing education of the 1973-74 secondary Masonry terminees.

Table 25 shows the vocational educational training opportunities terminees have participated in since leaving their high school vocational program.

Of the total terminees, the eight (10.8%) who were enrolled in on-the-job training represented the largest area where terminees had taken additional vocational training.

Of the 74 responding terminees, 27 (36.5%) had taken part in one additional vocational training program since leaving their high school program. One (1.4%) enrolled in two training programs, and no terminee had enrolled in three vocational training programs. Forty-six (62.2%) indicated they had not enrolled in any additional vocational training.

TABLE 25

ADDITIONAL VOCATIONAL EDUCATIONAL TRAINING 1973-74
SECONDARY MASONRY TERMINEES PARTICIPATED
IN SINCE LEAVING THEIR HIGH SCHOOL
VOCATIONAL PROGRAM[A]

Type Training	Number	Percent[B]
On-the-job training (employer-sponsored program)	8	10.8
Public school adult vocational program	1	1.4
Private vocational school program	0	0.0
University or four year college	2	2.7
Junior college	2	2.7
Post-secondary vocational-technical institute (trade school)	3	4.1
Apprenticeship training program	7	9.5
Specialized occupational military training	1	1.4
Other[C]	4	5.4
TOTAL[D]	28	38.0

[A]Forty-six (62.2%) of the 74 terminees gave no indication of being involved in additional vocational training. Of the 74 terminees, 27 (36.5%) took part in one additional vocational training opportunity since leaving their high school program. One (1.4%) took part in two and no terminee took part in the three additional training opportunities.

[B]Percentages are based on the 74 (21.5%) respondents of the total terminees who returned questionnaires.

[C]See below the "Other" listing as specified by the terminees.

[D]The total indicated the number of different training programs in which terminees enrolled. As footnoted above, several terminees had enrolled in more than one training program.

The following is a listing of the "Other" (Table 25) vocational education training terminees indicated they had participated in:

"Other" Vocational Training	Number
Wanted to go on to school, but not financially able	1
Working around city	1
Four year college	1
Mason	1

Table 26 points out the additional programs the 1973-74 secondary Masonry terminees were presently attending beyond their high school training by whether these programs were related to their high school vocational program.

Of the 74 1973-74 secondary Masonry terminees who responded to the survey, three (4.1%) were attending an on-the-job training program (employer-sponsored), four (5.4%) were attending a vocational technical institute, four (5.4%) were attending a junior college, two (2.7%) were attending a four year college or university, none were attending a public adult vocational program, two (2.7%) were attending private business or trade school, one (1.4%) was attending an apprenticeship program, and one (1.4%) was attending some other type of school or educational program.

TABLE 26

PROGRAMS PRESENTLY ATTENDED BY THE 1973-74 SECONDARY MASONRY TERMINEES BY WHETHER THESE PROGRAMS WERE RELATED TO THEIR HIGH SCHOOL VOCATIONAL EDUCATION PROGRAM[A]

Programs Attended	Terminees		Program Related to High School VED Program			
			Yes		No	
	No.	%	No.	%	No.	%
On-the-job training (employer-sponsored)	3	4.1	2	2.7	1	1.4
Vocational-technical institute (Trade School)	4	5.4	2	2.7	2	2.7
Junior college	4	5.4	0	0.0	4	5.4
Four year college or university	2	2.7	1	1.4	1	1.4
Public school adult vocational program	0	0.0	0	0.0	0	0.0
Private business or trade school	2	2.7	1	1.4	1	1.4
Apprenticeship program	0	0.0	0	0.0	0	0.0
Other	1	1.4	0	0.0	1	1.4
TOTAL	16	21.6	6	8.1	10	13.5

[A] All percentages were based on the 74 responding terminees.

Sixteen (21.6%) of the 74 Masonry terminees were presently continuing their education. Six (8.1%) of the terminees were continuing their education in a program related to their high school vocational program. Ten (13.5%) were attending a program in an area not related to their high school vocational program.

Of the 74 responding terminees, 43 (58.1%) indicated they would like further vocational training. The following is a list of the areas in which these terminees desired to study:

Area of Study	Number
Electronics	1
Masonry	20
Auto Mechanics	1
Carpentry	3
AUM	1
Mechanical drawing	1
Welding	1
Truck driver	1
Heavy equipment	1
Accounting	1
Reading & Math improvement	1
Construction	1
Business	1
Body Work	1

Job Placement Information

The following section of this report presents information concerning job placement of the 1973-74 secondary Masonry terminees.

Table 27 points out whether the 1973-74 Masonry terminees were seeking full-time employment when they left their high school vocational program and if their vocational teacher attempted to help them get a job.

Of the 46 responding 1973-74 Masonry terminees indicating they were seeking full-time employment when they left their high school vocational program, 28 (60.9%) indicated that their vocational teacher attempted to help them get a job. However, 18 (39.1%) of the terminees seeking full-time

employment indicated that their vocational teacher did not attempt to help them secure employment. It was interesting to note that 27 (36.5%) of the reporting 1973-74 Masonry terminees indicated that they were not seeking full-time employment when they left their high school vocational program.

TABLE 27

WHETHER VOCATIONAL TEACHER ATTEMPTED TO HELP 1973-74 MASONRY TERMINEES GET A JOB IF SEEKING FULL-TIME EMPLOYMENT UPON LEAVING THE HIGH SCHOOL VOCATIONAL PROGRAM[A]

Vocational Teacher Attempted To Get Terminee A Job	Number	Percent
Yes	28	60.9
No	18	39.1
TOTAL	46	100.0

[A]Twenty-seven (36.5%) of the responding terminees indicated they were not seeking full-time employment when they left their high school vocational program. One (1.4%) of the terminees did not respond to the question.

Table 28 illustrates how long it took the 1973-74 Masonry terminees to get their first full-time job after they left their high school vocational program and began actively seeking full-time employment.

TABLE 28

LENGTH OF TIME IT TOOK THE 1973-74 MASONRY TERMINEES TO SECURE FIRST FULL-TIME JOB AFTER LEAVING HIGH SCHOOL VOCATIONAL PROGRAM AND BEGINNING ACTIVELY SEEKING FULL-TIME EMPLOYMENT[A]

Time to Secure First Full-Time Job	Number	Percent
0 - 2 weeks	14	41.2
3 - 4 weeks	9	26.5
5 - 8 weeks	4	11.8
9 - 12 weeks	3	8.8
13 or more weeks	4	11.7
TOTAL	34	100.0

[A]Twenty-one terminees indicated they already had a job when they left their high school vocational program.

Fourteen (41.2%) of the 34 secondary Masonry terminees secured their first full-time job within two weeks after they left their high school vocational program and began actively seeking full-time employment. However, four (11.7%) of the terminees took 13 or more weeks to secure their first full-time job. There were 21 terminees who indicated they already had a job when they left their high school vocational program.

Table 29 shows how the 1973-74 secondary Masonry terminees indicated they got their first full-time job after leaving their high school vocational program.

TABLE

HOW THE 1973-74 MASONRY TERMINEES INDICATED THEY GOT THEIR FIRST FULL-TIME JOB AFTER LEAVING THEIR HIGH SCHOOL VOCATIONAL PROGRAM

How Terminees Secured First Full-Time Job	Number	Percent
Through your vocational teacher	1	2.8
Through your counselor	1	2.8
Through other school teachers or administrators	0	0.0
Through a friend or relative	18	50.0
Through applications to business or industry	9	25.0
Through state (local) employment office	4	11.1
Through a private employment agency	1	2.8
Through radio, T.V., newspaper, or other news media	0	0.0
Other[A]	2	5.5
TOTAL	36	100.0

[A]See listing on page 33 for the "Other" ways terminees indicated they secured their first full-time job after leaving their high school vocational program.

Of the 36 1973-74 Masonry terminees who responded to the survey item, 18 (50.0%) indicated they got their first full-time job after leaving their high school vocational program through a friend or relative. Nine (25.0%) of the terminees also indicated they got their first full-time job through

applications to business or industry. These represented the two methods that the largest number of Masonry terminees utilized to secure their first full-time job. Only one (2.8%) of the terminees indicated he secured his first job through his vocational teacher. Another student indicated that a counselor got him his first full-time job after leaving his vocational program. Those students who already had a job before leaving their high school vocational program were not shown in Table 29. (See Table 30, page 34)

Only one of the terminees who checked the "Other" category specified the means by how he secured his first full-time job after leaving his high school vocational program. The following list indicates the "Other" means the terminee indicated.

"Other" Means for Securing First Full-Time Job	Number
Looked for one	1

Table 30 shows how the 1973-74 Masonry terminees who were working while in high school taking their vocational program indicated they got that job.

Thirty-five (47.3%) of the 74 reporting 1973-74 Masonry terminees indicated they were working during the time they were in high school taking their vocational program. Of those terminees working while in high school, six (17.1%) got their job through their vocational instructor, 17 (48.6%) through a friend or relative, and four (11.4%) got jobs through applications to business or industry. These three means were the ways most of the terminees secured a job while they were still in high school taking their vocational program.

TABLE 30

HOW THE 1973-74 MASONRY TERMINEES WHO WERE WORKING WHILE IN HIGH SCHOOL TAKING THEIR VOCATIONAL PROGRAM INDICATED THEY GOT THAT JOB[A]

Who or What Helped Terminee Get Job	Number	Percent
Your vocational teacher	6	17.1
Your counselor	0	0.0
Other school teachers or administrators	1	2.9
Friend or relative	17	48.6
Applications to business or industry	4	11.4
State (local) employment office	0	0.0
Private employment agency	0	0.0
Radio, T.V., newspaper, or other news media	0	0.0
Other	7	20.0
TOTAL	35	100.0

[A]Thirty-nine (52.7%) terminees indicated they had no job during the time they were in high school taking their vocational course.

Table 31 reveals the indications of the 1973-74 Masonry terminees as whether, before taking their first job, they looked for employment within daily walking or driving distance of home by how their first job related to their vocational training.

Twenty-seven (75.0%) of the 1973-74 Masonry terminees who were employed in their first job indicated they sought employment within daily walking or driving distance of home. Nine (25.0%) terminees indicated before taking their first job, they looked for a job beyond daily walking or driving distance of home.

Of the seven terminees who were working in a directly related area, four (57.1%) sought employment beyond daily walking or driving distance of home.

TABLE 31

INDICATIONS OF 1973-74 MASONRY TERMINEES AS TO WHERE THEY LOOKED FOR THEIR FIRST JOB BEFORE TAKING ONE BY HOW THEIR FIRST JOB RELATED TO THEIR TRAINING[A]

Before Taking First Job, Where Terminees Looked for Job	Total Reporting		Total Reporting by Relatedness of First Job to Vocational Training					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Within daily walking or driving distance of home	27	75.0	3	42.9	6	100.0	18	78.3
Beyond daily walking or driving distance of home[B]	9	25.0	4	57.1	0	0.0	5	21.7
TOTAL	36	100.0	7	100.0	6	100.0	23	100.0

[A]Twelve terminees indicated they already had their first job while in high school. Of those 12 terminees, six (50.0) were woking in a directly related area, one (8.3%) in a somewhat related area, while five (41.7%) were working in a non-related area.

[B]See listing, page 36, for reasons terminees gave for seeking their first job away from home.

It is interesting to note that of the 23 terminees whose first jobs did not relate to their training, only five (21.7%) of those terminees sought employment beyond daily walking or driving distance of home.

Twelve terminees indicated they had their first job while in high school. Of those 11 terminees, six (50.0%) were working in a directly related area, one (8.3%) in a somewhat related area, and five (41.7%) were working in a non-related area.

The following is a listing of reasons terminees gave for seeking a job beyond daily walking or driving distance of their home before accepting their first job. Of the nine terminees who indicated they sought a job beyond daily walking or driving distance of home before accepting their first job, two gave reasons why they sought that job.

Reasons for Seeking Job Beyond Daily Walking or Driving Distance Before Accepting First Job	Number
Jobs were in town	1
No work at home	1

Table 32 reveals the indications of the 1973-74 Masonry terminees who were working in their first job not related to their training by whether or not they tried to get a job related to their training by where they looked for employment before accepting that first job.

TABLE 32

INDICATIONS OF THE 1973-74 MASONRY TERMINEES WORKING IN FIRST JOB NOT RELATED TO THEIR TRAINING BY WHETHER OR NOT THEY TRIED TO GET A JOB RELATED TO THEIR TRAINING BY WHERE THEY LOOKED FOR EMPLOYMENT BEFORE ACCEPTING FIRST JOB[A]

Where Terminees Working in Non-Related Areas Looked for Employ-	Total Reporting		Before Accepting This First Job Unrelated to Training Whether Terminees Sought Job in Related Area			
			Yes		No[B]	
	No.	%	No.	%	No.	%
Sought employment within daily walking or driving distance of their home	17	77.3	8	61.5	9	100.0
Sought employment beyond daily walking or driving distance of their home	5	22.7	5	38.5	0	0.0
TOTAL	22	100.0	13	100.0	9	100.0

[A]Totals in this table may not correspond with totals of terminees for nonrelated categories in other tables for the following reasons: (1) some terminees had jobs when leaving program and did not have to seek employment and (2) some terminees failed to respond to one or more of the related questions from which data was drawn.

[B]See page 20 for the listing of reasons terminees who were working in non-related jobs gave for not trying to secure a job that was related to their training.

It is important to note that of the 22 terminees who were working in a non-related first job, only five (22.7%) sought related employment beyond daily walking or driving distance of home before accepting his first job.

Table 33 illustrates the indications of the 1973-74 Masonry terminees as to where they looked for a job before taking their present job by how their present job is related to their vocational training.

TABLE 33

INDICATIONS OF 1973-74 MASONRY TERMINEES AS TO WHERE THEY LOOKED FOR A JOB BEFORE TAKING THEIR PRESENT JOB BY HOW THEIR PRESENT JOB RELATED TO THEIR TRAINING[A]

Where Terminees Looked for Job Before Taking Present Job	Total Reporting		Total Reporting by Relatedness of Present Job to Vocational Training					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Within daily walking or driving distance of home	22	71.0	3	75.0	4	80.0	15	68.2
Beyond daily walking or driving distance of home[B]	9	29.0	1	25.0	1	20.0	7	31.8
TOTAL	31	100.0	4	100.0	5	100.0	22	100.0

[A]Ten terminees reported they already had their present job while in high school. Of those ten terminees, three (30.0%) were in a directly related area, 4 (40.0) in a somewhat related area, while three (30.0%) were working in a non-related area.

[B]See listing, page 38 for reasons terminees gave for seeking their present job away from home.

Twenty-two (71.0%) of the presently employed 1973-74 Masonry terminees indicated they sought employment within daily walking or driving distance of home. Nine (29.0%) terminees indicated they sought employment beyond daily walking or driving distance of home.

Of the four terminees who were working in a directly related area, only one (25.0%) sought employment beyond daily walking or driving distance of home.

Of the 22 terminees who were presently working in a non-related area, only seven (31.8%) sought employment beyond daily walking or driving distance of his home.

Ten terminees reported they already had their present job while in high school. Of those ten terminees, three (30.0%) were in directly related areas, four (40.0%) in somewhat related areas, and three (30.0%) were in non-related areas.

The following is a list of reasons terminees gave for seeking a job beyond daily walking or driving distance of their home before accepting their present job. Of the nine terminees who indicated they sought a job beyond daily walking or driving distance of home before accepting their present job, several gave reasons why they sought that job.

Reasons for Seeking Job Beyond Daily Walking or Driving Distance Before Accepting Present Job	Number
None at home	1
Needed a job	2
Better job	1
Wanted to leave home	1

Table 34 reveals the indications of the 1973-74 Masonry terminees who were working in their present job not related to their training by whether or not they tried to get a job related to their training by where they looked for employment before accepting that present job.

Only eight (33.3%) of the 24 terminees who were working in a non-related area sought related employment beyond daily walking or driving distance of home before accepting his present job.

TABLE 34

INDICATIONS OF THE 1973-74 MASONRY TERMINEES WORKING IN PRESENT JOB NOT RELATED TO THEIR TRAINING BY WHETHER OR NOT THEY TRIED TO GET A JOB RELATED TO THEIR TRAINING BY WHERE THEY LOOKED FOR EMPLOYMENT BEFORE ACCEPTING PRESENT JOB[A]

Before Accepting Present Job Where Terminees Working in Non-Related Areas Looked for Employment	Total Reporting		Before Accepting This Present Job Unrelated to Training Whether or Not Terminees Sought Job in Related Area			
			Yes		No[B]	
	No.	%	No.	%	No.	%
Sought employment within daily walking or driving distance of their home	16	66.7	5	38.5	11	100.0
Sought employment beyond daily walking or driving distance of their home	8	33.3	8	61.5	0	0.0
TOTAL	24	100.0	13	100.0	11	100.0

[A]Totals in this table may not correspond with totals of terminees for non-related categories in other tables for the following reasons: (1) some terminees had jobs when leaving programs and did not have to seek employment and (2) some terminees failed to respond to one or more of the related questions from which data was drawn.

[B]See page 23 for the listing of reasons terminees who were working in non-related jobs gave for not trying to secure a job that was related to their training.

APPENDIX

PRESENT JOB AND FIRST JOB TITLES OF THE 1973-74
MASONRY TERMINEES

PRESENT JOB AND FIRST JOB TITLES OF THE 1973-74 MASONRY TERMINEES

For those terminees who indicated present or first job occupations, this appendix lists the present job title and first job title. The job titles are listed as the terminees reported them. The number of full-time jobs held by these terminees since completing their high school vocational course is listed, current employment status is listed, and whether the student intended to get a job in the area while in the program.

The following code is used to identify the employment status of the terminees:

0. Unemployed, but seeking employment
1. Employed full time
2. Employed part time, seeking full-time job
3. Employed part time, not seeking full-time job
4. Employed full time and attending school
5. Employed part time and attending school
6. Unavailable for employment

The following code is used to identify whether the student intended to get a job in the area while in the program:

1. No
2. Was not sure
3. Yes

The number in parenthesis behind the job titles indicates the relatedness of the high school vocational training to these jobs. The terminees made the judgment as to the relatedness of their training to these jobs. The following code is used to identify this relatedness:

1. Directly related
2. Somewhat related
3. Not related

The total does not correspond to the total reporting, since some of the terminees failed to indicate the title of their present position. If the first job title was the same as the present job title, the first job title is included under the present job title.

OE Code 17.1004 - Masonry

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
1	1	2	3	Washman (3)	
2	6	0	3		Brickmason (3)
3	4	1	1	Printer (3)	
4	6	1	3	Stocker (2)	
5	0	1	3	Brick-laying	
6	0	2	2		Pollution man (2)
7	0	1	3		Maintenance (3)
8	1	1	3	Bricklayer (2)	
9	1	1	2	Plasterer (1)	
10	1	2	3	Brick liner (2)	Brick liner (3)
11	0	1	2	Work mechanic	
12	0	1	2		Salesman (1)
13	1	1	3	Make hot dogs (2)	
14	1	2	3	Pull route invoices (3)	Flower packer (3)
15	1	1	2	Plumber	
16	0	1	2	Laundry (3)	
17	1	2	3	Fabric plant laborer (3)	Hanger maker (3)
18	1	2	3	Pipe layer (2)	Masonry apprentice (1)
19	0	2	3	Cement finisher	Cement finisher (2)
20	1	1	3	Warehouse-man (3)	
21	2	1	3	Masonry helper (1)	Masonry helper (1)
22	0	3	1	Car sales shop keeper	Trowel setter (2)
23	1	1	3	Laborer (2)	Laborer (1)
24	0	1	2	Pecan buyer	Kitchen work (3)
25	1	1	2	Tractor driver (3)	
26	1	2	3	Drill sharpener (3)	Brick mason (1)
27	4	1	2	Fireman (3)	
28	1	2	3	Brick mason (1)	Brick mason (1)
29	4	1	2	Cook, dish-washer (3)	Cook, dish-washer (3)
30	2	3	2	Dishwasher (3)	
31	1	1	3	Brickmason (1)	
32	1	2	3	Paper company utility man (2)	
33	1	1	3	Freight receiver (3)	

(continued)

OE Code 17.1004 - Masonry (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
34	1	2	3	Brickmason apprentice (1)	Roofing laborer (3)
35	4	1	2	Cook, store-room (3)	Brick layer (3)
36	0	0	1	Grocery dept. (3)	
37	4	1	3	Brickmason (2)	Brickmason (1)
38	1	1	3	Mason apprentice (1)	Mason apprentice (1)
39	4	3	3	Mechanic (3)	Auto mechanic (3)
40	1	2	3	Mattress stuffing (3)	Supply stocker (3)
41	4	0	3	Brickmason	Construction laborer (3)
42	5	1	2	Paint	
43	1	2	3	Brick layer (1)	Brick layer (1)
44	1	3	3	Contractor, laborer (3)	Construction worker (3)
45	1	2	2	Floor care (3)	Construction worker (3)
46	1	1	3	Stock boy (2)	Stock boy (1)
47	1	2	3	Doffer	Brick layer (1)
48	1	1	1	Pindrafting (3)	Pindrafting (3)
49	1	1	2	Doffer	
50	1	1	2	Textile laborer(3)	Textile laborer (3)

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ABSTRACT: THIS REPORT RELATES THE FINDINGS OF A STATEWIDE FOLLOWUP SURVEY OF 1973-74 DRAFTING TERMINEES FROM THE SECONDARY SCHOOL VOCATIONAL PROGRAMS IN ALABAMA. QUESTIONNAIRES WERE MAILED TO 422 STUDENT TERMINEES APPROXIMATELY SEVEN TO EIGHT MONTHS AFTER LEAVING SCHOOL. RETURNS WERE RECEIVED FROM 149 (35.3 PERCENT) DRAFTING TERMINEES FROM THE INITIAL MAILING AND ONE FOLLOWUP. DATA ARE PRESENTED IN TABLES WITH ACCOMPANYING NARRATIVE SUMMARIES ORGANIZED ACCORDING TO THESE MAJOR SECTIONS: GENERAL INFORMATION ON THE TERMINEES; BASIC INFORMATION RELATED TO THE VOCATIONAL PROGRAM; BASIC EMPLOYMENT INFORMATION; CONTINUING EDUCATION INFORMATION; AND JOB PLACEMENT INFORMATION. PRESENT AND FIRST JOB TITLES OF THE 1973-74 DRAFTING TERMINEES ARE APPENDED. (NJ)

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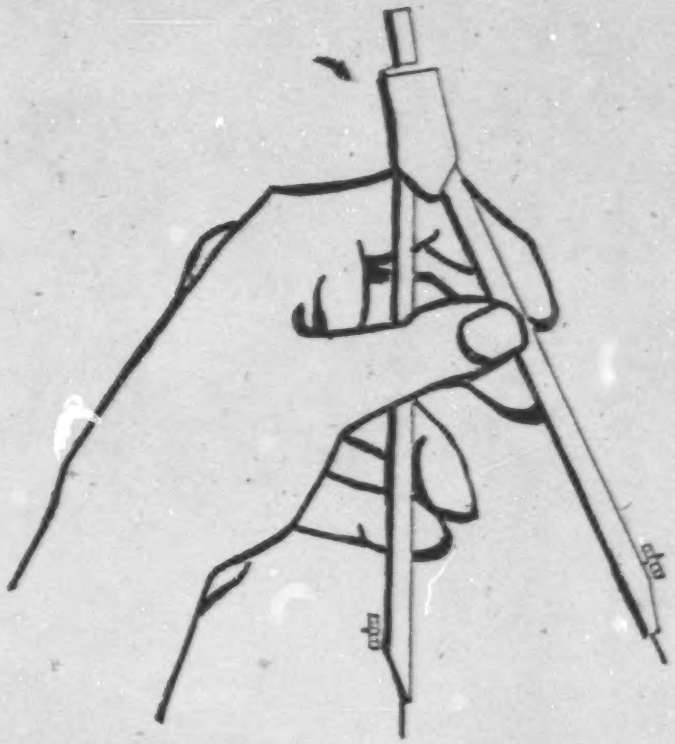

1973-1974 ALABAMA SECONDARY DRAFTING FOLLOW-UP REPORT

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VOCATIONAL EDUCATION AND COMMUNITY COLLEGES
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DRAFTING FOLLOW-UP

Follow-Up of 1973-74 Drafting Terminees From the Secondary School Vocational Programs of Alabama

Research and Development Report No. 38

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FOLLOW-UP OF 1973-74 DRAFTING TERMINEES
FROM THE SECONDARY SCHOOL VOCATIONAL
PROGRAMS OF ALABAMA

Alabama continues to support one of the most progressive and comprehensive vocational education programs in the nation. In addition to serving youth and adults by training them for gainful and useful employment, the diversification of vocational courses meets a serious job need and contributes to the industrial development in the state.

With the millions of tax dollars being spent on vocational education, it is necessary to attempt to account to the taxpayer and decision-makers on the results of those expenditures. Terminee student follow-up studies constitute one of the most valuable techniques for assessing vocational education system outcomes.

The Alabama State Department of Education, Division of Vocational Education and Community Colleges, recognizing this important phase of accountability and evaluation, initiated the development of a statewide follow-up system for its vocational education program terminees at the secondary school level. The Division, under the direction of Dr. T. L. Faulkner, State Director, contracted with the Occupational Research and Development Unit at Auburn University to develop and implement the statewide follow-up system for all its secondary vocational terminees in all service areas.

This report relates the findings of the survey instrument mailed to the 1973-74 Drafting terminees from the secondary school vocational

programs of Alabama. When the terminees received the questionnaire, most had been out of school seven to eight months.

General Information

Student rosters with names and addresses of 1973-74 Drafting terminees were received from 49 secondary school vocational teachers in Alabama. Of the 49 teachers from which student rosters were received, 19 were in Secondary Area Vocational Centers (AVC) and 30 were in programs in schools of other settings. The total of 422 student terminees reported to the ORDU were mailed the follow-up forms. Returns were received from 149 (35.3%) of the Drafting terminees from the initial mailing and one follow-up. At least one student questionnaire was received from 42 of the 49 programs.

All terminees reported in this study were in programs administered only by the Trade and Industrial Section of the Division of Vocational Education and Community Colleges, State Department of Education.

Table 1 presents data relative to the total population of Drafting terminees and the number of returns categorized by type school and termination status as reported by teachers.

TABLE 1

DESCRIPTION OF TOTAL POPULATION AND RETURNS OF 1973-74 DRAFTING TERMINEES BY TYPE SCHOOL AND TERMINATION STATUS[A]

Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns
Area Vocational Centers			
Total	224	85	37.9
Completers[B]	175	77	44.0
Dropouts[C]	49	8	16.3
Other Type Schools			
Total	198	64	32.3
Completers	138	58	42.0
Dropouts	60	6	10.0
Grand Total	422	149	35.3
Completers	313	135	43.1
Dropouts	109	14	12.8

[A]These Drafting terminees were in programs administered only under the service area of Trade and Industrial Education, State Department of Education.

[B]Any terminee who left the program by completing or by high school graduation.

[C]Any terminee the instructor reported as having dropped out of school.

Table 2 illustrates the sex characteristics of those 1973-74 Drafting terminees reported by the instructors and those who returned survey forms.

TABLE 2

SEX OF THE 1973-74 DRAFTING TERMINEES REPORTED AND BY WHO RETURNED QUESTIONNAIRES

Sex[A]	Reported		Returns	
	Number	Percent	Number	Percent
Male	361	85.5	128	85.9
Female	49	11.7	19	12.8
Not Known	12	2.8	2	1.3
TOTAL	422	100.0	149	100.0

[A]Sex as reported by teacher.

Table 3 presents the racial or ethnic characteristics of those 1973-74 Drafting terminees reported by instructors and who returned survey forms.

TABLE 3

RACIAL OR ETHNIC CHARACTERISTICS OF THE 1973-74 DRAFTING TERMINEES REPORTED AND BY WHO RETURNED QUESTIONNAIRES

Racial or Ethnic Group[A]	Reported		Returns	
	Number	Percent	Number	Percent
American Indian	0	0.0	0	0.0
Black	80	19.0	21	14.1
Oriental	0	0.0	0	0.0
Spanish Surnamed American	0	0.0	0	0.0
White	332	78.7	126	84.6
Other	0	0.0	0	0.0
Not Known	10	2.3	2	1.3
TOTAL	422	100.0	149	100.0

[A]Racial or Ethnic Group as reported by teacher.

Table 4 illustrates the number and grade level of the 1973-74 Drafting termienes reported who dropped out of school during the academic year and by who returned questionnaire.

TABLE 4

NUMBER OF THE 1973-74 DRAFTING TERMINEES REPORTED WHO DROPPED OUT OF SCHOOL DURING THE 1973-74 SCHOOL YEAR BY GRADE LEVEL

Grade Level Upon Dropping Out of School	Reported		Returns	
	Number	Percent[A]	Number	Percent[B]
Ninth	2	0.5	0	0.0
Tenth	26	6.2	0	0.0
Eleventh	46	10.9	6	13.0
Twelfth	19	4.5	3	15.8
Grade Level Not Indicated by Teacher	16	3.8	5	31.2
TOTAL	109	25.9	14	12.8

[A]Percentage is based on 422 total reported terminees.

[B]Percentage is based on returns by grade.

Table 5 shows the number of 1973-74 Drafting terminees who indicated whether they were in active full-time military service.

TABLE 5

ACTIVE FULL-TIME MILITARY STATUS OF 1973-74 DRAFTING TERMINEES WHO RETURNED QUESTIONNAIRES

Active Full-Time Military Status	Number	Percent
Yes	7	4.7
No	139	93.3
No Response	3	2.0
TOTAL	149	100.0

Basic Information Related to the Vocational Education Program

Table 6 points out the number of 1973-74 Drafting terminees who indicated whether this vocational program was a school requirement.

TABLE 6

1973-74 DRAFTING TERMINEES WHO INDICATED WHETHER THEIR VOCATIONAL PROGRAM WAS A SCHOOL REQUIREMENT

Vocational Courses Was A School Requirement	Number	Percent
Yes	0	0.0
No	147	98.7
No Response	2	1.3
TOTAL	149	100.0

Table 7 indicates, according to the 1973-74 Drafting terminees, the primary source of influence in selecting their vocational course.

TABLE 7

PRIMARY INFLUENCES ON THE 1973-74 DRAFTING TERMINEES IN SELECTING THEIR VOCATIONAL COURSE

Group or Individual Terminees Felt Influenced Them Most in Selecting Vocational Course	Number	Percent
Parent(s) or Guardian(s)	11	7.4
Guidance Counselor	6	4.0
Your Vocational Teacher	8	5.4
Another Teacher or Principal	4	2.7
Student in VED Program	9	6.0
A Friend or Relative	10	6.7
A Businessman	0	0.0
Made Choice Yourself	99	66.4
Other[A]	1	0.7
No Response	1	0.7
TOTAL	149	100.0

[A]See page 7 for listing of "Others" who influenced Drafting terminees in selecting their VED course.

Parents or Guardians appeared to be the greatest outside influence on those terminees enrolling in the Drafting program. Eleven (7.4%) of the terminees responding indicated that their Parent(s) or Guardian(s) influenced them most in selecting their Drafting course. However, 99 (66.4%) indicated that they selected their course of study on their own. Six terminees (4.0%) indicated that a guidance counselor influenced them most in selecting their program. Eight (5.4%) of the terminees indicated that their vocational teacher influenced them most in selecting their course in Drafting.

Below is the response given to the "Others" category indicated in Table 7 as to the primary source of influence in selecting the vocatonal course.

"Other" Persons or Groups Who Most Influenced Terminees in Selecting Their VED Course	Number
Course itself	1
Had to take second course	1

Table 8 indicates terminees' opinions as to whether they had adequate job or occupational information and school experiences to make a realistic career choice.

TABLE 8

OPINIONS OF 1973-74 DRAFTING TERMINEES AS TO WHETHER THEY HAD ADEQUATE JOB OR OCCUPATIONAL INFORMATION AND SCHOOL EXPERIENCES TO MAKE A REALISTIC CAREER CHOICE

	Number	Percent
Yes	117	78.5
No	30	20.1
No Response	2	1.4
TOTAL	149	100.0

Table 9 indicates whether, during the time they were taking their high school vocational program, the reporting 1973-74 terminees intended to get a job in Drafting.

TABLE 9

INDICATIONS OF 1973-74 DRAFTING TERMINEES AS TO WHETHER, DURING THE TIME THEY WERE TAKING THEIR HIGH SCHOOL VED PROGRAM, THEY PLANNED TO GET A JOB IN THEIR AREA OF STUDY

Intended To Get Job In Area of Study	Number	Percent
Yes	84	56.4
No	13	8.7
Was Not Sure	50	33.6
No Response	2	1.3
TOTAL	149	100.0

It is interesting to note that only 84 (56.4%) of the 1973-74 reporting Drafting terminees indicated that during the time they were taking their Drafting program, they intended to get a job in the area they were studying.

Table 10 indicates terminees' opinions on choosing the Drafting program if they had the selection to make again.

A noteworthy point was revealed by the data. Of the 1973-74 Drafting terminees, 120 (80.5%) indicated that they would select the same vocational program if they had the choice to make again. Only seven (4.7%) of the responding terminees indicated that they would not take a vocational program.

TABLE 10

OPINIONS OF 1973-74 DRAFTING TERMINEES
REGARDING THEIR VOCATIONAL PROGRAM

Question: If You Had It To Do Over Again, Would You...?	Number	Percent
Take the same vocational program	120	80.5
Not take a vocational program	7	4.7
Choose another vocational program offered in your school, such as _____ [A]	15	10.1
Choose another vocational program if it had been offered in your school, such as _____ [B]	4	2.7
No Response	3	2.0
TOTAL	149	100.0

[A]See listing I-A below for those other vocational programs offered in terminees' school that they would have taken instead of their Drafting programs.

[B]See listing I-B below for the vocational programs the terminee would have taken instead of their Drafting program if it had been offered in their school.

Listing I-A -- Courses offered in their school that Drafting terminees indicated they would have taken if they had it all to do over again.

Course	Number
Electronics	2
Auto Mechanics	2
Welding	2
Electrical trades	1
Machine shop	1
Accounting	1
Pipe design	1
Secretarial training	1
One you could get a job at	1

Listing I-B -- Courses Drafting terminees indicated they would have taken if they had it all to do over again and the course were offered in their school.

Course	Number
Machine shop	2
Welding	1
Commercial art	1
Cosmetology	1
Glazer	1
ROTC	1
Air conditioning/refrigeration	1

Table 11 indicates the extent to which the reporting 1973-74 Drafting terminees felt their high school vocational programs prepared them for their first job. This data was also broken down by how that first job related to their vocational program.

Terminees who were in full-time active military service or who had never been employed were not asked to respond to the questions from which this data was reported. Also, the terminees who failed to respond to the question items were not indicated in the table.

TABLE 11

PERCEPTIONS OF 1973-74 DRAFTING TERMINEES AS TO THE EXTENT THEIR HIGH SCHOOL VOCATIONAL PROGRAM PREPARED THEM FOR THEIR FIRST FULL-TIME JOB BY HOW FIRST FULL-TIME JOB RELATED TO TRAINING

Extent Vocational Course Prepared for First Full-Time Job	Total Reporting		Number Reporting by Relatedness of First Full-Time Job to Training Received					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Excellent	1	1.4	0	0.0	0	0.0	1	2.5
Well Prepared	20	28.6	9	69.2	8	47.1	3	7.5
Fair	18	25.7	4	30.8	9	52.9	5	12.5
Poorly Prepared	1	1.4	0	0.0	0	0.0	1	2.5
Preparation not related to job	30	42.9	0	0.0	0	0.0	30	75.0
TOTAL	70	100.0	13	100.0	17	100.0	40	100.0

In noting the extent to which the 1973-74 Drafting terminees felt their high school vocational course prepared them for their first full-time job by how their first full-time job related to the training they received in their high school Drafting program, some interesting points were revealed. Twenty-one (30.0%) of the 1973-74 Drafting terminees responding to this item indicated "Excellent" or "Well Prepared" for their first full-time job as a result of the training received in their high school vocational education program. Nine (69.2%) of the 13 terminees employed in their first full-time job related directly to their training felt they were excellent or well prepared for this first job. None of the terminees working in an area directly related to their vocational training felt that they were poorly prepared for their first jobs. No terminee who indicated that he was working in an area direclty related to his vocational course felt his preparation was unrelated to his job. Of all the responding terminees, only one (1.4%) felt that he was "Poorly Prepared" for his first full-time job. This terminee was working in an area unrelated to his vocational course.

Table 12 indicates the extent to which the reporting 1973-74 Drafting terminees felt their high school vocational course prepared them for their present job. Also shown in the table is a breakdown of the data by how their present job was related to their vocational program.

Terminees in active full-time military service, and students who were attending school full time and had not had a job, were not asked to respond to the question from which Table 12 was prepared. Also, those other students who failed to respond to the items were not shown on the table.

Of the 82 terminees responding to these items, 25 (30.5%) indicated "Excellent" or "Well Prepared" for their present job as a result of their

high school vocational program. No terminee reported feeling "Poorly Prepared" for his present job as a result of his training.

TABLE 12

PERCEPTIONS OF 1973-74 DRAFTING TERMINEES AS TO THE EXTENT THEIR HIGH SCHOOL VOCATIONAL COURSE PREPARED THEM FOR THEIR PRESENT JOB BY HOW THEIR PRESENT JOB RELATED TO TRAINING

Extent Vocational Course Prepared for Present Job	Total Reporting		Number Reporting by Relatedness of Present Job to Training Received					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Excellent	1	1.2	1	6.2	0	0.0	0	0.0
Well Prepared	24	29.3	10	62.5	10	47.6	4	8.9
Fair[A]	17	20.7	5	31.2	9	42.9	3	6.7
Poorly Prepared	0	0.0	0	0.0	0	0.0	0	0.0
Preparation not related to job	40	48.8	0	0.0	2	9.5	38	84.4
TOTAL	82	100.0	16	100.0	21	100.0	45	100.0

[A]See listing, page 13, for reasons terminees specified for only being trained "Fair" by their vocational course for their present job.

Eleven (68.7%) of the 16 responding terminees working in an area directly related to their high school vocational program indicated that they felt excellent or well prepared by their training.

Sixteen terminees who indicated "Fair" as the extent their vocational program prepared them for this present job indicated reasons for this. The following lists the reasons the 1973-74 Drafting terminees indicated for being trained only "Fair" by their vocational course for their present job.

Reason	Number
Only had book	1
Blueprint reading	1
Was one of the many areas covered	1
I get a chance to use lettering (occasionally)	1
I am a bricklayer	1
Not covered enough	1
In school I was drawing houses--now I'm drawing pipes	1
Only basics	1
Only had one year	1
Had only two years	1
Didn't need preparation	1
Needed more training	1
Only somewhat related	1
Needed more time	1
N. S. Voc. Program did not develop working speech required for office	1
Too general; not detailed enough	1

None of the terminees who indicated they were "Poorly Prepared" for their present job by their vocational program gave reasons why they felt that way.

Table 13 focuses on the Drafting student club. The researchers sought to determine the extent to which the 1973-74 Drafting terminees felt that their high school student club aided in preparing them for their present job. Data are also broken down by the relationship of the present job to the vocational training received.

Only respondents who had had a job since terminating their high school vocational Drafting program were asked to respond to the question reported in Table 13. Students in active full-time military service were excluded. Ten (10.8%) of the 93 terminees reported no related student club was available, while 41 (44.1%) were not members of a related student club.

Thirteen (30.2%) of the 43 terminees who participated in student club activities indicated they were "Excellent" or "Well Prepared" by

their related student club for their present job. Eleven (25.6%) indicated they were "Poorly Prepared" by their related student club for their present job. Of those 11, two (18.2%) were in related jobs, two (18.2%) in somewhat related jobs, while seven (63.6%) were in non-related jobs.

TABLE 13

PERCEPTIONS OF 1973-74 DRAFTING TERMINEES AS TO THE EXTENT THEIR HIGH SCHOOL VOCATIONAL STUDENT CLUB PREPARED THEM FOR THEIR PRESENT JOB BY HOW THEIR PRESENT JOB RELATED TO TRAINING[A]

Extent High School Vocational Student Club Helped Prepare for Present Job	Total Reporting		Total Reporting by Relatedness of Present Job to Vocational Training					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Excellent	5	11.6	2	20.0	2	15.4	1	5.0
Well Prepared	8	18.6	2	20.0	2	15.4	4	20.0
Fair	19	44.2	4	40.0	7	53.8	8	40.0
Poorly Prepared	11	25.6	2	20.0	2	15.4	7	35.0
TOTAL	43	100.0	10	100.0	13	100.0	20	100.0

[A]Of the 93 who responded, 10 (10.8%) had no related student club available, and 41 (44.1%) were not members of a related student club.

Of the 10 terminees who were working in an area directly related to the training they received in their high school vocational program, four (40.0%) revealed that they were "Excellent" or "Well Prepared" for their present job by their related student club. Only two (20.0%) of the ten terminees working in jobs directly related to the training they received indicated they were "Poorly Prepared" for their present jobs by their related student club.

Table 14 reports how the 1973-74 Drafting terminees rated the quality of teaching by their high school vocational instructors.

TABLE 14

1973-74 DRAFTING TERMINEES' RATINGS OF THE QUALITY OF TEACHING BY THEIR HIGH SCHOOL VOCATIONAL INSTRUCTORS

Rating	Number	Percent
Excellent	61	40.9
Good	57	38.3
Fair	24	16.1
Poor	4	2.7
Very Poor	2	1.3
No Response	1	0.7
TOTAL	149	100.0

Of the 149 reporting 1973-74 Drafting terminees, 118 (79.2%) rated the quality of teaching by their vocational instructor either "Good" or "Excellent." Only six (4.0%) rated the quality of teaching by their instructors "Poor" or "Very Poor."

Table 15 illustrates how the 1973-74 Drafting terminees rated their high school vocational instructor's interest in their class work.

TABLE 15

1973-74 DRAFTING TERMINEES' RATINGS OF THEIR HIGH SCHOOL VOCATIONAL INSTRUCTOR'S INTEREST IN THE STUDENT'S CLASS WORK

Rating	Number	Percent
Excellent	78	52.3
Good	48	32.3
Fair	15	10.1
Poor	4	2.7
Very Poor	2	1.3
No Response	2	1.3
TOTAL	149	100.0

Of the 149 reporting 1973-74 Drafting terminees, 126 (84.5%) rated the interest exhibited by their high school vocational instructor in their class work as "Good" or "Excellent." Only six (4.0%) of the terminees rated the interest their vocational instructors showed in their class work as "Poor" or "Very Poor."

Table 16 points out how the 1973-74 Drafting terminees subjectively rated the knowledge their vocational teachers possessed about their field of study. This rating is also shown in the table by a breakdown of how the terminees' present job related to the training they received in their high school vocational program. Terminees were asked to base their judgments on their current knowledge of their job and responsibilities.

TABLE 16

1973-74 DRAFTING TERMINEES' RATINGS OF THE KNOWLEDGE THEIR HIGH SCHOOL VOCATIONAL TEACHER POSSESSED ABOUT THEIR FIELD OF STUDY BY HOW THE TERMINEES' PRESENT JOB RELATED TO THE TRAINING THEY RECEIVED

Ratings[A]	Total Reporting		Number Reporting by Relatedness of Present Job to Training Received					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Excellent	36	42.4	7	43.8	8	38.1	21	43.8
Good	30	35.3	3	18.8	10	47.6	17	35.4
Fair	13	15.3	5	31.2	1	4.8	7	14.6
Poor	4	4.7	1	6.2	1	4.8	2	4.2
Very Poor	2	2.3	0	0.0	1	4.8	1	2.1
TOTAL	85	100.0	16	100.0	21	100.0	48	100.0

[A]Ratings were to be based on terminee's judgment of their current knowledge of their job and responsibilities.

Total responses to this item indicates that 66 (77.7%) of the 85 responding 1973-74 Drafting terminees rated the knowledge their vocational teachers possessed about their field of study either "Good" or "Excellent." For those 16 terminees working in an area directly related to the training they received, 10 (62.6%) rated the knowledge their teachers possessed about their field of study as "Good" or "Excellent." A favorable point was revealed in that only one of those terminees rated the knowledge their vocational teachers possessed about their field of study as "Poor" or "Very Poor."

If the respondent was working in an area related to his training, he was asked to compare the facilities and equipment in his high school vocational program with those on his present job. Table 17 illustrates how the 1973-74 Drafting terminees responded.

TABLE 17

HOW 1973-74 DRAFTING TERMINEES WORKING IN A RELATED AREA RATED THE FACILITIES AND EQUIPMENT IN THEIR HIGH SCHOOL VOCATIONAL PROGRAM[A]

Rating[B]	Number	Percent
Better than those on present job	9	27.3
Similar to those on present job	13	39.4
Not as good as those on present job	11	33.3
TOTAL	33	100.0

[A]Fifty-nine (64.1%) of the responding 92 terminees indicated that their present job was not related to their vocational training enough to compare facilities and equipment.

[B]Persons who had not had a job since leaving their vocational program, including those in military service and those who attended school, were asked not to respond to questions from which data was drawn. Returns were received from 149 terminees.

Nine (27.3%) of the 33 responding 1973-74 Drafting terminees working in an area related to their training rated the facilities and equipment in their high school vocational program as bettern than those on their present job. Thirteen (39.4%) rated the facilities and equipment in their high school vocational program as similar to those on their present job; however, 11 (33.3) rated the facilities and equipment not as good as those on their present job.

Table 18 shows how 1973-74 Drafting terminees, who were in a cooperative work program in school and were now working in an area related to their vocational training, rated the facilities and equipment used in their cooperative work station.

TABLE 18

HOW 1973-74 DRAFTING TERMINEES NOW WORKING IN A RELATED AREA, WHOSE VOCATIONAL PROGRAM INCLUDED COOPERATIVE WORK, RATED FACILITIES AND EQUIPMENT USED IN THEIR COOPERATIVE WORK STATION[A]

Rating[B]	Number	Percent
Better than those on present job	6	35.3
Similar to those on present job	4	23.5
Working at same place where cooperative training was done	3	17.6
Not as good as those on present job	4	23.5
TOTAL	17	100.0

[A]Thirty-one (35.2%) of the responding 88 Drafting terminees indicated their vocational program was not a cooperative program. Forty (45.4%) terminees indicated they were not working in an area related to their cooperative work; therefore, they did not complete this item on the questionnaire.

[B]Persons who had not had a job since leaving their vocational program, including those in military service and those attending school, were asked not to respond to questions from which data was drawn. Returns were received from 149 terminees.

Six (35.3%) of the 17 responding 1973-74 Drafting terminees whose vocational programs had included cooperative work and were now working in an area related to their vocational training, rated the facilities and equipment in their cooperative work station as better than those on their present job. Four (23.5%) rated the facilities and equipment in their cooperative training station as similar to those on their present job, and four (23.5%) rated the facilities and equipment in their cooperative work station not as good as those in their present job. Three (17.6%) indicated they were working at the same establishment where they did their cooperative training.

Basic Employment Information

The following section of this report offers information relative to employment and job characteristics of the 1973-74 secondary Drafting terminees.

Table 19 illustrates the number of full-time jobs the responding 1973-74 Drafting terminees have had since leaving their high school vocational course.

TABLE 19

NUMBER OF FULL-TIME JOBS HELD BY THE 1973-74 DRAFTING TERMINEES SINCE LEAVING THEIR HIGH SCHOOL VOCATIONAL COURSE

Number of Full-Time Jobs Held	Number	Percent[A]
One	58	38.9
Two	20	13.4
Three	4	2.7
Four	2	1.3
Five or more	1	0.7
TOTAL	85	57.0

[A]Percentage is based on the 149 terminees who returned the questionnaire.

There were 58 (38.9%) of the total 149 responding 1973-74 Drafting terminees who had been employed in just one job since leaving their high school vocational program. Twenty (13.4%) of the terminees reported having two full-time jobs since leaving their high school vocational course seven to eight months ago.

Table 20 reveals the first-job employment status of Drafting terminees who returned the survey by the relatedness of their vocational training to their first job.

TABLE 20

FIRST-JOB EMPLOYMENT STATUS OF DRAFTING TERMINEES (1973-74) BY RELATEDNESS OF VOCATIONAL TRAINING TO FIRST JOB[A]

First Job After Leaving High School Vocational Program	Total Reporting		Relatedness of Vocational Training to First Job[B]					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Full-Time	71	47.6	13	8.7	17	11.4	41	27.5
Part-Time	18	12.1	1	0.7	5	3.3	12	8.1
TOTAL	89	59.7	14	9.4	22	14.7	53	35.6

[A]All percentages were based on the 149 (35.3%) of 422 terminees who returned the survey form.

[B]The terminees made the judgment as to how their first job was related to the training received in their high school vocational program.

[C]See page 21 for reasons terminees who were working in first job unrelated to this vocational training gave for not seeking job that was related before accepting their first job.

Of the 149 responding 1973-74 Drafting terminees, 71 (47.6%) were employed full time in their first job after leaving their high school vocational program. Eighteen (12.1%) terminees' first jobs were on a part-time basis.

Fourteen (9.4%) of the 149 responding terminees' first jobs (full-time or part-time) were in an area directly related to the training they received in their high school vocational course. Twenty-two (14.7%) were employed in an area somewhat related, while 53 (35.6%) were employed in a first job not related to the training they received. The terminees made the judgment as to how their first job was related to the training they received in their high school vocational program.

Of the 25 terminees who indicated their jobs were not related to their vocational course, 14 (56.0%) terminees indicated that before they accepted their unrelated job, they tried to get a job that was related to their vocational training. However, 11 (44.0%) of the terminees did not.

The following is a list of reasons given by 15 of the 26 terminees who, before taking their first unrelated job indicated they did not seek a job that was related to their vocational training.

Reasons	Number
Because I was already working on a farm	1
My father had a job for me	1
Interested more in Architectural Drafting	1
Couldn't find	1
Summer job	1
The vocatinal training was for my major in college	1
I didn't feel I had enough experience	1
Not enough training	1
I got the job before school was out	1
Planned on continuing training	1
Not experienced	1
Just wanted a job	1
Needed money; had planned on attending college	1
Because there was little demand	1
Did not want one	1

Table 21 shows by type school and termination status the first job of the 1973-74 Drafting terminees and the relatedness of their training to this first job.

TABLE 21

NUMBER OF RETURNS BY TYPE SCHOOL AND TERMINATION STATUS FOR 1973-74 DRAFTING TERMINEES' FIRST JOB, AND RELATEDNESS OF TRAINING[A]

Type School and Termination Status	Number of Returns	Total Employed by Area Studied		Relatedness of Training to First Job[D]					
				Directly Related		Somewhat Related		Not Related	
		No.	%	No.	%	No.	%	No.	%
Area Voc. Centers									
Total	85	52	34.9	9	6.0	14	9.4	29	19.5
Completers[B]	77	47	31.5	9	6.0	13	8.7	25	16.8
Dropouts[C]	8	5	3.4	0	0.0	1	0.7	4	2.7
Other Type Schools									
Total	64	38	25.5	5	3.4	8	5.4	25	16.7
Completers	58	35	23.5	5	3.4	8	5.4	22	14.7
Dropouts	6	3	2.0	0	0.0	0	0.0	3	2.0
Grand Total	149	90	60.4	14	9.4	22	14.8	54	36.2
Completers	135	82	55.0	14	9.4	21	14.1	47	31.5
Dropouts	14	8	5.4	0	0.0	1	0.7	7	4.7

[A]All percentages are based on the 149 (35.3%) of the 422 terminees who returned the survey form.

[B]Any terminee who left the program by completing or by high school graduation.

[C]Any terminee who the instructor reported as having dropped out of school.

[D]The terminees made the judgment as to how their first job was related to the training received in their high school vocational program.

Table 22 illustrates the current employment status of the responding terminees by the relatedness of their vocational training to their present jobs. All percentages figured in the table were based on the 149 (35.3%) returns from the 422 Drafting terminees.

TABLE 22

CURRENT EMPLOYMENT STATUS OF DRAFTING TERMINEES (1973-74) BY RELATEDNESS OF TRAINING TO PRESENT JOB[A]

Employment Status	Total Respond-ing		Relatedness of Training to Present Job[B]							
			Directly Related		Somewhat Related		Not Related[E]		Employed No Response	
	No.	%	No.	%	No.	%	No.	%	No.	%
Employed full time and not attending school	46	30.9	10	6.7	10	6.7	26	17.4	0	0.0
Employed full time and attending school	16	10.7	3	2.0	5	3.3	8	5.4	0	0.0
Employed part time and seeking full-time job	2	1.3	0	0.0	0	0.0	2	1.3	0	0.0
Employed part time and not seeking full-time job	2	1.3	0	0.0	1	0.7	1	0.7	0	0.0
Employed part time and attending school	15	10.1	2	1.3	4	2.7	9	6.0	0	0.0
Unemployed (actively seeking a job)[C]	10	6.7	N/A		N/A		N/A		N/A	
Unavailable for employment[C&D]	5	3.3	N/A		N/A		N/A		N/A	
No Response	53	35.6	N/A		N/A		N/A		N/A	
TOTAL	149	100.0	15	10.1	20	13.4	46	30.9	0	0.0

[A]All percentages were based on the 149 (34.3%) respondents of the total 422 terminees. Terminees in active full-time military service or attending school full-time and had never been employed were included in the "No Response" category.

[B]The terminees made the judgment as to how their present job was related to the training received in their high school vocational program.

[C]The unemployed and unavailable for employment categories do not include persons in the military service and persons who were in school full time and never had a job.

[D]See page 31 for the listing of reasons Drafting terminees gave for being unavailable for employment.

[E]See page 32 for reasons terminees who were working in present job not related to vocational training gave for not seeking related job before accepting present job. Totals for unrelated columns may not correspond because terminees failed to respond to one of the two questions from which data was drawn.

Of the 149 responding 1973-74 secondary Drafting terminees, 62 (41.6%) were presently employed full time and not attending school or employed full time and attending school. Fifteen (10.1%) of the terminees were employed part time and attending school, while five (3.3%) were unavailable for employment (See page 24 for reasons terminees were unavailable for employment). Only 10 (6.7%) of the terminees were unemployed and actively seeking employment, while two (1.3%) were employed part time and seeking full-time employment.

The "No Response" category in Table 22 includes three groups: (1) terminees in active full-time military service; (2) terminees who were in school full time and had never had a job; and (3) terminees who failed to respond to the item on the questionnaire.

Of the 149 secondary Drafting respondees, 15 (10.1%) were presently employed full time or part time in an area directly related to the training received in their high school vocational course. Twenty (13.4%) were employed either part time or full time in an area somewhat related to their training, while 46 (30.9%) were employed in areas not related to training. The terminees made the judgment as to how their present employment was related to training received in their high school vocational course.

Below is a list of the reasons given by the terminees for being unavailable for employment.

Reason	Number
In school full time	10
Presently not working, not interested in a job	0
Homemaker	0
Pregnancy	0
Illness or disability	0
Other	0

Of the 21 terminees who indicated their present jobs were not related to their vocational course, 12 (57.1%) terminees indicated that before they accepted their unrelated job, they tried to get a job that was related to their vocational training. However, nine (42.9%) of the terminees did not.

The following is a list of reasons given by the terminees who, before taking their present unrelated job, indicated they did not seek a job that was related to their vocational training.

Reason	Number
Felt need for further training	7
Not interested	4
Nothing available	3
Needed a job	2
Already had job	2
Had to remain in area	1
Changed vocational study	1
Could not afford further study	1

Table 23 shows for the present job, the number of 1973-74 secondary Drafting terminees employed by the relatedness of their vocational training to their present job.

Of the 86 terminees presently employed that studied Drafting, 16 (10.7%) were employed in an area directly related to the training received in their high school vocational program. Forty-nine (32.9%) terminees who studied Drafting indicated their present job was not related to their high school vocational training. The terminees made the judgment as to how their present job related to the training received in their high school vocational program.

TABLE 23

NUMBER OF RETURNS BY TYPE SCHOOL AND TERMINATION STATUS FOR 1973-74 DRAFTING TERMINEES' PRESENT JOB, AND RELATEDNESS OF TRAINING[A]

Type School and Termination Status	Number of Returns	Total Employed by Area Studied		Relatedness of Training to Present Job[D]					
				Directly Related		Somewhat Related		Not Related	
		No.	%	No.	%	No.	%	No.	%
Area Voc. Centers									
Total	85	51	34.2	10	6.7	13	8.7	28	18.8
Completers[B]	77	46	30.8	10	6.7	12	8.0	24	16.1
Dropouts[C]	8	5	3.4	0	0.0	1	0.7	4	2.7
Other Type Schools									
Total	64	35	23.5	6	4.0	8	5.4	21	14.1
Completers	58	32	21.5	6	4.0	8	5.4	18	12.1
Dropouts	6	3	2.0	0	0.0	0	0.0	3	2.0
Grand Total	149	86	57.7	16	10.7	21	14.1	49	32.9
Completers	135	78	52.3	16	10.7	20	13.4	42	28.2
Dropouts	14	8	5.4	0	0.0	1	0.7	7	4.7

[A]Percentages are based on the 149 (35.3%) of the 422 terminees who returned the survey form.

[B]Any terminee who left the program by completing or by high school graduation.

[C]Any terminee who the instructor reported as having dropped out of school.

[D]The terminees made the judgment as to how their first job was related to the training received in their high school vocational program.

Table 24 indicated the first-job salary ranges as compared to the present-job salary ranges for the 1973-74 Drafting terminees.

Of the 91 terminees reporting a salary range for their first job, 35 (38.5%) indicated a range of under $250 per month. No terminee reported a first salary of over $700 per month. The median salary

range for the first job fell in the range of $250 - $349 per month. The mean salary range for the first job also fell in the range of $250 - $349 per month.

TABLE 24

FIRST-JOB SALARY RANGES AND PRESENT-JOB SALARY RANGES FOR 1973-74 DRAFTING TERMINEES

Salary Ranges	First Job		Present Job	
	No.	%	No.	%
Under $250	35	38.5	19	24.4
$250 - $299	13	14.3	12	15.4
$300 - $349	14	15.4	9	11.5
$350 - $399	7	7.7	4	5.1
$400 - $449	11	12.1	14	17.9
$450 - $499	5	5.5	7	9.0
$500 - $599	4	4.4	7	9.0
$600 - $699	2	2.2	5	6.4
$700 or more	0	0.0	1	1.3
TOTAL	91	100.0	78	100.0

Of the 78 1973-74 Drafting terminees reporting a salary range for their present job, 19 (24.4%) indicated under $250 per month. This salary range was indicative of the mode of the reporting students. The median and mean salary ranges for the present job fell within the range of $300 - $399 per month. The median and mean salary ranges of present jobs over first jobs indicate an increase for the reporting Drafting terminees.

Table 24A indicates the first-job salary ranges by relatedness of training and sex of the Drafting terminees.

Thirty-one (37.3%) of the 83 responding terminees were employed at less than $250 per month. Of these 31 terminees, two (6.4%) males were employed in a job directly related to their training, six (19.4%) males and one (3.2%) female were employed in jobs somewhat related to their

training, while 19 (61.3%) males and three (9.7%) females were employed in jobs not related to their training.

TABLE 24A

FIRST-JOB SALARY RANGES BY RELATEDNESS OF TRAINING OF 1973-74 DRAFTING TERMINEES BY SEX

Salary Ranges	Sex of Terminees Responding		Relatedness of Training to First Job[B]					
			Directly Related		Somewhat Related		Not Related	
	Male	Female	Male	Female	Male	Female	Male	Female
Under $250	27	4	2	0	6	1	19	3
$250 - $299	12	0	1	0	3	0	8	0
$300 - $349	12	1	3	0	3	1	6	0
$350 - $399	5	2	1	0	2	1	2	1
$400 - $449	10	0	2	0	2	0	6	0
$450 - $499	4	0	2	0	1	0	1	0
$500 - $599	4	0	1	0	0	0	3	0
$600 - $699	2	0	0	0	1	0	1	0
$700 or more	0	0	0	0	0	0	0	0
TOTAL[A]	76	7	12	0	18	3	46	4

[A]Totals do not match those of Table 24 because some terminees did not respond to all questions.

[B]The terminees made the judgment as to how their first job was related to the training received in their high school vocational program.

Of the 83 responding terminees, 76 (91.6%) were males and seven (8.4%) were females. Twelve (14.5%) males were employed in jobs directly related to their vocational training, 18 (21.7%) males and three (3.6%) females were employed in jobs somewhat related to their training, while 46 (55.4%) males and four (4.8%) females were employed in jobs not related to their training.

Table 24B indicates the present-job salary ranges by relatedness of training and sex of the Drafting terminees.

TABLE 24B

PRESENT-JOB SALARY RANGES BY RELATEDNESS OF TRAINING OF 1973-74 DRAFTING TERMINEES BY SEX

Salary Ranges	Sex of Terminees Responding		Relatedness of Training to Present Job[B]					
			Directly Related		Somewhat Related		Not Related	
	Male	Female	Male	Female	Male	Female	Male	Female
Under $250	17	1	2	0	3	1	12	0
$250 - $299	11	1	0	0	3	0	8	1
$300 - $349	7	2	2	0	1	1	4	1
$350 - $399	3	0	0	0	1	0	2	0
$400 - $449	14	0	3	0	2	0	9	0
$450 - $499	6	1	2	1	2	0	2	0
$500 - $599	5	1	4	0	0	0	1	1
$600 - $699	5	0	1	0	3	0	1	0
$700 or more	1	0	0	0	1	0	0	0
TOTAL[A]	69	6	14	1	16	2	39	3

[A]Totals do not match those of Table 24 because some terminees did not respond to all questions.

[B]The terminees made the judgment as to how their present job was related to the training received in their high school vocational program.

Eighteen (24.0%) of the 75 responding terminees were employed at less than $250 per month. Of these 18 terminees, two (11.1%) males were employed in a job directly related to their training, three (16.7%) males and one (5.6%) female were employed in jobs somewhat related to their training, while 12 (66.7%) males were employed in jobs not related to their training.

Of the 75 responding terminees, 69 (92.0%) were males and six (8.0%) were females. Fourteen (18.7%) males and one (1.3%) female were employed in jobs directly related to their vocational training, 16 (21.3%) males and two (2.7%) females were employed in jobs somewhat related to their training, while 39 (52.0%) males and three (4.0%) females were employed in jobs not related to their training.

Continuing Education Information

The following section of this report presents information relative to the continuing education of the 1973-74 secondary Drafting terminees.

Table 25 shows the vocational educational training opportunities terminees have participated in since leaving their high school vocational program.

TABLE 25

ADDITIONAL VOCATIONAL EDUCATIONAL TRAINING 1973-74
DRAFTING TERMINEES PARTICIPATED IN SINCE
LEAVING THEIR HIGH SCHOOL
VOCATIONAL PROGRAM[A]

Type Training	Number	Percent[B]
On-the-job training (employer-sponsored program)	21	14.1
Public school adult vocational program	5	3.4
Private vocational school program	0	0.0
University or four year college	16	10.7
Junior college	23	15.4
Post-secondary vocational-technical institute (trade school)	14	9.4
Apprenticeship training program	3	2.0
Specialized occupational military training	3	2.0
Other[C]	6	4.0
TOTAL[D]	91	61.1

[A]Seventy-one (47.7%) of the 149 terminees gave no indication of being involved in additional vocational training. Of the 149 terminees, 75 (50.3%) took part in one additional vocational training opportunity since leaving their high school program. Ten (6.7%) took part in two and six (4.0%) terminees took part in the three additional training opportunities.

[B]Percentages are based on the 149 (35.3%) respondents of the total 422 terminees who returned questionnaires.

[C]See page 31 for the "Other" listing as specified by the terminees.

[D]The total indicated the number of different training programs in which terminees enrolled. As footnoted above, several terminees had enrolled in more than one training program.

Of the total terminees, the 23 (15.4%) enrolled in Junior Colleges represented the largest area where terminees had taken additional vocational training.

Of the 149 responding terminees, 75 (50.3%) had taken part in one additional vocational training program since leaving their high school program. Ten (6.7%) enrolled in two training programs, and six (4.0%) terminees had enrolled in three vocational training programs. Seventy-one (47.7%) indicated they had not enrolled in any additional vocational training.

The following is a listing of the "Other" (Table 25) vocational education training terminees indicated they had participated in:

"Other" Vocational Training	Number
Continued after graduation	1
Construction	1
Home study program	1
Electronics	1
Job corps	1
Machinist	1

Table 26 points out the additional programs the 1973-74 secondary Drafting terminees were presently attending beyond their high school training by whether these programs were related to their high school vocational program.

Of the 149 1973-74 secondary Drafting terminees who responded to the survey, two (1.3%) were attending an on-the-job training program (employer-sponsored), 18 (12.1%) were attending a vocational-technical institute, 26 (17.4%) were attending a junior college, 17 (11.4%) were attending a four year college or university, none were attending a public adult vocational program or apprenticeship program, one (0.7%) was attending private business or trade school, and six (4.0%) were attending some other type of school or educational program. (See

page 33 for the listing of the other types of schools or educational programs students were attending.)

TABLE 26

PROGRAMS PRESENTLY ATTENDED BY THE 1973-74 SECONDARY DRAFTING TERMINEES BY WHETHER THESE PROGRAMS WERE RELATED TO THEIR HIGH SCHOOL VOCATIONAL EDUCATION PROGRAM[A]

Programs Attended	Terminees		Program Related to High School VED Program			
			Yes		No	
	No.	%	No.	%	No.	%
On-the-job training (employer-sponsored)	2	1.3	1	0.7	1	0.7
Vocational-technical institute (Trade School)	18	12.1	16	10.7	2	1.3
Junior College	26	17.4	13	8.7	13	8.7
Four year college or university	17	11.4	7	4.7	10	6.7
Public school adult vocational program	0	0.0	0	0.0	0	0.0
Private business or trade school	1	0.7	1	0.7	0	0.0
Apprenticeship program	0	0.0	0	0.0	0	0.0
Other[B]	6	4.0	2	1.3	4	2.7
TOTAL	70	46.9	40	26.8	30	20.1

[A]All percentages were based on the 149 responding terminees.

[B]See page 33 for listing of "Other" schools or educational institutions terminees were attending.

Seventy (46.9%) of the 149 Drafting terminees were presently continuing their education. Forty (26.8%) of the terminees were continuing their education in a program related to their high school vocational program. Thirty (20.1%) were attending a program in an area not related to their high school vocational program.

The following is a listing of the "Other" category (Table 26) of additional programs the 1973-74 Drafting termineeS were attending:

"Other" School or Program	Number
High school	4
Business college	1
Cook	1
Drafting school	1
Carpenter's helper	1
Adult education program for graduation credit	1

Of the 149 responding termineeS, 95 (63.8%) indicated they were not attending a school or program but would like to do so. The following is a list of the areas in which these termineeS desired to study:

Area of Study	Number
Drafting	45
Engineering	10
Welding	4
Architecture	4
Architectural drafting	4
Mechanical drafting	3
Architecture	3
Mechanics	3
Electronics	3
Uncertain	3
Machinery	2
Mechanical engineering	1
Business	1
On job training	1
Pipe design	1
Woodwork	1
Secretarial training	1
Electricity	1
Air conditioning/refrigeration	1
Art	1

Thirty-five (23.5%) of the 149 responding termineeS indicated they were not attending a school or program and did not desire to do so. Nineteen (12.8%) termineeS did not respond to the question.

Job Placement Information

The following section of this report presents information concerning job placement of the 1973-74 Drafting terminees.

Table 27 points out whether the 1973-74 Drafting terminees were seeking full-time employment when they left their high school vocational program and if their vocational teacher attempted to help them get a job.

TABLE 27

WHETHER VOCATIONAL TEACHER ATTEMPTED TO HELP 1973-74 DRAFTING TERMINEES GET A JOB IF SEEKING FULL-TIME EMPLOYMENT UPON LEAVING THE HIGH SCHOOL VOCATIONAL PROGRAM[A]

Vocational Teacher Attempted To Get Terminee A Job	Number	Percent
Yes	37	48.1
No	40	51.9
TOTAL	77	100.0

[A]Sixty-six (44.3%) of the responding terminees indicated they were not seeking full-time employment when they left their high school vocational program. Six terminees did not respond to the question.

Of the 77 responding 1973-74 Drafting terminees indicating they were seeking full-time employment when they left their high school vocational program, 37 (48.1%) indicated that their vocational teacher attempted to help them get a job. However, 40 (51.9%) of the terminees seeking full-time employment indicated that their vocational teacher did not attempt to help them secure employment. It was interesting to note that 66 (44.3%) of the reporting 1973-74 Drafting terminees indicated they were

not seeking full-time employment when they left their high school vocational program.

Table 28 illustrates how long it took the 1973-74 Drafting terminees to get their first full-time job after they left their high school vocational program and began actively seeking full-time employment.

TABLE 28

LENGTH OF TIME IT TOOK THE 1973-74 DRAFTING TERMINEES TO SECURE FIRST FULL-TIME JOB AFTER LEAVING HIGH SCHOOL VOCATIONAL PROGRAM AND BEGINNING ACTIVELY SEEKING FULL-TIME EMPLOYMENT[A]

Time to Secure First Full-Time Job	Number	Percent
0 - 2 weeks	26	46.4
3 - 4 weeks	11	19.6
5 - 8 weeks	7	12.5
9 - 12 weeks	5	8.9
13 or more weeks	7	12.5
TOTAL	56	100.0

[A]Thirty-three terminees indicated they already had a job when they left their high school vocational program.

Twenty-six (46.4%) of the 56 Drafting terminees secured their first full-time job within two weeks after they left their high school vocational program and began actively seeking full-time employment. However, seven (12.5%) of the terminees took 13 or more weeks to secure their first full-time job. There were 33 terminees who indicated they already had a job when they left their high school vocational program.

Table 29 shows how the 1973-74 Drafting terminees indicated they got their first full-time job after leaving their high school vocational program.

Of the 62 1973-74 Drafting terminees who responded to the survey item, 21 (33.9%) indicated they got their first full-time job after leaving their

high school vocational program through applications to business and industry. Twenty-six (41.9%) of the terminees indicated they got their first full-time job through a friend or relative. These represented the two methods that the largest number of Drafting terminees utilized to secure their first full-time job. Only six (9.7%) of the terminees indicated they secured their first job through their vocational teacher. One (1.6%) student indicated that a counselor got him his first full-time job after leaving his vocational program. Those students who already had a job before leaving their high school vocational program were not shown in Table 29. (See Table 30, page 37)

TABLE 29

HOW THE 1973-74 DRAFTING TERMINEES INDICATED THEY GOT THEIR FIRST FULL-TIME JOB AFTER LEAVING THEIR HIGH SCHOOL VOCATIONAL PROGRAM

How Terminees Secured First Full-Time Job	Number	Percent
Through your vocational teacher	6	9.7
Through your counselor	1	1.6
Through other school teachers or administrators	0	0.0
Through a friend or relative	26	41.9
Through applications to business of industry	21	33.9
Through state (local) employment office	2	3.2
Through a private employment agency	2	3.2
Through radio, T.V., newspaper, or other news media	1	1.6
Other[A]	3	4.8
TOTAL	62	100.0

[A]See listing on page 37 for the "Other" ways terminees indicated they secured their first full-time job after leaving their high school vocational program.

Three terminees specified the means by how they secured their first full-time jobs after leaving their high school vocational program. The following list indicates the "Other" means the terminees indicated.

"Other" Means for Securing First Full-Time Job	Number
By asking for it	1
Father	1
Other vocational teacher	1

Table 30 shows how the 1973-74 Drafting terminees who were working while in high school taking their vocational program indicated they got that job.

TABLE 30

HOW THE 1973-74 DRAFTING TERMINEES WHO WERE WORKING WHILE IN HIGH SCHOOL TAKING THEIR VOCATIONAL PROGRAM INDICATED THEY GOT THAT JOB[A]

Who or What Helped Terminee Get Job	Number	Percent
Your vocational teacher	10	18.9
Your counselor	1	1.9
Other school teachers or administrators	3	5.7
Friend or relative	22	41.5
Applications to business or industry	8	15.1
State (local) employment office	0	0.0
Private employment agency	0	0.0
Radio, T.V., newspaper, or other news media	0	0.0
Other	9	17.0
TOTAL	53	100.0

[A]Ninety-four (63.1%) terminees indicated they had no job during the time they were in high school taking their vocational course, thus did not respond to the question.

Fifty-three (35.6%) of the 149 reporting 1973-74 Drafting terminees indicated they were working during the time they were in high school taking their vocational program. Of those terminees working while in high school, ten (18.9%) got their job through their vocational instructor, 22 (41.5%) through a friend or relative, and eight (15.1%) got jobs through applications to business or industry. These three means were the ways

most of the terminees secured a job while they were still in high school taking their vocational program.

Table 31 reveals the indications of the 1973-74 Drafting terminees as whether, before taking their first job, they looked for employment within daily walking or driving distance of home by how their first job related to their vocational training.

TABLE 31

INDICATIONS OF 1973-74 DRAFTING TERMINEES AS TO WHERE THEY LOOKED FOR THEIR FIRST JOB BEFORE TAKING ONE BY HOW THEIR FIRST JOB RELATED TO THEIR TRAINING[A]

Before Taking First Job, Where Terminees Looked for Job	Total Reporting		Total Reporting by Relatedness of First Job to Vocational Training					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Within daily walking or driving distance of home	58	87.9	10	83.3	13	81.2	35	92.1
Beyond daily walking or driving distance of home[B]	8	12.1	2	16.7	3	18.8	3	7.9
TOTAL	66	100.0	12	100.0	16	100.0	38	100.0

[A]Twenty terminees indicated they already had their first job while in high school. Of those 20 terminees, two (10.0%) were working in a directly related area, six (30.0%) in a somewhat related area, while 12 (60.0%) were working in a non-related area.

[B]See listing, page 39, for reasons terminees gave for seeking their first job away from home.

Fifty-eight (87.9%) of the 1973-74 Drafting terminees who were employed in their first job indicated they sough employment within daily walking or driving distance of home. Eight (12.1%) terminees indicated

before taking their first job, they looked for a job beyond daily walking or driving distance of home.

Of the 12 terminees working in a directly related area, only two (16.7%) sought employment beyond daily walking or driving distance of home.

It is interesting to note that of the 38 terminees whose first jobs did not relate to their training, only three of those terminees sought employment beyond daily walking or driving distance of home.

Twenty terminees indicated they had their first job while in high school. Of those 20 terminees, two (10.0%) were working in a directly related area, six (30.0%) in a somewhat related area, and 12 (60.0%) were working in a non-related area.

The following is a listing of reasons terminees gave for seeking a job beyond daily walking or driving distance of their home before accepting their first job. Of the eight terminees who indicated they sought a job beyond daily walking or driving distance of home before accepting their first job, five gave reasons why they sought that job.

Reasons for Seeking Job Beyond Daily Walking or Driving Distance Before Accepting First Job	Number
No jobs available	2
Father had a job for me	1
Birmingham	1
Everywhere	1

Table 32 reveals the indications of the 1973-74 Drafting terminees who were working in their first job not related to their training by whether or not they tried to get a job related to their training by where they looked for employment before accepting that first job.

It is important to note that of the 38 terminees who were working in a non-related first job, only one (2.6%) sought related employment

beyond daily walking or driving distance of home before accepting his first job.

TABLE 32

INDICATIONS OF THE 1973-74 DRAFTING TERMINEES WORKING IN FIRST JOB NOT RELATED TO THEIR TRAINING BY WHETHER OR NOT THEY TRIED TO GET A JOB RELATED TO THEIR TRAINING BY WHERE THEY LOOKED FOR EMPLOYMENT BEFORE ACCEPTING FIRST JOB[A]

Where Terminees Working in Non-Related Areas Looked for Employment Before Accepting First Job	Total Reporting		Before Accepting This First Job Unrelated to Training Whether Terminees Sought Job in Related Area			
			Yes		No[B]	
	No.	%	No.	%	No.	%
Sought employment within daily walking or driving distance of their home	35	92.1	22	95.7	13	86.7
Sought employment beyond daily walking or driving distance of their home	3	7.9	1	4.3	2	13.3
TOTAL	38	100.0	23	100.0	15	100.0

[A]Totals in this table may not correspond with totals of terminees for non-related categories in other tables for the following reasons: (1) some terminees had jobs when leaving program and did not have to seek employment and (2) some terminees failed to respond to one or more of the related questions from which data was drawn.

[B]See page 21 for the listing of reasons terminees who were working in non-related jobs gave for not trying to secure a job that was related to their training.

Table 33 illustrates the indications of the 1973-74 Drafting terminees as to where they looked for a job before taking their present job by how their present job is related to their vocational training.

Fifty-six (83.6%) of the presently employed 1973-74 Drafting terminees indicated they sought employment within daily walking or driving distance of home. Eleven (16.4%) terminees indicated they sought employment beyond daily walking or driving distance of home.

TABLE 33

INDICATIONS OF 1973-74 DRAFTING TERMINEES AS TO WHERE THEY LOOKED FOR A JOB BEFORE TAKING THEIR PRESENT JOB BY HOW THEIR PRESENT JOB RELATED TO THEIR TRAINING[A]

Where Terminees Looked for Job Before Taking Present Job	Total Reporting		Total Reporting by Relatedness of Present Job to Vocational Training					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Within daily walking or driving distance of home	56	83.6	11	78.6	14	93.3	31	81.6
Beyond daily walking or driving distance of home[B]	11	16.4	3	21.4	1	6.7	7	18.4
TOTAL	67	100.0	14	100.0	15	100.0	38	100.0

[A]Fifteen terminees reported they already had their present job while in high school. Of those 15 terminees, two (13.3%) were in a directly related area, five (33.3%) in a somewhat related area, while eight (53.3%) were working in a non-related area.

[B]See listing, page 42, for reasons terminees gave for seeking their present job away from home.

Of the 14 terminees who were working in a directly related area, only three (21.4%) sought employment beyond daily walking or driving distance of home.

Of the 38 terminees who were presently working in a non-related area, only seven (18.4%) sought employment beyond daily walking or driving distance of their home.

Fifteen terminees reported they already had their present job while in high school. Of those 15 terminees, two (13.3%) were in directly related areas, five (33.3%) in somewhat related areas, and eight (53.3%) were in non-related areas.

The following is a list of reasons terminees gave for seeking a job beyond daily walking or driving distance of their home before accepting their present job. All the terminees who indicated they sought a job beyond daily walking or driving distance of home before accepting their present job gave reasons why they sought that job.

Reasons for Seeking Job Beyond Daily Walking or Driving Distance Before Accepting Present Job	Number
No job openings	4
More opportunity in bigger towns	1
Needed employment desperately	1
Everywhere	1
More money	1
Birmingham	1
Went to New York	1
Was interested about getting in field	1

Table 34 reveals the indications of the 1973-74 Drafting terminees who were working in their present job not related to their training by whether or not they tried to get a job related to their training by where they looked for employment before accepting that present job.

Only four (10.3%) of the 39 terminees who were working in a non-related area sought related employment beyond daily walking or driving distance of home before accepting their present job.

TABLE 34

INDICATIONS OF THE 1973-74 DRAFTING TERMINEES WORKING IN PRESENT JOB NOT RELATED TO THEIR TRAINING BY WHETHER OR NOT THEY TRIED TO GET A JOB RELATED TO THEIR TRAINING BY WHERE THEY LOOKED FOR EMPLOYMENT BEFORE ACCEPTING PRESENT JOB[A]

Before Accepting Present Job Where Terminees Working in Non-Related Areas Looked for Employment	Total Reporting		Before Accepting This Present Job Unrelated to Training Whether or Not Terminees Sought Job in Related Area			
			Yes		No[B]	
	No.	%	No.	%	No.	%
Sought employment within daily walking or driving distance of their home	33	84.6	24	85.7	9	81.8
Sought employment beyond daily walking or driving distance of their home	6	15.4	4	14.3	2	18.2
TOTAL	39	100.0	28	100.0	11	100.0

[A]Totals in this table may not correspond with totals of terminees for non-related categories in other tables for the following reasons: (1) some terminees had jobs when leaving programs and did not have to seek employment and (2) some terminees failed to respond to one or more of the related questions from which data was drawn.

[B]See page 25 for the listing of reasons terminees who were working in non-related jobs gave for not trying to secure a job that was related to their training.

APPENDIX

PRESENT JOB AND FIRST JOB TITLES OF THE
1973-74 DRAFTING TERMINEES

PRESENT JOB AND FIRST JOB TITLES OF THE 1973-74 DRAFTING TERMINEES

For those terminees who indicated present or first job occupations, this appendix lists the present job title and first job title. The job titles are listed as the terminees reported them. The number of full-time jobs held by these terminees since completing their high school vocational course is listed, current employment status is listed, and whether the student intended to get a job in the area while in the program.

The following code is used to identify the employment status of the terminees:

0. Unemployed, but seeking employment
1. Employed full time
2. Employed part time, seeking full-time job
3. Employed part time, not seeking full-time job
4. Employed full time and attending school
5. Employed part time and attending school
6. Unavailable for employment

The following code is used to identify whether the student intended to get a job in the area while in the program:

1. No
2. Was not sure
3. Yes

The number in parenthesis behind the job titles indicates the relatedness of the high school vocational training to these jobs. The terminees

made the judgment as to the relatedness of their training to these jobs. The following is used to identify this relatedness:

1. Directly related
2. Somewhat related
3. Not related

The total does not correspond to the total reporting since some of the terminees failed to indicate the title of their present position. If the first job title was the same as the present job title, the first job title is included under the present job title.

OE Code 17.1300 - Drafting

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
1	1	2	1	Cast iron pipe grader (3)	Fast food laborer(3)
2	1	1	3	Draftsman (1)	
3	4	2	3	Engi. Helper(2)	Draftsman (2)
4	0	1	3	Groundskeeper(0)	
5	1	1	3	Tele. Oper. (3)	
6	5	0	3	Drafting (2)	
7	1	2	3	Carp. Helper(1)	Const.laborer(1)
8	4	1	3	Electrician (2)	Dishwashing Oper. (3)
9	1	5	2	Porter (3)	Carpentry (3)
10	5	4	2	Sales Clerk (3)	Farming (3)
11	1	1	3	Drafting (2)	
12	0	2	3	Truck driver(3)	Same (3)
13	4	0	2	Proj. Oper. (2)	Same (2)
14	0	1	3	Drawing house plans (0)	Fast foods clerk (3)
15	1	3	3	Reaming track shoes (3)	Grocery Clerk (3)
16	1	1	1	Micro oven Assembler (3)	
17	1	1	2	Tele. Oper. (3)	
18	4	2	3	Counterman (3)	Cashier (3)
19	5	2	3	Fast Foods Cook (3)	Fork lift Oper. (3)
20	4	1	2	Deliver for Drug Co.(3)	
21	4	1	3	Drafting (1)	
22	1	4	2	Moulding wood(3)	Tacker/painter(2)
23	1	1	3	Drafting (1)	
24	4	2	1	Draftsman II (1)	Same (1)
25	1	1	2	Furn. Drafts.(1)	Cashier (3)
26	5	0	3	Florist Asst.(3)	Groundskeeper(3)
27	1	1	2	Surveyor's Helper (2)	
28	1	1	3	Bricklayer (2)	
29	6	0	3	Laundry Delivery-man (3)	Transfer Co. laborer (3)
30	5	2	3	Draftsman (1)	Auto Body Repair (3)
31	5	1	3	Service Station Attend. (3)	
32	6	0	1	Jewelry Sales Clerk (0)	
33	1	2	3	Textile laborer (3)	Shirt Inspector(3)

(continued)

OE Code 17.1300 - Drafting (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
34	1	1	1	Stock boy (3)	
35	5	0	2	Layout girl (2)	Draftsman (2)
36	4	1	3	Delivery boy (news) (3)	
37	3	1	3	Draw charts (2)	
38	4	1	2	Salesman (3)	
39	5	0	3	Stock boy (3)	
40	1	1	3	Die Oper. (2)	
41	4	1	3	Salesman (3)	
42	0	1	3	Gang sawer (1)	Stock clerk (3)
43	1	1	0	Silk screen maker	
44	4	1	3	Draftsman (2)	
45	1	1	2	Structural drafting (2)	
46	0	2	3		Receiving clerk(2)
47	4	1	1	Groc. Cook (3)	
48	1	1	2	Yarn beamer (3)	Recreation Atten. (3)
49	3	0	3	Sales Clerk (3)	
50	0	2	1	Parts Clerk (1)	Draftsman (1)
51	1	2	2	Inspect Fabric (rubber) (3)	Sewing (3)
52	4	2	3	Draftsman (1)	
53	1	1	3	Draftsman (1)	
54	1	2	2	Service Station Attend. (3)	
55	1	1	3	Compiler (2)	
56	1	2	3	Ship. Clerk (3)	Orderly (3)
57	1	1	2	Cloth Inspec.(3)	
58	1	1	2	Pressman (2)	
59	5	0	3	Draftsman (2)	
60	5	0	3	Draftsman (2)	
61	1	1	3	Mach. Oper. (3)	
62	1	2	2	Egg Grader (3)	Cashier (3)
63	1	2	2	Glass cutter (3)	Tract. Driver (3)
64	5	1	2	Clerk (3)	Carp. helper (3)
65	1	2	3	Bath tub inspec. (3)	Janitor (3)
66	5	1	3	Run off blue prints (1)	Roofer (3)
67	4	1	3	Voc. Co-op. Elec. (3)	
68	0	1	3		Unskilled welder (3)
69	1	2	3	Mach. Oper. (2)	Fork lift Oper.(2)
70	1	1	3	Property layout (2)	Maintenance (3)

(continued)

OE Code 17.1300 - Drafting (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
71	1	0	3	Plant lab.(3)	
72	1	1	3	Drafting (1)	
73	1	0	1	Maint. man (3)	Cashier (3)
74	5	1	2	Paper carrier(3)	Sheet metal Asst. (2)
75	1	1	3	Salesman (3)	
76	1	3	2	Laborer (3) (rubber Co.)	Bldg. wooden reels (3)
77	2	0	3	Stock clerk (3)	
78	1	1	2	Mach. Trainee(2)	
79	1	1	3	Store clerk (3)	
80	0	1	3	Welding (0)	
81	1	1	3	Drafting (1)	
82	4	1	3	Drafting (1)	
83	1	1	3	Arch. drafting (1)	
84	6	1	3	Arch. drafting(1)	
85	1	2	3	Prod. line on plastic molds (3)	Carpenter (2)
86	1	1	3	Arch. drafting(1)	
87	5	1	2	Auto body repair (3)	
88	1	3	3	Knit material(3)	Carp. Helper(2)
89	4	1	2	Stock clerk(3)	Stock clerk (3)
90	2	1	3	Apart. Maint.(3)	Carpet Helper(3)
91	1	3	3	Survey Helper(3)	Painter (3)

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IN COOPERATION WITH DIVISION OF
VOCATIONAL EDUCATION AND COMMUNITY COLLEGES
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2

AUTOMOBILE MECHANICS FOLLOW-UP

Follow-Up of 1973-74 Automobile Mechanics
Terminees From the Secondary School
Vocational Programs of Alabama

Research and Development Report No. 39

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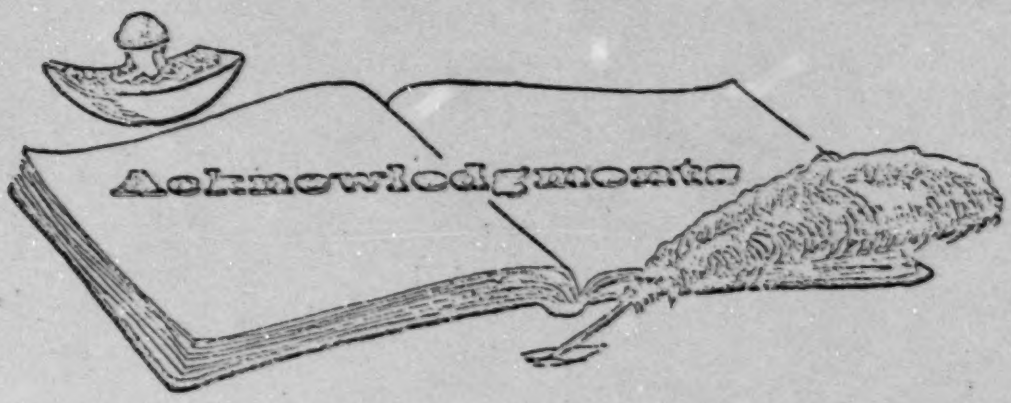

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FOLLOW-UP OF 1973-74 AUTOMOBILE MECHANICS
TERMINEES FROM THE SECONDARY SCHOOL
VOCATIONAL PROGRAMS OF ALABAMA

Alabama continues to support one of the most progressive and comprehensive vocational education programs in the nation. In addition to serving youth and adults by training them for gainful and useful employment, the diversification of vocational courses meets a serious job need and contributes to the industrial development in the state.

With the millions of tax dollars being spent on vocational education, it is necessary to attempt to account to the taxpayer and decision-makers on the results of those expenditures. Terminee student follow-up studies constitute one of the most valuable techniques for assessing vocational education system outcomes.

The Alabama State Department of Education, Division of Vocational Education and Community Colleges, recognizing this important phase of accountability and evaluation, initiated the development of a statewide follow-up system for its vocational education program terminees at the secondary school level. The Division, under the direction of Dr. T. L. Faulkner, State Director, contracted with the Occupational Research and Development Unit at Auburn University to develop and implement the statewide follow-up system for all its secondary vocational terminees in all service areas.

This report relates the findings of the survey instrument mailed to the 1973-74 Automobile Mechanics terminees from the secondary school

vocational programs of Alabama. When the terminees received the questionnaire, most had been out of school seven to eight months.

General Information

Student rosters with names and addresses of 1973-74 Automobile Mechanics terminees were received from 107 secondary school vocational teachers in Alabama. Of the 107 teachers from which student rosters were received, 36 were in Secondary Area Vocational Centers (AVC) and 72 were in programs in schools of other settings. (One teacher taught students in both settings.) The total of 930 student terminees reported to the ORDU were mailed the follow-up forms. Returns were received from 221 (23.8%) Automobile Mechanics terminees from the initial mailing and one follow-up. At least one student questionnaire was received from 73 of the 107 programs.

All terminees reported in this study were in programs administered only by the Trade and Industrial Section of the Division of Vocational Education and Community Colleges, State Department of Education.

Table 1 presents data relative to the total population of Automobile Mechanics terminees and the number of returns categorized by type school and termination status as reported by teachers.

TABLE 1

DESCRIPTION OF TOTAL POPULATION AND RETURNS OF 1973-74 AUTOMOBILE MECHANICS TERMINEES BY TYPE SCHOOL AND TERMINATION STATUS[A]

Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns
Area Vocational Centers			
Total	482	127	26.3
Completers[B]	306	100	32.7
Dropouts[C]	176	27	
Other Type Schools			
Total	448	94	21.0
Completers	324	81	25.0
Dropouts	124	13	10.5
Grand Total	930	221	23.8
Completers	630	181	28.7
Dropouts	300	40	13.3

[A]These Automobile Mechanics terminees were terminees in programs administered only under the service area of Trade and Industrial Education, State Department of Education.

[B]Any terminee who left the program by completing or by high school graduation.

[C]Any terminee the instructor reported as having dropped out of school.

Table 2 illustrates the sex characteristics of those 1973-74 Automobile Mechanics terminees reported by the instructors and those who returned survey forms.

TABLE 2

SEX OF THE 1973-74 AUTOMOBILE MECHANICS TERMINEES REPORTED AND BY WHO RETURNED QUESTIONNAIRES

Sex[A]	Reported		Returns	
	Number	Percent	Number	Percent
Male	892	95.9	212	95.9
Female	6	0.6	4	1.8
Not Known	32	3.4	5	2.3
TOTAL	930	100.0	221	100.0

[A]Sex as reported by teacher.

Table 3 presents the racial or ethnic characteristics of those 1973-74 Automobile Mechanics terminees reported by instructors and who returned survey forms.

TABLE 3

RACIAL OR ETHNIC CHARACTERISTICS OF THE 1973-74 AUTOMOBILE MECHANICS TERMINEES REPORTED AND BY WHO RETURNED QUESTIONNAIRES

Racial or Ethnic Group[A]	Reported		Returns	
	Number	Percent	Number	Percent
American Indian	0	0.0	0	0.0
Black	230	24.7	42	19.0
Oriental	1	0.1	0	0.0
Spanish Surnamed American	1	0.1	1	0.5
White	672	72.3	174	78.7
Other	3	0.3	0	0.0
Not Known	23	2.5	4	1.8
TOTAL	930	100.0	221	100.0

[A]Racial or Ethnic Group as reported by teacher.

Table 4 illustrates the number and grade level of the 1973-74 Automobile Mechanics terminees reported who dropped out of school during the academic year and by who returned the questionnaire.

TABLE 4

NUMBER OF THE 1973-74 AUTOMOBILE MECHANICS TERMINEES REPORTED WHO DROPPED OUT OF SCHOOL DURING THE 1973-74 SCHOOL YEAR BY GRADE LEVEL

Grade Level Upon Dropping Out of School	Reported		Returns	
	Number	Percent[A]	Number	Percent[B]
Eighth	1	0.1	0	0.0
Ninth	18	1.9	4	22.2
Tenth	92	9.9	15	16.3
Eleventh	108	11.6	10	9.3
Twelfth	64	6.9	10	15.6
Grade Level Not Indicated by Teacher	17	1.8	1	5.9
TOTAL	300	32.3	40	13.3

[A]Percentage is based on 930 total reported terminees.

[B]Percentage is based on returns by grade.

Table 5 shows the number of 1973-74 Automobile Mechanics terminees who indicated whether they were in active full-time military service.

TABLE 5

ACTIVE FULL-TIME MILITARY STATUS OF 1973-74 AUTOMOBILE MECHANICS TERMINEES WHO RETURNED QUESTIONNAIRES

Active Full-Time Military Status	Number	Percent
Yes	7	3.2
No	205	92.8
No Response	9	4.1
TOTAL	221	100.0

Basic Information Related to the Vocational Education Program

Table 6 points out the number of 1973-74 Automobile Mechanics terminees who indicated whether this vocational program was a school requirement.

TABLE 6

1973-74 AUTOMOBILE MECHANICS TERMINEES WHO INDICATED WHETHER THEIR VOCATIONAL PROGRAM WAS A SCHOOL REQUIREMENT

Vocational Courses Was a School Requirement	Number	Percent
Yes	7	3.2
No	213	96.4
No Response	1	0.5
TOTAL	221	100.0

Table 7 indicates, according to the 1973-74 Automobile Mechanics terminees, the primary source of influence in selecting their vocational course.

TABLE 7

PRIMARY INFLUENCES ON THE 1973-74 AUTOMOBILE MECHANICS TERMINEES IN SELECTING THEIR VOCATIONAL COURSE

Group or Individual Terminees Felt Influenced Them Most in Selecting Vocational Course	Number	Percent
Parent(s) or Guardian(s)	7	3.2
Guidance Counselor	8	3.6
Your Vocational Teacher	10	4.5
Another Teacher or Principal	5	2.3
Student in VED Program	11	5.0
A Friend or Relative	9	4.1
A Businessman	3	1.4
Made Choice Yourself	166	75.1
Other	1	0.5
No Response	1	0.5
TOTAL	221	100.0

A student in the VED program appeared to be the greatest outside influence on those terminees enrolling in the Automobile Mechanics program. Eleven (5.0%) of the terminees responding indicated that a student in the VED program influenced them most in selecting their Automobile Mechanics course. However, 166 (75.1%) indicated that they selected their course of study on their own. Ten terminees (4.5%) indicated that a vocational teacher influenced them most in selecting their program. Nine (4.1%) of the terminees indicated that a friend or relative influenced them most in selecting their Automobile Mechancics course.

Below is the response given to the "Others" category indicated in Table 7 as to the primary source of influence in selecting the vocational course.

"Other" Persons or Groups Who Most Influenced Terminees in Selecting Their VED Course	Number
Because I wanted this to be my work	1
Body and fender didn't have room	1
Me	1

Table 8 indicates terminees opinions as to whether they had adequate job or occupational information and school experiences to make a realistic career choice.

TABLE 8

OPINIONS OF 1973-74 AUTOMOBILE MECHANICS TERMINEES AS TO WHETHER THEY HAD ADEQUATE JOB OR OCCUPATIONAL INFORMATION AND SCHOOL EXPERIENCES TO MAKE A REALISTIC CAREER CHOICE

Opinion	Number	Percent
Yes	167	75.6
No	50	22.6
No Response	4	1.8
TOTAL	221	100.0

Table 9 indicates whether, during the time they were taking their high school vocational program, the reporting 1973-74 terminees intended to get a job in Automobile Mechanics.

TABLE 9

INDICATIONS OF 1973-74 AUTOMOBILE MECHANICS TERMINEES AS TO WHETHER, DURING THE TIME THEY WERE TAKING THEIR HIGH SCHOOL VED PROGRAM, THEY PLANNED TO GET A JOB IN THEIR AREA OF STUDY

Intended To Get Job In Area of Study	Number	Percent
Yes	109	49.3
No	34	15.4
Was Not Sure	77	34.8
No Response	1	0.5
TOTAL	221	100.0

It is interesting to note that only 109 (49.3%) of the 1973-74 reporting Automobile Mechanics terminees indicated that during the time they were taking their Automobile Mechanics program, they intended to get a job in the area they were studying.

Table 10 indicates terminees' opinions on choosing the Automobile Mechanics program if they had the selection to make again.

A noteworthy point was revealed by the data. Of the 1973-74 Automobile Mechanics terminees, 175 (79.2%) indicated that they would select the same vocational program if they had the choice to make again. Only nine (4.1%) of the responding terminees indicated that they would not take a vocational program.

TABLE 10

OPINIONS OF 1973-74 AUTOMOBILE MECHANICS TERMINEES REGARDING THEIR VOCATIONAL PROGRAM

Question: If You Had It To Do Over Again, Would You...?	Number	Percent
Take the same vocational program	175	79.2
Not take a vocational program	9	4.1
Choose another vocational program offered in your school, such as _____ [A]	19	8.6
Choose another vocational program if it had been offered in your school, such as _____ [B]	10	4.5
No Response	8	3.6
TOTAL	221	100.0

[A] See listing IA below for those other vocational programs offered in terminees' school that they would have taken instead of their Automobile Mechanics program.

[B] See listing IB on page 10 for the vocational programs the terminees would have taken instead of their Automobile Mechanics program if it had been offered in their school.

Listing IA -- Courses offered in their school that Automobile Mechanics terminees indicated they would have taken if they had it all to do over again.

Course	Number
Welding	7
Body & Fender	4
Electronics	2
Computer Programming	1
Drafting	1
Air Conditioning	1
Electrician or Construction	1
Business	1
Commercial Art	1
Auto Mechanics	1
Ashville Voc. School	1
FFA	1

Listing I-B -- Courses Automobile Mechanics terminees indicated they would have taken if they had it all to do over again and the course were offered in their school.

Course	Number
Electronics	3
Welding	3
Motorcycle Mechanics	2
Nursing	1
Keypunch	1
Body Work	1
Carpenter	1
Electricity	1
Commercial Art	1
Air Conditioning	1
Drafting	1
Don't Know	1

Table 11 indicates the extent to which the reporting 1973-74 Automobile Mechanics terminees felt their high school vocational programs prepared them for their first job. This data was also broken down by how that first job related to their vocational program.

Terminees who were in full-time active military service or who had never been employed were not asked to respond to the questions from which this data was reported. Also, the terminees who failed to respond to the question items were not indicated in the table.

In noting the extent to which the 1973-74 Automobile Mechanics terminees felt their high school vocational course prepared them for their first full-time job by how their first full-time job related to the training they received in their high school Automobile Mechanics program, some interesting points were revealed. Sixty-three (43.2%) of the 1973-74 Automobile Mechanics terminees responding to this item indicated "Excellent" or "Well Prepared" for their first full-time job as a result of the training

received in their high school vocational education program. Thirty-two (82.1%) of the 39 terminees employed in their first full-time job related directly to their training felt they were excellent or well prepared for this first job. No terminee working in an area directly related to his vocational training felt that he was poorly prepared for his first job. There was an additional terminee who indicated that he was working in an area directly related to his vocational course and felt that his preparation did not relate to his job. Of all the responding terminees, only three (2.0%) felt that they were poorly prepared for their first full-time job. Of these, no terminee was working in an area directly related to his vocational course.

TABLE 11

PERCEPTIONS OF 1973-74 AUTOMOBILE MECHANICS TERMINEES AS TO THE EXTENT THEIR HIGH SCHOOL VOCATIONAL PROGRAM PREPARED THEM FOR THEIR FIRST FULL-TIME JOB BY HOW FIRST FULL-TIME JOB RELATED TO TRAINING

Extent Vocational Course Prepared for First Full-Time Job	Total Reporting		Number Reporting by Relatedness of First Full-Time Job to Training Received					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Excellent	16	11.0	12	30.8	2	5.0	2	3.0
Well Prepared	47	32.2	20	51.3	21	52.5	6	9.0
Fair	28	19.2	6	15.4	13	32.5	9	13.4
Poorly Prepared	3	2.0	0	0.0	1	2.5	2	3.0
Preparation not related to job	52	35.6	1	2.6	3	7.5	48	71.6
TOTAL	146	100.0	39	100.0	40	100.0	67	100.0

Table 12 indicates the extent to which the reporting 1973-74 Automobile Mechanics terminees felt their high school vocational course prepared them for their present job. Also shown in the table is a breakdown of the data by how their present job was related to their vocational program.

TABLE 12

PERCEPTIONS OF 1973-74 AUTOMOBILE MECHANICS TERMINEES AS TO THE EXTENT THEIR HIGH SCHOOL VOCATIONAL COURSE PREPARED THEM FOR THEIR PRESENT JOB BY HOW THEIR PRESENT JOB RELATED TO TRAINING

Extent Vocational Course Prepared for Present Job	Total Reporting		Number Reporting by Relatedness of Present Job to Training Received					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Excellent	17	11.0	12	30.8	3	7.0	2	2.7
Well Prepared	53	34.2	20	51.3	23	53.5	10	13.7
Fair[A]	23	14.8	5	12.8	11	25.6	7	9.6
Poorly Prepared	4	2.6	0	0.0	2	4.7	2	2.7
Preparation not related to job	58	37.4	2	5.1	4	9.3	52	71.3
TOTAL	155	100.0	39	100.0	43	100.0	73	100.0

[A]See listing on Page 13 for reasons terminees specified for only being trained "Fair" by their vocational course for their present job.

Terminees in active full-time military service, and students who were attending school full time and had not had a job, were not asked to respond to the question from which Table 12 was prepared. Also, those other students who failed to respond to the items were not shown on the table.

Of the 155 terminees responding to these items, 70 (45.2%) indicated "Excellent" or "Well Prepared" for their present job as a result of their high school vocational program. Only four (2.6%) terminees reported feeling poorly prepared for their present jobs as a result of their training.

Thirty-two (82.1%) of the 39 responding terminees working in an area directly related to their high school vocational program indicated that they felt excellent or well prepared by their training.

Twenty-two terminees who indicated "fair" as the extent their vocational program prepared them for this present job indicated reasons for this. The following lists the reasons the 1973-74 Automobile Mechanics terminees indicated for being trained only "fair" by their vocational course for their present job:

I did not want to learn
I did little welding
I was trained for auto mechanics. I'm a technician.
I stopped going
Only books to study from
Didn't have mechanics specialist
Work at a parts store
Bodywork only
Vocational school didn't cover type of work
Course not long enough
One year of course
I'm a lift truck mechanic
Mostly the same job
Moved after school
In school we didn't study electrical systems
Didn't go long enough
Distantly related
Type of job - horse trainer
Now work in parts department
Understanding it
Because of service station
Started late

The terminees who indicated they were "poorly prepared" for their present job by their vocational program gave reasons why they felt that way:

Didn't weld in auto shop that much
It didn't teach it
Not working on gas engines
Poor training

Table 13 focuses on the Automobile Mechanics student club. The researchers sought to determine the extent to which the 1973-74 Automobile Mechanics terminees felt that their high school student club aided in preparing them for their present job. Data are also broken down by the relationship of the present job to the vocational training received.

TABLE 13

PERCEPTIONS OF 1973-74 AUTOMOBILE MECHANICS TERMINEES AS TO THE EXTENT THEIR HIGH SCHOOL VOCATIONAL STUDENT CLUB PREPARED THEM FOR THEIR PRESENT JOB BY HOW THEIR PRESENT JOB RELATED TO TRAINING[A]

Extent High School Vocational Student Club Helped Prepare for Present Job	Total Reporting		Total Reporting by Relatedness of Present Job to Vocational Training					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Excellent	9	10.8	5	18.5	2	7.7	2	6.7
Well Prepared	38	45.8	12	44.4	14	53.8	12	40.0
Fair	22	26.5	5	18.5	9	34.6	8	26.7
Poorly Prepared	14	16.9	5	18.5	1	3.8	8	26.7
TOTAL	83	100.0	27	100.0	26	100.0	30	100.0

[A]Of the 155 who responded, 18 (11.6%) had no related student club available and 54 (34.8%) were not members of a related student club.

Only respondents who had had a job since terminating their high school vocational Automobile Mechanics program were asked to respond to the question reported in Table 13. Students in active full-time military service were excluded. Eighteen (11.6%) of the 155 terminees reported no related student club was available, while 54 (34.8%) were not members of a related student club.

Forty-seven (56.6%) of the 83 terminees who participated in student club activities indicated they were "Excellent" or "Well Prepared" by their related student club for their present job. Fourteen (16.9%) indicated they were "Poorly Prepared" by their related student club for their present job. Of those 14, six (42.6%) were in directly related or somewhat related jobs while eight (57.1%) were in non-related jobs.

Of those 27 terminees working in an area directly related to the training they received in their high school vocational program, 17 (62.9%) revealed that they were "Excellent" or "Well Prepared" for their present jobs by their related student clubs. Only five (18.5%) of the 27 terminees working in a job directly related to the training they received indicated they were "Poorly Prepared" for their present jobs by their related student clubs.

Table 14 reports how the 1973-74 Automobile Mechanics terminees rated the quality of teaching by their high school vocational instructors.

Of the 221 reporting 1973-74 Automobile Mechanics terminees, 195 (88.3%) rated the quality of teaching by their vocational instructor either "Good" or "Excellent". Only eight (3.7%) rated the quality of teaching by their instructors "Poor" or "Very Poor".

TABLE 14

1973-74 AUTOMOBILE MECHANICS TERMINEES' RATINGS OF THE QUALITY OF TEACHING BY THEIR HIGH SCHOOL VOCATIONAL INSTRUCTORS

Rating	Number	Percent
Excellent	110	49.8
Good	85	38.5
Fair	18	8.1
Poor	5	2.3
Very Poor	3	1.4
No Response	0	0.0
TOTAL	221	100.0

Table 15 illustrates how the 1973-74 Automobile Mechanics terminees rated their high school vocational instructor's interest in their class work.

TABLE 15

1973-74 AUTOMOBILE MECHANICS TERMINEES' RATINGS OF THEIR HIGH SCHOOL VOCATIONAL INSTRUCTOR'S INTEREST IN THE STUDENT'S CLASS WORK

Rating	Number	Percent
Excellent	89	40.3
Good	102	46.2
Fair	17	7.7
Poor	9	4.1
Very Poor	4	1.8
No Response	0	0.0
TOTAL	221	100.0

Of the 221 reporting 1973-74 Automobile Mechanics terminees, 191 (86.5%) rated the interest exhibited by their high school vocational instructor in their class work as "Good" or "Excellent". Only 13 (5.9%)

of the terminees rated the interest their vocational instructors showed in their class work as "Poor" or "Very Poor".

Table 16 points out how the 1973-74 Automobile Mechanics terminees subjectively rated the knowledge their vocational teachers possessed about their field of study. This rating is also shown in the table by a breakdown of how the terminees' present job related to the training they received in their high school vocational program. Terminees were asked to base their judgments on their current knowledge of their job and responsibilities.

TABLE 16

1973-74 AUTOMOBILE MECHANICS TERMINEES' RATINGS OF THE KNOWLEDGE THEIR HIGH SCHOOL VOCATIONAL TEACHER POSSESSED ABOUT THEIR FIELD OF STUDY BY HOW THE TERMINEES' PRESENT JOB RELATED TO THE TRAINING THEY RECEIVED

Ratings[A]	Total Reporting		Number Reporting by Relatedness of Present Job to Training Received					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Excellent	68	43.3	21	53.8	14	32.6	33	44.0
Good	65	41.4	13	33.3	21	48.8	31	41.3
Fair	20	12.7	4	10.3	7	16.3	9	12.0
Poor	3	1.9	0	0.0	1	2.3	2	2.7
Very Poor	1	0.6	1	2.6	0	0.0	0	0.0
TOTAL	157	100.0	39	100.0	43	100.0	75	100.0

[A]Ratings were to be based on terminee's judgment of their current knowledge of their job and responsibilities.

Total responses to this item indicates that 133 (84.7%) of the 157 responding 1973-74 Automobile Mechanics terminees rated the knowledge their vocational teachers possessed about their field of study either "Good" or "Excellent". For those 39 terminees working in an area directly related to the training they received 34 (87.1%) rated the knowledge their teachers possessed about their field of study as "Good" or "Excellent". A favorable point was revealed in that only one of those terminees rated the knowledge their vocational teachers possessed about their field of study as "Poor" or "Very Poor".

If the respondent was working in an area related to his training, he was asked to compare the facilities and equipment in his high school vocational program with those on his present job. Table 17 illustrates how the 1973-74 Automobile Mechanics terminees responded.

TABLE 17

HOW 1973-74 AUTOMOBILE MECHANICS TERMINEES WORKING IN A RELATED AREA RATED THE FACILITIES AND EQUIPMENT IN THEIR HIGH SCHOOL VOCATIONAL PROGRAM[A]

Rating[B]	Number	Percent
Better than those on present job	15	38.5
Similar to those on present job	18	46.2
Not as good as those on present job	6	15.4
TOTAL	39	100.0

[A]Sixty-three (61.8%) of the responding 102 terminees indicated that their present job was not related to their vocational training enough to compare facilities and equipment.

[B]Persons who had not had a job since leaving their vocational program, including those in military service and those who attended school, were not asked to respond to questions from which data was drawn. Returns were received from 221 terminees.

Fifteen (38.5%) of the 39 responding 1973-74 Automobile Mechanics terminees working in an area related to their training rated the facilities and equipment in their high school vocational program as better than those on their present job. Eighteen (46.2%) rated the facilities and equipment in their high school vocational program as similar to those on their present job; however, six (15.4%) rated the facilities and equipment not as good as those on their present job.

Table 18 shows how 1973-74 Automobile Mechanics terminees, who were in a cooperative work program in school and were now working in an area related to their vocational training, rated the facilities and equipment used in their cooperative work station.

TABLE 18

HOW 1973-74 AUTOMOBILE MECHANICS TERMINEES NOW WORKING IN A RELATED AREA, WHOSE VOCATIONAL PROGRAM INCLUDED COOPERATIVE WORK, RATED FACILITIES AND EQUIPMENT USED IN THEIR COOPERATIVE WORK STATION[A]

Rating[B]	Number	Percent
Better than those on present job	10	31.2
Similar to those on present job	16	50.0
Working at same place where cooperative training was done	4	12.5
Not as good as those on present job	2	6.2
TOTAL	32	100.0

[A]Fifteen (15.3%) of the responding 98 Automobile Mechanics terminees indicated their vocational program was not a cooperative program. Fifty-one (52.0%) terminees indicated they were not working in an area related to their cooperative work; therefore, they did not complete this item on the questionnaire.

[B]Persons who had not had a job since leaving their vocational program, including those in military service and those attending school, were asked not to respond to questions from which data was drawn. Returns were received from 221 terminees.

Ten (31.2%) of the 32 responding 1973-74 Automobile Mechanics terminees whose vocational programs had included cooperative work and were now working in an area related to their vocational training, rated the facilities and equipment in his cooperative work station as better than those on his present job. Sixteen (50.0%) rated the facilities and equipment in their cooperative training station as similar to those on their present job. Only two (6.2%) rated the facilities and equipment in their cooperative work station not as good as those in their present job. It was significant to note that four (12.5%) indicated they were working at the same establishment where they did their cooperative training.

Basic Employment Information

The following section of this report offers information relative to employment and job characteristics of the 1973-74 secondary Automobile Mechanics terminees.

Table 19 illustrates the number of full-time jobs the responding 1973-74 Automobile Mechanics terminees have had since leaving their high school vocational course.

There were 65 (29.4%) of the total 221 responding 1973-74 Automobile Mechanics terminees who had been employed in just one job since leaving their high school vocational program. Thirty-five (15.8%) of the terminees reported having two or more jobs since leaving their high school vocational course seven to eight months ago.

TABLE 19

NUMBER OF FULL-TIME JOBS HELD BY THE 1973-74 AUTOMOBILE MECHANICS TERMINEES SINCE LEAVING THEIR HIGH SCHOOL VOCATIONAL COURSE

Number of Full-Time Jobs Held	Number	Percent[A]
One	65	29.4
Two	22	10.0
Three	11	5.0
Four	1	0.4
Five or more	1	0.4
TOTAL	100	45.2

[A]Percentage is based on the 221 terminees who returned the questionnaire.

Table 20 reveals the first-job employment status of Automobile Mechanics terminees who returned the survey by the relatedness of their vocational training to their first job.

TABLE 20

FIRST-JOB EMPLOYMENT STATUS OF AUTOMOBILE MECHANICS TERMINEES (1973-74) BY RELATEDNESS OF VOCATIONAL TRAINING TO FIRST JOB[A]

First Job After Leaving High School Vocational Program	Total Reporting		Relatedness of Vocational Training to First Job[B]					
			Directly Related		Somewhat Related		Not Related[C]	
	No.	%	No.	%	No.	%	No.	%
Full-Time	147	66.6	39	17.6	40	18.1	68	30.8
Part-Time	20	9.0	3	1.4	4	1.8	13	5.9
TOTAL	167	75.6	42	19.0	44	19.9	81	36.7

[A]All percentages were based on the 221 (23.8%) of 930 terminees who returned the survey form.

[B]The terminees made the judgment as to how their first job was related to the training received in their high school vocational program.

[C]See page 22 for reasons terminees who were working in first job unrelated to this vocational training gave for not seeking job that was related before accepting their first job.

Of the 221 responding 1973-74 Automobile Mechanics terminees, 147 (66.6%) were employed full time in their first job after leaving their high school vocational program. Twenty (9.0%) terminees' first jobs were on a part-time basis.

Forty-two (19.0%) of the 221 responding terminees' first jobs (full-time or part-time) were in an area directly related to the training they received in their high school vocational course. Forty-four (19.9%) were employed in an area somewhat related while 81 (36.7) were employed in a first job not related to the training they received. The terminees made the judgment as to how their first job was related to the training they received in their high school vocational program.

Of the 84 terminees who indicated their jobs were not related to their vocational course, 41 (48.8%) terminees indicated that before they accepted their unrelated job, they tried to get a job that was related to their vocational training. However, 43 (51.2%) of the terminees did not.

The following is a list of reasons given by 21 of the terminees, who before taking their first unrelated job indicated they did not seek a job that was related to their vocational training.

Reasons	Number
Did not want one	2
Because I joined a union	1
Needed job	1
I was working in a hay field til school started	1
I wasn't old enough	1
That wasn't the field I wanted	1
Job started before school was out	1
Already had job when school was out	1

Reasons	Number
None available	1
It was different type of work	1
Didn't like service station work	1
Took whatever was available	1
Not enough training	1
Took course as hobby	1
Had the job	1
Tired of being dirty	1
No openings in immediate area	1
Had it before taking vocational training	1
Carpenter	1

Table 21 shows by type school and termination status for the first job of the 1973-74 Automobile Mechanics terminees the relatedness of their training to this first job.

TABLE 21

NUMBER OF RETURNS BY TYPE SCHOOL AND TERMINATION STATUS FOR 1973-74 AUTOMOBILE MECHANICS TERMINEES' FIRST JOB AND RELATEDNESS OF TRAINING[A]

Type School and Termination Status	Number of Returns	Total Employed by Area Studied		Relatedness of Training to First Job[D]					
				Directly Related		Somewhat Related		Not Related	
		No.	%	No.	%	No.	%	No.	%
Area Voc. Centers									
Total	127	103	46.6	23	10.4	24	10.9	56	25.3
Completers[B]	100	82	37.1	19	8.6	17	7.7	46	20.8
Dropouts[C]	27	21	9.5	4	1.8	7	3.2	10	4.5
Other Type Schools									
Total	94	68	30.8	20	9.0	20	9.0	28	12.8
Completers	81	61	27.6	18	8.1	18	8.1	25	11.4
Dropouts	13	7	3.2	2	0.9	2	0.9	3	1.4
Grand Total	221	171	77.4	43	19.5	44	19.9	84	38.0
Completers	181	143	64.7	37	16.8	35	15.8	71	32.1
Dropouts	40	28	12.7	6	2.7	9	4.1	13	5.9

[A]All percentages are based on the 221 (23.8%) of 930 terminees who returned the survey form.

[B]Any terminee who left the program by completing or by high school graduation.

[C]Any terminee who the instructor reported as having dropped out of school.

[D]The terminees made the judgment as to how their first job was related to the training received in their high school vocational program.

Table 22 illustrates the current employment status of the responding terminees by the relatedness of their vocational training to their present jobs. All percentages figured in the table were based on the 221 (23.8%) returns from the 930 Automobile Mechanics terminees.

Of the 221 responding 1973-74 secondary Automobile Mechanics terminees, 130 (58.8%) were presently employed full time and not attending school or employed full time and attending school. Ten (4.5%) of the terminees were employed part time and attending school, while six (2.7%) were unavailable for employment (See page 26 for reasons terminees were unavailable for employment). Only 18 (8.1%) of the terminees were unemployed and actively seeking employment, while eight (3.6%) were employed part time and seeking full-time employment.

The "No Response" category in Table 22 includes three groups: (1) terminees in active full-time military service; (2) terminees who were in school full time and had never had a job; and (3) terminees who failed to respond to the item on the questionnaire.

Of the 221 secondary Automobile Mechanics respondees, 36 (16.3%) were presently employed full time or part time in an area directly related to the training received in their high school vocational course. Forty-one (18.6%) were employed either part time or full time in an area somewhat related to their training, while 69 (31.2%) were employed in areas not related to training. The terminees made the judgment as to how their present employment was related to the training received in their high school vocational course.

TABLE 22

CURRENT EMPLOYMENT STATUS OF AUTOMOBILE MECHANICS TERMINEES (1973-74) BY RELATEDNESS OF TRAINING TO PRESENT JOB[A]

Employment Status	Total Responding		Relatedness of Training to Present Job[B]							
			Directly Related		Somewhat Related		Not Related[E]		Employed No Response	
	No.	%	No.	%	No.	%	No.	%	No.	%
Employed full time and not attend-school	111	50.2	26	11.8	35	15.8	49	22.2	1	0.5
Employed full time and attending school	19	8.6	8	3.6	5	2.3	6	2.7	0	0.0
Employed part time and seeking full-time job	8	3.6	2	0.9	0	0.0	6	2.7	0	0.0
Employed part time and not seeking full-time job	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Employed part time and attending school	10	4.5	0	0.0	1	0.5	8	3.6	1	0.5
Unemployed (actively seeking a job)[C]	18	8.1	N/A		N/A		N/A		N/A	
Unavailable for employment[C&D]	6	2.7	N/A		N/A		N/A		N/A	
No Response	49	22.2	N/A		N/A		N/A		N/A	
TOTAL	221	100.0	36	16.3	41	18.6	69	31.2	2	1.0

[A]All percentages were based on the 221 (23.8%) respondents of the total 930 terminees. Terminees in active full-time military service or attending school full-time and had never been employed were included in the "No Response" category.

[B]The terminees made the judgment as to how their present job was related to the training received in their high school vocational program.

[C]The unemployed and unavailable for employment categories do not include persons in the military service and persons who were in school full time and never had a job.

[D]See page 26 for the listing of reasons Automobile Mechanics terminees gave for being unavailable for employment.

[E]See page 26 for reasons terminees who were working in present job not related to vocational training gave for not seeking related job before accepting present job. Totals for unrelated columns may not correspond because terminees failed to respond to one of the two questions from which data was drawn.

Below is a list of the reasons given by the terminees for being unavailable for employment.

Reason	Number
In school full time	10
Presently not working, not interested in a job	2
Homemaker	0
Pregnancy	0
Illness or disability	0
Other	2

Of the 79 terminees who indicated their present jobs were not related to their vocational course, 39 (49.4%) terminees indicated that before they accepted their unrelated job, they tried to get a job that was related to their vocational training. However, 40 (50.6%) of the terminees did not.

The following is a list of reasons given by 39 of the 40 terminees who, before taking their present unrelated job, indicated they did not seek a job that was related to their vocational training:

Reason	Number
In high school I worked on cars part time - I didn't want to make it a career	1
A friend said my present position was better	1
Going to school	1
Because I joined a union	1
I chose my vocational course for personal uses	1
More money	3
Because it was Gurney Man	1
I just needed a job	1
No one in the vocation tried to help me - I didn't know where to look	1
Don't have a job now	1
Because I did not try	1
I did feel I was qualified	1
None available	4
Father had found me a job with him before school was out	1
Because we haven't got any house to build	1
Already had a job waiting	1
No construction work	1
Didn't know enough	1
Did not have enough time to learn all I needed	1

Reason	Number
Not adequately experienced	1
Already had a job	1
Better job	1
Needed more training but couldn't afford it	1
I did not want to work on cars	1
Got the first job I was called to	1
No one will hire young mechanics	1
Not enough training	1
Took course as hobby	1
I got a job with the school	1
Tired of being dirty	1
Employed before taking trades	1
Different mechanics	1
Well paid in present job	1
Was offered manager training program	1

Table 23 shows for the present job, by type school and termination status, the number of 1973-74 secondary Automobile Mechanics terminees employed by the relatedness of their vocational training to their present job.

Of the 160 terminees presently employed that studied Automobile Mechanics, 39 (24.4%) were employed in an area directly related to the training received in their program. Seventy-eight (48.7%) terminees who studied Automobile Mechanics indicated their present job was not related to their vocational training. The terminees made the judgment as to how their present job related to the training received in their high school vocational program.

TABLE 23

NUMBER OF RETURNS BY TYPE SCHOOL AND TERMINATION STATUS FOR 1973-74 AUTOMOBILE MECHANICS TERMINEES PRESENT JOB AND RELATEDNESS OF TRAINING[A]

Type School and Termination Status	No. Returns	Total Employed		Relatedness of Training to Present Job[D]					
				Directly Related		Somewhat Related		Not Related	
		No.	%	No.	%	No.	%	No.	%
Area Voc. Centers									
Total	127	97	43.9	20	9.0	25	11.3	52	23.5
Completers[B]	100	78	35.3	18	8.1	18	8.1	42	19.0
Dropouts[C]	27	19	8.6	2	0.9	7	3.2	10	4.5
Other Type Schools									
Total	94	63	28.5	19	8.6	18	8.1	26	11.8
Completers	81	56	25.3	17	7.7	17	7.7	22	10.0
Dropouts	13	7	3.2	2	0.9	1	0.4	4	1.8
Grand total	221	160	72.4	39	17.6	43	19.4	78	35.3
Completers	181	134	60.6	35	15.8	35	15.8	64	29.0
Dropouts	40	26	11.8	4	1.8	8	3.6	14	6.3

[A]Percentages are based on the 221 (23.8%) of the 930 terminees who returned the survey form.

[B]Any terminee who left the program by completing or by high school graduation

[C]Any terminee who the instructor reported as having dropped out of school

[D]The terminees made the judgment as to how their first job was related to the training received in their high school vocational program.

Table 24 indicates the first-job salary ranges as compared to the present-job salary ranges for the 1973-74 Automobile Mechanics terminees.

TABLE 24

FIRST-JOB SALARY RANGES AND PRESENT-JOB SALARY RANGES FOR 1973-74 AUTOMOBILE MECHANICS TERMINEES

Salary Ranges	First Job		Present Job	
	No.	%	No.	%
Under $250	55	33.1	26	18.7
$250 - $299	24	14.5	8	5.8
$300 - $349	31	18.7	21	15.1
$350 - $399	22	13.3	20	14.4
$400 - $449	12	7.2	25	18.0
$450 - $499	11	6.6	10	7.2
$500 - $599	8	4.8	17	12.2
$600 - $699	1	0.6	6	4.3
$700 or more	2	1.2	6	4.3
TOTAL	166	100.0	139	100.0

Of the 166 terminees reporting a salary range for their first job, 55 (33.1%) indicated a range of under $250 per month. Only three terminees reported a first salary of over $600 per month. The median salary range for the first job fell in the range of $250 - $349 per month. The mean salary range for the first job also fell in the same range of $250 - $349 per month.

Of the 139 1973-74 Automobile Mechanics terminees reporting a salary range for their present job, 26 (18.7%) indicated under $250 per month. This salary range was indicative of the mode of the reporting students. The median and mean salary ranges for the present job fell within the range of $350 - $449 per month. The median and mean salary ranges of present jobs over first jobs indicate a considerable increase for the reporting Automobile Mechanics terminees.

Table 24A indicates the first-job salary ranges by relatedness of training and sex of the Automobile Mechanics terminees.

TABLE 24A

FIRST-JOB SALARY RANGES BY RELATEDNESS OF TRAINING OF 1973-74 AUTOMOBILE MECHANICS TERMINEES

Salary Ranges	Sex of Terminees Responding		Relatedness of Training to First Job[B]					
			Directly Related		Somewhat Related		Not Related	
	Male	Female	Male	Female	Male	Female	Male	Female
Under $250	53	2	14	0	12	1	27	1
$250 - $299	24	0	3	0	8	0	13	0
$300 - $349	29	0	10	0	8	0	11	0
$350 - $399	17	0	3	0	8	0	6	0
$400 - $449	12	0	5	0	3	0	4	0
$450 - $499	11	0	2	0	1	0	8	0
$500 - $599	8	0	5	0	0	0	3	0
$600 - $699	1	0	0	0	0	0	1	0
$700 or more	2	0	0	0	0	0	2	0
TOTAL[A]	157	2	42	0	40	1	75	1

[A]Totals do not match those of Table 24 because some terminees did not respond to all questions.

[B]The terminees made the judgment as to how their first job was related to the training received in their high school vocational program.

Fifty-five (34.6%) of the 159 responding terminees were employed at less than $250 per month. Of these 55 terminees, 14 (25.5%) males were employed in jobs directly related to their training, 12 males (21.8%) and one (1.8%) female were employed in jobs somewhat related to their training, while 27 (49.1%) males and one (1.8%) female were employed in jobs not related to their training.

Of the 159 responding terminees, 157 (98.7%) were males and two (1.3%) were females. Forty-two (26.4%) males were employed in jobs directly related to their vocational training; 40 (25.2%) males and one (0.6%) female were

employed in jobs somewhat related to their training; while 75 (47.2%) males and one (0.6%) female were employed in jobs not related to their training.

Table 24B indicates the present-job salary ranges by relatedness of training and sex of the Automobile Mechanics terminees.

TABLE 24B

PRESENT-JOB SALARY RANGES BY RELATEDNESS OF TRAINING OF 1973-74 AUTOMOBILE MECHANICS TERMINEES

Salary Ranges	Sex of Terminees Responding		Relatedness of Training to Present Job[B]					
			Directly Related		Somewhat Related		Not Related	
	Male	Female	Male	Female	Male	Female	Male	Female
Under $250	23	2	7	0	7	0	9	2
$250 - $299	8	0	3	0	3	0	2	0
$300 - $349	20	0	5	0	8	0	7	0
$350 - $399	19	0	4	0	7	0	8	0
$400 - $449	21	1	6	0	7	0	8	1
$450 - $499	10	0	2	0	2	0	6	0
$500 - $599	17	0	7	0	3	0	7	0
$600 - $699	6	0	0	0	1	0	5	0
$700 or more	5	0	2	0	0	0	3	0
TOTAL[A]	129	3	36	0	38	0	55	3

[A]Totals do not match those of Table 24 because some terminees did not respond to all questions.

[B]The terminees made the judgment as to how their present job was related to the training received in their high school vocational program.

Twenty-five (18.8%) of the 132 responding terminees were employed at less than $250 per month. Of these 25 terminees, seven (28.0%) males were employed in a job directly related to their training, seven (28.0%) males were employed in jobs somewhat related to their training, while nine (36.0%) males and two (8.0%) females were employed in jobs not related to their training.

Of the 132 responding terminees, 129 (97.7%) were males and three (2.3%) were females. Thirty-six (27.3%) males were employed in jobs directly related to their vocational training; 38 (28.8%) males were employed in jobs somewhat related to their training; while 55 (41.7%) males and three (2.3%) females were employed in jobs not related to their training.

Continuing Education Information

The following section of this report presents information relative to the continuing education of the 1973-74 secondary Automobile Mechanics terminees.

Table 25 shows the vocational educational training opportunities terminees have participated in since leaving their high school vocational program.

Of the total terminees, the 43 (19.5%) who had on-the-job training represented the largest area in which terminees had additional vocational training.

Of the 221 responding terminees, 83 (37.6%) had taken part in one additional vocational training program since leaving their high school program. Seven (3.2%) enrolled in two training programs, and seven (3.2%) terminees had enrolled in three vocational training programs. One hundred thirty-two (59.7%) indicated they had not enrolled in any additional vocational training.

TABLE 25

ADDITIONAL VOCATIONAL EDUCATIONAL TRAINING 1973-74 AUTOMOBILE MECHANICS OCCUPATIONS TERMINEES PARTICIPATED IN SINCE LEAVING THEIR HIGH SCHOOL VOCATIONAL PROGRAM[A]

Type Training	Number	Percent[B]
On-the-job training (employer-sponsored program)	43	19.5
Public school adult vocational program	2	0.9
Private vocational school program	1	0.4
University or four year college	8	3.6
Junior college	8	3.6
Post-secondary vocational-technical institute (trade school)	14	6.3
Apprenticeship training program	7	3.2
Specialized occupational military training	1	0.4
Other[C]	13	5.9
TOTAL[D]	97	43.9

[A]Of the 221 terminees 132 (59.7%) gave no indication of being involved in additional vocational training. Of the 221 terminees, 83 (37.6%) took part in one additional vocational training opportunity since leaving their high school program. Seven (3.2%) took part in two and seven (3.2%) terminees took part in the three additional training opportunities.

[B]Percentages are based on the 211 (23.8%) respondents of the total 930 terminees who returned questionnaires.

[C]See below for the "Other" listing as specified by the terminees.

[D]The total indicated the number of different training programs in which terminees enrolled. As footnoted above, several terminees had enrolled in more than one training program.

The following is a listing of the "Other" (Table 25) vocational educational training terminees indicated they had participated in:

"Other" Vocational Training	Number
Welding	4
On the job	3
Construction	1
Electronics	1
Data Processing	1
Millwright	1
Saw filing and grinding	1
Heating/cooling	1
Small engine repair	1
Farming	1
Worked on own	1
Technical college	1

Table 26 points out the additional programs the 1973-74 secondary Automobile Mechanics terminees were presently attending beyond their high school training by whether these programs were related to their high school vocational program.

TABLE 26

PROGRAMS PRESENTLY ATTENDED BY THE 1973-74 SECONDARY AUTOMOBILE MECHANICS TERMINEES BY WHETHER THESE PROGRAMS WERE RELATED TO THEIR HIGH SCHOOL VOCATIONAL EDUCATION PROGRAM[A]

Programs Attended	Terminees		Program Related to High School VED Program			
			Yes		No	
	No.	%	No.	%	No.	%
On-the-job training (employer-sponsored)	4	1.8	2	0.9	2	0.9
Vocational-technical institute (trade school)	15	6.8	10	4.5	5	2.3
Junior college	10	4.5	1	0.4	9	4.1
Four year college or university	13	5.9	1	0.4	12	5.4
Public school adult vocational program	2	0.9	0	0.0	2	0.9
Private business or trade school	2	0.9	0	0.0	2	0.9
Apprenticeship program	1	0.4	1	0.4	0	0.0
Other[B]	7	3.2	4	1.8	3	1.4
TOTAL	54	24.4	19	8.6	35	15.8

[A]All percentages were based on the 221 responding terminees.

[B]See page 35 for listing of "Other" schools or educational institutions terminees were attending.

Of the 221 1973-74 secondary Automobile Mechanics terminees who responded to the survey, four (1.8%) were attending an on-the-job training

program (employer-sponsored), 15 (6.8%) were attending a vocational-technical institute, 10 (4.5%) were attending a junior college, 13 (5.9%) were attending a four year college or university, two (0.9%) were attending a public adult vocational program, two (0.9%) were attending private business or trade school, one (0.4%) was attending an apprenticeship program, and seven (3.2%) were attending some other type of school or educational program. (See below for the listing of the other types of schools or educational programs students were attending.)

Fifty-four (24.4%) of the 221 Automobile Mechanics terminees were presently continuing their education. Nineteen (8.6%) of the terminees were continuing their education in a program related to their high school vocational program. Thirty-five (15.8%) were attending a program in an area not related to their high school vocational program.

The following is a listing of the "Other" category (Table 26) of additional programs the 1973-74 Automobile Mechanics terminees were attending:

"Other" School or Program	Number
High school	3
Private school	1
Night vocational program at high school	1
State junior college	1
Military junior college	1
Lutheran college	1
Auto diesel school	1
Electronics	1

Of the 221 responding terminees, 88 (39.8%) indicated they would take further vocational training. The following is a list of the areas in which these terminees desired to study: (Some terminees indicated more than one area of desired study.)

Area of Study	Number
Auto Mechanics	73
Welding	7
Autobody and Fender	7
Electronics	7
Diesel Mechanics	5
Air Conditioning/Refrigeration	5
Construction	4
Business	3
Data Processing	2
Forestry	2
Machinist	2
Drafting	2
Sheet Metal	1
Butchering	1
Painter	1
Wildlife Conservation	1
Printing	1
Motorcycle Mechanics	1
Aircraft Maintenance	1
Medicine	1
Truck Driver	1
Transmission	1
Maintenance	1
Brick Mason	1
Machine Shop	1
Military Service	1
Police Operations	1
Later in life	1
Uncertain	3

Twenty-nine (13.2%) of the 221 responding terminees indicated they did not desire further vocational training.

Job Placement Information

The following section of this report presents information concerning job placement of the 1973-74 secondary Automobile Mechanics terminees.

Table 27 points out whether the 1973-74 Automobile Mechanics terminees were seeking full-time employment when they left their high school vocational program and if their vocational teacher attempted to help them get a job.

TABLE 27

WHETHER VOCATIONAL TEACHER ATTEMPTED TO HELP 1973-74 AUTOMOBILE MECHANICS TERMINEES GET A JOB IF SEEKING FULL-TIME EMPLOYMENT UPON LEAVING THE HIGH SCHOOL VOCATIONAL PROGRAM[A]

Vocational Teacher Attempted To Get Terminee A Job	Number	Percent
Yes	44	58.7
No	31	41.3
TOTAL	75	100.0

[A]Forty-seven (37.0%) of the responding terminees indicated they were not seeking full-time employment when they left their high school vocational program. Five (3.9%) of the terminees did not respond to the question.

Of the 75 responding 1973-74 Automobile Mechanics terminees indicating they were seeking full-time employment when they left their high school vocational program, 44 (58.7%) indicated that their vocational teacher attempted to help them get a job. However, 31 (41.3%) of the terminees seeking full-time employment indicated that their vocational teacher did not attempt to help them secure employment. It was interesting to note that 47 (37.0%) of the reporting 1973-74 Automobile Mechanics terminees indicated they were not seeking full-time employment when they left their high school vocational program.

Table 28 illustrates how long it took the 1973-74 Automobile Mechanics terminees to get their first full-time job after they left their high school vocational program and began actively seeking full-time employment.

Thirty (50.0%) of the 60 secondary Automobile Mechanics terminees secured their first full-time job within two weeks after they left their high school vocational program and began actively seeking full-time employment. However, seven (11.7%) of the terminees took 13 or more

weeks to secure their first full-time job. There were 12 terminees who indicated they already had a job when they left their high school vocational program.

TABLE 28

LENGTH OF TIME IT TOOK THE 1973-74 AUTOMOBILE MECHANICS TERMINEES TO SECURE FIRST FULL-TIME JOB AFTER LEAVING HIGH SCHOOL VOCATIONAL PROGRAM AND BEGINNING ACTIVELY SEEKING FULL-TIME EMPLOYMENT[A]

Time to Secure First Full-Time Job	Number	Percent
0 - 2 weeks	30	50.0
3 - 4 weeks	12	20.0
5 - 8 weeks	5	8.3
9 - 12 weeks	6	10.0
13 or more weeks	7	11.7
TOTAL	60	100.0

[A]Twelve terminees indicated they already had a job when they left their high school vocational program.

Table 29 shows how the 1973-74 secondary Automobile Mechanics terminees indicated they got their first full-time job after leaving their high school vocational program.

Of the 68 1973-74 Automobile Mechanics terminees who responded to the survey item, 12 (17.6%) indicated they got their first full-time job after leaving their high school vocational program through applications to business and industry. Forty-one (60.3%) of the terminees also indicated they got their first full-time job through a friend or relative. These represented the two methods that the largest number of Automobile Mechanics terminees utilized to secure their first full-time job. Only five (7.4%) of the terminees indicated they secured their first job through their vocational teacher. One student indicated that a counselor got him his first full-time job after leaving his vocational

program. Those students who already had a job before leaving their high school vocational program were not shown in Table 29. (See Table 30, page 40)

TABLE 29

HOW THE 1973-74 AUTOMOBILE MECHANICS TERMINEES INDICATED THEY GOT THEIR FIRST FULL-TIME JOB AFTER LEAVING THEIR HIGH SCHOOL VOCATIONAL PROGRAM

How Terminees Secured First Full-Time Job	Number	Percent
Through your vocational teacher	5	7.4
Through your counselor	1	1.5
Through other school teachers or administrators	0	0.0
Through a friend or relative	41	60.3
Through applications to business or industry	12	17.6
Through state (local) employment office	3	4.4
Through a private employment agency	0	0.0
Through radio, T.V., newspaper, or other news media	0	0.0
Other[A]	6	8.8
TOTAL	68	100.0

[A]See listing below for the "Other" ways terminees indicated they secured their first full-time job after leaving their high school vocational program.

The six terminees who checked the "Other" category specified the means by how they secured their first full time jobs after leaving their high school vocational program. The following list indicates the "Other" means the terminees indicated.

"Other" Means for Securing First Full-Time Job	Number
Went and asked for it	1
Look for a job--no help from teacher	1
Husband worked here	1
Through Plymouth trouble shooting contest	1
I joined service, but got discharged Aug. 30, 1974	1
Looked myself	1

Table 30 shows how the 1973-74 Automobile Mechanics terminees, who were working while in high school, taking their vocational program indicated they got that job.

TABLE 30

HOW THE 1973-74 AUTOMOBILE MECHANICS TERMINEES WHO WERE WORKING WHILE IN HIGH SCHOOL TAKING THEIR VOCATIONAL PROGRAM INDICATED THEY GOT THAT JOB[A]

Who or What Helped Terminee Get Job	Number	Percent
Your vocational teacher	7	11.5
Your counselor	2	3.2
Other school teachers or administrators	3	4.9
Friend or relative	25	41.0
Applications to business or industry	9	14.8
State (local) employment office	0	0.0
Private employment agency	0	0.0
Radio, T.V., newspaper, or other news media	1	1.6
Other	14	23.0
TOTAL	61	100.0

[A]Sixty-four (50.4%) terminees indicated they had no job during the time they were in high school taking their vocational course.

Sixty-one (27.6%) of the 221 reporting 1973-74 Automobile Mechanics terminees indicated they were working during the time they were in high school taking their vocational program. Of those terminees working while in high school, seven (11.5%) got their job through their vocational instructor, 25 (41.0%) through a friend or relative, and nine (14.8%) got jobs through applications to business or industry. These three means were the ways most of the terminees secured a job while they were still in high school taking their vocational program.

Table 31 reveals the indications of the 1973-74 Automobile Mechanics terminees as whether, before taking their first job, they looked for

employment within daily walking or driving distance of home by how their first job related to their vocational training.

TABLE 31

INDICATIONS OF 1973-74 AUTOMOBILE MECHANICS TERMINEES AS TO WHERE THEY LOOKED FOR THEIR FIRST JOB BEFORE TAKING ONE BY HOW THEIR FIRST JOB RELATED TO THEIR TRAINING[A]

Before Taking First Job, Where Terminees Looked for Job	Total Reporting		Total Reporting by Relatedness of First Job to Vocational Training					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Within daily walking or driving distance of home	76	76.0	14	73.7	19	82.6	43	74.1
Beyond daily walking or driving distance of home[B]	24	24.0	5	26.3	4	17.4	15	25.9
TOTAL	100	100.0	19	100.0	23	100.0	58	100.0

[A]Fifty-nine terminees indicated they already had their first job while in high school. Of those 59 terminees, 22 (37.3%) were working in a directly related area, 17 (28.8%) in a somewhat related area, while 20 (33.9%) were working in a non-related area.

[B]See listing, page 42, for reasons terminees gave for seeking their first job away from home.

Seventy-six (76.0%) of the 1973-74 Automobile Mechanics terminees who were employed in their first job indicated they sought employment within daily walking or driving distance of home. Twenty-four (24.0%) terminees indicated before taking their first job, they looked for a job beyond daily walking or driving distance of home.

Of the 19 terminees who were working in a directly related area, only five (26.3%) sought employment beyond daily walking or driving distance of home.

It is interesting to note that of the 58 terminees whose first jobs did not relate to their training, 15 of those terminees sought employment beyond daily walking or driving distance of home.

Fifty-nine terminees indicated they had their first job while in high school. Of those 59 terminees, 22 (37.3%) were working in a directly related area, 17 (28.8%) in a somewhat related area, and 20 (33.9%) were working in a non-related area.

The following is a listing of reasons terminees gave for seeking a job beyond daily walking or driving distance of their home before accepting their first job. Of the 24 terminees who indicated they sought a job beyond daily walking or driving distance of home before accepting their first job, 11 gave reasons why they sought that job.

Reasons for Seeking Job Beyond Daily Walking or Driving Distance Before Accepting First Job	Number
No jobs available	3
Wanted to move from Alabama	1
Since 12 miles from town	1
Had job for three years	1
Fun work	1
Decatur plants	1
Work with school board	1
They came and asked me	1
The use of my talents	1

Table 32 reveals the indications of the 1973-74 Automobile Mechanics terminees who were working in their first job not related to their training by whether or not they tried to get a job related to their training by where they looked for employment before accepting that first job.

It is important to note that of the 57 terminees who were working in a non-related first job, only eight (14.0%) sought related employment beyond daily walking or driving distance of home before accepting his first job.

TABLE 32

INDICATIONS OF THE 1973-74 AUTOMOBILE MECHANICS TERMINEES WORKING IN FIRST JOB NOT RELATED TO THEIR TRAINING BY WHETHER OR NOT THEY TRIED TO GET A JOB RELATED TO THEIR TRAINING BY WHERE THEY LOOKED FOR EMPLOYMENT BEFORE ACCEPTING FIRST JOB[A]

Where Terminees Working in Non-Related Areas Looked for Employment Before Accepting First Job	Total Reporting		Before Accepting This First Job Unrelated to Training Whether Terminees Sought Job in Related Area			
			Yes		No[B]	
	No.	%	No.	%	No.	%
Sought employment within daily walking or driving distance of their home	42	73.7	22	73.3	20	74.1
Sought employment beyond daily walking or driving distance of their home	15	26.3	8	26.7	7	25.9
TOTAL	57	100.0	30	100.0	27	100.0

[A]Totals in this table may not correspond with totals of terminees for non-related categories in other tables for the following reasons: (1) some terminees had jobs when leaving program and did not have to seek employment and (2) some terminees failed to respond to one or more of the related questions from which data was drawn.

[B]See page 22 for the listing of reasons terminees who were working in non-related jobs gave for not trying to secure a job that was related to their training.

Table 33 illustrates the indications of the 1973-74 Automobile Mechanics terminees as to where they looked for a job before taking their present job by how their present job is related to their vocational training.

Seventy-two (75.8%) of the presently employed 1973-74 Automobile Mechanics terminees indicated they sought employment within daily walking or driving distance of home. Twenty-three (24.2%) terminees indicated they sought employment beyond daily walking or driving distance of home.

TABLE 33

INDICATIONS OF 1973-74 AUTOMOBILE MECHANICS TERMINEES AS TO WHERE THEY LOOKED FOR A JOB BEFORE TAKING THEIR PRESENT JOB BY HOW THEIR PRESENT JOB RELATED TO THEIR TRAINING[A]

Where Terminees Looked for Job Before Taking Present Job	Total Reporting		Total Reporting by Relatedness of Present Job to Vocational Training					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Within daily walking or driving distance of home	72	75.8	15	83.3	19	82.6	38	70.4
Beyond daily walking or driving distance of home[B]	23	24.2	3	16.7	4	17.4	16	29.6
TOTAL	95	100.0	18	100.0	23	100.0	54	100.0

[A]Fifty-six terminees reported they already had their present job while in high school. Of those 56 terminees, 20 (35.7%) were in a directly related area, 18 (32.1%) in a somewhat related area, while 18 (32.1%) were working in a non-related area.

[B]See listing, page 45, for reasons terminees gave for seeking their present job away from home.

Of the 18 terminees who were working in a directly related area, 15 (83.3%) sought employment beyond daily walking or driving distance of home.

Of the 54 terminees who were presently working in a non-related area, 16 (29.6%) sought employment beyond daily walking or driving distance of their home.

Fifty-six terminees reported they already had their present job while in high school. Of those 56 terminees, 20 (35.7%) were in directly related areas, 18 (32.1%) in somewhat related areas, and 18 (32.1%) were in non-related areas.

The following is a list of reasons terminees gave for seeking a job beyond daily walking or driving distance of their home before accepting their present job. Of the 23 terminees who indicated they sought a job beyond daily walking or driving distance of home before accepting their present job, 21 gave reasons why they sought that job.

Reasons for Seeking Job Beyond Daily Walking or Driving Distance Before Accepting Present Job	Number
None available	6
More money	4
Wanted something I liked	2
Only one available	1
Needed a job	1
Looked everywhere	1
Just looked	1
Wanted to travel	1
Didn't have job	1
I lived out of twon - no place to work	1
Father worked there	1
Joined service, but got medical discharge	1

Table 34 reveals the indications of the 1973-74 Automobile Mechanics terminees who were working in their present job not related to their training by whether or not they tried to get a job related to their training by where they looked for employment before accepting that present job.

TABLE 34

INDICATIONS OF THE 1973-74 AUTOMOBILE MECHANICS TERMINEES WORKING IN PRESENT JOB NOT RELATED TO THEIR TRAINING BY WHETHER OR NOT THEY TRIED TO GET A JOB RELATED TO THEIR TRAINING BY WHERE THEY LOOKED FOR EMPLOYMENT BEFORE ACCEPTING PRESENT JOB[A]

Where Terminees Working in Non-Related Areas Looked for Employment Before Accepting Present Job	Total Reporting		Before Accepting This Present Job Unrelated to Training Whether or Not Terminees Sought Job in Related Area			
			Yes		No[B]	
	No.	%	No.	%	No.	%
Sought employment within daily walking or driving distance of their home	38	70.4	24	70.6	14	70.0
Sought employment beyond daily walking or driving distance of their home	16	29.6	10	29.4	6	30.0
TOTAL	54	100.0	34	100.0	20	100.0

[A]Totals in this table may not correspond with totals of terminees for non-related categories in other tables for the following reasons: (1) some terminees had jobs when leaving programs and did not have to seek employment and (2) some terminees failed to respond to one or more of the related questions from which data was drawn.

[B]See page 26 for listing of reasons terminees who were working in non-related jobs gave for not trying to secure a job that was related to their training.

Ten (18.5%) of the 54 terminees who were working in a non-related area sought related employment beyond daily walking or driving distance of home before accepting their present job.

APPENDIX

PRESENT JOB AND FIRST JOB TITLES OF THE 1973-74
AUTOMOBILE MECHANICS TERMINEES

PRESENT JOB AND FIRST JOB TITLES OF THE 1973-74 AUTOMOBILE MECHANICS TERMINEES

For those terminees who indicated present or first job occupations, this appendix lists the present job title and first job title. The job titles are listed as the terminees reported them. The number of full-time jobs held by these terminees since completing their high school vocational course is listed, current employment status is listed, and whether the student intended to get a job in the area while in the program.

The following code is used to identify the employment status of the terminees:

0. Unemployed, but seeking employment
1. Employed full time
2. Employed part time, seeking full-time job
3. Employed part time, not seeking full-time job
4. Employed full time and attending school
5. Employed part time and attending school
6. Unavailable for employment

The following code is used to identify whether the student intended to get a job in the area while in the program:

1. No
2. Was not sure
3. Yes

The number in parenthesis behind the job title indicates the relatedness of the high school vocational training to these jobs. The terminees

made the judgment as to the relatedness of their training to these jobs. The following is used to identify this relatedness:

1. Directly related
2. Somewhat related
3. Not related

The total does not correspond to the total reporting since some of the terminees failed to indicate the title of their present position. If the first job title was the same as the present job title, the first job title is included under the present job title.

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No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
1	1	2	3	Orderly (3)	Orderly (3)
2	2	0	1	Cashier (3)	Basket Atten.(2)
3	6	1	2		Serv. Station Atten. (0)
4	2	0	1	Cashier (3)	
5	1	1	3	Mechanics (1)	
6	1	1	3	Driver/Mech. (2)	
7	4	1	2	Butcher (3)	
8	4	2	3	Serv. Station Atten. (1)	Mechanic (1)
9	4	1	3	Appren. Mech. (1)	
10	1	1	2	Conveyor Belt splicer(3)	Tire changer(1)
11	1	2	3	Painter (3)	Swing man (1)
12	0	1	2		Painter (3)
13	1	1	1	Asst. Mgr., Serv. Station (1)	
14	2	0	1	Laborer (3)	Machine Oper.(3)
15	1	1	1	Roofing Foreman (3)	
16	1	1	1	Body man (2)	
17	1	1	3	Mechanic (1)	
18	1	1	2	Furniture maker (3)	
19	0	0	3	Line Mech.(1)	
20	1	2	3	Parts salesman (2)	Mechanic (2)
21	4	1	3	Welder (1)	
22	1	1	3	Welder (2)	
23	5	0	2	Cook (3)	
24	1	1	2	Laborer (3)	
25	1	2	3	Weaving Tech. (2)	Warehouseman(3)
26	4	1	3	Inspector/ packer (3)	Farmhand (3)
27	1	2	2	Forklift Oper. (3)	Parts man (1)
28	1	1	3	Sales clerk (3)	
29	1	2	3	Assembly line worker (2)	Mechanic (2)
30	1	1	2	Knit Wrist handler(3)	

(continued)

OE Code 17.0302 - Auto Mechanics (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
31	1	1	3	Welder (2)	
32	1	1	2	Core setter(3)	
33	0	3	3		Pickler (1)
34	2	0	2	Auto Mech.(1)	
35	5	0	2	Salesman (3)	
36	1	1	3	Orienting Mach. Oper. (3)	
37	1	1	2	Specification Coordinator (3)	Machine helper (3)
38	1	3	2	Transfer man (3)	Truck driver(3)
39	1	1	2	Filling trucker (3)	
40	1	1	2	Card tender(3)	
41	1	1	3	Laborer (3)	Laborer (3)
42	4	1	3	Appren. Carpenter (1)	Appren. Carpenter (3)
43	1	3	3	Laborer (3)	Mechanic (1)
44	0	2	3		Laborer (3)
45	1	3	2	Carpenter's helper	Service Station Atten. (2)
46	1	2	3	Laborer (2)	Box boy (3)
47	1	2	3	Groundskeeper (3)	Laborer (3)
48	4	1	2	Shipping Clerk (3)	
49	2	1	3	Service Station Attend. (1)	Machinist (3)
50	1	1	3	Janitor	
51	6	1	2	Stockboy (3)	Roofer (3)
52	4	1	2	Serv. Station Atten. (2)	
53	1	3	3	Serv. Station Attend. (1)	Mechanic (1)
54	1	1	3	Mechanic (1)	
55	1	1	3	Doffer (2)	
56	1	1	2	Stock clerk(1)	Upholsterer's helper (1)
57	1	1	3	Mechanic (1)	
58	4	1	3	Spreader (3)	Grill man (3)
59	1	1	3	Equip. Oper. (3)	
60	4	1	3	Splicer (3)	
61	1	2	2	Delivery man (2)	Laborer (2)
62	4	1	3	Rigger (2)	Rigger (2)

(continued)

OE Code 17.0302 - Auto Mechanics (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
63	1	1	1	Chicken loader (3)	
64	1	2	3	Delivery man (3)	Laborer (3)
65	1	0	3	Mechanic (1)	
66	1	1	2	Mechanic (1)	
67	1	1	2	Laborer (3)	
68	4	2	3	Welder (3)	Welder (2)
69	1	1	3	Splicer (2)	
70	1	2	2	Tool room clerk (3)	Warp handler(3)
71	0	2	1		Saddle maker(3)
72	1	3	0	Meat Cutter(3)	Roofer (2)
73	1	1	3	Truck driver (3)	Mechanic (1)
74	1	1	2	Laborer (3)	
75	1	1	1	Roustabout (2)	
76	1	2	3	Mechanic (1)	Mechanic (1)
77	1	1	2	Punch Press Oper. (3)	
78	0	0	2	Service Station. Attend.(2)	
79	1	3	3	Mechanic (1)	Mechanic (1)
80	4	1	3	Mechanic (1)	
81	1	2	3	Mechanic (1)	Laborer (2)
82	1	1	3	Mechanic (1)	
83	1	2	2	Dryer Oper.(3)	
84	4	1	3	Serv. Station Attend.(2)	
85	1	1	2	Meat Cutter(3)	
86	1	1	3	Machine Oper. (3)	Machine Oper.(2)
87	1	1	2	Millwright(3)	
88	1	2	2	Salesman (2)	Serv. Station Attend. (3)
89	0	1	2	Grinder (3)	
90	0	4	2		Serv. Station Attend. (3)
91	1	2	3	Mechanic (1)	
92	1	1	3	Tire changer (1)	Car wash Mgr.(1)
93	1	2	2	Grinder (3)	Farm hand (2)
94	1	1	3	Mechanic (2)	
95	1	1	3	Asst. Mgr. Garage (1)	
96	1	1	2	Forklift Oper. (3)	

(continued)

OE Code 17.0302 - Auto Mechanics (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
97	1	1	3	Surveyor's helper (2)	Mechanic (1)
98	5	1	1	Salesman (3)	Salesman (3)
99	1	2	2	Grinder (2)	Laborer (3)
100	1	2	2	Laborer (3)	Laborer (2)
101	1	2	2	Inspector (3)	Truck driver (3)
102	1	2	3	Mechanic (1)	
103	4	1	2	Maint. man(2)	
104	1	1	2	Deliver man(2)	Cashier (2)
105	0	2	3	Mechanic (1)	Interior finisher(3)
106	1	1	2	Serv. Station Attend.(2)	
107	2	1	3	Laborer (3)	
108	2	1	3	Laborer (3)	
109	0	2	3	Mach. Oper.(3)	Shoe assembler (3)
110	4	0	1	Counter man(3)	
111	1	1	2	Counter man(3)	
112	1	1	3	Mechanic (1)	
113	1	1	3	Mechanic (1)	Serv. Station Attend. (1)
114	5	0	2	Horse trainer (3)	Lifeguard (3)
115	1	1	1	Meat Mgr. (3)	Service Station Attend. (3)
116	4	1	3	Garage owner (1)	
117	0	1	3	Laborer (3)	
118	1	1	1	Mechanic (1)	
119	0	2	1		Laborer (3)
120	1	1	2	Laborer (2)	
121	6	1	2	Parts salesman (1)	
122	4	1	3	Doffer (2)	
123	1	2	2	Loom Repairman (2)	Stockman (3)
124	1	2	3	Truck driver (3)	Packer (3)
125	1	1	2	Fabricator (2)	
126	5	0	2	Bag oy (3)	
127	1	1	2	Truck driver (2)	
128	2	1	3	Stock clerk(3)	Dishwasher (3)
129	1	1	3	Delivery man (2)	
130	1	2	3	Mechanic (1)	Mechanic (1)
131	1	2	3	Welder	Welder (3)
132	1	1	3	Salesman (1)	
133	1	1	2	Tractor Oper. (2)	

(continued)

OE Code 17.0302 - Auto Mechanics (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
134	1	1	2	Laborer (3)	
135	1	3	3	Serv. Station Attend.(2)	
136	1	1	3	Mechanic (1)	
137	4	1	1	Serv. Station Mgr. (1)	
138	1	2	3	Mechanic (1)	
139	4	1	3	Serv. Station Attend. (1)	Serv. Station Attend. (1)
140	1	1	3	Parts clerk(2)	
141	1	1	3	New car prep. man (2)	Mechanic (1)
142	1	1	3	Mach. Oper.(3)	Mach. Oper. (3)
143	1	1	3	Laborer (2)	
144	1	1	3	Mechanic (1)	
145	4	1	2	Service Station Attend. (2)	
146	1	1	3	Decker (3)	
147	2	0	3	Freight Checker (3)	Freight Checker (3)
148	1	1	3	Mechanic (2)	
149	1	3	3	Asst. Mgr., Retail (3)	
150	1	2	3	Mechanic (1)	Laborer (3)
151	1	1	3	Farmer (2)	
152	1	4	3	Serv. Station Attend. (2)	Band Saw Oper.(3)
153	1	1	3	Mechanic (1)	

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ABSTRACT: THIS REPORT RELATES THE FINDINGS OF A STATEWIDE FOLLOWUP SURVEY OF 1973-74 AUTO BODY TERMINEES FROM THE SECONDARY SCHOOL VOCATIONAL PROGRAMS IN ALABAMA. QUESTIONNAIRES WERE MAILED TO 295 STUDENT TERMINEES APPROXIMATELY SEVEN TO EIGHT MONTHS AFTER LEAVING SCHOOL. RETURNS WERE RECEIVED FROM 99 (25.1 PERCENT) OF THE AUTO BODY REPAIR TERMINEES FROM THE INITIAL MAILING AND ONE FOLLOWUP. DATA ARE PRESENTED IN TABLES WITH ACCOMPANYING NARRATIVE SUMMARIES ORGANIZED ACCORDING TO THESE MAJOR SECTIONS: GENERAL INFORMATION ON THE TERMINEES; BASIC INFORMATION RELATED TO THE VOCATIONAL PROGRAM; BASIC EMPLOYMENT INFORMATION; CONTINUING EDUCATION INFORMATION; AND JOB PLACEMENT INFORMATION. PRESENT AND FIRST JOB TITLES OF THE 1973-74 AUTO BODY REPAIR TERMINEES ARE APPENDED. (NJ)

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IN COOPERATION WITH DIVISION OF
VOCATIONAL EDUCATION AND COMMUNITY COLLEGES
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MARCH 1976

VT 103 334

2

AUTOBODY FOLLOW-UP

Follow-Up of 1973-74 Autobody Terminees
From the Secondary School Vocational
Programs of Alabama

Research and Development Report No. 40

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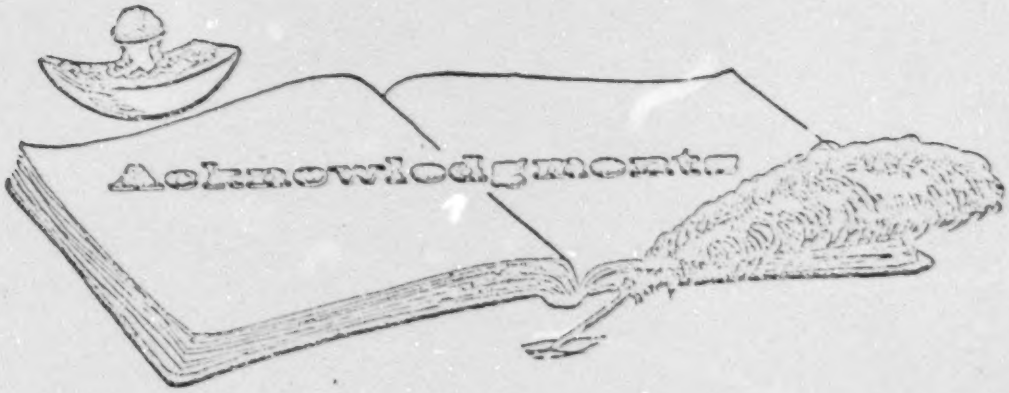

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FOLLOW-UP OF 1973-74 AUTOBODY TERMINEES FROM
THE SECONDARY SCHOOL OF VOCATIONAL
PROGRAMS OF ALABAMA

Alabama continues to support one of the most progressive and comprehensive vocational education programs in the nation. In addition to serving youth and adults by training them for gainful and useful employment, the diversification of vocational courses meets a serious job need and contributes to the industrial development in the state.

With the millions of tax dollars being spent on vocational education, it is necessary to attempt to account to the taxpayer and decision-makers on the results of those expenditures. Terminee student follow-up studies constitute one of the most valuable techniques for assessing vocational education system outcomes.

The Alabama State Department of Education, Division of Vocational Education and Community Colleges, recognizing this important phase of accountability and evaluation, initiated the development of a statewide follow-up system for its vocational education program terminees at the secondary school level. The Division, under the direction of Dr. T. L. Faulkner, State Director, contracted with the Occupational Research and Development Unit at Auburn University to develop and implement the statewide follow-up system for all its secondary vocational terminees in all service areas.

This report relates the findings of the survey instrument mailed to the 1973-74 Autobody terminees from the secondary school vocational

programs of Alabama. When the terminees received the questionnaire, most had been out of school seven to eight months.

General Information

Student rosters with names and addresses of 1973-74 Autobody terminees were received from 58 secondary school vocational teachers in Alabama. Of the 58 teachers from which student rosters were received, 37 were in Secondary Area Vocational Centers (AVC) and 21 were in programs in schools of other settings. The total of 295 student terminees reported to the ORDU were mailed the follow-up forms. Returns were received from 99 (25.1%) of the Autobody terminees from the initial mailing and one follow-up. At least one student questionnaire was received from 33 programs.

All terminees reported in this study were in programs administered only by the Trade and Industrial Section of the Division of Vocational Education and Community Colleges, State Department of Education.

Table 1 presents data relative to the total population of Autobody terminees and the number of returns categorized by type school and termination status as reported by teachers.

TABLE 1

DESCRIPTION OF TOTAL POPULATION AND RETURNS OF 1973-74 AUTOBODY TERMINEES BY TYPE SCHOOL AND TERMINATION STATUS[A]

Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns
Area Voc. Center			
Total	278	71	25.5
Completers[B]	167	56	33.5
Dropouts[C]	111	15	13.5
Other Type Schools			
Total	117	28	23.9
Completers	96	25	26.0
Dropouts	21	3	14.3
Grand Total	395	99	25.1
Completers	263	81	30.8
Dropouts	132	18	13.6

[A]These Autobody terminees were terminees in programs administered only under the service area of Trade and Industrial Education, State Department of Education.

[B]Any terminee who left the program by completing it or by high school graduation.

[C]Any terminee the instructor reported as having dropped out of school.

Table 2 illustrates the sex characteristics of those 1973-74 Autobody terminees reported by the instructors and those who returned survey forms.

TABLE 2

SEX OF THE 1973-74 AUTOBODY TERMINEES REPORTED AND BY WHO RETURNED QUESTIONNAIRES

Sex[A]	Reported		Returns	
	Number	Percent	Number	Percent
Male	376	95.2	93	93.9
Female	1	4.6	1	1.0
Not Known	18	0.3	5	5.1
TOTAL	395	100.0	99	100.0

[A]Sex as reported by teacher.

Table 3 presents the racial or ethnic characteristics of those 1973-74 Autobody terminees reported by instructors and who returned survey forms.

TABLE 3

RACIAL OR ETHNIC CHARACTERISTICS OF THE 1973-74 AUTOBODY TERMINEES REPORTED AND BY WHO RETURNED QUESTIONNAIRES

Racial or Ethnic Group[A]	Reported		Returns	
	Number	Percent	Number	Percent
American Indian	0	0.0	0	0.0
Black	107	27.1	15	15.2
Oriental	0	0.0	0	0.0
Spanish Surnamed American	0	0.0	0	0.0
White	281	71.1	82	82.8
Other	0	0.0	0	0.0
Not Known	7	1.8	2	2.0
TOTAL	395	100.0	99	100.0

[A]Racial or Ethnic Group as reported by teacher.

Table 4 illustrates the number and grade level of the 1973-74 Autobody terminees reported who dropped out of school during the academic year and by who returned the questionnaire.

TABLE 4

NUMBER OF THE 1973-74 AUTOBODY TERMINEES REPORTED
WHO DROPPED OUT OF SCHOOL DURING
THE 1973-74 SCHOOL YEAR BY
GRADE LEVEL

Grade Level Upon Dropping Out of School	Reported		Returns	
	Number	Percent[A]	Number	Percent[B]
Ninth	6	1.5	1	16.7
Tenth	45	11.4	6	13.3
Eleventh	53	13.4	9	17.0
Twelfth	14	3.5	0	0.0
Grade Level Not Indicated by Teacher	14	3.5	2	14.3
TOTAL	132	33.4	18	13.6

[A]Percentage is based on 395 total reported terminees.
[B]Percentage is based on returns by grade.

Table 5 shows the number of 1973-74 Autobody terminees who indicated whether they were in active full-time military service.

TABLE 5

ACTIVE FULL-TIME MILITARY STATUS OF 1973-74
AUTOBODY TERMINEES WHO RETURNED
QUESTIONNAIRES

Active Full-Time Military Status	Number	Percent
Yes	3	3.0
No	93	93.9
No Response	3	3.0
TOTAL	99	100.0

Basic Information Related to the Vocational Education Program

Table 6 points out the number of 1973-74 Autobody terminees who indicated whether this vocational program was a school requirement.

TABLE 6

1973-74 AUTOBODY TERMINEES WHO INDICATED WHETHER THEIR VOCATIONAL PROGRAM WAS A SCHOOL REQUIREMENT

Vocational Courses Was a School Requirement	Number	Percent
Yes	8	8.1
No	90	90.9
No Response	1	1.0
Total	99	100.0

Table 7 indicates, according to the 1973-74 Autobody terminees, the primary source of influence in selecting their vocational course.

TABLE 7

PRIMARY INFLUENCES ON THE 1973-74 AUTOBODY TERMINEES IN SELECTING THEIR VOCATIONAL COURSE

Group or Individual Terminees Felt Influenced Them Most in Selecting Vocational Course	Number	Percent
Parent(s) or Guardian(s)	2	2.0
Guidance Counselor	1	1.0
Your Vocational Teacher	5	5.1
Another Teacher or Principal	1	1.0
Student in VED Program	7	7.1
A Friend or Relative	8	8.1
A Businessman	2	2.0
Made Choice Yourself	73	73.7
Other	0	0.0
TOTAL	99	100.0

A friend or relative appeared to be the greatest outside influence on those terminees enrolling in the Autobody program. Eight (8.1%) of the terminees responding indicated that a friend or relative influenced them most in selecting their Autobody course. However, 73 (73.7%) indicated that they selected their course of study on their own. Seven terminees (7.1%) indicated that a student in the VED program influenced them most in selecting their program. Five (5.1%) of the terminees indicated that their vocational teacher influenced them most in selecting their course in Autobody.

Table 8 indicated terminees' opinions as to whether they had adequate job or occupational information and school experiences to make a realistic career choice.

TABLE 8

OPINIONS OF 1973-74 AUTOBODY TERMINEES AS TO WHETHER THEY HAD ADEQUATE JOB OR OCCUPATIONAL INFORMATION AND SCHOOL EXPERIENCES TO MAKE A REALISTIC CAREER CHOICE

	Number	Percent
Yes	75	75.8
No	23	23.2
No Response	1	1.0
TOTAL	99	100.0

Table 9 indicates whether, during the time they were taking their high school vocational program, the reporting 1973-74 terminees intended to get a job in Autobody.

TABLE 9

INDICATIONS OF 1973-74 AUTOBODY TERMINEES AS TO WHETHER, DURING THE TIME THEY WERE TAKING THEIR HIGH SCHOOL VED PROGRAM, THEY PLANNED TO GET A JOB IN THEIR AREA OF STUDY

Intended To Get Job In Area of Study	Number	Percent
Yes	52	52.5
No	4	4.0
Was Not Sure	42	42.4
No Response	1	1.0
TOTAL	99	100.0

It is interesting to note that only 52 (52.5%) of the 1973-74 reporting Autobody terminees indicated that during the time they were taking their Autobody program, they intended to get a job in the area they were studying.

Table 10 indicates terminees' opinions on choosing the Autobody program if they had the selection to make again.

A noteworthy point was revealed by the data. Of the 1973-74 Autobody terminees, 68 (68.7%) indicated that they would select the same vocational program if they had the choice to make again. Only five (5.1%) of the responding terminees indicated that they would not take a vocational program.

TABLE 10

OPINIONS OF 1973-74 AUTOBODY TERMINEES REGARDING THEIR VOCATIONAL PROGRAM

Question: If You Had It To Do Over Again, Would You...?		Number	Percent
Take the same vocational program		68	68.7
Not take a vocational program		5	5.1
Choose another vocational program offered in your school, such as _____	A	16	16.2
Choose another vocational program if it had been offered in your school; such as _____	B	6	6.1
No Response		4	4.0
TOTAL		99	100.0

[A]See listing IA below for those other vocational programs offered in terminees' school that they would have taken instead of their programs. All responses are reported.

[B]See listing IB, page 10 for the vocational programs the terminee would have taken instead of their Autobody program if it had been offered in their school. All responses are reported.

Listing I-A -- Courses offered in their school that Autobody terminees indicated they would have taken if they had it all to do over again.

Course	Number
Electronics	5
Automechanics	5
Welding	2
Jet Machinist	1
Air Conditioning/Refrig.	1
Diesel Mechanics	1
Business	1
Engineering	1
Brick masonry	1
Autobody	1

Listing I-B -- Courses Autobody terminees indicated they would have taken if they had it all to do over again and the course were offered in their school.

Course	Number
Sheet Metal	2
Welding	2
Radio/TV Repair	2
Mechanics	1
Drafting	1
Computer	1

Table 11 indicates the extent to which the reporting 1973-74 Autobody terminees felt their high school vocational programs prepared them for their first job. This data was also broken down by how that first job related to their vocational program.

Terminees who were in full-time active military service or who had never been employed were not asked to respond to the questions from which this data was reported. Also, the terminees who failed to respond to the question items were not indicated in the table.

TABLE 11

PERCEPTIONS OF 1973-74 AUTOBODY TERMINEES AS TO THE EXTENT THEIR HIGH SCHOOL VOCATIONAL PROGRAM PREPARED THEM FOR THEIR FIRST FULL-TIME JOB BY HOW FIRST FULL-TIME JOB RELATED TO TRAINING

Extent Vocational Course Prepared for First Full-Time Job	Total Reporting		Number Reporting by Relatedness of First Full-Time Job to Training Received					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Excellent	8	11.9	6	25.0	0	0.0	2	5.0
Well Prepared	12	17.9	8	33.3	1	33.3	3	7.5
Fair	8	11.9	8	33.3	0	0.0	0	0.0
Poorly Prepared	1	1.5	1	4.2	0	0.0	0	0.0
Preparation not related to job	38	56.7	1	4.2	2	66.7	35	87.5
TOTAL	67	100.0	24	100.0	3	100.0	40	100.0

In noting the extent to which the 1973-74 Autobody terminees felt their high school vocational course prepared them for their first full-time job by how their first full-time job related to the training they received in their high school Autobody program, some interesting points were revealed. Twenty (29.8%) of the 1973-74 Autobody terminees responding to this item indicated "Excellent" or "Well Prepared" for their first full-time job as a result of the training received in their high school vocational education program. Fourteen (58.3%) of the 24 terminees employed in their first full-time job related directly to their training felt they were excellent or well prepared for this first job. Only one terminee who was working in an area directly related to his vocational training felt that he was poorly prepared for his first job. There was an additional terminee who indicated that he was working in an area directly related to his vocational course and felt that his preparation did not relate to his job. Of all the responding terminees, only one (1.5%) felt that he was poorly prepared for his first full-time job. He was working in an area directly related to his vocational course.

Table 12 indicates the extent to which the reporting 1973-74 Autobody terminees felt their high school vocational course prepared them for their present job. Also shown in the table is a breakdown of the data by how their present job was related to their vocational program.

Terminees in active full-time military service, and students who were attending school full time and had not had a job, were not asked to respond to the question from which Table 12 was prepared. Also, those other students who failed to respond to the items were not shown on the table.

Of the 71 terminees responding to these items, 23 (32.4%) indicated "Excellent" or "Well Prepared" for their present job as a result of their

high school vocational program. Only one terminee reported feeling poorly prepared for his present job as a result of his training.

TABLE 12

PERCEPTIONS OF 1973-74 AUTOBODY TERMINEES AS TO THE EXTENT THEIR HIGH SCHOOL VOCATIONAL COURSE PREPARED THEM FOR THEIR PRESENT JOB BY HOW THEIR PRESENT JOB RELATED TO TRAINING

Extent Vocational Course Prepared for Present Job	Total Reporting		Number Reporting by Relatedness of Present Job to Training Received					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Excellent	10	14.1	4	20.0	1	33.3	5	10.4
Well Prepared	13	18.3	9	45.0	1	33.3	3	6.2
Fair[A]	7	9.9	5	25.0	0	0.0	2	4.2
Poorly Prepared	1	1.4	1	5.0	0	0.0	0	0.0
Preparation not related to job	40	56.4	1	5.0	1	33.3	38	79.2
TOTAL	71	100.0	20	100.0	3	100.0	48	100.0

[A]See listing below for reasons terminees specified for only being trained "Fair" by their vocational course for their present job.

Thirteen (65.0%) of the 20 responding terminees working in an area directly related to their high school vocational program indicated that they felt excellent or well prepared by their training.

Eight terminees who indicated "fair" as the extent their vocational program prepared them for this present job indicated reasons for this. The following lists the reasons the 1973-74 Autobody terminees indicated for being trained only "fair" by their vocational course for their present job.

Reason	Number
No equipment	2
Wanted better training	11
Course not thorough enough	1

(continued)

Reasons	Number
Everything wasn't covered	1
It would be well prepared but I need a refresher course	1
Didn't do enough work	1
Made me aware of responsibilities ahead of me.	1

The terminee who indicated "poorly prepared" for his present job by his vocational program stated "lack of teaching" as the reason he felt that way.

Table 13 focuses on the Autobody student club. The researchers sought to determine the extent to which the 1973-74 Autobody terminees felt that their high school student club aided in preparing them for their present job. Data are also broken down by the relationship of the present job to the vocational training received.

TABLE 13

PERCEPTIONS OF 1973-74 AUTOBODY TERMINEES AS TO THE EXTENT THEIR HIGH SCHOOL VOCATIONAL STUDENT CLUB PREPARED THEM FOR THEIR PRESENT JOB BY HOW THEIR PRESENT JOB RELATED TO TRAINING[A]

Extent High School Vocational Student Club Helped Prepare for Present Job	Total Reporting		Total Reporting by Relatedness of Present Job to Vocational Training					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Excellent	6	20.7	1	9.1	0	0.0	5	29.4
Well Prepared	8	27.6	5	45.4	1	100.0	2	11.7
Fair	13	44.8	5	45.4	0	0.0	8	47.1
Poorly Prepared	2	6.9	0	0.0	0	0.0	2	11.7
TOTAL	29	100.0	11	100.0	1	100.0	17	100.0

[A]Of the 76 who responded, seven (9.2%) had no related student club available, and 40 (52.6%) were not members of a related student club.

Only respondents who had had a job since terminating their high school vocational Autobody program were asked to respond to the question reported

in Table 13. Students in active full-time military service were excluded. Seven (9.2%) of the 76 terminees reported no related student club was available, while 40 (52.6%) were not members of a related student club.

Fourteen (48.3%) of the 29 terminees who participated in student club activities indicated they were "Excellent" or "Well Prepared" by their related student club for their present job. Two (6.9%) indicated they were "Poorly Prepared" by their related student club for their present job. Of those two, both were in a non-related job.

Of those terminees who were working in an area directly related to the training they received in their high school vocational program, six (54.5%) revealed that they were "Excellent" or "Well Prepared" for their present job by their related student club. None of the 11 terminees working in a job directly related to the training they received indicated they were "Poorly Prepared" for their present jobs by their related student clubs.

Table 14 reports how the 1973-74 Autobody terminees rated the quality of teaching by their high school vocational instructors.

TABLE 14

1973-74 AUTOBODY TERMINEES' RATINGS OF THE QUALITY OF TEACHING BY THEIR HIGH SCHOOL VOCATIONAL INSTRUCTORS

Rating	Number	Percent
Excellent	54	54.5
Good	31	31.3
Fair	11	11.1
Poor	2	2.0
Very Poor	1	1.0
TOTAL	99	100.0

Of the 99 reporting 1973-74 Autobody terminees 85 (85.8%) rated the quality of teaching by their vocational instructor either "Good" or "Excellent."

Only three (3.0%) rated the quality of teaching by their instructors "Poor" or "Very Poor."

Table 15 illustrates how the 1973-74 Autobody terminees rated their high school vocational instructor's interest in their class work.

TABLE 15

1973-74 AUTOBODY TERMINEES' RATINGS OF THEIR HIGH SCHOOL VOCATIONAL INSTRUCTOR'S INTEREST IN THE STUDENT'S CLASS WORK

Rating	Number	Percent
Excellent	53	53.5
Good	31	31.3
Fair	8	8.1
Poor	6	6.1
Very Poor	1	1.0
TOTAL	99	100.0

Eighty-four (84.8%) of the 99 reporting 1973-74 Autobody terminees rated the interest exhibited by their high school vocational instructor in their class work as "Good" or "Excellent." Only seven (7.1%) of the terminees rated the interest their vocational instructors showed in their class work as "Poor" or "Very Poor."

Table 16 points out how the 1973-74 Autobody terminees subjectively rated the knowledge their vocational teachers possessed about their field of study. This rating is also shown in the table by a breakdown of how the terminees' present job related to the training they received in their high school vocational program. Terminees were asked to base their judgments on their current knowledge of their job and responsibilities.

Total responses to this item indicates that 62 (86.1%) of the 72 responding 1973-74 Autobody terminees rated the knowledge their vocational teachers possessed about their field of study either "Good" or "Excellent."

For those twenty terminees working in an area directly related to the training they received, 16 (80.0%) rated the knowledge their teachers possessed about their field of study as "Good" or "Excellent." A favorable point was revealed in that only one of those terminees rated the knowledge their vocational teachers possessed about their field of study as "Poor" or "Very Poor."

TABLE 16

1973-74 AUTOBODY TERMINEES' RATINGS OF THE KNOWLEDGE THEIR HIGH SCHOOL VOCATIONAL TEACHER POSSESSED ABOUT THEIR FIELD OF STUDY BY HOW THE TERMINEES' PRESENT JOB RELATED TO THE TRAINING THEY RECEIVED

Ratings[A]	Total Reporting		Number Reporting by Relatedness of Present Job to Training Received					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Excellent	35	48.6	5	25.0	3	100.0	27	55.1
Good	27	37.5	11	55.0	0	0.0	16	32.7
Fair	9	12.5	3	15.0	0	0.0	6	12.2
Poor	1	1.4	1	5.0	0	0.0	0	0.0
Very Poor	0	0.0	0	0.0	0	0.0	0	0.0
TOTAL	72	100.0	20	100.0	3	100.0	49	100.0

[A]Ratings were to be based on terminee's judgment of their current knowledge of their job and responsibilities.

If the respondent was working in an area related to his training, he was asked to compare the facilities and equipment in his high school vocational program with those on his present job. Table 17 illustrates h how the 1973-74 Autobody terminees responded.

Ten (32.3%) of the 31 responding 1973-74 Autobody terminees working in an area related to their training rated the facilities and equipment

in their high school vocational program as better than those on their present job. Eleven (35.4%) rated the facilities and equipment in their high school vocational program as similar to those on their present job; however, ten (32.3%) rated the facilities and equipment not as good as those on their present job.

TABLE 17

HOW 1973-74 AUTOBODY TERMINEES WORKING IN A RELATED AREA RATED THE FACILITIES AND EQUIPMENT IN THEIR HIGH SCHOOL VOCATIONAL PROGRAM[A]

Rating[B]	Number	Percent
Better than those on present job	10	32.3
Similar to those on present job	11	35.4
Not as good as those on present job	10	32.3
TOTAL	31	100.0

[A]Forty-four (58.7%) of the responding 75 terminees indicated that their present job was not related to their vocational training enough to compare facilities and equipment.

[B]Persons who had not had a job since leaving their vocational program, including those in military service and those who attended school, were asked not to respond to questions from which data was drawn. Returns were received from 99 terminees.

Table 18 shows how 1973-74 Autobody terminees, who were in a cooperative work program in school and were now working in an area related to their vocational training, rated the facilities and equipment used in their cooperative work station.

Only six (24.0%) of the 25 responding 1973-74 Autobody terminees whose vocational programs had included cooperative work and were now working in an area related to their vocational training, rated the facilities and equipment in their cooperative work station as better than those on their present job. Ten (40.0%) rated the facilities and equipment in their cooperative

training station as similar to those on their present job. Only three (12.0%) rated the facilities and equipment in their cooperative work station not as good as those in their present job. It was significant to note that six (24.0%) indicated they were working at the same establishment where they did their cooperative training.

TABLE 18

HOW 1973-74 AUTOBODY TERMINEES NOW WORKING IN A RELATED AREA, WHOSE VOCATIONAL PROGRAM INCLUDED COOPERATIVE WORK, RATED FACILITIES AND EQUIPMENT USED IN THEIR COOPERATIVE WORK STATION[A]

Rating[B]	Number	Percent
Better than those on present job	6	24.0
Similar to those on present job	10	40.0
Working at same place where cooperative training was done	6	24.0
Not as good as those on present job	3	12.0
TOTAL	25	100.0

[A]Fourteen (19.4%) of the responding 72 Autobody terminees indicated their vocational program was not a cooperative program. Thirty-three (45.8%) terminees indicated they were not working in an area related to their cooperative work; therefore, they did not complete this item on the questionnaire.

[B]Persons who had not had a job since leaving their vocational program, including those in military service and those attending school, were asked not to respond to questions from which data were drawn. Returns were received from 99 terminees.

Basic Employment Information

The following section of this report offers information relative to employment and job characteristics of the 1973-74 secondary Autobody terminees.

Table 19 illustrates the number of full-time jobs the responding 1973-74 Autobody terminees have had since leaving their high school vocational course.

TABLE 19

NUMBER OF FULL-TIME JOBS HELD BY THE 1973-74 AUTOBODY TERMINEES SINCE LEAVING THEIR HIGH SCHOOL VOCATIONAL COURSE

Number of Full-Time Jobs Held	Number	Percent[A]
One	46	46.5
Two	22	22.2
Three	8	8.1
Four	2	2.0
Five or more	2	2.0
TOTAL	80	80.8

[A]Percentage is based on the 99 terminees who returned the questionnaire.

There were 46 (46.5%) of the total 99 responding 1973-74 Autobody terminees who had been employed in just one job since leaving their high school vocational program. Twenty-two (22.2%) of the terminees reported having two jobs since leaving their high school vocational course seven to eight months ago.

Table 20 reveals the first-job employment status of Autobody terminees who returned the survey by the relatedness of their vocational training to their first job.

Of the 99 responding 1973-74 Autobody terminees, 68 (68.7%) were employed full time in their first job after leaving their high school vocational program. Twelve (12.1%) terminees' first jobs were on a part-time basis.

Twenty-six (26.2%) of the 99 responding terminees' first jobs (full-time or part-time) were in an area directly related to the training they received in their high school vocational course. Four (4.0%) were employed in an area somewhat related while 50 (50.5%) were employed in a first job not related to the training they received. The terminees made the judgment as to how their first job was related to the training they received in their high school vocational program.

Of the 52 terminees who indicated their jobs were not related to their vocational course, 21 (40.4%) terminees indicated that before they accepted their unrelated job, they tried to get a job that was related to their vocational training. However, 31 (59.6%) of the terminees did not.

TABLE 20

FIRST-JOB EMPLOYMENT STATUS OF AUTOBODY TERMINEES (1973-74) BY RELATEDNESS OF VOCATIONAL TRAINING TO FIRST JOB[A]

First Job After Leaving High School Vocational Program	Total Reporting		Relatedness of Vocational Training to First Job[B]					
			Directly Related		Somewhat Related		Not Related[C]	
	No.	%	No.	%	No.	%	No.	%
Full-Time	68	68.7	24	24.2	3	3.0	41	41.4
Part-Time	12	12.1	2	2.0	1	1.0	9	9.1
TOTAL	80	80.8	26	26.2	4	4.0	50	50.5

[A]All percentages were based on the 99 (25.1%) of 395 terminees who returned the survey form.

[B]The terminees made the judgment as to how their first job was related to the training received in their high school vocational program.

[C]See below for reasons terminees who were working in first job unrelated to their vocational training gave for not seeking job that was related before accepting their first job.

The following is a list of reasons given by 12 of the 15 terminees who, before taking their first unrelated job indicated they did not seek a job related to their vocational training.

Reasons	Number
It was not what I wanted to do	1
Couldn't find that kind of job	1
None near by	1
Type of work auto body required didn't interest me	1

(continued)

Reasons	Number
Not well trained	1
I hate Autobody	1
Didn't have enough training; Didn't like that kind of work	1
Because of pay	1
Gas Station	1
I just needed some money	1
I already had a job waiting	1
Were none around	1

Table 21 shows number of returns by type school and termination status for the first job of the 1973-74 Autobody terminees and the relatedness of their training to this first job.

TABLE 21

NUMBER OF RETURNS BY SCHOOL AND TERMINATION STATUS FOR 1973-74 AUTOBODY TERMINEES' FIRST JOB AND RELATEDNESS OF TRAINING[A]

Type School and Termination Status	Number Returns	Total Employed by Area Studied		Relatedness of Training to First Job[D]					
				Directly Related		Somewhat Related		Not Related	
		No.	%	No.	%	No.	%	No.	%
Area Voc. Centers									
Total	71	57	57.6	17	17.1	2	2.0	38	38.4
Completers[B]	56	46	46.5	15	15.1	1	1.0	30	30.3
Dropouts[C]	15	11	11.1	2	2.0	1	1.0	8	8.1
Other Type Schools									
Total	28	27	27.2	11	11.1	3	3.0	13	13.1
Completers	25	24	24.2	10	10.1	2	2.0	12	12.1
Dropouts	3	3	3.0	1	1.0	1	1.0	1	1.0
Grand Total	99	84	84.8	28	28.2	5	5.0	51	51.5
Completers	81	70	70.7	25	25.2	3	3.0	42	42.4
Dropouts	18	14	14.1	3	3.0	2	2.0	9	9.1

[A]All percentages are based on the 99 (25.1%) of 395 terminees who returned the survey form.
[B]Any terminee who left the program by completing or by high school graduation.
[C]Any terminee who the instructor reported as having dropped out of school.
[D]The terminees made the judgment as to how their first job was related to the training received in their high school vocational program.

Table 22 illustrates the current employment status of the responding terminees by the relatedness of their vocational training to their present jobs. All percentages figured in the table were based on the 99 (25.1%) returns from the 395 Autobody terminees.

Of the 99 responding 1973-74 secondary Autobody terminees, 63 (63.6%) were presently employed full time and not attending school or employed full time and attending school. Five (5.0%) of the terminees were employed part time and attending school, while seven (7.1%) were unavailable for employment (See below for reasons terminees were unavailable for employment). Only ten (10.1%) of the terminees were unemployed and actively seeking employment, while one (1.0%) was employed part time and seeking full-time employment.

The "No Response" category in Table 22 includes three groups: (1) terminees in active full-time military service; (2) terminees who were in school full time and had never had a job; and (3) terminees who failed to respond to the item on the questionnaire.

Of the 99 secondary Autobody respondees, 20 (20.2%) were presently employed full time or part time in an area directly related to the training received in their high school vocational course. Three (3.0%) were employed either part time or full time in an area somewhat related to their training, while 45 (45.4%) were employed in areas not related to training. The terminees made the judgment as to how their present employment was related to the training received in their high school vocational course.

Of the 51 terminees who indicated their present jobs were not related to their vocational course, 19 (37.3%) terminees indicated that before they accepted their unrelated job, they tried to get a job that was related to their vocational training. However, 32 (62.7%) of the terminees did not.

TABLE 22

CURRENT EMPLOYMENT STATUS OF AUTOBODY TERMINEES (1973-74)
BY RELATEDNESS OF TRAINING TO PRESENT JOB[A]

Employment Status	Total Respond-ing		Relatedness of Training to Present Job[B]							
			Directly Related		Somewhat Related		Not Related[E]		Employed No Response	
	No.	%	No.	%	No.	%	No.	%	No.	%
Employed full time and not attending school	60	60.6	17	17.2	3	3.0	40	40.4	0	0.0
Employed full time and attending school	3	3.0	1	1.0	0	0.0	2	2.0	0	0.0
Employed part time and seeking full-time job	1	1.0	0	0.0	0	0.0	1	1.0	0	0.0
Employed part time and not seeking full-time job	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Employed part time and attending school	5	5.0	2	2.0	0	0.0	2	2.0	1	1.0
Unemployed (actively seeking a job)[C]	10	10.1	N/A		N/A		N/A		N/A	
Unavailable for employment[C&D]	7	7.1	N/A		N/A		N/A		N/A	
No Response	13	13.1	N/A		N/A		N/A		N/A	
TOTAL	99	100.0	20	20.2	3	3.0	45	45.4	1	1.0

[A]All percentages were based on the 99 (25.1%) respondents of the total 395 terminees. Terminees in active full-time military service or attending school full-time and had never been employed were included in the "No Response" category.

[B]The terminees made the judgment as to how their present job was related to the training received in their high school vocational program.

[C]The unemployed and unavailable for employment categories do not include persons in the military service and persons who were in school full time and never had a job.

[D]See page 24 for the listing of reasons Autobody terminees gave for being unavailable for employment.

[E]See page 24 for reasons terminees who were working in present job not related to vocational training gave for not seeking related job before accepting present job. Totals for unrelated columns may not correspond because terminees failed to respond to one of the two questions from which data were drawn.

Below is a list of the reasons given by the terminees for being unavailable for employment.

Reasons	Number
In school full time	7
Presently not working, not interested in a job	1
Homemaker	0
Pregnancy	0
Illness or disability	1
Other	1

The following is a list of reasons given by 30 of the 32 terminees who, before taking their present unrelated job, indicated they did not seek a job that was related to their vocational training.

Reasons	Number
Not interested	5
Had better job offer	2
Not what I wanted to do	1
Couldn't find that kind of job	5
In School	1
Already had a job	2
Had money	1
While going to school I tried to find a job in Autobody	1
Lay off	1
Hate Autobody	1
Didn't have enough training	1
Planning on Jr. College	1
Cut in pay	1
Didn't finish school that year	1
Took first job offer	1
Have own paint shop	1
Grocery business	1
Do not know the trade	1
I do body work at home on the side	1

Table 23 shows for the present job, the number of 1973-74 secondary Autobody terminees employed by the relatedness of their vocational training to their present job.

Of the 71 terminees presently employed that studied Autobody 20 (27.8%) were employed in an area directly related to the training received in their

high school vocational program. Forty-nine (68.1%) terminees who studied Autobody indicated their present job was somewhat related to their high school vocational training. The terminees made the judgment as to how their present job related to the training received in their high school vocational program.

TABLE 23

NUMBER OF RETURNS BY TYPE SCHOOL AND TERMINATION STATUS FOR 1973-74 AUTOBODY TERMINEES PRESENT JOB, AND RELATEDNESS OF TRAINING TO PRESENT JOB[A]

Type School and Termination Status	Number Returns	Total Employed By Area Studied		Relatedness of Training to Present Job[D]					
				Directly Related		Somewhat Related		Not Related	
		No.	%	No.	%	No.	%	No.	%
Area Voc. Centers									
Total	71	49	49.5	10	10.1	1	1.0	38	38.4
Completers[B]	56	41	41.4	10	10.1	1	1.0	30	30.3
Dropouts[C]	15	8	8.1	0	0.0	0	0.0	8	8.1
Other Type Schools									
Total	28	23	23.2	10	10.1	2	2.0	11	11.1
Completers	25	22	22.2	9	9.1	2	2.0	11	11.1
Dropouts	23	1	1.0	1	1.0	0	0.0	0	0.0
Grand Total	99	72	72.7	20	20.2	3	3.0	49	49.5
Completers	81	63	63.6	19	19.2	3	3.0	41	41.4
Dropouts	18	9	9.1	1	1.0	0	0.0	8	8.1

[A]Percentage is based on the 99 (25.1%) of the 395 terminees who returned the survey form.

[B]Any terminee who left the program by completing or by high school graduation.

[C]Any terminee who the instructor reported as having dropped out of school.

[D]The terminees made the judgment as to how their first job was related to the training received in their high school vocational program.

Table 24 indicates the first job salary ranges as compared to the present job salary ranges for the 1973-74 Autobody terminees.

TABLE 24

FIRST-JOB SALARY RANGES AND PRESENT-JOB SALARY RANGES FOR 1973-74 AUTOBODY TERMINEES

Salary Ranges	First Job		Present Job	
	No.	%	No.	%
Under $250	34	41.5	9	13.4
$250 - $299	11	13.4	6	9.0
$300 - $349	15	18.3	9	13.4
$350 - $399	7	8.5	11	16.4
$400 - $449	4	4.9	9	13.4
$450 - $499	6	7.3	4	6.0
$500 - $599	2	2.4	14	20.9
$600 - $699	1	1.2	3	4.5
$700 or more	2	2.4	2	3.0
TOTAL	82	100.0	67	100.0

Of the 82 terminees reporting a salary range for their first job, 34 (41.5%) indicated a range of under $250 per month. Three terminees reported a first salary of over $600 per month. The median salary range for the first job fell in the range of $250 - $349 per month. The mean salary range for the first job also fell in the same range of $250 - $349 per month.

Of the 67 1973-74 Autobody terminees reporting a salary range for their present job, nine (13.4%) indicated under $250 per month. The median and mean salary ranges for the present job fell within the range of $350 - $449 per month. The median and mean salary ranges of present jobs over first jobs indicate a considerable increase for the reporting Autobody terminees.

Table 24A indicates the first-job salary ranges by relatedness of training of the Autobody terminees.

Twenty-nine (40.8%) of the 71 responding terminees were employed at less than $250 per month. Of these 29 terminees, nine (12.7%) males

were employed in a job directly related to their training, three (4.2%) were employed in jobs somewhat related to their training, while 17 (23.9%) were employed in jobs not related to their training.

TABLE 24A

FIRST-JOB SALARY RANGES BY RELATEDNESS OF TRAINING OF 1973-74 AUTOBODY TERMINEES

Salary Range	Sex of Terminees Responding	Relatedness of Training to First Job[B]		
		Directly Related	Somewhat Related	Not Related
	Male	Male	Male	Male
Under $250	29	9	3	17
$250 - $299	8	4	0	4
$300 - $349	13	4	0	9
$350 - $399	7	2	0	5
$400 - $449	4	0	0	4
$450 - $499	5	1	1	3
$500 - $599	2	1	0	1
$600 - $699	1	0	0	1
$700 or more	2	2	0	0
TOTAL[A]	71	23	4	44

[A]Totals do not match those of Table 24 because some terminees did not respond to all questions.

[B]The terminees made the judgment as to how their first job was related to the training received in their high school vocational program.

Of the 71 responding terminees, all were males. Twenty-three (32.4%) were employed in jobs directly related to their vocational training, four (5.6%) were employed in jobs somewhat related to their training, while 44 (62.0%) were employed in jobs not related to their training.

Table 24B indicates the present-job salary ranges by relatedness of training of the Autobody terminees.

TABLE 24B

PRESENT-JOB SALARY RANGES BY RELATEDNESS OF TRAINING OF 1973-74 AUTOBODY TERMINEES

Salary Ranges	Sex of Terminees Responding	Relatedness of Training to Present Job[B]		
		Directly Related	Somewhat Related	Not Related
	Male	Male	Male	Male
Under $250	8	3	0	5
$250 - $299	6	1	0	5
$300 - $349	9	2	0	7
$350 - $399	9	4	0	5
$400 - $449	7	3	0	4
$450 - $499	2	0	0	2
$500 - $599	13	4	1	8
$600 - $699	3	0	1	2
$700 or more	2	2	0	0
TOTAL[A]	59	19	2	38

[A]Totals do not match those of Table 24 because some terminees did not respond to all questions.

[B]The terminees made the judgment as to how their present job was related to the training received in their high school vocational program.

Eight (13.5%) of the 59 responding terminees were employed at less than $250 per month. Of these eight terminees, three (5.1%) were employed in a job directly related to their training, while five (8.5%) were employed in jobs not related to their training.

Of the 59 responding terminees, all were males. Nineteen (32.2%) were employed in jobs directly related to their vocational training, two (3.4%) were employed in jobs somewhat related to their training, while 38 (64.4%) were employed in jobs not related to their training.

Continuing Education Information

The following section of this report presents information relative to the continuing education of the 1973-74 secondary Autobody terminees.

Table 25 shows the vocational educational training opportunities terminees have participated in since leaving their high school vocational program.

TABLE 25

ADDITIONAL VOCATIONAL EDUCATIONAL TRAINING 1973-74
SECONDARY AUTOBODY TERMINEES PARTICIPATED
IN SINCE LEAVING THEIR HIGH SCHOOL
VOCATIONAL PROGRAM[A]

Type Training	Number	Percent[B]
On-the-job training (employer-sponsored program)	13	13.1
Public school adult vocational program	1	1.0
Private vocational school program	0	0.0
University or four year college	2	2.0
Junior college	8	8.1
Post-secondary vocational-technical institute (trade school)	5	5.0
Apprenticeship training program	1	1.0
Specialized occupational military training	1	1.0
Other[C]	9	9.1
TOTAL[D]	40	40.4

[A]Sixty-two (62.6%) of the 99 terminees gave no indication of being involved in additional vocational training. Of the 99 terminees 36 (36.3%) took part in one additional vocational training opportunity since leaving their high school program. Two (2.0%) took part in two and two (2.0%) terminees took part in the three additional training opportunities.

[B]Percentages are based on the 99 (25.1%) respondents of the total 395 terminees who returned questionnaires.

[C]See page 30 for the "Other" listing as specified by the terminees.

[D]The total indicated the number of different training programs in which terminees enrolled. As footnoted above, several terminees had enrolled in more than one training program.

Of the total terminees, the 13 (13.1%) who had on-the-job training represented the largest area where terminees had taken additional vocational training.

Of the 99 responding terminees, 36 (36.3%) had taken part in on additional vocational training program since leaving their high school

program. Two (2.0%) enrolled in two training programs, and two (2.0%) terminees had enrolled in three vocational training programs. Sixty-two (62.6%) indicated they had not enrolled in any additional vocational training.

The following is a listing of the "Other" (Table 25) vocational education training terminees indicated they had participated in:

"Other" Vocational Training	Number
Stayed on as a body man	1
High school	1
Mental retardation	1
R.E.T.S. electronics	1
Meat cutting	1
Own my car here	1

Table 26 points out the additional programs the 1973-74 secondary Autobody terminees were presently attending beyond their high school vocational program.

Of the 99 1973-74 secondary Autobody terminees who responded to the survey, two (2.0%) were attending an on-the-job training program (employer-sponsored), six (6.1%) were attending a vocational technical institute, six (6.1%) were attending a junior college, two (2.0%) were attending a four year college or university, none were attending a public adult vocational program, private business or trade school, or an apprenticeship program. Five (5.0%) were attending some other type of school or educational program. (See page 31 for the listing of the other types of schools or educational programs students were attending.)

Twenty-one (21.2%) of the 99 Autobody terminees were presently continuing their education. Seven (7.1%) of the terminees were continuing their education in a program related to their high school vocational program. Fourteen (14.1%) were attending a program in an area not related to their high school vocational program.

TABLE 26

PROGRAMS PRESENTLY ATTENDED BY THE 1973-74 SECONDARY AUTOBODY TERMINEES BY WHETHER THESE PROGRAMS WERE RELATED TO THEIR HIGH SCHOOL VOCATIONAL EDUCATION PROGRAM[A]

Programs Attended	Terminees		Program Related to High School VED Program			
			Yes		No	
	No.	%	No.	%	No.	%
On-the-job training (employer-sponsored)	2	2.0	1	1.0	1	1.0
Vocational-technical institute (Trade School)	6	6.1	5	5.0	1	1.0
Junior college	6	6.1	0	0.0	6	6.1
Four year college or university	2	2.0	0	0.0	2	2.0
Public school adult vocational program	0	0.0	0	0.0	0	0.0
Private business or trade school	0	0.0	0	0.0	0	0.0
Apprenticeship program	0	0.0	0	0.0	0	0.0
Other[B]	5	5.0	1	1.0	4	4.0
TOTAL	21	21.2	7	7.1	14	14.1

[A]All percentages were based on the 99 responding terminees.

[B]See below for listing of "Other" schools or educational institutions terminees were attending.

The following is a listing of the "Other" category (Table 26) of additional programs the 1973-74 Autobody terminees were attending:

"Other" School or Program	Number
High School	3
Night School	1
Trade School	1

Of the 99 responding terminees, 70 (70.7%) indicated they would like further vocational training. The following is a list of the areas in which these terminees desired to study:

Area of Study	Number
Autobody	21
Body & fender	9
Auto Mechanics	4
Computer training	2
Air Conditioning Refrigeration	3
Jet Mechanic	1
Water & Pollution Control	1
Machinist apprentice	1
Automotive Painting	1
Radio/TV Repair	1
Welding	5
Industrial Electricity	1
Business	1
Electronics	1
Machinist	1
Drafting	2
Maintenance	1
College	1
Uncertain	2

Twenty (20.2%) of the 99 responding terminees indicated they did not desire further training. Nine (9.1%) terminees did not respond to the question.

Job Placement Information

The following section of this report presents information concerning job placement of the 1973-74 secondary Autobody terminees.

Table 27 points out whether the 1973-74 Autobody terminees were seeking full-time employment when they left their high school vocational program and if their vocational teacher attempted to help them get a job.

Of the 60 responding 1973-74 Autobody terminees indicating they were seeking full-time employment when they left their high school vocational

program, 28 (46.7%) indicated that their vocational teacher attempted to help them get a job. However, 32 (53.3%) of the terminees seeking full-time employment indicated that their vocational teacher did not attempt to help them secure employment. It was interesting to note that 34 (34.3%) of the reporting 1973-74 Autobody terminees indicated that they were not seeking full-time employment when they left their high school vocational program.

TABLE 27

WHETHER VOCATIONAL TEACHER ATTEMPTED TO HELP 1973-74 AUTOBODY TERMINEES GET A JOB IF SEEKING FULL-TIME EMPLOYMENT UPON LEAVING THE HIGH SCHOOL VOCATIONAL PROGRAM[A]

Vocational Teacher Attempted To Get Terminee A Job	Number	Percent
Yes	28	46.7
No	32	53.3
TOTAL	60	100.0

[A]Thirty-four (34.3%) of the responding terminees indicated they were not seeking full-time employment when they left their high school vocational program. Two (2.0%) of the terminees did not respond to the question.

Table 28 illustrates how long it took the 1973-74 Autobody terminees to get their first full-time job after they left their high school vocational program and began actively seeking full-time employment.

Twenty-five (55.6%) of the 45 secondary Autobody terminees secured their first full-time job within two weeks after they left their high school vocational program and began actively seeking full-time employment. However, five (11.1%) of the terminees took 13 or more weeks to secure their first full-time job. There were 39 terminees who indicated they already had a job when they left their high school vocational program.

TABLE 28

LENGTH OF TIME IT TOOK THE 1973-74 AUTOBODY TERMINEES TO SECURE FIRST FULL-TIME JOB AFTER LEAVING HIGH SCHOOL VOCATIONAL PROGRAM AND BEGINNING ACTIVELY SEEKING FULL-TIME EMPLOYMENT[A]

Time to Secure First Full-Time Job	Number	Percent
0 - 2 weeks	25	55.6
3 - 4 weeks	10	22.2
5 - 8 weeks	5	11.1
9 - 12 weeks	0	0.0
13 or more weeks	5	11.1
TOTAL	45	100.0

[A]Thirty-nine terminees indicated they already had a job when they left their high school vocational program.

Table 29 shows how the 1973-74 secondary Autobody terminees indicated they got their first full-time job after leaving their high school vocational program.

Of the 52 Autobody terminees who responded to the survey item, thirty-two (61.5%) of the terminees indicated they got their first full-time job through a friend or relative. Eight (15.4%) indicated they got their first full-time job after leaving their high school vocational program through applications to business and industry. These represented the two methods that the largest number of Autobody terminees utilized to secure their first full-time job. Only three (5.8%) of the terminees indicated they secured their first job through their vocational teacher. One student indicated that a counselor got him his first full-time job after leaving his vocational program. Those students who already had a job before leaving their high school vocational program were not shown in Table 29. (See Table 30, page 36).

TABLE 29

HOW THE 1973-74 AUTOBODY TERMINEES INDICATED THEY GOT THEIR FIRST FULL-TIME JOB AFTER LEAVING THEIR HIGH SCHOOL VOCATIONAL PROGRAM

How Terminees Secured First Full-Time Job	Number	Percent
Through your vocational teacher	3	5.8
Through your counselor	1	1.9
Through other school teachers or administrators	0	0.0
Through a friend or relative	32	61.5
Through applications to business or industry	8	15.4
Through state (local) employment office	2	3.8
Through a private employment agency	1	1.9
Through radio, T.V., newspaper, or other news media	0	0.0
Other[A]	5	9.6
TOTAL	52	100.0

[A]See listing below for the "Other" ways terminees indicated they secured their first full-time job after leaving their high school vocational program.

The five terminees who checked the "Other" category specified the means by how they secured their first full-time jobs after leaving their high school vocational programs. The following list indicates the "Other" means the terminees indicated.

"Other" Means for Securing First Full-Time Job	Number
Looked myself	1
Military	1
Put in application	1
Principal of school	1
Brother-in-school	1

Table 30 shows how the 1973-74 Autobody terminees who were working while in high school taking their vocational program indicated they got that job.

Forty-five (45.5%) of the 99 reporting 1973-74 Autobody terminees indicated they were working during the time they were in high school taking their vocational program. Of those terminees working while in high school, 19 (42.2%) got their job through a friend or relative, 10 (22.2%) through their vocational instructor, and seven (15.6%) got jobs through applications to business or industry. These three means were the ways most of the terminees secured a job while they were still in high school taking their vocational program.

TABLE 30

HOW THE 1973-74 AUTOBODY TERMINEES WHO WERE WORKING WHILE IN HIGH SCHOOL TAKING THEIR VOCATIONAL PROGRAM INDICATED THEY GOT THAT JOB[A]

Who or What Helped Terminee Get Job	Number	Percent
Your vocational teacher	10	22.2
Your counselor	1	2.2
Other school teachers or administrators	0	0.0
Friend or relative	19	42.2
Applications to business or industry	7	15.6
State (local) employment office	0	0.0
Private employment agency	1	2.2
Radio, T.V., newspaper, or other news media	0	0.0
Other	7	15.6
TOTAL	45	100.0

[A]Fifty-five (55.6%) terminees indicated they had no job during the time they were in high school taking their vocational course.

Table 31 reveals the indications of the 1973-74 Autobody terminees as whether, before taking their first job, they looked for employment within daily walking or driving distance of home by how their first job related to their vocational training.

Forty-two (82.4%) of the 1973-74 Autobody terminees who were employed in their first job indicated they sought employment within daily walking

or driving distance of home. Nine (17.6%) terminees indicated before taking their first job, they looked for a job beyond daily walking or driving distance of home.

Of the 16 terminees who were working in a directly related area, none sought employment beyond daily walking or driving distance of home.

TABLE 31

INDICATIONS OF 1973-74 AUTOBODY TERMINEES AS TO WHERE THEY LOOKED FOR THEIR FIRST JOB BEFORE TAKING ONE BY HOW THEIR FIRST JOB RELATED TO THEIR TRAINING[A]

Before Taking First Job, Where Terminees Looked For Job	Total Reporting		Total Reporting by Relatedness of First Job to Vocational Training					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Within daily walking or driving distance of home	42	82.4	16	100.0	2	100.0	24	72.7
Beyond daily walking or driving distance of home[B]	9	17.6	0	0.0	0	0.0	9	27.3
TOTAL	51	100.0	16	100.0	2	100.0	33	100.0

[A]Twenty-five indicated they already had their first job while in high school. Of those 25 terminees, eight (32.0%) were working in a directly related area, one (4.0%) in a somewhat related area, while 14 (56.0%) were working in a non-related area. Two (8.0%) did not indicate the relatedness of their training.

[B]See listing, page 37, for reasons terminees gave for seeking their first job away from home.

It is interesting to note that of the 33 terminees whose first jobs did not relate to their training, nine of those terminees sought employment beyond daily walking or driving distance of home.

Twenty-five indicated they had their first job while in high school. Of those 25 terminees, eight (32.0%) were working in a directly related area, one (4.0%) in a somewhat related area, and 14 (56.0%) were working in a non-related area.

The following is a listing of reasons terminees gave for seeking a job beyond daily walking or driving distance of their home before accepting their first job. Of the nine terminees who indicated they sought a job beyond daily walking or driving distance of home before accepting their first job, two gave reasons why they sought that job.

Reasons for Seeking Job Beyond Daily Walking or Driving Distance Before Accepting First Job	Number
To make more money	1
Army	1

Table 32 reveals the indications of the 1973-74 Autobody terminees who were working in their first job not related to their training by whether or not they tried to get a job related to their training by where they looked for employment before accepting that first job.

TABLE 32

INDICATIONS OF THE 1973-74 AUTOBODY TERMINEES WORKING IN FIRST JOB NOT RELATED TO THEIR TRAINING BY WHETHER OR NOT THEY TRIED TO GET A JOB RELATED TO THEIR TRAINING BY WHERE THEY LOOKED FOR EMPLOYMENT BEFORE ACCEPTING FIRST JOB[A]

Where Terminees Working in Non-Related Areas Looked for Employment Before Accepting First Job	Total Reporting		Before Accepting This First Job Unrelated to Training Whether Terminees Sought Job in Related Area			
			Yes		No[B]	
	No.	%	No.	%	No.	%
Sought employment within daily walking or driving distance of their home	23	71.9	10	66.7	13	76.5
Sought employment beyond daily walking or driving distance of their home	9	28.1	5	33.3	4	23.5
TOTAL	32	100.0	15	100.0	17	100.0

[A]Totals in this table may not correspond with totals of terminees for non-related categories in other tables for the following reasons: (1) some terminees had jobs when leaving program and did not have to seek employment and (2) some terminees failed to respond to one or more of the related questions from which data was drawn.

[B]See page 20 for the listing of reasons terminees who were working in non-related jobs gave for not trying to secure a job that was related to their training.

It is important to note that of the 32 terminees who were working in a non-related first job, only five (15.6%) sought related employment beyond daily walking or driving distance of home before accepting his first job.

Table 33 illustrates the indications of the 1973-74 Autobody terminees as to where they looked for a job before taking their present job by how their present job is related to their vocational training.

TABLE 33

INDICATIONS OF 1973-74 AUTOBODY TERMINEES AS TO WHERE THEY LOOKED FOR A JOB BEFORE TAKING THEIR PRESENT JOB BY HOW THEIR PRESENT JOB RELATED TO THEIR TRAINING[A]

Where Terminees Looked for Job Before Taking Present Job	Total Reporting		Total Reporting by Relatedness of Present Job to Vocational Training					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Within daily walking or driving distance of home	35	74.5	11	100.0	2	100.0	22	64.7
Beyond daily walking or driving distance of home[B]	12	25.5	0	0.0	0	0.0	12	35.3
TOTAL	47	100.0	11	100.0	2	100.0	34	100.0

[A]Twenty-two reported they already had their present job while in high school. Of those 22 terminees, eight (26.4%) were in a directly related area, one (4.5%) in a somewhat related area, while eleven (55.0%) were working in a non-related area. Two (9.0%) did not indicate the relatedness of their training.

[B]See listing, page 39, for reasons terminees gave for seeking their present job away from home.

Thirty-five (74.5%) of the presently employed 1973-74 Autobody terminees indicated they sought employment within daily walking or driving distance of home. Twelve (25.5%) terminees indicated they sought employment beyond daily walking or driving distance of home.

All eleven terminees who were working in a directly related area,

sought employment within daily walking or driving distance of home.

Of the 34 terminees who were presently working in a non-related area, twelve (35.3%) sought employment beyond daily walking or driving distance of his home.

Twenty-two terminees reported they already had their present job while in high school. Of those 22 terminees, eight (36.4%) were in directly related areas, one (4.5%) in somewhat related area, and 11 (50.0%) were in non-related areas.

The following is a list of reasons terminees gave for seeking a job beyond daily walking or driving distance of their home before accepting their present job. Of the 12 terminees who indicated they sought a job beyond daily walking or driving distance of home before accepting their present job, ten gave reasons why they sought that job.

Reasons for Seeking Job Beyond Daily Walking or Driving Distance Before Accepting Present Job	Number
No jobs close	3
Apprenticeship program	1
To find work	1
Make more money	1
To find out life for myself	1
Quit too early	1
U. S. Army, one body shop	1
So it would be close to school	1

Table 34 reveals the indications of the 1973-74 Autobody terminees who were working in their present job not related to their training by whether or not they tried to get a job related to their training by where they looked for employment before accepting that present job.

Six (18.2%) of the 33 terminees who were working in a non-related area sought related employment beyond daily walking or driving distance of home before accepting their present job.

TABLE 34

INDICATIONS OF THE 1973-74 AUTOBODY TERMINEES WORKING IN PRESENT JOB NOT RELATED TO THEIR TRAINING BY WHETHER OR NOT THEY TRIED TO GET A JOB RELATED TO THEIR TRAINING BY WHERE THEY LOOKED FOR EMPLOYMENT BEFORE ACCEPTING PRESENT JOB[A]

Before Accepting Present Job Where Terminees Working in Non-Related Areas Looked for Employment	Total Reporting		Before Accepting This Present Job Unrelated to Training Whether or Not Terminees Sought Job in Related Area			
			Yes		No[B]	
	No.	%	No.	%	No.	%
Sought employment within daily walking or driving distance of their home	21	63.6	9	60.0	12	66.7
Sought employment beyond daily walking or driving distance of their home	12	36.4	6	40.0	6	33.3
TOTAL	33	100.0	15	100.0	18	100.0

[A]Totals in this table may not correspond with totals of terminees for non-related categories in other tables for the following reasons: (1) some terminees had jobs when leaving programs and did not have to seek employment and (2) some terminees failed to respond to one or more of the related questions from which data were drawn.

[B]See page 24 for the listing of reasons terminees who were working in non-related jobs gave for not trying to secure a job that was related to their training.

APPENDIX

PRESENT JOB AND FIRST JOB TITLES OF THE
1973-74 AUTOBODY TERMINEES

PRESENT JOB AND FIRST JOB TITLES OF THE
1973-74 AUTOBODY TERMINEES

For those terminees who indicated present or first job occupations, this appendix lists the present job title and first job title. The job titles are listed as the terminees reported them. The number of full-time jobs held by these terminees since completing their high school vocational course is listed, current employment status is listed, and whether the student intended to get a job in the area while in the program.

The following code is used to identify the employment status of the terminees:

0. Unemployed, but seeking employment
1. Employed full time
2. Employed part time, seeking full-time job
3. Employed part time, not seeking full-time job
4. Employed full time and attending school'
5. Employed part time and attending school
6. Unavailable for employment

The following code is used to identify whether the student intended to get a job in the area while in the program.

1. No
2. Was not sure
3. Yes

The number in parenthesis behind the job titles indicates the relatedness of the high school vocational training to these jobs. The terminees

made the judgment as to the relatedness of their training to these jobs. The following is used to identify this relatedness:

1. Directly related
2. Somewhat related
3. Not related

The total does not correspond to the total reporting since some of the terminees failed to indicate the title of their present position. If the first job title was the same as the present job title, the first job title is included under the present job title.

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No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
1	1	3	1	Auto body man (1)	
2	1	1	3	Auto body man (1)	Painter's helper (1)
3	1	2	3	Auto body man (1)	Body man (1)
4	1	2	1	Maintenance man (3)	
5	5	0	3	Painter's helper (1)	Painter's helper (1)
6	1	1	3	Auto Body man (1)	
7	1	1	3	Military service (3)	Clean up man (3)
8	1	1	3	Auto body man (1)	Auto body Man (1)
9	1	1	3	Body & Fender man (1)	
10	1	1	2	Electrician's helper (3)	Electrician's helper (3)
11	1	2	3	Laborer (3)	Auto body man (1)
12	0	2	3		Maintenance man (1)
13	1	2	3	Painter's helper (1)	
14	1	1	3	Valve Tester (3)	Truck driver (3)
15	2	0	3	Musician (3)	
16	1	1	3	Warehouse man (2)	Auto body man (1)
17	5	2	3	Mechanic (3)	Carpenter's helper (3)
18	1	2	2	Auto body man (3)	Equipment operator (3)
19	1	1	2	Treatment plant trainer (3)	
20	1	5	3	Clerk	Body Man (1)
21	1	1	3	Auto body man (1)	Auto body man (1)
22	1	2	3	Electrician (3)	Insulator (3)
23	1	2	3	Utility man (2)	Mechanic (2)
24	0	1	2		Laborer (3)
25	1	0	3	Truck loader (3)	Ditch digger 3)
26	1	1	3	Tire Retreader (3)	
27	1	1	3	Spot Painter (1)	

(continued)

OE Code 17.0301 Autobody (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
28	1	3	2	Powerhouse helper (3)	Bilboard man (3)
29	1	2	2	Assembly man (3)	Machine operator (3)
30	1	2	3	Assembly man (3)	Body man (1)
31	6	3	3		Apprentice painter (2)
32	0	1	2		Truck driver (3)
33	1	1	2	Auto body man (1)	
34	0	2	3		Pipe fitter (3)
35	5	1	3	Auto body man (1)	
36	1	1	2	Auto body man (1)	
37	4	2	3	Supervisor (3)	Repairman (3)
38	1	1	3	Water plant operator (3)	
39	1	1	3	Auto body man (1)	Laborer (1)
40	1	1	2	Car Puller (3)	
41	1	1	2	Service station attendant (3)	
42	1	1	3	Painter (1)	
43	1	1	3	Laborer (1)	
44	1	3	2	Auto body man (1)	Painter's helper (1)
45	6	3	1	Shipper (3)	Cook (3)
46	4	1	2	Auto body man (1)	
47	1	1	3	Boat rigger	
48	1	4	1	Apprentice mason (3)	Mechanic (3)
49	6	1	2	Stock man (3)	
50	1	1	3	Cashier (3)	Bagger (3)
51	1	1	2	Pharmacy clerk (3)	
52	1	3	2	Materials handler (3)	Body man's assistant (1)
53	1	1	2	Salesman (2)	
54	1	1	3	Painter's helper (1)	
55	1	2	2	Assistant beer roller (3)	Farm hand (3)
56	1	1	3	Produce man (3)	

(continued)

OE Code 17.0301 Autobody (continued)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
57	1	2	2	Carpenter (3)	Painter (3)
58	1	2	2	Service station attendant (3)	Roofer (3)
59	1	1	2	Auto body man (1)	
60	1	2	2	Cutting table operator (3)	Sanitation man (3)
61	1	1	2	Maintenance man (3)	
62	0	3	3		Service station attendant
63	1	0	2	Lumber mill operator (3)	
64	4	1	2	Clerk	
65	1	1	3	Steelworker (3)	
66	1	3	2	Hospital orderly (3)	Laborer (3)
67	0	1	2		Boat builder (3)
68	0	2	3		Deck clerk (3)
69	5	0	2	Technician helper (3)	Service station attendant (2)
70	0	1	3		Laborer (3)
71	1	2	2	Construction worker (3)	Handy man (3)
72	1	1	2	Assistant manager, service station (3)	
73	1	1	2	Lift truck operator (3)	
74	1	2	2	Laborer (3)	Carpenter's helper (3)
75	1	1	2	Maintenance clerk (3)	
76	1	1	3	Laborer (3)	
77	0	3	3		Farmer
78	1	2	2	Meat Cutter (3) (3)	Trainee (3)
79	0	5	2	Maintenance man (3)	
80	5	4	3		Weigh man (1)

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ABSTRACT: THIS REPORT RELATES THE FINDINGS OF A STATEWIDE FOLLOWUP SURVEY OF 1973-74 TRADE AND INDUSTRIAL OCCUPATIONS COOPERATIVE TERMINEES FROM THE SECONDARY SCHOOL VOCATIONAL PROGRAMS IN ALABAMA. QUESTIONNAIRES WERE MAILED TO 2,410 STUDENT TERMINEES APPROXIMATELY SEVEN TO EIGHT MONTHS AFTER LEAVING SCHOOL. RETURNS WERE RECEIVED FROM 753 (31.2 PERCENT) OF THE TRADE AND INDUSTRIAL OCCUPATIONS COOPERATIVE TERMINEES FROM THE INITIAL MAILING AND ONE FOLLOWUP. DATA ARE PRESENTED IN TABLES WITH ACCOMPANYING NARRATIVE SUMMARIES ORGANIZED ACCORDING TO THESE MAJOR SECTIONS: GENERAL INFORMATION ON THE TERMINEES; BASIC INFORMATION RELATED TO THE VOCATIONAL PROGRAM; BASIC EMPLOYMENT INFORMATION; CONTINUING EDUCATION INFORMATION; AND JOB PLACEMENT INFORMATION. PRESENT AND FIRST JOB TITLES OF THE 1973-74 TRADE AND INDUSTRIAL OCCUPATIONS COOPERATIVE TERMINEES ARE APPENDED. (NJ)

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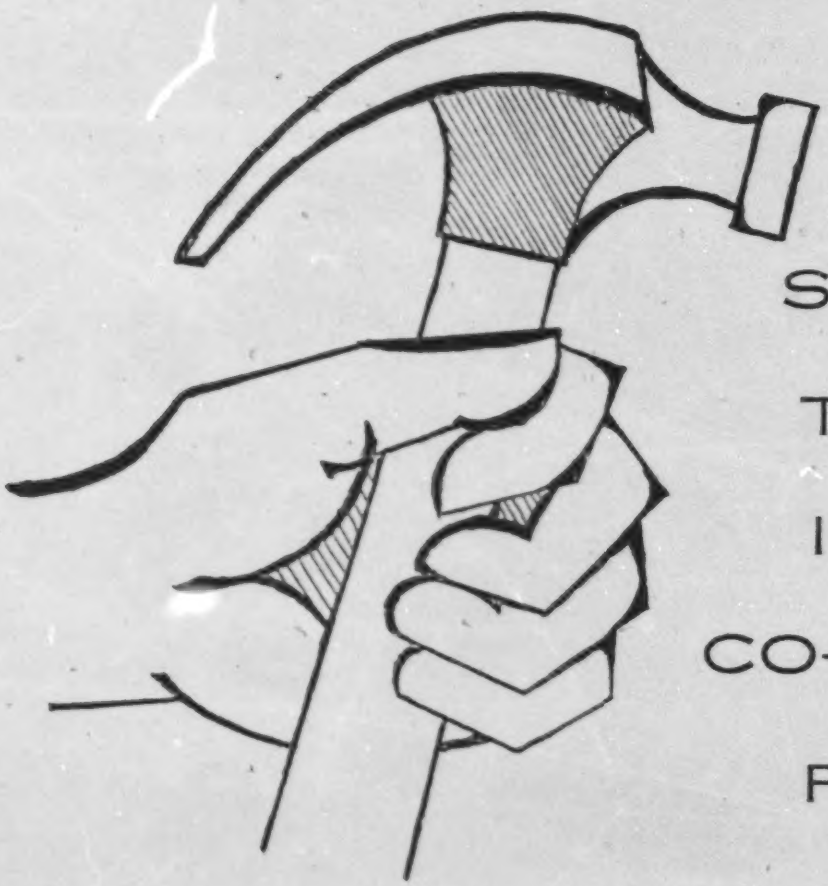

1973-1974 ALABAMA SECONDARY TRADE AND INDUSTRIAL CO-OPERATIVE FOLLOW-UP REPORT

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IN COOPERATION WITH DIVISION OF
VOCATIONAL EDUCATION AND COMMUNITY COLLEGES
STATE DEPARTMENT OF EDUCATION

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2

TRADE AND INDUSTRIAL OCCUPATIONS
CO-OPERATIVE FOLLOW-UP

Follow-Up of 1973-74 Trade and Industrial Occupations
Co-operative Terminees from the Secondary
School Vocational Programs of Alabama

Research and Development Report No. 41

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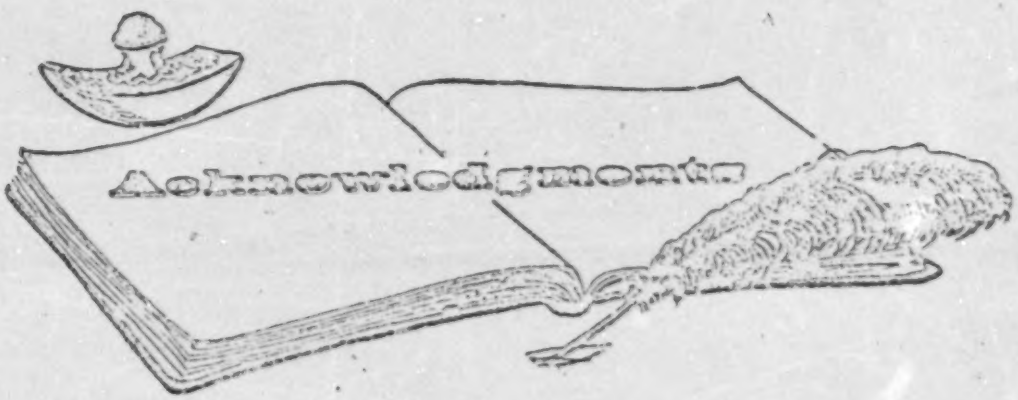

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FOLLOW-UP OF 1973-74 TRADE AND INDUSTRIAL OCCUPATIONS
CO-OPERATIVE TERMINEES FROM THE SECONDARY
SCHOOL VOCATIONAL PROGRAMS OF ALABAMA

Alabama continues to support one of the most progressive and comprehensive vocational education programs in the nation. In addition to serving youth and adults by training them for gainful and useful employment, the diversification of vocational courses meets a serious job need and contributes to the industrial development in the state.

With the millions of tax dollars being spent on vocational education, it is necessary to attempt to account to the taxpayer and decision-makers on the results of those expenditures. Terminee student follow-up studies constitute one of the most valuable techniques for assessing vocational education system outcomes.

The Alabama State Department of Education, Division of Vocational Education and Community Colleges, recognizing this important phase of accountability and evaluation, initiated the development of a statewide follow-up system for its vocational education program terminees at the secondary school level. The Division, under the direction of Dr. T. L. Faulkner, State Director, contracted with the Occupational Research and Development Unit at Auburn University to develop and implement the statewide follow-up system for all its secondary vocational terminees in all service areas.

This report relates the findings of the survey instrument mailed to the 1973-74 Trade and Industrial Occupations Co-operative terminees

from the secondary school vocational programs of Alabama. When the co-operative terminees received the questionnaire, most had been out of school seven to eight months.

General Information

Student rosters with names and addresses of 1973-74 Trade and Industrial Occupations Co-operative terminees were received from 91 secondary school vocational teachers in Alabama. Of the 91 teachers from which co-operative student rosters were received, seven were in Secondary Area Vocational Centers (AVC) and 84 were in co-operative programs in schools of other settings. The total of 2,410 co-operative student terminees reported to the ORDU were mailed the follow-up forms. Returns were received from 753 (31.2%) of the Trade and Industrial Occupations Co-operative terminees from the initial mailing and one follow-up. At least one student questionnaire was received from each of the 91 teachers.

All terminees reported in this study were in co-operative programs administered only by the Trade and Industrial Section of the Division of Vocational Education and Community Colleges, State Department of Education.

Table 1 presents data relative to the total population of Trade and Industrial Occupations Co-operative terminees and the number of returns categorized by OE codes as reported by the co-operative teachers.

TABLE 1

DESCRIPTION OF TOTAL POPULATION AND RETURNS BY OE CODE OF
1973-74 TRADE AND INDUSTRIAL OCCUPATIONS
CO-OPERATIVE TERMINEES[A]

OE Code[B]	Occupational Title	Total Number of Students	Percent of Trade and Industrial Co-operative Students by OE Code	Number of Returns	Percent of Returns for OE Code Area
Not Designated		2	0.1	0	0.0
01.0500	Ornamental Horticulture	1	0.0	1	100.0
04.0100	Advertising Service	13	0.5	6	46.2
04.0200	Sales, Apparel and Accessories	13	0.5	3	23.1
04.0300	Sales, Automotive	7	0.3	3	42.9
04.0400	Finance and Credit	5	0.2	3	60.0
04.0600	Food Distribution	19	0.8	8	42.1
04.0700	Food Services	3	0.1	1	33.3
04.0800	General Merchandise	14	0.6	3	21.4
04.0900	Sales, Hardware and Building Material	7	0.3	1	14.3
04.1000	Sales, Home Furnishings	3	0.1	1	33.3
04.1200	Industrial Marketing	4	0.2	1	25.0
04.1300	Insurance	1	0.0	0	0.0
04.1500	Personal Services	1	0.0	1	100.0
04.1800	Recreation & Tourism	1	0.0	1	100.0
04.1900	Transportation	5	0.2	1	20.0
04.2000	Retail Trade, Other	2	0.1	1	50.0
04.3100	Wholesale Trade, Other	9	0.4	3	33.3
07.0000	Health Occupations	1	0.0	1	100.0
07.0101	Dental Assisting	47	2.0	27	57.4
07.0103	Dental Laboratory	3	0.1	3	100.0
07.0200	Medical Laboratory	64	2.7	26	40.6
07.0203	Medical Lab. Asst.	62	2.6	25	40.3
07.0302	Practical Nurse	11	0.5	6	54.5
07.0303	Nursing Assistant	41	1.7	17	41.5
07.0402	Physical Therapy	1	0.0	0	0.0
07.0404	Orthotics	2	0.1	1	50.0
07.0500	Radiologic	1	0.0	1	100.0
07.0501	Radiologic Tech.	3	0.1	2	66.7
07.0603	Optometrist Asst.	1	0.0	0	0.0
07.0800	Mental Helath Technology	4	0.2	1	25.0
07.0903	Inhalation Therapy	4	0.2	2	50.0

(continued)

TABLE 1 (continued)

OE Code[B]	Occupational Title	Total Number of Students	Percent of Trade and Industrial Co-operative Students by OE Code	Number of Returns	Percent of Returns for OE Code Area
07.0904	Medical Assistant	14	0.6	7	50.0
07.0909	Mortuary Science	8	0.3	4	50.0
07.9900	Health Occupations, Other	32	1.3	11	34.4
09.0102	Child Development	2	0.1	2	100.0
09.0201	Care and Guidance of Children	2	0.1	2	100.0
09.0202	Clothing Management	1	0.0	1	100.0
14.0300	General Office Clerical	34	1.4	14	41.2
14.0301	Duplicating Machine Operator	12	0.5	4	33.3
14.0901	Clerk-Typists	4	0.2	3	75.0
16.0201	Animal Science	1	0.0	1	100.0
17.0000	Trade and Industrial Occupations	7	0.3	1	14.3
17.0100	Air Conditioning	20	0.8	6	30.0
17.0101	Cooling	7	0.3	3	42.9
17.0102	Heating	1	0.0	0	0.0
17.0103	Ventilating	1	0.0	0	0.0
17.0199	Air Conditioning, Other	1	0.0	0	0.0
17.0200	Appliance Repair	25	1.0	2	8.0
17.0201	Electrical Appliances	1	0.0	0	0.0
17.0202	Gas Appliances	2	0.1	1	50.0
17.0300	Automotive Service	5	0.2	1	20.0
17.0301	Body and Fender	46	1.9	14	30.4
17.0302	Auto Mechanics	148	6.2	45	30.4
17.0303	Auto Specialization, Other	79	3.3	20	25.3
17.0399	Auto Service, Other	26	1.1	6	23.1
17.0401	Aircraft Maintenance, Other	1	0.0	1	100.0
17.0499	Aviation Occupations, Other	1	0.0	0	0.0
17.0504	Blue Print Reading	6	0.3	1	16.7
17.0600	Business Machine Maintenance	8	0.3	3	37.5
17.0700	Commercial Art Occupations	14	0.6	4	28.6
17.0701	Interior Decorating	1	0.0	0	0.0
17.0702	Window Display	3	0.1	0	0.0
17.0703	Product Design	1	0.0	1	100.0

(continued)

TABLE 1 (continued)

OE Code[B]	Occupational Title	Total Number of Students	Percent of Trade and Industrial Co-operative Students by OE Code	Number of Returns	Percent of Returns for OE Code Area
17.0799	Commercial Art Occupations, Other	1	0.0	0	0.0
17.0900	Commercial Photography	19	0.8	8	42.1
17.1000	Construction and Maintenance	9	0.4	3	33.3
17.1001	Carpentry	74	3.1	23	31.1
17.1002	Electricity	16	0.7	4	25.0
17.1003	Heavy Equipment	6	0.3	2	33.3
17.1004	Masonry	15	0.6	7	46.7
17.1005	Painting & Decorating	21	0.9	3	14.3
17.1007	Plumbing & Pipefitting	21	0.9	8	38.1
17.1008	Dry Wall Construction	1	0.0	0	0.0
17.1009	Glazing	11	0.5	2	18.2
17.1010	Roofing	1	0.0	0	0.0
17.1099	Construction, Other	110	4.6	22	20.0
17.1100	Custodial Services	88	3.7	13	14.8
17.1200	Diesel Mechanics	25	1.0	8	32.0
17.1300	Drafting	24	1.0	14	58.3
17.1400	Electrical Occupations	2	0.1	1	50.0
17.1401	Industrial Electrician	4	0.2	1	25.0
17.1402	Lineman	2	0.1	1	50.0
17.1403	Motor Repairman	7	0.3	1	14.3
17.1500	Electronics Occupations	1	0.0	0	0.0
17.1501	Communications	15	0.6	5	33.3
17.1502	Industrial Electronics	3	0.1	0	0.0
17.1503	Radio/Television	20	0.8	5	25.0
17.1600	Fabric Maintenance Services	2	0.1	1	50.0
17.1601	Drycleaning	11	0.5	3	27.3
17.1602	Laundering	1	0.0	0	0.0
17.1699	Fabric Maintenance Services, Other	1	0.0	1	100.0
17.1700	Foremanship/Management Development	11	0.5	3	27.3
17.1900	Graphic Arts Occupations	39	1.6	14	35.9
17.1902	Printing Press Occupations	4	0.2	1	25.0
17.2100	Instrument Maintenance and Repair	4	0.2	1	25.0
17.2101	Instruments (Not watches or clocks)	2	0.1	1	50.0

(continued)

TABLE 1 (continued)

OE Code[B]	Occupational Title	Total Number of Students	Percent of Trade and Industrial Co-operative Students by OE Code	Number of Returns	Percent of Returns for OE Code Area
17.2200	Maritime Occupations	1	0.0	0	0.0
17.2300	Metalworking	6	0.3	4	66.7
17.2301	Foundry	7	0.3	3	42.9
17.2302	Machine Shop	45	1.9	15	33.3
17.2303	Machine Tool Operations	18	0.8	6	33.3
17.2304	Metal Trades, Combined	2	0.1	0	0.0
17.2305	Sheet Metal	17	0.7	2	11.8
17.2306	Welding and Cutting	43	1.8	11	25.6
17.2309	Metal Patternmaking	3	0.1	0	0.0
17.2399	Metalworking, Other	3	0.1	1	33.3
17.2400	Metallurgy	1	0.0	0	0.0
17.2600	Personal Services	4	0.2	0	0.0
17.2601	Barbering	1	0.0	0	0.0
17.2602	Cosmetology	50	2.1	17	34.0
17.2699	Personal Services, Other	16	0.7	5	31.3
17.2700	Plastics Occupations	2	0.1	1	50.0
17.2800	Public Service Occupations	9	0.4	5	55.6
17.2802	Law Enforcement Training	1	0.0	1	100.0
17.2900	Quantity Foods Occupations	35	1.5	13	37.1
17.2901	Baker	4	0.2	1	25.0
17.2902	Cook/Chef	157	6.5	48	30.6
17.2903	Meat Cutter	65	2.7	18	27.7
17.2904	Waiter/Waitress	50	2.1	11	22.0
17.2999	Quantity Foods Occupations, Other	7	0.3	0	0.0
17.3000	Refrigeration	7	0.3	2	28.6
17.3100	Small Engine Repair	35	1.5	12	34.3
17.3300	Textile Production and Fabrication	6	0.3	1	16.7
17.3302	Tailoring	2	0.1	0	0.0
17.3399	Textile Production, Other	145	6.0	46	31.7
17.3401	Shoe Manufacturing	1	0.0	1	100.0
17.3402	Shoe Repair	5	0.2	1	20.0
17.3500	Upholstering	19	0.8	8	42.1
17.3600	Woodworking	5	0.2	0	0.0

(continued)

TABLE 1 (continued)

OE Code[B]	Occupational Title	Total Number of Students	Percent of Trade and Industrial Co-operative Students by OE Code	Number of Returns	Percent of Returns for OE Code Area
17.3601	Millwork and Cabinet-making	24	1.0	4	16.7
17.3699	Woodworking, Other	1	0.0	0	0.0
17.9900	Trade and Industrial, Other	166	6.9	52	31.3
17.9906	Taxidermy	1	0.0	0	0.0
99.0106	Career Guidance	6	0.3	0	0.0
	TOTAL ALL AREAS	2410	100.0	753	100.0

[A]These Trade and Industrial Occupations Co-operative terminees were terminees in co-operative programs administered only under the Trade and Industrial Section of the Division of Vocational Education and Community Colleges, State Department of Education.

[B]OE Codes as reported by teachers.

Of the 1973-74 Trade and Industrial Occupations Co-operative terminees reported by the teachers, the largest number in any OE code was in the occupational title area of Trade and Industrial, Other. This 166 represented 6.9 percent of the reported Trade and Industrial Occupations Co-operative terminees. There were 304 (12.6%) co-operative terminees listed as studying Automotive clusters. The combined enrollment of the top eight Trade and Industrial Occupations Co-operative groups was 967 (Trade and Industrial, Other, 166; Cook/Chef, 157; Auto Mechanics, 148; Textile Production, Other, 145; Construction, Other, 110; Custodial Services, 88; Auto Specialization, Other, 79; Carpentry, 74). This 967 represents 40.1 percent of the total co-operative enrollment in the Trade and Industrial Occupations area.

Table 1A is a description of the total population and returns by OE Code area, type school, and termination status of the 1973-74 Trade and Industrial Occupations Co-operative terminees.

TABLE 1A

DESCRIPTION OF TOTAL POPULATION AND RETURNS BY OE CODE AREA, TYPE SCHOOL, AND TERMINATION STATUS OF THE 1973-74 TRADE AND INDUSTRIAL OCCUPATIONS CO-OPERATIVE TERMINEES

OE Code Area Studied[A]	Occupational Title Studied by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
01.0500	Ornamental Horticulture (Total)	1	1	100.0
	AVC (Total)[B]	0	0	0.0
	Completers[C]	0	0	0.0
	Dropouts[D]	0	0	0.0
	Other Type Schools (Total)	1	1	100.0
	Completers	1	1	100.0
	Dropouts	0	0	0.0
04.0100	Advertising Services (Total)	13	6	46.2
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	13	6	46.2
	Completers	13	6	46.2
	Dropouts	0	0	0.0
04.0200	Sales, Apparel and Accessories (Total)	13	3	23.1
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	13	3	23.1
	Completers	12	3	25.0
	Dropouts	1	0	0.0

(continued)

TABLE 1A (continued)

OE Code Area Studied[A]	Occupational Title Studied by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
04.0300	Sales, Automotive (Total)	7	3	42.9
	AVC (Total)	2	1	50.0
	Completers	2	1	50.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	5	2	40.0
	Completers	5	2	40.0
	Dropouts	0	0	0.0
04.0400	Finance and Credit (Total)	5	3	60.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	5	3	60.0
	Completers	5	3	60.0
	Dropouts	0	0	0.0
04.0600	Food Distribution (Total)	19	8	42.1
	AVC (Total)	5	4	80.0
	Completers	3	3	100.0
	Dropouts	2	1	50.0
	Other Type Schools (Total)	14	4	28.6
	Completers	12	4	33.3
	Dropouts	2	0	0.0
04.0700	Food Services (Total)	3	1	33.3
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	3	1	33.3
	Completers	3	1	33.3
	Dropouts	0	0	0.0
04.0800	General Merchandise (Total)	14	3	21.4
	AVC (Total)	3	1	33.3
	Completers	3	1	33.3
	Dropouts	0	0	0.0

(continued)

TABLE 1A (continued)

OE Code Area Studied[A]	Occupational Title Studied by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
	Other Type Schools (Total)	11	2	18.2
	Completers	10	2	20.0
	Dropouts	1	0	0.0
04.0900	Sales, Hardware and Building Material (Total)	7	1	14.3
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools	7	1	14.3
	Completers	6	1	16.7
	Dropouts	1	0	0.0
04.1000	Sales, Home Furnishings (Total)	3	1	33.3
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	3	1	33.3
	Completers	3	1	33.3
	Dropouts	0	0	0.0
04.1200	Industrial Marketing (Total)	4	1	25.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	4	1	25.0
	Completers	4	1	25.0
	Dropouts	0	0	0.0
04.1300	Insurance (Total)	1	0	0.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	1	0	0.0
	Completers	1	0	0.0
	Dropouts	0	0	0.0

(continued)

TABLE 1A (continued)

OE Code Area Studied[A]	Occupational Title Studied by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
04.1500	Personal Services (Total)	1	1	100.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	1	1	100.0
	Completers	1	1	100.0
	Dropouts	0	0	0.0
04.1800	Recreation and Tourism (Total)	1	1	100.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	1	1	100.0
	Completers	1	1	100.0
	Dropouts	0	0	0.0
04.1900	Transportation (Total)	5	1	20.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	5	1	20.0
	Completers	5	1	20.0
	Dropouts	0	0	0.0
04.2000	Retail Trade, Other (Total)	2	1	50.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	2	1	50.0
	Completers	2	1	50.0
	Dropouts	0	0	0.0
04.3100	Wholesale Trade, Other (Total)	9	3	33.3
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0

(continued)

TABLE 1A (continued)

OE Code Area Studied[A]	Occupational Title Studied by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
	Other Type Schools (Total)	9	3	33.3
	Completers	9	3	33.3
	Dropouts	0	0	0.0
07.0000	Health Occupations (Total)	1	1	100.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	1	1	100.0
	Completers	1	1	100.0
	Dropouts	0	0	0.0
07.0101	Dental Assisting (Total)	47	27	57.4
	AVC (Total)	4	3	75.0
	Completers	4	3	75.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	43	24	55.8
	Completers	40	23	57.5
	Dropouts	3	1	33.3
07.0103	Dental Laboratory (Total)	3	3	100.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	3	3	100.0
	Completers	3	3	100.0
	Dropouts	0	0	0.0
07.0200	Medical Laboratory (Total)	64	26	40.6
	AVC (Total)	13	6	46.2
	Completers	12	6	50.0
	Dropouts	1	0	0.0
	Other Type Schools (Total)	51	20	39.2
	Completers	47	19	40.4
	Dropouts	4	1	25.0

(continued)

TABLE 1A (continued)

OE Code Area Studied[A]	Occupational Title Studied by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
07.0203	Medical Lab. Asst. (Total)	62	25	40.3
	AVC (Total)	5	3	60.0
	Completers	5	3	60.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	57	22	38.6
	Completers	51	21	41.2
	Dropouts	6	1	16.7
07.0302	Practical Nursing (Total)	11	6	54.5
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	11	6	54.5
	Completers	11	6	54.5
	Dropouts	0	0	0.0
07.0303	Nursing Assistant (Total)	41	17	41.5
	AVC (Total)	6	4	66.7
	Completers	6	4	66.7
	Dropouts	0	0	0.0
	Other Type Schools (Total)	35	13	37.1
	Completers	32	13	40.6
	Dropouts	3	0	0.0
07.0402	Physical Therapy (Total)	1	0	0.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	1	0	0.0
	Completers	1	0	0.0
	Dropouts	0	0	0.0
07.0404	Orthotics (Total)	2	1	50.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0

(continued)

TABLE 1A (continued)

OE Code Area Studied[A]	Occupational Title Studied by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
	Other Type Schools (Total)	2	1	50.0
	Completers	2	1	50.0
	Dropouts	0	0	0.0
07.0500	Radiologic (Total)	1	1	100.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	1	1	100.0
	Completers	1	1	100.0
	Dropouts	0	0	0.0
07.0501	Radiologic Tech. (Total)	3	2	66.7
	AVC (Total)	1	1	100.0
	Completers	1	1	100.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	2	1	50.0
	Completers	2	1	50.0
	Dropouts	0	0	0.0
07.0603	Optometrist Asst. (Total)	1	0	0.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	1	0	0.0
	Completers	1	0	0.0
	Dropouts	0	0	0.0
07.0800	Mental Health Tech. (Total)	4	1	25.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	4	1	25.0
	Completers	4	1	25.0
	Dropouts	0	0	0.0

(continued)

TABLE 1A (continued)

OE Code Area Studied[A]	Occupational Title Studied by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
07.0903	Inhalation Therapy (Total)	4	2	50.0
	AVC (Total)	2	2	100.0
	Completers	2	2	100.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	2	0	0.0
	Completers	2	0	0.0
	Dropouts	0	0	0.0
07.0904	Medical Asst. (Total)	14	7	50.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	14	7	50.0
	Completers	14	7	50.0
	Dropouts	0	0	0.0
07.0909	Mortuary Science (Total)	8	4	50.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	8	4	50.0
	Completers	8	4	50.0
	Dropouts	0	0	0.0
07.9900	Health Occupations, Other (Total)	32	11	34.4
	AVC (Total)	2	0	0.0
	Completers	2	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	30	11	36.7
	Completers	27	11	40.7
	Dropouts	3	0	0.0
09.0102	Child Development (Total)	2	2	100.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0

(continued)

TABLE 1A (continued)

OE Code Area Studied	Occupational Title Studied by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
	Other Type Schools (Total)	2	2	100.0
	Completers	2	2	100.0
	Dropouts	0	0	0.0
09.0201	Care and Guidance of Children (Total)	2	2	100.0
	AVC (Total)	1	1	100.0
	Completers	1	1	100.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	1	1	100.0
	Completers	1	1	100.0
	Dropouts	0	0	0.0
09.0202	Clothing Management (Total)	1	1	100.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	1	1	100.0
	Completers	1	1	100.0
	Dropouts	0	0	0.0
14.0300	General Office Clerical (Total)	34	14	41.2
	AVC (Total)	10	5	50.0
	Completers	10	5	50.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	24	9	37.5
	Completers	24	9	37.5
	Dropouts	0	0	0.0
14.0301	Duplicating Maching Operator (Total)	12	4	33.3
	AVC (Total)	4	1	25.0
	Completers	4	1	25.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	8	3	37.5
	Completers	8	3	37.5
	Dropouts	0	0	0.0

(continued)

TABLE 1A (continued)

OE Code Area Studied[A]	Occupational Title Studied by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
14.0901	Clerk-Typists (Total)	4	3	75.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	4	3	75.0
	Completers	4	3	75.0
	Dropouts	0	0	0.0
16.0201	Animal Science (Total)	1	1	100.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type School (Total)	1	1	100.0
	Completers	1	1	100.0
	Dropouts	0	0	0.0
17.0000	Trade and Industrial Occupations (Total)	7	1	14.3
	AVC (Total)	1	0	0.0
	Completers	0	0	0.0
	Dropouts	1	0	0.0
	Other Type Schools (Total)	6	1	16.7
	Completers	3	1	33.3
	Dropouts	3	0	0.0
17.0100	Air Conditioning (Total)	20	6	30.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	20	6	30.0
	Completers	20	6	30.0
	Dropouts	0	0	0.0
17.0101	Cooling (Total)	7	3	42.9
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0

(continued)

TABLE 1A (continued)

OE Code Area Studied[A]	Occupational Title Studied by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
	Other Type Schools (Total)	7	3	42.9
	Completers	6	3	50.0
	Dropouts	1	0	0.0
17.0102	Heating (Total)	1	0	0.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	1	0	0.0
	Completers	1	0	0.0
	Dropouts	0	0	0.0
17.0103	Ventilating (Total)	1	0	0.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	1	0	0.0
	Completers	1	0	0.0
	Dropouts	0	0	0.0
17.0199	Air Conditioning, Other (Total)	1	0	0.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	1	0	0.0
	Completers	0	0	0.0
	Dropouts	1	0	0.0
17.0200	Appliance Repair (Total)	25	2	8.0
	AVC (Total)	1	0	0.0
	Completers	0	0	0.0
	Dropouts	1	0	0.0
	Other Type Schools (Total)	24	2	8.3
	Completers	17	2	11.8
	Dropouts	7	0	0.0

(continued)

TABLE 1A (continued)

OE Code Area Studied[A]	Occupational Title Studied by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Return for OE Code Area
17.0201	Electrical Appliances (Total)	1	0	0.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	1	0	0.0
	Completers	1	0	0.0
	Dropouts	0	0	0.0
17.0202	Gas Appliances (Total)	2	1	50.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	2	1	50.0
	Completers	2	1	50.0
	Dropouts	0	0	0.0
17.0300	Automotive Service (Total)	5	1	20.0
	AVC (Total)	1	0	0.0
	Completers	1	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	4	1	25.0
	Completers	4	1	25.0
	Dropouts	0	0	0.0
17.0301	Body and Fender (Total)	46	14	30.4
	AVC (Total)	2	0	0.0
	Completers	0	0	0.0
	Dropouts	2	0	0.0
	Other Type Schools (Total)	44	14	31.8
	Completers	37	13	35.1
	Dropouts	7	1	14.3
17.0302	Auto Mechanics (Total)	148	45	30.4
	AVC (Total)	10	4	40.0
	Completers	10	4	40.0
	Dropouts	0	0	0.0

(continued)

TABLE 1A (continued)

OE Code Area Studied[A]	Occupational Title Studied by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
	Other Type Schools (Total)	138	41	29.7
	Completers	107	39	36.4
	Dropouts	31	2	6.5
17.0303	Auto Specialization, Other (Total)	79	20	25.3
	AVC (Total)	20	2	10.0
	Completers	17	2	11.8
	Dropouts	3	0	0.0
	Other Type Schools (Total)	59	18	30.5
	Completers	50	18	36.0
	Dropouts	9	0	0.0
17.0399	Auto Service, Other (Total)	26	6	23.1
	AVC (Total)	2	0	0.0
	Completers	2	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	24	6	25.0
	Completers	19	5	26.3
	Dropouts	5	1	20.0
17.0401	Aircraft Maintenance (Total)	0	0	0.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
17.0499	Aviation Occupations, Other (Total)	1	0	0.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	1	0	0.0
	Completers	1	0	0.0
	Dropouts	0	0	0.0

(continued)

TABLE 1A (continued)

OE Code Area Studied[A]	Occupational Title Studied by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
17.0504	Blue Print Reading (Total)	6	1	16.7
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	6	1	16.7
	Completers	6	1	16.7
	Dropouts	0	0	0.0
17.0600	Business Machine Maintenance (Total)	8	3	37.5
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools	8	3	37.5
	Completers	7	3	42.9
	Dropouts	1	0	0.0
17.0700	Commercial Art Occupations (Total)	14	4	28.6
	AVC (Total)	6	1	16.7
	Completers	3	1	33.3
	Dropouts	3	0	0.0
	Other Type Schools (Total)	8	3	37.5
	Completers	7	3	42.9
	Dropouts	1	0	0.0
17.0701	Interior Decorating (Total)	1	0	0.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	1	0	0.0
	Completers	1	0	0.0
	Dropouts	0	0	0.0
17.0702	Window Display (Total)	3	0	0.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0

(continued)

TABLE 1A (continued)

OE Code Area Studied[A]	Occupational Title Studied by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
	Other Type Schools (Total)	3	0	0.0
	Completers	3	0	0.0
	Dropouts	0	0	0.0
17.0703	Product Design (Total)	1	1	100.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	1	1	100.0
	Completers	1	1	100.0
	Dropouts	0	0	0.0
17.0799	Commercial Art Occupations, Other (Total)	1	0	0.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	1	0	0.0
	Completers	1	0	0.0
	Dropouts	0	0	0.0
17.0900	Commercial Photography (Total)	19	8	42.1
	AVC (Total)	3	2	66.7
	Completers	3	2	66.7
	Dropouts	0	0	0.0
	Other Type Schools (Total)	16	6	37.5
	Completers	15	6	40.0
	Dropouts	1	0	0.0
17.1000	Construction and Maintenance (Total)	9	3	33.3
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	9	3	33.3
	Completers	8	2	25.0
	Dropouts	1	1	100.0

(continued)

TABLE 1A (continued)

OE Code Area Studied[A]	Occupational Title Studied by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
17.1001	Carpentry (Total)	74	23	31.1
	AVC (Total)	4	1	25.0
	Completers	1	1	100.0
	Dropouts	3	0	0.0
	Other Type Schools (Total)	70	22	31.4
	Completers	53	17	32.1
	Dropouts	17	5	29.4
17.1002	Electricity (Total)	16	4	25.0
	AVC (Total)	2	1	50.0
	Completers	2	1	50.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	14	3	21.4
	Completers	13	2	15.4
	Dropouts	1	1	100.0
17.1003	Heavy Equipment (Total)	6	2	33.3
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	6	2	33.3
	Completers	5	2	40.0
	Dropouts	1	0	0.0
17.1004	Masonry (Total)	15	7	46.7
	AVC (Total)	1	1	100.0
	Completers	1	1	100.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	14	6	42.9
	Completers	9	5	55.6
	Dropouts	5	1	20.0
17.1005	Painting & Decorating (Total)	21	3	14.3
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0

(continued)

TABLE IA (continued)

OE Code Area Studied[A]	Occupational Title Studied by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
	Other Type Schools (Total)	21	3	14.3
	Completers	18	3	16.7
	Dropouts	3	0	0.0
17.1007	Plumbing & Pipefitting (Total)	21	8	38.1
	AVC (Total)	1	0	0.0
	Completers	1	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	20	8	40.0
	Completers	20	8	40.0
	Dropouts	0	0	0.0
17.1008	Dry Wall Construction (Total)	1	0	0.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	1	0	0.0
	Completers	1	0	0.0
	Dropouts	0	0	0.0
17.1009	Glazing (Total)	11	2	18.2
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	11	2	18.2
	Completers	9	2	22.2
	Dropouts	2	0	0.0
17.1010	Roofing (Total)	1	0	0.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	1	0	0.0
	Completers	1	0	0.0
	Dropouts	0	0	0.0

(continued)

TABLE 1A (continued)

OE Code Area Studied[A]	Occupational Title Studied by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
17.1099	Construction, Other (Total)	110	22	20.0
	AVC (Total)	10	3	30.0
	Completers	10	3	30.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	100	19	19.0
	Completers	94	19	20.2
	Dropouts	6	0	0.0
17.1100	Custodial Services (Total)	88	13	14.8
	AVC (Total)	10	2	20.0
	Completers	8	2	25.0
	Dropouts	2	0	0.0
	Other Type Schools (Total)	78	11	14.1
	Completers	66	9	13.6
	Dropouts	12	2	16.7
17.1200	Diesel Mechanics (Total)	25	8	32.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	25	8	22.2
	Completers	24	8	26.7
	Dropouts	1	0	0.0
17.1300	Drafting (Total)	24	14	58.3
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	24	14	58.3
	Completers	23	13	56.5
	Dropouts	1	1	100.0
17.1400	Electrical Occupations (Total)	2	1	50.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0

(continued)

TABLE 1A (continued)

OE Code Area Studied[A]	Occupational Title Studied by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
	Other Type Schools (Total)	2	1	50.0
	Completers	2	1	50.0
	Dropouts	0	0	0.0
17.1401	Industrial Electrician (Total)	4	1	25.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	4	1	25.0
	Completers	4	1	25.0
	Dropouts	0	0	0.0
17.1402	Lineman (Total)	2	1	50.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	2	1	50.0
	Completers	1	1	100.0
	Dropouts	1	0	0.0
17.1403	Motor Repairman (Total)	7	1	14.3
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	7	1	14.3
	Completers	6	1	16.7
	Dropouts	1	0	0.0
17.1500	Electronics Occupations (Total)	1	0	0.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	1	0	0.0
	Completers	1	0	0.0
	Dropouts	0	0	0.0

(continued)

TABLE 1A (continued)

OE Code Area Studied[1]	Occupational Title Studied by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
17.1501	Communications (Total)	15	5	33.3
	AVC (Total)	2	1	50.0
	Completers	2	1	50.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	13	4	30.8
	Completers	13	4	30.8
	Dropouts	0	0	0.0
17.1502	Industrial Electronics (Total)	3	0	0.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	3	0	0.0
	Completers	2	0	0.0
	Dropouts	1	0	0.0
17.1503	Radio/Television (Total)	20	5	25.0
	AVC (Total)	3	2	66.7
	Completers	2	2	100.0
	Dropouts	1	0	0.0
	Other Type Schools (Total)	17	3	17.6
	Completers	13	3	23.1
	Dropouts	4	0	0.0
17.1600	Fabric Maintenance Services (Total)	2	1	50.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	2	1	50.0
	Completers	1	1	100.0
	Dropouts	1	0	0.0
17.1601	Drycleaning (Total)	11	3	27.3
	AVC (Total)	1	1	100.0
	Completers	1	1	100.0
	Dropouts	0	0	0.0

(continued)

TABLE 1[illegible] (continued)

OE Code Area Studied[a]	Occupational Title Studied by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
	Other Type Schools (Total)	10	2	20.0
	Completers	6	1	16.7
	Dropouts	4	1	25.0
17.2602	Laundering (Total)	1	0	0.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	1	0	0.0
	Completers	1	0	0.0
	Dropouts	0	0	0.0
17.1699	Fabric Maintenance Services, Other (Total)	1	1	100.0
	AVC (Total)	1	1	100.0
	Completers	1	1	100.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
17.1700	Foremanship/Management Development (Total)	11	3	27.3
	AVC (Total)	2	1	50.0
	Completers	1	1	100.0
	Dropouts	1	0	0.0
	Other Type Schools (Total)	9	2	22.2
	Completers	5	2	40.0
	Dropouts	4	0	0.0
17.1900	Graphic Arts Occupati[illegible] (Total)	39	14	35.9
	AVC (Total)	3	1	33.3
	Completers	3	1	33.3
	Dropouts	0	0	0.0

(continued)

TABLE 1A (continued)

OE Code Area Studied	Occupational Title Studied by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
	Other Type Schools (Total)	36	13	36.1
	Completers	34	13	38.2
	Dropouts	2	0	0.0
17.1902	Printing Press Oper. (Total)	4	1	25.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	4	1	25.0
	Completers	4	1	25.0
	Dropouts	0	0	0.0
17.2100	Instrument Maintenance and Repair (Total)	4	1	25.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	4	1	25.0
	Completers	3	1	33.3
	Dropouts	1	0	0.0
17.2101	Instruments (Not watches or clocks) (Total)	2	1	50.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	2	1	50.0
	Completers	2	1	50.0
	Dropouts	0	0	0.0
17.2200	Maritime Occupations (Total)	1	0	0.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	1	0	0.0
	Completers	1	0	0.0
	Dropouts	0	0	0.0

(continued)

TABLE IA (continued)

OE Code Area Studied[1]	Occupational Title Studied by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
17.2300	Metalworking (Total)	6	4	66.7
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	6	4	66.7
	Completers	4	3	75.0
	Dropouts	2	1	50.0
17.2301	Foundry (Total)	7	3	42.9
	AVC (Total)	1	1	100.0
	Completers	1	1	100.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	6	2	33.3
	Completers	5	2	40.0
	Dropouts	1	0	0.0
17.2302	Machine Shop (Total)	45	15	33.3
	AVC (Total)	5	2	40.0
	Completers	5	2	40.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	40	13	32.5
	Completers	30	11	36.7
	Dropouts	10	2	20.0
17.2303	Machine Tool Oper. (Total)	18	6	33.3
	AVC (Total)	3	1	33.3
	Completers	2	1	50.0
	Dropouts	1	0	0.0
	Other Type Schools (Total)	15	5	33.3
	Completers	13	5	38.5
	Dropouts	2	0	0.0
17.2304	Metal Trades, Combined (Total)	2	0	0.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0

(continued)

TABLE 1A (continued)

OE Code Area Studied[A]	Occupational Title Studied by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
	Other Type Schools (Total)	2	0	0.0
	Completers	1	0	0.0
	Dropouts	1	0	0.0
17.2305	Sheet Metal (Total)	17	2	11.8
	AVC (Total)	1	0	0.0
	Completers	1	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	16	2	12.5
	Completers	14	2	14.8
	Dropouts	2	0	0.0
17.2306	Welding & Cutting (Total)	43	11	25.6
	AVC (Total)	3	0	0.0
	Completers	2	0	0.0
	Dropouts	1	0	0.0
	Other Type Schools (Total)	40	11	27.5
	Completers	36	11	30.6
	Dropouts	4	0	0.0
17.2309	Metal Patternmaking (Total)	3	0	0.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	3	0	0.0
	Completers	3	0	0.0
	Dropouts	0	0	0.0
17.2399	Metalworking, Other (Total)	3	1	33.3
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	3	1	33.3
	Completers	3	1	33.3
	Dropouts	0	0	0.0

(continued)

TABLE 1A (continued)

OE Code Area Studied[A]	Occupational Title Studied by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
17.2400	Metallurgy (Total)	1	0	0.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	1	0	0.0
	Completers	1	0	0.0
	Dropouts	0	0	0.0
17.2600	Personal Services (Total)	4	0	0.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	4	0	0.0
	Completers	2	0	0.0
	Dropouts	2	0	0.0
17.2601	Barbering (Total)	1	0	0.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	1	0	0.0
	Completers	1	0	0.0
	Dropouts	0	0	0.0
17.2602	Cosmetology (Total)	50	17	34.0
	AVC (Total)	10	4	40.0
	Completers	9	4	44.4
	Dropouts	1	0	0.0
	Other Type Schools (Total)	40	13	32.5
	Completers	38	12	31.6
	Dropouts	2	1	50.0
17.2699	Personal Services, Other (Total)	16	5	31.3
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0

(continued)

TABLE 1A (continued)

OE Code Area Studied[A]	Occupational Title Studied by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
	Other Type Schools (Total)	16	5	31.3
	Completers	12	5	41.7
	Dropouts	4	0	0.0
17.2700	Plastic Occupations (Total)	2	1	50.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	2	1	50.0
	Completers	1	0	0.0
	Dropouts	1	1	100.0
17.2800	Public Service Occupations (Total)	9	5	55.6
	AVC (Total)	1	1	100.0
	Completers	1	1	100.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	8	4	50.0
	Completers	6	4	66.7
	Dropouts	2	0	0.0
17.2802	Law Enforcement Training (Total)	1	1	100.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	1	1	100.0
	Completers	1	1	100.0
	Dropouts	0	0	0.0
17.2900	Quantity Food Occupations (Total)	35	13	37.1
	AVC (Total)	1	0	0.0
	Completers	1	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	34	13	38.2
	Completers	23	12	52.2
	Dropouts	11	1	9.1

(continued)

TABLE 1A (continued)

OE Code Area Studied[A]	Occupational Title Studied by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
17.2901	Baker (Total)	4	1	25.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	4	1	25.0
	Completers	4	1	25.0
	Dropouts	0	0	0.0
17.2902	Cook/Chef (Total)	157	48	30.6
	AVC (Total)	5	3	60.0
	Completers	4	3	75.0
	Dropouts	1	0	0.0
	Other Type Schools (Total)	152	45	29.6
	Completers	129	41	31.8
	Dropouts	23	4	17.4
17.2903	Meat Cutter (Total)	65	18	27.7
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	65	18	27.7
	Completers	48	14	29.2
	Dropouts	17	4	23.5
17.2904	Waiter/Waitress (Total)	50	11	22.0
	AVC (Total)	8	1	12.5
	Completers	4	1	25.0
	Dropouts	4	0	0.0
	Other Type Schools (Total)	42	10	42.0
	Completers	36	9	25.0
	Dropouts	6	1	16.7
17.2999	Quantity Foods Occupations (Total)	7	0	0.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0

(continued)

TABLE 1A (continued)

OE Code Area Studied[A]	Occupational Title Studied by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
	Other Type Schools (Total)	7	0	0.0
	Completers	6	0	0.0
	Dropouts	1	0	0.0
17.3000	Refrigeration (Total)	7	2	28.6
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	7	2	28.6
	Completers	7	2	28.6
	Dropouts	0	0	0.0
17.3100	Small Engine Repairs (Total)	35	12	34.3
	AVC (Total)	2	0	0.0
	Completers	2	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	33	12	36.4
	Completers	26	11	42.3
	Dropouts	7	1	14.3
17.3300	Textile Production and Fabrication (Total)	6	1	16.7
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	6	1	16.7
	Completers	6	1	16.7
	Dropouts	0	0	0.0
17.3302	Tailoring (Total)	2	0	0.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	2	0	0.0
	Completers	1	0	0.0
	Dropouts	1	0	0.0

(continued)

TABLE 1A (continued)

OE Code Area Studied[A]	Occupational Title Studied by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
17.3399	Textile Production, Other (Total)	145	46	31.7
	AVC (Total)	31	7	22.6
	Completers	25	5	20.0
	Dropouts	6	2	33.3
	Other Type Schools (Total)	114	39	34.2
	Completers	106	39	36.8
	Dropouts	8	0	0.0
17.3401	Shoe Manufacturing (Total)	1	1	100.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	1	1	100.0
	Completers	1	1	100.0
	Dropouts	0	0	0.0
17.3402	Shoe Repair (Total)	5	1	20.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	5	1	20.0
	Completers	4	1	25.0
	Dropouts	1	0	0.0
17.3500	Upholstering (Total)	19	8	42.1
	AVC (Total)	1	1	100.0
	Completers	1	1	100.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	18	7	38.9
	Completers	17	7	41.2
	Dropouts	1	0	0.0
17.3600	Woodworking (Total)	5	0	0.0
	AVC (Total)	1	0	0.0
	Completers	0	0	0.0
	Dropouts	1	0	0.0

(continued)

TABLE 1A (continued)

OE Code Area Studied[1]	Occupational Title Studied by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
	Other Type Schools (Total)	4	0	0.0
	Completers	3	0	0.0
	Dropouts	1	0	0.0
17.3601	Millwork and Cabinet-making (Total)	24	4	16.7
	AVC (Total)	6	0	0.0
	Completers	4	0	0.0
	Dropouts	2	0	0.0
	Other Type Schools (Total)	18	4	22.2
	Completers	9	0	0.0
	Dropouts	9	4	44.4
17.3699	Woodworking, Other (Total)	1	0	0.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	1	0	0.0
	Completers	1	0	0.0
	Dropouts	0	0	0.0
17.9900	Trade and Industrial, Other (Total)	166	52	31.3
	AVC (Total)	12	7	58.3
	Completers	10	7	70.0
	Dropouts	2	0	0.0
	Other Type Schools (Total)	154	45	29.2
	Completers	132	38	28.8
	Dropouts	22	7	31.8
17.9906	Taxidermy (Total)	1	0	0.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	1	0	0.0
	Completers	1	0	0.0
	Dropouts	0	0	0.0

(continued)

TABLE 1A (continued)

OE Code Area Studied[A]	Occupational Title Studied by Type School and Termination Status	Total Number Reported	Number of Returns	Percent of Returns for OE Code Area
99.0106	Career Guidance (Total)	6	0	0.0
	AVC (Total)	0	0	0.0
	Completers	0	0	0.0
	Dropouts	0	0	0.0
	Other Type Schools (Total)	6	0	0.0
	Completers	1	0	0.0
	Dropouts	5	0	0.0
TOTAL ALL AREAS		2408	753	31.3
	AVC (Total)	235	84	35.7
	Completers	196	81	41.3
	Dropouts	39	3	7.7
	Other Type Schools (Total)	2173	669	30.8
	Completers	1867	623	33.4
	Dropouts	306	46	15.0

[A]OE Code areas as reported by teachers.

[B]Area Vocational Centers.

[C]Any co-operative terminee who left the program by completing or by high school graduation.

[D]Any co-operative terminee who the instructor reported as having dropped out of school.

Table 2 illustrates the sex characteristics of those 1973-74 Trade and Industrial Occupations Co-operative terminees reported by the instructors and those who returned survey forms.

TABLE 2

SEX OF THE 1973-74 TRADE AND INDUSTRIAL OCCUPATIONS CO-OPERATIVE TERMINEES REPORTED AND BY WHO RETURNED QUESTIONNAIRES

Sex[A]	Reported		Returns	
	Number	Percent	Number	Percent
Male	1675	69.5	491	65.2
Female	718	29.8	259	34.4
Not Known	17	0.7	3	0.4
TOTAL	2410	100.0	753	100.0

[A]Sex as reported by teacher.

Table 3 presents the racial or ethnic characteristics of those 1973-74 Trade and Industrial Occupations Co-operative terminees reported by instructors and who returned survey forms.

TABLE 3

RACIAL OR ETHNIC CHARACTERISTICS OF THE 1973-74 TRADE AND INDUSTRIAL OCCUPATIONS CO-OPERATIVE TERMINEES REPORTED AND BY WHO RETURNED QUESTIONNAIRES

Racial or Ethnic Group[A]	Reported		Returns	
	Number	Percent	Number	Percent
American Indian	1	0.0	1	0.1
Black	585	24.3	156	20.7
Oriental	2	0.1	2	0.3
Spanish Surnamed American	1	0.0	0	0.0
White	1783	74.0	577	76.7
Other	3	0.1	1	0.1
Not Known	35	1.5	16	2.1
TOTAL	2410	100.0	753	100.0

[A]Racial or Ethnic Group as reported by teacher.

Table 4 illustrates the number and grade level of the 1973-74 Trade and Industrial Occupations Co-operative terminees reported who dropped out of school during the academic year and by who returned the questionnaire.

TABLE 4

NUMBER OF THE 1973-74 TRADE AND INDUSTRIAL OCCUPATIONS CO-OPERATIVE TERMINEES REPORTED WHO DROPPED OUT OF SCHOOL DURING THE 1973-74 SCHOOL YEAR BY GRADE LEVEL

Grade Level Upon Dropping Out of School	Reported		Returns	
	Number	Percent[A]	Number	Percent[B]
Tenth	10	0.4	2	20.0
Eleventh	147	6.1	11	7.5
Twelfth	149	6.2	24	16.1
Grade Level Not Indicated by Teacher	43	1.8	12	27.9
TOTAL	349	14.5	49	14.0

[A]Percentage is based on 2,410 total reported co-operative terminees.

[B]Percentage is based on returns by grade.

Table 5 shows the number of 1973-74 Trade and Industrial Occupations Co-operative terminees who indicated whether they were in active full-time military service.

TABLE 5

ACTIVE FULL-TIME MILITARY STATUS OF 1973-74 TRADE AND INDUSTRIAL OCCUPATIONS CO-OPERATIVE TERMINEES WHO RETURNED QUESTIONNAIRES

Active Full-Time Military Status	Number	Percent
Yes	42	5.6
No	680	90.3
No Response	31	4.1
TOTAL	753	100.0

Basic Information Related to the Vocational Education Co-operative Program

Table 6 points out the number of 1973-74 Trade and Industrial Occupations Co-operative terminees who indicated whether this vocational program was a school requirement.

TABLE 6

1973-74 TRADE AND INDUSTRIAL OCCUPATIONS CO-OPERATIVE TERMINEES WHO INDICATED WHETHER THEIR VOCATIONAL PROGRAM WAS A SCHOOL REQUIREMENT

Vocational Courses Was A School Requirement	Number	Percent
Yes	30	4.0
No	719	95.5
No Response	4	0.5
TOTAL	753	100.0

Table 7 indicates, according to the 1973-74 Trade and Industrial Occupations Co-operative terminees, the primary source of influence in selecting their vocational course.

TABLE 7

PRIMARY INFLUENCES ON THE 1973-74 TRADE AND INDUSTRIAL OCCUPATIONS CO-OPERATIVE TERMINEES IN SELECTING THEIR VOCATIONAL COURSE

Group or Individual Terminees Felt Influenced Them Most in Selecting Vocational Course	Number	Percent
Parent(s) or Guardian(s)	42	5.6
Guidance Counselor	24	3.2
Your Vocational Teacher	78	10.4
Another Teacher or Principal	8	1.1
Student in VED Program	71	9.4
A Friend or Relative	38	5.0
A Businessman	13	1.7
Made Choice Yourself	467	62.0
Other[A]	9	1.2
No Response	3	0.4
TOTAL	753	100.0

[A]See page 42 for listing of "Others" who influenced Trade and Industrial Co-operative terminees in selecting their VED course.

Teachers in VED Programs appeared to be the greatest outside influence on those terminees enrolling in the Trade and Industrial Occupations Co-operative program. Seventy-eight (10.4%) of the terminees reponding indicated that teachers in VED Programs influenced them most in selecting their Trade and Industrial Occupations Co-operative course. However, 467 (62.0%) indicated that they selected their course of study on their own. Forty-two (5.6%) terminees indicated that a guidance counselor influenced them most in selecting their program. Seventy-one (9.4%) of the terminees indicated that students in VED Programs influenced them most in selecting their course in Trade and Industrial Occupations.

Below are the responses given to the "Others" category indicated in Table 7 as to the primary source of influence in selecting their vocational course.

"Other" Persons or Groups Who Most Influenced Terminees in Selecting Their VED Course	Number
Required by school	1
Available jobs in field	1
To have more time on job	1
My husband	1
Employer	1

Table 8 indicates co-operative terminees' opinions as to whether they had adequate job or occupational information and school experiences to make a realistic career choice.

TABLE 8

OPINIONS OF 1973-74 TRADE AND INDUSTRIAL OCCUPATIONS CO-OPERATIVE TERMINEES AS TO WHETHER THEY HAD ADEQUATE JOB OR OCCUPATIONAL INFORMATION AND SCHOOL EXPERIENCES TO MAKE A REALISTIC CAREER CHOICE

	Number	Percent
Yes	573	76.1
No	171	22.7
No Response	9	1.2
TOTAL	753	100.0

Table 9 indicates whether, during the time they were taking their high school vocational program, the reporting 1973-74 co-operative terminees intended to get a job in Trade and Industrial Occupations.

TABLE 9

INDICATIONS OF 1973-74 TRADE AND INDUSTRIAL OCCUPATIONS CO-OPERATIVE TERMINEES AS TO WHETHER, DURING THE TIME THEY WERE TAKING THEIR HIGH SCHOOL VED PROGRAM, THEY PLANNED TO GET A JOB IN THEIR AREA OF STUDY

Intended To Get Job In Area of Study	Number	Percent
Yes	436	57.9
No	115	15.3
Was Not Sure	193	25.6
No Response	9	1.2
TOTAL	753	100.0

It is interesting to note that only 436 (57.9%) of the 1973-74 reporting Trade and Industrial Occupations Co-operative terminees indicated that during the time they were taking their Trade and Industrial Occupations

co-operative program, they intended to get a job in the area they were studying.

Table 10 indicates terminees's opinions on choosing the Trade and Industrial Occupations co-operative program if they had the selection to make again.

A noteworthy point was revealed by the data. Of the 1973-74 Trade and Industrial Occupations co-operative terminees, 576 (76.5%) indicated that they would select the same vocational program if they had the choice to make again. Forty-nine (6.5%) of the responding co-operative terminees indicated that they would not take a vocational program.

TABLE 10

OPINIONS OF 1973-74 TRADE AND INDUSTRIAL OCCUPATIONS CO-OPERATIVE TERMINEES REGARDING THEIR VOCATIONAL PROGRAM

Question: If You Had It To Do Over Again, Would You...?	Number	Percent
Take the same vocational program	576	76.5
Not take a vocational program	49	6.5
Choose another vocational program offered in your school, such as _____ [A]	75	10.0
Choose another vocational program if it had been offered in your school, such as _____ [B]	34	4.5
No Response	19	2.5
TOTAL	753	100.0

[A] See listing I-A, page 45, for those other vocational programs offered in terminees' school that they would have taken instead of their Trade and Industrial programs.

[B] See listing I-B, page 45, for the vocational programs the terminees would have taken instead of their Trade and Industrial program if it had been offered in their school.

Listing I-A -- Courses offered in their school that Trade and Industrial Occupations Co-operative terminees indicated they would have taken if they had it all to do over again.

Course	Number
Electronics	8
Business and Office	7
Sales and Marketing	7
Welding	6
Business Administration	5
Nursing	4
Auto Mechanics	4
Body and Fender	3
Computer Programming	3
Machinist	3
Electricity	2
Trade School	2
Health Occupations	2
Law	2
Drafting	1
Masonry	1
Agriculture	1
Diesel Mechanics	1
Engineering	1
Art	1
Business Machines	1
Cosmetology	1
Floristry	1
Medical Records	1
Medical Specialist	1
Plumbing	1
Sheet Metal	1
Speech Therapy	1
Upholstery	1

Listing I-B -- Courses Trade and Industrial Occupations Co-operative terminees indicated they would have taken if they had it all to do over again and the course was offered in their school.

Course	Number
Computer Programming	4
Business	3
Electronics	3
Mechanics	3
Health Occupations	3
Welding	1
Electricity	1
Drafting	1
Animal Technology	1

(continued)

Course	Number
Carpentry	1
Law Enforcement	1
Nursing	1
Aviation	1
Sales and Marketing (DE)	1
Diesel Mechanics	1
I don't know; there had to be something better	1
Interior Decorating	1
Laboratory Technical	1
Photography	1
Printing - Silk Screen	1
Telephone Service	1
Teletype Work	1

Table 11 indicates the extent to which the reporting 1973-74 Trade and Industrial Occupations Co-operative terminees felt their high school vocational programs prepared them for their first job. This data was also broken down by how that first job related to their vocational program.

TABLE 11

PERCEPTIONS OF 1973-74 TRADE AND INDUSTRIAL OCCUPATIONS CO-OPERATIVE TERMINEES AS TO THE EXTENT THEIR HIGH SCHOOL VOCATIONAL PROGRAM PREPARED THEM FOR THEIR FIRST FULL-TIME JOB BY HOW FIRST FULL-TIME JOB RELATED TO TRAINING

Extent Vocational Course Prepared for First Full-Time Job	Total Reporting		Number Reporting by Relatedness of First Full-Time Job to Training Received					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Excellent	88	19.0	58	28.9	10	8.6	20	13.7
Well Prepared	175	37.8	107	53.2	52	44.8	16	11.0
Fair	77	16.6	27	13.4	37	31.9	13	8.9
Poorly Prepared	22	4.8	6	3.0	4	3.5	12	8.2
Preparation not related to job	101	21.8	3	1.5	13	11.2	85	58.2
TOTAL	463	100.0	201	100.0	116	100.0	146	100.0

Co-operative terminees who were in full-time active military service or who had never been employed were not asked to respond to the questions from which this data was reported. Also, co-operative terminees who failed to respond to the question items were not indicated in the table.

In noting the extent to which the 1973-74 Trade and Industrial Occupations Co-operative terminees felt their high school vocational course prepared them for their first full-time job by how their first full-time job related to the training they received in their high school Trade and Industrial Co-operative program, some interesting points were revealed. Two hundred sixty-three (56.8%) of the 1973-74 Trade and Industrial Occupations Co-operative terminees responding to this item indicated "Excellent" or "Well Prepared" for their first full-time job as a result of the training received in their high school vocational education program. One hundred sixty-five (82.1%) of the 201 terminees employed in their first full-time job related directly to their training felt they were excellent or well prepared for this first job. Only six co-operative terminees who were working in an area directly related to their vocational training felt they were poorly prepared for their first job. There were three additional co-operative terminees who indicated they were working in an area directly related to their vocational course and felt their preparation was not related to their jobs. Of all the responding co-operative terminees, 22 (4.8%) felt that they were poorly prepared for their first full-time job. Of these, six were working in an area directly related to his vocational course.

Table 12 indicates the extent to which the reporting 1973-74 Trade and Industrial Occupations Co-operative terminees felt their high school vocational course prepared them for their present job. Also shown in the table is a breakdown of the data by how their present job was related to their vocational program.

TABLE 12

PERCEPTIONS OF 1973-74 TRADE AND INDUSTRIAL OCCUPATIONS CO-OPERATIVE TERMINEES AS TO THE EXTENT THEIR HIGH SCHOOL VOCATIONAL COURSE PREPARED THEM FOR THEIR PRESENT JOB BY HOW THEIR PRESENT JOB RELATED TO TRAINING

Extent Vocational Course Prepared for Present Job	Total Reporting		Number Reporting by Relatedness of Present Job to Training Received					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Excellent	78	15.3	52	24.6	13	9.6	13	8.1
Well Prepared	206	40.5	119	56.4	63	46.3	24	14.9
Fair[A]	67	13.2	25	11.9	34	25.0	8	5.0
Poorly Prepared	20	4.0	9	4.3	5	3.7	6	3.7
Preparation not related to job	137	27.0	6	2.8	21	15.4	110	68.3
TOTAL	508	100.0	211	100.0	136	100.0	161	100.0

[A]See listings on page 49 for reasons co-operative terminees specified for being trained "Fair" or "Poorly Prepared" by their vocational course for their present job.

Co-operative terminees in active full-time military service, and students who were attending school full time and had not had a job, were not asked to respond to the question from which Table 12 was prepared. Also, those other students who failed to respond to the items were not shown on the table.

Of the 508 co-operative terminees responding to these items, 284 (55.8%) indicated "Excellent" or "Well Prepared" for their present job as a result of their high school vocational program. Twenty co-operative terminees reported feeling poorly prepared for their present job as a result of their training.

One hundred seventy-one (81.0%) of the 211 responding co-operative terminees working in an area directly related to their high school vocational program indicated that they felt excellent or well prepared by their training.

The following lists the reasons the 1973-74 Trade and Industrial Occupations Co-operative terminees indicated for being trained only "Fair" by their vocational course for their present job.

Reasons	Number
Training different from that needed in job	27
Not enough time to train	6
Need for equipment and machines	4
Not enough supplies and material in classes	4
The class work was only general	3
Books not up to date	3
Experience required for most jobs	3
Instructor didn't have any interest in course	3
Program was short of books	2
Need for better training	1
Instructor didn't know policies of job	1
Programs used only study guides	1
Program was contradictory	1
Needed training on different types of tools and machines	1

The co-operative terminees who indicated they were "Poorly Prepared" for their present job by their vocational program gave reasons why they felt that way.

Reasons	Number
Teaching not related to job	6
Lack of teaching	3
Materials outdated	2
Text outdated	2
No books	2
No instruction at school	1
Only had books--no supplies or equipment	1
Study guide outdated	1
Books generalized	1
Wrong field for me	1

Table 13 focuses on the Trade and Industrial Occupations student club. The researchers sought to determine the extent to which the 1973-74 Trade

and Industrial Occupations Co-operative terminees felt that their high school student club aided in preparing them for their present job. Data are also broken down by the relationship of the present job to the vocational training received.

TABLE 13

PERCEPTIONS OF 1973-74 TRADE AND INDUSTRIAL OCCUPATIONS CO-OPERATIVE TERMINEES AS TO THE EXTENT THEIR HIGH SCHOOL VOCATIONAL STUDENT CLUB PREPARED THEM FOR THEIR PRESENT JOB BY HOW THEIR PRESENT JOB RELATED TO TRAINING[A]

Extent High School Vocational Student Club Helped Prepare for Present Job	Total Reporting		Total Reporting by Relatedness of Present Job to Vocational Training					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Excellent	68	17.1	31	18.0	16	14.5	21	18.1
Well Prepared	142	35.7	80	46.5	31	28.2	31	26.7
Fair	128	32.1	43	25.0	45	40.9	40	34.5
Poorly Prepared	60	15.1	18	10.5	18	16.4	24	20.7
TOTAL	398	100.0	172	100.0	110	100.0	116	100.0

[A]Of the 552 who responded, 28 (5.1%) had no related student club available, and 88 (15.9%) were not members of a related student club.

Only respondents who had had a job since terminating their high school vocational Trade and Industrial Co-operative program were asked to respond to the question reported in Table 13. Students in active full-time military service were excluded. Twenty-eight (5.1%) of the 552 co-operative terminees reported no related student club was available, while 88 (15.9%) were not members of a related student club.

Of the 398 co-operative terminees who participated in student club activities, 210 (52.9%) indicated they were "Excellent" or "Well Prepared"

by their related student club for their present job. Sixty (15.1%) indicated they were "Poorly Prepared" by their related student club for their present job. Of those 60, 36 (60.0%) were in related or somewhat related jobs, while 24 (40.0%) were in non-related jobs.

Of those co-operative terminees who were working in an area directly related to the training they received in their high school vocational program, 111 (64.5%) revealed that they were "Excellent" or "Well Prepared" for their present job by their related student club. Eighteen (10.5%) of the 172 co-operative terminees who were working in a job directly related to the training they received indicated they were "Poorly Prepared" for their present job by their related student club.

Table 14 reports how the 1973-74 Trade and Industrial Occupations Co-operative terminees rated the quality of teaching by their high school vocational instructors.

TABLE 14

1973-74 TRADE AND INDUSTRIAL OCCUPATIONS CO-OPERATIVE TERMINEES' RATINGS OF THE QUALITY OF TEACHING BY THEIR HIGH SCHOOL VOCATIONAL INSTRUCTORS

Rating	Number	Percent
Excellent	328	43.6
Good	254	33.7
Fair	115	15.3
Poor	26	3.4
Very Poor	25	3.3
No Response	5	0.7
TOTAL	753	100.0

Of the 753 reporting 1973-74 Trade and Industrial Occupations Co-operative terminees, 582 (77.3%) rated the quality of teaching by their

vocational instructor either "Good" or "Excellent." Fifty-one (6.7%) rated the quality of teaching by their instructors "Poor" or "Very Poor."

Table 15 illustrates how the 1973-74 Trade and Industrial Occupations Co-operative terminees rated their high school vocational instructor's interest in their class work.

TABLE 15

1973-74 TRADE AND INDUSTRIAL OCCUPATIONS CO-OPERATIVE TERMINEES' RATINGS OF THEIR HIGH SCHOOL VOCATIONAL INSTRUCTOR'S INTEREST IN THE STUDENT'S CLASS WORK

Rating	Number	Percent
Excellent	335	44.5
Good	259	34.4
Fair	97	12.8
Poor	29	3.9
Very Poor	29	3.9
No Response	4	0.5
Total	753	100.0

Five hundred ninty-four (78.9%) of the 753 reporting 1973-74 Trade and Industrial Occupations Co-operative terminees rated the interest exhibitedby their high school vocational instructor in their class work as "Good" or "Excellent." Fifty-eight (7.8%) of the co-operative terminees rated the interest their vocational instructors showed in their class work as "Poor" or "Very Poor."

Table 16 points out how the 1973-74 Trade and Industrial Occupations Co-operative terminees subjectively rated the knowledge their vocational teachers possessed about their field of study. This rating is also shown in the table by a breakdown of how the co-operative terminees' present job related to the training they received in their high school vocational

program. Terminees were asked to base their judgments on their current knowledge of their job and responsibilities.

TABLE 16

1973-74 TRADE AND INDUSTRIAL OCCUPATIONS CO-OPERATIVE TERMINEES' RATINGS OF THE KNOWLEDGE THEIR HIGH SCHOOL VOCATIONAL TEACHER POSSESSED ABOUT THEIR FIELD OF STUDY BY HOW THE TERMINEES' PRESENT JOB RELATED TO THE TRAINING THEY RECEIVED

Rating[A]	Total Reporting		Number Reporting by Relatedness of Present Job to Training Received					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Excellent	129	25.0	58	27.4	27	19.7	44	26.3
Good	217	42.0	86	40.6	67	48.9	64	38.3
Fair	114	22.1	46	21.7	30	21.9	38	22.8
Poor	39	7.6	16	7.5	10	7.3	13	7.8
Very Poor	17	3.3	6	2.8	3	2.2	8	4.8
TOTAL	516	100.0	212	100.0	137	100.0	167	100.0

[A]Ratings were to be based on co-operative terminee's judgment of their current knowledge of their job and responsibilities.

Total responses to this item indicates that 346 (67.0%) of the 516 responding 1973-74 Trade and Industrial Occupations Co-operative terminees rated the knowledge their vocational teachers possessed about their field of study either "Good" or "Excellent." For those 212 co-operative terminees working in an area directly related to the training they received, 144 (68.0%) rated the knowledge their teachers possessed about their field of study as "Good" or "Excellent." Thirty-five (19.8%) of those who

considered their job related or somewhat related rated the knowledge their vocational teachers possessed about their field of study as "Poor" or "Very Poor."

If the co-operative respondent was working in an area related to his training, he was asked to compare the facilities and equipment in his high school vocational porgram with those on his present job. Table 17 illustrates how the 1973-74 Trade and Industrial Occupations Co-operative terminees responded.

TABLE 17

HOW 1973-74 TRADE AND INDUSTRIAL OCCUPATIONS CO-OPERATIVE TERMINEES WORKING IN A RELATED AREA RATED THE FACILITIES AND EQUIPMENT IN THEIR HIGH SCHOOL VOCATIONAL PROGRAM[A]

Rating[B]	Number	Percent
Better than those on present job	33	11.9
Similar to those on present job	110	39.7
Not as good as those on present job	134	48.4
TOTAL	277	100.0

[A]Two hundred sixty-four (48.8%) of the responding 541 terminees indicated that their present job was not related to their vocational training enough to compare facilities and equipment.

[B]Persons who had not had a job since leaving their vocational program, including those in military service and those who attended school, were asked not to respond to questions from which data was drawn. Returns were received from 753 terminees.

Thirty-three (11.9%) of the 277 responding 1973-74 Trade and Industrial Occupations Co-operative terminees working in an area related to their training rated the facilities and equipment in their high school vocational program as better than those on their present job. One hundred ten (39.7%) rated the facilities and equipment in their high school vocational program as similar to those on their present job; however, 134 (48.4%) rated the facilities and equipment not as good as those on their present job.

Table 18 shows how 1973-74 Trade and Industrial Occupations Co-operative terminees, who were in a cooperative work program in school and were now working in an area related to their vocational training, rated the facilities and equipment used in their cooperative work station.

TABLE 18

HOW 1973-74 TRADE AND INDUSTRIAL OCCUPATIONS CO-OPERATIVE TERMINEES NOW WORKING IN A RELATED AREA, WHOSE VOCATIONAL PROGRAM INCLUDED COOPERATIVE WORK, RATED FACILITIES AND EQUIPMENT USED IN THEIR COOPERATIVE WORK STATION[A]

Rating[B]	Number	Percent
Better than those on present job	26	10.1
Similar to those on present job	71	27.6
Working at same place where cooperative training was done	107	41.7
Not as good as those on present job	53	20.6
TOTAL	257	100.0

[A]Seventy (9.3%) of the responding 753 Trade and Industrial Occupations Co-operative terminees indicated their vocational program was not a cooperative program. One hundred ninety-three (25.6%) terminees indicated they were not working in an area related to their cooperative work; therefore, they did not complete this item on the questionnaire.

[B]Persons who had not had a job since leaving their vocational program, including those in military service and those attending school, were asked not to respond to questions from which data was drawn. Returns were received from 753 terminees.

Twenty-six (10.1%) of the 257 responding 1973-74 Trade and Industrial Occupations Co-operative terminees who were now working in an area related to their vocational training, rated the facilities and equipment in their cooperative work station as better than those on their present job. Seventy-one (27.6%) rated the facilities and equipment in their cooperative training station as similar to those on their present job. Fifty-three (20.6%)

rated the facilities and equipment in their cooperative work station not as good as those in their present job. It was significant to note that 107 (41.7%) indicated they were working at the same establishment where they did their cooperative training. Also to be noted was the fact that 70 (9.3%) terminees of co-operative programs, as reported by teachers, indicated they were not in a co-operative program.

Basic Employment Information

The following section of this report offers information relative to employment and job characteristics of the 1973-74 secondary Trade and Industrial Occupations Co-operative terminees.

Table 19 illustrates the number of full-time jobs the responding 1973-74 Trade and Industrial Occupations Co-operative terminees have had since leaving their high school vocational course.

TABLE 19

NUMBER OF FULL-TIME JOBS HELD BY THE 1973-74 TRADE AND INDUSTRIAL OCCUPATIONS CO-OPERATIVE TERMINEES SINCE LEAVING THEIR HIGH SCHOOL VOCATIONAL COURSE

Number of Full-Time Jobs Held	Number	Percent[A]
One	405	53.8
Two	114	15.1
Three	17	2.3
Four	2	0.3
Five or more	3	0.4
TOTAL	541	71.9

[A]Percentage is based on the 753 terminees who returned the questionnaire.

There were 405 (53.8%) of the total 753 responding 1973-74 Trade and Industrial Occupations Co-operative terminees who had been employed in just

one job since leaving their high school vocational program. One hundred fourteen (15.1%) of the co-operative terminees reported having two jobs since leaving their high school vocational course seven to eight months ago, and 22 (3.0%) reported three or more jobs since leaving their vocational course.

Table 20 reveals the first-job employment status of Trade and Industrial Occupations Co-operative terminees who returned the survey by the relatedness of their vocational training to their first job.

TABLE 20

FIRST-JOB EMPLOYMENT STATUS OF TRADE AND INDUSTRIAL OCCUPATIONS CO-OPERATIVE TERMINEES (1973-74) BY RELATEDNESS OF VOCATIONAL TRAINING TO FIRST JOB[A]

First Job After Leaving High School Vocational Program	Total Reporting		Relatedness of Vocational Training to First Job[B]					
			Directly Related		Somewhat Related		Not Related[C]	
	No.	%	No.	%	No.	%	No.	%
Full-Time	466	61.9	202	26.8	116	15.4	148	19.7
Part-Time	71	9.4	32	4.2	20	2.7	19	2.5
TOTAL	537	71.3	234	31.0	136	18.1	167	22.2

[A]All percentages were based on the 753 (31.2%) of 2,410 co-operative terminees who returned the survey form.

[B]The terminees made the judgment as to how their first job was related to the training received in their high school co-operative vocational program.

[C]See page 58 for reasons co-operative terminees who were working in first job unrelated to this vocational training gave for not seeking job that was related before accepting their first job.

Of the 753 responding 1973-74 Trade and Industrial Occupations Co-operative terminees, 466 (61.9%) were employed full time in their first job after leaving their high school vocational program. Seventy-one (9.4%) co-operative terminees' first jobs were on a part-time basis.

Two hundred thirty-four of the 753 responding co-operative terminees' first jobs (full-time or part-time) were in an area directly related to the training they received in their high school vocational course. One hundred thirty-six (18.1%) were employed in an area somewhat related while 167 (22.2%) were employed in a first job not related to the training they received. The co-operative terminees made the judgment as to how their first job was related to the training they received in their high school vocational program.

Of the 167 co-operative terminees who indicated their jobs were not related to their vocational course, 63 (37.7%) terminees indicated that before they accepted their unrelated job, they tried to get a job that was related to their vocational training. However, 104 (62.3%) of the terminees did not.

The following is a list of reasons given by some of the 104 co-operative terminees who, before taking their first unrelated job, indicated they did not seek a job that was related to their vocational training.

Reason	Number
Not interested in work in that vocational area	21
Not enough training and experience for a job	8
Nothing available in area	6
Already had a job	3
Pay not high enough	3
Joined armed services	2
Only interested in a job--any job	1
Didn't know where to look for a job	1
Planned to go to college	1
Not sure	1
Didn't have the time	1
Tired of being dirty	1
Instructor turned me totally against that type of job	1

Table 21 shows by OE Code for the first job of the 1973-74 Trade and Industrial Occupations co-operative terminees the relatedness of their training to this first job.

TABLE 21

1973-74 TRADE AND INDUSTRIAL OCCUPATIONS CO-OPERATIVE TERMINEES' FIRST JOB BY OE CODE STUDIED AND RELATEDNESS OF TRAINING[A]

OE Code	Title of Occupational Objective Studied	Total Employed by Area Studied		Relatedness of Training to First Job[B]					
				Directly Related		Somewhat Related		Not Related	
		No.	%	No.	%	No.	%	No.	%
01.0500	Ornamental Horticulture	1	0.2	1	100.0	0	0.0	0	0.0
04.0100	Advertising Service	4	0.7	1	25.0	1	25.0	2	50.0
04.0200	Sales, Apparel and Accessories	2	0.4	1	50.0	0	0.0	1	50.0
04.0300	Sales, Automotive	3	0.5	1	33.3	1	33.3	1	33.3
04.0400	Finance and Credit	3	0.5	2	66.7	0	0.0	1	33.3
04.0600	Food Distribution	7	1.2	5	71.4	1	14.3	1	14.3
04.0700	Food Services	0	0.0	0	0.0	0	0.0	0	0.0
04.0800	General Merchandise	3	0.5	0	0.0	1	33.3	2	66.7
04.0900	Sales, Hardware and Building Material	1	0.2	0	0.0	1	100.0	0	0.0
04.1000	Sales, Home Furnishings	1	0.2	0	0.0	1	100.0	0	0.0
04.1200	Industrial Marketing	1	0.2	0	0.0	1	100.0	0	0.0
04.1300	Insurance	0	0.0	0	0.0	0	0.0	0	0.0
04.1500	Personal Services	1	0.2	0	0.0	1	100.0	0	0.0
14.1800	Recreation & Tourism	0	0.0	0	0.0	0	0.0	0	0.0
04.1900	Transportation	1	0.2	1	100.0	0	0.0	0	0.0
04.2000	Retail Trade, Other	1	0.2	0	0.0	1	100.0	0	0.0
04.3100	Wholesale Trade, Other	2	0.4	1	50.0	0	0.0	1	50.0
07.0000	Health Occupations	0	0.0	0	0.0	0	0.0	0	0.0
07.0101	Dental Assisting	19	3.4	15	79.0	3	15.8	1	5.2
07.0103	Dental Laboratory	1	0.2	1	100.0	0	0.0	0	0.0
07.0200	Medical Laboratory	15	2.7	7	46.6	4	26.7	4	26.7
07.0203	Medical Lab. Asst.	17	3.1	10	58.8	3	17.7	4	23.5
07.0302	Practical Nurse	1	0.2	1	100.0	0	0.0	0	0.0
07.0303	Nursing Assistant	14	2.5	8	57.2	1	7.1	5	35.7
07.0402	Physical Therapy	0	0.0	0	0.0	0	0.0	0	0.0
07.0404	Orthotics	0	0.0	0	0.0	0	0.0	0	0.0
07.0500	Radiologic	1	0.2	1	100.0	0	0.0	0	0.0
07.0501	Radiologic Tech.	2	0.4	1	50.0	1	50.0	0	0.0
07.0603	Optometrist Asst.	0	0.0	0	0.0	0	0.0	0	0.0
07.0800	Mental Health Tech.	1	0.2	0	0.0	1	100.0	0	0.0
07.0903	Inhalation Therapy	1	0.2	1	100.0	0	0.0	0	0.0
07.0904	Medical Asst.	6	1.1	2	33.3	2	33.3	2	33.3
07.0909	Mortuary Science	3	0.5	2	66.7	0	0.0	1	33.3
07.9900	Health Occupations, Other	8	1.4	6	75.0	2	25.0	0	0.0

(continued)

TABLE 21 (continued)

OE Code	Title of Occupational Objective Studied	Total Employed by Area Studied		Relatedness of Training to First Job[B]					
				Directly Related		Somewhat Related		Not Related	
		No.	%	No.	%	No.	%	No.	%
09.0102	Child Development	2	0.4	1	50.0	0	0.0	1	50.0
09.0201	Care and Guidance of Children	2	0.4	0	0.0	1	50.0	1	50.0
09.0202	Clothing Management	1	0.2	0	0.0	1	100.0	0	0.0
14.0300	General Office Clerical	11	2.0	3	27.3	5	45.5	3	27.3
14.0301	Duplicating Machine Operator	2	0.4	0	0.0	1	50.0	1	50.0
14.0901	Clerk-Typists	2	0.4	0	0.0	2	100.0	0	0.0
16.0201	Animal Science	0	0.0	0	0.0	0	0.0	0	0.0
17.0000	Trade and Industrial Occupations	1	0.2	1	100.0	0	0.0	0	0.0
17.0100	Air Conditioning	5	0.9	2	40.0	2	40.0	1	20.0
17.0101	Cooling	2	0.4	2	100.0	0	0.0	0	0.0
17.0102	Heating	0	0.0	0	0.0	0	0.0	0	0.0
17.0103	Ventilating	0	0.0	0	0.0	0	0.0	0	0.0
17.0199	Air Conditioning, Other	0	0.0	0	0.0	0	0.0	0	0.0
17.0200	Appliance Repair	1	0.2	1	100.0	0	0.0	0	0.0
17.0201	Electrical Appliances	0	0.0	0	0.0	0	0.0	0	0.0
17.0202	Gas Appliances	1	0.2	0	0.0	1	100.0	0	0.0
17.0300	Automotive Service	1	0.2	1	100.0	0	0.0	0	0.0
17.0301	Body and Fender	13	2.3	9	69.2	0	0.0	4	30.8
17.0302	Auto Mechanics	36	6.5	19	52.8	9	25.0	8	22.2
17.0303	Auto Specialization, Other	20	3.6	4	20.0	8	40.0	8	40.0
17.0399	Auto Service, Other	6	1.1	1	16.7	2	33.3	3	50.0
17.0401	Aircraft Maintenance, Other	0	0.0	0	0.0	0	0.0	0	0.0
17.0499	Aviation Occupations, Other	0	0.0	0	0.0	0	0.0	0	0.0
17.0504	Blue Print Reading	1	0.2	0	0.0	0	0.0	1	100.0
17.0600	Business Machine Maintenance	1	0.2	0	0.0	0	0.0	1	100.0
17.0700	Commercial Art Occupations	1	0.2	1	100.0	0	0.0	0	0.0
17.0701	Interior Decorating	0	0.0	0	0.0	0	0.0	0	0.0
17.0702	Window Display	0	0.0	0	0.0	0	0.0	0	0.0
17.0703	Product Design	1	0.2	0	0.0	1	100.0	0	0.0
17.0799	Commercial Art Occupations, Other	0	0.0	0	0.0	0	0.0	0	0.0
17.0900	Commercial Photography	6	1.1	3	50.0	1	16.7	2	33.3
17.1000	Construction and Maintenance	1	0.2	1	100.0	0	0.0	0	0.0

(continued)

TABLE 21 (continued)

OE Code	Title of Occupational Objective Studied	Total Employed by Area Studied		Relatedness of Training to First Job[B]					
				Directly Related		Somewhat Related		Not Related	
		No.	%	No.	%	No.	%	No.	%
17.1001	Carpentry	21	3.8	9	42.9	4	19.0	8	38.1
17.1002	Electricity	2	0.4	1	50.0	1	50.0	0	0.0
17.1003	Heavy Equipment	2	0.4	2	100.0	0	0.0	0	0.0
17.1004	Masonry	7	1.2	3	42.9	1	14.2	3	42.9
17.1005	Painting & Decorating	1	0.2	0	0.0	1	100.0	0	0.0
17.1007	Plumbing & Pipefitting	7	1.3	3	42.8	2	28.6	2	28.6
17.1008	Dry Wall Construction	0	0.0	0	0.0	0	0.0	0	0.0
17.1009	Glazing	2	0.4	1	50.0	0	0.0	1	50.0
17.1010	Roofing	0	0.0	0	0.0	0	0.0	0	0.0
17.1099	Construction, Other	12	2.1	3	25.0	4	33.3	5	41.7
17.1100	Custodial Services	8	1.4	0	0.0	2	25.0	6	75.0
17.1200	Diesel Mechanics	8	1.4	3	37.5	2	25.0	3	37.5
17.1300	Drafting	7	1.2	3	42.8	2	28.6	2	28.6
17.1400	Electrical Occupations	1	0.2	1	100.0	0	0.0	0	0.0
17.1401	Industrial Electrician	1	0.2	1	100.0	0	0.0	0	0.0
17.1402	Lineman	1	0.2	0	0.0	1	100.0	0	0.0
17.1403	Motor Repairman	0	0.0	0	0.0	0	0.0	0	0.0
17.1500	Electronics Occupations	0	0.0	0	0.0	0	0.0	0	0.0
17.1501	Communications	5	0.9	1	20.0	3	60.0	1	20.0
17.1502	Industrial Electronics	0	0.0	0	0.0	0	0.0	0	0.0
17.1503	Radio/Television	5	0.9	5	100.0	0	0.0	0	0.0
17.1600	Fabric Maintenance Services	1	0.2	0	0.0	0	0.0	1	100.0
17.1601	Drycleaning	3	0.5	1	33.3	1	33.3	1	33.3
17.1602	Laundering	0	0.0	0	0.0	0	0.0	0	0.0
17.1699	Fabric Maintenance Services, Other	0	0.0	0	0.0	0	0.0	0	0.0
17.1700	Foremanship/Management Development	1	0.2	0	0.0	0	0.0	1	100.0
17.1900	Graphic Arts Occupations	10	1.8	3	30.0	3	30.0	4	40.0
17.1902	Printing Press Occupations	1	0.2	1	100.0	0	0.0	0	0.0
17.2100	Instrument Maintenance and Repair	1	0.2	1	100.0	0	0.0	0	0.0
17.2101	Instruments (Not watches or clocks)	0	0.0	0	0.0	0	0.0	0	0.0
17.2200	Maritime Occupations	0	0.0	0	0.0	0	0.0	0	0.0
17.2300	Metalworking	4	0.7	2	50.0	0	0.0	2	50.0
17.2301	Foundry	2	0.4	1	50.0	1	50.0	0	0.0
17.2302	Machine Shop	12	2.1	6	50.0	4	33.3	2	16.7
17.2303	Machine Tool Operations	5	0.9	1	20.0	2	40.0	2	40.0
17.2304	Metal Trades, Combined	0	0.0	0	0.0	0	0.0	0	0.0
17.2305	Sheet Metal	1	0.2	0	0.0	0	0.0	1	100.0

(continued)

TABLE 21 (continued)

OE Code	Title of Occupational Objective Studied	Total Employed by Area Studied		Relatedness of Training to First Job[B]					
				Directly Related		Somewhat Related		Not Related	
		No.	%	No.	%	No.	%	No.	%
17.2306	Welding and Cutting	11	2.0	6	54.5	4	36.4	1	9.1
17.2309	Metal Patternmaking	0	0.0	0	0.0	0	0.0	0	0.0
17.2399	Metalworking, Other	0	0.0	0	0.0	0	0.0	0	0.0
17.2400	Metallurgy	0	0.0	0	0.0	0	0.0	0	0.0
17.2600	Personal Services	0	0.0	0	0.0	0	0.0	0	0.0
17.2601	Barbering	0	0.0	0	0.0	0	0.0	0	0.0
17.2602	Cosmetology	14	2.5	8	57.1	0	0.0	6	42.9
17.2699	Personal Services, Other	3	0.5	2	66.7	0	0.0	1	33.3
17.2700	Plastics Occupations	1	0.2	1	100.0	0	0.0	0	0.0
17.2800	Public Service Occupations	1	0.2	0	0.0	1	100.0	0	0.0
17.2802	Law Enforcement Training	1	0.2	0	0.0	0	0.0	1	100.0
17.2900	Quantity Foods Occupations	9	1.6	6	66.7	0	0.0	3	33.3
17.2901	Baker	1	0.2	0	0.0	0	0.0	1	100.0
17.2902	Cook/Chef	33	5.9	6	18.2	7	21.2	20	60.0
17.2903	Meat Cutter	14	2.5	5	35.7	1	7.1	8	57.2
17.2904	Waiter/Waitress	5	0.9	1	20.0	3	60.0	1	20.0
17.2999	Quantity Foods Occupations, Other	0	0.0	0	0.0	0	0.0	0	0.0
17.3000	Refrigeration	2	0.4	2	100.0	0	0.0	0	0.0
17.3100	Small Engine Repair	11	2.0	7	63.6	2	18.2	2	18.2
17.3300	Textile Production and Fabrication	0	0.0	0	0.0	0	0.0	0	0.0
17.3302	Tailoring	0	0.0	0	0.0	0	0.0	0	0.0
17.3399	Textile Production, Other	30	5.4	13	43.3	8	26.7	9	30.0
17.3401	Shoe Manufacturing	1	0.2	0	0.0	1	100.0	0	0.0
17.3402	Shoe Repair	0	0.0	0	0.0	0	0.0	0	0.0
17.3500	Upholstering	5	0.9	2	40.0	1	20.0	2	40.0
17.3600	Woodworking	0	0.0	0	0.0	0	0.0	0	0.0
17.3601	Millwork and Cabinetmaking	2	0.4	2	100.0	0	0.0	0	0.0
17.3699	Woodworking, Other	0	0.0	0	0.0	0	0.0	0	0.0
17.9900	Trade and Industrial, Other	41	7.4	15	36.6	15	36.6	11	26.8
17.9906	Taxidermy	0	0.0	0	0.0	0	0.0	0	0.0
99.0106	Career Guidance	0	0.0	0	0.0	0	0.0	0	0.0
	TOTAL ALL AREAS	553	100.0	245	44.3	137	24.8	171	30.9

[A]Of 2,410 Trade and Industrial Occupations Co-operative terminees, 753 (31.2%) returned the questionnaire.

[B]The co-operative terminees made the judgment as to how their first job was related to the training received in their high school vocational program.

Of the 553 responding 1973-74 Trade and Industrial Occupations Co-operative terminees who indicated how their first job related to the training they received in their high school vocational program, 245 (44.3%) were employed in directly related areas. One hundred thirty-seven (24.8%) were employed in somewhat related areas, while 171 (30.9%) were employed in areas not related to their training. The co-operative terminees made the judgment as to how their first job was related to the training received in their high school vocational program.

More responding co-operative terminees who studied in Trade and Industrial, Other (OE Code 17.9900) indicated first job employment. This was to be expected since more co-operative terminees studied in this occupational objective area (See Table 1). Of the 41 employed 1973-74 co-operative terminees who studied in the Occupational area of Trade and Industrial, Other and indicated relatedness of training, 15 (36.6%) were employed in an area directly related to that training. Fifteen (36.6%) were employed in their first job in an area somewhat related to their training. However, 11 (26.8%) of these responding co-operative terminees indicated that their first job was not related to the training they received in their Trade and Industrial program.

Table 21A is a description of 1973-74 Trade and Industrial Occupations Co-operative terminees' first job by OE code area studied, number of returns, type school, termination status, and relatedness of training.

TABLE 21A

DESCRIPTION OF 1973-74 TRADE AND INDUSTRIAL OCCUPATIONS CO-OPERATIVE TERMINEES' FIRST JOB BY OE CODE AREA STUDIED, NUMBER OF RETURNS, TYPE SCHOOL, TERMINATION STATUS, AND RELATEDNESS OF TRAINING

OE Code Area[A]	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
01.0500	Ornamental Horticulture (Total)	1	1	100.0	1	100.0	0	0.0	0	0.0
	AVC (Total)[B]	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers[C]	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts[D]	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	1	100.0	0	0.0	0	0.0
	Completers	1	1	100.0	1	100.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
04.0100	Advertising Service (Total)	6	4	66.7	1	16.7	1	16.7	2	33.3
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	6	4	66.7	1	16.7	1	16.7	2	33.3
	Completers	6	4	66.7	1	16.7	1	16.7	2	33.3
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
04.0200	Sales, Apparel and Accessories (Total)	3	2	66.7	1	33.3	0	0.0	1	33.3
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	3	2	66.7	1	33.3	0	0.0	1	33.3
	Completers	3	2	66.7	1	33.3	0	0.0	1	33.3
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
04.0300	Sales, Automotive (Total)	3	3	100.0	1	33.3	1	33.3	1	33.3
	AVC (Total)	1	1	100.0	0	0.0	0	0.0	1	100.0
	Completers	1	1	100.0	0	0.0	0	0.0	1	100.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 21A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	2	2	100.0	1	50.0	1	50.0	0	0.0
	Completers	2	2	100.0	1	50.0	1	50.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
04.0400	Finance & Credit (Total)	3	3	100.0	2	66.7	0	0.0	1	33.3
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	3	3	100.0	2	66.7	0	0.0	1	33.3
	Completers	3	3	100.0	2	66.7	0	0.0	1	33.3
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
04.0600	Food Distribution (Total)	8	7	87.5	5	62.5	1	12.5	1	12.5
	AVC (Total)	4	3	75.0	2	50.0	0	0.0	1	25.0
	Completers	3	2	66.7	2	66.7	0	0.0	0	0.0
	Dropouts	1	1	100.0	0	0.0	0	0.0	1	100.0
	Other Type Schools (Total)	4	4	100.0	3	75.0	1	25.0	0	0.0
	Completers	4	4	100.0	3	75.0	1	25.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
04.0700	Food Services (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
04.0800	General Merchandise (Total)	3	3	100.0	0	0.0	1	33.3	2	66.7
	AVC (Total)	1	1	100.0	0	0.0	0	0.0	1	100.0
	Completers	1	1	100.0	0	0.0	0	0.0	1	100.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	2	2	100.0	0	0.0	1	50.0	1	50.0
	Completers	2	2	100.0	0	0.0	1	50.0	1	50.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 21A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
04.0900	Sales, Hardware and Building Material (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	Completers	1	1	100.0	0	0.0	1	100.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
04.1000	Sales, Home Furnishings (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	Completers	1	1	100.0	0	0.0	1	100.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
04.1200	Industrial Marketing (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	Completers	1	1	100.0	0	0.0	1	100.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
04.1300	Insurance (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
04.1500	Personal Services (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 21A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	Completers	1	1	100.0	0	0.0	1	100.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
04.1800	Recreation & Tourism (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
04.1900	Transportation (Total)	1	1	100.0	1	100.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	1	100.0	0	0.0	0	0.0
	Completers	1	1	100.0	1	100.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
04.2000	Retail Trade, Other (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	Completers	1	1	100.0	0	0.0	1	100.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
04.3100	Wholesale Trade, Other (Total)	3	2	66.7	1	33.3	0	0.0	1	33.3
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	3	2	66.7	1	33.3	0	0.0	1	33.3
	Completers	3	2	66.7	1	33.3	0	0.0	1	33.3
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 21 (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
07.0000	Health Occupations (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
07.0101	Dental Assisting (Total)	27	19	70.4	15	55.6	3	11.1	1	3.7
	AVC (Total)	3	3	100.0	3	100.0	0	0.0	0	0.0
	Completers	3	3	100.0	3	100.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	24	16	66.7	12	50.0	3	12.5	1	4.2
	Completers	23	15	65.2	11	47.8	3	13.0	1	4.3
	Dropouts	1	1	100.0	1	100.0	0	0.0	0	0.0
07.0103	Dental Laboratory (Total)	3	1	100.0	1	100.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	3	1	33.3	1	33.3	0	0.0	0	0.0
	Completers	3	1	33.3	1	33.3	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
07.0200	Medical Laboratory (Total)	26	15	57.7	7	26.9	4	15.4	4	15.4
	AVC (Total)	6	2	33.3	0	0.0	1	16.7	1	16.7
	Completers	6	2	33.3	0	0.0	1	16.7	1	16.7
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	20	13	65.0	7	35.0	3	15.0	3	15.0
	Completers	19	12	63.2	7	36.8	3	15.8	2	10.6
	Dropouts	1	1	100.0	0	0.0	0	0.0	1	100.0
07.0203	Medical Lab. Asst. (Total)	25	17	68.0	10	40.0	3	12.0	4	16.0
	AVC (Total)	3	2	66.7	1	33.3	0	0.0	1	33.3
	Completers	3	2	66.7	1	33.3	0	0.0	1	33.3
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	22	15	68.2	9	40.9	3	13.6	3	13.6
	Completers	21	14	66.7	8	38.1	3	14.3	3	14.3
	Dropouts	1	1	100.0	1	100.0	0	0.0	0	0.0

(continued)

TABLE 21A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
07.0302	Practical Nurse (Total)	6	1	16.7	1	16.7	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	6	1	16.7	1	16.7	0	0.0	0	0.0
	Completers	6	1	16.7	1	16.7	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
07.0303	Nursing Asst. (Total)	17	14	82.4	8	47.1	1	5.9	5	29.4
	AVC (Total)	4	4	100.0	3	75.0	1	25.0	0	0.0
	Completers	4	4	100.0	3	75.0	1	25.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	13	10	76.9	5	38.5	0	0.0	5	38.5
	Completers	13	10	76.9	5	38.5	0	0.0	5	38.5
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
07.0402	Physical Therapy (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
07.0404	Orthotics (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
07.0500	Radiologic (Total)	1	1	100.0	1	100.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	1	100.0	0	0.0	0	0.0
	Completers	1	1	100.0	1	100.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 21A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
07.0501	Radiologic Tech. (Total)	2	2	100.0	1	50.0	1	50.0	0	0.0
	AVC (Total)	1	1	100.0	1	100.0	0	0.0	0	0.0
	Completers	1	1	100.0	1	100.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	Completers	1	1	100.0	0	0.0	1	100.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
07.0603	Optometrist Asst. (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
07.0800	Mental Health Tech. (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	Completers	1	1	100.0	0	0.0	1	100.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
07.0903	Inhalation Therapy (Total)	2	1	50.0	1	50.0	0	0.0	0	0.0
	AVC (Total)	2	1	50.0	1	50.0	0	0.0	0	0.0
	Completers	2	1	50.0	1	50.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
07.0904	Medical Asst. (Total)	7	6	85.7	2	28.6	2	28.6	2	28.6
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	7	6	85.7	2	28.6	2	28.6	2	28.6
	Completers	7	6	85.7	2	28.6	2	28.6	2	28.6
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 21A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
07.0909	Mortuary Science (Total)	4	3	75.0	2	50.0	0	0.0	1	25.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	4	3	75.0	2	50.0	0	0.0	1	25.0
	Completers	4	3	75.0	2	50.0	0	0.0	1	25.0
	Dropouts	0	[illegible]	0.0	0	0.0	0	0.0	0	0.0
07.9900	Health Occupations, Other (Total)	11	8	72.7	6	54.5	2	18.2	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	11	8	72.7	6	54.5	2	18.2	0	0.0
	Completers	11	8	72.7	6	54.5	2	18.2	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
09.0102	Child Development (Total)	2	2	100.0	1	50.0	0	0.0	1	50.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	2	2	100.0	1	50.0	0	0.0	1	50.0
	Completers	2	2	100.0	1	50.0	0	0.0	1	50.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
09.0201	Care and Guidance of Children (Total)	2	2	100.0	0	0.0	1	50.0	1	50.0
	AVC (Total)	1	1	100.0	0	0.0	0	0.0	1	100.0
	Completers	1	1	100.0	0	0.0	0	0.0	1	100.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	Completers	1	1	100.0	0	0.0	1	100.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
09.0202	Clothing Management (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 21A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	Completers	1	1	100.0	0	0.0	1	100.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
14.0300	General Office Clerical (Total)	14	11	78.6	3	21.4	5	35.7	3	21.4
	AVC (Total)	5	3	60.0	1	20.0	2	40.0	0	0.0
	Completers	4	3	60.0	1	20.0	2	40.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	9	8	88.9	2	22.2	3	33.3	3	33.3
	Completers	9	8	88.9	2	22.2	3	33.3	3	33.3
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
14.0301	Duplicating Machine Operator (Total)	4	2	50.0	0	0.0	1	25.0	1	25.0
	AVC (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	3	2	66.7	0	0.0	1	33.3	1	33.3
	Completers	3	2	66.7	0	0.0	1	33.3	1	33.3
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
14.0901	Clerk-Typists (Total0	3	2	66.7	0	0.0	2	66.7	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	3	2	66.7	0	0.0	2	66.7	0	0.0
	Completers	3	2	66.7	0	0.0	2	66.7	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
16.0201	Animal Science (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 21A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
17.0000	Trade and Industrial Occupations (Total)	1	1	100.0	1	100.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	1	100.0	0	0.0	0	0.0
	Completers	1	1	100.0	1	100.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.0100	Air Conditioning (Total)	6	5	83.3	2	33.3	2	33.3	1	16.7
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	6	5	83.3	2	33.3	2	33.3	1	16.7
	Completers	6	5	83.3	2	33.3	2	33.3	1	16.7
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.0101	Cooling (Total)	3	2	66.7	2	66.7	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	3	2	66.7	2	66.7	0	0.0	0	0.0
	Completers	3	2	66.7	2	66.7	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.0102	Heating (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.0103	Ventilating (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 21A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.0199	Air Conditioning, Other (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.0200	Appliance Repair (Total)	2	1	50.0	1	50.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	2	1	50.0	1	50.0	0	0.0	0	0.0
	Completers	2	1	50.0	1	50.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.0201	Electrical Appliances (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.0202	Gas Appliances (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	Completers	1	1	100.0	0	0.0	1	100.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 21A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
17.0300	Automotive Service (Total)	1	1	100.0	1	100.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	1	100.0	0	0.0	0	0.0
	Completers	1	1	100.0	1	100.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.0301	Body and Fender (Total)	14	13	92.9	9	64.3	0	0.0	4	28.6
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	14	13	92.9	9	64.3	0	0.0	4	28.6
	Completers	13	13	100.0	9	69.2	0	0.0	4	30.8
	Dropouts	1	0	0.0	0	0.0	0	0.0	0	0.0
17.0302	Auto Mechanics (Total)	45	36	80.0	19	42.2	9	20.0	8	17.8
	AVC (Total)	4	3	75.0	1	25.0	2	50.0	0	0.0
	Completers	4	3	75.0	1	25.0	2	50.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	41	33	80.5	18	43.9	7	17.1	8	19.5
	Completers	39	31	79.5	16	41.0	7	17.9	8	20.5
	Dropouts	2	2	100.0	2	100.0	0	0.0	0	0.0
17.0303	Auto Specialization, Other (Total)	20	20	100.0	4	20.0	8	40.0	8	40.0
	AVC (Total)	2	2	100.0	0	0.0	1	50.0	1	50.0
	Completers	2	2	100.0	0	0.0	1	50.0	1	50.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	18	18	100.0	4	22.2	7	38.9	7	38.9
	Completers	18	18	100.0	4	22.2	7	38.9	7	38.9
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.0399	Auto Service, Other (Total)	6	6	100.0	1	16.7	2	33.3	3	50.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 21A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	6	6	100.0	1	16.7	2	33.3	3	50.0
	Completers	5	5	100.0	1	20.0	2	40.0	2	40.0
	Dropouts	1	1	100.0	0	0.0	0	0.0	1	100.0
17.0401	Aircraft Maintenance, Other (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.0499	Aviation Occupations, Other (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.0504	Blue Print Reading (Total)	1	1	100.0	0	0.0	0	0.0	1	100.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	0	0.0	0	0.0	1	100.0
	Completers	1	1	100.0	0	0.0	0	0.0	1	100.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.0600	Business Machine Maintenance (Total)	3	1	33.3	0	0.0	0	0.0	1	33.3
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	3	1	33.3	0	0.0	0	0.0	1	33.3
	Completers	3	1	33.3	0	0.0	0	0.0	1	33.3
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 21A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
17.0700	Commercial Art Occupations (Total)	4	1	25.0	1	25.0	0	0.0	0	0.0
	AVC (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	3	1	33.3	1	33.3	0	0.0	0	0.0
	Completers	3	1	33.3	1	33.3	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.0701	Interior Decorating (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.0702	Window Display (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.0703	Product Design (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	Completers	1	1	100.0	0	0.0	1	100.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.0799	Commercial Art Occupations, Other (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 21A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.0900	Commercial Photography (Total)	8	6	75.0	3	37.5	1	12.5	2	25.0
	AVC (Total)	2	1	50.0	0	0.0	0	0.0	1	50.0
	Completers	2	1	50.0	0	0.0	0	0.0	1	50.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	6	5	83.3	3	50.0	1	16.7	1	16.7
	Completers	6	5	83.3	3	50.0	1	16.7	1	16.7
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.1000	Construction and Maintenance (Total)	3	1	33.3	1	33.3	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	3	1	33.3	1	33.3	0	0.0	0	0.0
	Completers	2	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	1	1	100.0	1	100.0	0	0.0	0	0.0
17.1001	Carpentry (Total)	23	21	91.3	9	39.1	4	17.4	8	34.8
	AVC (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	Completers	1	1	100.0	0	0.0	1	100.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	22	20	90.9	9	40.9	3	13.6	8	36.4
	Completers	17	16	94.1	8	47.1	3	17.6	5	29.4
	Dropouts	5	4	80.0	1	20.0	0	0.0	3	60.0
17.1002	Electricity (Total)	4	2	50.0	1	25.0	1	25.0	0	0.0
	AVC (Total)	1	1	100.0	1	100.0	0	0.0	0	0.0
	Completers	1	1	100.0	1	100.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	3	1	33.3	0	0.0	1	33.3	0	0.0
	Completers	2	1	50.0	0	0.0	1	50.0	0	0.0
	Dropouts	1	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 21A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
17.1003	Heavy Equipment (Total)	2	2	100.0	2	100.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	2	2	100.0	2	100.0	0	0.0	0	0.0
	Completers	2	2	100.0	2	100.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.1004	Masonry (Total)	7	7	100.0	3	42.9	1	14.2	3	42.9
	AVC (Total)	1	1	100.0	0	0.0	0	0.0	1	100.0
	Completers	1	1	100.0	0	0.0	0	0.0	1	100.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	6	6	100.0	3	50.0	1	16.7	2	33.3
	Completers	5	5	100.0	2	40.0	1	20.0	2	40.0
	Dropouts	1	1	100.0	1	100.0	0	0.0	0	0.0
17.1005	Painting & Decorating (Total)	3	1	33.3	0	0.0	1	33.3	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	3	1	33.3	0	0.0	1	33.3	0	0.0
	Completers	3	1	33.3	0	0.0	1	33.3	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.1007	Plumbing & Pipefitting (Total)	8	7	87.5	3	37.5	2	25.0	2	25.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	8	7	87.5	3	37.5	2	25.0	2	25.0
	Completers	8	7	87.5	3	37.5	2	25.0	2	25.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.1008	Dry Wall Construction (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 21.1 (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.1009	Glazing (Total)	2	2	100.0	1	50.0	0	0.0	1	50.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	2	2	100.0	1	50.0	0	0.0	1	50.0
	Completers	2	2	100.0	1	50.0	0	0.0	1	50.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.1010	Roofing (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.1099	Construction, Other (Total)	22	12	54.5	3	13.6	4	18.2	4	22.7
	AVC (Total)	3	1	33.3	0	0.0	0	0.0	1	33.3
	Completers	3	1	33.3	0	0.0	0	0.0	1	33.3
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	19	11	52.9	3	15.8	4	21.1	4	21.1
	Completers	19	11	52.9	3	15.8	4	21.1	4	21.1
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.1100	Custodial Services (Total)	13	8	61.5	0	0.0	2	15.4	6	46.2
	AVC (Total)	2	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	2	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	11	8	72.7	0	0.0	2	18.2	6	54.5
	Completers	9	6	66.7	0	0.0	1	11.1	5	55.6
	Dropouts	2	2	100.0	0	0.0	1	50.0	1	50.0
17.1200	Diesel Mechanics (Total)	8	8	100.0	3	37.5	2	25.0	3	37.5
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 21A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	8	8	100.0	3	37.5	2	25.0	3	37.5
	Completers	8	8	100.0	3	37.5	2	25.0	3	37.5
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.1300	Drafting (Total)	14	7	50.0	3	21.4	2	14.3	2	14.3
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	14	7	50.0	3	21.4	2	14.3	2	14.3
	Completers	13	7	53.8	3	23.1	2	15.4	2	15.4
	Dropouts	1	0	0.0	0	0.0	0	0.0	0	0.0
17.1400	Electrical Occupations (Total)	1	1	100.0	1	100.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	1	100.0	0	0.0	0	0.0
	Completers	1	1	100.0	1	100.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.1401	Industrial Electrician (Total)	1	1	100.0	1	100.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	1	100.0	0	0.0	0	0.0
	Completers	1	1	100.0	1	100.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.1402	Lineman (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	Completers	1	1	100.0	0	0.0	1	100.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 21A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
17.1403	Motor Repairman (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.1500	Electronics Occupations (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.1501	Communications (Total)	5	5	100.0	1	20.0	3	60.0	1	20.0
	AVC (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	Completers	1	1	100.0	0	0.0	1	100.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	4	4	100.0	1	25.0	2	50.0	1	25.0
	Completers	4	4	100.0	1	25.0	2	50.0	1	25.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.1502	Industrial Electronics (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.1503	Radio/Television (Total)	5	5	100.0	5	100.0	0	0.0	0	0.0
	AVC (Total)	2	2	100.0	2	100.0	0	0.0	0	0.0
	Completers	2	2	100.0	2	100.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 21A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	3	3	100.0	3	100.0	0	0.0	0	0.0
	Completers	3	3	100.0	3	100.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.1600	Fabric Maintenance Services (Total)	1	1	100.0	0	0.0	0	0.0	1	100.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	0	0.0	0	0.0	1	100.0
	Completers	1	1	100.0	0	0.0	0	0.0	1	100.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.1601	Drycleaning (Total)	3	3	100.0	1	33.3	1	33.3	1	33.3
	AVC (Total)	1	1	100.0	1	100.0	0	0.0	0	0.0
	Completers	1	1	100.0	1	100.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	2	2	100.0	0	0.0	1	50.0	1	50.0
	Completers	1	1	100.0	0	0.0	0	0.0	1	50.0
	Dropouts	1	1	100.0	0	0.0	1	100.0	0	0.0
17.1602	Laundering (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.1699	Fabric Maintenance Services, Other (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 21 (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
17.1700	Foremanship/Management Development (Total)	3	1	33.3	0	0.0	0	0.0	1	33.3
	AVC (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	2	1	50.0	0	0.0	0	0.0	1	50.0
	Completers	2	1	50.0	0	0.0	0	0.0	1	50.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.1900	Graphic Arts Occupations (Total)	14	10	71.4	3	21.4	3	21.4	4	28.6
	AVC (Total)	1	1	100.0	0	0.0	0	0.0	1	100.0
	Completers	1	1	100.0	0	0.0	0	0.0	1	100.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	13	9	69.2	3	23.1	3	23.1	3	23.1
	Completers	13	9	69.2	3	23.1	3	23.1	3	23.1
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.1902	Printing Press Occupations (Total)	1	1	100.0	1	100.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	1	100.0	0	0.0	0	0.0
	Completers	1	1	100.0	1	100.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.2100	Instrument Maintenance and Repair (Total)	1	1	100.0	1	100.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	1	100.0	0	0.0	0	0.0
	Completers	1	1	100.0	1	100.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.2101	Instruments (Not watches or clocks) (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 21A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.2200	Maritime Occupations (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.2300	Metalworking (Total)	4	4	100.0	2	50.0	0	0.0	2	50.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	4	4	100.0	2	50.0	0	0.0	2	50.0
	Completers	3	3	100.0	1	33.3	0	0.0	2	66.7
	Dropouts	1	1	100.0	1	100.0	0	0.0	0	0.0
17.2301	Foundry (Total)	3	2	66.7	1	33.3	1	33.3	0	0.0
	AVC (Total)	1	1	100.0	1	100.0	0	0.0	0	0.0
	Completers	1	1	100.0	1	100.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	2	1	50.0	0	0.0	1	50.0	0	0.0
	Completers	2	1	50.0	0	0.0	1	50.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.2302	Machine Shop (Total)	15	12	80.0	6	40.0	4	26.7	2	13.3
	AVC (Total)	2	2	100.0	0	0.0	1	50.0	1	50.0
	Completers	2	2	100.0	0	0.0	1	50.0	1	50.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	13	10	76.9	6	46.2	3	15.4	1	7.7
	Completers	11	10	90.9	6	54.5	3	27.3	1	9.1
	Dropouts	2	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 21A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
17.2303	Machine Tool Operations (Total)	6	5	83.3	1	16.7	2	33.3	2	33.3
	AVC (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	5	5	100.0	1	20.0	2	40.0	2	40.0
	Completers	5	5	100.0	1	20.0	2	40.0	2	40.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.2304	Metal Trades, Combined (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.2305	Sheet Metal (Total)	2	1	50.0	0	0.0	0	0.0	1	50.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	2	1	50.0	0	0.0	0	0.0	1	50.0
	Completers	2	1	50.0	0	0.0	0	0.0	1	50.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.2306	Welding & Cutting (Total)	11	11	100.0	6	54.5	4	36.4	1	9.1
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	11	11	100.0	6	54.5	4	36.4	1	9.1
	Completers	11	11	100.0	6	54.5	4	36.4	1	9.1
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.2309	Metal Patternmaking (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 21A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.2399	Metalworking, Other (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.2400	Metallurgy (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.2600	Personal Services (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.2601	Barbering (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.2602	Cosmetology (Total)	17	14	82.4	8	47.1	0	0.0	6	35.3
	AVC (Total)	4	4	100.0	3	75.0	0	0.0	1	25.0
	Completers	4	4	100.0	3	75.0	0	0.0	1	25.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 21A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	13	10	76.9	5	38.5	0	0.0	5	38.5
	Completers	12	9	75.0	4	33.3	0	0.0	5	33.3
	Dropouts	1	1	100.0	1	100.0	0	0.0	0	0.0
17.2699	Personal Services, Other (Total)	5	3	60.0	2	40.0	0	0.0	1	20.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	5	3	60.0	2	40.0	0	0.0	1	20.0
	Completers	4	3	60.0	2	40.0	0	0.0	1	20.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.2700	Plastics Occupations (Total)	1	1	100.0	1	100.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	1	100.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	1	1	100.0	1	100.0	0	0.0	0	0.0
17.2800	Public Service Occupations (Total)	5	1	20.0	0	0.0	1	20.0	0	0.0
	AVC (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	4	1	25.0	0	0.0	1	25.0	0	0.0
	Completers	4	1	25.0	0	0.0	1	25.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.2802	Law Enforcement Training (Total)	1	1	100.0	0	0.0	0	0.0	1	100.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	0	0.0	0	0.0	1	100.0
	Completers	1	1	100.0	0	0.0	0	0.0	1	100.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 21A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
17.2900	Quantity Foods Occupations (Total)	13	9	69.2	6	46.2	0	0.0	3	23.1
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	13	9	69.2	6	46.2	0	0.0	3	23.1
	Completers	12	9	75.0	6	50.0	0	0.0	3	25.0
	Dropouts	1	0	0.0	0	0.0	0	0.0	0	0.0
17.2901	Baker (Total)	1	1	100.0	0	0.0	0	0.0	1	100.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	0	0.0	0	0.0	1	100.0
	Completers	1	1	100.0	0	0.0	0	0.0	1	100.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.2902	Cook/Chef (Total)	48	31	64.6	6	12.5	7	14.6	18	37.5
	AVC (Total)	3	2	66.7	0	0.0	0	0.0	2	66.7
	Completers	3	2	66.7	0	0.0	0	0.0	2	66.7
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	45	29	64.4	6	13.3	7	15.6	16	35.6
	Completers	41	29	70.7	6	14.6	7	17.1	16	39.0
	Dropouts	4	0	0.0	0	0.0	0	0.0	0	0.0
17.2903	Meat Cutter (Total)	18	14	77.8	5	27.8	1	5.6	8	44.4
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	18	14	77.8	5	27.8	1	5.6	8	44.4
	Completers	14	12	85.7	5	35.7	1	7.1	6	42.9
	Dropouts	4	2	50.0	0	0.0	0	0.0	2	50.0
17.2904	Waiter/Waitress (Total)	11	5	45.5	1	9.1	3	27.3	1	9.1
	AVC (Total)	1	1	100.0	0	0.0	0	0.0	1	100.0
	Completers	1	1	100.0	0	0.0	0	0.0	1	100.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 21A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	10	4	40.0	1	10.0	3	30.0	0	0.0
	Completers	9	4	44.4	1	11.1	3	33.3	0	0.0
	Dropouts	1	0	0.0	0	0.0	0	0.0	0	0.0
17.2999	Quantity Foods Occupations, Other (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.3000	Refrigeration (Total)	2	2	100.0	2	100.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	2	2	100.0	2	100.0	0	0.0	0	0.0
	Completers	2	2	100.0	2	100.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.3100	Small Engine Repair (Total)	12	11	91.7	7	58.3	2	16.7	2	16.7
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	12	11	91.7	7	58.3	2	16.7	2	16.7
	Completers	11	10	90.9	7	63.6	2	18.2	1	9.1
	Dropouts	1	1	100.0	0	0.0	0	0.0	1	100.0
17.3300	Textile Production and Fabrication (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 21A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
17.3302	Tailoring (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.3399	Textile Production, Other (Total)	46	30	65.2	13	28.3	8	17.4	9	19.6
	AVC (Total)	7	5	71.4	1	14.3	2	28.6	2	28.6
	Completers	5	3	60.0	0	0.0	2	40.0	1	20.0
	Dropouts	2	2	100.0	1	50.0	0	0.0	1	50.0
	Other Type Schools (Total)	39	25	64.1	12	30.8	6	15.4	7	17.9
	Completers	39	25	64.1	12	30.8	6	15.4	7	17.9
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.3401	Shoe Manufacturing (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	Completers	1	1	100.0	0	0.0	1	100.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.3402	Shoe Repair (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.3500	Upholstering (Total)	8	5	62.5	2	25.0	1	12.5	2	25.0
	AVC (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 21A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	7	5	71.4	2	28.6	1	14.3	2	28.6
	Completers	7	5	71.4	2	28.6	1	14.3	2	28.6
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.3600	Woodworking (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.3601	Millwork and Cabinetmaking (Total)	4	2	50.0	2	50.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	4	2	50.0	2	50.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	4	2	50.0	2	50.0	0	0.0	0	0.0
17.3699	Woodworking, Other (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.9900	Trade and Industrial, Other (Total)	52	41	78.9	15	28.8	15	28.8	11	21.2
	AVC (Total)	7	4	57.1	1	14.3	1	14.3	2	28.6
	Completers	7	4	57.1	1	14.3	1	14.3	2	28.6
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	45	37	82.2	14	31.1	14	31.1	9	20.0
	Completers	38	32	84.2	13	34.2	12	31.6	7	18.4
	Dropouts	7	5	71.4	1	14.3	2	28.6	2	28.6

(continued)

TABLE 21A (continued)

OE Code Area	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to First Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
17.9906	Taxidermy (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
99.0106	Career Guidance (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
TOTAL ALL AREAS		753	553	73.4	245	32.5	137	18.2	171	22.7
	AVC (Total)	84	56	66.7	23	27.4	13	15.5	20	23.8
	Completers	81	53	65.4	22	27.2	13	16.0	18	22.2
	Dropouts	3	3	100.0	1	33.3	0	0.0	2	66.7
	Other Type Schools (Total)	669	497	74.3	222	33.2	124	18.5	151	22.6
	Completers	623	467	75.0	209	33.5	120	19.3	138	22.2
	Dropouts	46	30	65.2	13	28.3	4	8.7	13	28.3

[A]OE Code areas as reported by teachers.

[B]Area Vocational Centers.

[C]Any co-operative terminee who left the program by completing or by high school graduation.

[D]Any co-operative terminee who the instructor reported as having dropped out of school.

[E]The co-operative terminees made the judgment as to how their first job was related to the training received in their high school vocational program.

Table 22 illustrates the current employment status of the responding co-operative terminees by the relatedness of their vocational training to their present jobs. All percentages figured in the table were based on the 753 (31.2%) returns from the 2,410 Trade and Industrial Occupations Co-operative terminees.

Of the 753 responding 1973-74 secondary Trade and Industrial Occupations Co-operative terminees, 393 (52.2%) were presently employed full time and not attending school or employed full time and attending school. Seventy (9.3%) of the co-operative terminees were employed part time and attending school, while 26 (3.5%) were unavailable for employment (See page 96 for reasons terminees were unavailable for employment). Fifty-five (7.3%) of the co-operative terminees were unemployed and actively seeking employment, while 18 (2.4%) were employed part time and seeking full-time employment.

The "No Response" category in Table 22 includes three groups: (1) co-operative terminees in active full-time military service; (2) co-operative terminees who were in school full time and had never had a job; and (3) co-operative terminees who failed to respond to the item on the questionnaire.

Of the 753 secondary Trade and Industrial Occupations co-operative respondees, 205 (27.2%) were presently employed full time or part time in an area directly related to the training received in their high school vocational course. One hundred thirty-one (17.4%) were employed either part time or full time in an area somewhat related to their training, while 149 (19.8%) were employed in areas not related to training. The co-operative terminees made the judgment as to how their present employment was related to the training received in their high school vocational course.

TABLE 22

CURRENT EMPLOYMENT STATUS OF TRADE AND INDUSTRIAL OCCUPATIONS CO-OPERATIVE TERMINEES (1973-74) BY RELATEDNESS OF TRAINING TO PRESENT JOB[A]

Employment Status	Total Responding		Relatedness of Training to Present Job[B]							
			Directly Related		Somewhat Related		Not Related[E]		Employed No Repsonse	
	No.	%	No.	%	No.	%	No.	%	No.	%
Employed full time and not attending school	332	44.1	128	17.0	91	12.1	110	14.6	3	0.4
Employed full time and attending school	61	8.1	25	3.3	18	2.4	18	2.4	0	0.0
Employed part time and seeking full-time job	18	2.4	9	1.2	5	0.7	4	0.5	0	0.0
Employed part time and not seeking full-time job	10	1.3	5	0.7	3	0.4	2	0.3	0	0.0
Employed part time and attending school	70	9.3	38	5.0	14	1.9	15	2.0	3	0.4
Unemployed (actively seeking a job)[C]	55	7.3	N/A		N/A		N/A		N/A	
Unavailable for employment[C&D]	26	3.5	N/A		N/A		N/A		N/A	
No Response	181	24.0	N/A		N/A		N/A		N/A	
TOTAL	753	100.0	205	27.2	131	17.4	149	19.8	6	0.8

[A]All percentages were based on the 753 (31.2%) respondents of the total 2,410 co-operative terminees. Terminees in active full-time military service or attending school full-time and had never been employed were included in the "No Response" category.

[B]The co-operative terminees made the judgment as to how their present job was related to the training received in their high school vocational program.

[C]The unemployed and unavailable for employment categories do not include persons in the military service and persons who were in school full time and never had a job.

[D]See page 96 for the listing of reasons Trade and Industrial Occupations Co-operative terminees gave for being unavailable for employment.

[E]See page 96 for reasons co-operative terminees who were working in present job related to vocational training gave for not seeking related job before accepting present job. Totals for unrelated columns may not correspond because terminees failed to respond to one of the two questions from which data was drawn.

Below is a list of the reasons given by the terminees for being unavailable for employment.

Reason	Number
In school full time	33
Presently not working, not interested in a job	3
Homemaker	5
Pregnancy	4
Illness or disability	3
Other	8

Of the 168 co-operative terminees who indicated their present jobs were not related to their vocational course, 69 (41.1%) co-operative terminees indicated that before they accepted their unrelated job, they tried to get a job that was related to their vocational training. However, 99 (58.9%) of the terminees did not.

The following is a list of reasons given by the co-operative terminees who, before taking their present unrelated job, indicated they did not seek a job that was related to their vocational training.

Reason	Number
Interested in a different vocation	10
Need for more training	10
Lost interest	9
Pay not enough	9
Could not find one	6
Nothing available	5
Already had a job	5
Going to college	2
Joined armed services	2
Took first available job	1
Don't know	1
Dislike it	1
Had no time to look	1
Impatient	1
Because of poor weather	1

Table 23 shows for the present job, by OE code, the number of 1973-74 secondary Trade and Industrial Occupations Co-operative terminees employed by the relatedness of their vocational training to their present job.

Of the 517 secondary Trade and Industrial Occupations Co-operative terminees who indicated present employment, 37 (4.9%) who studied in the area of Trade and Industrial, Other, OE Code 17.9900, were employed. This represented the largest number of employed co-operative terminees that studied in any OE Code area.

Of the 37 co-operative terminees presently employed that studied Trade and Industrial, Other, 12 (32.4%) were employed in an area directly related to the training received in their high school vocational program. Eleven (30.0%) co-operative terminees who studied in Trade and Industrial, Other indicated their present job was not related to their high school vocational training. The co-operative terminees made the judgment as to how their present job related to the training received in their high school vocational program.

TABLE 23

EMPLOYED 1973-74 TRADE AND INDUSTRIAL OCCUPATIONS CO-OPERATIVE TERMINEES BY OE CODE AREA STUDIED AND BY RELATEDNESS OF TRAINING TO PRESENT JOB[A]

OE Code	Title of Occupational Objective Studied	Total Employed by Area Studied		Relatedness of Training to Present Job[B]					
				Directly Related		Somewhat Related		Not Related	
		No.	%	No.	%	No.	%	No.	%
01.0500	Ornamental Horticulture	1	0.1	0	0.0	1	0.1	0	0.0
04.0100	Advertising Service	4	0.5	1	0.1	2	0.3	1	0.1
04.0200	Sales, Apparel and Accessories	2	0.3	1	0.1	0	0.0	1	0.1
04.0300	Sales, Automotive	3	0.4	1	0.1	1	0.1	1	0.1
04.0400	Finance and Credit	2	0.3	1	0.1	1	0.1	0	0.0
04.0600	Food Distribution	7	0.9	5	0.7	0	0.0	2	0.3
04.0700	Food Services	0	0.0	0	0.0	0	0.0	0	0.0
04.0800	General Merchandise	3	0.4	0	0.0	1	0.1	2	0.3
04.0900	Sales, Hardware and Building Material	1	0.1	0	0.0	1	0.1	0	0.0
04.1000	Sales, Home Furnishings	1	0.1	0	0.0	1	0.1	0	0.0

(continued)

TABLE 23 (continued)

OE Code	Title of Occupational Objective Studied	Total Employed by Area Studied		Relatedness of Training to Present Job[B]					
				Directly Related		Somewhat Related		Not Related	
		No.	%	No.	%	No.	%	No.	%
04.1200	Industrial Marketing	1	0.1	0	0.0	1	0.1	0	0.0
04.1300	Insurance	0	0.0	0	0.0	0	0.0	0	0.0
04.1500	Personal Servies	1	0.1	0	0.0	1	0.1	0	0.0
04.1800	Recreation & Tourism	0	0.0	0	0.0	0	0.0	0	0.0
04.1900	Transportation	1	0.1	0	0.0	0	0.0	1	0.1
04.2000	Retail Trade, Other	1	0.1	0	0.0	1	0.1	0	0.0
04.3100	Wholesale Trade, Other	2	0.3	0	0.0	1	0.1	1	0.1
07.0000	Health Occupations	0	0.0	0	0.0	0	0.0	0	0.0
07.0101	Dental Assisting	17	2.3	13	1.7	2	0.3	2	0.3
07.0103	Dental Laboratory	1	0.1	1	0.1	0	0.0	0	0.0
07.0200	Medical Laboratory	15	2.0	8	1.1	5	0.7	2	0.3
07.0203	Medical Lab. Asst.	15	2.0	8	1.1	3	0.4	4	0.5
07.0302	Practical Nurse	1	0.1	1	0.1	0	0.0	0	0.0
07.0303	Nursing Assistant	14	1.9	9	1.2	1	0.1	4	0.5
07.0402	Physical Therapy	0	0.0	0	0.0	0	0.0	0	0.0
07.0404	Orthotics	0	0.0	0	0.0	0	0.0	0	0.0
07.0500	Radiologic	1	0.1	0	0.0	1	0.1	0	0.0
07.0501	Radiologic Tech.	2	0.3	1	0.1	1	0.1	0	0.0
07.0603	Optometrist Asst.	0	0.0	0	0.0	0	0.0	0	0.0
07.0800	Mental Health Tech.	1	0.1	0	0.0	0	0.0	1	0.1
07.0903	Inhalation Therapy	1	0.1	1	0.1	0	0.0	0	0.0
07.0904	Medical Asst.	6	0.8	1	0.1	3	0.4	2	0.3
07.0909	Mortuary Science	2	0.3	2	0.3	0	0.0	0	0.0
07.9900	Health Occupations, Other	8	1.1	6	0.8	2	0.3	0	0.0
09.0102	Child Development	2	0.3	0	0.0	1	0.1	1	0.1
09.0201	Care and Guidance of Children	2	0.3	0	0.0	1	0.1	1	0.1
09.0202	Clothing Management	1	0.1	0	0.0	1	0.1	0	0.0
14.0300	General Office Clerical	10	1.3	4	0.5	4	0.5	2	0.3
14.0301	Duplicating Machine Operator	2	0.3	0	0.0	1	0.1	1	0.1
14.0901	Clerk-Typists	2	0.3	0	0.0	2	0.3	0	0.0
16.0201	Animal Science	0	0.0	0	0.0	0	0.0	0	0.0
17.0000	Trade and Industrial Occupations	1	0.1	0	0.0	0	0.0	1	0.1
17.0100	Air Conditioning	4	0.5	2	0.3	1	0.1	1	0.1
17.0101	Cooling	2	0.3	2	0.3	0	0.0	0	0.0
17.0102	Heating	0	0.0	0	0.0	0	0.0	0	0.0
17.0103	Ventilating	0	0.0	0	0.0	0	0.0	0	0.0
17.0199	Air Conditioning, Other	0	0.0	0	0.0	0	0.0	0	0.0
17.0200	Appliance Repair	1	0.2	1	0.0	0	0.0	0	0.2
17.0201	Electrical Appliances	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 23 (continued)

OE Code	Title of Occupational Objective Studied	Total Employed by Area Studied		Relatedness of Training to Present Job[B]					
				Directly Related		Somewhat Related		Not Related	
		No.	%	No.	%	No.	%	No.	%
17.0202	Gas Appliances	1	0.1	0	0.0	1	0.1	0	0.0
17.0300	Automotive Service	0	0.2	0	0.0	0	0.0	0	0.1
17.0301	Body and Fender	13	1.7	8	1.1	0	0.0	5	0.7
17.0302	Auto Mechanics	33	4.4	17	2.3	8	1.1	8	1.1
17.0303	Auto Specialization, Other	20	2.7	3	0.4	8	1.1	9	1.2
17.0399	Auto Service, Other	6	0.8	2	0.3	2	0.3	2	0.3
17.0401	Aircraft Maintenance, Other	0	0.0	0	0.0	0	0.0	0	0.0
17.0499	Aviation Occupations, Other	0	0.0	0	0.0	0	0.0	0	0.0
17.0504	Blue Print Reading	1	0.1	1	0.1	0	0.0	0	0.0
17.0600	Business Machine Maintenance	1	0.1	0	0.0	0	0.0	1	0.1
17.0700	Commercial Art Occupations	1	0.1	1	0.1	0	0.0	0	0.0
17.0701	Interior Decorating	0	0.0	0	0.0	0	0.0	0	0.0
17.0702	Window Display	0	0.0	0	0.0	0	0.0	0	0.0
17.0703	Product Design	1	0.1	0	0.0	1	0.1	0	0.0
17.0799	Commercial Art Occupations, Other	0	0.0	0	0.0	0	0.0	0	0.0
17.0900	Commercial Photography	6	0.8	3	0.4	0	0.0	3	0.4
17.1000	Construction and Maintenance	1	0.1	1	0.1	0	0.0	0	0.0
17.1001	Carpentry	20	2.7	7	0.9	4	0.5	9	1.2
17.1002	Electricity	2	0.3	1	0.1	1	0.1	0	0.0
17.1003	Heavy Equipment	2	0.3	2	0.3	0	0.0	0	0.0
17.1004	Masonry	5	0.7	2	0.3	1	0.1	2	0.3
17.1005	Painting & Decorating	1	0.1	1	0.1	0	0.0	0	0.0
17.1007	Plumbing & Pipefitting	7	0.9	4	0.5	1	0.1	2	0.3
17.1008	Dry Wall Construction	0	0.0	0	0.0	0	0.0	0	0.0
17.1009	Glazing	2	0.3	0	0.0	0	0.0	2	0.3
17.1010	Roofing	0	0.0	0	0.0	0	0.0	0	0.0
17.1099	Construction, Other	10	1.[illegible]	2	0.3	4	0.5	4	0.5
17.1100	Custodial Services	7	0.9	0	0.0	2	0.3	5	0.7
17.1200	Diesel Mechanics	8	1.1	4	0.5	0	0.0	4	0.5
17.1300	Drafting	7	0.9	3	0.4	2	0.3	2	0.3
17.1400	Electrical Occupations	1	0.1	1	0.1	0	0.0	0	0.0
17.1401	Industrial Electrician	1	1.1	1	0.1	0	0.0	0	0.0
17.1402	Lineman	1	0.1	0	0.0	1	0.1	0	0.0
17.1403	Motor Repairman	0	0.0	0	0.0	0	0.0	0	0.0
17.1500	Electronics Occupations	0	0.0	0	0.0	0	0.0	0	0.0
17.1501	Communications	5	0.7	1	0.1	2	0.3	2	0.3
17.1502	Industrial Electronics	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 23 (continued)

OE Code	Title of Occupational Objective Studied	Total Employed by Area Studied		Relatedness of Training to Present Job[B]					
				Directly Related		Somewhat Related		Not Related	
		No.	%	No.	%	No.	%	No.	%
17.1503	Radio/Television	5	0.7	5	0.7	0	0.0	0	0.0
17.1600	Fabric Maintenance Services	1	0.1	0	0.0	0	0.0	1	0.1
17.1601	Drycleaning	2	0.3	1	0.1	1	0.1	0	0.0
17.1602	Laundering	0	0.0	0	0.0	0	0.0	0	0.0
17.1699	Fabric Maintenance Services, Other	0	0.0	0	0.0	0	0.0	0	0.0
17.1700	Foremanship/Management Development	1	0.1	0	0.0	0	0.0	1	0.1
17.1900	Graphic Arts Occupations	10	1.3	4	0.5	3	0.4	3	0.4
17.1902	Printing Press Occupations	1	0.1	1	0.1	0	0.0	0	0.0
17.2100	Instrument Maintenance and Repair	1	0.1	1	0.1	0	0.0	0	0.0
17.2101	Instruments (Not watches or clocks)	0	0.0	0	0.0	0	0.0	0	0.0
17.2200	Maritime Occupations	0	0.0	0	0.0	0	0.0	0	0.0
17.2300	Metalworking	4	0.5	2	0.3	0	0.0	2	0.3
17.2301	Foundry	2	0.3	1	0.1	1	0.1	0	0.0
17.2302	Machine Shop	12	1.6	5	0.7	4	0.5	3	0.4
17.2303	Machine Tool Operations	5	0.7	1	0.1	1	0.1	3	0.4
17.2304	Metal Trades, Combined	0	0.0	0	0.0	0	0.0	0	0.0
17.2305	Sheet Metal	1	0.1	0	0.0	0	0.0	1	0.1
17.2306	Welding and Cutting	10	1.3	3	0.4	4	0.5	3	0.4
17.2309	Metal Patternmaking	0	0.0	0	0.0	0	0.0	0	0.0
17.2399	Metalworking, Other	0	0.0	0	0.0	0	0.0	0	0.0
17.2400	Metallurgy	0	0.0	0	0.0	0	0.0	0	0.0
17.2600	Personal Services	0	0.0	0	0.0	0	0.0	0	0.0
17.2601	Barbering	0	0.0	0	0.0	0	0.0	0	0.0
17.2602	Cosmetology	12	1.6	8	1.1	0	0.0	4	0.5
17.2699	Personal Services, Other	3	0.4	2	0.3	0	0.0	1	0.1
17.2700	Plastics Occupations	1	0.1	1	0.1	0	0.0	0	0.0
17.2800	Public Service Occupations	1	0.1	0	0.0	1	0.1	0	0.0
17.2802	Law Enforcement Training	0	0.0	0	0.0	0	0.0	0	0.0
17.2900	Quantity Foods Occupations	9	0.9	3	0.4	1	0.1	5	0.7
17.2901	Baker	1	0.1	0	0.0	1	0.1	0	0.0
17.2902	Cook/Chef	28	3.7	3	0.4	9	1.2	16	2.1
17.2903	Meat Cutter	14	1.9	5	0.7	0	0.0	9	1.2
17.2904	Waiter/Waitress	5	0.7	1	0.1	3	0.4	1	0.1

(continued)

TABLE 23 (continued)

OE Code	Title of Occupational Objective Studied	Total Employed by Area Studied		Relatedness of Training to Present Job[B]					
				Directly Related		Somewhat Related		Not Related	
		No.	%	No.	%	No.	%	No.	%
17.2999	Quantity Foods Occupations, Other	0	0.0	0	0.0	0	0.0	0	0.0
17.3000	Refrigeration	2	0.3	2	0.3	0	0.0	0	0.0
17.3100	Small Engine Repair	10	1.3	5	0.7	3	0.4	2	0.3
17.3300	Textile Production and Fabrication	0	0.0	0	0.0	0	0.0	0	0.0
17.3302	Tailoring	0	0.0	0	0.0	0	0.0	0	0.0
17.3399	Textile Production, Other	27	2.8	11	1.5	8	1.1	8	1.1
17.3401	Shoe Manufacturing	1	0.1	0	0.0	1	0.1	0	0.0
17.3402	Shoe Repair	0	0.0	0	0.0	0	0.0	0	0.0
17.3500	Upholstering	5	0.7	1	0.1	1	0.1	3	0.4
17.3600	Woodworking	0	0.0	0	0.0	0	0.0	0	0.0
17.3601	Millwork and Cabinet-making	2	0.3	0	0.0	2	0.3	0	0.0
17.3699	Woodworking, Ohter	0	0.0	0	0.0	0	0.0	0	0.0
17.9900	Trade and Industrial, Other	37	5.0	12	1.6	14	1.9	11	1.5
17.9906	Taxidermy	0	0.0	0	0.0	0	0.0	0	0.0
99.0106	Career Guidance	0	0.0	0	0.0	0	0.0	0	0.0
	TOTAL ALL AREAS	517	68.7	212	28.2	137	18.2	168	22.3

[A]All percentages were based on the 753 (31.2%) of the 2,410 terminees who returned the questionnaire.

[B]Terminees made the judgment as to how their first job was related to training received in their high school vocational program.

Table 23A is a description of 1973-74 Trade and Industrial Occupations Co-operative terminees' present job by OE Code area studied, number of returns, type school, termination status, and relatedness of training.

TABLE 23A

DESCRIPTION OF 1973-74 TRADE AND INDUSTRIAL CO-OPERATIVE TERMINEES' PRESENT JOB BY OE CODE AREA STUDIED, NUMBER OF RETURNS, TYPE SCHOOL, TERMINATION STATUS, AND RELATEDNESS OF TRAINING

OE Code Area[A]	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to Present Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
01.0500	Ornamental Horticulture (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	AVC (Total)[B]	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers[C]	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts[D]	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	Completers	1	1	100.0	0	0.0	1	100.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
04.0100	Advertising Service (Total)	6	4	66.7	1	16.7	2	33.3	1	16.7
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	6	4	66.7	1	16.7	2	33.3	1	16.7
	Completers	6	4	66.7	1	16.7	2	33.3	1	16.7
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
04.0200	Sales, Apparel and Accessories (Total)	3	2	66.7	1	33.3	0	0.0	1	33.3
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	3	2	66.7	1	33.3	0	0.0	1	33.3
	Completers	3	2	66.7	1	33.3	0	0.0	1	33.3
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
04.0300	Sales, Automotive (Total)	3	3	100.0	1	33.3	1	33.3	1	33.3
	AVC (Total)	1	1	100.0	0	0.0	0	0.0	1	100.0
	Completers	1	1	100.0	0	0.0	0	0.0	1	100.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	2	2	100.0	1	50.0	1	50.0	0	0.0
	Completers	2	2	100.0	1	50.0	1	50.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 23A (continued)

OE Code Area[A]	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to Present Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
04.0400	**Finance and Credit (Total)**	3	2	66.7	1	33.3	1	33.3	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	3	2	66.7	1	33.3	1	33.3	0	0.0
	Completers	3	2	66.7	1	33.3	1	33.3	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
04.0600	**Food Distribution (Total)**	8	7	87.5	5	62.5	0	0.0	2	25.0
	AVC (Total)	4	3	75.0	1	25.0	0	0.0	2	50.0
	Completers	3	2	66.7	1	33.3	0	0.0	1	33.3
	Dropouts	1	1	100.0	0	0.0	0	0.0	1	100.0
	Other Type Schools (Total)	4	4	100.0	4	100.0	0	0.0	0	0.0
	Completers	4	4	100.0	4	100.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
04.0700	Food Services (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
04.0800	General Merchandise (Total)	3	3	100.0	0	0.0	1	33.3	2	66.7
	AVC (Total)	1	1	100.0	0	0.0	0	0.0	1	100.0
	Completers	1	1	100.0	0	0.0	0	0.0	1	100.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	2	2	100.0	0	0.0	1	50.0	1	50.0
	Completers	2	2	100.0	0	0.0	1	50.0	1	50.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
04.0900	Sales, Hardware and Building Material (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	Completers	1	1	100.0	0	0.0	1	100.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 23A (continued)

OE Code Area[A]	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to Present Job[B]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
04.1000	Sales, Home Furnishings (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	Completers	1	1	100.0	0	0.0	1	100.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
04.1200	Industrial Marketing (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	Completers	1	1	100.0	0	0.0	1	100.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
04.1300	Insurance (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
04.1500	Personal Services (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	Completers	1	1	100.0	0	0.0	1	100.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
04.1800	Recreation & Tourism (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 23A (continued)

OE Code Area[A]	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to Present Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
04.1900	Transportation (Total)	1	1	100.0	0	0.0	0	0.0	1	100.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	0	0.0	0	0.0	1	100.0
	Completers	1	1	100.0	0	0.0	0	0.0	1	100.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
04.2000	Retail Trade, Other (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	Completers	1	1	100.0	0	0.0	1	100.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
04.3100	Wholesale Trade, Other (Total)	3	2	66.7	0	0.0	1	33.3	1	33.3
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	3	2	66.7	0	0.0	1	33.3	1	33.3
	Completers	3	2	66.7	0	0.0	1	33.3	1	33.3
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
07.0000	Health Occupations (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 23A (continued)

OE Code Area[A]	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to Present Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
07.0101	Dental Assisting (Total)	27	17	63.0	13	48.2	2	7.4	2	7.4
	AVC (Total)	3	2	66.7	2	66.7	0	0.0	0	0.0
	Completers	3	2	66.7	2	66.7	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	24	15	62.4	11	45.8	2	8.3	2	8.3
	Completers	23	14	60.9	10	43.5	2	8.7	2	8.7
	Dropouts	1	1	100.0	1	100.0	0	0.0	0	0.0
07.0103	Dental Laboratory (Total)	3	1	33.3	1	33.3	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	3	1	33.3	1	33.3	0	0.0	0	0.0
	Completers	2	1	50.0	1	50.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
07.0200	Medical Laboratory (Total)	26	15	57.7	8	30.9	5	19.2	2	7.7
	AVC (Total)	6	2	33.3	1	16.7	1	16.7	0	0.0
	Completers	6	2	33.3	1	16.7	1	16.7	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	20	13	65.0	7	35.0	4	15.0	2	15.0
	Completers	19	12	63.2	7	36.8	4	15.8	1	10.6
	Dropouts	1	1	100.0	0	0.0	0	0.0	1	100.0
07.0203	Medical Lab. Asst. (Total)	25	15	60.0	8	32.0	3	12.0	4	16.0
	AVC (Total)	3	2	66.7	1	33.3	0	0.0	1	33.3
	Completers	3	2	66.7	1	33.3	0	0.0	1	33.3
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	22	13	59.1	7	31.8	3	13.6	3	13.6
	Completers	21	12	57.1	6	28.6	3	14.3	3	14.3
	Dropouts	1	1	100.0	1	100.0	0	0.0	0	0.0
07.0302	Practical Nurse (Total)	6	1	16.7	1	16.7	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 23A (continued)

OE Code Area[A]	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to Present Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	6	1	16.7	1	16.7	0	0.0	0	0.0
	Completers	6	1	16.7	1	16.7	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
07.0303	Nursing Asst. (Total)	17	14	82.4	9	47.1	1	5.9	4	29.4
	AVC (Total)	4	4	100.0	3	75.0	0	0.0	1	25.0
	Completers	4	4	100.0	3	75.0	0	0.0	1	25.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	13	10	76.9	6	46.2	1	7.7	3	23.1
	Completers	13	10	76.9	6	46.2	1	7.7	3	23.1
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
07.0402	Physical Therapy (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
07.0404	Orthotics (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
07.0500	Radiologic (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	Completers	1	1	100.0	0	0.0	1	100.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
07.0501	Radiologic Tech. (Total)	2	2	100.0	1	50.0	1	50.0	0	0.0
	AVC (Total)	1	1	100.0	1	100.0	0	0.0	0	0.0
	Completers	1	1	100.0	1	100.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 21A (continued)

OE Code Area[A]	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to Present Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	Completers	1	1	100.0	0	0.0	1	100.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
07.0603	Optometrist Asst. (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
07.0800	Mental Health Technology (Total)	1	1	100.0	0	0.0	0	0.0	1	100.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	0	0.0	0	0.0	1	100.0
	Completers	1	1	100.0	0	0.0	0	0.0	1	100.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
07.0903	Inhalation Therapy (Total)	2	1	50.0	1	50.0	0	0.0	0	0.0
	AVC (Total)	2	1	50.0	1	50.0	0	0.0	0	0.0
	Completers	2	1	50.0	1	50.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
07.0904	Medical Asst. (Total)	7	6	85.7	1	14.3	3	42.9	2	28.6
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	7	6	85.7	1	14.3	3	42.9	2	28.6
	Completers	7	6	85.7	1	14.3	3	42.9	2	28.6
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
07.0909	Mortuary Science (Total)	4	2	50.0	2	50.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 23A (continued)

OE Code Area[A]	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to Present Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	4	2	50.0	2	50.0	0	0.0	0	0.0
	Completers	4	2	50.0	2	50.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
07.9900	Health Occupations, Other (Total)	11	8	72.7	6	54.5	2	18.2	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	11	8	72.7	6	54.5	2	18.2	0	0.0
	Completers	11	8	72.7	6	54.5	2	18.2	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
09.0102	Child Development (Total)	2	2	100.0	0	0.0	1	50.0	1	50.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	2	2	100.0	0	0.0	1	50.0	1	50.0
	Completers	2	2	100.0	0	0.0	1	50.0	1	50.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
09.0201	Care and Guidance of Children (Total)	2	2	100.0	0	0.0	1	50.0	1	50.0
	AVC (Total)	1	1	100.0	0	0.0	0	0.0	1	100.0
	Completers	1	1	100.0	0	0.0	0	0.0	1	100.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	Completers	1	1	100.0	0	0.0	1	100.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
09.0202	Clothing Management (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	Completers	1	1	100.0	0	0.0	1	100.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 23A (continued)

OE Code Area[A]	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to Present Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
14.0300	General Office Clerical (Total)	14	10	78.6	4	28.6	4	28.6	2	14.3
	AVC (Total)	5	3	60.0	2	40.0	1	20.0	0	0.0
	Completers	5	3	60.0	2	40.0	1	20.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	9	7	77.8	2	22.2	3	33.3	2	22.2
	Completers	9	7	77.8	2	22.2	3	33.3	2	22.2
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
14.0301	Duplicating Machine Operator (Total)	4	2	50.0	0	0.0	1	25.0	1	25.0
	AVC (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	3	2	66.7	0	0.0	1	33.3	1	33.3
	Completers	3	2	66.7	0	0.0	1	33.3	1	33.3
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
14.0901	Clerk-Typists (Total)	3	2	66.7	0	0.0	2	66.7	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	3	2	66.7	0	0.0	2	66.7	0	0.0
	Completers	3	2	66.7	0	0.0	2	66.7	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
16.0201	Animal Science (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.0000	Trade and Industrial Occupations (Total)	1	1	100.0	0	0.0	0	0.0	1	100.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 23A (continued)

OE Code Area[A]	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to Present Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	1	1	100.0	0	0.0	0	0.0	1	100.0
	Completers	1	1	100.0	0	0.0	0	0.0	1	100.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.0100	Air Conditioning (Total)	6	4	66.7	2	33.3	1	16.7	1	16.7
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	6	4	66.7	2	33.3	1	16.7	1	16.7
	Completers	6	4	66.7	2	33.3	1	16.7	1	16.7
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.0101	Cooling (Total)	3	2	66.7	2	66.7	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	3	2	66.7	2	66.7	0	0.0	0	0.0
	Completers	3	2	66.7	2	66.7	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.0102	Heating (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.0103	Ventilating (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.0199	Air Conditioning, Other (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 2[illegible]A (continued)

OE Code Area[A]	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to Present Job[B]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.0200	Appliance Repair (Total)	2	1	50.0	1	50.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	2	1	50.0	1	50.0	0	0.0	0	0.0
	Completers	2	1	50.0	1	50.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.0201	Electrical Appliances (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.0202	Gas Appliances (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	Completers	1	1	100.0	0	0.0	1	100.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.0300	Automotive Service (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.0301	Body and Fender (Total)	14	13	92.9	8	57.2	0	0.0	5	35.7
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 23A (continued)

OE Code Area[A]	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to Present Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	14	13	92.9	8	57.2	0	0.0	5	35.7
	Completers	13	13	92.9	8	57.2	0	0.0	5	35.7
	Dropouts	1	0	0.0	0	0.0	0	0.0	0	0.0
17.0302	Auto Mechanics (Total)	45	33	73.3	17	37.8	8	17.8	8	17.8
	AVC (Total)	4	3	75.0	1	25.0	2	50.0	0	0.0
	Completers	4	3	75.0	1	25.0	2	50.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	41	30	73.2	16	39.0	6	14.6	8	19.5
	Completers	39	28	71.8	14	38.9	6	15.4	8	20.5
	Dropouts	2	2	100.0	2	100.0	0	0.0	0	0.0
17.0303	Auto Specialization, Other (Total)	20	20	100.0	3	15.0	8	40.0	9	45.0
	AVC (Total)	2	2	100.0	0	0.0	1	50.0	1	50.0
	Completers	2	2	100.0	0	0.0	1	50.0	1	50.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	18	18	100.0	3	16.7	7	38.9	8	44.4
	Completers	5	5	100.0	2	40.0	2	40.0	1	20.0
	Dropouts	1	1	100.0	0	0.0	0	0.0	1	100.0
17.0401	Aircraft Maintenance, Other (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.0499	Aviation Occupations, Other (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 23A (continued)

OE Code Area[A]	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to Present Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
17.0504	Blue Print Reading (Total)	1	1	100.0	1	100.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	1	100.0	0	0.0	0	0.0
	Completers	1	1	100.0	1	100.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.0600	Business Machines Maintenance (Total)	3	1	33.3	0	0.0	0	0.0	1	33.3
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	3	1	33.3	0	0.0	0	0.0	1	33.3
	Completers	3	1	33.3	0	0.0	0	0.0	1	33.3
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.0700	Commercial Art Occupations (Total)	4	1	25.0	1	25.0	0	0.0	0	0.0
	AVC (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	3	1	33.3	1	33.3	0	0.0	0	0.0
	Completers	3	1	33.3	1	33.3	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.0701	Interior Decorating (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.0702	Window Display (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 23A (continued)

OE Code Area[A]	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to Present Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.0703	Product Design (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	Completers	1	1	100.0	0	0.0	1	100.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.0799	Commercial Art Occupations, Other (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.0900	Commercial Photography (Total)	8	6	75.0	3	37.5	0	0.0	3	37.5
	AVC (Total)	2	1	50.0	0	0.0	0	0.0	1	50.0
	Completers	2	1	50.0	0	0.0	0	0.0	1	50.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	6	5	83.3	3	50.0	0	0.0	2	33.3
	Completers	6	5	83.3	3	50.0	0	0.0	2	33.3
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.1000	Construction and Maintenance (Total)	3	1	33.3	1	33.3	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	3	1	33.3	1	33.3	0	0.0	0	0.0
	Completers	2	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	1	1	100.0	1	100.0	0	0.0	0	0.0

(continued)

TABLE 23A (continued)

OE Code Area[A]	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to Present Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
17.1001	Carpentry (Total)	23	20	87.0	7	30.4	4	17.4	9	39.1
	AVC (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	Completers	1	1	100.0	0	0.0	1	100.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	22	19	86.4	7	31.8	3	13.6	9	40.9
	Completers	17	15	88.2	7	41.2	2	11.8	6	35.3
	Dropouts	5	4	80.0	0	0.0	1	20.0	3	60.0
17.1002	Electricity (Total)	4	2	50.0	1	25.0	1	25.0	0	0.0
	AVC (Total)	1	1	100.0	1	100.0	0	0.0	0	0.0
	Completers	1	1	100.0	1	100.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	3	1	33.3	0	0.0	1	33.3	0	0.0
	Completers	2	1	50.0	0	0.0	1	50.0	0	0.0
	Dropouts	1	0	0.0	0	0.0	0	0.0	0	0.0
17.1003	Heavy Equipment (Total)	2	2	100.0	2	100.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	2	2	100.0	2	100.0	0	0.0	0	0.0
	Completers	2	2	100.0	2	100.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.1004	Masonry (Total)	7	5	71.4	2	28.6	1	14.3	2	28.6
	AVC (Total)	1	1	100.0	0	0.0	0	0.0	1	100.0
	Completers	1	1	100.0	0	0.0	0	0.0	1	100.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	6	4	66.7	2	33.3	1	16.7	1	16.7
	Completers	5	3	60.0	1	20.0	1	20.0	1	20.0
	Dropouts	1	1	100.0	1	100.0	0	0.0	0	0.0
17.1005	Painting & Decorating (Total)	3	1	33.3	1	33.3	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 23A (continued)

OE Code Area[A]	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to Present Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	3	1	33.3	1	33.3	0	0.0	0	0.0
	Completers	3	1	33.3	1	33.3	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.1007	Plumbing & Pipefitting (Total)	8	7	87.5	4	50.0	1	12.5	2	25.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	8	7	87.5	4	50.0	1	12.5	2	25.0
	Completers	8	7	87.5	4	50.0	1	12.5	2	25.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.1008	Dry Wall Construction (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.1009	Glazing (Total)	2	2	100.0	0	0.0	0	0.0	2	100.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	2	2	100.0	0	0.0	0	0.0	2	100.0
	Completers	2	2	100.0	0	0.0	0	0.0	2	100.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.1010	Roofing (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 23A (continued)

OE Code Area[A]	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to Present Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
17.1099	Construction, Other (Total)	22	10	45.5	2	9.1	4	18.2	4	18.2
	AVC (Total)	3	1	33.3	0	0.0	0	0.0	1	33.3
	Completers	3	1	33.3	0	0.0	0	0.0	1	33.3
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	19	9	47.4	2	10.5	4	21.1	3	15.8
	Completers	19	9	47.4	2	10.5	4	21.1	3	15.8
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.1100	Custodial Services (Total)	13	7	53.8	0	0.0	2	15.4	5	38.5
	AVC (Total)	2	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	2	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	11	7	63.6	0	0.0	2	18.2	5	45.5
	Completers	9	6	66.7	0	0.0	1	11.1	5	55.6
	Dropouts	2	1	50.0	0	0.0	1	50.0	0	0.0
17.1200	Diesel Mechanics (Total)	8	8	100.0	4	50.0	0	0.0	4	50.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	8	8	100.0	4	50.0	0	0.0	4	50.0
	Completers	8	8	100.0	4	50.0	0	0.0	4	50.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.1300	Drafting (Total)	14	7	50.0	3	21.4	2	14.3	2	14.3
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	14	7	50.0	3	21.4	2	14.3	2	14.3
	Completers	13	7	53.8	3	23.1	2	15.4	2	15.4
	Dropouts	1	0	0.0	0	0.0	0	0.0	0	0.0
17.1400	Electrical Occupations (Total)	1	1	100.0	1	100.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 23A (continued)

OE Code Area[A]	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to Present Job[B]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	1	1	100.0	1	100.0	0	0.0	0	0.0
	Completers	1	1	100.0	1	100.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.1401	Industrial Electrician (Total)	1	1	100.0	1	100.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	1	100.0	0	0.0	0	0.0
	Completers	1	1	100.0	1	100.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.1402	Lineman (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	Completers	1	1	100.0	0	0.0	1	100.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.1403	Motor Repairman (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.1500	Electronics Occupations (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 23A (continued)

OE Code Area[A]	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to Present Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
17.1501	Communications (Total)	5	5	100.0	1	20.0	2	40.0	2	40.0
	AVC (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	Completers	1	1	100.0	0	0.0	1	100.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	4	4	100.0	1	25.0	1	25.0	2	50.0
	Completers	4	4	100.0	1	25.0	1	25.0	2	50.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.1502	Industrial Electronics (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.1503	Radio/Television (Total)	5	5	100.0	5	100.0	0	0.0	0	0.0
	AVC (Total)	2	2	100.0	2	100.0	0	0.0	0	0.0
	Completers	2	2	100.0	2	100.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	3	3	100.0	3	100.0	0	0.0	0	0.0
	Completers	3	3	100.0	3	100.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.1600	Fabric Maintenance Services (Total)	1	1	100.0	0	0.0	0	0.0	1	100.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	0	0.0	0	0.0	1	100.0
	Completers	1	1	100.0	0	0.0	0	0.0	1	100.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.1601	Drycleaning (Total)	3	2	66.7	1	33.3	1	33.3	0	0.0
	AVC (Total)	1	1	100.0	1	100.0	0	0.0	0	0.0
	Completers	1	1	100.0	1	100.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 23A (continued)

OE Code Area[A]	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to Present Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	2	1	50.0	0	0.0	1	50.0	0	0.0
	Completers	1	1	100.0	0	0.0	1	100.0	0	0.0
	Dropouts	1	0	0.0	0	0.0	0	0.0	0	0.0
17.1602	Laundering (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.1699	Fabric Maintenance Services, Other (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.1700	Foremanship/Management-Development (Total)	3	1	33.3	0	0.0	0	0.0	1	33.3
	AVC (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	2	1	50.0	0	0.0	0	0.0	1	50.0
	Completers	2	1	50.0	0	0.0	0	0.0	1	50.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.1900	Graphic Arts Occupations (Total)	14	10	71.4	4	28.6	3	21.4	3	21.4
	AVC (Total)	1	1	100.0	1	100.0	0	0.0	0	0.0
	Completers	1	1	100.0	1	100.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	13	9	69.2	3	23.1	3	23.1	3	23.1
	Completers	13	9	69.2	3	23.1	3	23.1	3	23.1
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 2[illegible]A (continued)

OE Code Area[A]	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to Present Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
17.1902	Printing Press Occupations (Total)	1	1	100.0	1	100.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	1	100.0	0	0.0	0	0.0
	Completers	1	1	100.0	1	100.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.2100	Instrument Maintenance and Repair (Total)	1	1	100.0	1	100.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	1	100.0	0	0.0	0	0.0
	Completers	1	1	100.0	1	100.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.2101	Instruments (Not watches or clocks) (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.2200	Maritime Occupations (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.2300	Metalworking (Total)	4	4	100.0	2	50.0	0	0.0	2	50.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 23A (continued)

OE Code Area[A]	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to Present Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	4	4	100.0	2	50.0	0	0.0	2	50.0
	Completers	3	3	100.0	1	33.3	0	0.0	2	66.7
	Dropouts	1	1	100.0	1	100.0	0	0.0	0	0.0
17.2301	Foundry (Total)	3	2	66.7	1	33.3	1	33.3	0	0.0
	AVC (Total)	1	1	100.0	1	100.0	0	0.0	0	0.0
	Completers	1	1	100.0	1	100.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	2	1	50.0	0	0.0	1	50.0	0	0.0
	Completers	2	1	50.0	0	0.0	1	50.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.2302	Machine Shop (Total)	15	12	75.0	5	33.3	4	26.7	3	20.0
	AVC (Total)	2	2	100.0	0	0.0	1	50.0	1	50.0
	Completers	2	2	100.0	0	0.0	1	50.0	1	50.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	13	10	76.9	5	38.5	3	23.1	2	15.4
	Completers	11	10	90.9	5	45.5	3	27.3	2	18.2
	Dropouts	2	0	0.0	0	0.0	0	0.0	0	0.0
17.2303	Machine Tool Operations (Total)	6	5	83.3	1	16.7	1	16.7	3	50.0
	AVC (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	5	5	100.0	1	20.0	1	20.0	3	60.0
	Completers	5	5	100.0	1	20.0	1	20.0	3	60.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.2304	Metal Trades, Combined (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 23A (continued)

OE Code Area[A]	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to Present Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
17.2305	Sheet Metal (Total)	2	1	50.0	0	0.0	0	0.0	1	50.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	2	1	50.0	0	0.0	0	0.0	1	50.0
	Completers	2	1	50.0	0	0.0	0	0.0	1	50.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.2306	Welding & Cutting (Total)	11	10	90.9	3	27.3	4	36.4	3	27.3
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	11	10	90.9	3	27.3	4	36.4	3	27.3
	Completers	11	10	90.9	3	27.3	4	36.4	3	27.3
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.2309	Metal Patternmaking (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.2399	Metalworking, Other (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.2400	Metallurgy (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 23A (continued)

OE Code Area[A]	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to Present Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.2600	Personal Services (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.2601	Barbering (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.2602	Cosmetology (Total)	17	12	70.6	8	47.1	0	0.0	4	23.5
	AVC (Total)	4	4	100.0	3	75.0	0	0.0	1	25.0
	Completers	4	4	100.0	3	75.0	0	0.0	1	25.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	13	8	61.5	5	38.5	0	0.0	3	23.1
	Completers	12	7	58.3	5	41.7	0	0.0	2	16.7
	Dropouts	1	1	100.0	0	0.0	0	0.0	1	100.0
17.2699	Personal Services, Other (Total)	5	3	60.0	2	40.0	0	0.0	1	20.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	5	3	60.0	2	40.0	0	0.0	1	20.0
	Completers	5	3	60.0	2	40.0	0	0.0	1	20.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 23A (continued)

OE Code Area[A]	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to Present Job[B]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
17.2700	Plastics Occupations (Total)	1	1	100.0	1	100.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	1	100.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	1	1	100.0	1	100.0	0	0.0	0	0.0
17.2800	Public Service Occupations (Total)	5	1	20.0	0	0.0	1	20.0	0	0.0
	AVC (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	4	1	25.0	0	0.0	1	25.0	0	0.0
	Completers	4	1	25.0	0	0.0	1	25.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.2802	Law Enforcement Training (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.2900	Quantity Foods Occupations (Total)	13	9	69.2	3	23.1	1	7.7	5	38.5
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	13	9	69.2	3	23.1	1	7.7	5	38.5
	Completers	12	9	69.2	3	23.1	1	7.7	5	38.5
	Dropouts	1	0	0.0	0	0.0	0	0.0	0	0.0
17.2901	Baker (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 23A (continued)

OE Code Area[A]	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to Present Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	Completers	1	1	100.0	0	0.0	1	100.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.2902	Cook/Chef (Total)	48	28	58.3	3	6.3	9	18.8	16	33.3
	AVC (Total)	3	2	66.7	0	0.0	0	0.0	2	66.7
	Completers	3	2	66.7	0	0.0	0	0.0	2	66.7
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	45	26	57.8	3	6.7	9	20.0	14	31.1
	Completers	41	24	58.5	3	7.3	9	22.0	12	29.3
	Dropouts	4	2	50.0	0	0.0	0	0.0	2	50.0
17.2903	Meat Cutter (Total)	18	14	77.8	5	27.8	0	0.0	9	50.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	18	14	77.8	5	27.8	0	0.0	9	50.0
	Completers	14	12	85.7	5	35.7	0	0.0	7	50.0
	Dropouts	4	2	50.0	0	0.0	0	0.0	2	50.0
17.2904	Waiter/Waitress (Total)	11	5	45.5	1	9.1	3	27.3	1	9.1
	AVC (Total)	1	1	100.0	0	0.0	0	0.0	1	100.0
	Completers	1	1	100.0	0	0.0	0	0.0	1	100.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	10	4	40.0	1	10.0	3	30.0	0	0.0
	Completers	9	4	44.4	1	11.1	3	33.3	0	0.0
	Dropouts	1	0	0.0	0	0.0	0	0.0	0	0.0
17.2999	Quantity Foods Occupations, Other (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.3000	Refrigeration (Total)	2	2	100.0	2	100.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 21A (continued)

OE Code Area[A]	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to Present Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	2	2	100.0	2	100.0	0	0.0	0	0.0
	Completers	2	2	100.0	2	100.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.3100	Small Engine Repair (Total)	12	10	83.3	5	41.7	3	25.0	2	16.7
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	12	10	83.3	5	41.7	3	25.0	2	16.7
	Completers	11	9	81.8	5	45.5	3	27.3	1	9.1
	Dropouts	1	1	100.0	0	0.0	0	0.0	1	100.0
17.3300	Textile Production and Fabrication (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.3302	Tailoring (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.3399	Textile Production, Other (Total)	46	27	58.7	11	23.9	8	17.4	8	17.4
	AVC (Total)	7	5	71.4	0	0.0	2	28.6	3	42.9
	Completers	5	3	60.0	0	0.0	2	40.0	1	20.0
	Dropouts	2	2	100.0	0	0.0	0	0.0	2	100.0
	Other Type Schools (Total)	39	22	56.4	11	28.2	6	15.4	5	12.8
	Completers	39	22	56.4	11	28.2	6	15.4	5	12.8
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 23A (continued)

OE Code Area[A]	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to Present Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
17.3401	Shoe Manufacturing (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	1	100.0	0	0.0	1	100.0	0	0.0
	Completers	1	1	100.0	0	0.0	1	100.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.3402	Shoe Repair (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.3500	Upholstering (Total)	8	5	62.5	1	12.5	1	12.5	3	37.5
	AVC (Total)	1	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	1	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	7	5	71.4	1	14.3	1	14.3	3	42.8
	Completers	7	5	71.4	1	14.3	1	14.3	3	42.8
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.3600	Woodworking (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.3601	Millwork and Cabinet-making (Total)	4	2	50.0	0	0.0	2	50.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 21A (continued)

OE Code Area[A]	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to Present Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
	Other Type Schools (Total)	4	2	50.0	0	0.0	2	50.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	4	2	50.0	0	0.0	2	50.0	0	0.0
17.3699	Woodworking, Other (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
17.9900	Trade and Industrial, Other (Total)	52	37	71.2	12	23.1	14	26.9	11	21.2
	AVC (Total)	7	4	57.1	0	0.0	2	28.6	2	28.6
	Completers	7	4	57.1	0	0.0	2	28.6	2	28.6
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	45	33	73.3	12	31.6	12	26.7	9	20.0
	Completers	38	29	76.3	11	28.9	11	28.9	7	18.4
	Dropouts	7	4	57.1	1	14.3	1	14.3	2	28.6
17.9906	Taxidermy (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
99.0106	Career Guidance (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	AVC (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0
	Other Type Schools (Total)	0	0	0.0	0	0.0	0	0.0	0	0.0
	Completers	0	0	0.0	0	0.0	0	0.0	0	0.0
	Dropouts	0	0	0.0	0	0.0	0	0.0	0	0.0

(continued)

TABLE 23A (continued)

OE Code Area[A]	Occupational Title Studied by Type School and Termination Status	Number of Returns	Total Number Employed by Area Studied		Relatedness of Training to Present Job[E]					
					Directly Related		Somewhat Related		Not Related	
			No.	%	No.	%	No.	%	No.	%
TOTAL ALL AREAS		753	517	68.7	212	28.2	137	18.2	168	22.3
	AVC (Total)	84	55	65.5	22	25.2	12	14.3	21	25.0
	Completers	81	52	64.2	22	27.2	12	14.8	18	22.2
	Dropouts	3	3	100.0	0	0.0	0	0.0	3	100.0
	Other Type Schools (Total)	669	462	69.1	190	28.4	125	18.7	147	22.0
	Completers	623	435	69.8	181	29.0	120	19.3	134	21.5
	Dropouts	46	27	58.7	9	19.6	5	10.9	13	28.2

[A]OE Code areas as reported by teachers.

[B]Area Vocational Centers

[C]Any terminee who left the program by completing or by high school graduation.

[D]Any terminee who the instructor reported as having dropped out of school.

[E]The terminees made the judgment as to how their first job was related to the training received in their high school vocational program.

Table 24 indicates the first job salary ranges as compared to the present job salary ranges for the 1973-74 Trade and Industrial Occupations Co-operative terminees.

Of the 529 co-operative terminees reporting a salary range for their first job, 242 (45.8%) indicated a range of under $250 per month. Thirteen (2.4%) of the co-operative terminees reported a first salary of more than $600 per month. The median salary range for the first job fell in the range of $250 - $299 per month. The mean salary range for the first job fell in the range of $300 - $349 per month.

Of the 460 1973-74 Trade and Industrial Occupations Co-operative terminees reporting a salary range for their present job, 105 (22.8%) indicated under $250 per month. The median and mean salary ranges for the present job fell within

the range of $350 - $399 per month. The median and mean salary ranges of present jobs over first jobs indicate an increase for the reporting Trade and Industrial Occupations Co-operative terminees.

TABLE 24

FIRST-JOB SALARY RANGES AND PRESENT-JOB SALARY RANGES FOR THE 1973-74 TRADE AND INDUSTRIAL OCCUPATIONS CO-OPERATIVE TERMINEES

Salary Ranges	First Job		Present Job	
	No.	%	No.	%
Under $250	242	45.8	105	22.8
$250 - $299	82	15.5	54	11.7
$300 - $349	68	12.9	60	13.1
$350 - $399	44	8.3	53	11.5
$400 - $449	45	8.5	70	15.2
$450 - $499	15	2.8	35	7.6
$500 - $599	20	3.8	43	9.4
$600 - $699	7	1.3	19	4.1
$700 or more	6	1.1	21	4.6
TOTAL	529	100.0	460	100.0

Table 24A indicates the first-job salary ranges by relatedness of training and sex of the Trade and Industrial Occupations Co-operative terminees.

Two hundred twenty-nine (46.0%) of the 499 responding co-operative terminees were employed at less than $250 per month. Of these 229 terminees, 53 (23.2%) males and 47 (20.5%) females were employed in a job directly related to their training, 39 (17.0%) males and 20 (8.7%) females were employed in jobs somewhat related to their training, while 45 (19.7%) males and 25 (10.9%) females were employed in jobs not related to their training.

TABLE 24A

FIRST-JOB SALARY RANGES BY RELATEDNESS OF TRAINING
OF 1973-74 TRADE AND INDUSTRIAL OCCUPATIONS
CO-OPERATIVE TERMINEES BY SEX

Salary Ranges	Sex of Terminees Responding		Relatedness of Training to First Job[B]					
			Directly Related		Somewhat Related		Not Related	
	Male	Female	Male	Female	Male	Female	Male	Female
Under $250	137	92	53	47	39	20	45	25
$250 - $299	54	23	21	13	10	4	23	6
$300 - $349	41	22	22	11	11	1	8	10
$350 - $399	34	7	12	1	10	4	12	2
$400 - $449	40	2	20	1	7	0	13	1
$450 - $499	15	0	7	0	3	0	5	0
$500 - $599	18	1	11	0	4	1	3	0
$600 - $699	7	0	3	0	2	0	2	0
$700 or more	6	0	2	0	1	0	3	0
TOTAL[A]	352	147	151	73	87	30	114	44

[A]Totals do not match those of Table 7 because some terminees did not respond to all questions.

[B]The terminees made the judgment as to how their first job was related to the training received in their high school vocational program.

Of the 499 responding terminees, 352 (70.5%) were males and 147 (29.5%) were females. One hundred fifty-one (30.3%) males and 73 (14.6%) females were employed in jobs directly related to their vocational training, 87 (17.4%) males and 30 (6.0%) females were employed in jobs somewhat related to their training, while 114 (22.9%) males and 44 (8.8%) females were employed in jobs not related to their training.

Table 24B indicates the present-job salary ranges by relatedness of training and sex of the Trade and Industrial Occupations Co-operative terminees.

TABLE 24B

PRESENT-JOB SALARY RANGES BY RELATEDNESS OF TRAINING
OF 1973-74 TRADE AND INDUSTRIAL OCCUPATIONS
CO-OPERATIVE TERMINEES BY SEX

Salary Ranges	Sex of Terminees Responding		Relatedness of Training to First Job[B]					
			Directly Related		Somewhat Related		Not Related	
	Male	Female	Male	Female	Male	Female	Male	Female
Under $250	46	54	14	34	17	10	15	10
$250 - $299	34	18	14	9	11	4	9	5
$300 - $349	36	21	12	10	15	7	9	4
$350 - $399	37	15	14	9	9	5	14	2
$400 - $449	58	10	23	4	10	3	25	3
$450 - $499	29	5	10	3	5	2	14	0
$500 - $599	33	5	15	1	5	3	13	1
$600 - $699	19	0	9	0	6	0	4	0
$700 or more	18	2	5	0	3	1	10	1
TOTAL[A]	310	130	116	69	81	35	113	26

[A]Totals do not match those of Table 24 because some terminees did not respond to all questions.

[B]The terminees made the judgment as to how their present job was related to the training received in their high school vocational program.

One hundred (23.3%) of the 440 responding co-operative terminees were employed at less than $250 per month. Of these 100 terminees, 14 (14.0%) males and 34 (34.0%) females were employed in a job directly related to their training, 17 (17.0%) males and 10 (10.0%) females were employed in jobs somewhat related to their training, while 15 (15.0%) males and 10 (10.0%) females were employed in jobs not related to their training.

Of the 440 responding co-operative terminees, 310 (70.5%) were males and 130 (29.5%) were females. One hundred sixteen (26.4%) males and 69 (15.7%) females were employed in jobs directly related to their vocational training,

81 (18.4%) males and 35 (7.9%) females were employed in jobs somewhat related to their training, while 113 (25.7%) males and 26 (5.9%) females were employed in jobs not related to their training.

Continuing Education Information

The following section of this report presents information relative to the continuing education of the 1973-74 secondary Trade and Industrial Occupations Co-operative terminees.

Table 25 shows the vocational educational training opportunities co-operative terminees have participated in since leaving their high school vocational program.

Of the total co-operative terminees, the 81 (10.7%) who were enrolled in Junior Colleges represented next to the largest area where terminees had taken additional vocational training: On-the-job training with 178 (23.6%) was the largest area.

Of the 753 responding terminees, 408 (54.2%) had taken part in one additional vocational training program since leaving their high school program. Fifty (6.6%) enrolled in two training programs, and 37 (4.9%) terminees had enrolled in three vocational training programs. Three hundred forty-five (45.8%) indicated they had not enrolled in any additional vocational training.

TABLE 25

ADDITIONAL VOCATIONAL EDUCATIONAL TRAINING 1973-74 SECONDARY TRADE AND INDUSTRIAL OCCUPATIONS CO-OPERATIVE TERMINEES PARTICIPATED IN SINCE LEAVING THEIR HIGH SCHOOL VOCATIONAL PROGRAM[A]

Type Training	Number	Percent[B]
On-the-job training (employer-sponsored program)	178	23.6
Public school adult vocational program	11	1.5
Private vocational school program	8	1.1
University or four year college	61	8.1
Junior college	81	10.7
Post-secondary vocational-technical institute (Trade School)	47	6.2
Apprenticeship training program	33	4.4
Specialized occupational military training	27	3.6
Other[C]	49	6.5
TOTAL[D]	495	65.7

[A]Three hundred forty-five (45.8%) of the responding 753 co-operative terminees gave no indication of being involved in additional vocational training. Of the 753 terminees, 408 (54.2%) took part in one or more vocational training opportunities since leaving their high school program. Fifty (6.6%) took part in two and 37 (4.9%) terminees took part in three additional training opportunities.

[B]Percentages are based on the 753 (31.2%) respondents of the total 2,410 co-operative terminees who returned questionnaires.

[C]See below for the "Other" listing as specified by the co-operative terminees.

[D]The total indicated the number of different training programs in which co-operative terminees enrolled. As footnoted above, several terminees had enrolled in more than one training program.

The following is a listing of the "Other" (Table 25) vocational education training terminees indicated they had participated in:

"Other" Vocational Training	Number
On-the-job training	10
Specialized occupational training	7
Private vocational school program	5
Correspondence course	3
Post-secondary vocational institute (Trade School)	2

(continued)

"Other" Vocational Training	Number
Apprenticeship training program	2
University or four-year college	1

Table 26 points out the additional programs the 1973-74 secondary Trade and Industrial Occupations Co-operative terminees were presently attending beyond their high school training by whether these programs were related to their high school vocational program.

TABLE 26

PROGRAMS PRESENTLY ATTENDED BY THE 1973-74 SECONDARY TRADE AND INDUSTRIAL OCCUPATIONS CO-OPERATIVE TERMINEES BY WHETHER THESE PROGRAMS WERE RELATED TO THEIR HIGH SCHOOL VOCATIONAL EDUCATION PROGRAM[A]

Programs Attended	Terminees		Program Related to High School VED Program					
			Yes		No		No Response	
	No.	%	No.	%	No.	%	No.	%
On-the-job training (employer-sponsored)	80	10.6	7	0.9	6	0.7	67	9.0
Vocational-technical institute (Trade School)	52	6.9	30	4.0	20	2.6	2	0.3
Junior college	94	12.5	17	2.3	66	8.8	11	1.4
Four year college or university	87	11.6	26	3.5	54	7.2	7	0.9
Public school adult vocational program	2	0.2	1	0.1	0	0.0	1	0.1
Private business or trade school	10	1.3	2	0.3	6	0.7	2	0.3
Apprenticeship program	13	1.7	4	0.5	3	0.5	6	0.7
Other[B]	26	3.5	3	0.4	11	1.5	12	1.6
TOTAL	364	48.3	90	12.0	166	22.0	108	14.3

[A]All percentages were based on the 753 responding terminees.

[B]See page 138 for listing of "Other" schools or educational institutions terminees were attending.

Of the 753 1973-74 secondary Trade and Industrial Occupations Co-operative terminees who responded to the survey, 80 (10.6%) were attending an on-the-job training program (employer-sponsored), 52 (6.9%) were attending a vocational-technical institute, 94 (12.5%) were attending a junior college, 87 (11.6%) were attending a four year college or university, two (0.2%) were attending a public adult vocational program, 10 (1.3%) were attending private business or trade school, 13 (1.7%) were attending an apprenticeship program, and 26 (3.5%) were attending some other type of school or educational program. (See below for the listing of the other types of schools or educational programs students were attending.)

Of the 753 Trade and Industrial Occupations Co-operative terminees, 364 (48.3%) were presently continuing their education. Ninety (12.0%) of the terminees were continuing their education in a program related to their high school vocational program. One hundred sixty-six (22.0%) were attending a program in an area not related to their high school vocational program.

The following is a listing of the "Other" category (Table 26) of additional programs the 1973-74 Trade and Industrial Occupations Co-operative terminees were attending:

"Other" School or Program	Number
Still in high school	5
Armed services	4
Junior college	3
Technical trade school	2
College	1
Junior college--military	1
X-ray technician school	1
Nursing	1
Licensed practical nurse	1
Correspondence course	1
On-the-job training--motor school (A.P.C.)	1
On-the-job training	
On-the-job training--fertilizer [illegible]	1
Apprentice program--operating engine[illegible]	1
Skill center	1

Of the 753 responding co-operative terminees, 412 (54.7%) indicated they were not attending a school or program but would like to do so. The following is a list of the areas in which these terminees desired to study:

Area of Study	Number
Nursing	26
Electronics	23
Welding	20
Don't know	20
Auto	16
Mechanics	14
Secretarial work	11
Medical technology	11
Plumbing	10
Electrical	10
Computer programming	9
Dental (care, hygenist, technology)	8
Licensed practical nurse	6
Sales	6
Forestry	6
Diesel	6
Auto body and fender repair	6
Business	6
Drafting	6
Nursing aide	5
Refrigeration	5
Law enforcement	5
Machine operator	5
Accounting	5
Child care and development	5
Management	4
Air conditioning	4
Automotive	4
Construction	4
Cook/Chef	4
Cosmetology	4
Engineering	4
Photographer	3
Heavy equipment operator	3
Lab technology	3
Law	3
Air conditioning and refrigeration	3
Business administration	3
Business education	3
Clerical--office	3
Military	2
Mortuary science	2
Office machines	2
Physical therapy	2
Pipefitting	2
Printing	2
Radiology	2
Sheet metal	2

(continued)

Area of Study	Number
Trade and Industry	2
X-ray technician	2
Animal technology	2
Architecture	2
Banking	2
Commercial art	2
Graphic arts	2
Heating	2
Home Economics	2
Livestock	2
Maintenance	2
Medical doctor	2
Occupational therapy	1
On-the-job training	1
Painting--spray	1
Power plant operator	1
Radio and T.V.	1
Science	1
Secretary--medical	1
Small engine repair	1
Social work	1
Teacher's aide	1
Telephone	1
Textiles	1
Wildlife	1
Fashion designing	1
Food	1
Health Services	1
Hydraulics	1
I.C.T. (International Correspondence)	1
Industrial	1
Interior design	1
Iron working	1
Keypunch	1
Location:	
Alabama	1
Montgomery	1
Marketing	1
Masonry	1
Meat cutting	1
Aircraft	1
Medical records	1
Medical research	1
Medicine	1
Merchandise handling	1
Advertising	1
Aviation	1
Bookkeeping	1
Business Office Education	1
Butchering	1
Cameraman--T.V.	1
Carpentry	1
Cashiering	1
College	1

(continued)

Area of Study	Number
Communications	1
Data processing	1
Driving--truck	1
Education training	1

Two hundred sixty-six (35.3%) of the 753 responding co-operative terminees indicated they did not desire further training. Seventy-five (10.0%) terminees did not respond to the question.

Table 27 illustrates the programs presently attended by the co-operative terminees by OE Code area studied by whether it related to their high school vocational program. No attempt was made to show the no response to the data items; therefore, many of the totals do not correspond.

TABLE 27

PROGRAMS PRESENTLY ATTENDED BY THE 1973-74 SECONDARY TRADE AND INDUSTRIAL OCCUPATIONS CO-OPERATIVE TERMINEES BY OE CODE AREA STUDIED BY WHETHER IT RELATED TO THEIR HIGH SCHOOL VOCATIONAL PROGRAM

OE Code	Occupational Title	TOTAL	Type School or Educational Program Presently Attending															
			On-the-Job Training		Voc. Tech. School		Junior College		4 Year College or Univ.		Public School Adult VED Program		Private Business or Trade School		Apprenticeship Program		Other	
		Presetnly Continuing Education	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related
04.0100	Advertising Serv.	2	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0
04.0200	Sales, Apparel & Accessories	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
04.0300	Sales, Automotive	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
04.0400	Finance and Credit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04.0600	Food Distribution	4	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0
04.0700	Food Services	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04.0800	General Merchand.	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
04.0900	Sales, Hardware & Bldg. Material	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04.1000	Sales, Home Furnishings	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04.1200	Industrial Mktg.	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
04.1300	Insurance	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04.1500	Personal Services	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04.1800	Recreation & Tourism	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
04.1900	Transportation	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
04.2000	Retail Trade, Other	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
04.3100	Wholesale Trade, Other	2	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0

(continued)

TABLE 27 (continued)

OE Code	Occupational Title	TOTAL	Type School or Educational Program Presently Attending															
			On-the-Job Training		Voc. Tech. School		Junior College		4 Year College or Univ.		Public School Adult VED Program		Private Business or Trade School		Apprenticeship Program		Other	
		Presently Continuing Education	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related
07.0000	Health Occupations	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
07.0101	Dental Assisting	9	1	0	0	0	0	2	1	5	0	0	0	0	0	0	0	0
07.0103	Dental Laboratory	2	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0
07.0200	Medical Laboratory	21	0	0	2	0	3	5	4	4	0	0	0	2	0	0	1	0
07.0203	Medical Lab. Asst.	6	0	0	1	0	1	0	3	1	0	0	0	0	0	0	0	0
07.0302	Practical Nurse	6	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0
07.0303	Nursing Asst.	12	1	0	1	0	4	4	1	0	0	0	0	1	0	0	0	0
07.0402	Physical Therapy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07.0404	Orthotics	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
07.0500	Radiologic	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07.0501	Radiologic Tech.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07.0603	Optometrist Asst.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07.0800	Mental Health Tech.	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
07.0903	Inhalation Therapy	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
07.0904	Medical Asst.	2	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
07.0909	Mortuary Science	2	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
07.9900	Health Occupations, Other	5	0	0	1	0	0	2	1	1	0	0	0	0	0	0	0	0
09.0102	Child Development	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09.0201	Care and Guidance of Children	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
09.0202	Clothimg Management	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
14.0300	General Office Clerical	5	1	0	1	0	0	3	0	0	0	0	0	0	0	0	0	0
14.0301	Duplicating Machine Operator	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0

(continued)

TABLE 27 (continued)

OE Code	Occupational Title	TOTAL	Type School or Educational Program Presently Attending															
			On-the-Job Training		Voc. Tech. School		Junior College		4 Year College or Univ.		Public School Adult VED Program		Private Business or Trade School		Apprenticeship Program		Other	
		Presetnly Continuing Education	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related
14.0901	Clerk-Typists	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
16.0201	Animal Science	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
17.0000	Trade & Industrial Occupations	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.0100	Air Conditioning	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
17.0101	Cooling	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
17.0102	Heating	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.0103	Ventilating	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.0199	Air Conditioning, Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.0200	Appliance Repair	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.0201	Electrical Appliances	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.0202	Gas Appliances	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.0300	Automotive Service	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.0301	Body and Fender	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
17.0302	Auto Mechanics	14	0	0	3	0	0	4	1	4	0	0	0	1	0	0	0	1
17.0303	Auto Specialization, Other	4	1	0	0	0	0	2	0	0	0	0	0	0	0	0	0	1
17.0399	Auto Service, Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.0401	Aircraft Maintenance, Other	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
17.0499	Aviation Occupations, Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.0504	Blue Print Reading	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

(continued)

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TABLE 27 (continued)

OE Code	Occupational Title	TOTAL	Type School or Educational Program Presently Attending															
			On-the-Job Training		Voc. Tech. School		Junior College		4 Year College or Univ.		Public School Adult VED Program		Private Business or Trade School		Apprenticeship Program		Other	
		Presently Continuing Education	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related
17.0600	Business Machine Maintenance	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
17.0700	Commercial Art Occupations	2	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0
17.0701	Interior Decorating	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.0702	Window Display	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.0703	Product Design	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.0799	Commercial Art Occupations, Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.0900	Commercial Photography	5	0	0	0	1	0	4	0	0	0	0	0	0	0	0	0	0
17.1000	Construction and Maintenance	2	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0
17.1001	Carpentry	5	1	0	1	1	0	0	0	0	0	0	0	1	0	1	0	0
17.1002	Electricity	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0
17.1003	Heavy Equipment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.1004	Masonry	2	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0
17.1005	Painting and Decorating	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.1007	Plumbing and Pipefitting	2	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0
17.1008	Dry Wall Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

(continued)

TABLE 27 (continued)

OE Code	Occupational Title	TOTAL	Type School or Educational Program Presently Attending															
			On-the-Job Training		Voc. Tech. School		Junior College		4 Year College or Univ.		Public School Adult VED Program		Private Business or Trade School		Apprenticeship Program		Other	
		Presently Continuing Education	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related
17.1009	Glazing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.1010	Roofing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.1099	Construction, Other	9	0	0	0	0	2	2	2	2	0	0	0	0	0	1	0	0
17.1100	Custodial Services	7	0	0	0	1	0	2	0	4	0	0	0	0	0	0	0	0
17.1200	Diesel Mechanics	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
17.1300	Drafting	9	1	0	5	0	0	0	1	0	0	0	0	0	0	0	0	2
17.1400	Electrical Occupa.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.1401	Industrial Electrician	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
17.1402	Lineman	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.1403	Motor Repairman	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
17.1500	Electronics, Occupations	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.1501	Communications	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.1502	Industrial Elect.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.1503	Radio/Television	4	0	0	3	0	0	1	0	0	0	0	0	0	0	0	0	0
17.1600	Fabric Maintenance Services.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.1601	Drycleaning	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
17.1602	Laundering	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.1699	Fabric Maintenance Services, Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.1700	Foremanship/Management Development	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0

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TABLE 27 (continued)

OE Code	Occupational Title	TOTAL	Type School or Educational Program Presently Attending															
			On-the-Job Training		Voc. Tech. School		Junior College		4 Year College or Univ.		Public School Adult VED Program		Private Business or Trade School		Apprenticeship Program		Other	
		Presetnly Continuing Education	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related
17.1900	Graphic Arts Occupations	5	0	0	0	0	0	3	0	2	0	0	0	0	0	0	0	0
17.1902	Printing Press Occupations	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.2100	Instrument Maintenance and Repair	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.2101	Instruments (Not watches or clocks)	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
17.2200	Maritime Occupa.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.2300	Metalworking	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
17.2301	Foundry	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.2302	Machine Shop	2	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0
17.2303	Machine Tool Operations	2	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0
17.2304	Metal Trades, Combined	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.2305	Sheet Metal	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
17.2306	Welding & Cutting	2	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0
17.2309	Metal Pattern-making	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.2399	Metalworking, Other	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
17.2400	Metallurgy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

(continued)

TABLE 27 (continued)

OE Code	Occupational Title	TOTAL	Type School or Educational Program Presently Attending															
			On-the-Job Training		Voc. Tech. School		Junior College		4 Year College or Univ.		Public School Adult VED Program		Private Business or Trade School		Apprenticeship Program		Other	
		Presetnly Continuing Education	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related
17.2600	Personal Services	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.2601	Barbering	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.2602	Cosmetology	4	0	1	0	0	0	1	0	1	0	0	0	0	1	0	0	0
17.2699	Personal Services, Other	2	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0
17.2700	Plastics Occupa.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.2800	Public Service Occupations	3	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0
17.2802	Law Enforcement Training	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.2900	Quantity Foods Occupations	4	0	1	1	0	0	1	0	0	1	0	0	0	0	0	0	0
17.2901	Baker	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.2902	Cook/Chef	10	0	0	0	3	0	3	0	3	0	0	0	0	0	1	0	0
17.2903	Meat Cutter	4	0	0	0	0	1	1	0	1	0	0	0	0	0	0	0	1
17.2904	Waiter/Waitress	4	0	0	1	1	0	0	0	2	0	0	0	0	0	0	0	0
17.2999	Quantity Foods Occu., Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.3000	Refrigeration	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
17.3100	Small Engine Repair	4	0	0	0	2	0	1	0	0	0	0	0	0	1	0	0	0
17.3300	Textile Production and Fabrication	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
17.3302	Tailoring	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.3399	Textile Production, Other	13	0	1	1	2	1	4	0	2	0	0	0	0	0	0	0	2

(continued)

TABLE 27 (continued)

OE Code	Occupational Title	TOTAL	Type School or Educational Program Presently Attending															
			On-the-Job Training		Voc. Tech. School		Junior College		4 Year College or Univ.		Public School Adult VED Program		Private Business or Trade School		Apprenticeship Program		Other	
		Presently Continuing Education	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related	Related	Not Related
17.3401	Shoe Manufacturing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.3402	Shoe Repair	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.3500	Upholstering	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
17.3600	Woodworking	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.3601	Millwork and Cabinetmaking	2	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
17.3699	Woodworking, Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.9900	Trade and Industrial, Other	17	0	2	0	1	2	2	1	4	0	0	1	0	1	2	1	0
17.9906	Taxidermy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
99.0106	Career Guidance	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL ALL AREAS	258	7	6	30	20	17	66	26	54	1	0	2	7	4	5	3	10

[A]Since some terminees did not respond to parts of the questions, totals will not correspond.

Job Placement Information

The following section of this report presents information concerning job placement of 1973-74 secondary Trade and Industrial Occupations Co-operative terminees.

Table 28 points out whether the 1973-74 Trade and Industrial Occupations Co-operative terminees were seeking full-time employment when they left their high school vocational program and if their vocational teacher attempted to help them get a job.

TABLE 28

WHETHER VOCATIONAL TEACHER ATTEMPTED TO HELP 1973-74 TRADE AND INDUSTRIAL OCCUPATIONS CO-OPERATIVE TERMINEES GET A JOB IF SEEKING FULL-TIME EMPLOYMENT UPON LEAVING THE HIGH SCHOOL VOCATIONAL PROGRAM[A]

Vocational Teacher Attempted To Get Terminee A Job	Number	Percent
Yes	166	45.9
No	196	54.1
TOTAL	362	100.0

[A]Three hundred sixty-eight (48.9%) of the responding co-operative terminees indicated they were not seeking full-time employment when they left their high school vocational program. Twenty-three (3.1%) of the co-operative terminees did not respond to the question.

Of the 362 responding 1973-74 Trade and Industrial Occupations Co-operative terminees indicating they were seeking full-time employment when they left their high school vocational program, 166 (45.9%) indicated that their vocational teacher attempted to help them get a job. However, 196 (54.1%) of the co-operative terminees seeking full-time

employment indicated that their vocational teacher did not attempt to help them secure employment. It was interesting to note that 368 (48.9%) of the reporting 1973-74 Trade and Industrial Occupations Co-operative terminees indicated that they were not seeking full-time employment when they left their high school vocational program.

Table 29 illustrates how long it took the 1973-74 Trade and Industrial Occupations Co-operative terminees to get their first full-time job after they left their high school vocational program and began actively seeking full-time employment.

TABLE 29

LENGTH OF TIME IT TOOK THE 1973-74 TRADE AND INDUSTRIAL OCCUPATIONS CO-OPERATIVE TERMINEES TO SECURE FIRST FULL-TIME JOB AFTER LEAVING HIGH SCHOOL VOCATIONAL PROGRAM AND BEGINNING ACTIVELY SEEKING FULL-TIME EMPLOYMENT[A]

Time to Secure First Full-Time Job	Number	Percent
0 - 2 weeks	89	47.9
3 - 4 weeks	30	16.1
5 - 8 weeks	30	16.1
9 - 12 weeks	11	5.9
13 or more weeks	26	14.0
TOTAL	186	100.0

[A]Three hundred seventy-seven (50.1%) co-operative terminees indicated they already had a job when they left their high school vocational program.

Eighty-nine (47.9%) of 186 of the secondary Trade and Industrial Occupations Co-operative terminees secured their first full-time job within two weeks after they left their high school vocational program and began actively seeking full-time employment. However, 26 (14.0%) of the terminees took 13 or more weeks to secure their first full-time job. There were 377 (50.1%) co-operative terminees who indicated they already had a job when they left their high school vocational program.

Table 30 shows how the 1973-74 secondary Trade and Industrial Occupations Co-operative terminees indicated they got their first full-time job after leaving their high school vocational program.

TABLE 30

HOW THE 1973-74 TRADE AND INDUSTRIAL OCCUPATIONS CO-OPERATIVE TERMINEES INDICATED THEY GOT THEIR FIRST FULL-TIME JOB AFTER LEAVING THEIR HIGH SCHOOL VOCATIONAL PROGRAM

How Terminees Secured First Full-Time Job	Number	Percent
Through your vocational teacher	15	6.6
Through your counselor	1	0.4
Through other school teachers or administrators	6	2.7
Through a friend or relative	90	39.5
Through applications to business or industry	73	32.0
Through state (local) employment office	11	4.8
Through a private employment agency	3	1.3
Through radio, T.V., newspaper, or other news media	5	2.2
Other[A]	24	10.5
TOTAL	228	100.0

[A]See listing on page 153 for the "Other" ways co-operative terminees indicated they secured their first full-time job after leaving their high school vocational program.

Of the 228 1973-74 Trade and Industrial Occupations Co-operative terminees who responded to the survey item, 73 (32.0%) indicated they got their first full-time job after leaving their high school vocational program through applications to business and industry. Ninety (39.5%) of the co-operative terminees also indicated they got their first full-time job through a friend or relative. These represented the two methods that the largest number of Trade and Industrial Occupations Co-operative terminees utilized to secure their first full-time job. Fifteen (6.6%) of the co-operative terminees indicated they secured their first job

through their vocational teacher. Only one (0.4%) co-operative terminee indicated that a counselor got him his first full-time job after leaving his vocational program. Those students who already had a job before leaving their high school vocational program were not shown in Table 30. (See Table 31, page 154)

Of the 24 terminees who checked the "Other" category, several specified the means by how they secured their first full-time job after leaving their high school vocational program. The following list indicates the "Other" means the terminees indicated.

"Other" Means for Securing First Full-Time Job	Number
Own initiative	7
Didn't get a full-time job	3
Previous employer	2
Joined armed services	1
Through other school personnel	1
R.O.R. Personnel	1
N.Y.C.	1

Table 31 shows how the 1973-74 Trade and Industrial Occupations Co-operative terminees who were working while in high school taking their vocational program indicated they got that job.

Five hundred eighty-one (77.2%) of the 753 reporting 1973-74 Trade and Industrial Occupations Co-operative terminees indicated they were working during the time they were in high school taking their vocational program. Of those co-operative terminees working while in high school, 163 (21.6%) got their job through their vocational instructor, 213 (28.3%) through a friend or relative, and 94 (12.5%) got jobs through applications to business or industry. These three means were the ways most of the co-operative terminees secured a job while they were still in high school taking their vocational program.

TABLE 31

HOW THE 1973-74 TRADE AND INDUSTRIAL OCCUPATIONS CO-OPERATIVE TERMINEES WHO WERE WORKING WHILE IN HIGH SCHOOL TAKING THEIR VOCATIONAL PROGRAM INDICATED THEY GOT THAT JOB[A]

Who or What Helped Terminee Get Job	Number	Percent
Your vocational teacher	163	21.6
Your counselor	9	1.2
Other school teachers or administrators	9	1.1
Friend or relative	213	28.3
Applications to business or industry	94	12.5
State (local) employment office	2	0.3
Private employment agency	3	0.4
Radio, T.V., newspaper, or other news media	2	0.3
Other	87	11.5
TOTAL	581	100.0

[A]One hundred seventy-two (22.8%) co-operative terminees indicated they had no job during the time they were in high school taking their vocational course.

Table 32 reveals the indications of the 1973-74 Trade and Industrial Occuaptions Co-operative terminees as whether, before taking their first job, they looked for employment within daily walking or driving distance of home by how their first job related to their vocational training.

Two hundred thirty-four (83.6%) of the 1973-74 Trade and Industrial Occupations Co-operative terminees who were employed in their first job indicated they sought employment within daily walking or driving distance of home. Forty-six (16.4%) co-operative terminees indicated before taking their first job, they looked for a job beyond daily walking or driving distance of home.

Of the 87 co-operative terminees who were working in a directly related area, 11 (12.6%) sought employment beyond daily walking or driving distance of home.

TABLE 32

INDICATIONS OF 1973-74 TRADE AND INDUSTRIAL OCCUPATIONS CO-OPERATIVE TERMINEES AS TO WHERE THEY LOOKED FOR THEIR FIRST JOB BEFORE TAKING ONE BY HOW THEIR FIRST JOB RELATED TO THEIR TRAINING[A]

Before Taking First Job, Where Terminees Looked for Job	Total Reporting		Total Reporting by Relatedness of First Job to Vocational Training					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Within daily walking or driving distance of home	234	83.6	76	87.4	49	79.0	109	83.2
Beyond daily walking or driving distance of home[B]	46	16.4	11	12.6	13	21.0	22	16.8
TOTAL	280	100.0	87	100.0	62	100.0	131	100.0

[A]Two hundred forty-two (32.1%) co-operative terminees indicated they already had their first job while in high school. Of those 242 terminees, 146 (60.3%) were working in a directly related area, 68 (28.1%) in a somewhat related area, while 28 (11.6%) were working in a non-related area.

[B]See listing, page 156, for reasons terminees gave for seeking their first job away from home.

Of the 87 co-operative terminees who were working in a directly related area, 11 (12.6%) sought employment beyond daily walking or driving distance of home.

Of the 131 co-operative terminees whose first jobs did not relate to their training, 22 (16.8%) sought employment beyond daily walking or driving distance of home.

Two hundred forty-two co-operative terminees indicated they had their first job while in high school. Of those 242 terminees, 146 (60.3%) were working in a directly related area, 68 (28.1%) in a somewhat related area, and 28 (11.6%) in a non-related area.

The following is a listing of reasons co-operative terminees gave for seeking a job beyond daily walking or driving distance of their home before accepting their first job. Of the 46 co-operative terminees who indicated they sought a job beyond daily walking or driving distance of home before accepting their first job, here are some of the reasons given why they sought that job.

Reasons for Seeking Job Beyond Daily Walking or Driving Distance Before Accepting First Job	Number
No local employment	2
Better pay	2
Needed a job badly	1
Better opportunity elsewhere	1
Looked everywhere	1
Going to school	1
Went into armed services	1
Had to look elsewhere for job in field of study	1

Table 33 reveals the indications of the 1973-74 Trade and Industrial Occupations Co-operative terminees who were working in their first job not related to their training by whether or not they tried to get a job related to their training by where they looked for employment before accepting that first job.

It is important to note that of the 126 terminees who were working in a non-related first job, 11 (8.7%) sought related employment beyond daily walking or driving distance of home before accepting their first job.

TABLE 33

INDICATIONS OF THE 1973-74 TRADE AND INDUSTRIAL OCCUPATIONS CO-OPERATIVE TERMINEES WORKING IN FIRST JOB NOT RELATED TO THEIR TRAINING BY WHETHER OR NOT THEY TRIED TO GET A JOB RELATED TO THEIR TRAINING BY WHERE THEY LOOKED FOR EMPLOYMENT BEFORE ACCEPTING FIRST JOB[A]

Where Terminees Working in Non-Related Areas Looked for Employment Before Accepting First Job	Total Reporting		Before Accepting This First Job Unrelated to Training Whether Terminees Sought Job in Related Area			
			Yes		No[B]	
	No.	%	No.	%	No.	%
Sought employment within daily walking or driving distance of their home	105	83.3	41	78.9	64	86.5
Sought employment beyond daily walking or driving distance of their home	21	16.7	11	21.1	10	13.5
TOTAL	126	100.0	52	100.0	74	100.0

[A]Total in this table may not correspond with totals of co-operative terminees for non-related categories in other tables for the following reasons: (1) some terminees had jobs when leaving program and did not have to seek employment and (2) some terminees failed to respond to one or more of the related questions from which data was drawn.

[B]See page 159 for the listing of reasons co-operative terminees who were working in non-related jobs gave for not trying to secure a job that was related to their training.

Table 34 illustrates the indications of the 1973-74 Trade and Industrial Occupations Co-operative terminees as to where they looked for a job before taking their present job by how their present job is related to their vocational training.

Two hundred twenty (80.3%) of the presently employed 1973-74 Trade and Industrial Occupations Co-operative terminees indicated they sought employment within daily walking or driving distance of home. Fifty-four (19.7%)

co-operative terminees indicated they sought employment beyond daily walking or driving distance of home.

TABLE 34

INDICATIONS OF 1973-74 TRADE AND INDUSTRIAL OCCUPATIONS CO-OPERATIVE TERMINEES AS TO WHERE THEY LOOKED FOR A JOB BEFORE TAKING THEIR PRESENT JOB BY HOW THEIR PRESENT JOB RELATED TO THEIR TRAINING[A]

Where Terminees Looked for Job Before Taking Present Job	Total Reporting		Total Reporting by Relatedness of Present Job to Vocational Training					
			Directly Related		Somewhat Related		Not Related	
	No.	%	No.	%	No.	%	No.	%
Within daily walking or driving distance of home	220	80.3	59	92.2	62	77.5	99	76.2
Beyond daily walking or driving distance of home[B]	54	19.7	5	7.8	18	22.5	31	23.8
TOTAL	274	100.0	64	100.0	80	100.0	130	100.0

[A]Two hundred eighteen co-operative terminees reported they already had their present job while in high school. Of those 218 terminees, 141 (64.7%) were in a directly related area, 53 (24.3%) in a somewhat related area, while 24 (11.0%) were working in a non-related area.

[B]See listing, page 159, for reasons terminees gave for seeking their present job away from home.

Of the 64 co-operative terminees who were working in a directly related area, five (7.8%) sought employment beyond daily walking or driving distance of home.

Of the 130 co-operative terminees who were presently working in a non-related area, 31 (23.8%) sought employment beyond daily walking or driving distance of home.

Two hundred eighteen co-operative terminees reported they already had their present job while in high school. Of those 218 terminees, 141 (64.7%) were in directly related areas, 53 (24.3%) in somewhat related areas, and 24 (11.0%) were in non-related areas.

The following is a list of reasons co-operative terminees gave for seeking a job beyond daily walking or driving distance of their home before accepting their present job. Of the 54 terminees who indicated they sought a job beyond daily walking or driving distance of home before accepting their present job, several gave reasons why they sought that job.

Reasons for Seeking Job Beyond Daily Walking or Driving Distance Before Accepting Present Job	Number
None near my home	10
More money	5
Needed job--bad	5
Better job	5
Because of bettering my future	5
Wanted a certain job at a certain place	2
Looked everywhere	2
Took first job available	1
Wanted to travel	1
Joined armed services	1
Close to school	1

Table 35 reveals the indications of the 1973-74 Trade and Industrial Occupations Co-operative terminees who were working in their present job not related to their training by whether or not they tried to get a job related to their training by where they looked for employment before accepting that present job.

Sixteen (12.5%) of the 128 terminees who were working in a non-related area sought related employment beyond daily walking or driving distance of home before accepting his present job.

TABLE 35

INDICATIONS OF THE 1973-74 TRADE AND INDUSTRIAL OCCUPATIONS CO-OPERATIVE TERMINEES WORKING IN PRESENT JOB NOT RELATED TO THEIR TRAINING BY WHETHER OR NOT THEY TRIED TO GET A JOB RELATED TO THEIR TRAINING BY WHERE THEY LOOKED FOR EMPLOYMENT BEFORE ACCEPTING PRESENT JOB[A]

Before Accepting Present Job Where Terminees Working in Non-Related Areas Looked for Employment	Total Reporting		Before Accepting This Present Job Unrelated to Training Whether Terminees Sought Job in Related Area			
			Yes		No[B]	
	No.	%	No.	%	No.	%
Sought employment within daily walking or driving distance of their home	97	75.8	43	72.9	54	78.3
Sought employment beyond daily walking or driving distance of their home	31	24.2	16	27.1	15	21.7
TOTAL	128	100.0	59	100.0	69	100.0

[A]Totals in this table may not correspond with totals of co-operative terminees for non-related categories in other tables for the following reasons: (1) some terminees had jobs when leaving programs and did not have to seek employment and (2) some terminees failed to respond to one or more of the related questions from which data was drawn.

[B]See page for the listing of reasons co-operative terminees who were working in non-related jobs gave for not trying to secure a job that was related to their training.

APPENDIX

PRESENT JOB AND FIRST JOB TITLES OF THE 1973-74 TRADE AND INDUSTRIAL OCCUPATIONS CO-OPERATIVE TERMINEES

PRESENT JOB AND FIRST JOB TITLES OF THE 1973-74 TRADE AND INDUSTRIAL OCCUPATIONS CO-OPERATIVE TERMINEES

For those co-operative terminees who indicated present or first job occupations, this appendix lists the present job title and first job title by their high school vocational training area (OE Codes). The job titles are listed as the co-operative terminees reported them. The number of full-time jobs held by these terminees since completing their high school vocational course is listed, current employment status is listed, and whether the student intended to get a job in the area while in the program.

The following code is used to identify the employment status of the co-operative terminees:

0. Unemployed, but seeking employment
1. Employed full time
2. Employed part time, seeking full-time job
3. Employed part time, not seeking full-time job
4. Employed full time and attending school
5. Employed part time and attending school
6. Unavailable for employment

The following code is used to identify whether the student intended to get a job in the area while in the program:

1. No
2. Was not sure
3. Yes

The number in parenthesis behind the job titles indicates the relatedness of the high school vocational training to these jobs. The co-operative terminees made the judgment as to the relatedness of their training to these jobs. The following is used to identify this relatedness.

1. Directly related
2. Somewhat related
3. Not related

The total in each occupational title area may not correspond to the total in each OE Code as listed in Table 23. Some of the co-operative terminees failed to indicate the title of their present position. If the first job title was the same as the present job title, the first job title is included under the present job title.

OE Code 01.0500 - Ornamental Horticulture

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
1	1	0	3	Nursery Owner & Manager (2)	Same (1)

OE Code 04.0100 - Advertising Service

1	1	1	2	Warehouseman - beverage company (2)	Cook - Fast Food (2)
2	1	5	2	Band builder-tires (3)	Laborer-construction(3)
3	5	1	3	Circulation Mgr.-Newspaper (1)	
4	5	1	1	Bagging and handling peanuts (2)	Truck driver(3)

OE Code 04.0200 - Sales, Apparel and Accessories

1	5	0	1	Sales Clerk-Men's Clothing(1)	
2	1	1	1	Truck loader-textiles(3)	Stock clerk-textiles(3)

OE Code 04.0300 - Sales, Automotive

1	4	1	3	Auto Parts Clerk (1)	
2	1	1	2	Auto Parts Mgr. (2)	
3	1	3	3	Carpenter helper (3)	Saw Oper.-Furniture Mfg. (3)

OE Code 04.0400 - Finance and Credit

1	1	2	3	Bookkeeper-Farm Equip. (2)	Bookkeeper-hospital(1)

(continued)

OE Code 04.0400 - Finance and Credit (cont'd)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
2	1	1	1	Bank loan teller (1)	
3	0	2	3	Admission Clerk-Hospital (0)	Sewing-shirt Mfg. (3)

OE Code 04.0600 - Food Distribution

1	1	2	3	Ironworker Helper (3)	Stock Clerk-Grocery(1)
2	1	1	3	Manager Trainee(1)	
3	1	2	2	Bag Boy (3)	School Janitor (3)
4	4	1	3	Asst. Mgr. Supermarket (1)	
5	5	1	2	Stock Clerk-Grocery (1)	
6	5	0	3	Stockboy - Grocery (1)	
7	2	1	3	Cashier-Grocery (1)	

OE Code 04.0800 - General Merchandise

1	1	1	3	Truck drive-road dept. (3)	
2	1	1	2	Clerk-Credit Bureau (2)	Same (3)
3	4	2	3	Loader-soft drink on trucks(3)	Carpenter Helper(3)

OE Code 04.0900 - Sales, Hardware and Building Material

1	3	0	3	Secretary (2)	Bookkeeper(2)

OE Code 04.1000 - Sales, Home Furnishings

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
1	3	2	1		Lab Tech. (2)

OE Code 04.1200 - Industrial Marketing

1	4	1	2	Billing Clerk(2)	Sewing Machine Oper. (2)

OE Code 04.1500 - Personal Services

1	1	1	2	Office Clerk(2)	

OE Code 04.1900 - Transportation

1	5	2	1	Bagboy (3)	Laborer (1)

OE Code 04.2000 - Retail Trade, Other

1	5	0	2	Cashier (2)	

OE Code 04.3100 - Wholesale Trade, Other

1	4	3	3	Produce Clerk(2)	Asst. Mgr. (Tire & Cotton) (1)
2	1	1	3	Orderly (3)	

OE Code 07.0101 - Dental Assisting

1	1	1	3	Dental Asst.(1)	
2	1	1	3	Dental Asst.(2)	
3	1	1	3	M.D. Asst.	
4	0	1	3	File Clerk (3)	
5	1	2	3	Dental Asst.(1)	
6	1	1	3	Office Clerk(1)	
7	1	1	3	Dental Asst.(1)	
8	1	1	3	Office Clerk(1)	

(continued)

OE Code 07.0101 - Dental Assisting (cont'd)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
9	1	1	3	Dental Asst.(1)	
10	1	1	3	Dental Asst.(1)	
11	5	1	2	Sales Clerk (3)	Dental Asst.(2)
12	4	1	2	Office Clerk(2)	
13	3	1	3	Secretary/Book - keeper(1)	Receptionist(1)
14	1	1	3	Dental Asst.(1)	
15	3	1	2	Dental Asst.(1)	
16	1	2	2	Dental Asst.(1)	
17	1	1			Office Clerk(1)
18	1	1		Dental Asst.(1)	
19	3	0	2	Dental Asst.(1)	
20	6	1	3		Dental Asst.(1)

OE Code 07.0103 - Dental Laboratory

1	0	0	3	Dental Asst.(0)	
2	1	1	3	Dental Asst.(1)	

OE Code 07.0200 - Medical Laboratory

1	4	1	1	Aide-Child Care Center (2)	
2	1	2	2	Nurse's Aide(1)	Sales Clerk(3)
3	1	2	3	Warehouseman(2)	Orderly (3)
4	1	1	3	Nurse's Aide(1)	
5	4	1	3	Vet. Asst. (2)	
6	4	1	3	Nurse's Aide(1)	Same (1)
7	1	2	3	Nurse's Aide(1)	Nurse's Aide(1)
8	5	0	3	Univ. work study (3)	Nurse's Aide(1)
9	6	1	3	Nurse's Aide(1)	
10	1	1	2	Nurse's Aide(1)	
11	5	1	3	Nurse's Asst.(1)	Nurse's Aide(1)
12	5	0	3	Nurse's Aide(1)	Same (1)
13	5	1	3	Doctor's Asst. (1)	
14	1	1	2	Activities Dir. (2)	
15	1	1	2	Waitress(3)	

OE Code 07.0203 - Medical Lab. Asst.

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
1	1	1	2	Vet. Asst.(1)	
2	3	1	1	P.E. Teacher Aide (3)	YMCA - Child Supvs. (3)
3	5	1	3	Lab. Asst.(1)	Same (1)
4	1	1	3	Lab. Asst. (1)	Same (1)
5	0	1	1	Waitress (1)	
6	4	1	3	Rehabilitation house parent (2)	Grass Cutter (2)
7	6	1	3		Nurse's Aide(1)
8	1	1	2	Sewing Mfg.(3)	Nurse's Aide(3)
9	1	1	2	Nurse's Aide(2)	
10	1	1	3	Radio/TV Oper. (2)	Secretary(2)
11	1	2	3	Lab. Tech. Asst. (1)	Sales Clerk(3)
12	5	0	2	Sales Clerk (1)	
13	4	1	2	Lab. Asst. (1)	

OE Code 07.0302 - Practical Nurse

1	5	1	3	Doctor Asst.(1)	

OE Code 07.0303 - Nursing Assistant

1	2	0	1	Nurse's Aide(1)	
2	0	0	3	Accountant (3)	
3	1	2	2	Machine Oper.(3)	Nurse's Aide(3)
4	5	1	3	Sales Clerk (2)	Hosp. Aide (3)
5	4	1	3	Nurse's Aide (1)	
6	4	1	3	Nurse's Aide (1)	
7	1	2	3	Nurse's Aide (1)	Waiter (3)
8	0	1	2	Bank Teller (3)	
9	4	1	3	Nurse's Aide (1)	Same (1)
10	4	1	3	Nurse's Aide(1)	
11	5	0	3	Nurse's Aide(1)	
12	1	1	3	Nurse's Aide(1)	
13	1	2	2	Bank Teller (3)	Inhalation Therapy Trainee(2)
14	5	1	3	Nurse's Aide(1)	

OE Code 07.0500 - Radiologic

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
1	1	1	3	Receptionist(2)	X-Ray Tech. Trainee(1)

OE Code 07.0501 - Radiologic Tech.

1	1	1	3	X-Ray Asst.(2)	
2	3	0	3	X-Ray Tech.(1)	

OE Code 07.0800 - Mental Health Technology

1	5	0	2	Bag Boy (3)	

OE Code 07.0903 - Inhalation Therapy

1	1	1	3	Respiratory Therapy Tech. (1)	

OE Code 07.0904 - Medical Assistant

1	5	1	3	Nurse's Aide(2)	Cashier (2)
2	1	1	2	Make roping(3)	
3	1	2	3	Waitress (2)	Vet. Tech.(1)

OE Code 07.0909 - Mortuary Science

1	2	0	3	Clean-up (1) (Beauty Shop)	County Clerk (3)
2	5	1	1	Lab Asst. (1)	
3	6	2	3		Nurse's Aide(1)

OE Code 07.9900 - Health Occupations, Other

1	4	1	3	Doctor Asst.(1)	Waitress--Fast foods

(continued)

OE Code 07.9900 - Health Occupations, Other (cont'd)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
2	1	1	3	Respiratory Tech. (2)	
3	6	1	3	Ward Clerk (1)	
4	5	0	3	Office Clerk(1)	
5	4	1	3	Vet. Asst. (1)	
6	1	1	3	Funeral Director Apprentice(1)	
7	1	1	3	Doctor Asst.(1)	Same (1)
8	1	1	3	Clerk/Typist(2)	

OE Code 09.0102 - Child Development

1	0	1	2	Cook (Res.)(3)	
2	1	2	3	Janitor (2)	Machine Oper.(1)

OE Code 09.0201 - Care and Guidance of Children

1	1	1	2	Spin and thread bobbins (3)	
2	5	1	2	Child care(2)	Sales Clerk(2)

OE Code 09.202 - Clothing Management

1	4	1	3	Shipping and receiving(2)	

OE Code 14.0300 - General Office Clerical

1	1	0	3	Secretary (2)	Same (1)
2	5	0	1	Bank Teller(1)	
3	1	1	3	Desk Clerk (2)	
4	5	3	3		Secretary (2)
5	1	2	3	Secretary (1)	Cashier (2)
6	5	0	1	Bookkeeper(2)	
7	5	1	3	Office Clerk(1)	
8	0	1	3	Ins. Clerk (0)	

OE Code 14.0301 - Duplicating Machine Operator

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
1	1	1	3	Cashier--Fast Foods (2)	
2	1	2	2	Press man helper (3)	Turkey lift Molder(3)

OE Code 14.0901 - Clerk-Typists

1	1	1	3	Secretary (2)	
2	1	2	3	Cashier (2)	Cashier (2)

OE Code 17.0000 - Trade and Industrial Occupations

1	1	1	2	Utility man (3)	Electrician(1)

OE Code 17.0100 - Air Conditioning

1	5	1	2	Air Con. Refrig. Helper (1)	
2	6	2	3		Air. Con. Mech. Helper (1)
3	1	1	3	Air Con. Service Man (1)	Laborer--News-paper (2)
4	1	1	3	Electrician (2)	
5	1	2	3	Dental Asst.(1)	Sales (1)
6	1	1	3	Air. Con. Mechanic (1)	

OE Code 17.0200 - Appliance Repair

1	1	1	3	Counter Sales(1)	

OE Code 17.0202 - Gas Appliances

1	3	1	2	Burner/Welder (2)	

OE Code 17.0300 - Automotive Service

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
1	0	2	2		Upholstery(1)

OE Code 17.0303 - Body and Fender

1	1	1	3	Auto Body Repair (1)	
2	1	1	3	Auto Body Repair (1)	
3	1	2	3	Auto Body Repair (1)	
4	1	1	3	Auto Body Repair (1)	
5	1	1	3	Machinist (3)	Clean up cars(3)
6	1	1	3	Auto Body Repair (1)	Same(1)
7	1	5	3	Clerk (3)	Auto Body Repair (1)
8	1	1	3	Auto Body Repair (1)	Same (1)
9	1	2	3	Electrician (3)	Building Insulator (3)
10	1	1	3	Auto Body Repair (1)	
11	1	1	3	Produce Clerk(3)	
12	1	1	2	Maintenance (3)	

OE Code 17.0302 - Auto Mechanics

1	1	1	3	Auto Mechanic(1)	
2	1	1	3	Truck Driver/ Mech. (2)	
3	4	1	2	Butcher (3)	
4	4	2	3	Mgr. Service Station(1)	Mech. Service Station(1)
5	1	1	2	Belt-splicer Asst. (3)	Tire Changer(1)
6	1	2	3	Interior Painter(3)	Transmission Mech. (1)
7	0	0	3		Auto Mech.
8	1	2	3	Auto Parts Salesman(2)	Auto Mech. (2)
9	1	1	2	Match Cloth (3)	Mech. helper(3)
10	1	3	3	Owner, Service Station (1)	Auto Mech. (1)

(continued)

OE Code 17.0302 - Auto Mechanics (cont'd)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
11	1	1	3	Auto Mech. (1)	
12	1	1	3	Cloth Doffer(2)	
13	1	1	2	Sales Clerk (1)	Upholstery Helper (1)
14	1	1	3	Mechanic Auto (1)	
15	4	1	3	Splicer (3)	
16	0	1	3		Auto Mech.(2)
17	1	0	3	Service Station Atten. (1)	
18	1	1	3	Auto Mech. (1)	
19	0	1	2	Filing/Grinding (3)	
20	0	4	2		Service Station Attendent(3)
21	1	2	3	Auto Mech. (1)	
22	1	1	3	Front end/ Tires (1)	Mgr. Car Wash (1)
23	5	0	2	Care & Training of horses (3)	Life Guard(3)
24	1	1	1	Theatre Mgr.(3)	Service Station Attend. (3)
25	0	2	1	Clean Cars (3)	
26	1	1	2	Back hoe Oper. (on farm) (2)	
27	6	1	2	Counter Clerk(1)	
28	1	1	2	Truck Driver/ Mech. (2)	
29	1	2	3	Auto Mech. (1)	
30	1	1	3	Mechanic (1)	
31	4	1	1	Night Mgr. Serv. Station (1)	
32	1	1	3	Maintenance labor (2)	
33	1	1	3	Transmission Mech. (1)	
34	5	1	2	Service Station Atten. (2)	
35	1	1	3	Farming (2)	

OE Code 17.0303 - Auto Specialization, Other

1	2	2	1	Janitor (3)	Silk Screen Printing Laborer(3)
2	1	1	3	Rendering Tallow(2)	

(continued)

OE Code 17.0303 - Auto Specialization, Other (cont'd)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
3	1	1	3	Servicing rental cars(2)	Stock Clerk(2)
4	4	0	2	Water Co. Laborer (3)	
5	1	2	3	Service Station Atten. (1)	
6	1	1	2	Construction Laborer (3)	
7	1	1	3	Sales Clerk(2)	
8	4	1	1	Elect. Apprentice (2)	
9	1	1	3	Respiratory Tech. (2)	Nurse's Aide(2)
10	1	1	3	Auto Mech. (2)	
11	1	1	3	Airplane Lineman (2)	Auto Dept.(2)
12	5	0	2	Service Station Atten. (2)	Same (2)
13	1	0	3	Service Station Manager (1)	
14	1	1	2	Box Factory Laborer (3)	
15	5	0	3	Service Station Manager (1)	
16	1	1	2	Slasker Oper.(3)	
17	1	3	3	Warehouseman (3)	Mach. Oper. (3)
18	1	2	3	Mechanic (3)	Auto Mech. (1)
19	1	1	2	Packer (3) (Textiles)	Service Station Atten. (3)
20	1	1	3	Shooter (3) (Coal Co.)	

OE Code 17.0399 - Auto Service, Other

1	6	1	3	Welder (3)	
2	1	1	3	Tire Serv./ Mech. (2)	
3	0	0	1		Shipping/Receiving Clerk(3)
4	1	1	2	Auto Mech. (1)	Orderly (2)
5	4	1	1	Policeman (3)	Service Station Atten. (3)
6	1	2	3	Machinist Apprent. (2)	Auto Parts Counter Man (1)

OE Code 17.0504 - Blue Print Reading

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
1	1	1	1	Stock Clerk(1)	Shipping Clerk (3)

OE Code 17.0600 - Business Machine Maintenance

1	1	2	3	City Sanitation man (3)	Realty Co. Laborer (3)

OE Code 17.0700 - Commercial Art Occupations

1	1	1	3	Duplicating Mach. Oper.(1)	Printing Pressman (1)
2	0	2	0		Paper boy

OE Code 17.1000 - Construction and Maintenance

1	1	1	3	Yarn Packer(1)	Grass Cutter Laborer (1)

OE Code 17.1001 - Carpentry

1	1	1	2	Construction Laborer(1)	
2	1	1	3	Building Store Fixturer (1)	
3	1	2	3	Carpenter Helper	
4	1	2	3	Construction Laborer (2)	Building Cabinets (1)
5	3	2	3	Building Material Sales (3)	
6	1	1	2	Warehouseman(3)	
7	0	1	3		Mach. Oper.(3)
8	1	1	3	Carpenter (1)	
9	4	1	3	Swimming pool laborer (2)	Same
10	1	2	3	Paper Mill Maint. (3)	Warehouseman(3)
11	1	1	3	Carpenter Trainee (1)	
12	1	1	2	Carpenter's Helper (3)	

(continued)

OE Code 17.1001 - Carpentry (cont'd)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
13	1	1	1	Admin. Clerk(3)	Same (3)
14	1	1	3	Carpenter	
15	1	2	3	Sheer Oper. (2) (Metal Co.)	Carpenter Helper(2)
16	1	2	1	Bank Teller(3)	
17	1	1	3	Bldg. Supplies salesman(3)	
18	1	2	2	Painter (2)	Receiving Clerk (Textiles) (2)
19	0	2	3	Steel Construction (3)	
20	4	2	3	Pipe fitter/ Welder (1)	Furniture Salesman (3)
21	1	2	3	Carpenter (1)	
22	1	2	3	Service Station Mech. (3)	Carpenter (1)
23	4	1	3	Carpenter (3)	

OE Code 17.1002 - Electricity

1	1	1	3	Air Cond. laborer(1)	
2	4	1	2	Water well driller laborer (2)	

OE Code 17.1003 - Heavy Equipment

1	1	1	3	Stock farm laborer (1)	
2	1	1	3	Heavy Equipment Oper. (1)	

OE Code 17.1004 - Masonry

1	1	2	3	Uniform rentals workman (3)	
2	6	0	3		Brick mason helper (3)
3	4	1	1	Printing Press Oper. (3)	
4	1	1	3	Brick Mason(2)	

(continued)

OE Code 17.1004 - Masonry (cont'd)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
5	0	1	2		Bldg. Sales(1)
6	1	2	3	Brick mason (1)	Same (1)
7	1	1	3	Brick mason (1)	

OE Code 17.1005 - Painting and Decorating

1	1	1	3	Painter (Fire equip.) (1)	Hang Paint line (enameling) (2)

OE Code 17.1007 - Plumbing and Pipefitting

1	1	1	3	Construction laborer (3)	
2	4	3	3	Plumber's Helper (1)	Same (1)
3	1	1	2	Warehouseman (1)	
4	1	1	3	Apprentice plumber (2)	
5	1	1	3	Plumber's Helper (1)	Janitor (2)
6	1	1	3	Plumber's Helper (1)	

OE Code 17.1009 - Glazing

1	1	1	3	Secretary (3)	
2	1	1	3	Warehouseman(3)	Graphic Arts(1)

OE Code 17.1099 - Construction, Other

1	5	1	2	Janitor at Coll. (2)	Dig pipes (1)
2	5	0	3	Stockman (3)	Clean cars(2)
3	1	1	3	Cutting/Bailing rubber (3)	
4	5	1	3	Dairy Expediter (1)	
5	5	0	3	Fences salesman (3)	

(continued)

OE Code 17.1099 - Construction, Other (cont'd)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
6	0	1	2	Forklift Oper. (0)	
7	4	1	3	Teacher's Aide (2)	Clerk-Typist (2)
8	0	2	2		Electrician Helper (2)
9	5	1	3	Carpenter's Helper (1)	
10	2	2	3	Welder (2)	Realty Co. Maint. (2)
11	1	2	2	Stock Clerk(2)	Milk Deliv.(3)

OE Code 17.1100 - Custodial Services

1	2	3	1	Putting in Zippers(2)	
2	5	1	2		Plating Trainee (3)
3	5	1	1	Take care of horses(3)	
4	1	1	3	Elec. Helper(3)	
5	1	1	2	Conveyor Mech. Asst. (3)	
6	4	1	2	Jailer/Maint.(2)	Same
7	1	2	1	Army (3)	Hosp. Janitor

OE Code 17.1200 - Diesel Mechanics

1	1	1	3	Diesel Mech. (1)	Diesel Mech. Apprent. (1)
2	1	3	2	Aircraft Engines Disassem. (3)	Tractor parts Counterman(3)
3	1	2	3	Bulldozer Oper. (1)	Truck driver pulpwood (2)
4	1	2	3	Asst. Foreman-Furn. (3)	
5	1	1	1	Electrician (3)	Mech. Helper(3)
6	1	1	3	Tractor Mech. trainee (1)	
7	1	1	3	Mach. Mech.(1)	

OE Code 17.1300 - Drafting

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
1	1	1	3	Draftsman (1)	
2	1	1	3	Tele. Oper. (3)	
3	5	0	3	Drafting (2)	
4	1	1	0	Silk Screen maker	
5	4	1	3	Draftsman(2)	
6	1	1	3	Drafting (1)	
7	1	1	3	Arch. drafting(1)	

OE Code 17.1400 - Electrical Occupations

1	1	1	3	Elect. Insulation (1)	Dishwasher (Res.) (1)

OE Code 17.1401 - Industrial Electrician

1	1	1	3	Fix Welder and motor hookups (1)	

OE Code 17.1402 - Lineman

1	1	1	1	Installing/ repairing phones (2)	

OE Code 17.1501 - Communications

1	1	1	3	Maintain tele. equip. (1)	
2	1	1	3	Teletype Tech. (3)	
3	1	2	3	Funerals Asst. (2)	Police Dept. radio asst.(2)

OE Code 17.1503 - Radio/Television

1	1	1	3	TV Service/ Sales (1)	

(continued)

OE Code 17.1503 - Radio/Television (cont'd)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
2	5	1	3	Radio Announ.(1)	
3	4	1	3	TV Repairman (1)	
4	5	0	2	TV Repair	
5	5	0	3	TV Repair/ delivery (1)	

OE Code 17.1600 - Fabric Maintenance Services

1	4	1	1	Paper Mill laborer (3)	

OE Code 17.1601 - Dry-cleaning

1	1	1	1	Sewing (2)	Appointment solicitor(3)
2	0	2	3		Desk Clerk (2)
3	4	1	2	Deliver Dry-cleaning(1)	

OE Code 17.1700 - Foremanship/Management Development

1	1	1	3	Machine Oper.(3)	

OE Code 17.1900 - Graphic Arts Occupations

1	1	1	2		Asst. Printer (1)
2	0	1	1	Comm. Spec.(3)	Printer (3)
3	5	1	3	Solicitor (2)	Rubber stamp maker (2)
4	1	1	3	Receptionist(2)	
5	1	2	3	Cut paper (1)	Cloth tape mach. oper.(3)
6	4	1	2	Sales Clerk(3)	Bind. Mags.(3)
7	4	1	2	Camera work for Print. Co. (2)	
8	1	2	1	Ins. debit agent (3)	Service Station Attend. (3)
9	1	1	3	Oper. small print. press(1)	

OE Code 17.1902 - Printing Press Occupations

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
1	5	0	3	Printing (1)	

OE Code 17.2300 - Metalworking

1	0	1	0	Tree surgeon (3)	
2	1	1	3	Welder (1)	
3	0	0	3		Ornamental iron laborer (3)
4	1	1	2	Sheet Metal worker (1)	

OE Code 17.2301 - Foundry

1	1	2	3	Iron pourer (1)	Janitor (1)
2	1	0	3	Welder helper (2)	

OE Code 17.2302 - Machine Shop

1	1	1	3	Auto Mec-. (1)	
2	1	2	2	Welder Asst. (3)	Machinist (1)
3	1	1	3	Assemble dust-work (3)	
4	1	3	3	Table painter (3)	Wood saw Oper. (3)
5	1	0	3	Appren. tool & die maker (1)	
6	1	1	3	Machinist (1)	
7	1	1	2	Pants cutter (2)	Service Station Attend. (2)
8	1	2	2	Warehouse worker (2)	Machine shop appren. (2)
9	4	1	2	Machinist (1)	
10	4	3	3	Machinist (1)	Appren. Mach. (1)
11	1	1	3	Shop Helper (2)	
12	1	1	2	Mach. Oper. (2)	

OE Code 17.2303 - Machine Tool Operations

1	1	1	1	Foundry Laborer (3)	High School custodian (2)

(continued)

OE Code 17.2303 - Machine Tool Operations (cont'd)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
2	1	1	3	Warehouseman (2)	
3	1	1	3	Deliv. man (3)	Orderly (1)
4	4	1	3	Metal parts caster (3)	
5	1	1	3	Contractor laborer (1)	Daily laborer (3)

OE Code 17.2305 - Sheet Metal

1	0	1	2	Oper. drapery cut mach. (3)	

OE Code 17.2306 - Welding and Cutting

1	1	1	3	Truck Mech. (2)	
2	1	2	2	Service Station Mech. (3)	Ornamental Iron welding (2)
3	4	1	3	Payroll & Empl. relations (2)	
4	0	3	3		Iron Fabrication (1)
5	1	2	3	Test and fill gas cylin. (2)	
6	1	2	3	Welder (1)	
7	5	0	3	Mach. Shop laborer (1)	
8	1	2	3	Welder (2)	
9	1	2	3	Pallet nailer (3)	Welder (1)
10	1	2	2	Belt Atten. (3) Rubber Prod.	
11	1	1	3	Ornamental welding(1)	

OE Code 17.2602 - Cosmetology

1	1	1	2	Cosmetologist(1)	
2	6	1	1	File clerk (0)	
3	1	1	2	Checker - Cafe. (3)	Beauty Salon Recep. (3)
4	1	1	3	Keybatch Oper. (3)	Cosmetologist(1)

(continued)

OE Code 17.2602 - Cosmetology (cont'd)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
5	1	1	3	Cosmetologist(1)	
6	0	1	1	Cosmetologist(0)	
7	1	1	2	Clothing Mfg. sewer (3)	Cosmetologist (3)
8	1	1	3	Hairdresser(1)	
9	1	2	3	Cosmetology (1)	
10	1	1	3	Beautician (1)	Jewelry Sales clerk (1)
11	1	1	2	Teacher aide(1)	
12	5	0	3	Apprentice beautician(1)	
13	1	1	3	Cosmetologist(1)	
14	6	1	3		Drapery Co. sewing (3)

OE Code 17.2699 - Personal Services, Other

1	1	1	3	Sandwich maker(3)	
2	1	1	3	Asst. in Surg. (Hosp.) (1)	

OE Code 17.2700 - Plastics Occupations

1	1	1	1	Truck driver (1)	Molding Press Oper. (1)

OE Code 17.2800 - Public Service Occupations

1	1	1	2	Physical aide(2)	
2	6	1	3	Phychiatric aide (0)	

OE Code 17.2802 - Law Enforcement Training

1	0	1	3		Clothing store sales (3)

OE Code 17.2900 - Quantity Foods Occupations

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
1	1	2	3	Welder (3) (ship yard)	Install Flooring (1)
2	5	0	1	Cook (1)	
3	0	0	2	Housewares sales (1)	Same (1)
4	1	1	3	Meter reader(3)	Meat cutter(1)
5	1	1	3	Air force (3)	Fertilizer plant lab.(3)
6	2	1	2	Cook (2)	Sewing (1)
7	1	1	2	Food plant laborer (3)	
8	1	1	1	Food plant assembly line (1)	
9	0	0	3	Food plant packing food (0)	
10	1	1	1	Secretary (3)	Waitress (3)

OE Code 17.2901 - Baker

1	2	1	3	Fast Foods cashier (2)	Assemble telephones (3)

OE Code 17.2902 - Cook/Chef

1	4	1	2	Craneman-foundry(1)	
2	1	1	3	Kitchen Mgr.(2)	
3	1	1	3	Cutup line Oper. (3)	
4	1	1	2	Bake cakes (2)	Cook--Fast foods (3)
5	2	0	1	Fast Foods cook (1)	Same (1)
6	1	2	2	Warehouseman(3)	Elevator Oper. (3)
7	0	1	1	Ship yard painter (0)	
8	0	1	3		Door Assembler (3)
9	1	2	2	Rack Salesman (2)	

(continued)

OE Code 17.2902 - Cook/Chef (cont'd)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
10	1	1	2	Pipewelder (3)	
11	5	1	3	Saleslady (2)	Office clerk (3)
12	4	1	3	Plumbing (3)	Stocking food(3)
13	1	0	3	Stocking food(2)	
14	1	1	2	Mgmt. trainee fast foods(2)	Same (2)
15	2	3	3	Short order cook (1)	Same (1)
16	4	1	2	Law enforcement trainee (3)	
17	5	2	3	Carpenter (3)	Painter (3)
18	0	1	2		Dietary porter Hosp. (2)
19	1	3	2	Glass Shop work (3)	Service Station Attend. (3)
20	1	1	1	Machinist (3)	
21	6	1	1	File clerk (0)	
22	1	1	2	Pants Factory Inspec. (3)	Fountain Clerk (3)
23	1	1	1	Sewing Mach. Oper. (3)	
24	1	1	3	Manager, Rest. (3)	Motel Office Manager (3)
25	4	5	2	Data Processing Clerk (3)	Asst. Manager, Rest. (1)
26	1	1	2	Plumbing/ paneling(2)	Construction laborer (2)
27	1	1	2	Welder (3)	
28	5	1	1	Office Clerk(3)	Furnace Oper. (3)
29	0	2	3	Auto Mfg. assembler(2)	Fast Foods Cook (3)
30	0	2	3	Cook (0)	
31	1	1	3	Yarn coating(3)	

OE Code 17.2903 - Meat Cutter

1	1	2	1	Pack syrup and vinegar (3)	Feed mill laborer(3)
2	1	1	3	Machinist (3)	
3	3	1	3	Produce Clerk(1)	
4	1	2	2	Receiving Clerk (3)	Meat Cutter (3)
5					
6	4	2	1	Cloth doffer (3)	Meat Cutter(2)
7	5	0	3	Meat cutter	
8	1	0	2	Horse shoer (3)	

(continued)

OE Code 17.2903 - Meat Cutter (cont'd)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
8	5	2	3	Meat cutter (1)	
9	1	1	2	Wholesale Paper Co. laborer (3)	Grocery Clerk (3)
10	1	2	3	Meat Cutter (1)	Ship. Clerk (3)
11	6	2	3	Armed Serv. (3)	Butcher (1)
12	1	2	3	Meat Cutter (1)	
13	1	1	3	Brusher--Cotton Mill (3)	Asst. Butcher (3)
14	1	1	3	Meat Cutter (1)	
15	1	1	2	Textile Co. overseer (3)	

OE Code 17.2904 - Waiter/Waitress

1	2	1	3	School lunchroom helper (2)	
2	2	1	1	Sales person (3)	
3	1	1	1	Shampooer (2)	Fast Food Serv. (2)
4	1	1	3	Fast Food cashier (1)	
5	1	1	3	Waitress (2)	

OE Code 17.3000 - Refrigeration

1	1	1	3	Delivery Asst. (soft drinks) (1)	
2	4	1	3	Air. Cond. Mech. Apprent. (1)	

OE Code 17.3100 - Small Engine Repair

1	1	2	3	Ship/Receiv. Clerk (2)	Small engine Mech. (1)
2	1	1	2	Crew chief (3)	
3	1	1	0	Motorcycle Mech. (2)	
4	0	1	3	Motorcycle Mech. (0)	
5	0	2	3		Hardware store Mech. (1)

(continued)

OE Code 17.3100 - Small Engine Repair (cont'd)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
6	5	1	3	Boat Co. parts man (1)	
7	1	1	3	Install/repair Mach. (1)	Same (1)
8	1	1	2	Manage recreational park(2)	
9	2	1	3	Motorcycle mech. (1)	
10	2	2	3	Small Engine Mech. (1)	
11	0	0	3	Motorcycle Mech. (1)	
12	1	2	2	Steel Fabrication laborer (3)	Lawn Mower repair(3)

OE Code 17.3399 - Textile Production, Other

1	1	1	3		Shirt Mfg. (1)
2	2	1	3	Child daycare church (3)	Textile worker (3)
3	1	1	1	Mfg. Co. laborer (2)	
4	1	1	3	Textiles Maint. (2)	
5	1	1	3	Loom fixer (1)	
6	5	0	2	U.S. Army supplyman(0)	
7	4	1	2	Layout man (1)	
8	4	1	3	Quality Control (2) (Textiles)	Truck loader (Text.) (2)
9	5	1	1	Washcloth handler (3)	
10	0	2	2	Elect. helper(0)	Yarn carrier/ doffer (1)
11	4	1	3	Ship. Clerk(3)	
12	1	1	3	Winder fixer (1) Cotton mill	
13	1	2	2	Fork lift mach. (0)	Put zipper stop in pants (3)
14	1	1	3	Set collar(2)	
15	1	0	2	Front end leader Oper. (3)	
16	4	1	3	Cloth dye maker (3)	
17	0	1	3		Text. cutter

(continued)

OE Code 17.3399 - Textile Production, Other (cont'd)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
18	1	1	3	Mach. oper.(2)	
19	1	3	3	Connecting phones (3)	Text. doffer (3)
20	1	2	3	Service Station Mech. (3)	Textile yarn Man (1)
21	1	1	1	Set-up Weaving Mach. (1)	
22	4	1	3	Asst. Mgr. Clothing store (2)	Tailor

OE Code 17.3401 - Shoe Manufacturing

1	1	2	0	Shoe Mfg. vulcanizer (2)	

OE Code 17.3500 - Upholstering

1	1	2	2	Plastics painter(3)	Furn. Mfg. funky (3)
2	1	3	3	Pipefitter helper (3)	Upholsterer (1)
3	1	2	2	Bldg. man holes (3)	Car dealer laborer (3)
4	1	1	2	Furn. store clerk (2)	
5	6	1	3	Sewing mattress ticks (1)	

OE Code 17.3601 - Millwork and Cabinetmaking

1	0	1	2	Recep.-Mail Co. (0)	
2	1	2	3	Stock clerk(2)	Truck driver (Furn. Co.) (1)

OE Code 17.9900 - Trade and Industrial, Other

1	1	2	3	Child care worker (1)	Account Clerk VAB (2)
2	1	1	3	Repair/Make jewelry(2)	

(continued)

OE Code 17.9900 - Trade and Industrial, Other (cont'd)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
3	1	2	2	Nursing Asst.(3)	Vault Construction (3)
4	1	2	2	Masonry Asst. laborer (3)	Produce Clerk (1)
5	5	1	3	Paint store clerk (1)	Fast Food Service (2)
6	1	2	3	Paper Mfg. laborer(2)	Plasterer helper (2)
7	1	1	3	Furn. Store deliv. boy(1)	
8	1	1	3	Paper Mfg. laborer (2)	Distribution of text books(2)
9	1	2	2	Nurs. home dishwasher(2)	Ship yard chipper (3)
10	2	0	1	Dept. Store Maint. (1)	
11	0	1	3		Dept. Store porter (3)
12	4	1	2	Sheet metal	Janitor (2)
13	5	1	1	Library Asst.(1)	Handling fabric material (1)
14	5	1	2	Pharmacy deliv. boy (2)	Warehouseman (1)
15	1	2	3	Medical clerk Hosp. (1)	
16	6	1	3		File clerk (2)
17	1	2	1	Counter/phone sales (3)	Warehouseman (2)
18	1	1	2	Surgery Asst. (3)	Dept. Store sales (3)
19	1	2	3	Forklift Oper. (3)	Service Station Attend. (3)
20	1	1	1	Ditch digging (3)	
21	1	1	3	Stock clerk(2)	
22	1	1	3	Glass Co. glazer (1)	
23	1	1	3	Armed Services (3)	X-Ray Tech. (Hosp.) (1)
24	4	1	3	Vet. Asst. (1)	
25	0	3	3		Hardware store secretary(2)
26	1	2	3	Florist trainee (1)	Same (3)
27	1	3	2	Furn. Store deliv. boy(2)	Bag boy (2)

(continued)

OE Code 17.9900 - Trade and Industrial, Other (cont'd)

No.	Employment Status	Full-Time Jobs Held Since High School Voc. Course	Intent of Employment in Area	Present Job	First Job
28	1	1	2	Soft drink Mfg. laborer (2)	
29	4	0	1	TV cameraman(3)	Janitor (3)
30	5	1	1	Tile & Marble Co. Laborer(2)	
31	1	0	3	Stock boy (1)	
32	1	1	2	Farming (2)	
33	1	1	2	Counter Clerk(2)	
34	1	2	2	Cup OD grinder (Bearing Mfg.) (3)	Water Works Oper. (1)
35	0	2	3		Narrowing straps (Sew) (3)
36	4	2	2	Water works Asst.	Shell Plant timekeeper
37	4	1	3	Asst. Mgr. tire recapping(1)	
38	1	1	3	Foundry-Mold helper (1)	
39	1	1	2	Stock clerk (2)	
40	1	1	2	Carp. Helper(2)	Stock clerk(1) (Hardware)

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ABSTRACT: THIS STUDY SOUGHT TO DETERMINE WHETHER EXISTING WORK TESTS AFFECTED THE PROBABILITY OF WELFARE RECIPIENTS RETURNING TO WORK. THE STUDY IS BASED ON A SURVEY OF 1,660 WELFARE RECIPIENTS, REPRESENTATIVE SAMPLES OF GROUPS RECEIVING BENEFITS AND FOOD STAMPS IN FORT WORTH, MEMPHIS, OMAHA, ROCHESTER, AND SAN DIEGO. THREE PRINCIPAL CONCERNS WERE: (1) DIFFERENTIAL APPLICATION OF WORK TESTS AMONG CITIES AND AMONG TYPES OF INDIVIDUALS, (2) THE INFLUENCE OF THE DIFFERENT WORK TESTS ON JOB SEARCH PATTERNS, AND (3) THE INFLUENCE OF WORK TESTS ON EMPLOYMENT BEHAVIOR. INTER-CITY DIFFERENCES WERE FOUND IN THE APPLICATION OF WORK TESTS. MEN EXPERIENCED MORE PRESSURE THAN WOMEN, AND THOSE WHO LOOKED FOR WORK EXPERIENCED MORE PRESSURE THAN THOSE WHO NEVER LOOKED. FOR FEMALES, NO SIGNIFICANT EFFECT OF THE WORK TEST WAS FOUND IN ANY CITY. FOR MALES, A WEAK TENDENCY TO INCREASE THE PROBABILITY OF RETURNING TO WORK WAS FOUND IN SAN DIEGO WHERE THE WORK TEST WAS ENFORCED MORE STRINGENTLY. HOWEVER, THE EFFECTS WERE NOT STATISTICALLY SIGNIFICANT. THE RESULTS OF THE STUDY PROVIDE A PESSIMISTIC PICTURE OF THE USEFULNESS OF EXISTING WORK TESTS IN ENCOURAGING WELFARE REGISTRANTS TO RETURN TO WORK. (AUTHOR/NJ)

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THE IMPACT OF WORK TESTS ON THE EMPLOYMENT BEHAVIOR OF WELFARE RECIPIENTS

Brandeis University
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CHAPTER I

Summary and Conclusions

I. OBJECTIVES

This study was launched in late 1973, when the U.S. Department of Labor and Agriculture were considering proposals to "strengthen" the Food Stamp (FS) work registration program. While work registration requirements incorporate both coercion and assistance, the major concern lay with strengthening the former: what forms could greater pressures on registrants take and what would be their consequences? Similar questions recently have occupied those responsible for the work test in the Aid to Families with Dependent Children and Aid to Families with Dependent Children of Unemployed Fathers (AFDC/AFDC-UF) programs.

Interest in increasing the stringency of the FS and AFDC/AFDC-UF work tests stems from rising program coverage and cost, which has been particularly dramatic in recent years in the FS program. Public and Congressional pressures for more elaborate, and presumably tougher, work test procedures implicitly must rest on the hypotheses that such procedures will encourage persons to search the labor market more assiduously, lessen the duration of their unemployment spells, and result in their accepting jobs and wage rates that they otherwise would reject, given the availability of FS and AFDC/AFDC-UF (both can be called "welfare")benefits. The sooner recipients return to work, obviously, the lower will be program costs. The purpose of this study, then, was to determine whether existing work tests affected the timing and quality of jobs found after a period during which a person both received welfare

benefits and had to register with the Employment Service (ES) in connection with their receipt. In accomplishing this purpose, an additonal desire was to develop some data on the employment experience over time of registrants, thereby casting light on their employability. Equipped with this knowledge, administrators could propose what, if any, adjustments in present operating procedures are advised.

II. DATA SOURCES

The study is based on a survey of 1666 FS and AFDC/AFDC-UF recipients who were registered with the ES as a consequence of work registration requirements. The respondents came from five cities, in three of which the nationally uniform FS work test was in effect and in two of which local variants of the AFDC/AFDC-UF work test applied. The three cities in which the FS work test applied, Fort Worth, Memphis and Omaha, were chosen on the assumption that they differentially enforced the identical set of work test rules. The two AFDC/AFDC-UF cities, Rochester, N.Y. and San Diego, California, were selected because they were implementing work test features which have attracted great interest. Rochester required registrants to appear frequently at the ES to review job listings while picking up their welfare checks. San Diego placed on registrants the responsibility to search for job openings and to report to the ES frequently for review of such research efforts. Thus, the study was designed to analyze whether differences in enforcement of a work test as well as differences in the procedural nature of work tests influence employment behavior.

At each site, samples were chosen to be representative of the pool of ES registrants in that locale. Alternative populations, like that of all adult recipients under a given welfare program, were possibilities. The population of registrants is the one directly affected by the work test, and is most economically studied. A questionnaire then was designed to capture employment experience following a stretch of unemployment or part-time employment during which they recieved FS or AFDC/AFDC-UF benefits, depending on the city.

III. FINDINGS

Three principal concerns were (1) how the application of the work tests varied by city and within cities by type of individual; (2) how the different work tests influenced job search patterns; (3) how the work tests influenced employment behavior. Findings on these and related matters are discussed in turn.

A. The Application of the Work Tests

Six measurable aspects of a work test which could be applied to an individual were identified. Individuals could be (1) called into the ES office; (2) called in frequently; (3) questioned about job search activities; (4) asked for proof of job search activities; (5) referred to a job; (6) pressured to accept a job. Comparing the extent these treatments were applied in the three FS cities, Fort Worth appeared lenient, Omaha moderate, and Memphis relatively tough in enforcement of the identical work test rules. As between the three FS and the two AFDC/AFDC-UF cities, differences in ES pressure on registrants also were detected. As expected, frequent calls into the ES and the questioning of registrants about their search characterized the work test programs in the two AFDC/AFDC-UF cities.

Besides the inter-city differences in work test application, two other important differences emerged. Men experienced far more pressure than women in every city. Similarly, those who looked for work when unemployed experienced much more pressure than those who never looked. Those not looking for work could be distinguished in terms of personal characteristics by a very high incidence of work limiting health problems. Many of them may have been registered with the ES mistakenly.

B. The Impact of Work Tests on Job Search Patterns

Job search is a difficult subject to study, since only limited aspects of the process can be observed. Measures like the sources of job information used or the number of visits to employers reveal little about the quality of search. A critical question, virtually impossible to answer, is whether an individual behaves during his visits to employers in a way most likely to lead to an offer. Especially in the presence of a work test, a person may go through the formalities of searching, but in a way unlikely to result in a job offer.

A comparison of the search patterns of those in this sample with those of persons in other studies, however, can fruitfully be made. Generally, job search efforts in this sample, even in the presence of the work test, were somewhat less extensive than in other groups that have been studied. The ES did not greatly assist search, making referrals at rates somewhat below those found for the general pool of ES applicants. Except for making job referrals, moreover, the only other manpower service generally offered to registrants was the opportunity to review job listings.

C. The Impact of Work Tests on Employment

The main task of the work test is to get registrants back to work. To the extent that it is not successful in getting them into jobs, it still has the task of maintaining pressure on the registrants, and recommending punitive actions should the registrants not cooperate. Clear evidence was found that the ES concentrates pressure on registrants who remain unemployed, particularly males in Omaha but also in Rochester. On the other hand, evidence of success in getting registrants back to work appears only for males in San Diego, and even there the effect seems to be weak.

Two aspects of work behavior were studied: the probability of returning to work within the year studied and, for those who did get jobs, the duration of their spell of unemployment. For females, no significant effect of the work test was found on either of these variables in any city. For males a weak tendency to increase the probability of returning to work and a slightly stronger effect in reducing the duration of unemployment were found in San Diego. Being questioned about job search activities seemed to be the work test treatment with the most important effect. However, these effects were not statistically significant in San Diego. In Omaha, the evidence was significant that pressure was concentrated on those who remained unemployed. The same type of evidence appeared in Rochester, but it was not statistically significant. For Fort Worth and Memphis no work test effect was found on either work behavior variable.

Since the work test seemed to be enforced more stringently in San Diego than in the other cities studied, greater success in getting

registrants back to work should have been expected. That does indeed seem to be the case, but the success seems so small that its significance is questionable. Moreover, the survey was conducted at a time when the labor market was relatively tight. Although the work test can maintain pressure on those who do not work, we have been unable to find evidence that it has much of an effect on work behavior.

IV. POLICY IMPLICATIONS

The results of this study provide a pessimistic picture of the usefulness of existing work tests in encouraging registrants to return to work. These work tests can be successful primarily in maintaining pressure on unemployed FS or AFDC/AFDC-UF recipients, but the consequence of this pressure may be small. However, even though existing work tests achieved relatively little success, it is possible that expanded or redesigned work tests could get more registrants back to work. One possibility is more frequent and more intensive monitoring of the job search efforts of registrants. Such an approach could become costly, and there is no assurance of success. A second possibility would involve joining a public employment program to the work test. The public employment program could create as many jobs as needed. Work test registrants could then be assigned to jobs and required to accept them, or lose their benefits. The probability of success would be much higher, but such a public employment program would require a major new political initiative. In general reforms that are likely to make the work test successful are also likely to require large extra expenses and may push the government into areas of uncertain political acceptability.

CHAPTER 2

Nature of the Sample

I. INTRODUCTION

This study attempted to select sites which differed in the type of work test being applied to determine how the different tests influenced employment behavior. This chapter reviews the procedures followed in the selection of sites and samples as well as in the design of the questionnaire used in the survey. Attention also is devoted here to a discussion of the validity and generalizability of the findings.

II. SITE SELECTION

Work tests are part of a number of existing transfer programs, including Aid to Families With Dependent Children (AFDC), its component program, Aid to Families With Dependent Children of Unemployed Fathers (AFDC-UF), and Food Stamps (FS). Work test procedures differ between these programs. In addition it is likely that different jurisdictions enforce the same procedures differently. The purpose of this study is to examine the effects of both differences in rules and differences in enforcement on labor market behavior. The original mandate for the study was to examine the effects of the work test in the FS program. Since the work test procedures provided for by law and regulations are identical in all jurisdictions operating the FS program, variation in treatment in it could arise only in the degree of enforcement. Thus, an attempt was made to select three cities with similar labor market conditions but differing in the stringency of enforcement of the work test procedures. Since other transfer programs have different work test

procedures, two cities were included in which low income persons are covered by the work registration requirements prescribed for the AFDC/AFDC-UF program. The registration procedures in the latter welfare program are more demanding of recipients than are those in the FS program, although they vary somewhat among states.[1] In all, five cities were selected, Fort Worth, Memphis, and Omaha for the study of the FS work test, and Rochester and San Diego for the AFDC/AFDC-UF work test.

In order to choose the three FS sites, cities were sought that varied in the "toughness" of their administrative practice. The only measure of stringency available was the rate of FS benefit denials that resulted from recipient non-compliance with the work registration procedures. As Table 2-1 shows, this rate differs substantially among the 28 states that do not have sizable AFDC-UF programs. (In view of the dominance of the AFDC/AFDC-UF work test for a recipient simultaneously receiving FS and AFDC/AFDC-UF, there was a need to avoid states where large numbers of low income males could be eligible for AFDC-UF if the effects of the FS work test were to be identified.) Note that states vary in the proportions of registrants terminated for non-compliance from a low of .004 in Louisiana to a high of .217 in Nebraska. Later in the selection process, similar data for the first three quarters of FY 1974 were made available. Although there are changes in the termination rate for most states based on the 1974 data, the ranking among states broadly conforms with those yielded by the 1973 data.[2]

TABLE 2-1

Termination of Benefits Among Food Stamp Households
(For Fiscal Year 1973[a])

State[b]	Number of Persons Registered With ES	Proportion of Households Terminated For Failure To Comply[c]	Rank By Proportion Terminated For Failure To Comply
Alabama	18,214	0.050	13
Alaska	13,971	0.009	21
Arizona	25,414	0.009	20
Arkansas	21,692	0.024	19
Connecticut	5,326	0.140	4
Florida	34,489	0.149	3
Georgia	12,896	0.094	8
Idaho	2,794	0.197	2
Indiana	19,482	0.043	15
Iowa	14,234	0.033	16
Kentucky	44,844	0.051	14
Louisiana	43,891	0.004	28
Maine	1,945	0.082	10
Mississippi	26,206	0.079	9
Missouri	21,915	0.011	23
Montana	6,692	0.013	26
Nebraska	4,673	0.217	1
New Jersey	15,230	0.107	5
New Mexico	29,307	0.009	22
N. Carolina	21,738	0.066	12
N. Dakota	1,484	0.019	18
Oklahoma	3,347	0.012	24
S. Carolina	13,671	0.110	7
S. Dakota	3,540	0.084	11
Tennessee	39,819	0.119	0
Texas	45,030	0.013	25
Virginia	10,099	0.038	17
Wyoming	2,167	0.002	27

a. Food and Nutrition Services, U.S. Department of Agriculture, "Summary of Work Registration Activity - Food Stamp Program," unpublished, preliminary data for FY 1973.

b. The States selected are those without sizable AFDC-UF programs according to: National Center for Social Statistics, U.S. Department of Health, Education, and Welfare, Public Assistance Statistics, January 1974, Table 5.

c. Since there may be more than one registrant in a FS household, the numbers in column 1 are not the best base by which to divide the numbers in column 2.

Unfortunately, the benefit denial rates provided by the state welfare agencies are statewide rates. Data were also obtained from the Department of Agriculture on benefit terminations for non-compliance by city and county in selected states. Luckily, these revealed that major cities are similar to their respective states in benefit termination rates, especially in the smaller states.

The effects of a work test depend not only on how it is administered, but also on labor market conditions, like how easily a person can be placed in a job. To check the comparability between labor markets, information was obtained on population size and composition, unemployment, and composition of the demand for labor for cities in each of the 28 states considered. These data appear in Table 2-2 solely for the states from which the five cities actually were selected. The principal aim was to choose major labor areas whose labor markets were tight as measured both by low unemployment rates and growing employment. This was done on the assumption that a loose labor market may discourage enforcement of the work test by an ES office. Lower priority concerns were that the cities have populations of roughly similar size and roughly similar composition of labor demand.

Two other criteria influenced the selections. Cities were desirable if their work tests had been in effect for an extended period of time. Essentially, locations were to be avoided where start-up problems were affecting Employment Service (ES) behavior. Also, cities were avoided if the Department of Labor (DOL) recently had financed another study of the low income population.

TABLE 2-2

Demographic and Economic Characteristics of Major Labor Areas in Five States With Study Sites

State	(1) Population in 1970[a] (thousands)	(2) Labor Force in 1970[b] (thousands)	(3) Percent of Population That is Non-White in 1970[a]	(4) Percent of Population Below Poverty Lines in 1969[b]	(5) Total Unemployment Rate in 1973[c] (%)	(6) Insured Unemployment Rate in 1973[d] (%)	(7) Change in Total Empl., 1960-1970[a] (thousands)	(8) Total Manufacturing Employment in 1970[a] (thousands)	(9) Total Service Employment in 1970[a] (thousands)
CALIFORNIA									
Anaheim,etc.	445	117	3	6.9	4.4	3.7	79	51	14
Fresno	166	64	12	17.4	6.1	7.5	20	6	6
L.A./Lg.Beach	3175	1386	31	13.1	4.7	3.8	13	310	135
Sacramento	254	102	18	14.2	5.5	7.7	19	8	8
S.Ber./Riv./O.	308	109	9	13.0	5.4	6.1	38	20	8
San Diego	697	244	11	12.0	5.0	5.9	27	40	23
S.F./Oakland	1078	491	33	7.1	5.0	4.7	-4	59	50
San Jose	446	173	6	8.7	4.5	3.9	119	48	13
Stockton	208	41	21	17.6	7.0	9.1	23	5	3
NEBRASKA									
Omaha	347	145	10.4	10.5	3.8	2.4	18	24	11
NEW YORK									
Albany,etc.	258	108	9	12.9	3.9	2.3	-5	19	6
Binghamton	64	27	2	12.4	4.1	2.4	-19	6	2
Buffalo	463	183	21.2	15.2	5.4	2.9	-13	55	11
New York	7895	3330	23	14.9	4.7	3.5	-4	657	316
Rochester	296	127	17.5	12.4	3.2	1.8	-6	47	8
Syracuse	197	82	11.7	14.1	4.5	2.4	-10	19	6
Utica/Rome	142	54	6	12.3	5.9	3.6	-7	14	7

TABLE 2-2 continued

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
TENNESSEE									
Chattanooga	119	48	35	24.9	2.9	1.1	-4	14	5
Knoxville	175	69	13	19.6	2.4	0.9	37	13	6
Memphis	624	251	39	20.8	2.9	1.0	28	49	27
Nashville	448	190	20	13.7	3.6	1.2	171	39	17
TEXAS									
Austin	252	106	12	17.1	2.3	0.6	47	9	11
Beau/P/Arth.	173	68	34	18.4	4.6	2.4	-4	15	7
Corp.Chris.	205	75	6	19.6	4.6	2.5	27	8	5
Dallas	844	386	26	13.5	2.3	0.6	33	96	42
El Paso	322	106	3	20.7	4.7	1.9	23	17	8
Ft.Worth	393	167	20	13.9	3.4	1.3	15	45	15
Houston	1233	532	26	14.1	2.7	0.6	42	95	57
San Antonio	654	232	8	21.8	3.8	0.7	19	27	22

[a]U.S. Bureau of the Census, County and City Data Book: A Statistical Abstract Supplement, 1972, pp. 630-797.

[b]U.S. Bureau of the Census, General Social and Economic Characteristics (50 State Volumes), February 1972, Table 90.

[c]U.S Department of Labor, Manpower Report of the President, April 1974, Table D-7.

[d]Ibid., Table D-9.

[e]U.S. Bureau of the Census, County and City Data Book: A Statistical Abstract Supplement, 1962, pp. 476-575.

On the basis of the factors just discussed, the FS cities chosen were: Fort Worth, Texas (presumably lenient in enforcement), Memphis, Tennessee (presumably moderate in enforcement), and Omaha, Nebraska (presumably tough in enforcement).

Since California and New York follow unique AFDC/AFDC-UF registration procedures, the remaining two sites were chosen from these states. The California program places the burden of job search on the registered recipient, requiring him to commence search even before he becomes eligible for cash benefits. Also, the recipient is required to report bi-weekly to the ES to be questioned about the search efforts. Further, in the first thirty days of registrant status, a recipient is subject to a state adjudication process that is more stringent than the federal process if he violates the registration procedures. The special feature of the procedure in New York is that the covered recipient must report frequently to the ES office, both to pick up his welfare check and to review job listings. An attempt was made to select labor market areas within California and New York comparable to the FS sites. San Diego, California and Rochester, New York were the cities chosen.

III. SAMPLE SELECTION

The population studied in each of the five cities is the set of welfare recipients (FS or AFDC-UF, depending on the city) actually registered at the ES as part of the work test procedures. This is the population directly affected by the work test. Larger populations also might have been studied, but only at substantially higher cost. For example, one could consider the population of all welfare recipients. Many of these are exempted from the work test

and thus not registered at the ES. One could attempt to study the extent to which exemptions depend on behavioral responses of the recipients. However, the overall sample drawn would have to be very large to ensure adequate representation of those actually registered at the ES. A population larger yet would be the set of all potentially eligible low income families. Although only those registered at the ES may be directly affected, a work test generally known to be stringent could have indirect effects even on those currently employed. To the extent that people dislike having their job-search monitored by the ES, they may try to keep their old jobs or even refuse transfer benefits to avoid the test procedures. Such effects would be difficult to detect empirically. In addition the sample size would have to be much larger, making the study much more costly. Finally, a work test is likely to have indirect effects only if its direct application to ES registrants is known to be stringent. It is thus appropriate at the first stage to consider only whether the work test affects the behavior of those directly affected. In view of these arguments, it was decided to study only the actual registrants at the ES.

In sampling from this population, the basic objective was to interview persons who had completed a spell of unemployment during which they had been work tested. To avoid problems of respondent memory failure, it was desirable to select individuals whose spell of unemployment had been recent. Filing systems in the several ES offices were not organized in a manner that was convenient to our

sampling objective, and filing systems varied substantially among the five sites. The details of the sampling procedures by city are presented in the appendix to this chapter. Generally speaking, the sampling procedures yielded registrants whom we interviewed within a year following the time at which they become registered with the ES.

IV. QUESTIONNAIRE DESIGN

By directing respondents to consider their most recent period of unemployment or part-time employment during which they received welfare benefits and thus were covered by a work registration requirement, the questionnaire was designed to observe spells where labor market behavior could have been influenced by the work requirement. Persons currently employed on a full-time basis were asked to consider the most recent period of less than full-time employment when they also received welfare benefits. Persons currently working part-time or not at all were asked to go back to an earlier stretch of part-time work or non-employment when, again, they were receiving AFDC/AFDC-UF or FS benefits.

Questions in the interview schedule, which was identical for all five cities, were designed to yield data for the construction of dependent, treatment, and control variables. Dependent variables include measures of job search, its nature and intensity; the duration of unemployment during the period that the person was being work tested; success in finding a new job; and various measures of the desirability of that job.

Treatment variables in this study reflect the degree to which the work registration procedure was applied to the registrants.

Alternative measures of the treatment that the questionnaire attempts to capture include the extent and frequency of calls into the ES office, the extent of job referrals, and the extent to which registrants were pressured by the ES to accept jobs that they otherwise would have declined.

Control variables on which information was gathered include age, education, ethnic-racial identity, health, household status, labor force commitment, and motivation.

V. GENERALIZABILITY OF FINDINGS

Unfortunately, serious difficulties arose in locating and interviewing some members of the selected samples. In general, only about half of all potential respondents were found and completed questionnaires. It should be noted that this outcome is consistent with an important general trend in survey research and polling. A recent article in the New York Times emphasized the growing public resistance to being interviewed. Surveys of samples representative even of all income groups are having difficulty in completing interviews with more than 60 percent of selected persons.[3] The difficulties are likely to be greater with a sample of low income people. It is necessary to consider whether the low completion rate produces an unrepresentative sample and, if it does, whether the results of the study will be distorted or biased.

Even though many individuals in the intended sample in each city could not be reached for interviews, some information on the representativeness of the sample actually interviewed was obtained. Table 2-3 presents three kinds of information. The first column

TABLE 2-3

Percentage Distribution of Registrants, Respondents, and Non-Respondents, By Their Demographic Characteristics[a]

	FORT WORTH			MEMPHIS			OMAHA			ROCHESTER			SAN DIEGO		
	Total Registrant Pool	Respondents	Non-Respondents	Total Registrant Pool	Respondents	Non-Respondents	Total Registrant Pool	Respondents	Non-Respondents	Total Registrant Pool	Respondents	Non-Respondents	Total Registrant Pool	Respondents	Non-Respondents
AGE															
<22	22	22	23	27	27	21	20	18	18	11	13	20	18	17	12
22-39	38	33	50	43	33	54	54	46	63	60	43	55	57	53	72
40-44	6	10	6	8	5	6	7	8	10	13	18	11	11	11	7
45-54	17	16	13	13	17	12	13	17	5	14	21	14	12	16	9
55-64	16	18	9	9	15	8	5	10	2	3	4	0	2	2	1
65 and over	1	1	0	1	4	0	0	0	0	0	0	0	0	0	0
SEX															
Male	60	70	84	41	49	55	56	71	76	24	22	39	45	33	69
Female	40	30	16	59	51	45	44	29	24	76	78	61	55	67	51
EDUCATION															
0-7	23	26	14	18	15	15	6	8	1	15	18	10	10	10	9
8-11	44	36	46	47	45	49	46	40	47	55	56	64	41	30	41
12	26	29	31	30	35	33	39	33	40	26	16	21	35	34	33
over 12	7	8	9	5	5	3	9	19	13	4	10	4	13	27	17
ETHNIC GROUP															
White	60	71	75	16	13	21	62	80	76	50	54	45	81	85	29
Black	40	30	24	84	86	79	35	18	18	47	45	55	16	14	68
Other	1	0	1	0	0	0	3	1	5	3	1	0	3	1	3
HOUSEHOLD STATUS															
Head	c	72	72	-	65	65	-	79	76	-	70	82	-	79	90
Other	-	28	28	-	35	35	-	21	24	-	30	18	-	21	10
EMPL. OFFICE ACTION															
Neg. Referral	12	-[d]	4	26	-	21	24	-	38	18		30	3	-	14
No. Neg. Ref.	88	-	96	74	-	79	76	-	62	82		70	96	-	86
NUMBER[b]	3,140	307	69	15,650	501	109	3908	256	111	3,550	223	71	16,442	379	151

TABLE 2-3

Footnotes

a. The data on registrants in the FS program come from ESARS Table 23 for each of the counties in which the three FS sites are located. The data are for fiscal year 1974. The data on AFDC/AFDC-UF registrants come from an ESARS Table 30, for Rochester and San Diego, also for fiscal year 1974. The data on the respondents come from our survey. The data on the non-respondents come from the FS-284 records of the non-respondents in their respective files. The non-respondents for whom demographic data was drawn were selected randomly from among the group of all non-respondents.

b. Except for data on household status, the number of respondents included in this table matches the number interviewed in our survey.. For some respondents, information on household status inadvertently was not obtained by a direct question.

c. Information on this characteristic is not available in the ESARS tables.

d. Information on this characteristic could not be obtained from the interview. Respondents generally would not know whether a negative referral ever had been made with respect to them by the ES to the welfare agency.

for each city gives the published demographic data on the entire registrant pool at the ES in that city. The second column gives the demographic characteristics of those interviewed. The third gives the same information, obtained directly from the ES files, on non-respondents in the original sample.[4]

The data in the second and third column for each city suggest a definite pattern in the failure to locate respondents. In all of the cities, there was a tendency to have special difficulty in finding males, persons between the ages of 22 and 37, and those with 8-11 years of education. There was no pattern in the racial-ethnic characteristics or household statuses of the non-respondents. When comparing respondents with those in the total registrant pools, one again finds an imperfect match. In three of the five cities, there was a higher incidence of negative referrals (recommendations from the ES to the welfare agency that benefits be terminated for non-compliance) among non-respondents than among all registrants. In two of the five cities, there was a lower incidence of negative referrals. In terms of the other characteristics appearing in Table 2-3, our samples seem largely representative of the total registrant pools. The only problem, then, appears to be that the non-compliant have been missed to some extent in three of the five cities.

To the extent that the sample interviewed is not perfectly representative, are the results of the study biased? One question to be considered is whether a work test encourages work effort. If some encouragement effect can be found, the result follows that the work test

in that city affects behavior whether the sample is representative or not. (If no effect is found, it is conceivable that the missing part of the sample would have been affected. Thus a finding of no effect is not fully conclusive.) The representativeness of the sample becomes more important when evaluating quantitatively the impact of the work test. In general, effects will be studied by means of regression analysis in which the differing characteristics of individuals will be used as control variables in trying to isolate the effects of the work test on behavior. Thus, even if a particular sample is not representative, controlling for the characteristics of the sample in regression analysis can produce generalizable results. Only if some types of individuals are seriously under-represented in the sample will the results be distorted. The information in Table 2-3, indicating that the non-compliant have been missed to some extent, suggests that these issues will have to be seriously considered in evaluating and interpreting the results.

A final matter in considering the generalizability of the findings involves a comparison between the respondents and the low income population. The data in Table 2-4 compare only heads of households, who comprise 55 percent of the sample, in the low income and respondent groups on several characteristics. Since the work registration requirements exempt persons 65 and over, it is not surprising that the low income population contains more household heads who are older. Female heads in the youngest age group, however, also are not relatively heavily represented in the sample. By comparison with

TABLE 2-4

Characteristics of Heads of Household in U.S. Low-Income Population and in Sample[a]

Characteristics	U.S. Low Income Population	Sample Members
Male Heads - Number	2,635,000	586
Age:		
Percent Under 35	26	52
Percent 35-64	50	46
Percent 65+	24	1
Percent White	77	54
Percent HS Grads.	29	40
Employment:		
Percent Currently Employed	53	51
Percent Who Worked Last Year	62	87
Female-Heads - Number	2,193,000	341
Age:		
Percent Under 35	50	34
Percent 35-64	41	64
Percent 65+	9	1
Percent White	54	45
Percent HS Grads.	35	37
Employment:		
Percent Currently Employed	28	28
Percent Who Worked Last Year	39	52

a. U.S. Department of Commerce, Bureau of the Census, Consumer Income: Characteristics of the Low-Income Population, 1973, Current Population Reports, Series P-60, No. 98, Washington, D.C., 1975, Tables 1, 4, 31, and 36.

the low income population, the sample also has a low percentage of white heads. Given the relative age distributions, it is not surprising that the sample has a higher proportion of high school graduates. Of major interest, of course, are the employment data in Table 2-4. Among both male and female heads, the employment/population rates are identical as between the respondents and the broader population of poor persons. The fact that such a high proportion of male heads among the respondents worked during the year reflects their relative youth, whereas the similarly high rate for female heads in the sample reflects, undoubtedly, their concentration in the middle age group, i.e., not where they are most likely to be limited by child-rearing responsibilities. For a group of persons who entered the sample as a consequence of their receipt of welfare benefits, the important finding in Table 2-4 is their evidently high degree of employability. This is not too surprising in view of the fact that the respondents were more or less screened for their employability by the work registration procedures. Adjusted for age and race, then, the sample would appear to be not too dissimilar from their counterparts in the general low income population.

FOOTNOTES

1. Persons simultaneously receiving AFDC/AFDC-UF and FS are required to conform only to the procedures of the former.

2. Two types of supplementary information confirmed these rankings. One type, made available by Employment Service (ES) offices, is on their rate of "negative referrals." These are ES recommendations to welfare agencies that FS benefits be terminated because of alleged registrant non-compliance with the work test. A second type was on terminations for non-compliance in the UI program. These were utilized on the suspicion that if the ES offices are tough in adminstering the UI program they will act similarly in the FS program. Examination of these two sets of data suggest that the differences among states in ES administration of the FS and UI programs broadly are comparable and are well represented by the welfare agency termination data.

3. Robert Reinhold, "Polling Encounters Public Resistance; Decision-Making Process Is Threatened," New York Times, November 9, 1975, p. 1. Three factors probably explain most of the problems in locating respondents in this study. One is the noted general trend toward lower completion rates in survey research. Organizations other than the Bureau of Census have faced increasing difficulty in finding and obtaining the cooperation of respondents. Completion rates in surveys of the general population recently have been in the range of 60 percent. ["Report on the ASA Conference on Surveys of Human Populations," The American Statistician, February 1974, Vol. 28, No. 1.] With low income populations, completion rates, one suspects, are likely to be lower. A second factor in this study was the large number of obsolete or incorrect addresses. Especially in Omaha, where transients living in residential hotels for short periods comprised a sizable part of the sample; and in Rochester, where many respondents initially lived in an area demolished for urban renewal purposes, it is not surprising that a large number of bad addresses lead to a low completion rate. A third factor, probably not as important as the first two, is that respondents were selected for their involvement in a monitoring procedure. It would not be difficult to understand that some may have feared disclosing information to unknown interviewers if the consequences could have been costly.

   Strenuous efforts, within tight cost constraints, were made to pursue those who could not be found. Some like going to the welfare agency for more recent addresses, did yield results. Nothing that was tried could raise completion rates above the following levels:

FOOTNOTES

	No. in Sample	Percent Completed
Fort Worth	619	49.6
Memphis	897	55.9
Omaha	712	36.0
Rochester	612	36.4
San Diego	779	48.7

4. The data on the registrant pool were obtained from the ESARS reporting system operated by the U.S. Department of Labor.

APPENDIX

FORT WORTH

Our intention was to obtain a sample representative of persons who become registrants at roughly the same time. This time should have been early enough to allow spells of unemployment for most registrants to lapse before the interview was administered. If the spell of unemployment preceded the date of their interview by too many months, however, registrants may have suffered failures of memory, lessening the accuracy of their responses.

FS registrants in Fort Worth are in the "active files" for up to 6 months following registration. They are removed from the active files either if they become employed or leave welfare for any reason, including non-compliance with the FS registration process. They remain in the inactive file until one year after registration. Random selection among the older cases in the inactive file would yield a representative but somewhat dated sample. Thus a random selection was made from among the combination of all active cases and cases in the inactive file 6 months or less. The sample thus included persons who registered in the first half of 1974 and these persons were interviewed within 6 to 12 months following their registration.[a]

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[a] Fort Worth was substituted for Richmond early in the study because of difficulties encountered in locating respondents combined with an inability to replace them with others, given the small registrant caseload.

OMAHA

The dilemma posed by the Omaha filing system arose from the techniques used for separating "active" from "inactive" cases. Persons become "active" registrants when their names appear on the "daily list of new registrants" supplied to the ES by the welfare agency. Persons become "inactive" either when they leave the FS program or when the ES is notified of their re-employment. Thus, neither the active nor the inactive files themselves would contain samples representative of all FS registrants entering the FS program at a point in time. Neither could the two together be utilized, because "inactive" cases are dispersed among the very large number of all persons once listing their names with the ES for reasons unrelated to the FS program. Fortunately, therefore, the ES office retains among its records for a substantial period the "daily list of new registrants." To be able to observe persons after a stretch of unemployment, all persons appearing on the daily lists from December 1, 1973 through March 20, 1974 were selected, with the exception of those whose registrations were on a "short-term applicant basis." Persons thus were interviewed six to twelve months after they registered.

MEMPHIS

In the overwhelming proportion of cases, active and inactive cases are distinguished solely on the basis of time passed. Once a person is registered with the ES by the welfare office, he stays in the active FS file for a certain period of time, after which he

moves to the inactive FS file for another period. At the end of the second period, his file is placed in the general inactive ES files. Very frequently, a person is moved from the active FS to the inactive file when the ES is notified of their re-employment. Initially, therefore, the sample was selected by taking all cases in the inactive file who registered in December 1973 and all cases in the active file who registered between January 1974 and the end of March 1974. The interviews of these persons followed their registration by six to twelve months.

ROCHESTER

Active and inactive cases are distinguished on the basis both of their employment and welfare experience. Persons move from the active to the inactive file when they leave welfare; and move from an active to a special file for ninety days when employed. Thus, neither the active nor the inactive files separately would yield a sample representative of persons registering for the work test. A further complication is that some persons are in the file of AFDC/AFDC-UF registrants purely on a voluntary basis. Such persons are exempted from the registration procedure by law but seek the assistance of the ES. There being no possible penalty for "non-compliance," they cannot be said to be subjected to any work test. They were excluded from the sample.. Recognising that some long term welfare cases where re-employment is very slow may have been excluded, a sample roughly representative of those registering at a point in time was obtained by selecting all cases which had become

inactive between July 1, 1973 and June 30, 1974. Interviews, therefore, followed de-activation by from six to eighteen months; and followed registration by some longer but indeterminate period of time.

SAN DIEGO

Files of employed and non-employed active registrants as well as of inactive cases are kept separately. Cases become inactive by leaving welfare, not as a result of the passing of time. Unlike in Rochester, employed cases are not transfered to the inactive file even after 90 days. They simply are kept in an employed file until they leave welfare, whereupon they enter the inactive file just mentioned. Unlike under the FS program, employed persons receiving AFDC/AFDC-UF in California and New York must register with the ES. To obtain a representative sample of registrants as well as one including persons for whom a spell of unemployment was likely to have elapsed, some mix of inactive and active employed cases had to be obtained. The latter were chosen less than in proportion to their number at registration since some of them enter the inactive file. In the first quarter of 1974, the ratio of those entering the active employed file to all AFDC/AFDC-UF recipients registering with the ES was roughly 2:7. The sample thus consists of persons in the active-employed file in June 1974 and of persons entering the inactive file between February 1 and April 30 of 1974, in the ratio of 2:7. Voluntary registrants as well as those cases becoming inactive because their cases were moved to a different San Diego ES office again were deleted. Interviews followed registration by an indeterminate period, but one that should have allowed for the elapse of a spell of unemployment.

Chapter 3

The Nature and Application of the Work Tests

During legislative debates on work tests in income maintenance programs, great attention is paid to subtleties in procedure: Should applicants have to establish an involuntary basis for leaving their last job? Once on a program, should recipients be required to conduct their own search of the labor market? Upon being offered a job, should they be required to accept only "suitable"work; and how, in fact, should suitable be defined with regard to the skill level required and the wage offered? This chapter details the formal work registration procedures nominally in effect in the welfare programs of five cities and how they differed. Then it investigates the extent to which the various registration procedures and their attendant threat of benefit cancellation actually are applied. Chapter 4 considers differences in the service features offered in conjunction with the work test procedures. In Chapter 5, the interest is in how effective these differences in coercion and service are in making the job search process more effective.

I. THE NATURE OF THE FS AND AFDC/AFDC-UF WORK TESTS

Often called "work tests," work registration requirements in income maintenance programs in fact typically are tests which monitor recipient availability and search for work. Were the payment of an income transfer conditional upon actual employment, the program disbursing benefits could be said to contain a work test *per se*. Such

programs do exist. In Great Britain, for example, The Family Income Supplement program offers benefits solely to those poor families whose heads work and earn wages above some weekly minimum. Wage rate subsidy programs provide benefits only to the working poor, giving more benefits the more hours per unit of time that a recipient works. Public employment programs, which can be viewed as income transfers offering a complete subsidy to a public employer for a worker's wage bill, also contain implicitly a work test per se. Programs like FS and AFDC/AFDC-UF, by contrast, do not condition benefits upon employment, but require merely that a recipient register with the ES and, possibly, search more or less assidiously for a job. In the absence of a program making government an employer of last resort, transfer benefits could not easily be conditional upon work: unemployment frequently is involuntary. Thus, other than when a person must prove that his separation from a job was involuntary, work tests in American income transfer programs become procedures wherein a government agency monitors availability for work and job search to determine the person's eligibility for benefits.

A. Coverage

Work registration requirements, or work tests, vary in their coverage, number of conditions to satisfy to maintain eilibility, and degree of enforcement.. These several aspects can be seen by examining the registration requirements studied in this project. In the FS program,the work registration requirement covers those not fully

employed who are not exempted. Exemptions are granted for certain objective personal characteristics or as a result of the welfare agency declaring the person to be not able-bodied. As indicated in Figure 3-1, those not having to register under the FS program fall into three categories. Entry into two of the categories is a function of objective personal characteristics, whereas entry into the third results from the exercise of administrative discretion. In Figure 3-2 coverage of the California AFDC/AFDC-UF registration requirement is depicted. In this instance, the employed are not necessarily exempt from coverage and must, along with the non-employed, establish that they cannot earn an income sufficient to make them ineligible for welfare before they can receive benefits. Thus, in contrast to the FS procedure, both initial and continuing eligibility for AFDC/AFDC-UF in California are conditional upon the monitoring of availability and search effort. The New York AFDC/AFDC-UF work registration procedure also covers both the employed and the non-employed who are not exempt by objective characteristics or administrative discretion; in contrast with California, initial eligibility for AFDC/AFDC-UF in New York is not based on job search efforts. As opposed to the UI program, in neither the FS nor the AFDC/AFDC-UF cases is initial eligibility based on the condition that separation from the last job be involuntary. To establish initial eligibility in AFDC-UF, though, the male head must show substantial prior labor force attachment, that consisting of at least 6 quarters of work in any 13 calendar quarter period ending within one year prior to application for AFDC-UF.

B. Formal Procedure

As shown in Figures 3-1 and 3-2, aspects of procedure also vary among work registration requirements. Simplest among the three procedures investigated here is that in the FS program.[1] FS recipients are registered with the ES when the local welfare office submits a form in their behalf to the ES. The ES office calls in the FS registrant only when it has a specific service to offer the particular client. It is possible, therefore, for many registrants never to visit the ES office in connection with the registration requirement. Pressure on registrants to intensify their job search may result from the call-in, encouragement to review job listings at the ES, questioning by ES officials into whether the registrant is searching for a job, requests for proof of such search, actual job referrals, and ES inquiries into client responses to job offers made by employers.

Somewhat more complicated than the FS registration procedure is that in the Work Incentive Program (WIN Program) component of the New York AFDC/AFDC-UF program.[2] In addition to containing all the opportunities for pressure on registrants in the FS process, the procedure in the New York variant of the WIN program involves personal registration by recipients and the likelihood of periodic calls-in, the latter resulting from a mandatory check pick-up provision. Family heads who neither are enrolled in school nor are fully employed and have whatever social services they require to work must pick up their welfare

FIGURE 3-1

The Food Stamp Work Test Process

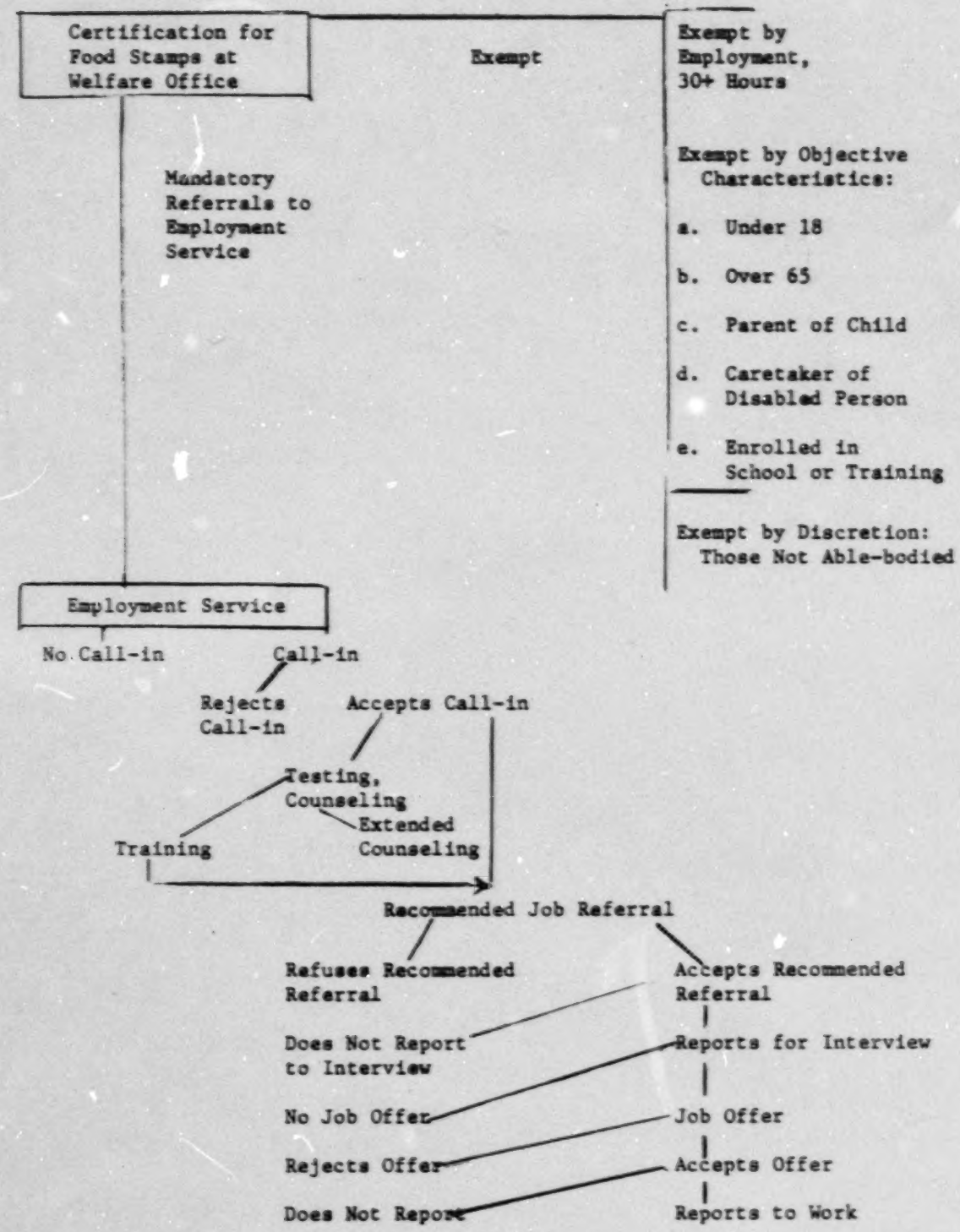
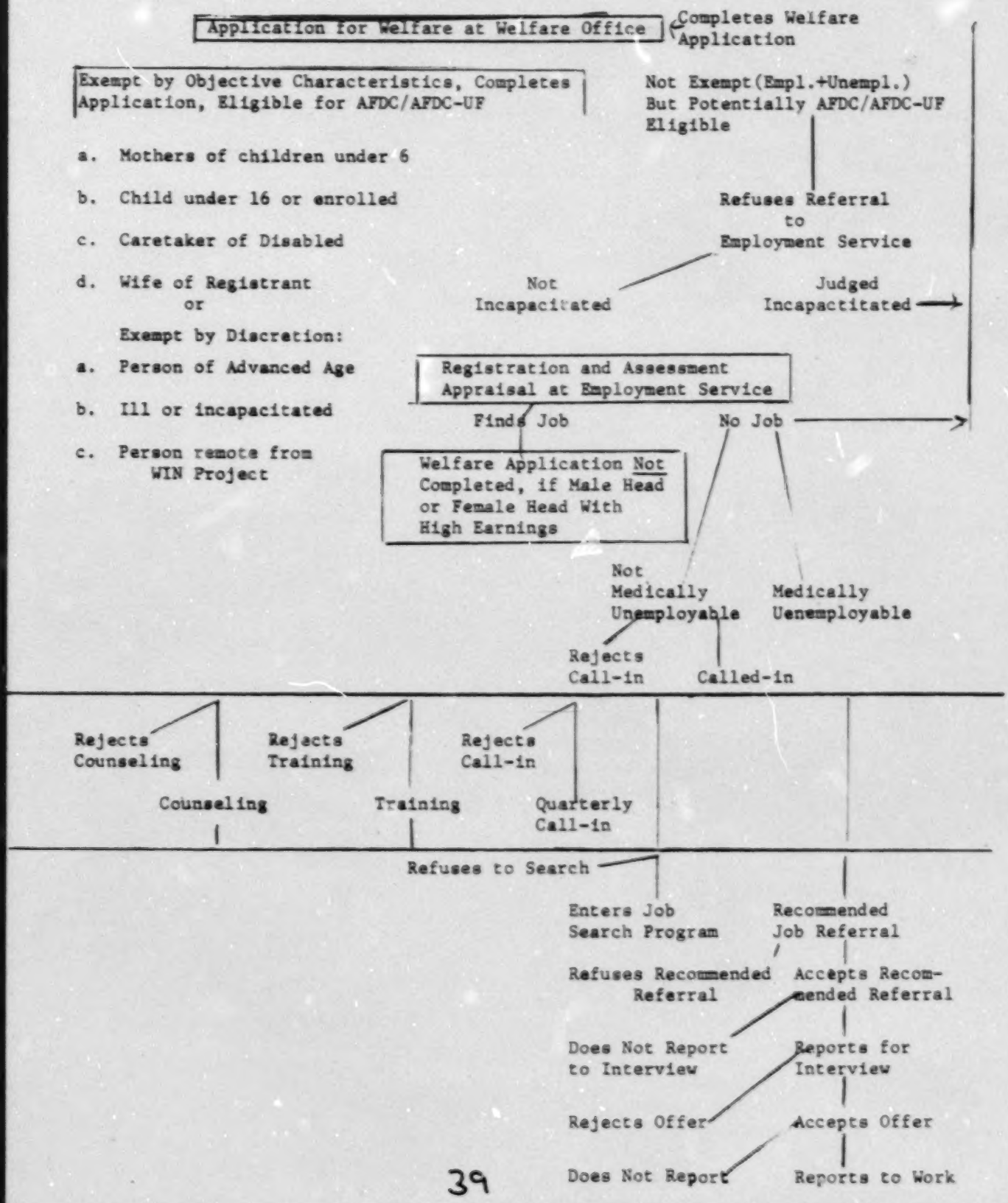


FIGURE 3-2

The California AFDC/AFDC-UF Work Test Process



check at the ES on a bi-weekly basis -- and simultaneously review ES job listings.[3] The work registration procedure offering the widest range of opportunities to impose more intensive search is that in the WIN Program related to the California AFDC/AFDC-UF program. Registrants there frequently are required to conduct their own job search and report on that search to the ES, the report potentially being subject to verification. As in New York, California registrants also are required to appear frequently at the ES office to report on their search, review job listings, and possibly receive referrals.

Lastly, FS registrants are not expected to accept employment outside their "major or general field of experience" until 3 months after they register.[4] There are, however, several restrictions on the type of work to which AFDC/AFDC-UF registrants may be referred. It must be work within the registrants "capability" and reasonable commuting distance of his residence; it must be above a certain wage minimum; and it must be free of conditions that would violate a variety of Federal employment laws. This particular protection is not offered AFDC/AFDC-UF registrants.

C. Enforcement of Procedures

Lastly, enforcement also varies among work registration requirements. Enforcement, in turn, has several aspects. First, it relates to the proportion of registrants experiencing coercion in any of the previously indicated ways. So enforcement varies as the proportion called-in or referred differs among programs and jurisdictions. Secondly, particular registrants may experience a given type of pressure with varying frequency. Referrals, for example, may come bi-weekly or bi-monthly. Thirdly, enforcement varies with the provisions in a registration requirement for punishments for non-compliance as well as with provisions for appeal in the event that a registrant feels aggrieved.

Thus, in FS an entire household may lose its benefits if a member is found to be non-compliant. In AFDC/AFDC-UF, the household loses only that fraction of its benefits attributable to the non-compliant individual.

D. Coercion vs. Service

Before concluding this section, it is important to note that work registration requirements, while basically coercive in origin, also often contain the prospect of services to assist job search. Registration with the ES by the employment eligible recipient allows the resources of the ES to be utilized to assist the individual to obtain a job. Whereas the coercive features of work search tests are studied in this chapter, the assistance features are a consideration in the next chapter.

II. THE APPLICATION OF THE WORK TESTS

A. A General View

Differences among the five cities in the application of the various work tests can be measured. Six means by which the ES can pressure registrants to intensify their search are considered in this study. The first measure of pressure or the application of the work registration requirements is the extent to which registrants actually are called into the ES office. Especially in the FS program, where registrants bear no responsibility to conduct self-initiated search, no pressure to intensify search can be felt in the absence of a call-in. Thus, one way to examine differences among the cities in degree of pressure applied to registrants is to compare the proportions of registrants receiving a call-in from the ES.

A second type of pressure applied to registrants is the frequency with which they are called-in. Repeated contact with ES officials may increase both the probability that a registrant receives ES services

and has his search behavior monitored. Among those called in, various overlapping subsets of registrants were subject to further means of pressure to intensify search. Thus, some registrants were pressured by being questioned about their search, although how strenuously this was done is unknown. Of those questioned, some registrants were further requested for proof of their search effort. Yet a different, possibly overlapping subset of those called-in was referred to jobs. Lastly, some registrants actually reported that they were pressured to take jobs other than ones they would have chosen in the absence of ES pressures. Consequently, comparisons among the five cities as to differences in the proportions of registrants called in frequently, questioned about their search, asked for proof of their search efforts, and pressured into taking otherwise unacceptable jobs offer alternative ways of measuring differences in the application of work tests.

A last indicator of the degree of pressure applied by the ES is the rate at which benefits are denied to registants because of their non-compliance with some aspect of the registration requirement. Respondents were asked during the interview whether they responded, for example, to an ES call-in or job referral. "Potential non-compliance" reflected a failure to respond to some such ES request, where the respondent's failure is explained by something other than his having found a job at the time of the ES request. Clearly, no direct measure of actual non-compliance was available. Note also that a benefit denial rate is not an unambiguous measure of the degree of ES pressure on registrants: it

could be low, for example, either because the ES chooses not to enforce the registration requirement or because it has so stringently enforced the requirement in earlier periods that registrants have been intimidated into compliance. Additionally, a summary measure of such pressure also was developed for each individual by summing the number of different pressures he faced. This summary measure thus could take on values between zero and six. Means of this summary measure, then, also could be compared for different groups of individuals among the five cities.

There being several aspects of the registration procedures, it remains to be determined whether implementation varied by city and demographic group. Also of remaining interest is the question of which registrants, those looking for work or those not looking, experienced the more demanding pressures applied by the ES.

B. Variations in Application of Work Test

1. By City

Contrasts are apparent when comparing among cities the degree of ES pressure applied to registrants. Initial call-in rates vary among the three FS cities, Ft. Worth, Memphis, and Omaha; they also differ on the average between FS and AFDC/AFDC-UF cities.[5] Fort Worth calls in far fewer FS registrants than do the other FS sites. The two AFDC/AFDC-UF cities call in higher proportions of registrants than have to appear in two of the three FS cities, and the San Diego call-in rate exceeds that of all three FS sites.

It is expected that for a given procedure differences in enforcement will arise among ES agencies. Further, it is anticipated that different

procedures will result in differences in the extent of pressure applied to registrants. The data in Table 3-1 on the measure of ES pressure discussed above are consistent with these expectations. They reflect greater pressure in Memphis than in Fort Worth and Omaha and even greater pressure in the two AFDC/AFDC-UF sites. Thus, Memphis is more likely to call in registrants frequently, questions more registrants about their search, demands proof of such search with greater frequency, and refers a higher proportion of registrants to jobs than do the FS programs in Fort Worth and Omaha. Rochester and San Diego generally score higher in each of these areas than do the three FS sites. An overall index of ES pressure is presented in line 11 of Table 3-1, where mean scores are provided for each city-sex grouping. For males, the cities in ascending order of ES pressure are Fort Worth, Omaha, Memphis, Rochester, and San Diego.

Apparently, the frequent calls-in in Rochester and San Diego result in relatively high rates of questioning and proof of search. A substantial difference appears between San Diego and the other four cities on the extent of questioning of registrants about their search efforts. Recall that a distinctive aspect of the work test in the state of California is that registrants are required to initiate their own search efforts. Although only two-fifths of the eligible[6] registrants in San Diego were questioned, and, of these, only three-fourths had to produce evidence supporting their claims about search efforts, these percentages are substantially higher than those in the other cities. Interestingly, though, with the exception of males in Rochester, referral rates do not differ makedly among cities. Differential enforcement and more demanding procedures also are apparent in the variation among cities

TABLE 3-1

Application of Work Registration Requirements, By City and Sex

		MALES					FEMALES				
		Ft. Worth	Memphis	Omaha	Rochester	San Diego	Ft. Worth	Memphis	Omaha	Rochester	San Diego
1.	Number in Sample	215	244	182	48	125	92	257	74	175	254
2.	Eligible for Work Test[a] Number	161	216	145	33	81	78	233	59	116	150
	Percent	100	100	100	100	100	100	100	100	100	100
3.	Called-In[b] (Percent of Line 2)	34	73	45	73	84	31	70	44	48	67
4.	Call-In Frequency[c] Infrequently	16	40	34	9	19	19	51	42	24	24
	(Percent of Line 2) Frequently	18	33	11	64	65	12	19	2	24	43
5.	Questioned on Search[d] (Percent of Line 2)	16	35	22	42	51	9	23	14	16	31
6.	Proof of Search Demanded[e] (Percent of Line 2)	9	17	3	18	43	1	7	3	6	24
7.	Referred to Job[f] (Percent of Line 2)	15	21	16	49	19	9	12	9	10	16
8.	Pressured to Take Job[g] (Percent of Line 2)	1	1	1	6	3	0	0	2	3	3
9.	Potentially Non-Compliant[h] (Percent of Line 2)	9	19	10	29	22	15	20	16	17	15
10.	Denied Benefits[i] (Percent of Line 2)	1	2	1	4	5	7	2	0	0	2
11.	Index of ES Pressure (Mean)[i]	.93	1.78	.95	2.59	2.64	.61	1.30	.72	1.07	1.77

45

TABLE 3-1

Footnotes

a. Persons "eligible for work test" are those in the sample for whom a period of unemployment or part-time employment could be found in the twelve months preceding their interview when they also were receiving Food Stamps (in Fort Worth, Memphis, or Omaha) or AFDC/ AFDC-UF (in Rochester and San Diego).

b. Persons "called-in" are those who actually were requested to report to the ES in connection with the work registration requirement.

c. Persons called-in "frequently" had to report to the ES either every week, two weeks, three weeks, or month in connection with the work test. Reporting "infrequently" means coming in one time or either every three, six, or twelve months, or more irregularly but not frequently.

d. Those "questioned for search" were asked by the ES at some time during their period of registration whether they had looked for employment.

e. Among those "questioned on search," some persons were asked to document the fact that they had been seeking work. Such persons are those for whom there was "proof of search demanded."

f. Persons "referred to jobs" are those who during their period of registration were sent by the ES to an employer at least once.

g. Persons "pressured to take job" responded affirmatively to a question about whether they had taken a job other than one that they normally would have taken because of ES pressure during their period of registration.

h. Persons "potentially non-compliant" are those who at some time during their period of registration either did not report when called in to the ES, or failed to make use of a service offered by the ES, or did not furnish proof of search when asked for it by the ES -- and explained any of these difficulties with a reason other than that they had found a new job. No way of getting at non-compliance per se in interviews with registrants was available.

i. Persons "denied benfits" are those whose benefits were denied because of their non-compliance with some aspect of the work test and who also were unable to get the denied benefits restored as a consequennce of their negotiations either with the ES or the welfare department.

j. The summary index of ES pressure is constructed for each individual by summing values of one for each type of ES pressure to which a registrant was subjected. The types of pressure are representated in lines 3-8. Thus, for any individual the index can take on a value between zero and six.

in potential non-compliance and benefit denial rates.[7] Among males, benefit denials are more common in the two AFDC/AFDC-UF sites than in the other three cities -- and might have registered as being higher had the non-compliant not been missed so much in the interviewing process in those two cities. In sum, then, ES offices apparently can vary markedly in the extent to which they apply pressure, both by being stringent in implementing given procedures as well as by implementing a broader array of procedures.

2. By Demographic Group

In addition to examining differences between cities, an attempt was made to determine whether pressure is applied differentially to registrants based on personal characteristics. Separating the registrants by sex in Table 3-1, one notes a very clear pattern within each city of greater pressure placed on males as opposed to females. Except for initial call-in rates, every means of pressure is applied substantially more frequently to men. Even job referral rates uniformly are higher for men. In the AFDC/AFDC-UF program this pattern is consistent with USDOL regulations calling for priority treatment for unemployed fathers. No such priorities are specified, however, for the FS program. The greater attention given to males in the FS program as well as in the AFDC/AFDC-UF program may result either from the existence of jobs in the various labor markets that more frequently are given to men and/or from an attitude of ES personnel that men have a greater responsibility to work and not to rely on welfare.

Efforts were made to determine whether other labor market related characteristics of registrants were associated with the degree of pressure applied by the ES. In a regression analysis, the index of ES pressure (defined in footnote j of Table 3-1) was regressed on race, age, education, health status, household status, and family income as well as on four indicators of a registrant's interest in finding a job. One indicator was whether the registrant typically looked for work when out of a job. A second was whether job search was begun while still employed. The third was an index of motivation. The last indicator was the number of techniques used by the registrant in searching for work. For females, this regression yielded no significant results. For males, the results are weak, but it does appear that the ES selects for work-testing those who are most highly motivated to work. In Table 3-2, one notes that in Fort Worth, Omaha, and Rochester those who typically looked for work when unemployed and who started their search before they left their last job were work tested more intensively by the ES. Also in Fort Worth, Rochester, and Memphis, heads of household were tested more heavily than were non-heads. This apparent selectivity, involving the choice of men over women, heads of households over non-heads, and the more highly motivated over the less in some locations conforms with recent findings in another study by Stevens.[8] In two Missouri ES offices, Stevens found that veterans, low income, and more highly educated persons all received more referrals than their counterparts.

Of additional interest may be the data in Table 3-3, which show, without controlling for other variables, that racial groups did not differentially experience any form of pressure in any of the five cities.

TABLE 3-2

Application of Work Registration Requirements, Males

	Ft. Worth	Memphis	Omaha	Rochester	San Diego
1. LFCOMMIT	.6828		.6706	1.4298	
	(.2519)		(.2385)	(.7769)	
2. STRTSRCH	.5965		.4258		
	(.3488)		(.2588)		
3. MOTVINDX		-.0394			.0283
		(.0160)			(.0198)
4. TCHNIQS		.1848			
		(.0684)			
5. NHEAD	-.6484	-.3556		-1.4844)	
	(.3079)	(.2463)		(.7579)	
6. UHEALTH	-.4199	.2833	.2458		-1.4215
	(.2395)	(.2565)	(.2381)		(.4309)
7. BLACK	.5546			-.9062	
	(.2580)			(.6907)	
8. FAMINC		-.00004	-.00003	-.00017	-.00006
		(.00003)	(.00002)	(.00012)	(.00004)
9. AGE					.0285
					(.0202)
10. EDUC		.0855	-.0483	-.1190	
		(.0466)	(.0361)	(.1141)	
11. CONSTANT	.8247	2.1332	.9617	4.5441	1.3163
R^2	.1414	.0840	.0905	.3127	.1510
n	160	210	142	32	80
F	5.1052	3.1158	2.7264	2.4567	3.3800

TABLE 3-2

Footnotes

Numbers in parentheses are standard deviations of estimated coefficients. Blank spaces in table result from variables being clearly insignificant, not from their being omitted. Sample is limited to those who are "eligible" for the work test, as eligibility was defined in Table 3-1. The dependent variable is an index number, constructed for each individual by summing values of one for each type of ES pressure listed in Table 3-1 to which a registrant was subjected. The index number can take on values between zero and six.
Regressions were run stepwise with variables added as long as they contributed significantly to R^2.

LFCOMMIT: equals 1 if person ususally looked for work when unemployed, zero otherwise.

STRTSRCH: equals 1 if person began to look for work before leaving old job, zero otherwise.

MOTVINDX: an index of motivation, based upon answers to questions used by H. Sheppard and H. Belitsky in their book, The Job Hunt, p. 113. In short, the more the individual perceived himself able to command his destiny, the higher his score; the more the respondent felt at the mercy of exterior forces, the lower his score.

TCHNIQS: a measure of the number of ways an individual looked for work, which takes on values between zero and seven for any one person.

NHEAD: equals one if not head of household, zero otherwise.

UHEALTH: equals one if person has health problem limiting amount or kind of work he can do, zero otherwise.

BLACK: equals one if person is Black, zero otherwise.

FAMINC: income of the family excluding earnings of the person interviewed.

AGE: equals the age of the individual in single years.

EDUC: number of years of school completed.

TABLE 3-3

Application of Work Registration Requirements, By City and Race

	FORT WORTH			MEMPHIS			OMAHA			ROCHESTER			SAN DIEGO		
	White	Black	Span. Spkg.& Others	White	Black	Span. Spkg.& Others	White	Black	Span. Spkg.& Others	White	Black	Span. Spkg.& Others	White	Black	Span. Spkg.& Others
1. Number in Sample	107	63	45	38	206	0	150	28	4	19	22	7	95	17	13
2. Eligible for Work Test[a] Number	85	47	32	37	183	0	122	21	2	14	14	6	60	11	10
Percent	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
3. Called-IN[b] (Percent Line 2)	38	34	28	70	74	0	46	43	0	93	64	50	88	64	80
4. Call-In Frequency[c] (Percent Line 2)															
Infrequently	25	12	9	29	43	0	34	38	0	14	7	0	16	18	30
Frequently	13	26	19	41	31	0	12	5	0	79	57	50	72	46	50
5. Questioned on Search[d] (Percent Line 2)	12	26	13	46	32	0	24	10	0	71	21	33	55	36	40
6. Proof of Search Demanded[e] (Percent of Line 2)	8	13	3	27	14	0	4	0	0	21	14	33	47	36	30
7. Referred to Job[f] (Percent of Line 2)	14	19	9	16	22	0	16	14	0	71	36	33	20	0	30
8. Pressured to Take Job[g] (Percent of Line 2)	0	2	3	0	1	0	2	0	0	14	0	0	2	9	0
9. Potentially Non-Compliant[h] (Percent of Line 2)	8	14	4	21	19	0	11	11	0	37	23	29	23	6	39
10. Denied Benefits[i] (Percent of Line 2)	1	2	0	0	2	0	1	0	0	0	9	0	4	0	15

Footnotes for this table are the same as those for Table 3-1.

One would expect differences by racial group only if there was racial discrimination. None can be detected in these data.

3. By Whether Registrants Seek Work

A substantial number of interviewers claimed they were not seeking work at all. It was found that at least half of these suffered from poor health that limited their ability to work. In Fort Worth and Rochester over 80 percent of those not looking for work reported bad health. Furthermore, proportions suffering from bad health were far greater among those not looking than among those looking. Apparently, a sizable fraction of those who did not seek work probably were inappropriately registered with the ES.

To obtain more information on those not looking for work, their treatment by the ES is examined in Table 3-4 where the numbers experiencing each form of ES pressure are compared for those looking and not looking for work. Although many of those not looking for work are called in, few of them go on to more stringent stages of the work test in most cities. Thus it appears that the ES in many cases finds that these individuals should not be subjected to the work test.

It was decided to eliminate the individuals not looking for work from further analyses of the effects of the work test on the assumption that most of them should not have been subjected to it in the first place. In any case, those not looking for work will not find it. Thus, no effect of the work test will be observable among these individuals.

TABLE 3-4

Number of Registrants Experiencing Differences in Application of Work Test By Whether or Not They Sought Work, By City and Sex

		MALES					FEMALES				
		Ft. Worth	Memphis	Omaha	Rochester	San Diego	Ft. Worth	Memphis	Omaha	Rochester	San Diego
1. Total Number	a. Looking for Work	133	167	115	29	70	45	141	29	42	89
	b. Not Looking for Work	28	49	30	4	11	33	92	30	74	61
2. Called In	a. Looking for Work	48	127	58	23	60	18	107	16	22	64
	b. Not Looking for Work	7	31	7	1	8	6	57	10	34	36
3. Called Freq.	a. Looking for Work	28	56	16	21	50	9	19	1	11	49
	b. Not Looking for Work	1	15	0	0	3	0	24	0	17	16
4. Questioned	a. Looking for Work	26	67	31	14	39	7	36	7	10	35
	b. Not Looking for Work	0	9	1	0	2	0	17	1	9	11
5. Proof Dmd.	a. Looking for Work	14	33	5	6	34	1	12	2	5	31
	b. Not Looking for Work	0	3	0	0	1	0	5	0	2	5
6. Referred	a. Looking for Work	23	43	23	16	15	7	17	4	8	20
	b. Not Looking for Work	1	3	0	0	0	0	11	1	3	4
7. Pressured	a. Looking for Work	1	1	2	2	2	0	0	1	3	3
	b. Not Looking for Work	1	0	0	0	0	0	0	0	0	1
8. Test Index Score	a. Looking for Work	1.05	1.96	1.13	2.82	2.86	.93	1.36	1.07	1.41	2.27
	b. Not Looking for Work	.36	1.25	.27	.25	1.27	.18	1.23	.40	.87	1.20

a. The six work test measures are defined in the footnotes to Table 3-1.

b. The test index score is developed for each individual by summing values of one for the number of work test measures to which he was subjected. Thus, it can vary between zero and six for any one person.

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III. CONCLUSION

Work tests in American income transfer programs typically are tests monitoring the availability and search for work. Benefits are conditional upon satisfactory search efforts, not upon work *per se*. Such work tests vary potentially in their coverage, conditions, and enforcement. Among the three cities distributing only Food Stamps to respondents, Fort Worth was found to be lenient, Omaha moderate, and Memphis tough in their enforcement of the standard FS work test. Differences in enforcement were measured by comparing among cities the proportion of registrants experiencing several different forms of ES pressure on them to intensify their search efforts. Between the two cities administering their own AFDC/AFDC-UF work tests and the three administering the (formally identical) FS work test, differences in ES pressure on registrants also were detected.

Besides the inter-city differences in the application of work tests, disparities also were found among demographic groups. Thus, men experienced far more pressure than women; heads of households more than non-heads; those looking for work more than those not looking. The question that remains is whether the differences found in the application of the work tests are of any consequence for search process, the probability of registrant re-employment, and the quality of jobs obtained by registrants. These matters are considered in Chapter 5.

FOOTNOTES

1. The procedures described for the FS and AFDC/AFDC-UF programs are those that were in effect in fiscal year 1974. Some modifications in the FS procedure were supposed to go into effect on July 15, 1974.

2. The procedures described for the New York and California AFDC/AFDC-UF programs were different from those in effect elsewhere in the country.

3. A report, submitted to Governor Hugh Carey shortly after he assumed office, recommended termination of the check pick-up program. (Peter Kihss, "Panel Urges Suspension of Work-Relief Project," New York Times, March 26, 1975.)

4. As of July 15, 1974, FS registrants may be expected to accept such employment one month after registration.

5. This finding is consistent with a similar one reported in: U.S..Department of Labor, Manpower Administration, Office of Manpower Program Evaluation, Division of Special Studies, "Pilot Evaluation of the Work Registration Activity Under the Food Stamp Program," Washington, D.C., July 1974, p. 34.

6. Sample members are defined as eligible for purposes of this study if they were at some point simultaneously receiving welfare benefits and either unemployed or employed part-time. This period had to come in the year preceding their interview, which was the period of the study.

7. These benefit denial rates cannot compared with those appearing in Table 2-1. First, they are computed on the base of "eligibles" as defined for this study, not the base of total registrants as in Table 2-1. Secondly, these are denials that have not been reversed in the appeals procedure. Denials in Table 2-1 are sometimes reversed. Lastly, having missed disproportionately the non-compliant, one suspects that we must have also missed those whose benefits were denied because of their non-compliance.

CHAPTER 4

Patterns of Job Search

The work registration requirement under FS and AFDC/AFDC-UF programs has two goals, one helping and one coercive. Registration with the Public Employment Service (ES) by the recipient eligible for employment allows the resources, training, and knowledge of the ES to be utilized to assist the individual to obtain a job. At the same time, by making the continuation of an individual's welfare benefits dependent upon his effectively seeking suitable employment, Congress hoped to encourage rapid re-employment of eligible individuals. In this chapter interest lies in the degree to which a) the ES assisted individuals in the sample to obtain employment, and b) the extent to which registration and its attendant threat of benefit cancellation served to speed up or make more effective the search process.

The chapter divides into three parts. The first describes the job seeking patterns of the overall sample and compares them with the patterns found in other studies. The second considers the manpower services provided by the ES as distinct from its coercive measures. A third contains an analysis of the determinants of job seeking patterns. An analytical assessment of success in obtaining a new job is contained in Chapter 5, while implications for policy and procedures are discussed in Chapter 6.

I. Job Seeking Patterns

This section discusses some general characteristics of the work search patterns in our sample. The following sections then examine the ways the ES can influence job search. Two aspects of job seeking patterns are of interest here: the channels of information which are used by the individuals looking for new jobs, and the intensity with which they seek work.

A. Channels of Information

Individuals were asked three questions concerning the channels through which they sought jobs. The first question was how they looked for work, with the interviewers putting down a yes answer for each of eight channels which they might have named. These eight were Public Employment Service; Private Employment Agencies; Company Personnel Office; Union; Community Organizations; Friends and Relatives with a Company from Which Employment was Sought; Friends and Relatives with Other Companies; and Newspaper Ads. Approximately 28 percent of all "eligible"[1] respondents named either no or just a single source of information. Among males, Fort Worth had the largest proportion of such replies, 38 percent, while San Diego had the lowest proportion, 16 percent. Among females, Fort Worth again had the largest proportion of such replies, 54 percent, while San Diego had the smallest, 29 percent. These numbers are interesting in view of the finding in Chapter 3 that Fort Worth had the most lenient work test enforcement and San Diego the most stringent.

Individuals who indicated more than one job channel were then asked which was the one they used most. Newspapers were cited as being used most often by female registrants in each of the five cities. For males, newspapers were cited in two of the five cities, Omaha and San Diego, while direct application to employers were used most often in two other cities. At its peak, in Omaha, better than one-half of the females and two-fifths of the males responding said they used newspapers the most.

The third question involved ranking the channels on the basis of which was the most useful in finding employment. Newspapers and the ES, two formal channels of information, generally were considered the most useful. In four of the five cities, newspapers were cited by roughly one-third of the female registrants as the most useful information source. In three of the five cities, roughly three of every ten male registrants held a similar view of newspaper job ads. Moreover, among two of the three city-sex groups in which another source was thought to be most valuable by the largest number of registrants, newspapers were considered the most valuable by the second largest group of registrants.[2] Among earlier studies, only the Kenakee survey of secondary workers by Richard Wilcock and Walter Franke produced comparable results. There, in an expanding labor market, 19 percent reported that they obtained their jobs through the use of newspapers.[3] The closest comparable figures, 40 percent, was reported for unskilled workers seeking employment in Glasgow, Scotland.[4]

Next to newspapers, the ES held a strong position as a "most useful source." Among both females and males, it was considered the most useful source by the largest proportion of registrants in one of the five cities, Memphis in each case. Recall in the previous chapter that the ES enforced the FS work test the most in Memphis among the three FS cities. Apparently, it also was providing a service in the process. Among females in the other four cities, the ES was just behind newspaper ads in the proportion of citations as the most useful source. Among males, this was the case in Rochester and San Diego, but not in Fort Worth and Omaha. Again, recall that the two former cities had active registration enforcement whereas in the two latter cities enforcement was less extensive. Among nine of the ten city-sex groups, the lowest proportion, 18.5 percent, citing the ES as the most useful source exceeds the rate to be found in all but three other groups of employees covered in 14 previous studies covering some 26 occupational or geographical labor markets.[5] The two city-sex groups with the highest percentages, both around 42 percent in Memphis, exceeds that reported everywhere else.

Direct applications to the employer and the utilization of friends and relatives, the latter a more informal method of search, which were extensively used by workers in other surveys of job seeking channels, were little used by persons in this sample. Friends and relatives were seen as the most useful channel by but 15 percent of persons in each of the ten city-sex groups. The results are similar for all groups

except the Spanish-surnamed, among whom more than one-fifth gave friends and relatives as the most useful source. These percentages are substantially lower than those reported in other studies. The closest comparable figures was the 16 percent reported in The Job Hunt[6] and the 17 percent obtained in a study of older managers, 37 percent of whom got their new jobs through the use of 40 plus clubs.[7]

The importance of direct application to an employer also was low. The two highest figures for males, 38.7 percent in Rochester and 25.5 percent in Fort Worth, are in the low range reported for other studies, while the lowest figure of roughly 15 percent in Memphis is below that reported in any other study. Again, the Spanish-surnamed often were an exception, with one-third of them typically saying that calling at the employer's office was the most useful. Certain occupations in the recent study of the Chicago labor market had lower values, though it must be recalled that close to 50 percent of the sources of jobs in the Chicago data were classified as unknown.

B. Intensity of Search

The only measures available on intensity of search are the degree to which alternative channels of information were used, and how often particular channels were used. Consider first the use of alternative channels of information. In every city males more frequently used more than one source than did females. The greatest use of multiple sources was in San Diego, where 84 percent of the male registrants used more than one. The least use of multiple sources was in Fort Worth,

where 62 percent of the males and 46 percent of the females used more than one channel. It should be noted that in the cities with tougher work tests use of more than one channel was more common. Comparatively, in a national survey of job search in 1973, 80.2 percent of those interviewed indicated that they used more than one channel.[8] The least use of multiple sources in that sample was by women, but even here 79.9 percent used more than one, considerably in excess of the 56 percent of women in this sample who used multiple channels.

Other measures of intensity of search are the numbers of visits to a public or private employment agency and the numbers of calls on employers. Again, men more frequently made visits to employment agencies and to employers than did women. Generally, over 60 percent of the men visited an employment agency one or more times per week. Forty percent, therefore, typically made no contacts with an employment agency while unemployed. Further, roughly 70 percent in each city visited one or more employers per week. Interestingly, again, in San Diego 84 percent of the males visited one or more employers per week and 83 percent visited two or more per week. In each of the other four cities, roughly 60 percent of the males visited two or more employers per week. This greater degree of activity in San Diego reflects, most likely, the California requirement for job search initiated by the registrant. Among "eligible" female registrants, roughly half in each city visited an employment agency one or more times per week; thus, roughly half made no visits in the typical week. And from one-third to two-thirds of the women, depending upon the city,visited one or more employers per week. Again, though, in

San Diego the intensity of job search seemed the greatest. While in the four other cities between 28 percent and 44 percent of the women reported calling on two or more employers per week, in San Diego 64 percent of the eligible female registrants did so.

A study of individuals who had exhausted their unemployment insurance (UI) benefits, conducted in different states about the same time as the present survey, found that the average number of in-person contacts with employers ranged from 1.1 per week for white females to a high of 1.7 per week for non-white males.[9] Overall the survey average was 1.35 in person contacts per week. The methods of counting are not directly comparable, but it would appear that among those exhausting UI benefits the differences between men and women with respect to employers contacted per week are consistent with what was found with this group of FS and AFDC/AFDC-UF recipients. Moreover, the levels of search are comparable in this and in the UI study.

In the 1973 survey of job seeking, 65 percent of those interviewed indicated that they usually spent five hours a week or less looking for work. This would seem to imply a limited number of employers or employment agency contacts, and seemingly would be consistent with the results here. In an experimental study investigating the value of supplementary job information to UI beneficiaries, employer contacts over an eight week period in the control group were similar to those for persons in this study.[10]

II. MANPOWER SERVICES PROVIDED BY THE ES

The requirement of registration at the ES was intended to provide assistance as well as to monitor the applicants efforts in finding a new job. The degree of assistance given was measured by questions concerning job referrals and other manpower services offered by the ES and what happened as a result of these activities. Table 4-1 presents the number of individuals receiving each manpower service. Aside from job referrals, the only additional manpower service offered to any substantial number of registrants was the opportunity to review lists of jobs. Only in the two AFDC/AFDC-UF cities were very small numbers of persons given services other than these two.

At first blush, it appears that the eligible registrants in this sample received minimal service from the ES. As can be seen in Table 4-2, only 51 of 1310 registrants received jobs as a result of ES referrals. In general, the ES was more successful in placing men than women; and the percentage of eligible registrants placed in jobs was higher in the two AFDC/AFDC-UF sites than in the three FS sites (Line 5a of Table 4-2). Typically, though, fewer than 5 percent of the registrants were placed in jobs by the ES.

A second approach to evaluating the level of service offered by the ES involves determining the proportion of total jobs found by persons in the group that were found for them by the ES. Whereas 51 of 1310 registrants found jobs via the ES, only 544 of the 1310 found any job during the survey period. Among the 544, as the data in

TABLE 4-1

Manpower Services Offered to Registrants, By City and Sex

	MALES					FEMALES				
	Ft. Worth	Memphis	Omaha	Rochester	San Diego	Ft. Worth	Memphis	Omaha	Rochester	San Diego
1. Eligible for Work Test[a]										
Number	161	216	145	33	81	78	233	59	116	150
Percent	100	100	100	100	100	100	100	100	100	100
2. Referred to Jobs (Percent of Line 1)	15	21	16	49	19	9	12	9	10	16
3. Shown Job Lists (Percent of Line 1)	19	35	19	49	43	12	24	10	12	31
4. Given Search Money (Percent of Line 1)	0	0	0	6	4	0	0	0	3	3
5. Given Interview Lessons (Percent of Line 1)	0	0	0	15	7	0	0	0	1	5
6. Given Training (Percent of Line 1)	0	0	0	9	2	0	0	0	3	5
7. Given Public Jobs (Percent of Line 1)	0	0	0	0	1	0	0	0	0	0
8. Given Day Care (Percent of Line 1)	0	0	0	0	0	0	0	0	0	0

See Table 3-1, footnote a.

TABLE 4-2

Referrals For Job Offers Received, and Placements Made Among Registrants, By City and Sex

	MALES					FEMALES				
	Ft. Worth	Memphis	Omaha	Rochester	San Diego	Ft. Worth	Memphis	Omaha	Rochester	San Diego
1. Number of Eligible Registrants	161	216	145	33	81	78	233	59	116	150
2. Number Finding Jobs Via All Channels	89	106	87	18	62	20	48	17	19	78
3. Number Referred to Jobs by ES	24	45	23	16	15	7	28	5	12	24
4. Number Who Received Job Offers From ES Referral	9	17	5	7	7	2	7	2	8	11
5. Number Finding Jobs From ES Referrals	6	9	4	6	5	1	4	2	6	9
a. As Percent of Line 1	4	4	3	18	6	1	2	3	5	6
b. As Percent of Line 2	7	8	5	33	8	5	8	12	32	8
c. As Percent of Line 3	25	20	17	38	33	14	14	40	50	38
6. Number Who Received Job Offers	24	26	18	7	23	2	17	2	11	36
7. Number Finding Jobs From Employers Directly	19	19	13	4	21	2	13	0	8	34

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line 5b of Table 4-2 indicate, with the exception of Rochester, roughly 7 or 8 percent of total job placements were placements made by the ES. These figures can be compared with one from a study in Illinois in 1965, where the director of the ES reported that 11.8 percent of all job placements were ones made by the ES.[11]

A third way of evaluating the level of service is to look at the proportion of ES referrals that resulted in placements. In all, 199 of the 1310 eligible registrants received one or more ES referrals and, again, 51 of the 199 found jobs as a consequence of the referrals. Though the numbers involved are very small for each city-sex group, one point to be noted is that the placement/referral rates in line 5c of Table 4-2 are higher for both men and women in the AFDC/AFDC-UF cities than in the FS cities. Generally, the rates vary between 20 to 40 percent. These placement/referral rates may be compared with the ratio of placements to referrals for the ES as a whole. During the late 1960's, 44.9 percent of total ES referrals resulted in a placement, and in fiscal year 1974 it was 52.3 percent.[12] In the special New York study, 40.4 percent of referrals resulted in placements.[13] Finally, the percentage of referrals resulting in placements for the national caseload of FS registrants in fiscal year 1974 was 50.1.[14] Now it is less clear that the level of service received in this sample was below that of the normal ES applicant.

A last comparative view of the ES service can be gained by comparing our findings with those of other studies. A 27-week study of

unemployed workers in New York found that only 20.4 percent of a test group and 13.1 percent of a control group received a job referral from the ES. The record on placement was 8.8 percent for the test group and 4.9 percent for the control group.[14] In a very recent study of two local ES offices in Missouri, the referral rate among UI beneficiaries was 16 percent.[15] Lastly, an internal USDOL study of the ES registration program produced data on a national basis for fiscal year 1974, the year during which this study was done. It showed that while 32.7 percent of all ES applicants received referrals and 17.1 percent were placed, only 15.9 percent of FS registrants received referrals and 8.0 percent were placed.[16] These indicators of ES service activity suggest that FS and AFDC/AFDC-UF recipients in this study received less extensive service than the usual ES applicant, although treatment comparable to the national pool of FS registrants.

It is not unreasonable to infer from our data that the lower referral rates for FS and AFDC/AFDC-UF registrants reflected relatively careful selectivity on the part of the ES. In chapter 3, it was evident that the ES does interact with a high fraction of registrants, especially in some cities,but has a relatively uniform low level of referrals. In places like Memphis and San Diego, the interactions between the ES and clients seem quite extensive. Referrals, however, are not. We suspect that ES officials make a judgment that there is little payoff to referring some clients and adjust their behavior accordingly.[17] In this connection,

it should be noted that a relatively large number of eligible registrants -- 33 percent for all five cities combined -- claimed that they were not seeking work altogether during their period of unemployment. Many of these suffered from health problems and probably were in our sample by accident. (Those with evidence of a disabiling medical problem are exempt from the work test, but their problem is sometimes not discovered until they are first called in to the ES.) There is thus a high probability that many in this group were ineligible for the work test for health or other reasons. In later statistical tests, this group is excluded. It is included, however, in the sample used for calculating the numbers in this chapter, which therefore should be viewed with great caution.

Consider finally an additional aspect of the job referral process: job offers were not often refused. For the sample as a whole, three-fourths of the registrants accepted those jobs which they were offered either through referrals by the ES or by contacting an employer. For ES jobs separately, the acceptance rate was 69 percent compared to 80 percent for self-found offers. These percentages are consistent with national data from the 1973 survey which indicated that 68 percent had not turned down a job offer if they were white and 77.8 percent if they were non-white.[18] The unemployed in The Job Hunt accepted a somewhat higher proportion, 83 percent.[19]

III. CONCLUSION

Job search is a difficult subject to study, since only limited aspects of the process can be observed. Measures like the sources of job information used or the number of visits to employers reveal little about the quality of search. A critical question, virtually impossible to answer, is whether an individual behaves during his visits to employers in a way most likely to lead to an offer. Especially in the presence of a work test, a person may go through the formalities of searching, but in a way unlikely to result in a job offer.

A comparison of the search patterns of those in this sample with those of persons in other studies, however, can fruitfully be made. Generally, job search efforts in this sample, even in the presence of the work test, were somewhat less extensive than in other groups that have been studied. The ES did not greatly assist search, making referrals at rates somewhat below those found for the general pool of ES applicants. Except for making job referrals, moreover, the only other manpower service generally offered to registrants was the opportunity to review job listings.

FOOTNOTES

1. The eligibles are defined in the preceding chapter and in Table 3-1. All the data in this chapter are for the "eligibles" in the sample.

2. A study in Boston found that newspaper ads did draw a number of applicants from low income areas for entry level jobs which did not require specific experience or skill. Few of this type of applicant tended to be hired and voluntary turnover was high. Charles A. Myers, "Manpower Policies and the Disadvantaged," Sloan School of Management, Massachusetts Institute of Technology (multilith, no date), pp. 8-9.

3. Melvin Lurie and Elton Rayack, "Racial Differences in Migration and Job Search: A Case Study." Southern Economic Journal, Vol. 33 (July, 1976), Table A, p. 94.

4. D.I. Mackay, et al., Labor Markets Under Different Employment Conditions (London: George Allen and Unwin, Ltd., 1971) p. 357.

5. Lurie and Rayack, p. 94; Lee D. Dyer, "Managerial Job Seeking Methods and Techniques," Monthly Labor Review, Vol. 95 (December 1972), p. 30; "Job Finding Survey, January 1973," Special Labor Force Report, Summary, (August 1974), p. 5; Harold L. Sheppard and A. Harvey Belitsky, The Job Hunt (Baltimore: The Johns Hopkins Press, 1966), p. 94, Irwin Sobel and Hugh Folk, "Labor Market Adjustment by Unemployed Older Workers" in Arthur M. Ross, ed., Employment Policy and the Labor Market, p. 344; and Albert Rees and George Shultz, Workers and Wages in an Urban Labor Market (Chicago: University of Chicago Press, 1970), pp. 201-202.

6. Sheppard and Belitsky, p. 94.

7. Dyer, p. 30.

8. "Job Finding Survey," p. 7.

9. "A Longitudinal Study of Unemployment Insurance Exhaustees," Interim Report (Princeton: Mathematica, May 16, 1975), p. 46.

10. David W. Stevens, Assisted Job Search for the Unemployed (Washington: W.E. Upjohn Institute for Employment Research, 1974), p. 57.

11. Rees and Schultz, p. 204.

12. U.S. Department of Labor, Manpower Administration, Office of Manpower Program Evaluation, Division of Special Studies, "Pilot Evaluation Study of the Work Registration Act Under the Food Stamp Program," Washington, D.C., July 1974, p. 66.

13. Stevens, p. 49.

14. U.S. Department of Labor, p. 66.

15. Stevens, p. 49.

16. David W. Stevens and V. Christine Austermann, "Equity and Efficiency Considerations in the Unemployment Insurance 'Work Test': An Analysis of Local Office Administrative Practice," unpublished report submitted to the U.S. Department of Labor. (October 1975), p. 54.

17. David Stevens has suggested to us that the ES Balanced Placement Formula discourages referrals that are unlikely to yield job offers. In his view, this is an important factor in explaining our findings.

18. "Job Finding Survey," p. 7.

19. Sheppard and Belitsky, p. 41.

Chapter 5

The Impact of Work Tests on Employment

This chapter will investigate the impact of the work test on two aspects of work effort. The first question considered is whether the work test succeeded in getting FS or AFDC/AFDC-UF recipients back to work. Then, among those who did get jobs, the effects of the work test on the duration of a spell of unemployment is considered.

I. METHODS OF STUDY

The problem is to determine whether any of the work test procedures affect work behavior variables -- the probability of finding work and the duration of unemployment. The study was conducted in cities with light labor markets where the work test should have the best chance of success. Respondents were asked about the following five aspects of the work test: 1) whether they were called in to the ES office, 2) whether they were called in frequently, 3) whether they were questioned about their job search efforts, 4) whether they were asked for proof of their job search efforts, 5) whether they were referred to a job by the ES. Unfortunately, these treatments are not independent of each other since, for example, a person cannot be called in frequently or questioned unless he has first simply been called in. The effect of being called in is thus likely to vary depending on what other treatments the individual receives. In order to separate the effects of these treatments, individuals were grouped together on the basis of the combination of treatments they received. Dummy variables were constructed for five of the combinations. Each of the following dummy variables equals unity

for an individual under the indicated situation, zero otherwise.

1) CALLED: called into the ES office, but not called in frequently, not questioned, not asked for proof, not given a referral.

2) CALLED FREQUENTLY: called into the ES office frequently, but not questioned, not asked for proof, not given referral.

3) QUESTIONED: questioned about job search efforts, but not asked for proof, nor given a referral.

4) PROOF: asked for proof of job search efforts.

5) REFERRED: referred by the ES to a job.

Very few individuals were both referred and asked for proof so no attempt was made to separate variables (4) and (5). Otherwise, the categories are mutually exclusive. An individual receiving some ES treatment will have zeros for four of these variables and a value of unity for only one variable. Those receiving no ES treatments have zeros for all five variables.

Since individual characteristics besides the work test treatment received are likely to affect each of the dependent variables, it is necessary to control for these other characteristics if the work test effects are to be isolated. The questionnaire provided information on a variety of demographic and economic characteristics of each individual from which the following control variables were constructed.

1) NHEAD: equals one if the individual is not a head of the household, zero otherwise. (Not available for females.)

2) UHEALTH: equals one if the person has a health problem limiting the amount or kind of work he can do, zero otherwise.

3) BLACK: equals one if the person is Black, zero otherwise.

4) FAMINC: income of the family, excluding the earnings of the person interviewed.

5) AGE

6) EDUC: number of years of school completed.

7) SEARCH: index of job search, which equals the number of weekly calls on employers + number of weekly visits to employment agencies + number of different channels of job information used + (5, if the person claimed he was always looking for work, or 0, if he was only looking some of the time).

The five work test variables and the control variables are included as independent variables in the regressions presented in this chapter. An additional control variable that might be important is sex. Since differences by sex might be large, it was decided to run separate regressions for males and females. Similarly, differences by city could be substantial especially in work test treatment. It was decided to run the regressions separately by city. Thus, for each dependent variable, there are separate regressions for each sex in each city. Although our intention was to include the full set of independent variables in each regression, in some cases the computer was unable to include a variable due to an insufficient F-level or tolerance level.

A complication arises in interpreting the results. If the ES is selective in who it treats under the work test, the effects of the work test on work behavior will be clouded. Two types of ES selectivity are conceivable. One involves applying the work test to those with the highest probability of returning to work anyway -- the cream of the crop -- and sometimes is called "creaming." The other involves concentrating ES pressure on those with the greatest reluctance or difficulty in returning to work and may be called "pressuring." In Chapter 3, except for the differences in treatment between males and females, no evidence was found that the ES is selective in whom it treats. However, the evidence depended completely on individual characteristics that we could measure. When the welfare office sends the name of a new

registrant to the ES, it also sends information on the work history of the person, data which we did not have. Since such information might be useful in predicting future success in returning to work, the ES may be able to use it for either creaming or pressuring.

The work test, if it is successful, will tend to increase the probability of returning to work (or to reduce the duration of unemployment). In the presence of creaming, it will appear successful, but the success may result from the creaming rather than from the work itself. If creaming takes place, those work tested will be the ones with the highest probability of returning to work so that there will be an association between being work tested and returning to work. The regression coefficients of work test variables may reflect only this association, not a causal relationship of the work test on returning to work. In the presence of pressuring, the distortion will work in the opposite direction. Those work tested will tend to be those least likely to return to work. If then the regression coefficients show a negative effect of the work test on the probability of returning to work, it is not the result of a perverse causal relationship, but rather a consequence of pressuring. There is thus an indeterminancy in our regression results on the work test. Success of the work test in getting people back to work may be only apparent -- a result of creaming. Lack of success, too, may be misleading since pressuring tends to hide success. If it were possible to control for all individual characteristics by including the relevant variables in the regression, neither creaming nor pressuring would create statistical problems.[1]

It should be noted that the regression samples exclude those who claimed not to be seeking work at all. As indicated in Chapter 3, it is believed that many of these were really not subject to the work test.

II. THE PROBABILITY OF FINDING A JOB

Success in find a job is measured by a dummy variable equal to unity if the person found a job after a spell of unemployment in which he was work tested, zero if he did not. This dummy variable is used as the dependent variable in regressions for males reported in Table 5-1 and for females in Table 5-2. Predictions based on these regressions will generally lie between zero and unity, and can be interpreted as the probability of finding a job, conditional on the specified values of the independent variables.

Actually, predictions based on regressions with such a dummy as dependent variable can easily lie outside the 0, 1, range, a problem overcome by logit analysis. In addition it is known that such regressions suffer from heteroscedasticity, a problem that reduces the reliability of estimates, but does not bias them. Although these problems could be serious, they are not necessarily so. Therefore, ordinary regression is used.

In evaluating the regression results, it should be remembered that the list of independent variables included is long, increasing the risk that some of them will be highly correlated and thus will appear insignificant. Therefore, coefficients should be checked first for significance, but even if they do not pass that test, they should be judged by whether their signs are appropriate. In general the values of R^2 are low, indicating that the probability of finding work remains largely unexplained even after accounting for the effects of the work test and the measured control variables.

TABLE 5-1

Probability of Finding Work, Males

	Ft. Worth	Memphis	Omaha	Rochester	San Diego
1. CALLED	-.1192	.0317	-.2791	-.4960	.1478
	(.1448)	(.0924)	(.1078)	(.4037)	(.1641)
2. CALLED FREQUENTLY	-.2137	.2067	-.2546	-.3939	.0839
	(.2153)	(1538)	(.2546)	(.3032)	(.1331)
3. QUESTIONED	.1796	*	-.3762	*	.2341
	(.1978)		(.1413)		(.1659)
4. REFERRED	.0374	-.0165	-.2458	-.2216	.0528
	(.1422)	(.0928)	(.1030)	(.2685)	(.1129)
5. PROOF	.1131	-.0928	-.2371	-.2716	- 0203
	(.1699)	(.0985)	(.1907)	(.2713)	(.1152)
6. SEARCH	.0102	-.0055	.0039	.0090	.0081
	(.0064)	(.0061)	(.0052)	(.0084)	(.0052)
7. NHEAD	.0217	-.3078	-.2205	-.5802	-.1454
	(.1211)	(.0928)	(.0891)	(.2868)	(.0984)
8. UHEALTH	-.2885	-.2691	-.0791	.1169	-.1419
	(.0925)	(.0971)	(.0941)	(.3150)	(.1011)
9. BLACK	-.1388	-.0527	-.2038	.0255	-.0202
	(.0941)	(.1041)	(.1137)	(.2134)	(.1187)
10. AGE	.0037	-.0048	*	-.0323	-.0064
	(.0040)	(.0041)		(.0148)	(.0043)
11. EDUC	-.0180	.0298	-.0045	*	-.0188
	(.0132)	(.0186)	(.0130)		(.0160)
12. CONSTANT	.7337	.7218	1.0068	1.9332	1.4121
R^2	.1540	.1582	.2257	.4517	.2265
n	135	169	114	29	70

Standard errors of the coefficients appear in parentheses

*Variable omitted because F-level or tolerance level insufficient.

TABLE 5-2

Probability of Finding Work, Females

	Ft. Worth	Memphis	Omaha	Rochester	San Diego
1. CALLED	.0785 (.2586)	-.0781 (.0866)	.0745 (.2313)	-.4103 (.2186)	.0592 (.1260)
2. CALLED FREQUENTLY	*	.3786 (.2188)		-.1704 (.3200)	
3. QUESTIONED	-.2427 (.3335)	*	*	-.5551 (.3159)	-.3777 (.3057)
4. REFERRED	-.3758 (.2372	.1107 (.1336)	.3094 (.4225)	.2874 (.2394)	-.0905 (.1248)
5. PROOF	1.0190 (.5830)	-.1022 (.1544)	-.5141 (.5553)	-.2049 (.3068)	.0258 (.1093)
6. SEARCH	.0368 (.0167)	.0054 (.0064)	.0159 (.0165)	.0069 (.0168)	.0028 (.0059)
7. UHEALTH	.0954 (.2096)	-.1686).1139)	.2153 (.2868)	-.1871 (.1670)	-.2732 (.0890)
8. BLACK	-.1542 (.1961)	-.2373 (.1448)	.1725 (.3350)	.1092 (.1707	-.0598 (.1217)
9. FAMINC	-.0003 (.0024)	.0006 (.0011)	.0026 (.0027)	.0022 (.0017)	-.0011 (.0008)
10. AGE	-.0039 (.0071)	.0055 (.0035)	.0106 (.0070)	.0093 (.0098)	.0105 (.0041)
11. EDUC	-.0164 (.0403)	.0054 (.0217)	.0523 (.0551)	.0334 (.0376)	.0143 (.0178)
12. CONSTANT	.5251	.2942	-.8233	-.2581	.3617
R^2	.2438	.1139	.2660	.3169	.1886
n	45	143	31	45	105

Standard errors of the coefficients appear in parentheses.

*Variable omitted by computer because F-level or tolerance level insufficient.

A. Males

If the work test is successful, it should increase the probability of returning to work, so that the work test variables should have positive coefficients. It is striking to note that all work test coefficients for Omaha and Rochester are negative, a result explainable only by pressuring. Indeed, CALLED, QUESTIONED, AND REFERRED are significant in Omaha. It may be that pressuring does succeed in getting some people back to work that otherwise would not have done so, but this cannot be deduced from the results. Whether there is success or not, however, the pressuring may be consistent with the intentions of the work test program. In particular, in Omaha the results indicate that the ES concentrates its efforts on those least likely to go back to work on their own.

In contrast to Omaha and Rochester, all coefficients of work test variables are positive in San Diego except for PROOF. None are significant. The positive coefficients may result from creaming, but if so it is a very weak process. These results may also indicate a very weak success for the work test in San Diego. Indeed, if the work test is to succeed anywhere, it should be in San Diego where it is most stringently enforced. The results are even weaker in Memphis and Fort Worth where the signs of the coefficients are mixed. The possibility remains that in these cities a genuine work test success is combined with pressuring in a way that the effects of the two just cancel each other, but it is not a likely coincidence. It thus appears that except for San Diego, where the evidence is weak, there is little indication of work test success in getting people back to work.

To see further the implications of the coefficient estimates, Table 5-3 presents predictions of the probability of returning to work. The base for comparison is a person who is head of his family, healthy, white, age 30, with 12 years of education, and with a score of 10 on the index of search. The probability of returning to work is predicted for such a person based on the regression coefficients in four situations: first that he is subjected to no work test and then to three different combinations of work test treatments indicated by the variables CALLED, QUESTIONED, AND PROOF. It should be remembered that many of the indicated differences in probability are not significant. The predicted probabilities exceeding unity illustrate the hazards of regression as opposed to logit analysis.

Considering now the other regression coefficients, SEARCH has the expected positive sign everywhere except in Memphis, although it is never significant. Non-heads have a lower probability of retruning to work everywhere except in Fort Worth, and the difference is significant in Memphis, Omaha, and Rochester. The unhealthy have a lower probability outside of Rochester, but is is not significant. Although there are few significant coefficients among these variables, there is at least some consistency in signs across cities.

B. Females

For females no work test coefficient is significant. The only pattern in coefficients emerges in Rochester where all work test coefficients are negative except for REFERRED. This pattern can be explained by pressuring and is consistent with the findings for males

TABLE 5-3

Predicted Probability of Returning to Work, Males

	Ft. Worth	Memphis	Omaha	Rochester	San Diego
1. Not Work Tested	.7307	.8804	.9918	1.0542	1.0755
2. CALLED = 1	.6115	.9121	.7127	.5582	1.2233
3. QUESTIONED = 1	.9103	.8804	.5436	1.0542	1.3096
4. PROOF = 1	.8438	.7876	.7547	..7826	1.0552

For each indicated work test treatment the predicted probablity is calculated for a person who is head of his family, healthy, white, age 30, with 12 years of education, and with a score of 10 on the index of search. Calculations are based on the coefficients in Table 5-1.

in Rochester. Otherwise, the results for females give no clear indication of success, creaming, or pressuring. Of course, Chapter 3 indicated that the work test is applied much less extensively to females than to males.

As for other coefficients, very few are signficant. While there is some consistency in signs across cities, it is weaker than in the case of the male regressions. In short, the results are not very strong.

III. THE DURATION OF A SPELL OF UNEMPLOYMENT

Additional evidence on the effects of the work test is provided by introducing the number of weeks unemployment as the dependent variable. The number of weeks in a spell of unemployment can be measured only for those who did go back to work during the year. The sample size for these regressions is thus smaller than for the previous regressions which included also those who did not find jobs. Indeed, the remaining sample is too small to obtain meaningful results for males in Rochester or for females in Fort Worth, Omaha, and Rochester. Results for males appear in Table 5-4 and for females in Table 5-5.

A. Males

In addition to getting a person back to work in the first place, another indicator of work test success is getting him back sooner than he otherwise would have gone. Work test success in this respect should be indicated by negative coefficients for the work test variables in the duration-of-unemployment regressions. Indeed for San Diego all work test variables except REFERRED have negative coefficients. The coefficients of QUESTIONED is now almost significant at the 5 percent level. These results further support the conclusion of weak success in San Diego, although the apparent success could again result from creaming.

TABLE 5-4

Duration of a Spell of Unemployment (in weeks), Males

	Ft. Worth	Memphis	Omaha	San Diego
1. CALLED	-.5403 (3.8553)	-2.8373 (2.6766)	2.7906 (3.7869)	-8.8470 (8.5688)
2. CALLED FREQUENTLY	5.8238 (7.1335)	*	1.7524 (7.9694)	-3.8588 (7.1966
3. QUESTIONED	-2.1017 (4.5362)	.8746 (3.6694)	-2.6544 (5.0228)	-16.5200 (8.7231)
4. REFERRED	4.0171 (2.7639)	-1.6044 (2.7647)	6.6746 (3.3117)	(5.9386)
5. PROOF	*	4.9048 (3.0342)	5.3035 (6.2546)	-7.1023 (6.5963)
6. SEARCH	.0804 (.1633)	.3800 (.1944)	-.2759 (.1614)	.3764 (.2906)
7. NHEAD	-1.8553 (3.3216)	-5.6222 (2.8869)	.9818 (2.8895)	-1.3902 (5.6511)
8. UHEALTH	4.0179 (2.4720)	-1.6990 (3.3251)	2.2502 (3.0189)	*
9. BLACK	1.6763 (2.4520)	-.4392 (2.8923)	-.9315 (4.1499)	-4.0976 (5.9865)
10. FAMINC	.1896 (.0617)	.0744 (.0321)	.0079 (.0197)	.0622 (.0384)
11. AGE	-.0996 (.1003)	-.0525 (.1010)	.1412 (.0981)	.0300 (.2155)
12. EDUC	-.0678 (.3047)	*	.3767 (.4194)	.1553 (.9041)
13. CONSTANT	11.3919	10.6772	4.6258	9.9845
R^2	.1625	.1433	.1327	.2034
n	88	103	84	52

TABLE 5-5

Duration of a Spell of Unemployment (in weeks), Females

	Memphis	San Diego
1. CALLED	7.0465 (6.8502)	19.8568 (5.5178)
2. CALLED FREQUENTLY	-7.9704 (10.1601)	6.1577 (4.9182)
3. QUESTIONED	8.2660 (8.7271)	25.1793 (13.6931)
4. REFERRED	-1.0001 (9.0397)	3.0111 (4.7325)
5. PROOF	9.1595 (11.2239)	8.0707 (4.4027)
6. SEARCH	-.2327 (.5263)	-.1834 (.2202)
7. UHEALTH	.8090 (9.4253)	-2.0363 (3.7720)
8. BLACK	-1.8051 (7.4591)	-3.7328 (5.7207)
9. FAMINC	*	..0741 (.0365)
10. AGE	-.1600 (.2186)	-.0618 (.1789)
11. EDUC	.4091 (1.3507)	*
12. CONSTANT	18.7289	12.1171
R^2	.1148	.3102
n	46	67

Standard errors of the coefficients appear in parentheses.

*Variable omitted by computer because F-level or tolerance level insufficient.

In Omaha, all work test coefficients are positive except for QUESTIONED. Pressuring in this case would mean that the ES concentrated its efforts on those with the longest spells of unemployment and would show up in the forms of positive coefficients of the work test variables. The coefficients for Omaha tend to be consistent with the existence of pressuring. However, the only significant coefficient is that of REFERRED, while three work test coefficients were significant in the equations for the probability of finding work. It thus appears that in Omaha pressuring carries over to those who are out of work for longer periods of time, but the main pressure is applied to those who do not go back to work at all.

In Fort Worth and Memphis, there is no evidence of an effect of the work test on the duration of unemployment.

As for other coefficients, the most interesting result is that FAMINC has a positive coefficient in every city, significant in Fort Worth and Memphis. This indicates that males with more income available in their families tend to delay their return to work.

B. Females

Sample sizes were adequate to run this regression only in Memphis and San Diego. In San Diego all work test variables have positive coefficients, significant for CALLED and QUESTIONED. Although positive coefficients in the duration of unemployment equations are consistent with pressuring, that seems to be an unlikely interpretation since no evidence was found in the probability-of-finding work equation for females in San Diego. Instead, the positive coefficients probably indicate that the ES in San Diego did not get around to questioning females until

they had already been out of work for a long time. For females in Memphis, there is no evidence of effect of the work test.

IV. CONCLUSION

Two aspects of work behavior were studied: the probability of returning to work within the year studied and, for those who did get jobs, the duration of their spell of unemployment. For females, no significant effect of the work test was found on either of these variables. in any city. For males a weak tendency to increase the probability of returning to work and a slightly stronger effect in reducing the duration of unemployment were found in San Diego. Being questioned about job search activities seemed to be the work test treatment with the most important effect. However, these effects were not statistically significant. In Omaha, it seemed to be the case that pressure was concentrated on those who reamined unemployed. The same type of evidence appeared in Rochester, but it was not statistically significant. For Fort Worth and Memphis no work test effects were found on either work behavior variable.

Since the work test seemed to be enforced more stringently in San Diego than in the other cities studied, greater success should be expected in getting registrants back to work. That does indeed seem to be the case, but the success seems to be so small that its significance is questionable. Moreover, the survey was conducted at a time when the labor market was relatively tight. Although the work test can maintain pressure on those who do not work, we have been unable to find evidence that it has much of an effect on work behavior.

FOOTNOTES

[1] If either creaming or pressuring take place, the work test variables will depend on a variable x, representing relevant individual characteristics. If the variable x is included in the regression for the probability of returning to work, it controls for either the creaming or the pressuring, allowing unbiased estimates of the work test effects (provided the correlation between the work test variables and x is not perfect or nearly so). However, if x is omitted from the regression, it becomes part of the error term. Since the work test variables are correlated with x, they are correlated with the error term when x is an omitted variable. It is this correlation of the work test variables with the error term that produces the biases discussed in the text.

CHAPTER 6

Conclusions and Recommendations

I. CONCLUSIONS

The work tests studied in this project are intended to get unemployed (or part-time employed) FS or AFDC/AFDC-UF recipients back to work. It was found in Chapter 3 that among the three food stamp cities studied, ES monitoring of work test registrants was most extensive in Memphis, least in Fort Worth. The AFDC/AFDC-UF work test in San Diego engaged in even more extensive monitoring. In these cities, as well as in the other three, ES monitoring was far more extensive for men than for women.

However, in Chapter 5 no evidence was found that the work test had a significant effect in encouraging the return to work. In every city some registrants in our sample were called in by the ES and subjected to work test procedures while others were not. The question studied was whether being work tested made any difference in the probability of returning to work or in the duration of unemployment, after controlling for a variety of individual characteristics. No significant work encouragement effect of the work test was detected, although the possibility of a weak effect emerged in San Diego. In Omaha, and to an extent also in Rochester, the ES was clearly exerting pressure on those not returning to work. It is possible that some of those who did get jobs would not have done so without the ES pressure, but our techniques could not detect this possibility.

Our results then do not prove that there was absolutely no effect of the work test in getting registrants back to work. However, with the possible exception of San Diego, our methods of study were unable to discern any such effect. It is probably safe to conclude that if the work test does have a work encouragement effect, it is small.

It should be emphasized that many in the sample did return to work. What our findings show is that the return to work would have happened anyway: the work test does not appear to influence the process significantly. On the other hand, there were many in the sample who did not return to work within the period of study, in spite of work test pressure. It is conceivable that some of these individuals might be unemployable. Although information on employability is hard to obtain, some indirect evidence can be deduced by looking at those who never worked during the year. Table 6-1 gives the percentages of males and females in each city who did not work at all during the last year. It is reasonable to expect that even some of these persons worked in the past and are thus really employable.[1] On the other hand, some who worked previously may have acquired disabilities during the year and may not be able to work again. On balance it is likely that the figures in Table 6-1 considerably overstate the proportions of unemployables in the sample. Thus, it would appear that, especially for males, only a small fraction of the difficult cases are unemployable. Many of the unemployed could work, but in spite of ES effort, they do not get jobs. In the case of females, it would appear that the difficulties are greater.

Table 6-1

Percent of Total Sample Always Unemployed During the Last Year

	Ft. Worth	Memphis	Omaha	Rochester	San Diego
Males	19	27	5	23	16
Females	51	55	39	67	32

In evaluating the results, the apparent lack of success of the work test cannot be blamed fully on the ES. First, there may have been some undetected success in getting people back to work, but this effect must be relatively small. Second, some of those who did not return to work may have been unemployable, but their numbers again are probably small. Third, there may not have been jobs available that fit the qualifications of those in the sample who remained out of work. Even though the overall unemployment rates in the cities studied were low, some types of jobs may have been more plentiful than others. Nevertheless, our results must raise doubts as to whether a work test is worth the expense of operating it.

II. POLICY ALTERNATIVES

Even though the results are not fully conclusive, they do suggest that a work test is not a powerful tool in encouraging work effort. It can be used to maintain pressure on unemployed FS or AFDC/AFDC-UF recipients, but there is little assurance that the pressure can be translated into success in obtaining a job. In considering whether the work test can be made more effective, two lines of approach are possible. First, it could be argued that the work accomplishes little

because it does not apply enough pressure to registrants. Second, the work test might falter because not enough jobs are available or because long term registrants appear unattractive to employers.

As for the possibility that current work tests are not forceful enough, the five cities studied did vary considerably in the stringency of their work tests. Indeed, the work test was most stringently enforced in San Diego, which was the only city where the evidence indicated some possibility of work test success. Even in San Diego, informal discussions with ES officials indicated a belief that resources were insufficient to do a fully adequate job. In other words more frequent and more intensive monitoring of registrants than was observed even in San Diego may lead to greater success in getting registrants back to work. More monitoring requires larger staff (although there may be possibilities for economizing) and greater expense. From the evidence of this study, one cannot deduce whether such expanded efforts will succeed. They might, but there is also a risk that they might not. It is necessary to judge whether the extra cost of this approach is worth the chance of extra success plus the extra harrassment that may be imposed on registrants.

The fact that the ES cannot place registrants directly into jobs is a barrier to its success. First, suitable jobs may not be available. Second, even if they are, the ES cannot be sure that the registrants will be hired. The ES can refer a person to a job and require the person to go to an interview. But it cannot control what happens in the interview. The person still has the option of behaving

in a manner that will discourage his being offered the job. These difficulties could be overcome by a public employment program. Such a program could create enough jobs to employ all registrants. In addition, the ES could require a registrant to accept employment in the program. Thus, a public employment program joined to the work test could overcome the barriers the ES now faces in actually getting registrants into jobs. However, such a public employment program would require a major new political initiative.

To conclude, little evidence was found that existing work tests encourage the return of registrants to work. This does not mean that the work test could not be expanded or redesigned or linked to a public employment program in a way to increase its success. However, successful changes are likely to require large extra expenses and may push the government into areas of uncertain political acceptability.

FOOTNOTES

1 Data on how employment rates among females in the low income population change with the length of the period of time being considered are available in: Barry L. Friedman and Leonard J. Hausman, Work and Welfare Patterns in Low Income Families, a report submitted to the U.S. Department of Labor, June 1975, Chapter II.

APPENDIX A

Registrants' Views of the Work Test

Opinions of respondents concerning the work requirement and of the welfare program from which they were receiving benefits were solicited as part of the survey.

In general, the registrants did not seem to find the work requirement especially onerous or improper. To the question "what do you think of the requirement that you register at the Employment Office as part of the Food Stamp (or AFDC) program," nearly half to two thirds of the registrants in each city gave a positive response.

	Percent Offering A Response That Was:		
	Positive	Negative	Unclear or Don't Know
Fort Worth	46	8	46
Memphis	64	6	30
Omaha	67	9	24
Rochester	43	14	43
San Diego	49	11	40

Only a very small proportion in each city gave a negative response. The large proportion of unclear or "don't know" answers may reflect the respondents' fear to respond candidly. Furthermore, among those respondents who elaborated their views, very few spelled out negative views. Between one third and one-half of the respondents in each city elaborated on their attitudes towards the work requirement in an open-ended question.

Among those who elaborated, the proportions detailing a positive response were 62 percent in Fort Worth, 73 percent in Omaha, 76 percent in Memphis, 55 percent in Rochester, and 57 percent in San Diego. Notice that positive responses were least common in the two AFDC/AFDC-UF sites, the places where calls-in and frequency of calls-in were the highest. Lastly, when there were negative criticisms, they related overwhelmingly to the ineffectiveness of the ES in finding jobs for people.

Views of respondents about the Food Stamp and AFDC/AFDC-UF programs in general also were quite positive. Again, though, there was a difference between the Food Stamp and AFDC/AFDC-UF sites. In Fort Worth, Memphis, and Omaha, positive responses about the Food Stamp program came, respectively, from 55, 66, and 65 percent of the respondents. In Rochester and San Diego, positive responses concerning AFDC/AFDC-UF were elicited from but 32 and 39 percent of the respondents. This difference is especially interesting in view of the fact that for most families receiving benefits, the AFDC/AFDC-UF program is much more generous than is the Food Stamp program.

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ABSTRACT: DESCRIBED IN THE REPORT IS THE CONDUCT OF A WORKSHOP FOR SELECTED VOCATIONAL EDUCATORS TO PROMOTE THE DEVELOPMENT OF MATERIALS THAT WILL HAVE A POSITIVE IMPACT ON COLORADO'S VOCATIONAL EDUCATION PROGRAMS. A TOTAL OF 38 PARTICIPANTS, MOST OF WHOM WERE VOCATIONAL EDUCATION TEACHERS, WERE PROVIDED THE OPPORTUNITY TO BECOME FAMILIAR WITH SEVERAL VARIATIONS OF A SYSTEMS APPROACH TO VOCATIONAL EDUCATION CURRICULUM MATERIALS DEVELOPMENT THROUGH PRESENTATIONS BY FACILITATORS AND ATTENDANCE AT MINISESSIONS FOR SMALL GROUPS. IN AN EIGHT MONTH PERIOD FOLLOWING THE WORKSHOP, PARTICIPANTS WERE TO IMPLEMENT CURRICULUM MATERIALS DEVELOPMENT ACTIVITIES. RESULTS OF A WORKSHOP EVALUATION INDICATED THAT THE REACTION OF THE PARTICIPANTS WAS FAVORABLE. APPENDED ARE THE WORKSHOP BROCHURE, A LIST OF FACILITATORS, A LIST OF PARTICIPANTS, AN AGENDA, AND A SUMMARY OF MINISESSION RESPONSES TO QUESTIONS. (RG)

INSTITUTION NAME: COLORADO STATE UNIV., FT. COLLINS. DEPT. OF VOCATIONAL EDUCATION.; COLORADO STATE BOARD FOR COMMUNITY COLLEGES AND OCCUPATIONAL EDUCATION.

SPONSORING AGENCY NAME: OFFICE OF EDUCATION (DHEW), WASHINGTON, D.C.

VT 103348

INTERIM REPORT
CSU PROJECT NUMBER 31-1974-0265

PROMOTING EDUCATOR CONTRIBUTIONS TO COLORADO'S VOCATIONAL EDUCATION CURRICULUM MATERIALS DEVELOPMENT EFFORT

DECEMBER 31, 1975

2

Interim Report

CSU Project Number 31-1974-0265

PROMOTING EDUCATOR CONTRIBUTIONS TO COLORADO'S VOCATIONAL EDUCATION CURRICULUM MATERIALS DEVELOPMENT EFFORTS

July 1, 1975 - December 31, 1975

by

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Assistant Project Director

and

Wiley B. Lewis
Project Director

Department of Vocational Education
Colorado State University
Fort Collins, Colorado 80523

in cooperation with the

State Board for Community Colleges
and
Occupational Education
207 State Services Building
1525 Sherman Street
Denver, Colorado 80203

Funded by

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Part F, Section 553

December 31, 1975

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INTRODUCTION

Colorado vocational educators have recognized the value of quality curriculum materials for many years. However, it was only during the past year that a concentrated effort was initiated to ensure that quality materials are available for use in Colorado vocational education programs.

PROBLEM

Because quality curriculum materials were recognized as being important to the success of Colorado vocational education programs, it was believed that greater consideration should be given to their development. It was proposed that an attempt be made to encourage, coordinate, and implement activities which would help develop, as efficiently and effectively as possible, the desired types of curriculum materials for use in Colorado vocational education programs. This facilitation of efforts was to be accomplished through the conduct of a Colorado Vocational Education Curriculum Materials Institute for selected vocational educators to promote the development of materials which will have a positive impact on Colorado programs.

OBJECTIVES

Specific objectives considered necessary for promoting educators' contributions to vocational education curriculum materials development are listed below in terms of participant behavior. It was proposed that the participants would:

1. Critique current State plans and activities designed for supporting vocational education curriculum materials development.

2. Plan and implement a systematic procedure for developing vocational education curriculum materials; or, one or more of the steps involved in such a procedure.

3. Perform the functions of a change agent in a conceptualized utilization system to serve as a communications link between two or more entities relative to vocational education curriculum materials development.

PROCEDURES

To facilitate the participants in reaching the above objectives, it was determined that the identified activities would be implemented in three phases. These phases were identified as: (a) the Planning Phase; (b) the Demonstration Phase; and, (c) the Practicum Phase. At this time, phases one and two have been completed and phase three has been initiated. Activities which have been completed or initiated in each of the phases are described in the following sections of this report.

PLANNING PHASE

Initiated on July 1, 1975, this phase terminated on November 16, 1975. During this time period, the following activities were completed on the specified dates.

Activities	Dates
Project initiated	July 1975
Assistant director employed	September 1975
Potential facilitators identified	October 1975
Agenda completed	October 1975
Plans were reviewed with the Colorado Vocational Education Curriculum Materials Development Advisory Committee	October 1975
Participant brochures disseminated	October 1975
Facility and equipment arrangements completed through Conferences and Convention Center	October 1975
Contracts with facilitators concluded	October 1975
Participant applications received	October 1975
Forty participants notified of acceptance	November 1975
Participants confirmed intent to attend	November 1975
Alternate participants notified of acceptance	November 1975
Alternate participants confirmed intent to attend	November 1975
Arrangements were completed	November 1975

A copy of the brochure sent to potential participants is included in Appendix A. Names and addresses of the facilitators identified to

take part in the second phase are shown in Appendix B along with a blank contract form.

Applications from potential participants were evaluated by the Institute planners on the basis of training, experience, potentiality for implementing concepts discussed during the Institute, and commitment to implementation. Participants were selected on the basis of an application evaluation. Also, special attention was given to identifying individuals from: each of the job categories specified in Table 1; each of the vocational programmatic areas; each of the educational levels (secondary, post-secondary, and adult); and, each of Colorado's four planning regions (as specified by the State Board for Community Colleges and Occupational Education). The selected participants were notified of their eligibility and invited to attend the Institute. The participants' travel, lodging, and meal expenses were to be reimbursed at current Colorado State University rates. When a selected participant could not attend, an appropriate alternate was substituted.

TABLE 1

PROPOSED PARTICIPANTS AND ACTUAL PARTICIPANTS

Job Category	Number of Proposed Participants	Number of Actual Participants
State Supervisory Personnel	2	1
Vocational Administrators	3	5
Teacher Educators	2	3
Secondary Teachers	21	16
Post-secondary Teachers	10	13
Counselors	2	0
TOTAL	40	38

DEMONSTRATION PHASE

The Demonstration Phase consisted of the Curriculum Materials Development Workshop which was held during the week of November 17 through November 21, 1975 on the campus of the Colorado State University in Fort Collins, Colorado. Thirty-eight vocational educators from Colorado representing the job catagories specified in Table 1 attended the Workshop. A listing of the participants and the agencies they represented is included in Appendix C.

This phase was initiated on November 17, 1975 and terminated on November 21, 1975. During this time period, the following activities were completed on the specified dates.

Activities	Dates
Participant registration Beginning Workshop session Evaluation instrument completed	November 17, 1975
Workshop sessions continued Evaluation instruments completed	November 18-20, 1975
Final Workshop session Evaluation instrument completed	November 21, 1975

A copy of the Workshop agenda in which specific activities and times are identified may be found in Appendix D.

At the initial session of the Workshop, Dr. Wiley B. Lewis, Project Director, presented the objectives of the Workshop. He indicated that when the Workshop terminated, the participants should be able to:

1. Develop and implement a systems approach for vocational education curriculum materials development;

2. Relate to others what is currently occuring regarding curriculum materials development in Colorado and at least two other states;

3. Exhibit a consciousness of copyright concerns in the development of any vocational education curriculum materials;

4. Participate in a communications network designed to facilitate the dissemination of information relative to vocational education curriculum materials development activities in Colorado;

5. Contribute to the planning efforts for an emphasis on vocational education curriculum materials development in Colorado; and

6. Plan and/or implement a vocational education curriculum materials development activity which will contribute to specific program quality or improvement.

To achieve these objectives, the facilitators identified in Appendix B and on the agenda in Appendix C (or in one case, the facilitator's designated representative) presented relevant material to the participants. Copies of the facilitators' papers are not included in this report but may be found in a companion document entitled "Selected Papers and Synopses of Remarks Presented at the Curriculum Materials Development Workshop."

During registration, the participants were assigned to one of four small groups. The small group assignments were used to implement discussion during designated mini-sessions following selected presentations. At each mini-session, members of the groups were presented questions designed to elicit group responses about directions for the creation of a suggested systems approach for curriculum materials development to be implemented in Colorado. Copies of the questions provided to each mini-session group along with summaries of their responses are included in Appendix E.

The following is a summary of key points as synthesized from the groups' responses for the week.

1. Increased emphasis, both philosophical and financial, should be placed on vocational education curriculum materials development.

2. In conjunction with the emphasis, there must be a commitment at all levels to curriculum materials development.

3. Local needs and local input are necessary considerations in any efforts for curriculum materials development.

4. All vocational education curriculum materials development should utilize performance objective techniques.

5. Colorado must develop and adopt a systems approach for vocational education curriculum materials development.

6. The Colorado vocational education curriculum materials development guidelines should contain the following components:
   (a) feasibility study
   (b) task analysis
   (c) performance objectives
   (d) criterion tests
   (e) learning sequence
   (f) learning modules
   (g) pilot testing
   (h) revision
   (i) field testing
   (j) dissemination
   (k) inservice component
   (l) feedback loop

7. The concept of the existing Curriculum Materials Service in Colorado should be expanded to one of a curriculum laboratory. The curriculum laboratory would have the responsibility for inservice training related to curriculum materials, for field testing, for validating, for cataloging documents, for preparing new materials, and for updating and reviewing prepared curriculum materials.

8. The length of time allotted for development of specific materials should be determined by the scope of the material to be developed.

9. Colorado should adopt a basic format for curriculum materials; one that would allow for modification to serve local needs.

10. The emphasis on development should be directed toward student needs, not institutional convenience.

At various points during the Workshop, the participants were asked to evaluate the Workshop activities. This was accomplished by using daily evaluation forms. From the daily evaluation ratings shown in Figures 1 through 4, and the overall Workshop ratings shown in Figure 5, one should note that the various activities were generally received positively. The Workshop activities of Wednesday, November 18, 1975 (Figure 3) and Thursday, November 19, 1975 (Figure 4) received the most positive reactions from the participants. It was discovered that the major problem encountered during the Workshop was gauging the amount of information presented to the amount of information perceived as "just enough" by the participants.

PRACTICUM PHASE

This phase of the project was designed to extend from November 22, 1975 through June 30, 1976. During this period, the Workshop participants were to implement curriculum materials development activities which grew out of the Demonstration Phase. At this time, activities of the Practicum Phase have been initiated but none have been completed.

SUMMARY

Activities during phases one and two of the project have resulted in a favorable reaction from the vocational educators who participated in the Workshop. At this point, each of the participants have been provided the opportunity to become familiar with several variations of

a systems approach to vocational education curriculum materials development. They have also been afforded the opportunity to critique current state plans and activities designed for supporting such developmental activities. Specific participant recommendations relative to Colorado's efforts were presented earlier in this report.

At least twenty-two of the thirty eight participants have planned and initiated a systematic procedure for developing vocational education curriculum materials; or, one or more of the steps involved in such a procedure at their respective organizational levels. Complete details relative to the procedures planned and implemented by the various participants will be included as part of the final report to this project.

None of the participants has, at this time, indicated that his ability to function as a link in a conceptualized utilization system has been greatly enhanced as a result of project activities. During the personal visits to be made as part of the Practicum Phase, data relevant to this function will be solicited and then reported in the final report of this project.

FIGURE 1

EVALUATION FORM SUMMARY

MONDAY, November 18

I feel that:

___	X	___	Speaker Knew Subject Matter	___	___	___
+3	+2	+1		-1	-2	-3
___	___	X	Information Was Relevant and Applicable to Current Problems	___	___	___
+3	+2	+1		-1	-2	-3
___	___	X	I Learned New Information	___	___	___
+3	+2	+1		-1	-2	-3
___	___	___	Information Presented Was Just Enough	X	___	___
+3	+2	+1		-1	-2	-3
___	___	X	Material Presented Can Help Me	___	___	___
+3	+2	+1		-1	-2	-3

FIGURE 2

EVALUATION FORM SUMMARY

TUESDAY, November 19

I feel that:

___ +3	X +2	___ +1	Speaker Knew Subject Matter	___ -1	___ -2	___ -3
___ +3	___ +2	X +1	Information Was Relevant and Applicable to Current Problems	___ -1	___ -2	___ -3
___ +3	___ +2	X +1	I Learned New Information	___ -1	___ -2	___ -3
___ +3	___ +2	X +1	Information Presented Was Just Enough	___ -1	___ -2	___ -3
___ +3	___ +2	X +1	Material Presented Can Help Me	___ -1	___ -2	___ -3

FIGURE 3

EVALUATION FORM SUMMARY

WEDNESDAY, November 20

I feel that:

___ +3	X +2	___ +1	Speaker Knew Subject Matter	___ -1	___ -2	___ -3
___ +3	X +2	___ +1	Information Was Relevant and Applicable to Current Problems	___ -1	___ -2	___ -3
___ +3	X +2	___ +1	I Learned New Information	___ -1	___ -2	___ -3
___ +3	___ +2	X +1	Information Presented Was Just Enough	___ -1	___ -2	___ -3
___ +3	___ +2	X +1	Material Presented Can Help Me	___ -1	___ -2	___ -3

FIGURE 4

EVALUATION FORM SUMMARY

THURSDAY, November 21

I feel that:

___	X	___	Speaker Knew Subject Matter	___	___	___
+3	+2	+1		-1	-2	-3
___	X	___	Information Was Relevant and Applicable to Current Problems	___	___	___
+3	+2	+1		-1	-2	-3
___	___	X	I Learned New Information	___	___	___
+3	+2	+1		-1	-2	-3
___	___	X	Information Presented Was Just Enough	___	___	___
+3	+2	+1		-1	-2	-3
___	X	___	Material Presented Can Help Me	___	___	___
+3	+2	+1		-1	-2	-3

FIGURE 5

CURRICULUM MATERIALS DEVELOPMENT WORKSHOP

FINAL EVALUATION FORM SUMMARY

MEAN

Please check:

Position: teacher X administration ___ related staff ___

Age: Under 22 ___ 36 to 45 X
22 to 25 ___ 46 to 65 ___
26 to 35 ___ Over 65 ___

Sex: Female ___ Male X

+3	+2	+1		-1	-2	-3
	X		Purposes of the workshop were clear to me			
	X		Purposes of the workshop were realistic			
		X	The workshop met my expectations			
	X		The group "mini-sessions" were helpful			
X			The "mini-sessions" were well structured			
	X		There was adequate time to express my ideas			
		X	My time was well spent			
	X		This workshop should be offered again			
		X	The accomodations were adequate			

Comments on the Workshop

1. Strong Points
   Mini-sessions
   Facilitators

2. Weak Points
   Too much information

APPENDICES

APPENDIX A

BROCHURE

COLORADO STATE UNIVERSITY DEPARTMENT OF VOCATIONAL EDUCATION

A CURRICULUM MATERIALS DEVELOPMENT WORKSHOP FOR VOCATIONAL TEACHERS, ADMINISTRATORS, STATE SUPERVISORS, AND TEACHER EDUCATORS

WHAT: Colorado State University's Vocational Education Department is presenting a week-long workshop on designing a systems approach for curriculum materials development. This workshop will include models and plans for comprehensive curriculum development from a state and local level. In order to insure a variety of input for the sessions, a quota has been established so participants will reflect secondary and post secondary teachers, administrators, state supervisors, and teacher education.

Facilitators from various states will present representative methods of systematic curriculum materials development. From this national overview and systems methodology, participants will suggest items to be considered in developing guidelines for vocational education curriculum materials development and identify the roles of several involved groups.

WHERE: The workshop will be presented on the Colorado State University campus in Fort Collins, Colorado.

WHEN: 1:00 p.m., November 17 through noon, the 21st, 1975

TOPICS: Some of the sessions will include:

1. Curriculum Materials Development Systems
2. Curriculum Materials Labs
3. Copyright in Curriculum Materials Development
4. Instructional Methodology
5. Program Feasibility and Analysis of an Occupation

CREDIT: Two semester hours will be arranged for those who desire it. The cost will be $20. Credit will be granted at the end of Spring Semester upon completion of a special project.

PROVIDED: Individuals participating in the workshop will receive lodging and food plus a travel allowance.

Participants will be selected to meet the quota. If you wish to be considered for participation, complete the form below and mail:

TO: Dr. Wiley B. Lewis
Vocational Education Department
Colorado State University
Fort Collins, CO 80523

Name: _____

Position: _____

School: _____

Home Address: _____

Phone: _____

City, State, Zip: _____

What you anticipate gaining from the workshop: _____

_____

_____

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APPLICATIONS MUST BE RECEIVED BY: October 20, 1975

APPENDIX B

LIST OF FACILITATORS

FACILITATORS

Arch Alexander, Deputy Director
State Department of Vocational
Technical Education
Stillwater, Oklahoma 74074

B. Harold Anderson, Head
Vocational Education Department
Colorado State University
Fort Collins, Colorado 80523

Ann Benson, Executive Director
Mid-America Vocational
Curriculum Consortium
1515 West Sixth Avenue
Stillwater, Oklahoma 74074

William Berndt
Curriculum Specialist
U.S. Office of Education
Regional Office Building #3
Washington, D.C. 20202

Hank Brown, Senator
Assistant Majority Leader
Colorado State Legislature
Greeley, Colorado 80631

Don Eshelby, RCU Director
State Board for Vocational
and Technical Education
900 East Boulevard
Bismarck, North Dakota 58501

Amon Herd, Director
Instructional Materials
Laboratory
University of Missouri--Columbia
8 Industrial Education Building
Columbia, Missouri 65201

Tom Hindes
Instructional Materials Laboratory
Trade and Industrial Education
Ohio State University
1885 Neil Avenue
Columbus, Ohio 43210

Duane Jansen, Head
Trade and Industrial Education
Colorado State University
Fort Collins, Colorado 80523

William H. Johnson, Dean
College of Professional Studies
Colorado State University
Fort Collins, Colorado 80523

Milton E. Larson, Professor
Technical Education
Colorado State University
Fort Collins, Colorado 80523

Ron Latimer, Visual Sales
Representative
3M Business Products Sales Inc.
6750 Stapleton South Drive
Denver, Colorado 80216

Wiley B. Lewis, Coordinator
Curriculum Materials Development
Colorado State University
Fort Collins, Colorado 80523

Joe Nichols, Professor
Curriculum and Instruction
University of Northern Colorado
Greeley, Colorado 80631

Darrell L. Parks
Assistant Director
Vocational Education
Ohio Departments Building
65 South Front Street
Columbus, Ohio 43215

Edwin L. Spangler, Jr.
Attorney-at-Law
1700 Broadway
Denver, Colorado 80202

James E. Wall, Assistant Dean
Research and Development
College of Education
Mississippi State University
State College, Mississippi 39762

Harold Wallace
Coordinator of Research
Colorado State University
Fort Collins, Colorado 80523

William D. Woolf, Director
Occupational Education Division
State Board for Community Colleges
and Occupational Education
207 State Services Building
Denver, Colorado 80203

CURRICULUM MATERIALS DEVELOPMENT WORKSHOP

COLORADO STATE UNIVERSITY
DEPARTMENT OF VOCATIONAL EDUCATION

FORT COLLINS
COLORADO 80523

MEMORANDUM OF AGREEMENT

In accordance with previous arrangements, the facilitator,

_____,

agrees to make the following presentation:

_____,

AT: _____

FOR: ____ _____

Please provide an edited and typewritten copy of the above presentation. The final copy should be received by October 31, 1975, if possible.

Remuneration will be provided at the rate of:

_____

Reimbursement for travel will be made at the rate of air tourist (or equivalent by other kinds of vehicles); ground travel to and from Fort Collins being supplied by Curriculum Materials Development Workshop personnel.

Comments:

_____ _____
Date Facilitator

_____ _____
Date Facilitator

(Please sign and complete one copy of the above and return to Wiley B. Lewis.)

APPENDIX C

LIST OF PARTICIPANTS

PARTICIPANTS

Darlene Adams
Manual High School
Denver, Colorado

Judi Alspaugh
Center High School
Center, Colorado

Lois W. Bennett
University of Northern Colorado
Greeley, Colorado

Gilbert D. Borthick
Aims Community College
Greeley, Colorado

Chuck Breitweiser
Warren Occupational-
Technical Center
Golden, Colorado

M. Dale Conzelman
Abraham Lincoln High School
Denver, Colorado

Lynne W. Fernstrom
Warren Occupational-
Technical Center
Golden, Colorado

Dennis Friedrichs
Arriba High School
Arriba, Colorado

Max Fuller
Career Development Center
Longmont, Colorado

Melvin Heidt
Denver Institute of Technology
Denver, Colorado

Donald E. Heller
Arapahoe Community College
Denver, Colorado

Dennis Hendrix
Warren Occupational-
Technical Center
Golden, Colorado

James Holloway
Canon City High School
Canon City, Colorado

Lonnie A. Holmes
Metropolitan State College
Denver, Colorado

Duane G. Jansen
Colorado State University
Fort Collins, Colorado

Rose Johnson
Valley Vista School of Beauty
Denver, Colorado

Peggy Kline
Centaurus High School
Lafayette, Colorado

William C. Lakin
Holyoke High School
Holyoke, Colorado

George Langsdorf
Community College of Denver,
North Campus
Denver, Colorado

Verda E. McConnell
Adams City Senior High School
Commerce City, Colorado

Walter L. McFadden
Florence High School
Florence, Colorado

Robert Maes
Walsenburg High School
Walsenburg, Colorado

Carole A. Mutzebaugh
Community College of Denver,
North Campus
Denver, Colorado

Leonard Masman
Colorado State University
Fort Collins, Colorado

Ross E. Nierman
Larimer County Vocational-
Technical Center
Fort Collins, Colorado

Bob Perry
State Board for Community Colleges
and Occupational Education
Denver, Colorado

Elizabeth S. Pinar
Community Colleges of Denver
North Campus
Denver, Colorado

Joe D. Replogle
San Luis Valley Area
Vocational School
Monte Vista, Colorado

H. Dean Risinger
El Paso Community College
Colorado Springs, Colorado

Nard C. Robinette
Golden Key Vocational School
Canon City, Colorado

John H. Rogers
Paonia High School
Paonia, Colorado

Will Jon Rowe
Red Rocks Community College
Golden, Colorado

Donald R. Scheel
Boulder Valley Vocational-
Technical Center
Boulder, Colorado

Herbert Schillereff
Iron Workers Apprentice Program
Denver, Colorado

Daniel J. Shive
Lowry Air Force Base
Denver, Colorado

Larry L. Steele
Warren Occupational-Technical
Center
Golden, Colorado

Clarice Taylor
Fruita Monument High School
Fruita, Colorado

Gerald B. Wheeler
Emily Griffith Opportunity School
Denver, Colorado

APPENDIX D

AGENDA

CURRICULUM MATERIALS DEVELOPMENT

WORKSHOP

Lory Student Center
Colorado State University
Fort Collins, Colorado

November 17-21, 1975

Arranged by:

Department of Vocational Education
Colorado State University
Fort Collins, Colorado

In cooperation with:

Colorado State Board
for
Community Colleges and
Occupational Education
Denver, Colorado

Region VIII
Office of Education
Department of Health,
Education and Welfare
Denver, Colorado

CURRICULUM MATERIALS DEVELOPMENT WORKSHOP

Dr. Wiley B. Lewis, Coordinator

Room 226

Program

Monday, November 17, 1975

10:00 a.m.- 1:00 p.m.	Registration	
12:00 p.m.	Lunch	
1:00 p.m.	Welcome to Workshop	Dr. William H. Johnson, Dean College of Professional Studies Colorado State University
1:15 p.m.	Departmental Commitment	Dr. B. Harold Anderson, Head Department of Vocational Education Colorado State University
1:30 p.m.	State Board's Perception of Workshop	Dr. William D. Woolf, Director Occupational Education Division State Board for Community Colleges and Occupational Education
2:00 p.m.	Presentation: "Systems Approaches to Curriculum Development in Vocational Education"	Dr. James E. Wall Assistant Dean for Research and Development College of Education Mississippi State University
3:45 p.m.	Mini-sessions	Rooms as Assigned
5:00 p.m.	Dinner	

Tuesday, November, 18, 1975

7:00 a.m.-8:00 a.m.	Breakfast	
8:00 a.m.	Presentation: "Instructional Materials Laboratory"	Mr. Amon Ward, Director Instructional Materials Lab University of Missouri
9:30 a.m.	Presentation: "Implementation of Curriculum Materials Development in a State Vocational Education Program"	Mr. Arch Alexander Deputy Director Oklahoma State Department of Vocational Technical Education
11:00 a.m.	Mini-sessions	
12:00 p.m.	Lunch	
1:00 p.m.	Presentation: "Mid-America Vocational Curriculum Consortium"	Ms. Ann Benson, Executive Mid-America Vocational Curriculum Consortium Oklahoma State University
2:30 p.m.	Presentation: "North Dakota Curriculum Development Plan for Vocational Programs"	Dr. Don Eshelby RCU Director North Dakota State Board for Vocational and Technical Education
4:00 p.m.	Mini-sessions	
5:00 p.m.	Dinner	

Wednesday, November 19, 1975

7:00 a.m.- 8:00 a.m.	Breakfast	
8:00 a.m.	Presentation: "Colorado Efforts For Vocational Education Curriculum Materials Development"	Dr. Wiley B. Lewis, Director Curriculum Materials Development Colorado State University
9:30 a.m.	Presentation: "Instructional System Design--A Workshop Sampler"	Dr. Darrell Parks, Assistant Director Vocational Education Professional Staff and Curriculum Development State of Ohio Mr. Tom Hindes Instructional Materials Laboratory Trade and Industrial Education Ohio State University
12:00 p.m.	Lunch	
1:00 p.m.	"Instructional System Design" (continued)	
3:30 p.m.	Mini-sessions	
5:00 p.m.	Dinner	
6:30 p.m.	Discussion of Project Assignment for Those Registering for Credit	Dr. Wiley B. Lewis, Director Curriculum Materials Development Colorado State University

Thursday, November 20, 1975

7:00 a.m.- 8:00 a.m.	Breakfast	
8:00 a.m.	Presentation: "Implications of Copyright Laws for Education"	Mr. Edwin L. Spangler, Jr. Attorney-at-Law
9:30 a.m.	Panel: "Roles in Curriculum Materials Development--A Perception"	Dr. Milton Larson, Professor Technical Education Colorado State University Dr. Joe Nichols, Professor Curriculum and Instruction University of Northern Colorado Dr. Harold Wallace Coordinator of Research Colorado State University
11:00 a.m.	Mini-sessions	
12:00 p.m.	Lunch	
1:00 p.m.	Mini-sessions	
3:00 p.m.	Media Display	
5:00 p.m.	Adjournment	
6:30 p.m.	Banquet, Room 106 Presentation: "Vocational Curriculum"	Senator Hank Brown Assistant Majority Leader Colorado State Legislature

Friday, November 21, 1975

7:00 a.m.- 8:00 a.m.	Breakfast	
8:00 a.m.	Presentation: "National Overview-- Curriculum Material Development"	Mr. William Berndt Curriculum Specialist Vocational and Technical Education U.S. Office of Education
9:30 a.m.	Workshop Overview	
11:30 a.m.	Workshop Conclusion	
12:00 p.m.	Lunch	

APPENDIX E

MINI-SESSION QUESTIONS

AND SUMMARIZED RESPONSES

MINI-SESSION

3:45 p.m., Monday
November 17, 1975

Consider the following in terms of your current perception of the vocational education needs in Colorado. Your responses at this time should be thought of as tentative in nature and subject to being altered as the workshop continues.

1. Should we have an (increased/decreased) emphasis on curriculum materials development in Colorado?

   We should have an increased philosophical and financial emphasis on curriculum.

2. With the mobility of our society, should we be aware of nation-wide curriculum content?

   We should be aware of national trends. We should seek state coordination with emphasis on local needs for implementation.

3. Do you feel that the development of curriculum materials should be based on performance objectives? Should we direct our efforts in such a way to become accountable for our curriculum?

   Yes. Yes.

4. What is the commitment to curriculum materials development of: (a) your peers; (b) your administration? Should this commitment change? If so, how might such change be best initiated?

   Commitment (a) and (b) not strong. Commitment should be stronger. Not sure--maybe systems design

5. Should a systems approach for curriculum materials development be adopted for use in Colorado? At what level(s), state, regional, local, or combination, should such an approach, if adopted, be utilized?

   Yes; state level

6. What do you envision as the components of a curriculum materials development system which might be implemented at any level in an effort to ensure the availability of quality materials.

   Not sure; emphasize dissemination

MINI-SESSION

11:00 a.m., Tuesday
November 18, 1975

Consider the following in terms of your current perception of the vocational education needs in Colorado. Your responses at this time should be thought of as tentative in nature and subject to being altered as the workshop continues.

1. Should Colorado financially and philosophically support the concept of a curriculum materials laboratory? Why? If the response and reasoning is positive, outline what functions a curriculum materials laboratory should provide.

   Yes, to provide a focal point
   - *(a) Review of existing materials*
   - *(b) Development and diffusion of new materials*
   - *(c) Improvement and diffusion of existing materials*
   - *(d) Coordination of developmental activities*

2. What should be the standard policy for dissemination of curriculum materials to ensure their effectiveness?

   1. *Inservice education of administrators and teachers*
   2. *Evaluation*
   3. *Philosophical commitment*
   4. *Financial commitment*
   5. *Audio visuals and release time*

3. How can we avoid duplication of developmental efforts and achieve articulation? Cite specific examples as appropriate.

   Implement a systems approach; control via a curriculum laboratory to coordinate research and development

4. How do you perceive state-level support (good, or bad)? How might it be improved? Local-level support? How might it be improved?

   State and local support can be expanded. Improvements would be the development of a "base" philosophy, a comprehensive systems plan for curriculum development and involvement of curriculum center in curriculum diffusion process.

MINI-SESSION

4:00 p.m., Tuesday
November 18, 1975

Consider the following in terms of your current perception of the vocational education needs in Colorado. Your responses at this time should be thought of as tentative in nature and subject to being altered as the workshop continues.

1. Who should be responsible for the pilot testing of curriculum materials to establish initial validity? Cite minimum standards.

   Agency developing materials
   (a) *Performance objectives*
   (b) *No copyright problems*
   (c) *Criterion reference tests*

2. Who should be responsible for field testing of curriculum materials to establish external validity? Cite minimum standards.

   Curriculum laboratory
   (a) *Validity on pilot test established*
   (b) *Format*
   (c) *Performance objectives*

3. Should the developer utilize criterion reference testing on materials?

   Yes, and provide information to others using the material

4. How much time should we realistically allocate for the developmental sequence?

   1-2 years depending on the scope of the endeavor

5. Do you feel that Colorado should utilize a basic format for curriculum materials development? Explain.

   Yes. This would be of assistance when developing or modifying materials.

6. If our priority is on curriculum materials development, what audience should we develop our materials for--student oriented, teacher oriented, or a combination. Why this specific effort?

   Student oriented materials

MINI-SESSION

3:30 p.m., Wednesday
November 19, 1975

Consider the following in terms of your current perception of the vocational education needs in Colorado. Your responses at this time should be thought of as tentative in nature and subject to being altered as the workshop continues.

1. How do you perceive the Curriculum Materials Service as it is operated?

   Only vaguely aware of its existance

2. What changes could the Curriculum Materials Service make to serve you better?

   Publish lists, serve as clearinghouse, conduct field tests, and coordinate efforts in-state

3. What services should the Curriculum Materials Service offer?

   Services similar to Oklahoma Curriculum Laboratory

4. At what level should development take place--state, regional, local, or combination?

   At local-state levels

5. Who should prepare curriculum materials--teachers, technical writers, or others? Explain.

   Teacher, in conjunction with technical writing assistance

6. To what audience (student, teacher, or combination) should curriculum materials be directed?

   Student

7. What components should make up an effective curriculum materials service?

   Catalogue, preservice and inservice, coordinate effort in system design

MINI-SESSION

11:00 a.m.-3:00 p.m.
Thursday
November 20, 1975

In this session, we are requesting that you help us suggest a systems approach for curriculum materials development in Colorado which might be used profitably at either the state, regional, or local levels.

In this development, consider these questions:

1. Define:
   (a) curriculum--*general plan of content a school offers*
   (b) curriculum materials--*all the teaching-learning materials used*
   (c) curriculum materials development--*systematic procedure for developing materials*
   (d) field testing--*testing in a specific school to determine validity*
   (e) pilot testing--*testing of small units during development*
   (f) dissemination--*passing out to teachers or sending out materials*
   (g) diffusion--*assisting teachers to use new materials*

2. Describe a systems approach to curriculum materials development as you perceive one should function.

   Establish need; review materials; performance analysis; criterion reference; performance objectives

3. In curriculum materials development, what should be the role of the:
   (a) state--*coordinate, facilitation, occupational analysis, finance*
   (b) teacher-educator institutions--*philosophy, inservice*
   (c) local administration--*finances, facilitation, need assessment*
   (d) teacher--*design materials, testing*

4. What are the elements to be considered in establishing developmental priorities?

   Need--length of time; commitment of funding

5. Who should be responsible for insuring that curriculum materials developed for state-wide distribution are free of copyright violations or for providing copyright releases?

   The developer(s)

ACCESSION NUMBER: VT103350

PUBLICATION DATE: 28MAY76

TITLE: COMPETENCY-BASED WORK EXPERIENCE/EXPLORATION CONTRACT PROGRAM. FINAL REPORT.

DESCRIPTOR: *WORK EXPERIENCE PROGRAMS; *RESEARCH PROJECTS; SECONDARY EDUCATION; JOB DESCRIPTIONS; *PROGRAM EVALUATION; QUESTIONNAIRES; SCHOOL DISTRICTS; SCHOOL SURVEYS; *JOB SKILLS; *SCHOOL COMMUNITY RELATIONSHIP

EDRS PRICE: MF AND HC AVAILABILITY WILL BE ANNOUNCED IN VOL. 10, NO. 2.

DESCRIPTIVE NOTE: 362P.; THE APPENDIX SECTION OF THIS DOCUME[illegible] IF OF MARGINAL REPRODUCIBILITY. BEST COPY AVAILABLE.

ABSTRACT: DETAILED IN THIS REPORT IS A RESEARCH STUDY TO DEVELOP AND PILOT TEST 60 COMPETENCY-BASED WORK EXPERIENCE/EXPLORATION CONTRACT MODELS APPROPRIATE FOR SECONDARY SCHOOL STUDENTS. OBJECTIVES WERE TO: (1) DESIGN A VARIETY OF WORK EXPERIENCES IN CONCERT WITH BUSINESS, INDUSTRY, GOVERNMENT AGENCIES, AND CIVIC ORGANIZATIONS; (2) DETERMINE WHICH FACTORS LEAD TO THE SATISFACTION OF STUDENTS, EMPLOYERS, AND SCHOOL PERSONNEL; (3) DETERMINE THE COST OF IMPLEMENTING THE MODEL; AND (4) SUGGEST PROCEDURES FOR LARGE-SCALE IMPLEMENTATION OF CAREER TRAINING. FIFTY-EIGHT STUDENTS FROM FIVE HIGH SCHOOLS WERE PLACED IN 52 DIFFERENT POSITIONS WITH 33 PARTICIPATING EMPLOYERS. THE MAJORITY WERE TRAINED ON A SCHEDULE OF TWO OR THREE DAYS A WEEK FOR TWO TO THREE HOURS AND RECEIVED HIGH SCHOOL CREDIT. PRETEST AND POSTTEST QUESTIONNAIRE SURVEYS OF STUDENTS, THEIR IMMEDIATE TRAINING SUPERVISORS, AND THE SCHOOL COORDINATOR PROVIDE INFORMATION FOR EVALUATION OF THE PROGRAM, AND THIS DATA CONSTITUTES THE MAJOR PORTION OF THE DOCUMENT. ALL STUDENT RESPONDENTS EVALUATED THE PROGRAM AS BEING "VERY SATISFACTORY" OR "SATISFACTORY." EMPLOYERS GENERALLY FELT THAT A LONGER PLACEMENT, BETTER COUNSELING, AND BETTER SCREENING PROCEDURES WOULD BE HELPFUL. THE DOCUMENT INCLUDES A LISTING OF 32 JOB DESCRIPTIONS FOR THE TRAINING POSITIONS, SURVEY INSTRUMENTS AND RESPONSES, NAMES OF THE PARTICIPATING EMPLOYERS, AND AN EVALUATION SUMMARY REPORT. (RG)

CONTRACT NUMBER: OEG-0-74-1674

INSTITUTION NAME: LOS ANGELES UNIFIED SCHOOL DISTRICT, CALIF.

SPONSORING AGENCY NAME: OFFICE OF EDUCATION (DHEW), WASHINGTON, D.C.

VT 103350

RECEIVED
CVE DIRECTOR'S OFFICE
JUL 22 1976
AM PM
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FINAL REPORT

COMPETENCY-BASED WORK EXPERIENCE/EXPLORATION CONTRACT PROGRAM

JULY 1, 1974 - JUNE 30, 1975

RESPECTFULLY SUBMITTED,

ROBERT A. SAMPIERI
COORDINATOR, COMPREHENSIVE CAREER EDUCATION
LOS ANGELES UNIFIED SCHOOL DISTRICT

GRANT NUMBER: OEG-0-74-1674

PROJECT NUMBER: V0178VZ

PROJECT OFFICER: VELMA S. BRAWNER

5-28-76

VT 103 350

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BACKGROUND

In 1973 the Board of Education for the Los Angeles Unified School District established new graduation requirements. One addition was that each student must demonstrate minimum standards of skill performance for gainful employment in a specific field or fields to graduate from high school. This meant that the District's 63 high schools would need to provide options whereby approximately 129,000 secondary students could obtain entry-level job training and acquire a Demonstrated Performance Skill (DPS).

Implementation of the new requirements has been delayed due to funding problems. Alternative ways the DPS can be delivered by the schools are currently being investigated.

Several excellent programs are designed to teach students vocational skills including: 1) work experience; 2) Regional Occupational Programs; 3) Regional Occupational Centers; 4) projects specific to a particular company or industry in Los Angeles, such as the Hughes, Northrop, North American Rockwell Programs; and projects specific to a particular high school. In total, these programs account for the training of approximately 51,500 students in Demonstrated Performance Skills.

The question the schools must answer is how they can provide a wider variety of challenging career experiences (including post-entry level) as part of the total high school program. Additional issues are: 1) what are the skills related to specific job titles; 2) which skills can students learn on a part-time basis; 3) how much can career training be integrated with and supported by the on-campus academic program; and 4) what procedures need to be implemented at the local school level to make the option of extended campus career training feasible.

PURPOSE OF STUDY

The purpose of this study was to develop and pilot test 60 competency-based work experience/exploration contract models appropriate for secondary school students. Four contract models were to be developed within each of the following 15 career clusters:

- Agriculture
- Arts and Humanities
- Communication
- Construction
- Education
- Entertainment
- Government
- Health and Welfare
- Manufacturing
- Natural Resources
- Personal Services
- Product Services
- Recreation
- Trade and Finance
- Transportation

Each contract model was to specify:

- Demonstrated Performance Skill(s) to be attained by the student upon completion of training in an occupational area appropriate for employment.
- Performance objectives for sponsoring companies and agencies.
- Performance objectives for coordinating agencies.
- Instructional methods and management procedures which facilitate successful attainment of performance objectives.

OBJECTIVES OF THE STUDY

The objectives of this present study were as follows:

1.0 - To design a variety of work experiences for secondary students in concert with business, industry, labor,

governmental agencies, as well as community and civic organizations.

2.0 - To determine which factors lead to the satisfaction of students, employers, and school personnel with an extended campus career training experience.

3.0 - To determine the approximate cost of implementing contract models.

4.0 - To suggest procedures for large-scale implementation of career training including:

4.1 - Methods of granting course credit and certification for graduation.

4.2 - Designs which consider legal constraints and proper insurance coverage.

4.3 - Ways of providing incentives for all participants.

4.4 - Estimations of the number and types of training positions which can be created and the time constraints of each.

4.5 - Alternatives for scheduling.

4.6 - Ways to integrate career training with the student's instructional program.

DESCRIPTION OF PARTICIPANTS

Thirty-seven companies and community agencies were originally recruited to participate in the project offering to train students for 69 positions and 62 different skill areas. Three chose to drop out prior to training and for one agency students were not recruited. Thirty-three employers actually provided training. (The job skills and employers are listed in Attachment A.)

Sixty students were placed in 52 different positions. The number of student placements are identified by career cluster in the bar graph on the next page.

The distribution of students by school is presented in the graph on page 5 which shows the number and percentage of students recruited and completing assignments. Of the original sample, 56% (33 S's) were White and 44% (27 S's) were Black, Asian or Mexican-American. At the end of the project, 63% of the students (27 S's) were White and only 37% (16 S's) were from other ethnic groups.

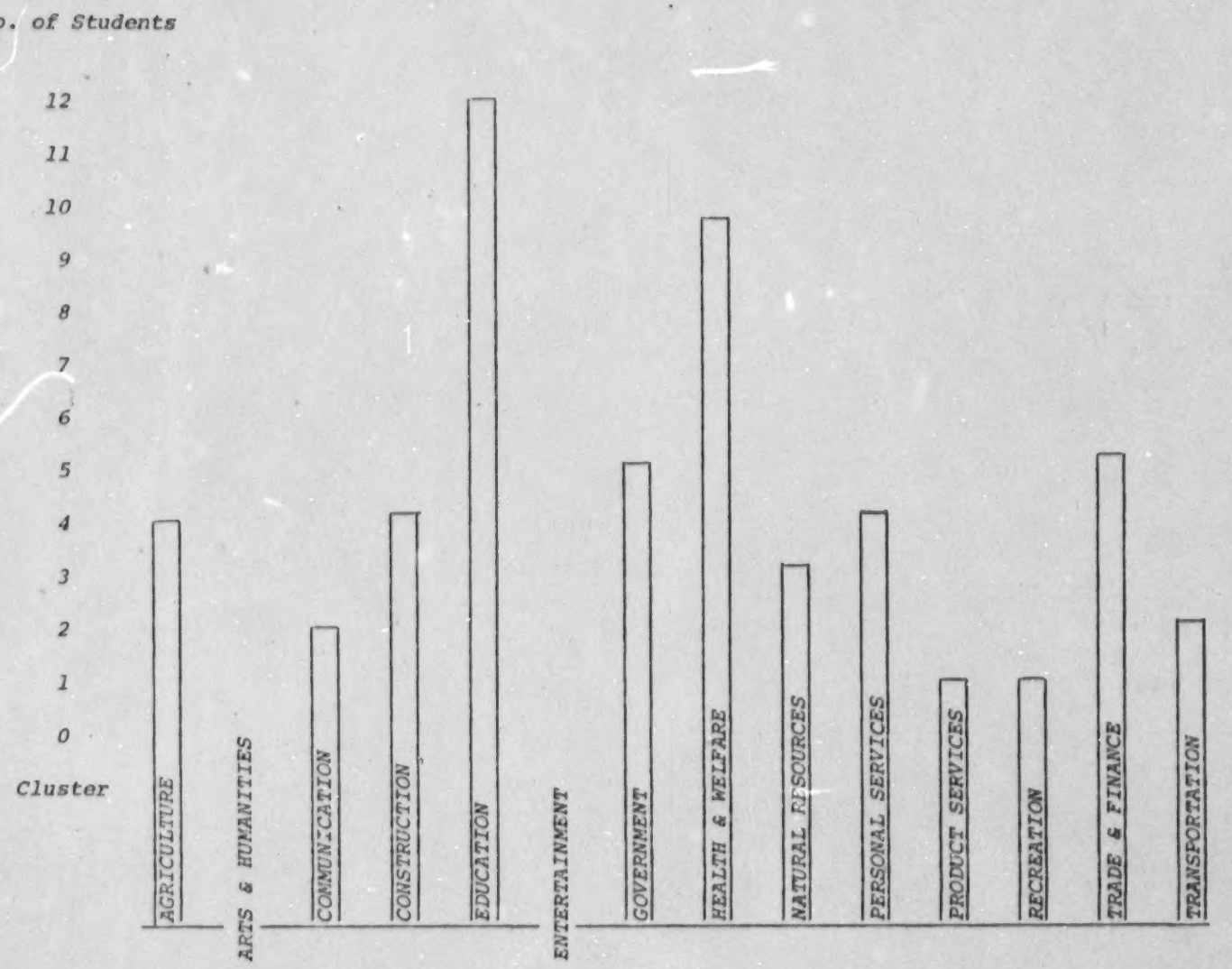
PROCEDURES

Planning Procedures

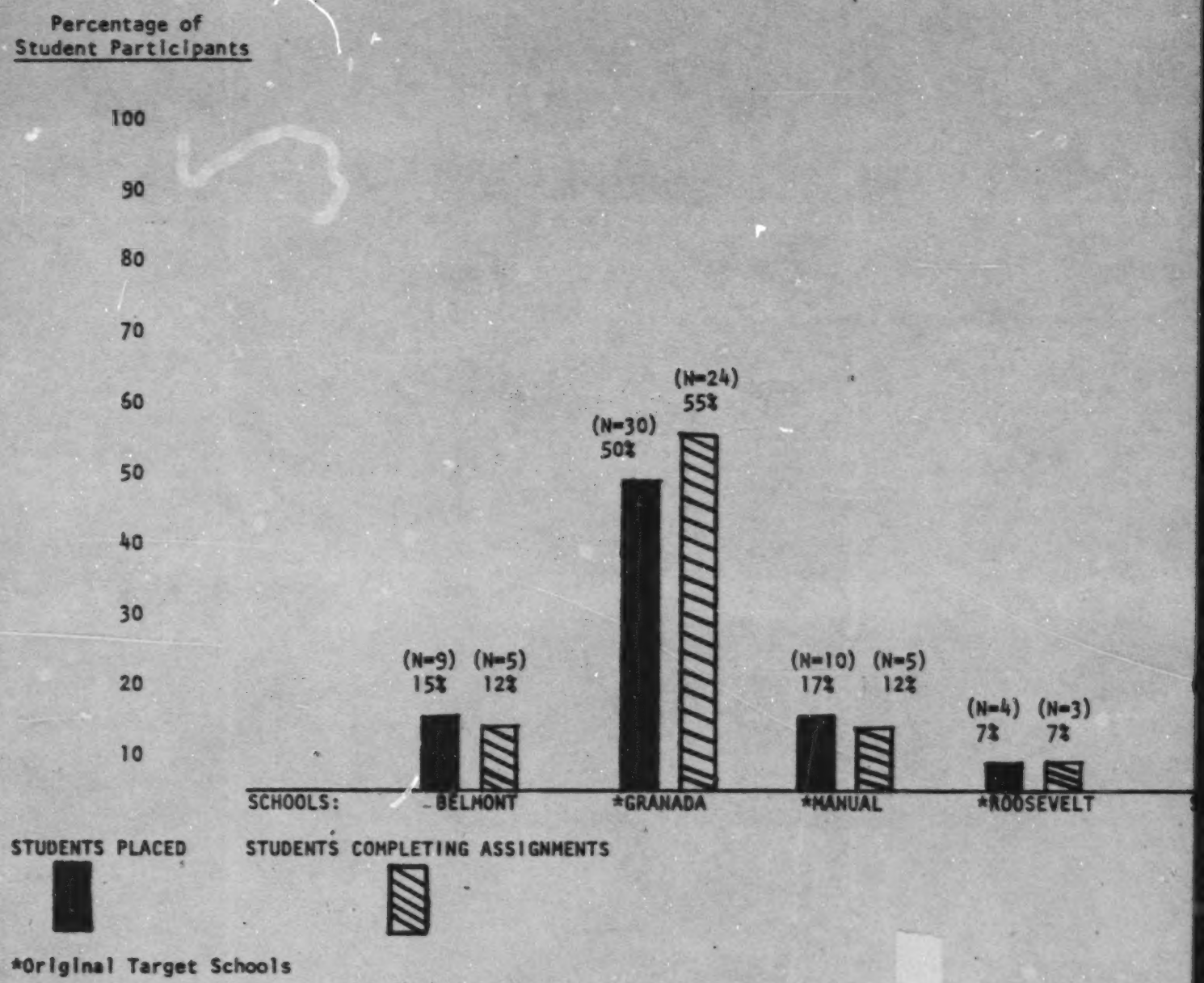
The basic sequence of planning activities were as follows:

1) Create project advisory steering committee composed of representatives from school, business, labor, community and governmental agencies.
2) Conduct pilot study with one student.
3) Develop Permit/Agreement forms, employer questionnaires, and student permit forms.
4) Develop Operations Guide for participants.
5) Formulate evaluation strategy.
6) Develop 60 contract models specifying demonstrated performance skills.
7) Develop training site recruitment procedure
8) Recruit sites.
9) Select school cooordinators. Initiate teacher participation.
10) Contact schools; match and schedule students.

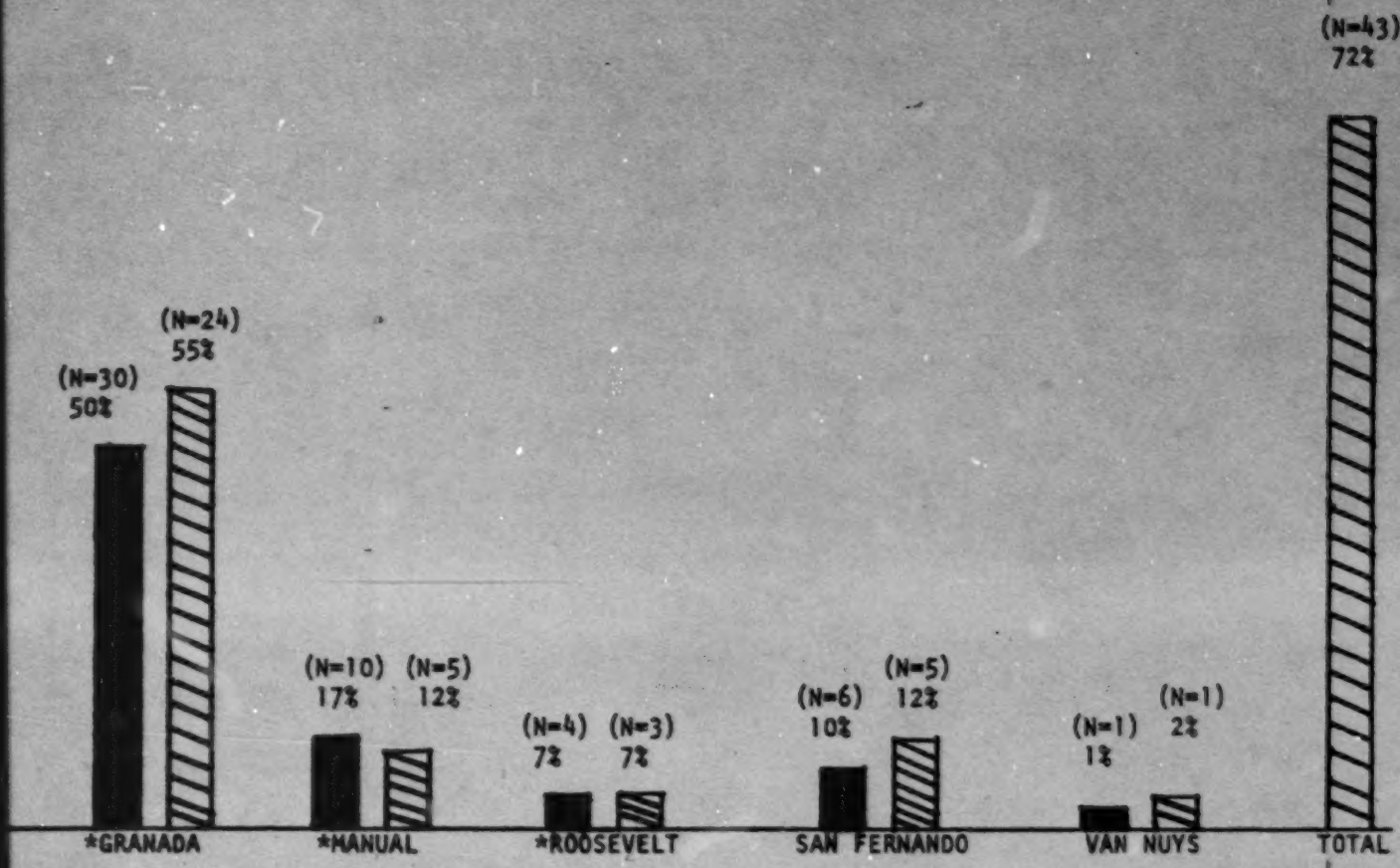
NUMBER OF STUDENT PLACEMENTS BY CLUSTERS



NUMBER AND PERCENTAGE OF STUDENTS INITIALLY PLACED IN CAREER EXPER
AND COMPLETING ASSIGNMENTS



PERCENTAGE OF STUDENTS INITIALLY PLACED IN CAREER EXPERIENCES AND COMPLETING ASSIGNMENTS



MENTS

11) Conduct training.

12) Revise procedures and materials.

13) Complete evaluation study and reports.

Pilot Test

A small pilot test of one student was conducted in the Fall of 1974. A senior at Manual Arts High School was trained in nine sessions with Beneficial Standard Life Insurance Company as a Personnel Interviewer. Several decisions were made during this pilot. One decision was to attempt to integrate the career experience with the academic program of the students by having teachers develop lessons relevant to the student's work experiences. Evaluation forms were revised and procedures for participants were outlined during this pilot phase.

Site Recruitment

Three different procedures were used in this study to recruit career experience sites in the community. In one case, a community agency which is independent of the school district assisted in site recruitement. In a second model, a community person hired as a school coordinator solicited companies. Third, district-level personnel with the assistance of project advisory committee members generated new locations. These models are presented visually on the next page.

Approximately 11 percent of the sites were recruited using Model I, 32 percent were made available through Model II and 57 percent via Model III. These figures do not represent the potential effectiveness of each model; they only show what occurred under the conditions of this study. The Industry-Education Alliance of Los Angeles County (Project 70's) went through reorganization since this project began and their recruitment strength was temporarily lessened.

Site recruiters served as a linkage between employers in work environments and staff of the schools. They performed the following tasks:

- Established initial contact with business and agency representatives representing the 15 career clusters.
- Provided employers with a written description of the program, answered questions and solicited participation of that company or agency.
- Completed an Employer Questionnaire with the contact person at the work site.
- Requested that employers sign Permit/Agreement forms.
- Return Employer Questionnaires to school coordinators so that student recruitment could begin.

All sites were approved by the Safety Section of the School District and all Permit/Agreement forms were approved by the Board as a condition of student placement.

Student Recruitment

Procedures for recruiting students varied by school. At Granada Hills High School, the coordinator spoke to classes about the program and available positions. Students were asked to notify the coordinator if they were interested in participating. At Manual Arts, participants were drafted into the program. Belmont High has computer printouts on the career and educational aspirations of the students. The coordinator offered training to those students who had indicated interest in the available career position.

The criteria for student selection were as follows:

- The student had an interest in the career area available.
- The student had the necessary pre-requisites if these were required.

- The student could provide or arrange transportation.
- Parent approval could be obtained.
- An adequate schedule could be arranged.
- The student was enrolled in an academic class with a cooperating teacher.

School Coordination

School coordinators were selected by administrators at participating schools. Three coordinators were Career Advisers at the school, one was a parent hired to assist gifted students and one was a Work Experience Coordinator. They were asked to perform the following tasks:

- Recruit teachers based upon subject area and responsiveness to the project goals.
- Recruit and select students. Brief them on the job, responsibilities, etc.
- Adjust schedules so that each student is in school 4 hours per day and can attend the extension site the specified hours.
- Obtain parent approval and complete all permit forms. File until the end of the program, when forms will be collected for evaluation.
- Establish with the Principal the credit to be granted the student.
- Notify district coordinator that approvals have been obtained and the student can be placed.
- Begin placement and visit site at least once.
- Arrange make-up sessions with the employer if those become necessary. Obtain parent approval again if this is necessary.
- Brief teachers and collect their curriculum models.

- Request certification by the employer at the end of placement (use page 4 of permit).
- Assist with program evaluation.

Assigning Course Credit

The method of assigning credit for the students training was determined by the school. Options suggested were:

- Give course credit, certify the DPS, but give no DPS credit.
- Course credit, certification, plus 15 or 25 credits for the DPS based upon the tentative guidelines established by the Division of Instruction, Educational Goals.
- Course Credit, certification, plus a sliding scale of DPS credits (5 to 25) based upon number of hours in training (current standard one unit credit for 12 clock hours).

Seventy-five percent of the schools preferred the third option.

Skill Training

The majority of students were trained by employers on a schedule of two or three days a week for two to three hours. Total hours varied widely depending upon the career area and enthusiasm of the student. The approximate number of total hours for each demonstrated performance skill is listed below:

Career Skill	Hours
Scientific Helper	24
Inventory Control Clerk	48
Animal Caretaker	48
Veterinarian Aide	60
Advertising Copywriter	12[illegible]
Advertising Copywriter	54
Architectural Drafter	30
Engineering Department Assistant	60
Editorial Assistant	20
Sealer, Sander, Cabinet Assembler	60
Computer Programmer	60
Biology Lab Assistant	60

Career Skill	Hours
Electronics Lab Assistant	60
Photo Lab Assistant	40
Graphic Arts Lab Assistant	40
Elementary Special Education Aide	60
Preschool Special Education Aide	60
High School Special Education Aide	60
Personnel Clerk	24
Survey Worker	36
Editing Clerk	36
Budget Analyst/Training Research Assistant	36
Architectural Drafting Assistant	30
Human Resources Management Trainee	32
Library Assistant	32
Mental Health Aides	No data
Dental Assistant	60
Electron Microscopic Aide	100
Micro Biological Aide	100
Electro Cardiograph Technician	100
Physical Therapy Aide	72
Data Processing Assistant	36
Credit and Collection Trainee	48
Careers in Engineering	No data
Purchasing Clerk	60
Junior Accountant	60
Controller's Assistant	54
Professional Resume Assistant	54
Personnel Interviewer	18
Cash Receipts Clerk	60
Accounting Clerk	60
Advertising Copywriter/Commercial Artist	60
Vending Machine Maintenance	40
Travel Agent	120
Teller Trainee	28
Personnel Clerk	44
Computer Programmer	100
Statement Clerk	40
Inventory Clerk	36
Cashier & General Office Worker	40

EVALUATION PLAN

Two separate evaluations were planned for this study. Both were conducted by consultants outside of the School District. One evaluation was to focus on the relationships of employer and student, and the satisfaction of participants. A second evaluation examined the total program

with particular emphasis on the feasibility of procedures employed and suggestions for revisions. Details of the evaluation plans are presented in the enclosed reports.

RESULTS

Objective 1.0

The purpose of this study was to identify and field test 60 career contract models. While 62 skills were identified by participating employers, delays in site recruitment resulted in only 60 students being placed in 52 different training positions. In addition, jobs were not evenly distributed over the 15 career clusters.

The demonstrated performance skills and participating employers are listed in Attachment A. The contract models, including the standardized permit forms and individual skill descriptions, are presented in Attachment B. The skills which were fully field tested have been revised based upon performance of the students in the jobs.

Objective 2.0

Factors which contribute to the satisfaction of students, employers and schools personnel with off-campus career training are described in detail in the enclosed evaluation reports. A summary of factors identified by employers as beneficial to the company or agency follows:

- Students helped release regular employers from basic work tasks.
- Contact with the schools.
- Helping to update school curriculum.
- Helping to refine and validate training methods.
- Project is a source of temporary or part-time labor.

- Providing service to community and students.

Suggestions offered by students on ways to improve the program are listed below:

- Assignments should be more challenging (17 S's).
- Tasks should be more varied (14 S's).
- Have an opportunity to observe a wide-range of vocations (14 S's).
- More social communication with workers (10 S's).
- Receive pay (9 S's).
- Have more time at work (8 S's).
- More social communication with supervisor (5 S's).

Objective 3.0

Because of the diversity of skill training positions, it was impossible to estimate the cost to the employer implementing this project. Employers donated approximately 2 hours per week of one person's working time for planning, training and evaluation of students. The average contract extended for a six week period making a total of 12 hours per company or agency. Fixed charges for space and materials could be added to the cost of the trainer's time in order to estimate training costs within each skill area. Costs will differ for every company and job.

Cost estimates are available for school coordination. To recruit new sites for one school schedule and match 30 students, visit each site once and collect evaluation data requires approximately 200 hours of a school coordinator's time. At $10.00 per hour (includes fixed charges) the minimum total is $2,000 per school to initiate the program for a class of 30 students, each of whom receives training in a unique skill. Transportation costs of the coordinator and students should be provided which would add another $250 or more.

Objective 4.0

This field test of a wide variety of off-campus career training experiences has provided sufficient data to describe procedures necessary for large-scale implementation of similar programs throughout the District.

Methods of Granting Credit and Certification (Objective 4.1)

Career Experiences which are developed as an experiential component of courses in the high school, students should be granted course credit and Demonstrated Performance Skill Credit based upon the number of hours in training. The institution of a sliding scale of DPS credit is important for several reasons. First, students and employers were most satisfied when training revolved around practicing tasks which significantly contributed to the output of the company or agency. When students performed tasks which would otherwise be assigned to regular employees, they were viewed as responsible contributors to the company. Yet, students should not be expected to enthusiastically take on responsible work without pay unless DPS credit can be granted for their efforts. Second, the amount of time required to train students to competency varies for each job, and to some extent it varies by work environment. For example, careers related to Health and Welfare required approximately 100 hours of training time. Training for careers in other fields required half as much time. Third, almost all of the students who completed their assignments missed no class time at school. This means that they received training during the hours they would be taking electives or on their own time. While few complained about this situation, remuneration should be given for the extra time spent. This is particularly important if the training experiences were to be lengthened as suggested by virtually all of the participants.

Certification that students have in fact acquired specific job skills will be best accomplished by employer evaluation or examination. Even with

a sample of 58 students it was impossible for school coordinators to visit the training sites often enough or to simulate the variety of job performance situations so that students could be certified on their career competency.

Legal and Insurance Considerations (Objective 4.2)

The student permit and campus extension site contract forms were drafted by the advisory subcommittee into a Permit/Agreement. The Los Angeles County Counsel, district legal advisor and Contract Section of the School District were consulted for legal advice.

A statement on Worker's Compensation was purposefully written into the agreement as an incentive to employers. Under California State Law (AB 2937) Worker's Compensation is automatically provided for all District students participating in non-paid work activities coordinated with the school program. Liability rests with the negligible party. Statements regarding liability are inserted to encourage all participants to consider risks and responsibilities.

A second statement was added on the advice of the Advisory Committee member representing labor. This statement assured that students would not replace any employees.

Agreements are designed to permit local school coordinators to request approval of the extension site from Safety and Real Estate Sections of the School District. At the same time, approval from a central office for a number of individual placement is burdensome paperwork and unnecessary in modern office situations. Where approval from these departments is perfunctory, site evaluation for safety could be handled by school coordinators and forms could be filed in school and/or area offices. Approval by the Board of Education is required for work sites to be used by students.

Incentives for Participants (Objective 4.3)

For employers, the significant incentives for participation were 1) that students helped to accomplish tasks which regular employees could not complete; and (2) public relations which improve contact with the schools. To support continuous participation by employers, site recruiters should identify organizations where staff are overworked and students could make a significant contribution to their efforts. In addition, a continuous media campaign should be waged in the local school community to inform the public about the participation of companies and agencies in career training programs. To adequately provide off-campus training on a large scale, additional incentives would need to be provided. Lease agreements could be arranged with employers for long-term training; however, costs for such a plan on a district-wide basis would be relatively high. Tax credit could be authorized by the State of California for those businesses, agencies or organizations which perform according to predetermined criteria for career development experiences for secondary students. Recommended procedures are as follows:

1) School districts shall identify the criteria for acceptable DPS's. The announcement may be via a RFP procedure and/or normal contractual bidding procedures.
2) Participating entities shall submit a summary of their DPS opportunities to participating school districts.
3) Business entities shall participate with those school districts in which they operate.
4) School district must provide written authority for any participation by neighboring school districts.
5) School districts shall be required to provide written authority to confirm performance by any participating entities. This

written confirmation shall be required for any participating entity to receive a tax credit.

6) Disputes concerning successful performance should be ajudicated by an Ad Hoc jury of business/industry and educational representatives as established by the County Superintendent's Office in which the dispute exist.

For students, the opportunities for personal development and learning a specific job skill were important incentives for participation. Most students felt that pay was not necessary, but it would be desirable. Providing an opportunity to advance to summer work or part-time work was something which interested almost all students.

Training Positions and Time Constraints (Objective 4.4)

Descriptions of the types of training positions which can be made available for students are presented in Attachment A. The estimated hours required for training are presented in the procedures data. Employer responses suggest that all of the estimates are slightly low and training schedules should be extended.

Alternative Schedules (Objective 4.5)

Almost all of the employers indicated that they would like to have students spend more time than two hours in any one day of training. Half-day and full day training schedules were preferred; therefore, schools with flexible schedules provide the most suitable environment for implementation. Students should be able to receive credit for evening and Saturday training since a few jobs require participation at these times.

Integrating Career Training with the Instructional Program (Objective 4.6)

This objective was not successfully accomplished. School coordinators suggested that (1) career training be started at the beginning of the school year; and (2) department chairpersons and guidance counselors be responsible

for planning the integration of courses with academic classes. It was suggested that special courses within each department be developed. Students would spend at least one day on-campus discussing the career area and receiving guidance from teachers.

ATTACHMENT A

Cluster	*Career Skill*	*Company/Agency*
AGRICULTURE AND ANIMAL HUSBANDRY	Scientific Helper (Science Center Asst.)	Hammel Street Science Center
	Inventory Control Clerk	Pettigrew Science Center
	Animal Caretaker	Pettigrew Science Center
	Veterinarian Aide	Chatoak Pet Clinic
COMMUNICATIONS	Advertising Copywriter	Pacific Telephone Company
	Newswriter	Pacific Telephone Company
	Advertising Copywriter	L.A. Convention Bureau
CONSTRUCTION	Architectural Drafter	Daniel, Mann, Johnson & Mendenhall
	Engineering Department Assistant	Dickerson/Gladstone Associates
	Editorial Assistant	U.S. Army Engineer District
	Sealer, Sander, Cabinet Assembler	Profile Products, Inc.
EDUCATION	Computer Programmer	Cal State University-Northridge
	Biology Lab Assistant	Cal State University-Northridge
	Electronics Lab Assistant	Cal State University-Northridge
	Photo Lab Assistant	Cal State University-Northridge
	Graphics Arts Lab Assistant	Cal State University-Northridge
	Elementary Special Education Aide	Danube Avenue School
	Preschool Special Education Aide	Lokrantz Elementary School
	High School Special Education Aide	Miller High School

Cluster	*Career Skill*	*Company/Agency*
GOVERNMENT	Personnel Clerk	Internal Revenue Service
	Survey Worker	Office of the Mayor
	Editing Clerk	Office of the Mayor
	Budget Analyst/Training Research Assistant	U.S. Customs Bureau
	Architectural Drafting Assistant	U.S. Customs Bureau
HEALTH AND WELFARE	Human Resources Management Trainee	Blue Cross
	Library Assistant (Technical)	Blue Cross
	Mental Health Aides (Sociology, Phychology, Nursing)	Camarillo State Hospital
	Dental Assistant	Riley Dental Corporation
	Electron Microscopic Aide	Sepulveda Veterans Administration Hospital
	Micro Biological Aide	Sepulveda Veterans Administration Hospital
	Electro Cardiograph Technician	Sepulveda Veterans Administration Hospital
	Physical Therapy	McDonnell Street School
MANUFACTURING	Data Processing Assistant	American Cyanamid
	Credit and Collection Trainee	American Cyanamid
	Careers in Engineering (Three Positions)	Hughes Aircraft
	Purchasing Clerk	Weston Hydraulics
	Junior Accountant	Weston Hydraulics
NATURAL RESOURCES	Controller's Assistant	Atlantic Richfield Company
	Professional Resume Assistant	Atlantic Richfield Company

Cluster	*Career Skill*	*Company/Agency*
PERSONNEL SERVICES	Personnel Interviewer	Beneficial Standard Life
	Cash Receipts Clerk	Farmers Insurance Group
	Accounting Clerk	Farmers Insurance Group
	Advertising Copywriter/ Commercial Artist	Golden State Mutual Life Insurance Company
PRODUCT SERVICES	Vending Machine Maintenance	Northwest Fruit Company
RECREATION	Travel Agent	Travelwise
TRADE AND FINANCE	Teller Trainee	Lloyd's Bank
	Personnel Clerk	Lloyd's Bank
	Computer Programmer	Litton Data Systems
	Statement Clerk	Security Pacific National Bank
TRANSPORTATION	Inventory Clerk	Bekins Van & Storage
	Cashier & General Office Worker	Granada Datsun, Inc.

ATTACHMENT B

CAREER CLUSTER: Agriculture and Animal Husbandry*

CAREER TITLE: Animal Caretaker

DOT NO: 419.884

DPS(s):

Feeds, waters, and cleans quarters of domestic animals at science center:

- Observes and reports sick animals.
- Assists in treating minor injuries or ailments.
- Prepares food, and may order necessary supplies.
- Transfers animals from one pen to another; may exercise animals.
- May answer questions of visitors and students concerning animals.
- May assist with maintenance of animals and instructional supplies of zoo mobiles.
- Keeps records.

*PETTIGREW SCIENCE CENTER

CAREER CLUSTER: Agriculture and Animal Husbandry*

CAREER TITLE: Inventory Control Clerk

DOT NO: 223.388

DPS(s):

Compiles records of amount, kind, and value of merchandise, materials, or stock on hand in establishment or department of establishment:

- Counts material on hand and posts totals to inventory records.
- Computes figures from shipping, production or stock records to obtain current theoretical inventory of science equipment and instructional kits.
- Identifies materials needed for science kits and assists in the requisitioning.
- Stores, packages and prepares science materials for shipping.
- May develop and organize materials for science instructional kits.

*PETTIGREW SCIENCE CENTER

CAREER CLUSTER: Agriculture and Animal Husbandry*

CAREER TITLE: Veterinary Assistant

DOT NO: 356.874

DPS(s):

Under supervision, cares for animals under treatment in clinic for disease, injury, or for production of serums:

- Leads, wheels, or carries animal from quarters to treatment room.
- Lifts animal onto treatment table and applies restraints or holds it during treatment.
- Sterilizes surgical instruments and other equipment, such as rubber gloves, syringes, and test tubes, using germicides and autoclave.
- Administers anesthetic, medications, and prescribed nursing care, under direction of VETERINARIAN.
- Measures, mixes, grinds, and chops specified ingredients to prepare food, and feeds animals.
- Bathes and brushes animals and clips their hair and nails.
- Sweeps, dusts, mops, and hoses hospital rooms and animal quarters.
- May receive clients, answer telephone, make appointments, and accept payment on accounts.

*CHATOAK PET CLINIC

CAREER CLUSTER: Communication*

CAREER TITLE: Public Relations/Advertising Assistant

DOT NO: 165.068

DPS(s):

Under supervision, prepares brochure and "background materials" to present a positive image of Los Angeles to potential vacationers and association executives:

- Develops research methods.
- Prepares outlines of the project.
- Maintains phone and letter solicitation of materials for the project.
- Prepares readable materials which motivates and informs.

*LOS ANGELES CONVENTION BUREAU

CAREER CLUSTER: Communication*

CAREER TITLE: Public Relations Assistant/Copywriter

DOT NO: 165.068

DPS(s):

Under supervision, will assist in:

- Writing material.
- Photography.
- Answering telephones.
- Typing.
- News coverage.
- Script writing for CCTV

*PACIFIC TELEPHONE

CAREER CLUSTER: Construction*

CAREER TITLE: Architectural Drafter

DOT NO: 355.878

DPS(s):

Plans artistic architectural and structural features of any class of buildings and like structures:

- Sketches designs and details, using drawing instruments.
- Makes engineering computations involved in the strength of materials, beams, and trusses.
- Estimates quantities needed for project and computes cost.
- Makes freehand drawings of proposed structure when necessary to clarify plans.
- Draw architectural plans according to scale when given a detail.
- Traces architectural plans to company specifications.
- Sets up titles and demonstrates satisfactory lettering skills.
- Demonstrates comprehension of working drawings.

*DANIEL, MANN, JOHNSON & MENDENHALL

CAREER CLUSTER: Construction*

CAREER TITLE: Editorial Assistant

DOT NO: 132.038

DPS(s):

Participation in editorial activities related to government reports:

- Edits parts of reports that include fiscal data and pertinent physical data.
- Checks material in reports for extraneous material, clarity of expression, completeness, conciseness, correct grammatical usage, spelling, punctuation, logical arrangement, correctness of form and layout, and proper degree of emphasis on individual subjects in proportion to their relative importance.
- Checks tables, plates, and graphs for consistency with text.
- Checks all formats, including table of contents, paragraph numbers, and various details required by authoritative guides.
- Rewrites paragraphs on parts of reports, edits or sets up tables that are in conformity with standards.
- Performs other duties as assigned.

*U.S. ARMY ENGINEER DISTRICT

CAREER CLUSTER: Construction*

CAREER TITLE: Engineering Assistant

DOT NO: 7.191

DPS(s):

- Drafts detailed drawings and completes lettering on layouts.
- Operates computer and inputs data.
- Operates blueprint and reproduction machines.
- Picks-up and delivers materials.
- Keeps catalog files in order.

*DICKERSON/GLADSTONE ASSOCIATES

CAREER CLUSTER: Construction*

CAREER TITLE: Sealer, Sander, Cabinet Assembler

DOT NO: 769.887

DPS(s):

Performs any combination of the following duties to facilitate cutting, inspecting, finishing, storing, cleaning, and shipping wood products:

- Sealing and sanding in the wood finishing department.
- Putting together stero speaker enclosures.
- Installing speakers in cabinets.
- Soldering electronic wires.

*PROFILE PRODUCTS, INC.

CAREER CLUSTER: Education*

CAREER TITLE: Biological Aid

DOT NO: 049.384

DPS(s):

Under supervision, aids research workers to carry out experiments in bacteriology, plant pathology, mycology, and other agricultural and biological sciences, performing routine tests and experiments concerned with greenhouses, experimental plots, hives of bees, and experimental equipment.

*CAL STATE UNIVERSITY, NORTHRIDGE

CAREER CLUSTER: Education*

CAREER TITLE: Elementary Special Education Aide

DOT NO:

DPS(s):

Under supervision, will assist in working with aphasic children:

- Developing oral language drills.
- Giving individual help to aphasic children in academic, social, and phsycial areas.
- Will assist in the preparation of audio-visual aids.

*DANUBE AVENUE SCHOOL

CAREER CLUSTER: Education*

CAREER TITLE: Graphic Arts Department Assistant

DOT NO: 141.081

DPS(s):

Under supervision, will draw and paint illustrations for advertisements, books, magazines, posters, billboards, and catalogs:

- Will study design layout or proposed sketch, and select technique, such as pen and ink, watercolor, pastels, scratchboard, tempera, or oils, best suited to produce desired visual effect and to conform with printing method specified.

- Will execute design, using selected technique and rendering details from memory, live models, manufactured products, or reference materials.

*CAL STATE UNIVERSITY, NORTHRIDGE

CAREER CLUSTER: Education*

CAREER TITLE: High School Special Education Aide

DOT NO:

DPS(s):

- Assists with the teaching or ceramics (or reading skills).
- Prepares lessons and gathers materials necessary for instruction.
- Helps with the care of handicapped students including feeding and lifting, as well as pushing wheel chairs.
- Helps handicapped students with toilet skills.

*MILLER HIGH SCHOOL

CAREER CLUSTER: Education*

CAREER TITLE: Photgraphic Laboratory Assistant

DOT NO:

DPS(s):

Under supervision, will work in a photographic laboratory as assistant and will learn the skilled crafts involved in this field.

*CAL STATE UNIVERSITY, NORTHRIDGE

CAREER CLUSTER: Education*

CAREER TITLE: Preschool Special Education Aide

DOT NO:

DPS(s):

- Assist in the instruction of motor development language skills, perceptual training and self-awareness activities.
- Relate to very young children (chronological age 3-6 but developmentally 18 months to 4 years of age).
- Communicate with children who have little or no speech.
- Use perceptual training equipment.

*LOKRANTZ ELEMENTARY SCHOOL

CAREER CLUSTER: Government*

CAREER TITLE: Architectural Drafting Assistant

DOT NO: 355.878

DPS(s):

The student will acquire the following Demonstrated Performance Skill(s) at the campus extension site:

- Completes space layouts for offices.
- Revises construction drawings.
- Completes design work on facility for Phoenix Airport.
- Performs lettering tasks.
- Completes layout sketches of buildings, measurement of space, etc.
- Illustrates desk and counter designs.
- Illustrates with pen and ink for instructions on embedding customs officer's badges in lucite.
- Draws overlay for office space rearrangements.

*U.S. CUSTOMS BUREAU

CAREER CLUSTER: Government*

CAREER TITLE: Budget Analyst/Training Program Research Assistant

DOT NO:

DPS(s):

- Coordinates with budget officer; surveys costs of training operations for this year.
- Analyzes budget information such as travel and per diem costs, In-House training expenses, job-related courses taken by employees, tuition expenses, etc.
- Estimates future costs and prepares next year's training budget.
- Conducted evaluation of secretarial and clerical training course.
- Complete evaluation report with suggestions for revisions.
- Outline book on Communications as first stage for planning of training program design.

*U.S. CUSTOMS BUREAU

CAREER CLUSTER: Government*

CAREER TITLE: Personnel Clerk

DOT NO: 205.368

DPS(s):

Compiles and files personnel records:

- Records data for each employee (e.g. address, weekly earnings, absences, amount of sales or production, supervisory reports on ability, date of and reason for termination.
- (May) operate calculating machine.
- (May) administer and score aptitude, personality and interest tests.
- (May) fill out and explain bonding application required by company.
- Performs typing duties.
- Will have public contact experience.
- Will use telephone as part of contact experience.
- Legible writing would be preferable.

*INTERNAL REVENUE SERVICE

CAREER CLUSTER: Health and Welfare*

CAREER TITLE: Dental Assistant

DOT NO: 79.378

DPS(s):

- Obtains and records patient's personal information and medical history and records dental treatment rendered.
- Arranges dental instruments, materials, and medications and hands them to dentist as required.
- Seats and prepares patients.
- Assists dentist during dental treatment with patients and materials.
- Sterilizes and cares for instruments and other equipment.
- Becomes familiar with x-ray procedures.

*RILEY DENTAL CORPORATION

CAREER CLUSTER: Health and Welfare*

CAREER TITLE: Electrocardiograph Technician

DOT NO: 078.368

DPS(s):

Under supervision, records electromotive variations in action of heart muscle, using electrocardiograph machine, to provide data for diagnosis of heart ailments:

- Attaches electrodes to specified areas of patient's body.
- Turns selector switch and moves chest electrode to successive positions across chest to record electromotive variations occuring in various areas of heart muscle.
- Presses button to mark tracing paper to indicate positions of chest electrodes.
- Replenishes supply of paper and ink in machine and reports malfunctions.
- Sends tracings to CARDIOLOGIST for analysis and interpretation.
- May develop film.

*SEPULVEDA VETERANS ADMINISTRATION HOSPITAL

CAREER CLUSTER: Health and Welfare*

CAREER TITLE: Electron Microscopic Aide

DOT NO:

DPS(s):

Under supervision, will assist in the preparation of tissues for electron microscopy:

- Cutting them sections of plastic embedded tissues.
- Observing tissues with the electron microscope.
- Photographic darkroom techniques - developing, printing, enlarging.

*SEPULVEDA VETERANS ADMINISTRATION HOSPITAL

CAREER CLUSTER: Health and Welfare*

CAREER TITLE: Human Resources Management Trainee

DOT NO:

DPS(s):

- Assists in the outline and development of training programs for employees, including management and administration.
- Performs an internal audit; collects and analyzes personnel data (e.g. information on new employees, terminations for the First Quarter).
- May summarize data and outline information for reporting purposes.
- May assist in the writing of reports.

*BLUE CROSS

CAREER CLUSTER: Health and Welfare*

CAREER TITLE: Micro Biological Aide

DOT NO: 041.081

DPS(s):

Under supervision, will assist in the making of media to be used in culturing of bacteria:

- Doing dilutions - pipeting.
- Running centrifuges.
- Generally aiding the microbiologist in all tasks involved with the growing of bacteria.
- Possible use of radioactive isotopes in performing various experiments.

*SEPULVEDA VETERANS ADMINISTRATION HOSPITAL

CAREER CLUSTER: Health and Welfare*

CAREER TITLE: Physical Therapy Aide

DOT NO: 355.878

DPS(s):

Prepares patients for treatment by physical therapist:

- Assists patients in dressing, undressing, and moving about.
- Places patients in position for treatment; times treatment.
- Changes linens on beds and treatment areas; cleans work areas
- Assists patients with corsets, braces, etc.
- Picks up patients in classrooms and escorts them to therapy.
- Feeds patients.
- Plans and conducts game activities.
- May assist with training of developmental skills (walking, crawling, balance, rolling, sitting) and activities of daily living.

*MC DONNEL STREET SCHOOL

CAREER CLUSTER: Library Assistant (Technical)*

CAREER TITLE: Librarian

DOT NO: 249.368

DPS(s):

- Records identifying data and due date on cards, by hand.
- Inspects returned books for damage, verifies due dates.
- Reviews records to compile list of over-due books.
- Sorts books, publications and other items according to classification code and returns them to shelves, files, or other designated storage area.
- Locates books and publications for patrons.

*BLUE CROSS

CAREER CLUSTER: Manufacturing*

CAREER TITLE: Credit and Collection Trainee

DOT NO: 168.168

DPS(s):

Under supervision, manages credit and collection department of commercial house, department store, hotel, or similar establishment:

- Checks and evaluates credit risks via Dunn and Bradstreet, bank, other references.
- Establishes customer contact by letter.
- Assigns credit limits.
- Checks and follows-up on past-due accounts.

*AMERICAN CYANAMID

CAREER CLUSTER: Manufacturing*

CAREER TITLE: Data Processing

DOT NO: 219.388

DPS(s):

Keeps records for keypunch and tabulating department:

- Learns input/output functions of disc drive computer.
- Hands on experience during actual processing.
- Possibly some minor programming.

*AMERICAN CYANAMID

CAREER CLUSTER: Manufacturing*

CAREER TITLE: Junior Accountant

DOT NO: 160.188

DPS(s):

- Verifies additions.
- Checks audits, postings, and vouchers.
- Analyzes accounts.
- Prepares statements working under supervision.

*WESTON HYDRAULICS

CAREER CLUSTER: Manufacturing*

CAREER TITLE: Purchasing Clerk (Procurement Clerk)

DOT NO: 223.368

DPS(s):

Prepares, under supervision, information and records to draw up purchase orders for procurement of material for industrial firm, governmental agency, or other establishment.

- Verifies nomenclature and specifications of purchase requests.
- Searches inventory records or warehouse to determine if material on hand is in sufficient quantity.
- Consults catalogs and interviews salesmen to obtain prices and specifications.
- Types or writes invitation-of-bid forms and mails forms to supplier firms or for public posting.
- Writes or types purchase order and sends copy to supplier and department originating request.
- Compiles records, such as of items purchased or transferred between departments, prices, deliveries, and inventories.
- Confers with suppliers concerning late deliveries.
- May compare prices, specifications and delivery dates, and award contract to bidders or place orders with salesmen or mail-order firms.
- May compute total cost of items purchased, using calculating machine.
- May classify priority regulations.
- May verify bills from suppliers with bids and purchase orders and approve for payment.

*WESTON HYDRAULICS

CAREER CLUSTER: Personal Services*

CAREER TITLE: Accounting Clerk

DOT NO: 219.488

DPS(s):

Performs a variety of routine calculating, posting, and typing duties to accomplish accounting:

- Posts details of business transactions such as allotments, disbursements, deductions from payrolls, pay and expense vouchers, remittances paid and due, checks and claims.
- Totals accounts, using adding machine.
- Computes and records interest charges, refunds, cost of lost or damaged goods, freight or express charges, rentals, and similar items.
- May type vouchers, invoices, account statements, payrolls, periodic reports, and other records.

*FARMERS INSURANCE GROUP

CAREER CLUSTER: Personal Services*

CAREER TITLE: Cash Receipts Clerk

DOT NO: 211.468

DPS(s):

The Cash Receipts Clerk handles the clerical processes of all incoming receipts:

- Compares amount of check with transmittal from Agent's Remittance Advices.
- Attaches receipts to transmittal original copy.
- Separates Farmers New World Life and Prematic receipts from all others.
- Runs adding machine tapes.
- Assigns policy numbers.
- Separates and processes cash and non-cash mail.
- Separates P.C. notices, invoices, and payment by company of payments direct from insured.
- Performs all required operations involving name and address changes, etc.
- Allocates subrogation and salvage payments.
- Control and process returned and post-dated checks.

*FARMERS INSURANCE GROUP

CAREER CLUSTER: Personnel Services*

CAREER TITLE: Personnel Interviewer

DOT NO. 166.268

DPS(s):

Records information and evaluates information gained from applicants:

- Administers tests and interprets test results.
- Supplies information to applicants regarding policy, duties, hours, pay, and promotion.
- Maintains and prepares records of those interviewed, accepted or rejected or declining appointment.
- Discusses hiring activity with supervisors regarding selection and recruitment programs.
- Observes jobs to obtain information on job requirements and needs.
- Reviews resumes, interviews and selects applicants.

*BENEFICIAL STANDARD LIFE

CAREER CLUSTER: Product Services*

CAREER TITLE: Vending Machine Maintenance

DOT NO: 706.884

DPS(s):

Under supervision, will assist in the remodeling of vending machines:

- Installing electronic changers.
- Checking out electronic changers.
- Installing vending machines on location.

*NORTHWEST FRUIT COMPANY

CAREER CLUSTER: Trade and Finance*

CAREER TITLE: Personnel Clerk

DOT NO: 205.368

DPS(s):

Compiles and keeps personnel records:

- Types personnel information into the records.
- Operates data processing runs (making changes in personnel)
- Operates personnel record keeping system.
- Assists with payroll procedures.
- Assists with reference checking.
- Files personnel data.

*LLOYD'S BANK

CAREER CLUSTER: Trade and Finance*

CAREER TITLE: Teller Trainee

DOT NO: 212.368

DPS(s):

Under supervision, performs any combination of the following tasks:

- Provides customer service.
- Takes deposits (checking and savings).
- Cashes checks (customers and non-customers).
- Properly controls cash flow.
- Sells Cashier Checks, Money Orders, Travelers Checks, and Savings Bonds.
- Files checks.
- Becomes familiar with hold-up procedures.

*LLOYD'S BANK

CAREER CLUSTER: Transportation*

CAREER TITLE: Cashier and General Office Worker

DOT NO: 211.468

DPS(s):

Under supervision, will assist in:

- Filing.
- Telephone and cashier relief work.
- Closing out repair orders and counter tickets.

*GRANADA DATSUN, INC.

CAREER CLUSTER: Transportation*

CAREER TITLE: Storage Clerk

DOT NO: 223.388

DPS(s):

Compiles records of amount, kind, and value of merchandise, materials, or stock on hand in establishment or department of establishment.

- Computes tariffs (moving rates) according to specified procedures.
- Books orders for moving and storage.
- Answers customer requests by telephone.
- Handles collections by telephone.

*BEKINS VAN AND STORAGE

STUDENT, EMPLOYER, AND SCHOOL COORDINATOR

DATA FOR THE

COMPETENCY-BASED CAREER EXPERIENCE PROJECT

I

STUDENT DATA

Fifty-eight students from 5 high schools participated in the career experience program. These students were placed in job positions that fell into the following 13 occupational clusters--Trade and Finance, Manufacturing, Health and Welfare, Agriculture and Animal Husbandry, Communications, Government, Recreation, Transportation, Natural Resources, Product Services, Education, Personal Services and Construction. The chart on the following pages provides a summary of the student job placements and of the 58 students that participated (42 completed the program). Twelve out of the 16 dropped out for personal reasons while the other four students were involuntarily dropped by the company. A total of 48 student questionnaires were returned--17 pre-questionnaries and 31 post-questionnaires. Fifteen of the 49 students completed both pre- and post-questionnaires. Student results will be reported item-by-item for the total pre-post group rather than for the smaller matched group.

Item: Do you plan on finishing high school? (pre-post question)

This question was asked on both the pre- and post-questionnaires. All students from both the pre and post group indicated that they did plan on finishing high school.

Item: What do you plan on doing when you leave high school? (pre-post question)

Of the 17 pre-questionnaire respondents, 16 planned on attending college; the other student didn't respond to this particular item. Twelve out of the 16 also planned on working part-time while attending college.

Of the 31 post-questionnaire respondents 30 planned on attending college and 1 planned on attending trade or vocational school.

COMPANY NAME	POSITION	SUPERVISOR NAME	STUDENT NAME	CODE	EMPLOYER PRE	EMPLOYER POST	STUDENT PRE	STUDENT POST
American Cynamid	Data Processing Credit & Collection	James Jianni	Armando Romero	AC(DP)	X			X
Atlantic Ritch	Finance Asst. Controller's Asst.	Obie Coats	Patricia Aguillen	AR(FA)	X			X
	Professional Resume Asst.	Marcia Thomas	Sandra Bujaidar (Dropped)	AR(PRA)		X		
Bekins Van and Storage	Inventory Clerk	James Wilson	Elsa Morales (Dropped)	B(IC)				
	"This student only showed up for one week. We cannot give you a reading."							
Blue Cross	Library Asst. (Technical)	Frances Linke	Yolanda dela Nuez	BC(LA)	X			
Chatoak Pet Clinic	Veterinarian Aide	Wm. Schramm	Steven Sherman	C(VA)	X	X	X	X
			Jill Liscom				X	X
Dickerson/Glad-	Engineering Deputy Asst.	Richard Drenske	Jeff Haught	DG(E)	X		X	X
Farmers Insurance	Accounting Clerk	Jody Williams (pre) Stephen Carkeet	Ron Spoehel	FI(AC)	X	X	X	X
	Cash Receipt Clerk	Mary Ann Norman (pre)	Rebecca Renning	FI(CRC)	X	X	X	X
Granada Datsun	Cashier and General Office Worker	Doris Guthormsen	Patricia Behringer	GD(C)	X			X
Internal Revenue Service	Personnel Clerk	Beverly Nelson	Helene Palmer	IRS(PC)		X		X

COMPANY NAME	POSITION	SUPERVISOR NAME	STUDENT NAME	CODE	EMPLOYER PRE	EMPLOYER POST	STUDENT PRE	STUDENT POST
Litton Data Systems	Scientific Programming Aide	Norman Schmidt	Jonathan Hall	LDS(SPA)		X		
Lloyd's Bank	Teller Trainee	Tamara Scott	Yvette Cole (Dropped)	LB(TT)	X			
		Frank Marshall	Lucia Gusman	LB(TT)		X		X
Lokrantz School	Special Education Aide	?	Jodi McLaughlin	L(SE)	X			X
L.A. Convention	Research Asst.(pre) Advertising Copywriter	Charles Boyd	Nestor Larios	LACB(RA)	X	X		X
McDonnell Street School	Physical Therapy Aide	Ray Regaldo	Tyrone Yamamoto	McD(PTA)	X			X
Miller High	Special Education Aide	Phyllis Christensen	Betty Huff	M(SE)		X	X	X
			Laura Streimer				X	X
Northwest Fruit Company	Shop Worker	J. Paul Oatey	Mark Boberg (Dropped)	NWF(S)	X			
Office of the Mayor (Youth Programs)	Editing Clerk	Joanne Orijel	Donna Dudley	MO(EC)	X	X		X
	Survey Worker	Paul Satja	Charlotte Bedford	MO(SW)	X	X		X
Pettigrew Science Center	Animal Caretaker	Deloy Stromme	Janet Moston	P(AC)	X		X	X
Riley Dental Corporation	Dental Assistant	Lincoln Riley	Janey Riley	R(DA)	X	X	X	X
Security Pacific Bank	Statement Clerk (Teller)	Joyce Thompson	Karen Jones	SP(SC)	X			X

"The previous questionnaire was completed at the end of Karen's learning period. All of the issues still remain the same."

COMPANY NAME	POSITION	SUPERVISOR NAME	STUDENT NAME	CODE	EMPLOYER PRE	EMPLOYER POST	STUDENT PRE	STUDENT POST
Sepulveda Veterans Hospital	Electrocardiograph Technician	Max Ortner	Al Pascual	VH(EKG)	X	X		X
	Electron Microscope Aide	Suni Kloss	Richard Wagner	VH(EMA)	X	X	X	X
	Microbiological Aide	Judith Johnston	Sandee Bricker (Dropped)	VH(MBA)	X			
Travelwise	Travel Consultant (Agent)	John Albini	Larry Nathenson	T(TC)	X		X	X
U.S. Army Engineering District, Environmental Resources Branch	Editorial	Thelmo Choto	Doris Robinson	USA(EA)	X	X		X
U.S. Customs, Space and Communications Branch	Architectural	Betty Dove	Shaumon Lau	USC(ADA)	X	X	X	X
U.S. Customs, Training and Development	Budget Analyst (Training, Research Assistant)	June Inglima	Jo Ann Soo Hoo	USC(BA)		X		X
Weston Hydraulics	Junior Accountant	James Gates	Peter Brieger	WH(JA)	X		X	X
	Purchasing Clerk		Steve Krug				X	
Cal State Univ., Northridge	Computer Programmer		Eric Chang					X
	Biology Lab Asst.		Laura Tumito				X	X
	Photo Lab Asst.		James Henke				X	X
	Graphics Art Lab Assistant		Carl Ginrow				X	
Golden State Mutual Life	Advertising Copywriter/Commercial Artist		Leonard Mack					X

Twenty-three of the 30 planning to attend college also indicated that they would be working part-time.

Item: What is the highest level of education you hope to attain? (pre-post question)

The educational aspirations of the respondents were very high. Of the pre-questionnaire respondents 7 hoped to attain a Masters; one a Ph.D.; 8 Law, Medicine or Dentistry degrees; and one respondent wasn't sure. From the 31 student post group, 2 students hoped to attain a BA; 15 an MA; 4 a Ph.D.; 7 Law, Medicine or Dentistry Degrees. One student did not respond.

Item: If you plan on attending school beyond high school, what field or trade will be your major area of study? (pre-post question)

What kind of work do you expect to be doing in fifteen years? (pre-post question)

Responses to these questions were looked at in relation to the career experience position in which each student was placed. It appears that 14 out of the 17 pre-questionnaire responses revealed a correspondence between field or trade and career experience placement position. For example, 1 student planning to study Biology was placed as a Electron Microscopic Aide, another planning on study Special Education was placed as a Special Education Aide. Interms of occupational aspirations, 7 pre-questionnaire respondents didn't know what kind of work they expected to do 15 years from now. Of the remaining 10, a work-placement correspondence was evident for 7. For example, one respondent planning on being a Dental Hygienist was placed as a Dental Assistant and students planning on being Veterinarian were placed as either Veterinarian

Aides or Animal Caretaker.

For the post-questionnaire group, the same pattern was evident. Twenty-two of the 29 who indicated a post high school field or trade or study were well matched. For example, 1 student planning on studying computer science was placed as a Computer Programmer. Another student planning on entering the Public Health Field was placed as a Biology Lab Assistant.

Occupational aspirations and career experience job placement were also fairly congruent for this group. Of the 20 who indicated the work they expected to be doing in 15 years, 14 of them appeared to be exceptionally well placed. For example, one student planning on eventually becoming a Certified Public Accountant was placed as a Budget Analyst. Another student who planned on doing accounting work was placed as a Controller's Assistant.

Items: Have you ever worked? (pre only)

If you have worked, how long did you work, what type of work did you do and what skills did you learn? (pre only)

If you have worked, do (did) you think that your previous job experience will help (help) you in this career experience program? If "Yes", how? (pre-post)

Respondents from the pre questionnaire indicated that 16 of the 17 had worked before; 3 for pay only, 7 as volunteers only and 6 for both pay and as a volunteer, The length of time worked for this group ranged from 1½ years to 5 years. The most predominant type of work done was babysitting. Other types of jobs included yard maintenance, nurse aide, library service, bookkeeping, salesman, waitress, paper delivery or a hospital escort service. The types

of skills learned were the obvious ones. For example, child care for babysitters, gardening for yard work, processing books for library services. Skills listed, on the whole, didn't appear to be highly applicable to the job placement situation.

When the pre-questionnaire group was asked if their previous job experience would be of help to them, 7 out of the 16 said "yes". The typical response for how it would help was "working/dealing/communicating with people."

From the post-questionnaire group 11 of the 31 respondents never worked. Of the remaining 20, 7 said their previous job experience helped them in the career experience job position. As with the pre-questionnaire group, responses concerning how it helped consisted mainly of communicating/working with people.

Item: What high school course(s) have you taken that you think (were) of help to you in this career experience program? (pre-post) How has each of them helped you? (post only)

All 17 respondents from the pre-questionnaire group indicated that they had had classes that they thought would be of help to them in the position. The most frequently mentioned courses were Biology, Chemistry, English and typing.

Nine of the 31 respondent who formed the post group listed no courses that were of help to them in their career experience positions. Of the 22 who did list courses the most frequently mentioned were Biology, English and typing. Responses as to how the courses helped were extremely diverse.

Item: Put a check beside any of the following extra curricular activities (i.e. unpaid work done for parents, relatives or friends; hobbies;

school activities) that you have been involved in. Then write a brief description of the activity(ies). For each activity you describe, tell how you think (thought) the experience may be (was) of help to you in this career experience program. (pre-post)

From the pre group 11 out of 17 did unpaid work. The activities were diverse and examples are house painting, photo work, collecting for charity, babysitting, auto work, baseball coach. Of the 11 responses, 8 described how they thought this would help. Responses were again diverse. Examples include: gain self pride, contribute to taking on responsibilities and competion of a task assigned, helped me to learn some skills.

Fifteen of 17 in the pre group listed hobbies. A variety of hobbies were mentioned. Examples included: tropical fish, water and snow skiing, reading, maps, coins, tennis, jogging, carving, cars, and music. Nine of the 15 stated how they thought the experience would be of help to them. Again a diversitity of responses were given. Examples included: become healthier, getting along with others, manual dexterity for drafting, and familiar in working with dogs.

Eleven of 17 in the pre group listed school activities. Examples included: student council, key club, ski club, knights, quiz team and steering committee. Only 5 of these 11 stated how it would be of help to them. All 5 of them shared the same response. Working communication/getting along with people.

Ten of the 17 in the pre group listed non-school activities. Examples included: church youth groups and junior achievement were the two activities most frequently mentioned. Six of the ten stated how it may help in the career experience program.

Typical responses were similar to those given for school activities. (i.e. working with people and relating to people).

The same types of responses were evident in the post-question group. A diversity of activities were listed. Responses concerning how the experience helped them in their career experience position were even more varied than that of the pre group. Fewer students in the post group mentioned how the experience helped them, than the projected responses of students in the pre group.

Item: Do you feel that students should be paid for participation in this program or do you feel that getting course credit and the opportunities to learn job skills is enough to make participation in the program worthwhile? (pre-post)

Pre-post responses were highly similar. A large majority of the students felt that credit and learned skills was enough. Only 2 out of 17 in the pre group felt that students should be paid. Correspondingly only 2 out of 31 students from the post group felt that students should be paid. Interesting to note is that, even though the item was a closed response one, 6 of 28 students from the post group wrote in additional comments. In the main, these comments indicated that even though credit and learned skills was sufficient for program participation, pay would be nice.

Item: Ordinarily how do you like to work? (i.e. under close supervision, left alone until you have the job done; on your own but with someone close at hand in case you have questions or need help) (pre only)

Please check the statement that best describes the type of supervision you received and the type of supervision you would have preferred while participating in the career experience program. (post only)

Both the pre and post group preferred and received supervision with someone close at hand. Only 1 out of 17 students in the pre group wanted to work under close supervision. The other 16 wanted to work on their own with someone close at hand.

In the post group only, 4 out of 31 indicated that they actually worked under close supervision. One was left alone and 26 worked on their own with someone close at hand. Post group supervisory preference again was working on own with someone close at hand (27 out of 31). Only 3 preferred close supervision and one preferred to be left alone.

Item: Look at the following list of items. Number them in the order in which these things are (were) important to you personally in relation to this career experience program: (pre-post)

- Learning a specific job skill
- Learning what it is like to work at a job
- Opportunity for personal development (increasing self confidence, ability to communicate with others, etc.)
- Meeting new people
- Getting the chance to do something that most of the other students in your school are not doing
- Getting information that will help you in choosing or ruling out a career area for yourself
- Getting time out of school
- Making school work more meaningful by seeing how it relates to skills needed for a job
- Other

Rankings were varied for students within each of the groups. However, for both groups it appears that the most important items were "Opportunity for personal development" (pre - 8 out of 17 ranked it #1 or #2; post 10 out of 31 ranked it #1 or #2) and "Learning a specific job skill." (pre - 8 out of 17 ranked it #1 or #2; post 8 out of 31 ranked it #1 or #2).

The least important item for both groups was "Getting time out of

school." (pre - 16 out of 17 ranked it #7, #8, or #9); (post - 17 out of 3 ranked it #7, #8, or #9).

Item: Do you think that you will (have) learned things in this career experience program that you couldn't have learned by taking high school courses? (pre-post)

Both pre-post groups overwhelmingly said "yes." (17 out of 17 in the pre group and 27 out of 31 in the post group)

Items: What kind of work atmosphere do you prefer? (pre only) What kind of work atmosphere did you work in and what kind of work atmosphere would you have preferred? (post only)

From the pre group two preferred a formal work atmosphere, 14 an informal one and for one student it didn't matter. From the post group, 9 students worked in a formal atmosphere and 22 in an informal one. Only 4 out of 31 definitely wanted to work in an atmosphere different from the one in which they were in.

Item: When a sub task is completed which do you prefer? (1) To hand in the task and go on to the next task. (2) To be told how well you did on the first task before you go on to a second task (pre-only) When a sub task was completed which of the following (see above) occurred, and which would you prefer in the future? (post only) Interesting responses occurred in this item. In the pre group 15 out of 17 said they would prefer feedback before going on to the next task, and only 2 preferred to hand in the task and go right on to the next. In the post group, here's what the students said actually occurred. Twelve students said they handed in the task and went on to the next and 13 said they received feedback. For future job tasks, 27 desired feedback and only 3 wished to just hand

in the task and go on to the next.

Item: Feelings about participation in the career experience program. (pre-post)

For the pre group 13 out of 12 were very enthusiastic about beginning the career experience program and three were mildly enthusiastic. Six of the 13 very enthusiastic students concurrently were worried about how successful they would be in the program. For the post group 17 out of 31 said participation in the program was very enjoyable. Fourteen out of 31 stated it was somewhat enjoyable.

Item: How important do you feel each of the following items are (were) in contributing to student success in this career experience program? (pre-post)

- Intelligence
- Appearance
- Tact
- Motivation
- Initiative
- Pleasing personality
- Self confidence
- Punctuality
- Self respect
- Accuracy of work
- Speed of work
- Self control

Responses for the two groups were somewhat similar. For the pre group the factors that were of major importance were: (1) Dependibility (16 out of 17 respondents classified this as being of major importance); (2) accuracy of work (14 out of 17); and (3) self-confidence (14 out of 17). For the post group, factors of major importance were dependibility (29 out of 31), accurancy of work (29 out of 31), motivation (24 out of 31) and, self confidence (23 out of 31).

Factors that were most unimportant for the pre group were: (1) Prior work experience related to the career experience position (9 out of 17), (2) appearance (6 out of 17), and (3) course work related to the career experience position (5 out of 17). For the post group, the most unimportant factors were; (1) prior work experience related to career experience position (16 out of 31); (2) course work related to career experience position (9 out of 31); (3) apperance (6 out of 31); and (4) poise (6 out of 31).

Item: How well do you feel you learned the job skills for which you were being trained? (post only)

Fifteen out of 31 students responded "very well"; 12 responded "moderately well"; and two responded "not well at all."

Item: What classes did you miss as a result of participation in this career experience program? (post only)

Twenty-five students stated they missed no classes. Only 5 stated that classes were missed. None of the 5 that missed classes felt they would get a lower grade as a result.

Item: Please check the items which you feel would have made participation in the program more rewarding. (post only)

- More challenging tasks
- More task variety
- Pay
- Longer time spent at the job site
- More social communication with supervisor
- More social communication with other workers
- Opportunity to observe a range of vocations and professions actually being performed
- Periodic conferences with school coordinator to discuss experiences or problems
- More discussion with supervisor about how well job tasks were performed and what areas needed improvement
- Other

Items checked most often by students were: "More challenging tasks"

(17 out of 31); "More task variety" (14 out of 31); "Opportunity to observe a range of vocations and professions actually being performed (14 out of 31); and "More discussion with supervisor about how well job tasks were performed and what areas needed improvement (12 out of 31). Items checked the least by students were "More social communication with supervisors" (5 out of 31) and "Periodic conferences with school coordinators to discuss experiences or problems" (5 out of 31).

Item: If you could do it over again, would you have chosen to participate in this program? Describe why or why not. (post only)

Only one out of 31 said they did not wish to participate again. The stated reason was that the student missed important classwork and didn't receive the training. Common reasons for participating again were: "it was interesting", "it gave me experience and "enjoyed the people, the work, and the program."

Item: What could the school have done to make participation in the program more rewarding? (post only)

Only 7 out of 31 students provided suggestions, these included:

1. Offer pay. (2 students)
2. Give credit for going.
3. For seniors, placement in a job after graduation.
4. Extend the program in length.
5. Start earlier in the year when time is not crowded with term papers and tests.

Item: What could the employer have done to make participation in the program more rewarding? (post only)

Fourteen out of 31 students offered suggestions. These were:

1. Pay me. (3 students)

2. Allowed me to participate in interviewing job applicants.
3. Provide a wider variety of jobs. (2 students)
4. Spent more time on the steps and skills needed to learn. She went so fast.
5. Give different tasks.
6. Be present more often (supervisor away for 2 weeks on business trip).
7. Spend more time with me.
8. Review of how well I did.
9. Take me on a tour of the school, let me attend more classes, learn how to toilet the kids.
10. The incentive of a summer job if work was well done.
11. Feedback on how well I did.

Item: To what extent do you feel that the items listed below interferred with participation in this career experience program? (post only)

- Classwork
- Social life
- Responsibilities at home
- Sports activities
- Hobbies

The majority of students stated that the program did not interfere at all with these items. Very much interference was reported by only four out of 31 in the areas of sports, two out of 31 in the area of hobbies, and one out of 31 in the areas of classwork, social life and responsibilities at home.

Item: Should students who have successfully completed the career experience receive assistance in finding a job from the school or participating employer? (post only)

Nineteen out of 31 students stated assistance in finding a job should

be provided by both school and employer. One stated assistance should be provided by the school only, and three stated it should be provided by the employer only.

Item: In general, how would you evaluate the program? (post only)

Thirteen out of 31 evaluated the program as being "very satisfactory." Eighteen stated it was "satisfactory." No one evaluated the program as being unsatisfactory.

II

EMPLOYER DATA

In all, 42 Employer Questionnaires were received for processing. Of these, 25 were "pre-employment" questionnaires 17 were "post-employment" questionnaires. Only 11 supervisors returned both questionnaires. In addition, one post-employment questionnaire (for an inventory clerk at Bekins Van and Storage) was returned but not filled out. On the form, the employer stated that the student had only come to work for one week; therefore, the employer was unable to complete the questionnaire for the student. The 42 forms represent 32 different students. In almost all cases, each supervisor responding had only one student worker; however, at Chatoak Pet Clinic and at Miller High School, the supervisors had two student workers from the program. These supervisors did not fill out a separate questionnaire for each student, as was expected, but used one form to respond for both students.

The remainder of this action will consist of brief descriptions of the responses given by the supervisors to the questionnaire items. Because of the diversity of job types and the job specificity and open-endednes of many of the items, generalizations are difficult to make. However, any apparent trends in the data are noted. Wordings of the items are taken from the post-employment questionnaire except where an item appeared on the pre-employment questionnaire only.

Item: Indicate with a check mark how helpful you think what the student

1 learned in school was in their work experience program placement. Versions of this item appeared on both pre and post questionnaire. Most respondents in both cases said that they expected the student's school experience to be "somewhat helpful." Of the 11 respondents who returned both pre and post forms. Six gave the same answer on

the post questionnaire of the helpfulness of schoolwork; all of these changes were one step downward on the scale. One employer who felt enable to respond to this item on the pre questionnaire answered "somewhat helpful" on the post.

	Pre	Post
Very Helpful	8	5
Fairly Helpful	3	3
Somewhat Helpful	11	7
Not Helpful	1	2
No Response	2	0
Total	25	17

Item: 1a Briefly explain how their school learning was helpful (or not helpful) in their work experience placement.

This question appeared in slightly different forms on both questionnaires.

The answers given were either meaningless ("This work experience placement will allow the students the opportunity to apply the knowledge and skills acquired in school to practical situations") or the obvious ones that anyone could have thought of (the supervisor for a cashier pointed out that a "general knowledge of arithmetic is essential").

The item added no substantive information over and above #1 and should not be re-used.

Item: 2 Indicate with a check mark how helpful you think the student's experiences outside of school were in the student's work experience placement.

Again, revisions of this item appeared on both forms of the questionnaire. As the table indicates, opinion varried considerably on this item. Of the 11 supervisors who returned both forms, 5 gave the same response on both pre and post; 2 changed their responses in a downward direction

and two failed to response on the post (one of these commented that the item was "not applicable").

	Pre	Post
Very Helpful	10	2
Fairly Helpful	6	3
Somewhat Helpful	4	6
Not Helpful	2	1
No Response	3	4
No Page for	0	1
Total	25	17

Item: 2a Briefly explain how you expect their experiences outside of school to be helpful (or not helpful) in their work experience placement. This item appeared on both questionnaires. As was the case with item #1a, this question generated little substantive information. A number of the employers commended that they knew nothing of the student's activities outside of school. Several appeared confused as to the meaning of the item. Several mentioned possible hobbies that could be related to the student's job. Many remarked that general "interpersonal" skills, whether acquired in school or out, would be useful to the student in his job placement. This item should not be re-used.

Item: 3 Based on the student's performance, how likely is it that he or she could get a full time job in this area upon graduation?

	Pre		Post	
	Your Co.	Another Co.	Your Co.	Another Co.
Very Likely	8	5	6	3
Fairly Likely	5	8	5	4
Somewhat Likely	6	7	3	4
Not Likely	4	1	2	3
No Response	2	4	0	2
No Page for	0	0	1	1
Total	25	25	17	17

Item: In general, the employers indicated that there was at least
3a some prospect for job openings in their fields for the students on a full-time basis following graduation. The employers seemed to feel the prospects for the students were slightly better with companies than with another company. Of those employers responding on both pre and post changed their estimates (there was no trend in the change) presumably on the basis of the individual student's job performance. Two of the employers made comments in connection with this item. A supervisor at Sepulveda Veterans Hospital noted that "full-time lab aides are sometimes an extravagance." A supervisor in the Mayor's office remarked that "the City does not employ editing clerks." These comments support the assumption that in some cases the student jobs (as represented in the job title and descriptions) were not ones for which real openings exist in the job market.

Item: To what extent do you think the student's work experience placement
4 was enjoyable and satisfying work?

Of those responding on both pre and post forms, 5 gave the same response on both, 3 indicated that the student's experience was less enjoyable and satifying than they had anticipated it would be, but 2 said it was more enjoyable. (These same two supervisors--the one for the architectural drafting assistant at U.S. Customs and the one for the EKG Technician at Sepulveda Veterans Hospital--were highly enthusiastic in general about their student workers' performances.)

	Pre	Post
Very Enjoyable	6	4
Fairly Enjoyable	12	6
Somewhat Enjoyable	4	4
Not Very Enjoyable	1	2
No Response	2	0
No Page for	0	1
Total	25	17

Item: Breifly explain the ways in which the student derived satisfaction
4a and enjoyment from their work experience.

Employers mentioned both the satisfaction to be dervied from putting one's skills to use in a real job setting and the enjoyment that comes from having the opportunity to deal with people and enhance one's skills in this area. The following were typical comments:

> "Charlotte was treated as an adult, and this was pleasing to her; she learned about Youth Programs and Services, and began to understand how her tasks fit into the larger picture of the City as the program ended."

> "It gave him some experience in relating to patients and operating in a hospital routine, which is satisfying since the students plans to be a doctor."

> "To be able to gain self-confidence in both technical areas and learning to work with people gaining satisfaction and enjoyment."

Answers did not differ in form between pre and post questionnaire.

Item: Briefly explain what kinds of things were dissatisfying to the
4b student in their work experience placement.

On the pre-questionnaire, the great majority of respondents indicated that they expected student dissatisfaction to arise mainly from the mundane and repetitive nature of much of the work they would be likely to do. On the post-questionnaire, respondents made more mention of the short period of time (both in the program overall and for each work period) available for the program. In addition, it appeared that several students had been mis-matched with jobs (either from the

student's or the employer's point of view, or both). The supervisors from the hospital and the handicapped children's schools mentioned that being around and having to deal with large numbers of ill people was an upsetting factor for their student workers.

Item: To what extent (do you think you will be/were you) satisfied
5 with the student's work?

	Pre	Post
Very Satisfied	17	11
Fairly Satisfied	4	3
Somewhat Satisfied	1	2
Not Very Satisfied	1	0
No Response	2	0
No Page For	0	1
Total	25	17

As indicated in the table, most supervisors both expected to be, and were, very satisfied with the students' work. On the post-questionnaire, only three of the 11 respondents answering both forms gave a response that differed from their expectation. Two (Chatoak Pet Clinic and L.A. Convention Bureau) were more satisfied that they expected to be; the Farmers Insurance superivosr of the cash receipts clerk was less ("fairly" as opposed to "very") satisfied than expected.

Item: Briefly explain the kinds of things that (will satisfy/satisfied)
5a you with the student's work.

It appeared that most of the employers completed the pre-questionnaire item after the students had started work, since a number of the answers relate to the specific student. Therefore, the responses do not necessarily indicate what expectations the employers hold before the start of the program. Responses on both forms vary widely. Most of the employee qualities queried later on the forms are

mentioned here: motivation, willingness, initiative, accuracy, punctuality, ability to work well with others and rapidly learning capacity. Most of the answers concentrated on these general qualities. Employers responding on both pre and post gave similar responses in each case.

Item: 5b Briefly explain the kinds of things that (will make you dissatisfied/ dissatisfied you) with the student's work.

On both questionnaires, employers most often mentioned the following sources of potential and real dissatisfaction: lack of motivation (boredom, disinterest), tardiness (absence, leaving early), poor quality or incomplete work, poor preparation for the type of work in which placed, slowness in learning, inability to follow instruction, sloppiness, and time schedule conflicts.

Item: 6 What kinds of skills and knowledge (are necessary for the student to perform well/do you believe the student learned) in their work experience placement?

Most responses here were specific to the type of job in which the students was placed, although respondents on the pre-questionnaire tended to list somewhat more general skills. On the post-questionnaire, responses were to be separated into two categories: Skills and Knowledge. This served no purpose: it is impossible--and meaningless to attempt to make descriptions of skill distinct from descriptions of knowledge.

Item: 7 What kinds of things do you hope to teach the student in their work experience program? (pre only)

As for the previous item, the responses here were job-specific; no useful generalizations can be made.

Item: To what extent do you think such a work experience program (will
8 be/is) generally helpful in preparing a student to assume a full-time job in the world of work? (Item #8 pre and #7 post)

	Pre	Post
Very High	6	5
Fairly High	10	6
Somewhat High	8	5
Low	0	0
No Response	1	0
No Page for	0	1
Total	25	17

Item: To what extent do you think such a work experience program (will be/
9 is) generally helpful in preparing a student to assume a full-time job in this specific job placement?

	Pre	Post
Very High	6	7
Fairly High	10	5
Somewhat High	4	2
Low	4	2
No Response	1	0
No Page for	0	1
Total	25	17

Item: Indicate with a check the degree (to which you expect the placement
10 of this student to be/the placement of this student was) a service to the student and a service to your company.

	Pre	Post - Service to the Student
Very High	4	5
High	13	4
Average	6	4
Low	0	1
Very Low	0	0
No Response	2	2
No Page for	0	1
Total	25	17

Item:		Pre	Post - Service to the Company
10	Very High	6	6
	High	8	2
Continued	Average	5	5
	Low	3	1
	Very Low	1	0
	No Response	2	2
	No Page for	0	1
	Total	25	17

Item: To what extent do you favor having students gain work experience

11 with your company?

	Pre	Post
Very Much in Favor	10	12
Fairly Favorable	12	3
Somewhat in Favor	1	2
Not in Favor	0	0
No Response	2	0
Total	25	17

Of those supervisors who returned both forms, two revised their estimates upward (from "fairly favorable" to "very much in favor") and two downward (from "fairly favorable" to "somewhat in favor").

Item: Please list the kinds of things that could be changed in the work

11a experience program that would make it more valuable for your company and the participating student. (post only)

Respondents mentioned the following (in order of importance: students should spend a longer period in the program; better selection/screening methods are needed; employers should have more background data on the students; students and employers should have more interaction with the school coordinator; students should receive more orientation about their job placement; program should be retined in general (handbooks, better evaluation procedures); employers should have more advance notice regarding program and specific student placement; students should have more counseling during program; there should be more flexibility in the student's time schedule; students chosen

should be those with greatest need for work experience; all concerned should show a greater interest in program.

Item: 12 Due to an error in the compiling of this questionnaire, the heading of this item was omitted. The responses cannot be evaluate. (pre only)

Item: 12a What type of work atmosphere best describes your company? (post only)

Eleven employers indicated that their work atmosphere was "formal" (with clear lines of responsibility and authority), while 6 characterized their work atmosphere as "informal."

Item: 13 What is your main reason for agreeing to participate in this career experience program? (pre only)

There were only seven respondents for this item and their answers varied considerably. Most, however, made some mention of the opportunity this would give for students to get first-hand experience in a work situation. Several said that the idea of expanding their existing staff had attracted them to the program.

Item: 13a In what ways do you feel that participation in this career experience program has benefitted your company? (post only)

	Yes	No	No Opinion	No Response	Total
Recruited permanent personnel	3	10	3	1	17
Attained closer contact and communication with academic institutions	11	3	2	1	17
Provided opportunity to screen employees, leading to a reduction of employee turnover	2	8	5	2	17

Item:		Yes	No	No Opinion	No Response	Total
13a Continued	Release other employees from more basic work tasks	8	7	1	1	17
	Provided an important community service	10	1	5	1	17
	Provided a highly motivated source of temporary part-time employment	9	3	3	2	17
	Updated the school curriculum through contact with school coordinator	6	6	3	2	17
	Provided an opportunity to obtain and evaluate job training methods	6	5	3	3	17
	Fulfill affirmative action requirements set forth by the government	4	4	6	3	17

As the table shows, employees in general felt that participation in the program had (1) helped them attain closer contact and communication with academic institutions and (2) provided an important community service.

Item: 14 To what extent (will the job be/was the job) in which the student was placed a modification of an already existing position within the company? (Item #14 pre and #15 post)

	Pre	Post
Greatly Modified	1	3
Somewhat Modified	3	6
Not at All	3	6
No Response	0	0
Other	0	2
Total	7	17

Two respondents on the post-questionnaire said that there was no previously existing job of this type for which the student was hired. (Editing clerk at the Mayor's Youth Programs Office and the Budget Analyst position in the U.S. Customs Environmental Resources Branch). Most respondents said that the student jobs had been simplified, in

part because of the short program time. Several supervisors mentioned that the student workers had fewer responsibilities. The fact that the work was on a part-time basis also necessitated modifications in some cases.

Item: Has your company every participated in a work experience program
14a with other learning institutions?

Nine employers said "yes" and 8 said "no." The supervisor of the Electron Microscope Aide at Sepulveda Veterans Hospital said he had participated in a work experience program involving high school students. The Special Education Aide supervisor (Miller High School) and the supervisor of the Personnel Clerk at IRS had participated in programs involving both high school and college students. The supervisors at the Mayor's Office, U.S. Customs Environment Resources Branch, Chatoak Pet Clinic, Sepulveda Veterans Hospital (EKG Section), and Litton Data Systems said that work experience programs in which they had participated involved only college students. At the Chatoak Pet Clinic and Veterans Hospital EKG Section, these students were graduate students in medicine or veterinary medicine.

Item: Do you feel that the students should have been paid for their
16 participation in the career experience program? (post only)

Nine supervisors answered "no," while 7 said "yes." Those responding "no" gave the following reasons: (1) it would be the same as paying the student for going to school, (2) there is no provision for it in the compnay pay set-up, (3) the experience itself is sufficient reward for the students' work, (4) the students were not experienced applicants for the position, (5) the employer had not been involved in the selection of the student.

Those responding "yes" felt that: (1) pay would give the students more incentive, (2) getting paid for the work would make the job experience more realistic, (3) the students do work that the regular paid staff would otherwise have had to do, (4) the experience is not worth the student's time otherwise.

The supervisor at the Chatoak Pet Clinic did not respond "yes" or "no"; rather he commented that the program could be revised into 2 stages - training and actual work. Once the students were involved in "actual work," they could be paid, he felt.

If students were to be paid, 3 felt that funds should come from the employer only, 1 from the school district only (from "work study funds"), 3 from a government grant. One respondent indicated that funds should come from both the employer and government, and another thought that salary should be paid from a combination of employer, school and government funds. None thought that funds should come from the community directly. One supervisor who felt that the employer should pay, added, though, that "insurance would limit us."

Item: 17 Has a school coordinator from a participating school visited your company in connection with this career experience program? (post only)

Only 6 of the 16 employers responding had been visited. Those claborating on the visit indicated that the student's performance and possible openings at the company for more student workers were among the topics discussed. One supervisor was not sure whether his company had been visited. If used in the future, this item should be reworded, possibly, to obtain information as to whether or not the supervisor himself had been visited by the coordinator.

Item: Does your company have a training program for new employees? (pre
18 only)

Seven employers responded to this item, of whom, 3 said "yes" and 4 said "no." Those who said "yes" added that the student worker would be participating in this program.

Item: How would you describe the opportunities for advancement in the
18a career area in which the participating student was placed? (post only)

One employer (Chatoak Pet Clinic) said the opportunities were excellent. Nine employers responded "good," 3 said "fair," and two said "poor." None said "very poor." Two supervisors did not respond to this item. One employer who indicated that the opportunities were poor gave reasons to this elsewhere in the questionnaire. The supervisor of the Editing Clerk at the Mayor's Youth Program Office said that no such job existed on the city payroll.

Item: Do you have any reservations about your company's participation in
19 this career experience program? (pre only)

Three of the 7 supervisors responding said "yes." All three indicated that the source of their reservations was whether or not the student worker had been adequately screened and prepared for the type of work he was to do in the program.

Item: Which of the following statements best describes the degree of
19a supervision that the student (will receive/received) during the career experience program? (#19 post and #16 pre)

	Pre	Post
Students will be given direction and close supervision while working on his tasks.	2	3
Student will be expected to work on tasks on his own, but someone will be close at hand if he has questions or needs help.	5	14

Item:		Pre	Post
19a Continued	Student will work independently until a task is completed.	0	0
	Total	7	17

Item: 20 When a job task (is/was) completed by the student, which of the following (will occur/occurred)? (post and #17 pre)

Of those responding, over both forms, all except 2 said that the student would be/was told how well he did on the completed assignment (and what improvements, if any, were needed) before being given another task. Two respondents on the post questionnaire (the Editing Clerk supervisor at the Mayor's Office and the Professional Resume Assistant's supervisor at Atlantic Richfield) said that the student simply "handed in the work and then was assigned another task."

Item: 21 Did your company provide information about the career experience program to others outside the company?

Only one of the 17 employers said "yes" (the IRS supervisor). Nine said "no" and 6 said they didn't know. One supervisor did not respond. The supervisor at IRS said that other schools (and "the school board") and the Civil Service Commission were given information about the program through "group meetings."

Item: 22 Should students who have successfully completed the career experience program receive assistance in finding a job from the school or the participating employer? (post only)

Nine of the 17 supervisors said that assistance should be provided by both the school and the employer. Three said that assistance should be provided by the school only. Three said they felt that the student should assume full responsibility for finding a job. None

said that assistance should be provided by the employer only. Two supervisors did not respond.

Item: How important do you feel that each of the following goals/
23 objectives are for a career experience program?

Of the goals/objectives listed, the respondents felt these to be the most important:

- Personal development (self-confidence, poise, initiative, etc.).
- Basis for selecting or ruling out a career area.
- Student awareness of and knowledge of skills needed for progress in a particular area.
- Transition experience from school to full-time work.

They listed "decreasing students dropout rate" and "reinforcement of theories and principles learned in the classroom and observation of applications of these theories and principles in actual job situations" as least important among the items.

Item: How important do you feel each of the following factors were in
24 contributing to student success in the career experience program?

The employers as a group designated the following personal qualities as most important for student success: intelligence, tact, motivation, initiative, self-confidence, punctuality, self-respect, accuracy of work, self-control, dependability, and ability to work well with others.

Rates least important were: prior work experience related to career experience position, and course work related to career experience position.

Item: How well do you feel the student learned the job skills for which
25 he/she was being trained?

Item: Nine supervisors responded "very well," and 7 said "moderately
25 well. None answered "not well at all." (One supervisor did not
Continued respond.)

Item: How many times did the student miss work?
26 The range of absences was 0-9 for the 18 student workers. Only 4 students had no absences. Four students were absent once, 3 were absent twice, 2 were absent approximately 3 times, one was absent 5 times, and one 9 times. The supervior of the student who was absent 9 times indicated elsewhere on the questionnaire that this student had wanted a different position, and was unmotivated to do the work called for by the position in which she was placed. On the other hand, the supervisor of the student who was absent 5 times gave evidence throughout the questionnaire that he was otherwise highly enthusiastic about the student and pleased with his work.

Item: Do you feel that students should have a course devoted to preparing
27 them for participation in a job situation taken at the same time or just before participating in the career experience program? Seventeen employers responded. Ten said "yes," 5 said "no," and two were "not sure."

Item: If you could do it over again, would you have chosen to participate
28 in this program?
Twelve supervisors said "yes," 3 said "it depends," and 1 said "no." Those who answered "yes" said that the program was worthwhile, the students had given a valuable contribution to the staff, and the supervisors had liked the students who had worked for them. Those who said "it depends" mentioned better screening of students as a requirement for their future participantion. One of these also

Item: said that "closer coordination with the school" would be a requirement for his future participation in the program. No one employer

28 Continued who said "no" commented that he didn't need any more student workers--he currently had a full staff.

Item: If you would consider participation again, would you be interested

29 in accepting a large number of students?

Nine employers said that they would not be interested in accepting a larger number of students. Seven employers said "yes," while one employer, as indicated in Item #27, was not interested in participating again in the program. The supervisors who responded "no" all gave as their reason the fact that their company (or the specific section in which the supervisors worked) had small staffs and they could not accommodate any more students. Finding adequate time and personnel to handle training of the students would also be a problem they said.

Item: What changes would you like to see made in the career experience

30 program to make it a more rewarding and beneficial experience for the company? (post only)

The comments made by the employers are exemplified succinctly by the response given by the supervisor of the Survey Worker in the Mayor's Youth Programs Office: "Longer placement, better counseling." Employers in addition called for more hours to be spent on the job each working day, and better screening procedures for student applicants." Two said they knew of nothing that could be done to make the program better from the company's point of view. Four supervisors did not respond to this item.

Item: What changes would you like to see made in the career experience
30a program to make it a more rewarding and beneficial experience for the student? (post only)

In this section of the item, responses were more varied. Two employers thought that paying the students would make the program better from the student's point of view. Several mentioned better student preparation and screening for the job placement, longer time for the program, and longer working hours. One employer commented that only students who really needed the jobs should be chosen for the program. One thought that if students could travel or work over a larger area in Los Angeles (U.S. Customs Environmental Resources Branch), they would benefit more, at least in that job placement. Four employers did not respond.

Item: If you had it to do overagain, what would you do differently
31 concerning the level and types of responsibilities assigned to students and the supervisory techniques used to maintain student performance? (post only)

Nine employers said that they would not do anything differently. There is no generalization that can be made about the remaining responses: each was different. Among them were: (1) train student more specifically in the job, (2) get more background information on student and schedule an individualized work plan for him in advance, (3) give the students more basic responsibilities, (4) provide tighter supervision, (5) try to meet with school counselor, (6) have reading materials available for students. Three employers did not respond.

Item: How have the regular employees reacted to student participation
32 in the career experience program? (post only)

All the employes responding said that the reaction of the regular employees had been favorable. The words "enthusiastic," "fine," "very well" appeared again and again in the comments. One supervisor did not respond.

Item: Has the exposure of the regular employees to the student affected
33 the employees adversely in any way that you have notice (e.g. less productive, sloppier work habits, etc.)? (post only)

All responded "no" to this item.

Item: In what ways, if any, have the regular employees benefited? (post
34 only)

Four employers indicated that the regular workers benefited by having the students around to perform the more basic tasks, thereby releasing the regular staff for more substantive work. The student workers also relieved some of the pressure arising from heavy work loads, helping to speed along the work done by the office. Two employers spoke of the employees' satisfaction arising from their feeling of participation in a school-related program. Two mentioned that the supervising procedure itself was a benefit because it helped regular staff achieve a greater sense of responsibility and better understanding of their own work (from having to explain it to someone). Three employers did not see any ways in which the regular employees had benefited from the presence of the student workers. Four employers did not respond to this item.

Item: Check the items that, if implemented, would in your opinion
35 improve the career experience program? (post only)

Eight employers marked, "more school-employer communication." Eight marked "handbook describing objectives of the career experience program and its operating procedures." Eleven supervisors desired "background information about the student similar to that obtained on an employment application or interview," and wanted to "increase the time students spend in the program." None wished to decrease the time students spend in the program. Eight though that "student follow-up to obtain information useful for program modification and revision" would improve the program. One employer thought that none of the listed items seemed particularly useful. One employer did not respond.

Item: Please evaluate the student according to the traits listed below.
36 (post only)

Overall, students got the highest ratings on the following traits: intelligence, accuracy at work, ability to work well with others, quality of work, and "potential for future improvement and development as he/she matures." Students got lowest marks for: appearance, tact, motivation, initiative, self-punctuality, and speed at work (worst). One employer did not respond to any part of this item.

Item: In general, what occurred when problem(s) arose concerning student
37 behavior?

Fourteen of the 17 employers said that "no problems arose." Of the three who did have problems, two handled them by "contacting the school and talking to the student." One simply "talked to the student." The problems arose from (1) student absences, (2) student

disappointment in task assignment. One employer who had a problem with the student worker not showing up also complained that the student had not informed him when the program ended. In handling problems with the students, none of the employers chose the option of simply contacting the school without speaking to the student about it, or "letting it go by."

Item: 38 Would you recommend that the student should continue studying toward this type of occupation? (post only)

Eight employers said "yes"; 4 said "no"; three had no opinion; and 2 did not respond.

Item: 39 How can the school help this person become a better candidate for employment, in general? (post only)

Four employers talked about the need for the student to have more specialized training (in school) related to the job area in which he was placed. (This would not seem to be an appropriate answer to the question.) Several responded in terms of the program, saying that if the program were modified (to provide more background information to employers, more counseling, more follow-ups, longer work time, a "trail-period," pay), the student would become a better candidate for employment. (This again does not seem to be an answer to the question, since the students being inquired about have already completed the program.) Several mentioned that the school should help the student improve his social skills (e.g. overcome his shyness, be more open and ask questions) and general work habits (punctuality, reliability). One employer said that the school should provide more work experience for the student. One supervisor stated that he had no opinion on the question and 4 did not respond.

Item: What are the student's special traits? (post only)

40 Pleasing personality, intelligence, an eagerness to learn, dependability and the ability to follow directions were the most frequently mentioned traits.

Item: What are the student's special weaknesses? (post only)

41 Six employers did not discover any weaknesses in their student workers. The other employers mentioned the following undesirable traits they had noted: lack of motivation and initiative (2), lack of punctuality (1), unfamiliarity with work (1), being distracted by friends (1), undeveloped interpersonal skills (1), shyness (1). Four employers did not respond to this item.

Item: Please describe what means were use to determine how well the

42 student learned the job skills for which he/she was being trained. (post only)

Six employers said "observation" and six said "end product." One mentioned comparing the instructions given the student with the product completed by the student. One alluded to the student's proficiency while performing a task. One employer said "none." One employer did not respond.

Item: What could the school have done to make the program more successful?

43 Frequently mentioned suggestions were (1) provide more background information about the student to the employer, (2) give employers more advance notice-generally do more planning ahead, (3) do a better job of screening the students for the specific positions, (4) make the program longer, (5) communicate more with both the student and the employer.

Item: In general, how would you evaluate the program? (post only)

44 Three supervisors -- Sepulveda Veterans Hospital (Electron Microscope Aide Supervisor), U.S. Customs (Budget Analyst Supervisor and the Architectural Drafting Assistant Supervisor) said "very satisfactory." Three employers--Cash Receipts Clerk Supervisor at U.S. Army Engineering District, and the Editing Clerk Supervisor at the Mayor's Youth Programs Office said "unsatisfactory." The remaining supervisors who responded replied "satisfactory." One supervisor did not respond. The supervisor of the Cash Receipts Clerk at Farmers Insurance left a number of the items on the questionnaire blank. It was not clear what the source of his dissatisfaction with the probram was. The supervisor of the Editing Clerk seemed more positive about the program in general when responding to other portions of the questionnaire than his response on this item would indicate. The Editorial Assistant Supervisor allueded at many points in the questionnaire to the student's dissatisfaction with her job placement and her disinterest in the type of work she was doing in the program. This was clearly a large factor in the supervisor's overal evaluation of the program.

Item: Check the item below that best describes your feelings about

45 participation in the career experience program. (post only)

Six employers described their participation in the program being "very enjoyable," while 8 found it "somewhat enjoyable." Two employers had no feelings one way or the other. One employer did not respond.

APPENDIX - EVALUATION DATA

I - STUDENT PRETEST RESPONSES

II - STUDENT POST TEST RESPONSES

III - EMPLOYER PRETEST DATA

IV - EMPLOYER POST TEST DATA

V - SCHOOL COORDINATOR PRETEST RESPONSES

VI - SCHOOL COORDINATOR POST TEST RESPONSES

I

STUDENT PRETEST RESPONSES

PRETEST
STUDENT Q.

1. Do you plan on finishing high school?

SCHOOL	YES	NO	NO RESPONSE	TOTAL
Granada	~~IIII~~ ~~IIII~~ ~~IIII~~	0	0	15
Belmont	1	0	0	1
Van Nuys	1	0	0	1
	17	0	0	17

PRETEST
STUDENT Q.

2. What do you plan on doing when you leave high school? (You may check more than one.)

SCHOOL	ATTEND COLLEGE	ATTEND TRADE	WORK FULL TIME	WORK PART TIME	MILITARY	OTHER	NO RESPONSE	TOTAL
Granada	IIII ~~IIII~~ ~~IIII~~ 4(m)	0	0	~~IIII~~ ~~IIII~~ 1(m)	0	0	0	15
Belmont	0	0	0	0	0	0	1	1
Van Nuys	1 (m)	0	0	1 (m)	0	0	0	1
	4 12(m)	0	0	12(m)	0	0	1	17

Note: After work part time some also full summer.

PRETEST
STUDENT Q.

3. If you plan on attending school beyond high school, what field or trade will be your major area of study?

SCHOOL	FIELD/TRADE	DON'T KNOW/ NO RESPONSE	TOTAL
Granada	Engineering (Photo Lab. Assist.) Math/Science (Graphics Art Lab. Assist.) Architecture - Engineering (Engineering Deputy Assist.) Math for Education (Cash Receipts Clerk) Medicine // (Dental Assist., HS Special Educ. Aide) Business Admin. (Purchasing Clerk) Veterinary Medicine (Veterinary Aide) Political Science (Travel Agent) Math, Physical Science, or Business (Jr. Accountant) Veterinary or Medicine (Veterinary Aide) Business Management (Accounting Clerk) Special Education (HS Special Educ. Aide) Public Health, Nuitrition (Biology Lab. Assist.) Biology (Electron Microscopic Aide)	0	15
Belmont	Arch. Engineering (Architectural Drafting Assist.)	0	1
Van Nuys	Veterinary Medicine (Animal Caretaker)	0	1
		0	17

PRETEST
STUDENT Q.

4. What is the highest level of education you hope to attain?

SCHOOL	H.S. DIP.	VOC. SCH. C.	B.A.	M.A.	PH.D.	LAW MED.	OTHER	NO RESPONSE	TOTAL
Granada	0	0	0	~~IIII~~ 1	1	~~IIII~~ 1	1 (Not Case) 1 (Dentistry)	0	15
Belmont	0	0	0	1	0	0	0	0	1
Van Nuys	0	0	0	0	0	0	1 (DVM)	0	1
	0	0	0	7	1	6	3	0	17

PRETEST
STUDENT Q.

5. What kind of work do you expect to be doing fifteen years from now?

SCHOOL	WORK	DON'T KNOW NO RESPONSE	TOTAL
Granada	Elec. Engineering (Photo Lab. Assist.) Teaching/Research (Cash Receipts Clerk) Pediatrician/Physical Therapist (HS Special Educ. Aide) Veterinarian // (Veterinary Aides) Dental Hygienist/Doctor (Dental Assist.) Corporate Management (Accounting Clerk) Dentistry (Electron Microscopic Aide)	~~THL~~ 11 (all 2's)	15
Belmont	Arch. Engineering/Printing (Architectural Drafting Assist.)	0	1
Van Nuys	Veterinary Medicine (Animal Caretaker)	0	1
	10	7	17

PRETEST
STUDENT Q.

6. Do you know the skills you will be learning through participation in this career experience program? If "yes," please list these skills:

SCHOOL	YES	NO	* NO RESPONSE	TOTAL	SKILLS	** NO RESPONSE	TOTAL
Granada	~~THL~~ ~~THL~~ 11	1	11	15	Print Drying, Film Developing (Photo Lab. Assist.) Account work in Insurance (Accounting Clerk) How to work with hurt animals; know surgical equipment; know surgical procedures; know a little about radiography or radiology; know the basics on how to give medication; just understand basically what Veterinary Medicine is all about; how to make fecal experiments; know how to make surgical packs. (Veterinary Aide) Knowledge of hygiene of teeth (Dental Assist.) How to handle animals; laboratory techniques; identification of instruments used, safety measures necessary to perform the job. (Veterinary Aide) Knowledge of accounting procedures in business (Jr. Accountant) Familiarity with lab techniques and equipment; experience in microbiology (Biology Lab Assist.) Photographic darkroom techniques - developing, printing, enlarging; preparation of tissues for electron microscopy; cutting thin sections of plastic embedded tissues; observing tissues with the electron microscope. (Electron Microscopic Aide) 10 key adding machine; balancing tapes; handling cash receipts. (Cash Receipts Clerk) Drafting; business experience, office work. (Engineering Deputy Assist.) Phone interaction; face-to-face interaction; writing tickets; scheduling tours. (Travel Agent) Handling handicapped children and working with different types of learning processes. (HS Special Educ. Aide)	0	12
Belmont	0	1	0	1	(Architectural Drafting Assist.)		
Van Nuys	0	1	0	1	(Animal Caretaker)		
	12	3	2	17		12	0 12

* (Graphics Arts Lab Assist.)
** (Purchasing Clerk)
(HS Special Educ. Aide)

118

PRETEST
STUDENT Q.

7. Have you ever worked:

SCHOOL	PAY	VOLUNTEER	NEVER	NO RESPONSE	TOTAL
Granada	III ~~IIII~~ (m)	~~IIII~~ I ~~IIII~~ (m)	1	0	15
Belmont	1 (m)	1 (m)	0	0	1
Van Nuys	0	1	0	0	1
	3 6 (m)	7 6 (m)	1	0	17

PRETEST
STUDENT Q.

8. If you have worked, how long did you work (years, months, weeks)?

SCHOOL	RESPONSE	NO RESPONSE	TOTAL
Granada	1 1/2 months 3 months // 5 months 6 months 9 months 13 months 1 1/2 years 2 years 4 years 5 years (off and on)	1111	15
Belmont	1 year	0	1
Van Nuys	Weekends	0	1
	13	4	17

PRETEST
STUDENT Q.

9. If you have worked, what type of work did you do and what skills did you learn?

SCHOOL	TYPE OF WORK	NO RESPONSE	TOTAL	SKILLS LEARNED	NO RESPONSE	TOTAL
Granada	1. Yard maintenance	IIII	15	Gardening	IIII	15
	2. Nurse aide			Making beds, giving baths, patient care		
	3 Babysitting			Child care		
	4 Printing, babysitting, tutoring			Teaching skills, how to get along with people and take care of children		
	5 Library service, pledge collection (March of Dimes)			Helping find books, processing books		
	6 House cleaning and babysitting			Cleaning and caring for babies		
	7 Clerical, bookeeping			Bookeeping procedures, cash safeguards balancing cash and cash receipts		
	8 Salesman			Sales work, stock work, office machine		
	9 Metal work, boxboy, paper delivery			General metal work, operation of store		
	10 Waitress			Dealing with customers		
	11 Hospital escort service			Handling patients		
	12 Kitchen work, bus boying			—		
Belmont	General manager of art gallery	0	1	Manage	0	1
Van Nuys	Worked with Braille	0	1	how to work with blind	0	1
	14	3	17	13	4	17

PRETEST
STUDENT Q.

10. If you have worked, do you thing that your previous job experience will help you in this career experience program? If "yes," how do you think it will help you?

SCHOOL	YES	NO	DON'T KNOW/ NO RESPONSE	TOTAL	HOW	NO RESPONSE	TOTAL
Granada	卌 1	卌 ||	1 (DK) 1 (DK)	15	3. Relating to children and people 5. Small connection between library work and skills needed for travel agency work 7. The two jobs are somewhat related 8. Communicating with people 9. Working with people 10. Dealing with people, patience	0	6
Belmont	1	0	0	1	How it feels to work for the city	0	1
Van Nuys	0	1	0	1			
	7	8	2	17	7		7

PRETEST
STUDENT Q.

11. What high school course(s) have you taken that you think will be of help to you in this career experience program? Please list them.

SCHOOL	COURSES	NONE (WRITE IN)	NO RESPONSE	TOTAL
Granada	Drafting (Engineering Dept. Assist.) Typing, Math (Cash Receipts Clerk) English, Physiology, Psychology (H.S. Special Education Aide) Typing, Math, English, Speech (Purchasing Clerk) Biology, Chemistry, Journalism (Veterinary Aide) Information Center - includes ticket agency branch (Travel Agent) Biology, Physiology, Chemistry, Algebra I & II, Geometry (Dental Assist.) Bookeeping, Fundamentals of Financial Accounting, Fundamentals of Management Accounting (last two courses at Cal. Sate Univ., Northridge) (Jr. Accountant) Biology, Chemistry, Physiology, Student Council (Veterinary Aide) Possibly English (Accounting Clerk) Physiology (H.S. Special Education Aide) Biology, Chemistry Biology Lab. Assist.) Biology, Chemistry (Electron Microscopic Aide) Photography Photo Lab. Assist.) World of Art, Painting and Drawing, Graphics Arts Production (Graphics Art Lab. Assist.)	0	0	15
Belmont	Graphic Art, Arch. Drafting (Architectural Drafting Assist.)	0	0	1
Van Nuys	Biology (Animal Caretaker)	0	0	1
	17	0	0	17

PRETEST
STUDENT Q.

12. Put a check beside any of the following extracurricular activities that you have been involved in. Then give a brief description of the activity or activities. For each activity that you describe, tell how you think the experience may be of help to you in this career experience program.

SCHOOL	TYPE OF ACTIVITY Unpaid Work Yes	No	DESCRIPTION	HOW HELP
Granada	~~IIII~~ ~~IIII~~ IIII		House Painting	--
			Photo work	Helped me to learn some skills. (Photo Lab. Assist.)
			Collecting for charity	It won't (Accounting Clerk)
	(10)	(5)	Good with my hands, ingenious when making things.	Not afraid to give my time for nothing if it's something I enjoy. Not afraid to get my hands dirty. (Veterinary Aide)
			Clean house, babysit	Gain self pride in myself (Dental Assist.)
			Auto work for dad's Co.; baseball coach, umpire.	Won't (Jr. Accountant)
			Yard work for church	Won't (Engineering Deputy Assist.)
			Yard maintenance, baby sitting.	--
			Headstart, Unicef, People's lobby.	All of these were done to raise money for the type of people I'm working with. (Special Educ. Aide)
			Babysitting Work around house	Working with children; being helpful. (Special Educ. Aide)
			Lawn caretaking, babysitting	Contribute to taking of responsibility and completion of task assigned. (Purchasing Clerk)
Belmont	1	0	Community	Building Code and zoning. Architectural Drafting Assist.)
Van Nuys	0	1		

(11) (6)	Hobbies Yes	No	Photography	It's obvious (Photo Lab. Assist.)
Granada	~~IIII~~ ~~IIII~~ IIII	II	Reading	It won't (Accounting Clerk)
			Water & snow ski, surfing, skin diving, camping.	It won't (Veterinary Aide)
			Water skiing, snow skiing, track.	Become healthier. (Dental Assist.)
	(13)	(2)	Attended and taught dog obedience class	Familiar in working with dogs. (Veter. Aide)
			Play accordian, tennis, other sports.	It won't (Jr. Accountant)
			Tropical fish	Learned about biology and chemistry (Electron Microscopic Aide)
			Needlecraft, piano, jogging.	-- (Cash Receipts Clerk)
			Bicycle touring, backpacking;	Getting along with others
			Carving and model-making	Manual Dexterity for drafting (Engineering Deputy Assist.)
			Maps, coins	Useful knowledge for travel (Travel Agent)

PRETEST
STUDENT Q.

12. (CON'T)

SCHOOL	TYPE OF ACTIVITY Hobbies Yes	No	DESCRIPTION	HOW HELP
Granada			Music (flute)	I may be working in the music room at Miller. (Special Educ. Aide)
			Illustration Arts, Mathematics and Science	Technical knowledge and artistic skill very useful in any career. (Graphics Art Lab. Assist.)
			Sports, cars	It won't (Purchasing Clerk)
Belmont	1	0	Tennis, building	— (Architectural Drafting Assist.)
Van Nuys	1	0	Houseback riding, showing and jumping horses	By having knowlege of working with and training animals. (Animal Caretaker)
(15)	(2)			

	School Act. Yes	No		
Granada	~~THL~~ IIII	~~THL~~ I	Senior treasurer, class steering committee	It won't (Accounting Clerk)
			Student Council, Director of Info. Center, Vice President - Knights, Ski Club	How to get along with people, that you do get involved, strive to achieve well (Veterinary Aide)
	(9)	(6)	Helped out at school assemblies, atheletic events, the student store, elections, etc.	It won't (Jr. Accountant)
			Service clubs, CSF, student council	— (Biology Lab. Assist)
			Cross country	Getting along with others (Engineeri Deputy Assist.)
			Key club, CSF, Quiz team	— (Travel Agent)
			Band, highland dancing	It won't (Special Educ. Aide)
			Drill Team Captain, Girls Club	Working with people, organizing, teaching (Special Educ. Aide)
			CSF, Steering Comm., radio broadcasting	Communicating with people and the taking of responsibilities (Purchasing Clerk)
Belmont	1	0	Knight, Asst. Tribune	— (Arch. Drafting Assist.)
Van Nuys	1	0	PTSA Chairperson	Able to work with others (Animal Caretaker)
(11)	(6)			

	Non Sch. Act. Yes	No		
Granada	~~THL~~ IIII	~~THL~~ I	Church Youth Group	-- (Photo Lab Assist.)
			YMCA, JA	Working with people (Accounting Cler
			Junior Achievement, AZA, working with the Chamber of Commerce	Learn how to get things donel using other people to help, manipulating them almost. (Veterin Aide)
	(9)	(6)		

PRETEST
STUDENT Q.

12. (CON'T)

SCHOOL	TYPE OF ACTIVITY ACTIVITY Non Sch. Act. Yes	No	DESCRIPTION	HOW HELP
Granada			Member of Valley Debs, (service organization), Girl Scouts	It won't (Veterinary Aide)
			Baseball coach and sometime umpire	It won't (Jr. Accountant)
			Church Youth Group, political worker, hospital volunteer, sports	— (Biology Lab. Assist.)
			Junior Achievement	Business understanding (Engr. Deputy Assist.)
			Church Group	Getting along wiht people, communicatin with people (Graphics Art Lab Assist.
			Church	Relating to people (Spec. Educ. Aide)
Belmont	0	1		
Van Nuys	1	0	Girl Scouts	By meeting different people (Animal Caretaker)

07

PRETEST
STUDENT Q.

13. How do you plan on getting to your job in this career experience program?

SCHOOL	BUS	CAR-POOL	DRIVE	BI-CYCLE	MOTOR CYCLE	WALK	OTHER	NO RE-SPONSE	TOTAL
Granada	1 1 (m) 1 (m)	1 11 (m) 1 (m) 1 (m)	~~IIII~~ 11 (m) 1 (m) 1 (m) 1 (m)	1 1 (m) 1 (m) 1 (m)	0		Parent's car (m)	0	15
Belmont	1	0	0	0	0	0	0	0	1
Van Nuys	0	0	1	0	0	0	0	0	1
	2 1 (m)	1 2 (m) 1 (m) 1 (m)	6 2 (m) 1 (m) 1 (m) 1 (m)	1 1 (m) 1 (m) 1 (m)	0 1 (m)	1 (m)	1 (m)	0	17

PRETEST
STUDENT Q.

14. Do you feel that students should be paid for participating in this program or do you feel that getting course credit and the opportunity to learn job skills is enough to make participation in this program worthwhile?

SCHOOL	CREDIT & LEARNED SKILLS ENOUGH	PAY	(WRITE IN)	NO RE-SPONSE	TOTAL
Granada	~~IIII~~ ~~IIII~~ I	II	It depends on the job	I	15
Belmont	I	0	0	0	I
Van Nuys	I	0	0	0	I
	13	2	I	I	17

PRETEST
STUDENT Q.

15. Ordinarily, how do you like to work?

SCHOOL	CLOSE SUPERVISION	LEFT ALONE	SOMEONE CLOSE AT HAND	NO RESPONSE	TOTAL
Granada	0	0	~~IIII~~ ~~IIII~~ ~~IIII~~	0	15
Belmont	1	0	0	0	1
Van Nuys	0	0	1	0	1
	1	0	16	0	17

PRETEST
STUDENT Q.

16. Look at the following list of items. Number them in the order in which these things are important to you personally, in relationship to this career esperience program. (1=most important/ 9=least important)

Granada	IMPORTANCE RANKING 1	2	3	4	5	6	7	8	9	NO RESPONSE	TOTAL
Job Skill	4	2	5	2	1	0	1	0	0	0	15
What a Job is Like	4	1	1	1	1	4	1	1	0	1	15
Personal Devel.	5	2	2	4	2	0	0	0	0	0	15
Meet New People	1	3	1	1	4	3	1	0	0	1	15
Chance for Some. Dif.	0	0	1	1	1	3	5	1	0	1	15
Help in Choos. C.A.	1	5	2	3	3	0	0	0	0	1	15
Time from School	0	0	0	0	0	0	1	5	2	1	15
School Wk. more Meanf.	0	1	2	2	1	4	3	1	0	1	15
Other: Great experience to work this close with animals					1					12	15
Meet peo. in Hang. Posit.	1										
Do what I' interested in		1									

Belmont	1	2	3	4	5	6	7	8	9	NR	TOTAL
Job Skill	1	0	0	0	0	0	0	0	0	0	1
What a Job is Like	0	0	0	0	1	0	0	0	0	0	1
Personal Devel.	0	0	0	1	0	0	0	0	0	0	1
Meet New People	0	0	0	0	0	1	0	0	0	0	1
Chance for Some. Dif.	0	0	0	0	0	0	1	0	0	0	1
Help in Choos. C.A.	0	0	1	0	0	0	0	0	0	0	1
Time from School	0	0	0	0	0	0	0	1	0	0	1
School Wk. More Meanf.	0	1	0	0	0	0	0	0	0	0	1
Other											

PRETEST
STUDENT Q.

16. (CON'T)

Van Nuys	IMPORTANCE RANKING 1	2	3	4	5	6	7	8	9	NO RESPONSE	TOTAL
Job Skill	1	0	0	0	0	0	0	0	0	0	1
What a Job is Like	0	0	0	0	1	0	0	0	0	0	1
Personal Develop.	0	1	0	0	0	0	0	0	0	0	1
Meet New People	0	0	1	0	0	0	0	0	0	0	1
Chance for Some. Dif.	0	0	0	0	0	0	1	0	0	0	1
Help in Choos. C.A.	0	0	0	1	0	0	0	0	0	0	1
Time from School	0	0	0	0	0	0	0	1	0	0	1
School Wk. more Meanf.	0	0	0	0	0	1	0	0	0	0	1
Other											

TOTAL	1	2	3	4	5	6	7	8	9	NR	TOTAL
Job Skill	6	2	5	2	1	0	1	0	0	0	17
What a Job is Like	4	1	1	1	3	4	1	1	0	1	17
Personal Develop.	5	3	2	5	2	0	0	0	0	0	17
Meet New People	1	3	2	1	4	4	1	0	0	1	17
Chance for Some. Dif.	0	0	1	1	1	3	8	1	0	1	17
Help in Choos. C.A.	1	5	3	4	3	0	0	0	0	1	17
Time from School	0	0	0	0	0	0	1	12	2	1	17
School Wk. more Meanf.	0	2	2	2	1	5	3	1	0	1	17
Other	0	1	1	0	1	0	0	0	0	12	17

PRETEST
STUDENT Q.

17. Do you think that you will learn things in this career experience program that you couldn't have learned by taking high school courses?

SCHOOL	YES	NO	NOT SURE	NO RESPONSE	TOTAL
Granada	~~IIII~~ ~~IIII~~ ~~IIII~~	0	0	0	15
Belmont	1	0	0	0	1
Van Nuys	1	0	0	0	1
	17	0	0	0	17

PRETEST
STUDENT Q.

18. What is your main reason for agreeing to participate in this career experience program?

SCHOOL	REASON	NO RESPONSE	TOTAL
Granada	Will help me to obtain a better job, faster //	0	15
	Fun, meet people, get foot in the door		
	Electron Microscopy will help me learn more about Biology		
	Personal development and career opportunities		
	Interest in the field, experience to help get a job		
	Chance to learn about insurance		
	Interest, practical experience("hands into the real stuff")		
	Learn what an accountant does, and his work surroundings and atmosphere		
	Experience ///		
	Learn more about career		
	Enjoy new meaningful experiences		
	Experience, to get a summer job		
Belmont	—	1	1
Van Nuys	Knowledge and experience	0	1
	16	1	17

PRETEST
STUDENT Q.

19. Where would you prefer to work?

SCHOOL	LARGE FIRM	SMALL FIRM	DOESN'T MATTER	NOT SURE	NO RESPONSE	TOTAL
Granada	0	IIII	~~IIII~~ I	IIII	1 (misplaced)	15
Belmont	1	0	0	0	0	1
Van Nuys	0	0	1	0	0	1
	1	4	7	4	1	17

PRETEST
STUDENT Q.

20. What kind of work atmosphere do you prefer?

SCHOOL	FORMAL	INFORMAL	(WRITE IN)	NO RESPONSE	TOTAL
Granada	1	~~||||~~ ~~||||~~ |||	Doesn't Matter	0	15
Belmont	1	0	0	0	1
Van Nuys	0	1	0	0	1
	2	14	1	0	17

PRETEST

STUDENT Q.

21. When a job task is completed, which do you prefer?

SCHOOL	HAND IN TASK GO ON TO NEXT	FEEDBACK BEFORE NEXT TASK	NO RESPONSE	TOTAL
Granada	11	~~IIII~~ ~~IIII~~ III	0	15
Belmont	0	1	0	1
Van Nuys	0	1	0	1
	2	15	0	17

PRETEST
STUDENT Q.

22. Check the items below that best describe your feelings as you begin this career experience program. (You may check more than one.)

SCHOOL	VERY ENTHUS.	MILDLY ENTHUS.	UN-ENTHUS.	WOR. ABOUT EXPERIENCE	WOR. ABOUT SUCCESS	NO FEELINGS	NO RE-SPONSE	TOTAL
Granada	~~IIII~~ ~~IIII~~ (m) 1 (m)	III	0	1 (m)	~~IIII~~ (m)	0	1 (improp mult. resp.)	15
Belmont	1 (m)	0	0	0	1 (m)	0	0	1
Van Nuys	1	0	0	0	0	0	0	1
	6 6 (m) 1 (m)	3	0	1 (m)	6 (m)	0	1	17

PRETEST
STUDENT Q.

23. How important do you feel each of the following factors are in contributing to student success in this career experience program?

	MAJOR IMPORTANCE			MINOR IMPORTANCE			UN-IMPORTANT			NO OPIN.			NR			TOT.
	Gran	Bel	VN	Gran	Bel	VN	G	B	VN	G	B	VN	G	B	VN	
Intelligence	11	1	1	111				1		11						17
Appearance	11	1		111			11		1							17
Tact	111	1	1	11			1									17
Motivation	11	1	1	111						1						17
Initiative	11	1	1	1111			1									17
Pleasing Personality	11	1	1	111			11									17
Self Confidence	11	1	1	111												17
Punctuality	11	1	1	111												17
Self Respect	11	1	1	11			1			1						17
Accuracy of Work	11	1	1	11						1						17
Speed of Work	11	1		11			1		1	1						17
Self Control	11	1	1	111						1						17
Dependability	11	1	1	1												17
Poise	11	1		11		1	111			1						17
Good Manners	11	1	1	11			1									17
Verbal Ability	1111	1	1	111						11						17
Ability to Work Well with Others	11	1	1	11						1						17
Prior Work Experience Related to Career Experience Position	1	1		11		1	111									17
Course Work Related to Career Experience Position	11	1		11		1	111									17

II

STUDENT POST TEST RESPONSES

[illegible]
[illegible] Q.

1. Do you plan on finishing high school?

SCHOOL	YES	NO	NO RESPONSE	TOTAL
Granada	~~||||~~ ~~||||~~ ~~||||~~ |||	0	0	18
Belmont	||||	0	0	4
Van Nuys	1	0	0	1
Roosevelt	|||	0	0	3
Manual Arts	~~||||~~	0	0	5
Total	31	0	0	31

POSTTEST
STUDENT Q.

2. What do you plan on doing when you leave high school? (You may check more than one.)

SCHOOL	ATTEND COLLEGE	ATTEND TRADE	WORK FULL TIME	WORK PART TIME	MILITARY	OTHER	NO RESPONSE	TOTAL
Granada	III ~~IIII~~ ~~IIII~~ (m) IIII I (m)	0	0	~~IIII~~ ~~IIII~~ (m) IIII I (m)	0	Travel (m)	0	18
Belmont	I II (m)	I (m)	0	II (m) I (m)	0	0	0	4
Van Nuys	I (m)	0	0	I (m)	0	0	0	1
Roosevelt	I II (m)	0	0	II (m)	0	0	0	3
Manual Arts	II III (m)	0	0	III (m)	0	0	0	5
Total	7 22 (m) I (m)	I (m)	0	22 (m) I (m) I (m)	0	I (m)	0	31

POSTTEST
STUDENT Q.

3. If you plan on attending school beyond high school, what field or trade will be your major area of study?

SCHOOL	FIELD/TRADE	DON'T KNOW/ NO RESPONSE	TOTAL
Granada	History or Political Science (Travel Agent) Psychology (Bank Teller) Veterinary Medicine or possibly Journalism (Veterinary Aide) Math/Education (Cash Receipts Clerk) Special Education (HS Special Educ. Aide) Elec. Engineering (Photo Lab. Assist.) Ecology or Special Education (Pre Sch. Special Educ. Aide) Computer Science (Computer Programmer) Medicine (Electro Cardiograph Tech., HS Special Educ. Aide, Veterinary Aide) Dental Assist. Biology (Electron Microscopic Aide) Public Health (Biology Lab. Assist.) Business (Accounting Clerk) Math, Science (Jr. Accountant) Mechanical Engineering (Engineering Deputy Assist.)	1 (Cashier and General Office Worker) (OK)	18
Belmont	Business, Accounting (Controller's Assist., Budget Analyst/ Training Research Assist.) Arch. (Architectural Drafting Assist.) Social Sciences (Advertising Copywriter)		4
Van Nuys	Veterinary Medicine (Animal Caretaker)		1
Roosevelt	Business Admin. (Credit Collection Trainee) Medical Assist. (Bank Teller) Physical Therapy (Physical Therapist Aide)		3
Manual Arts	Medicine (Personnel Interviewer) Art (Advertising Copywriter/ Commercial Artist) Pediatrics (Editorial Assist.) Psychology (Survey Worker)	1 (Editing Clerk) (OK)	5
	29	2	31

POSTTEST
STUDENT Q.

4. What is the highest level of education you hope to attain?

SCHOOL	H.S. DIP.	VOC. SCH. C.	B.A.	M.A.	PH.D.	LAW/ MED.	OTHER	NO RESPONSE	TOTAL
Granada	0	0	1	~~IIII~~ IIII	II	~~IIII~~	DDS	0	18
Belmont	0	0	0	III	0	0	0	1	4
Van Nuys	0	0	0	0	0	0	D.V.m	0	1
Roosevelt	0	0	1	1	0	1	0	0	3
Manual Arts	0	0	0	II	II	1	0	0	5
Total			2	15	4	7	2	1	31

POSTTEST

STUDENT Q.

5. What kind of work do you expect to be doing fifteen years from now?

SCHOOL	WORK	DON'T KNOW/ NO RESPONSE	TOTAL
Granada	Office Law (Travel Agent) Veterinarian or working for a Newspaper (Veterinary Aide) Teaching Math at secondary or college level (Cash Receipts Clerk) Special Education (HS Special Educ. Aide) Engineering (Photo Lab. Assist.) Programming or Systems Analyist (Compuper Programmer) Medicine (electro Cardiograph Tech.) Physical Therapist or Doctor (HS Special Educ. Aide) Dentistry (Electron Microscopic Aide) Nuitrition Research (Biology Lab. Assist.) Dental Hygienist (Dental Assist.) Medical or Veterinary (Veterinary Aide) Business Management (Accounting Clerk)	THU (DKs)	18
Belmont	Accounting Work (Controller's Assist.) Working with People (Advertising Copywriter) Certified Public Accountant (Budget Analyst/ Training Research Assist.	I (NR)	4
Van Nuys	Veterinarian (Animal Caretaker)		1
Roosevelt	Management (Credit Collection Trainee Medical Assist. or Xrny Tech. (Bank Teller)	I (DK)	3
Manual Arts	Pediatrics & Child Psychology (Editorial Assist.)	IIII (DK)	5
	20	10 DK 1 NR	31

POSTTEST (#10 on Pre.)
STUDENT Q.

6. If you have ever worked before, did your previous job experience help you in this career experience program? If "yes," please explain how it helped you.

SCHOOL	YES	NO	NEVER WORKED	NO RESPONSE	TOTAL	HOW	NO RESPONSE	TOTAL
Granada	IIII	~~IIII~~ I	~~IIII~~ III	0	18	Working as a counsellor at a summer camp helped me in better communicating with the children that I worked with at the Aphasia school. (Bank Teller) I worked for same company Dental Assist.) I worked as a salesman, and as a salesman you begin to talk to people on a friendlier basis. (Veterianry Aide)	1	4
Belmont	II	I	I	0	4	My previous work experience has given me the opportunity to meet, work with, and associate with new people. (Budget Analyst/ Training Research Assist.)	1	2
Van Nuys	0	0	I	0	1			
Roosevelt	I	II	0	0	3	Helped me to work with other people, and keep alert at the job (Bank Teller)	0	1
Manual Arts	0	IIII	I	0	5			
	7	13	11	0	31	5	2	7

POSTTEST (#11 on Pre.)
STUDENT Q.

7. Please list any high school course(s) you have taken that have helped you in this career experience program. If you listed any courses, please describe how each of them has helped you.

SCHOOL	COURSES	NONE/NO RESPONSE	HOW	TOTA
Granada	Typing (Travel Agent)	III (None)	Typing skills used in job.	18
	Typing, 'following instructions' classes (Cash Receipts Clerk)	III (NR)	Typing - use of office machines; All classes - follow directions.	
	Psychology, English (Spec. Educ. Aide.)		English - worked with kids in reading lab; Psychology - helped me to help them with the problems.	
	Photography (Photo Lab. Assist.)		Got acquainted with basic skills.	
	Computer Programming (Computer Programming)		Job is programming, class was programming.	
	Biology (Electro Cardiograph Tech.)		Helped me to know anatomy of human body.	
	English, Drill Team. Tutoring (Special Educ. Aide.)		English helped for tutoring in reading lab; Drill team helped for learning to work with people; tutoring helped for working with kids and teacher.	
	Biology, Chemistry (Electron Microscopic Aide)		Biology - to understand the research; Chemistry - to know metric measurements	
	Biology (Biology Lab. Assist.)		Lab. work - microscope.	
	Bookeeping (Jr. Accountant)		Helped me with the mechanics.	
	Drafting (Engineering Drafting Assist.)		One of my jobs was to draw background drawing for the head draftsmn.	
	Physiology (Veterinary Aide)		Have gone through many parts of the human body, and the animal body is almost the same, except the animal is an all four leg	
Belmont	Typing, Accounting Lab. (Controller's Assist.)	III (NR)	Typing is required for any business job; Accounting has helped me a low; I never though of that being my career until I started taking Accounting classes.	
	Accounting Lab. (Budget Analyst/ Training Research Assist.)		Learned to work with a large sum of numbers and computations.	
Van Nuys	Veterinarian Medicine (out of school course at East Valley Animal Shelter) (Animal Caretaker)	0	Helped in all around knowledge of animals about taking care of them.	
Roosevelt	Business Machines, Algebra and Geometry (Credit Collection Trainee)	I (None)	Business Machines - understanding basic functions of machines; Algebra and Geometry logical math for data processing.	
	Math, English (Bank Teller)		Math - counting, money; English - speak direct	
Manual Arts	Typing, English (Editorial Assist.)	0	English - knowledge of grammer. I also needed a few typing skills.	
	Typing (Personnel Interviewer)		Helped in the typing assignments.	
	Career Research (Survey Worker)		Helped me to find out more about my major.	

POSTTEST
STUDENT Q.

7. CON'T)

SCHOOL	COURSES	NONE/NO RESPONSE	HOW	TOTAL
Manual Arts	English, Journalism (Editing Clerk) Sr. High Art, Life Drawing, Super Graphics, Ceramics (Advertising copywriter/ Commercial Artist)		Expanded and trained my artistic talents.	
	22	4 None's 5 NR		31

POSTTEST (#12 on Pre.)
STUDENT Q.

8. Put a check beside any of the following extracurricular activities that you have been involved in. Then give a brief description of the activity or activities. If experience in the activity was of help to you in this career experience program, please describe how.

SCHOOL	TYPE OF ACTIVITY Unpaid Work Yes	No	DESCRIPTION	HOW HELP
Granada			House Painting	--
			Photo Lab work	I gained some skills necessary for the job. (Photo Lab Assist.)
			Yard work	--
			Photograph wedding	--
			Collecting for United way	--
	13	5	Babysitting, yard work, house cleaning	--
			Gardening at my church	--
			Yard work	Responsibility (Electron Micro. Aide)
			Umpire	Didn't
			Worked for father; helped with bills and payroll	Showed me a little about bookeeping (Jr. Accountant)
			I am handy with my hands and can make almost anything	It's taught me that you don't always have to receive to give, and I'm not afraid to get my hands dirty. (Veterinary Aide)
			Tutoring	Made me more responsible (Electro Cardiograph Tech.)
			Housework	--
			Yardwork	--
			Music Performance	--
			Babysitting	Working with kids that can't help themselves (HS Spec. Educ. Aide)
Belmont	11	11	Babysitting younger brothers	Responsibilities
	2	2	Typing term papers	Able to meet a specific deadline (Budget Analyst/ Training Research Assist.)
			Doing homework for friends	Thought to know what others want (Advertising Copywriter)
Van Nuys	0	1		
	0	1		

POSTTEST (#12 on Pre.)
STUDENT Q.

8. (CON'T)

SCHOOL	TYPE OF ACTIVITY Unpaid Work Yes	No	DESCRIPTION	HOW HELP
Roosevelt	IIII	0	Babysitting	Didn't (Bank Teller)
			Body and fender work	Didn't
			Income tax return	Understanding figures (Credit Collection Trainee)
	3	0	Physical Therapy aid	To get along with other people (Physical Therapy Aide)
Manual Arts	IIII	II	Housework, baby-sitting	Didn't (Editorial Assist.)
			Programs for Sr. class	Experience (Advertising Copywriter, Commercial Artist)
	3	2	Helping friends move driving friends around, taking care or brothers and sisters	Let's you know that you can help people (Editing Clerk)
21	11			
Granada	Hobbies Yes	No	Photography	I gained some skills necessary for the job (Photo Lab Assist.)
	~~IIII~~	IIII	Photography	--
	~~IIII~~		Reading, Tennis, Golf	--
	IIII		Animals, collecting china animals	I am interested in animals which makes the work I'm doing more interesting (Veterinary Aide)
	14	4	Needlecraft, cooking, jogging	Didn't (Cash Receipts Clerk)
			Tropical Fish	Responsibility (Electron Microscopic Aide)
			Play accordian, sports	--
			Snow and water skiing, surfing	Didn't (Veterinary Aide)
			Skiing, sewing	--
			Skiing, swimming	--
			Flute, tennis, sewing	--
			Reading, skiing, sewing	--
			Horse back riding, skiing, tennis	--
			Maps, war games, coin collection	My interest in maps led to my interest in travel (Travel Agent)

POSTTEST (#12 on Pre.)
STUDENT Q.

8. (CON'T)

SCHOOL	TYPE OF ACTIVITY Hobbies Yes	No	DESCRIPTION	HOW HELP
Belmont	11	11	Tennis, baseball	--
			Basketball, cooking, sewing, reading, music	--
	2	2		
Van Nuys	1	0	Caring for and riding horses	I was able to care for the animals (horse and pony) properly. (Animal Caretaker
	1	0		
Roosevelt	11	1	Swimming, camping, bowling	Didn't (Physical Therapy Aide)
			Drawing, word puzzles	Didn't (Credit Collection Trainee)
	2	1		
Manual Arts	111	11	Collecting posters, making things (crafts)	A break from work (Editing Clerk)
			Art, Karate, Bicycle racing	Practice (Advertising Copywriter/ Commercial Artist)
	3	2	Reading	--
			Skating, movies	Didn't (Editorial Assist.)
22	9			
Granada	Sch. Activ. Yes	No	Library, Information Center, C.S.F.	Library and Info. Center were my first exposure to office work (Travel Agent)
	111	111	Pres. of "Ladies" Club, member of CSF, coleens & donarees, scorekeeper for track team	--
	111			
	11			
	12	6	Jr. & Sr. class cheerleader, desoles, ski club	--
			Music groups	--
			Ladies student council	--
			Many clubs	--
			Class steering Comm. journalism, drill team	--
			Knights, student council, Sr. treas.	--
			Pep band, musical	--
			School clubs	Organizing things and working with people (Spec. Educ. Aide)
			Cross country	Getting along with people (Engr. Deputy Assist.)
			Student council and Director of Information Center	You learn leadership and how to work with others (Veterin. Aide)

POSTTEST (#12 on Pre.)
STUDENT Q.

8 CON'T)

SCHOOL	TYPE OF ACTIVITY Sch. Activ. Yes	No	DESCRIPTION	HOW HELP
Belmont	///	/	Knights Club	--
				Gave me sense of organization and team spirit (Advertising Copywriter)
			Girls Athletic Assn. (president, treasurer, sporthead)	Leadership, responsibilities, confidence, poise, organization of work (Budget Analyst/Training Research Assist.)
	3	1		
Van Nuys	/	0	PTSA Board	Helped me with working in a committee with older people (Animal Caretaker)
	1	0		
Roosevelt	///	0	Senior Committee, Gymnastics	--
			Boy league, key club, swim team	Didn't (Physical Therapy Aide
	3	0	Drill team	Didn't (Bank Teller)
Manual Arts	////	/	Diaconian Society, womens high honor society	--
			Student government, spanish club	--
			Program for athletes, awards for teachers	Experience (Advertising Copywriter/ Commer. Artist)
	4	1	Diaconian society, CSF, bowling club, journalism club, senior council, junior achievement	Gave me a sense of responsibility (Editing Clerk)
23	8			
Granada	Non Sch. Act. Yes	No	Church Youth Group	--
	~~//~~	~~//~~	Backpacking, bicycle touring	Getting along with people (Engr. Deputy Assist.)
	~~//~~		AZA, Jr. Achievement	You learn about life, good and bad both (Veterin. Aide)
	///		Girl Scouts	Working with people (Spec. Educ. Aide)
			Jr. Achievement, Meth. Youth Fellowship, YMCA	--
	13	5	Valley Debs, Girl Scouts	--
			Umpire	Didn't (Jr. Accountant)
			Church group, Vet. hospital, political worker	--
			Church group	--

POSTTEST (# 12 on Pre.)
STUDENT Q.

8. CON'T)

SCHOOL	TYPE OF ACTIVITY Non Sch. Act. Yes	No	DESCRIPTION	HOW HELP
Granada			Girl Scouts	Given me experience as well as confidence in my ability to work along with other people (Bank Teller)
			March of Dimes fund raising	Dealing with people (Travel Agent)
			Political campaigning, visits to a neighborhood convalescent hospital	--
			Volunteer nurse aide, tutor	Didn't (Cash Receipts Clerk)
Belmont	1	3	Lchibana basketball team, babysitter at Centro De Ninos	Responsibilities, confidence, teamwork (Budget Analyst/ Training Research Assist.)
	1	3		
Van Nuys	1	0	Girl Scouts	I'v had a lot of experience in meeting and helping other people (Animal Caretaker)
	1	0		
Roosevelt	III	0	Youth club	People depend on you (Bank Teller)
			Church, boy scouts	--
	3	0	Entertainment group	Took care of bookkeeping (Credit Collection Trainee)
Manual Arts	II	III	Jr. Achievement	--
	2	3	Saturday morning Catecism teacher, candy-striper	Gives me a sense of responsibility (Editing Clerk)

(20) (11)

POSTTEST (# 14 on Pre.)
STUDENT Q.

9. Do you feel that students should be paid for participating in this progra or do you feel that getting course credit and the opportunity to learn job skills is enough to make participation in this program worthwhile?

SCHOOL	CREDIT & LEARNED SKILLS ENOUGH	PAY	* (WRITE IN)	NO RESPONSE	TOTAL
Granada	~~IIII~~ ~~IIII~~ ~~IIII~~ II	I		0	18

* Not as many jobs would become available if pay was given. Certain fields do not open easily to teenagers.
It would be a good practice if students worked without pay for a given length of time and then were hired. The student would feel he is accomplishing even more, and that his time and training hadn't been useless.
More satisfying program if student could have a paying job after the voluntary program was completed.

Belmont	III	0	–	1	4
Van Nuys	I	0	–	0	1
Roosevelt	III	0	Plus Gas Mileage		3
Manual Arts	IIII	1	–	0	5
	28	2	-	1	31

Granada
* (con't) Credit and skills enough if student is not being unfairly taken advantage of; i.e. repetitious work that is easily learned. When the students stops learning because he isn't being taught anything new and he can handle the work as well as any other employee, he should be hired.
Pay would be nice, though.
But money sure would help!

POSTTEST (#15 on Pre.)
STUDENT Q.

10. Please check the statement that best describes the type of supervision you received while participating in the career experience program.

SCHOOL	CLOSE SUPERVISION	LEFT ALONE	SOMEONE CLOSE AT HAND	NO RESPONSE	TOTAL
Granada	11	0	~~IIII~~ ~~IIII~~ ~~IIII~~ I	0	18
Lelmont	0	0	IIII	0	4
Van Nuys	0	1	0	0	1
Roosevelt	1	0	II	0	3
Manual Arts	1	0	IIII	0	5
	4	1	26	0	31

POSTTEST (#15 on Pre.)
STUDENT Q.

11. Please check the statement that best describes the type of supervision you would have preferred while participating in the career experience program.

SCHOOL	CLOSE SUPERVISION	LEFT ALONE	SOMEONE CLOSE AT HAND	NO RESPONSE	TOTAL
Granada	1 (matches actual condition)	0	~~IIII~~ ~~IIII~~ ~~IIII~~ II (All but 1 matches actual condition) see Question #10)	0	18
Belmont	1 (doesn't match condition)	0	III (All match)	0	4
Van Nuys	0	0	1 (doesn't match)	0	1
Roosevelt	1 (match)	1 (doesn't match)	1 (match)	0	3
Manual Arts	0	0	~~IIII~~ (All but 1 match)	0	5
	3	1	27	0	31

POSTTEST (#16 on Pre.)

STUDENT Q.

12. Look at the following list of items. Number them in the order in which these things were important to you personally, as a result of participation in this career experience program. (1 = most important; 9 = least important.)

Granada	IMPORTANCE RANKING 1	2	3	4	5	6	7	8	9	NO RESPONSE	TOT.
Job Skill	1.5										18
What a Job is Like											18
Personal Devel.											18
Meet New People											18
Chance for Some. Dif.											18
Help in Choos. C.A.											18
Time from School											18
School Mk. more Meanf.											18
Got acq. w/ Med. Field											18
Other											
Got job for next 4 summers during College.										13	18
Used professional equipment.											
To see what it is really like.											
Learned about bus. in general	1.5										

Belmont	1	2	3	4	5	6	7	8	9	NR	TOT.
Job Skill	0	0	1	0	1	0	0	0	0	11	4
What a Job is Like	1	0	0	0	0	0	1	0	0	11	4
Personal Devel.	1	0	1	0	0	0	0	0	0	11	4
Meet New People	0	11	0	0	0	0	0	0	0	11	4
Chance for Some. Dif.	0	0	0	11	0	0	0	0	0	11	4
Help in Choos. C.A.	0	0	0	0	0	11	0	0	0	11	4
Time from School	0	0	0	0	0	0	0	11	0	11	4
School Mk. More Meanf.	0	0	0	0	1	0	1	0	0	11	4
Other										4	4

POSTTEST (#16 on Pre.)
STUDENT Q.

12. (CON'T)

Van Nuys	IMPORTANCE RANKING 1	2	3	4	5	6	7	8	9	NO RESPONSE	TOT.
Job Skill	0	0	1	0	0	0	0	0	0	0	1
What a Job is Like	0	0	0	1	0	0	0	0	0	0	1
Personal Devel.	0	1	0	0	0	0	0	0	0	0	1
Meet New People	1	0	0	0	0	0	0	0	0	0	1
Chance for Some. Dif.	0	0	0	0	0	0	1	0	0	0	1
Help in Choos. C.A.	0	0	0	0	1	0	0	0	0	0	1
Time from School	0	0	0	0	0	0	0	1	0	0	1
School Mk. more Meanf.	0	0	0	0	0	1	0	0	0	0	1
Other										1	1

Roosevelt	1	2	3	4	5	6	7	8	9	NR	TOT.
Job Skill	0	0	1	0	0	0	0	0	0	1	3
What a Job is Like	0	0	0	1	1	0	0	0	0	1	3
Personal Devel.	1	1	0	0	0	0	0	0	0	1	3
Meet New People	0	0	0	0	0	0	1	0	0	1	3
Chance for Some. Dif.	0	1	0	0	0	1	0	0	0	1	3
Help in Choos. C.A.	1	0	0	0	0	1	0	0	0	1	3
Time from School	0	0	0	0	0	0	0	1	0	1	3
School Mk. more Meanf.	0	0	0	1	1	0	0	0	0	1	3
Other Learn about other careers.	0	0	0	0	0	0	0	0	1	2	3

POSTTEST (#16 on Pre.)
STUDENT Q.

12. (CON'T)

Manual Arts	IMPORTANCE RANKING 1	2	3	4	5	6	7	8	9	NO RESPONSE	TOT.
Job Skill	1	1	0	0	0	0	0	0	0	III	5
What a Job is Like	0	0	0	0	1	1	0	0	0	III	5
Personal Devel.	0	0	0	1	0	0	1	0	0	III	5
Meet New People	0	0	1	0	0	0	1	0	0	III	5
Chance for Some. Dif.	1	0	0	0	0	0	0	1	0	III	5
Help in Choos. C.A.	0	0	0	1	0	1	0	0	0	III	5
Time from School	0	0	0	0	0	0	0	1	1	III	5
School Wk. more Meanf.	0	1	0	0	1	0	0	0	0	III	5
Other										4	5

Training for a possible summer job. 1

ALL	1	2	3	4	5	6	7	8	9	NR	TOT.
Job Skill	3	4	6	5	3	1	0	1	0	7	31
What a Job is Like	3	2	3	5	3	3	5	0	0	7	31
Personal Devel.	4	6	5	2	2	1	3	1	0	7	31
Meet New People	2	3	3	4	3	2	5	1	0	8	31
Chance for Some. Dif.	1	3	4	3	2	5	4	1	0	8	31
Help in Choos. C.A.	5	4	1	3	2	5	2	0	0	9	31
Time from School	2	0	0	0	0	0	0	14	3	12	31
School Wk. more Meanf.	2	1	1	2	7	5	1	3	0	9	31
Other	2 (1.5)		1		1		1		1	24	31

POSTTEST (#17 on Pre.)
STUDENT Q.

13. Do you think that you have learned things in this career experience program that you couldn't have learned by taking high school courses?

SCHOOL	YES	NO	NO RESPONSE	TOTAL
Granada	~~IIII~~ ~~IIII~~ IIII. II	1 (Biology Lab. Assist.)	0	18
Belmont	IIII	0	0	4
Van Nuys	I	0	0	1
Roosevelt	III	0	0	3
Manual Arts	II	II (Survey Worker Personnel Interviewer)	IIII.I.... (Advertising Copywriter/Commercial Artist)	5
	27	3	1	31

POSTTEST (#20 on Pre.)
STUDENT Q.

14. What kind of work atmosphere did you work in?

SCHOOL	FORMAL	INFORMAL	NO RE-SPONSE	TOTAL
Granada	~~||||~~	~~||||~~ ~~||||~~ |||	0	15
Belmont	1	|||	0	4
Van Nuys	0	1	0	1
Roosevelt	||	1	0	3
Manual Arts	1	||||	0	5
	9	22	0	31

POSTTEST (#20 on Pre.)
STUDENT Q.

15. Would you have preferred the work atmosphere to be:

SCHOOL	MORE FORMAL?	LESS FORMAL?	THE SAME?	DOESN'T MATTER	NOT SURE	NO RESPONSE	TOTAL
Granada	0	III	IIII IIII	IIII	0	0	18
Belmont	0	0	III	0	1	0	4
Van Nuys	0	0	1	0	0	0	1
Roosevelt	1	0	0	II	0	0	3
Manual Arts	0	0	IIII	0	1	0	5
	1	3	18	7	2	0	31

POSTTEST (#21 on Pre.)
STUDENT Q.

16. When a job task was completed, which of the following occurred:

SCHOOL	HAND IN TASK GO ON TO NEXT	FEEDBACK BEFORE NEXT TASK	NO RESPONSE	TOTAL
Granada	~~IIII~~ IIII 11 (m)	~~IIII~~ 11 (m)	11 (Question not applicable. Both Special Education A	18
Belmont	11 1(m)	1 1(m)	0	4
Van Nuys	1	0	0	1
Roosevelt	0	11	1	3
Manual Arts	0	~~IIII~~	0	5
	12 3 (m)	13 3 (m)	3	31

POSTTEST (#21 on Pre.)
STUDENT Q.

17. When a job task is to be completed in the future, which would you prefer?

SCHOOL	HAND IN TASK GO ON TO NEXT	FEEDBACK BEFORE NEXT TASK	NO RESPONSE	TOTAL
Granada	11	卌 卌 卌	1	18
Belmont	1	111	0	4
Van Nuys	0	1	0	1
Roosevelt	0	111	0	3
Manual Arts	0	卌	0	5
	3	27	1	31

POSTTEST (#22 on Pre.)
STUDENT Q.

18. Check the item below that best describes your feelings about participation in the career experinece program.

SCHOOL	VERY ENJOYABLE	SOMEWHAT ENJOYABLE	NOT ENJOYABLE	NO FEELINGS	NO RE-SPONSE	TOTAL
Granada	卌 卌 I	卌 II	0	0	0	18
Belmont	II	II	0	0	0	4
Van Nuys	I	0	0	0	0	1
Roosevelt	II	I	0	0	0	3
Manual Arts	I	IIII	0	0	0	5
	17	14	0	0	0	31

POSTTEST
STUDENT Q.

19. Do you feel that this career experience fits in with your interests, personality, and/or abilities? Please comment why or why not.

INTERESTS

SCHOOL	YES	NO	NR	TOT.	WHY/WHY NOT	NR	TOT.
Granada	~~IIII~~ ~~IIII~~ ~~IIII~~	III	0	18	(WHY) Interested in becomming a Veterinarian. Travel and maps are personal interests. I am thinking of going into Spec. Ed. Interested in field.// ~~Interested in sciences~~ I want to be in the medical field. I dig on photography! I'm interested in business. Interested in computers. Interested in becomming physical therapist. Major in biology in college. I'm interested in a job to help me through school. Hope to become a doctor. In the field of my major. (WHY NOT) Not what I want to do. Not interested in banking career. It was very boring.	0	18
Belmont	IIII	0	0	4	That's what career I'm interested in. Taken three years of Arch. I want to work with people. Related to my career.	0	4
Van Nuys	1	0	0	1	I'm very interested in working with animals.	0	1
Roosevelt	II	0	1	3	Like Bookeeping.	1	2
Manual Arts	1	III	1 (DK)	5	(WHY) Relates to my career. (WHY NOT) I didn't care for the work. (DON'T KNOW) The work was cool but the method was boring.	2	5
	23	6	1 NR 1 DK	31	27	3	30

POSTTEST
STUDENT Q.

19. (CON'T)

PERSONALITY

SCHOOL	YES	NO	NR	TOT.	WHY/WHY NOT	NR	TOT.
Granada	~~IIII~~ ~~IIII~~ II	III	II 1(LK)	18	(WHY) Everybody was casual and friendly. Got to meet new people. Like working with people. Precise work, responsibility, independence. I really love kids and am interested in working with them. I related well to the kids. I am a cheerful and willing worker. Not sure. I like working with children. Wanted to see if I would like medical job. I like to work independently. I care for living things. (WHY NOT) I need more challenge. Everyone does the same thing (basically) day after day.	1	15
Belmont	III	0	1	4	Get to associate easily. It's demanding. Easy to communicate with co-workers.	0	3
Van Nuys	1	0	0	1		1	1
Roosevelt	III	0	0	3	I like office work. To show you care for the customer.	1	3
Manual Arts	II	II	1	5	(WHY) I can relate to it. (WHY NOT) Would enjoy more if had been person to person.	2	4
	21	5	4 NR 1 PK	31	21	5	26

160

POSTTEST
STUDENT Q.

19. (CON'T)

ABILITIES

SCHOOL	YES	NO	NR	TOT.	WHY/WHY NOT	NR	TOT.
Granada	~~IIII~~ ~~IIII~~ III	IIII	I	18	(WHY) I'm just good at it. I'm talented in math. If you try, you can do anything. I have drafting skills. I learned or knew all the skills required. The work was not at all difficult for me. I work well with kids; I's good in English; I'm strong enough to handle them. I could help them on anything they didn't understand. I can work well with animals. Office work suits me ore than manual labor. I feel I can work well with children, as I am employed at a preschool. Wanted to see if I would like medical job. (WHY NOT) Too easy and not use brain. It involved some review of H.S. It's too low level work.	2	17
Belmont	IIII	0	0	4	The tasks I completed were well done. Requires thinking. Get on time and work too. It's what I like to do and what I do best.	0	4
Van Nuys	I	0	0	I	I have experience in doing certain things.	0	I
Roosevelt	III	0	0	3	To have skill for the job.	2	3
Manual Arts	I	II	I NR I DK	5	(WHY) I like to do it and if I like it I do it better. (WHY NOT) Can do much more in the way of talking to people - person to person. (DON'T KNOW) The work was somewhat easy.	I	4
	22	6	2 NR I DK	31	24	5	29

POSTTEST (#23 on Pre.)
STUDENT Q.

20. How important do you feel that each of the following factors were in contributing to student success in this career experience program?

Granada

	Major Importance	Minor Importance	Un-important	No Opinion
a. Intelligence				
b. Appearance				
c. Tact				
d. Motivation				
e. Initiative				
f. Pleasing personality				
g. Self confidence				
h. Punctuality				
i. Self respect				
j. Accuracy of work				
k. Speed of work				
l. Self control				
m. Dependability				
n. Poise				
o. Good manners				
p. Verbal ability				
q. Ability to work well with others				
r. Prior work experience related to career experience position				
s. Course work related to career experience position				

POSTTEST (#23 on Pre.)
STUDENT Q.

20. (CON'T)

Belmont

	Major Importance	Minor Importance	Un-important	No Opinion
a. Intelligence	III			I
b. Appearance	IIII			
c. Tact	II			II
d. Motivation	IIII			
e. Initiative	IIII			
f. Pleasing personality	IIII			
g. Self confidence	IIII			
h. Punctuality	IIII			
i. Self respect	IIII			
j. Accuracy of work	IIII			
k. Speed of work	III	I		
l. Self control	IIII			
m. Dependability	IIII			
n. Poise	III			I
o. Good manners	IIII			
p. Verbal ability	IIII			
q. Ability to work well with others	IIII			
r. Prior work experience related to career experience position	I	II		I
s. Course work related to career experience position	I	II		I

POSTTEST (#23 on Pre.)
STUDENT Q.

20. (CON'T)

Van Huys

	Major Importance	Minor Importance	Un-important	No Opinion
a. Intelligence	✓			
b. Appearance		✓		
c. Tact		✓		
d. Motivation	✓			
e. Initiative	✓			
f. Pleasing personality	✓			
g. Self confidence	✓			
h. Punctuality	✓			
i. Self respect	✓			
j. Accuracy of work	✓			
k. Speed of work		✓		
l. Self control	✓			
m. Dependability	✓			
n. Poise	✓			
o. Good manners	✓			
p. Verbal ability	✓			
q. Ability to work well with others	✓			
r. Prior work experience related to career experience position		✓		
s. Course work related to career experience position		✓		

POSTTEST (#23 on Pre.)

STUDENT Q.

20. (CON'T)

Roosevelt

	Major Importance	Minor Importance	Un-important	No Opinion
a. Intelligence	IIII			
b. Appearance		IIII		
c. Tact	II			I
d. Motivation	II	I		
e. Initiative	I	II		
f. Pleasing personality	II	I		
g. Self confidence	IIII			
h. Punctuality	I	I		I
i. Self respect	II		I	
j. Accuracy of work	IIII			
k. Speed of work		II	I	
l. Self control	III			
m. Dependability	IIII			
n. Poise		I		II
o. Good manners	I	I		I
p. Verbal ability	I	I	I	
q. Ability to work well with others	I	II		
r. Prior work experience related to career experience position	I	I		I
s. Course work related to career experience position	I	I		I

POSTTEST (# 23 on Pre.)
STUDENT Q.

20. (CON'T)

Manual Arts

	Major Importance	Minor Importance	Un-important	No Opinion
a. Intelligence	|||||			
b. Appearance	|||	||		
c. Tact	|||				
d. Motivation	~~||||~~			
e. Initiative	|||	||		
f. Pleasing personality	~~||||~~			
g. Self confidence	~~||||~~			
h. Punctuality		||		
i. Self respect	||	|||		
j. Accuracy of work	~~||||~~			
k. Speed of work	|||	||		
l. Self control	||||			
m. Dependability	~~||||~~			
n. Poise	|||			
o. Good manners	|||			
p. Verbal ability	|||	||		
q. Ability to work well with others	~~||||~~			
r. Prior work experience related to career experience position			||||	
s. Course work related to career experience position	||		||	

POSITION (21 on Page)
STUDENT 9.

20. (CONT'D)

TOTAL

	Major Importance	Minor Importance	Un-important	No Opinion
a. Intelligence	22	7	0	2
b. Appearance	10	15	6	0
c. Tact	16	8	2	5
d. Motivation	24	7	0	0
e. Initiative	18	11	2	0
f. Pleasing personality	21	8	2	0
g. Self confidence	23	7	1	0
h. Punctuality	14	15	1	1
i. Self respect	16	9	3	3
j. Accuracy of work	29	1	0	1
k. Speed of work	15	14	2	0
l. Self control	22	6	0	3
m. Dependability	29	2	0	0
n. Poise	13	8	6	4
o. Good manners	19	9	2	1
p. Verbal ability	16	12	3	0
q. Ability to work well with others	20	9	2	0
r. Prior work experience related to career experience position	3	9	15	3
s. Course work related to career experience position	7	12	7	3

POSTTEST
STUDENT Q.

21. How well did you feel you learned the job skills for which you were being trained?

SCHOOL	VERY WELL	MODERATELY WELL	NOT WELL AT ALL	NO RESPONSE	TOTAL
Granada	7HH III	7HH II	I (Jr. Accountant)	I (Not Applicable. Special Education Aide)	18
		1 - in between moderately well and not well at all			
Belmont	IIII	0	0	0	4
Van Nuys	I	0	0	0	1
Roosevelt	I	II	0	0	3
Manual Arts	I	III	I (Personnel Interviewer)	0	5
	15	12	2	1	31
		1 in between			

POSTTEST
STUDENT Q.

22. What classes did you miss as a result of participation in this career experience program? If any classes were missed:
    a. Approximately how many hours per week of classroom time did you miss?
    b. Approximately how many hours per week did you spend catching up on classwork that was missed?
    c. What arrangements were made with the teacher to "make up" the work that was missed?
    d. Do you feel that by missing class(es), you will get a lower grade than you would have if you were able to attend class?

SCHOOL	CLASSES MISSED NONE	CLASSES MISSED LIST	HRS/WK MISSED	HRS/WK CATCH.	MAKE UP ARRANGEMENTS	LOWER GRADE YES	LOWER GRADE NO	LOWER GRADE DK	LOWER GRADE NR
Granada	IN								
	IN								
	IN	COMMENTS							
	III	I dropped my PE class and write a research paper instead. Although 'classtime' not missed we were under great pressure to find time to do homework.							
Belmont	II	Library Practice	5	NR	Dropped and took PE in its place.	0	1	0	1
Van Nuys	I								
Roosevelt	III								
Manual Arts	I	Advanced Placement English	2	4	Gave assignment next day.	0	1	0	
		Career Research and Typing	4	3	None	0	1	0	
		Advanced Placement English and Typing	NR	NR	NR	0	0	1	
		Advanced Placement English and Typing	4	2	Asked for make-up assignments and completed them. That way I kept up with class. More work to do at home instead of class.	0	0	1	
	25	5				0	3	2	1

POSTTEST
STUDENT Q.

23. Do you feel that students should have a course devoted to preparing them for participation in a job situation taken at the same time or just before participating in the career experience program?

SCHOOL	YES	* NO	NOT SURE	NO RESPONSE	TOTAL
Granada	IIII	~~IIII~~ IIII	~~IIII~~	0	18
Belmont	0	1	III	0	4
Van Nuys	0	0	1	0	1
Roosevelt	II	0	1	0	3
Manual Arts	1	II	II	0	5
	7	12	12	0	31

* Comment - For most jobs learning by doing is best.

POSTTEST
STUDENT Q.

24. Please check the items which you feel would have made participation in the program more rewarding.

SCHOOL	MORE TASKS	VAR.	PAY	MORE TIME	COMMUN. SUPER.	COMMUN. WORKERS	OBS. PRG.	CONF.	DISC. W/SUP.	OTH.	NR
Granada	~~||||~~ ~~||||~~ ~~||||~~ ~~||||~~	~~||||~~ ~~||||~~	~~||||~~ |	~~||||~~	~~||||~~	~~||||~~	~~||||~~ ~~||||~~	~~||||~~	~~||||~~ ~~||||~~	| (No forms to fill out)	| (Program very rewarding)
Belmont	|||	|	0	||	|	||	|	|	||	0	0
Van Nuys	|	|	0	0	0	0	0	0	0	0	0
Roosevelt	|	|	| (For gas mileage)	||	0	||	|	0	|	0	0
Manual Arts	|||	|	||	|	|	|	|||	|	|	0	|
	17	14	9	8	5	10	14	5	12	1	3

POSTTEST
STUDENT Q.

25. If you could do it over again, would you have chosen to participate in this program? Describe why or why not.

SCHOOL	YES	NO	NO RESPONSE	TOTAL	WHY/ WHY NOT	NO RESPONSE	TOTAL
Granada	IIII	0	0	18	It has gotten me a summer job and an experience I could not otherwise have had. Opportunity I could not otherwise have gotten. Most worthwhile thing I've done so far in High School Reference is a good one. I've seen what jobs in offices are like. I hope to get a summer job there. I benefited from it, and enjoyed it. It was fun. I got to know some people at CSUN that I feel will be valuable to know I enjoyed it, and I think it is a worthwhile and fulfilling experience. To gain experience in field. Workman's compensation very helpful. I was interested and wanted to do it. It was interesting and I was able to use college lab facilities. Got to work with C. It gave me some parctical experience in business. It was valuable in helping me rule out accounting as my field of study. I enjoyed the people I worked with. Because I learned what it's like to work at a job. Enjoyed working at a bank, and have some experience which is helpful when applying for It's the field which interests me. ** Only if it offered pay.	1	18
Belmont	III	0	1	4	People were friendly, job was enjoyable, was doing something of interest to me. Enjoyed the job I was performing. People I work with were excellent people.	1	4
Van Nuys	1	0	0	1	Enjoyed being able to work around animals. New things learned and experienced.	0	
Roosevelt	III	0	0	3	Would like to have written assignments and lessons on what to do before going there. Enjoyed program very much, and through the program have met many different kind of people	1	
Manual Arts	III	1*	0	3	Enjoyed the work atmosphere. It's a very good experience. I am glad to have been exposed to a program like this one. The experience.	1	
	29	1	1	31	26	5	

* Missed important classwork. I did not receive the training.

POSTTEST
STUDENT Q.

26. What could the school have done to make participation in the program more rewarding?

SCHOOL	RESPONSE	NO RESPONSE	TOTAL
Granada	Start earlier in the year when time is not crowded with term papers and tests. Nothing //// School could have xeroxed the first form so I wouldn't have to fill out a million forms with the same dumb questions. Offer pay.	//// ////	18
Belmont	Extend the program in length. Nothing //	1	4
Van Nuys	I don't know.	0	1
Roosevelt	Gave credit for going. For seniors, placement in a job after graduation. Nothing.	0	3
Manual Arts	Nothing. // Pay. School did not have any participation in the training.	1	5
	//	12	31

POSTTEST
STUDENT Q.

2/. What could the employer have done to make participation in the program more rewarding?

SCHOOL	RESPONSE	NO RESPONSE	TOTAL
Granada	Would have appreciated being told how well or poorly I was doing or being complimented every now and then on a job well done, instead of only corrected when I did something wrong, although I realize this was mostly the employer's personality. The incentive of a summer job if work was well done. Given me more variety in tasks and a broader view of the school as a whole. Nothing. // Taken me on a tour of the school, and let me attend more classes. Learn how to toilet the kids. Given me a review of how well I did. I never talked to the supervisor more than 2 minutes at a time, more often than not, not even about the job. Spent more time with me. Offered to pay the student. //	7HH/	18
Belmont	Been present more often. My supervisor was away on a business trip for two weeks. Give different tasks. Nothing.	1	4
Van Nuys	Provide a wider variety of jobs.	0	1
Roosevelt	Spent more time on the steps and skills needed to learn. She went too fast. Nothing //	0	3
Manual Arts	Paid me. Nothing. The employer could have allowed me to participate in interviewing job applicants.	11	5
		9	31

POSTTEST

STUDENT Q.

28. To what extent do you feel that participation in the career experience program interfered with the items listed below?

Granada	Very much	Some	Little	Not at all
a. Classwork	0	11	5	8
b. Social life	1	4	5	8
c. Responsibilities at home	1	5	5	7
d. Sports activities	1	3	5	9
e. Hobbies	1	4	7	5
f. Other (describe)				
Homework	1			
Musical Rehearsals		1		

Belmont	Very much	Some	Little	Not at all	NR
a. Classwork	0	0	0	3	1
b. Social life	0	2	0	1	1
c. Responsibilities at home	0	1	1	1	1
d. Sports activities	0	1	0	2	1
e. Hobbies	0	0	0	3	1
f. Other (describe)					
Employment	1				

POSTTEST

STUDENT Q.

28. (CON'T)

Van Nuys	Very much	Some	Little	Not at all
a. Classwork	0	1	0	0
b. Social life	0	1	0	0
c. Responsibilities at home	0	0	1	0
d. Sports activities	1	0	0	0
e. Hobbies	1	0	0	0
f. Other (describe)				
_____	___	___	___	___
_____	___	___	___	___

Roosevelt	Very much	Some	Little	Not at all
a. Classwork	0	0	0	III
b. Social life	0	1	0	II
c. Responsibilities at home	0	0	0	III
d. Sports activities	0	0	0	III
e. Hobbies	0	0	0	III
f. Other (describe)				
_____	___	___	___	___
_____	___	___	___	___

POSTTEST

STUDENT Q.

23. (CON'T)

Manual Arts	Very much	Some	Little	Not at all
a. Classwork	1	11	11	0
b. Social life	0	111	0	11
c. Responsibilities at home	0	11	1	11
d. Sports activities	11	1	0	11
e. Hobbies	0	0	0	111
f. Other (describe)				
Junior Achievement		1		

TOTAL	Very much	Some	Little	Not at all	NR
a. Classwork	1	6	9	14	1
b. Social life	1	11	5	13	1
c. Responsibilities at home	1	8	8	13	1
d. Sports activities	4	5	5	16	1
e. Hobbies	2	4	7	17	1
f. Other (describe)					
	2	2			

[illegible]
STUDENT Q.

IV. Has participation in the career experience program helped you to select or rule out a career area?

SCHOOL	HELPED IN SELECTING	HELPED IN RULING OUT	DIDN'T HELP	NO RESPONSE	TOTAL
Granada	𝍸 II	III	𝍸 II	I	18
Belmont	I	I	II	0	4
Van Nuys	I	0	0	0	1
Roosevelt	I	I	0	I	3
Manual Arts	I	II	I	I	5
	11	7	10	3	31

POLITICAL
STUDENT Q.

30. Do you expect eventually to obtain a full-time job in the same career area in which you are participating? If "yes," with the same employer?

SCHOOL	YES	NO	NO RESPONSE	TOTAL	YES	NO	NO RESPONSE	TOTAL
Granada	卌 卌 卌	卌 卌	0	18	卌	卌	1 (DK)	10
Belmont	卌	1	0	4	11	0	1 (DK)	3
Van Nuys	0	1	0	1				
Roosevelt	11	1	0	3	0	11	0	2
Manual Arts	1	卌	1	5	1	0	0	1
	16	14	1	31	7	6	3	16

POSTTEST
STUDENT Q.

31. Has class time set aside for you to share your career program experiences with other students?

SCHOOL	YES	NO	NO RESPONSE	TOTAL
Granada	~~IIII~~ III	~~IIII~~ ~~IIII~~ I	1	18
Belmont	0	III	1	4
Van Nuys	0	1	0	1
Roosevelt	1	II	0	3
Manual Arts	0	IIII	1	5
	9	19	3	31

POSTTEST
STUDENT Q.

32. Should students who have successfully completed the career experience program receive assistance in finding a job from the school or participating employer? (Check one.)

SCHOOL	YES, ASSIST. BY SCHOOL	YES, ASSIST. BY EMPLOYER	YES, ASSIST. BY BOTH	NO	NO RESPONSE	TOTAL
Granada	1	1	||||| |||||	||||| ||	0	18
Belmont	0	1	|||	0	0	4
Van Nuys	0	0	1	0	0	1
Roosevelt	0	1	||	0	0	3
Manual Arts	0	0	||||	0	1	5
	1	3	19	7	1	31

POSITIVE
STUDENT Q.

33. What did you like best about the career experience program?

SCHOOL	RESPONSE	NO RESPONSE	TOTAL
Granada	It was something I was interested in. The people I worked with. I liked being able to talk to the Controller. It gave me some knowledge of insurance. The chance to learn skills not taught in school. The P.A.s. It gave me experience in an interested field. The experience, free use of the computer, use of the library. It was fun. Not any one thing in particular. Learned about office procedure, met new people. The chance to experience work without the full commitment. Working on the college campus; trying new and different jobs. Being able to work in field I enjoy and receiving credit. Coordinator was very concerned with each student's welfare and spent a great deal of time typing to find jobs that the students enjoyed. No job pressure. Opportunity to see what this type of work was like, and it helped me in deciding what I would like to get into in college. Felt like a regular employee at the Pet Clinic. Opportunity to learn more about a career which I was interested in. Would never have been able to work there without being in this program.	1	18
Belmont	The people. They were friendly and very easy to get along with. The opportunity itself. Had my own desk and phone. I wasn't in anyone's way and they weren't in m	1	4
Van Nuys	Chance to observe and work with animals that I would otherwise not be in contact with.	0	1
Roosevelt	The times I got the job right. Helping other people. It's a good idea - I'm glad there is this program.	0	3
Hamilton	The experience learning about the world of work. Experience. The career experience helped my typing abilities.	11	5
		4	31

POSTTEST
STUDENT Q.

34. What did you like least about the program?

SCHOOL	RESPONSE	NO RESPONSE	TOTAL
Granada	The hours. Filling out forms. // Nothing // Paying for parking, paying for punch cards. Not receiving pay. It was make work, boring, tedious and mismanaged. That I was doing things just as well as others but not getting paid. It got boring working in the reading lab all the time. I did work the other did everyday, and no incentive of summer job or pay. It only lasted 7 weeks. Trying to find parking space. Some tedious work. I didn't like how mechanically everyone did their work, talking one word an hour. No guarantee of a job after completing the program. Have some regrets about spending so much of my free time working without pay and for Not being told how well I was doing, so I never really knew if I was performing what was expected, although I assume I would have been corrected if I was doing something wrong.	//	18
Belmont	Lack of close supervision. The briefing or contracts.	//	4
Van Ruys	I didn't get to do a great a variety of jobs as I had hoped.	0	1
Roosevelt	Transportation was too long. Nothing. //	0	3
Manual Arts	Missing typing class. Especially since my typing is terrible. Nothing. The location and time of the job.	//	5
	25	6	31

POSTTEST
STUDENT Q.

35. Please list the main reasons for the degree of success you experienced while participating in the career experience program

SCHOOL	RESPONSE	NO RESPONSE	TOTAL
Granada	Interested in learning. It's something I's interested in. My skill in drafting. Able to follow directions. Being able to follow instructions. Friendly people. My skill and ability. Accuracy and speed. Everyone involved cooperated well (myself included). I had the basic abilities and knowledge needed for the job and the people were very helpful. It was well organized. Everybody was friendly so I felt well received. My lack of programming knowledge was a hinderance. Received experience, self assurance, gave possible future job ideas to me. People whom I worked with were very nice, and I am interested in the kind of work I was doing. Patience, ability to get along with others, help from the people I worked Freedom to experiment, informal atmosphere, more sophisticated equipment. I was willing to do any work I was assigned, even though many of the tasks were unpleasant. Other employees were very helpful and cheerful and seemed to appreciate the work I was doing. I tried my best to pay attention to what I was taught so that I would not do it wrong when I was expected to do something on my own.	IIII	18
Belmont	My desire to participate. Tried my best at everything I did, so that I wouldn't let Belmont or the school I represented down. I proved to myself that I could do the job.	II	4
Van Nuys	No matter what I did I could always learn something.	0	1
Roosevelt	I finished the job quick. What to expect of some comtomers and how to deal with them. What steps to do in cashing a check. I have learned how to work with younger children and also understand what I can do to help and make everything easier for them.	0	3
Manual Arts	Don't Know.	III	5
	21	10	31

POSITIVE
STUDENT Q.

36. In general, how would you evaluate the program?

SCHOOL	VERY SATISFACTORY	SATISFACTORY	UN-SATISFACTORY	NO RESPONSE	TOTAL
Granada	~~IIII IIII~~	~~IIII~~ III	0	0	18
Belmont	I	III	0	0	4
Van Nuys	0	I	0	0	1
Roosevelt	I	II	0	0	3
Manual Arts	I	IIII	0	0	5
	13	18	0	0	31

POSTTEST
STUDENT Q.

Granada

37. Please check the answer which best described your job.

	Yes	No	Don't Know	
Were there adults who did the same work as you?				
Did you sometimes take over a job for an adult who wasn't there?				
Did you usually work alone?			(Sometimes)	
Did you decide how things were done on your job?			(Sometimes)	
Were you doing more difficult tasks by the end of the program than you were at the beginning?				
* Was your job difficult to learn?				
Did you have to assume new responsibilities before you were ready?			(Sometimes)	
Did your boss often ask your opinion?				
Could you do your job without thinking?			(Sometimes)	
Were the regular employees you worked with just like you?				
Did you learn something new most days on your job?				
Did your job get you interested enough in things to try to learn about them after work?				
Did you mostly work with adults?				
Did a lot of students work with the same adults?				
Did your boss know his/her job?				
Did people get very angry at you when you made a mistake?				
** Did your boss tell you when you did a good job?			(Sometimes)	

* It required intelligence, but was not really difficult.

** This was the one thing which discouraged me.

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	Yes	No	Don't Know
Were the adults bossy where you worked?	0	18	11 (sometimes)
Did you get clear instructions when you needed them?	18	0	6
Did you do things off the job with the people you worked with?	11	18	0
Did you ever talk with the people at work about whether your job helps anybody?	18	11	1
Did you ever talk to anyone on the job about your beliefs?	11	18	0
Were you working with people you didn't like?	1	11	0
Were you free to talk and joke around with the people at work?	18	11	11 (sometimes)
Could you have handled a harder job?	18	1	1
* Did you want to quit your job?	11	18	0
Did you often wish you didn't have to go to work?	11	18	11 (sometimes)
Is it easier for you to talk to adults because you had this job?	18	11	11
Have you had many different assignments on this job?	18	11	0

* Only because I needed to look for another job that payed.

POSTTEST
STUDENT Q.

Cranwin

37. Please check the answer which best described your job.

	Yes	No	Don't Know	
Were there adults who did the same work as you?				
Did you sometimes take over a job for an adult who wasn't there?				
Did you usually work alone?			1 (Sometimes)	
Did you decide how things were done on your job?			1 (Sometimes)	1
Were you doing more difficult tasks by the end of the program than you were at the beginning?				
* Was your job difficult to learn?				
Did you have to assume new responsibilities before you were ready?			1 (Sometimes)	
Did your boss often ask your opinion?				
Could you do your job without thinking?			1 (Sometimes)	
Were the regular employees you worked with just like you?				
Did you learn something new most days on your job?				
Did your job get you interested enough in things to try to learn about them after work?				
Did you mostly work with adults?				
Did a lot of students work with the same adults?				
Did your boss know his/her job?				
Did people get very angry at you when you made a mistake?				
Did your boss tell you when you did a good job?			1 (Sometimes)	

* It required intelligence, but was not really difficult.

** This was the one thing which discouraged me.

37. Please check the answer which best described your job.

	Yes	No	Don't Know
Were there adults who did the same work as you?	1	111	0
Did you sometimes take over a job for an adult who wasn't there?	1	111	0
Did you usually work alone?	111	1	0
Did you decide how things were done on your job?	1	111	0
Were you doing more difficult tasks by the end of the program than you were at the beginning?	0	111	0
Was your job difficult to learn?	0	111	0
Did you have to assume new responsibilities before you were ready?	1	111	0
Did your boss often ask your opinion?	0	111	0
Could you do your job without thinking?	11	11	0
Were the regular employees you worked with just like you?	0	111	1
Did you learn something new most days on your job?	111	1	0
Did your job get you interested enough in things to try to learn about them after work?	11	1	1
Did you mostly work with adults?	111	0	0
Did a lot of students work with the same adults?	0	111	0
Did your boss know his/her job?	111	0	0
Did people get very angry at you when you made a mistake?	0	111	0
Did your boss tell you when you did a good job?	11	11	0

	Yes	No	Don't Know
Were the adults bossy where you worked?	0	4	0
Did you get clear instructions when you needed them?	4	0	0
Did you do things off the job with the people you worked with?	0	4	0
Did you ever talk with the people at work about whether your job helps anybody?	2	2	0
Did you ever talk to anyone on the job about your beliefs?	2	2	0
Were you working with people you didn't like?	0	3	1
Were you free to talk and joke around with the people at work?	4	0	0
Could you have handled a harder job?	3	0	1
Did you want to quit your job?	0	4	0
Did you often wish you didn't have to go to work?	0	4	0
Is it easier for you to talk to adults because you had this job?	4	0	0
Have you had many different assignments on this job?	3	2	0

POSTTEST
STUDENT Q.

Van Nuys

37. Please check the answer which best described your job.

	Yes	No	Don't Know
Were there adults who did the same work as you?	1	0	0
Did you sometimes take over a job for an adult who wasn't there?	1	0	0
Did you usually work alone?	1	0	0
Did you decide how things were done on your job?	0	0	1
Were you doing more difficult tasks by the end of the program than you were at the beginning?	0	1	0
Was your job difficult to learn?	0	1	0
Did you have to assume new responsibilities before you were ready?	0	1	0
Did your boss often ask your opinion?	1	0	0
Could you do your job without thinking?	0	0	1
Were the regular employees you worked with just like you?	1	0	0
Did you learn something new most days on your job?	0	1	0
Did your job get you interested enough in things to try to learn about them after work?	1	0	0
Did you mostly work with adults?	1	0	0
Did a lot of students work with the same adults?	0	0	1
Did your boss know his/her job?	1	0	0
Did people get very angry at you when you made a mistake?		1	0
Did your boss tell you when you did a good job?	1	0	0

POSTTEST
STUDENT Q.
37
Van Nuys (CON'T)

	Yes	No	Don't Know
Were the adults bossy where you worked?	0	1	0
Did you get clear instructions when you needed them?	1	0	0
Did you do things off the job with the people you worked with?	0	1	0
Did you ever talk with the people at work about whether your job helps anybody?	0	0	1
Did you ever talk to anyone on the job about your beliefs?	1	0	0
Were you working with people you didn't like?	0	1	0
Were you free to talk and joke around with the people at work?	1	0	0
Could you have handled a harder job?	1	0	0
Did you want to quit your job?	0	1	0
Did you often wish you didn't have to go to work?	0	0	1
Is it easier for you to talk to adults because you had this job?	1	0	0
Have you had many different assignments on this job?	0	1	0

37. Please check the answer which best described your job.

	Yes	No	Don't Know	NR
Were there adults who did the same work as you?	III	0	0	
Did you sometimes take over a job for an adult who wasn't there?	I	II	0	
Did you usually work alone?	0	III	0	
Did you decide how things were done on your job?	II	0	0	I
Were you doing more difficult tasks by the end of the program than you were at the beginning?	II	0	0	I
Was your job difficult to learn?	I	I	0	I
Did you have to assume new responsibilities before you were ready?	0	II	0	I
Did your boss often ask your opinion?	I	I	0	I
Could you do your job without thinking?	0	II	0	I
Were the regular employees you worked with just like you?	0	II	0	I
Did you learn something new most days on your job?	II	0	0	I
Did your job get you interested enough in things to try to learn about them after work?	II	0	0	I
Did you mostly work with adults?	I	I	0	I
Did a lot of students work with the same adults?	0	II	0	I
Did your boss know his/her job?	II	0	0	I
Did people get very angry at you when you made a mistake?	0	I	I	I
Did your boss tell you when you did a good job?	I	I	0	I

POSITIVE
STUDENT Q.

Roosevelt 17 (CONT)

	Yes	No	Don't Know	NR
Were the adults bossy where you worked?	0	11	0	1
Did you get clear instructions when you needed them?	11	0	0	1
Did you do things off the job with the people you worked with?	11	0	0	1
Did you ever talk with the people at work about whether your job helps anybody?	0	0	1	11
Did you ever talk to anyone on the job about your beliefs?	0	11	0	1
Were you working with people you didn't like?	0	11	0	1
Were you free to talk and joke around with the people at work?	1	1	0	1
Could you have handled a harder job?	1	1	0	1
Did you want to quit your job?	0	11	0	1
Did you often wish you didn't have to go to work?	1	1	0	1
Is it easier for you to talk to adults because you had this job?	1	1	0	1
Have you had many different assignments on this job?	1	0	1	1

POSTTEST
STUDENT Q.

Manual Arts

37. Please check the answer which best described your job.

	Yes	No	Don't Know	NR
Were there adults who did the same work as you?	11	1	1	
Did you sometimes take over a job for an adult who wasn't there?	111	11	0	
Did you usually work alone?	1111	1	0	
Did you decide how things were done on your job?	1	11	11 (Sometimes)	
Were you doing more difficult tasks by the end of the program than you were at the beginning?	111	1	0	
Was your job difficult to learn?	1	111	0	
Did you have to assume new responsibilities before you were ready?	1	1111	0	
Did your boss often ask your opinion?	111	11	0	
Could you do your job without thinking?	111	11	0	
Were the regular employees you worked with just like you?	1	1111	0	
Did you learn something new most days on your job?	111	11	0	
Did your job get you interested enough in things to try to learn about them after work?	11	111	0	
Did you mostly work with adults?	1111	1	0	
Did a lot of students work with the same adults?	1	1111	0	
Did your boss know his/her job?	111	0	0	
Did people get very angry at you when you made a mistake?	0	1111	0	1
Did your boss tell you when you did a good job?	11	0	0	

POSTTEST
STUDENT Q.
37
Manual Atts (CON'T)

	Yes	No	Don't Know
Were the adults bossy where you worked?	11	111	0
Did you get clear instructions when you needed them?	111	0	0
Did you do things off the job with the people you worked with?	1	1111	0
Did you ever talk with the people at work about whether your job helps anybody?	11	111	0
Did you ever talk to anyone on the job about your beliefs?	1	1111	0
Were you working with people you didn't like?	1	1111	0
Were you free to talk and joke around with the people at work?	111	0	0
Could you have handled a harder job?	111	11	0
Did you want to quit your job?	1111	1	0
Did you often wish you didn't have to go to work?	11	11	0
* Is it easier for you to talk to adults because you had this job?	1	1111	0
Have you had many different assignments on this job?	11	11	1

* Never had any trouble talking to/with adults.

POSTTEST

STUDENT Q.

TOTAL

37. Please check the answer which best described your job.

	Yes	No	Don't Know	NR
Were there adults who did the same work as you?	34	5	2	
Did you sometimes take over a job for an adult who wasn't there?	17	14	0	
Did you usually work alone?	12	12	1 (Sometimes)	
Did you decide how things were done on your job?	9	16	3 (Sometimes) 1	2
Were you doing more difficult tasks by the end of the program than you were at the beginning?	17	13	0	1
Was your job difficult to learn?	5	25	0	1
Did you have to assume new responsibilities before you were ready?	5	24	1 (Sometimes)	1
Did your boss often ask your opinion?	6	24	0	1
Could you do your job without thinking?	7	20	1 2 (Sometimes)	1
Were the regular employees you worked with just like you?	5	20	5	1
Did you learn something new most days on your job?	21	8	1	1
Did your job get you interested enough in things to try to learn about them after work?	17	12	1	1
Did you mostly work with adults?	27	3	0	1
Did a lot of students work with the same adults?	3	25	2	1
Did your boss know his/her job?	29	0	1	1
Did people get very angry at you when you made a mistake?	1	26	2	2
Did your boss tell you when you did a good job?	17	9	2 (Sometimes)	1

POLITESE

STUDENT Q.

TOTAL 37 (CON'T)

	Yes	No	Don't Know	NR
Were the adults bossy where you worked?	2	25	2 (1 sometimes)	1
Did you get clear instructions when you needed them?	30	0	0	1
Did you do things off the job with the people you worked with?	6	24	0	1
Did you ever talk with the people at work about whether your job helps anybody?	11	12	3	2
Did you ever talk to anyone on the job about your beliefs?	10	20	0	1
Were you working with people you didn't like?	2	27	1	1
Were you free to talk and joke around with the people at work?	25	3	2 (sometimes)	1
Could you have handled a harder job?	24	4	2	1
Did you want to quit your job?	7	23	0	1
Did you often wish you didn't have to go to work?	7	21	1 (sometimes)	1
Is it easier for you to talk to adults because you had this job?	12	13	5	1
Have you had many different assignments on this job?	15	13	2	1

III

EMPLOYER PRETEST DATA

Background Information

Deacribe Responsibilities of Job:

Library Assistant (Technical), Blue Cross Library: Filing cards, assisting in library circulation control, control of overdues, assist library technician in library catalog control and other general library activities.

Cashier and General Office Worker, Granada Datsun, Inc.: Cashier for all depts. Answer telephones, filing, closing out repair orders and counter tickets.

Editing Clerk, Youth Programs, Mayor's Office: Help in the organization of newsletter for Youth Advisory Council. Help in setting up P.R. Training for Communications Committee.

Survey Worker (Research and Data Collection Assistant): 1) Identification and verification of youth services; 2) gap and duplication identification; 3) telephone contact; 4) Youth Services Directory development; 4) Service category development; 5) filing.

Physical Therapy Aide, McDonnell Street School: Assists in feeding of certain patients. Assists with putting on and removal of braces.

Special Education Aide, Lokrantz Elementary School: Help instruct children in areas of motor development, language development, perceptual activities and self-awareness. Learn to relate to physically handicapped children. Read stories, System 80, etc.

Junior Accountant, Weston Hydraulics: Account Analysis Schedules; Export Sales Controls; Special asset Inventory; Various special assignments.

Architectural Drafting Assistant, Logistics Management Division, Space and Communications Branch, Treasury Department, U.S. Customs Service: Incumbent works under the general supervision of the Branch Chief and under the immediate direction of a staff Space and Communications Specialist. Incumbent is responsible for drawing architectural plans for construction of new Customs facilities and remodeling existing facilities. Also assists in developing construction specifications.

Electrocardiogram Technician, Sepulveda Veterans Administration Hospital: To take electrocardiograms and to mount them for reading (interpretation) by the doctor.

Statement Clerk, Security Pacific National Bank: Customer Service--Statement window; customer service--incoming bookkeeping calls; perform miscellaneous clerical duties.

Research Assistant, Promotion Department, Los Angeles Convention and Visitors Bureau, Inc.: To introduce the student to brochure production, he researches a variety of sources to select pertinent L.A. County information. Then follows the steps necessary to bring about a new informative guide.

Employer Questionnaire I

Background Information

Describe Responsibilities of Job:

Electron Microscopic Aide, Sepulveda Veterans Hospital: This student's responsibilities include darkroom processing of electron microscope negatives--including printing, drying, and labeling--plus maintaining darkroom print processors and preparation of chemicals. General laboratory maintenance--glassware, water filtration system. Help with ordering and data filing. Assisting in processing of tissues for observation with the electron and light microscopes.

Animal Caretaker, Pettigrew Science Center: Grooms, feeds, and waters farm animals and poultry; cleans and disinfects pens, stables; prepares reports on health and conditions of animals; may assist "board animal caretaker" in simple veterinary treatment; and may help teachers in selection of loan animals.

Cash Receipts Clerk (Cashier), Farmers Insurance Group: Verify money on receipts. Run tapes on checks and receipts and balance totals. Endorse and stamp checks.

Teller Trainee, Lloyd's Bank: Filing checks. Compiling and mailing statements. Learning basic balancing procedures.

Travel Consultant, Travelwise: To make travel arrangements for clients, airline, hotel, car reservations, and airline tickets. To also cost out the client's travel plans.

Various Shop Jobs, Northwest Fruit Company: Assembly, soldering, welding, wiring.

Editorial Assistant, U.S. Army Engineer District (Environmental Resources Division): Edits those parts of reports that include fiscal data and pertinent physical data for various engineering reports; checks material in reports for extraneous matter, clarity of expression, completeness, conciseness, correct grammatical usage, spelling, punctuation, logical arrangement, correctness of form and layout, and proper degree of emphasis on individual subjects in proportion to their relative importance; checks tables, plates, and graphs for consistency with text; checks all formats; rewrites paragraphs or parts thereof on parts of reports cited above; types rewritten parts of drafts of reports, new tables; and carefully check this new or rewritten material to insure that it is correct.

Microbiological Aide, Sepulveda Veterans Hospital: To make media, to autoclave the media and other items, and to be able to dispense media aseptically. Hope she learns enough techniques to aid in experiments.

Dental Assistant, Riley Dental Corp.: Assist dentist, file records, make appointments, pour impressions, develop Xrays (not take), clean up rooms and office.

Veterinarian Aide, Chatoak Pet Clinic: This is not really applicable to the above students as they are both top students and want to be veterinarians..

Describe Responsibilities of Job:

Miscellaneous Engineering Duties, Dickerson/Gladstone Associates: General junior draftsman responsibilities, blueprinting, Xeroxing, back-tracing, drafting (copying), lettering, specification proofreading, calculations (checking), occasional pick up and delivery.

Data Processing, American Cyanamid: Observe work patterns. Follow Sys-3 process and determine proper halt procedures, program and use of data recorder and sorter. Learn program techniques and write short program.

Accounting Clerk, Farmers Insurance Group: Applying cash to accounts. Sending bills and adjusting miscellaneous cash.

Finance Assistant, Atlantic Ritchfield: Registering and maintaining contract file. Miscellaneous computations on project reports for joint venture partners.

Employer Questionnaire I

1. *Indicate with a check mark how helpful you think what the student has learned in school will be in their work experience program placement.*

Very helpful

Blue Cross (Library Aide)
Security Pacific Bank (Statement Clerk)
U.S. Customs (Architectural Drafting Assistant)
Granada Datsun (Cashier)
Veterans Hospital (EKG Technician)
Dickerson/Gladstone Associates (Engineering)
Chatoak Pet Clinic (Veterinarian Aide)
Veterans Hospital (Electron Microscope Aide)

Fairly helpful

Mayor's Office (Editing Clerk)
U.S. Army Engineering District (Editorial Assistant)
Travelwise (Travel Consultant)

Somewhat helpful

L.A. Convention and Visitors Bureau (Research Assistant)
Mayor's Office (Survey Worker)
Lokrantz School (Special Education Aide)
Weston Hydraulics (Junior Accountant)
McDonnell Street School (Physical Therapy Aide)
Farmers Insurance (Accounting Clerk)
Riley Dental Corporation (Dental Assistant)
Veterans Hospital (Microbiological Aide)
Northwest Fruit Company (Shop Worker)
Farmers Insurance (Cash Receipts Clerk)
Atlantic Ritchfield (Finance Assistant)

Not helpful

American Cyanamid (Data Processing)

No response

Lloyd's Bank (Teller Trainee)[1]
Pettigrew Science Center (Animal Caretaker)

[1] *"Unable to fairly and adequately determine"*

1a. Briefly explain how you expect their school learning to be helpful (or not helpful) in their work experience placement:

Library Assistant (Technical), Blue Cross Library: "School library knowledge very helpful in giving student appreciation of library procedures."

Cashier and General Office Worker, Granada Datsun: "General knowledge of arithmetic essential."

Survey Worker (Research and Data Collection Assistant), Mayor's Office, Youth Programs: "I expect that the school learning will have imparted skills in the following areas: Research problem and information analysis and efficiency (ability to perform given tasks within a particular timeframe). These are skills that would be particularly helpful in this work experience placement."

Physical Therapy Aide, McDonnell Street School: "I can't really say--I know nothing of his past or present schedule of classes."

Special Education Aide, Lokrantz Elementary School: "Academic background and maturity will aid in a general way."

Junior Accountant, Weston Hydraulics: "Dependent on amount of accounting courses taken. In the case of above student, school exposure was somewhat helpful in ability to more easily understand work assignments, instructions and duties."

Architectural Drafting Assistant, Logistics Management Div., Treasury Dept., U.S. Customs: "This work experience placement will allow the student the opportunity to apply the knowledge and skills acquired in school to practical situations."

Electrocardiogram Technician, Sepulveda Veterans Hospital: "Their school learning is not particularly helpful in this job. General knowledge and a willingness to work and learn are the main criteria for this job."

Statement Clerk, Security Pacific National Bank: "Karen has received on the job training. She has worked with customers both with telephone service and statement window service."

Research Assistant, L.A. Convention and Visitors Bureau: "Basic reading and writing skills, of course, but the student who budgets his time, who uses the library and keeps up to date on current events will stand out upon graduation."

Accounting Clerk, Farmers Insurance Group: "Doubt that formal education is beneficial."

Data Processing, American Cyanamid: "School learning should stress good attendance, on time arrival and attentive attitude when learning."

Misc. Engineering Duties, Dickerson/Gladstone Associates: "General mathematics, background and drafting experience should prove most helpful. Students generally need additional help in letter which as a rule has not been stressed sufficiently in school."

Veterinarian Aide, Chatoak Pet Clinic: "Gives them exposure to the responsibilities of a veterinarian."

Dental Assistant, Riley Dental Corp.: "General education; how to behave among the patients. All medical training is taught by the staff and myself at my office."

Microbiological Aide, Sepulveda Veterans Hospital: "Her knowledge of chemistry and biology should be helpful in making reagents and media."

Editorial Assistant, U.S. Army Engineer District (Environmental Resources Branch): "Courses in English reading and comprehension, grammar, and typing would be helpful in this particular work experience placement. Also courses in written composition would be helpful."

Various shop jobs, Northwest Fruit Co.: "Shop classes are helpful if they ha taken any and theory is also helpful, particularly in electrical testing and assembly."

Travel Consultant, Travelwise: "I believe any experience in the business community has to be helpful."

Teller Trainee, Lloyd's Bank: No response.

Cash Receipts Clerk, Farmers Insurance Group: In cash receipts, they would be using adding machines and typewriters and knowledge of checks and bookkeeping.

Animal Caretaker, Pettigrew Science Center: "School activities (learning) is very helpful because the job requires that the student: keep written records of animal health, living conditions, and feed consumption; compute animal and feed needs; read about various animals and their needs."

Electron Microscopic Aide, Sepulveda Veterans Hospital: "Learning in school has been helpful for this position since he is able to comprehend scientific terms usually unfamiliar to the layman--especially metric measurements--and is familiar with biological concepts, therefore able to understand our projects without needing the basics explained to him."

Finance Assistant, Atlantic Ritchfield: "Unable to answer."

2. *Indicate with a check mark, how helpful you think experiences outside of school will be in the student's work experience placement.*

Very helpful	~~////~~	~~////~~
Fairly helpful	///	///
Somewhat helpful	//	//
Not helpful		//
No response	/	//

2a. Briefly explain how you expect their experiences outside of school to be helpful (or not helpful) in their work experience placement.

Library Assistant (Technical): Prior knowledge of the work setting will be very helpful to advance in a true job situation.

Cashier and General Office Worker: Will be able to acquire a job as a cashier for automotive and will eventually be able to progress to doing journal work.

Editing Clerk, Youth Programs: Introduce student to procedures to follow in large organization. Familiarization with outside resources.

Survey Worker (Research and Data-Collection Assistant): The basic skill that I expect that the student would have learned outside of the school environment would be the skill of relating and cooperating with differing persons.

Physical Therapy Aide, McDonnell Street School: Again--can't say.

Special Education Aide, Lokrantz Elementary School: The broader the exposure to many experiences increases the awareness and understanding of others.

Junior Accountant, Weston Hydraulics: Requires exposure to accounting. Present student assists in keeping accounting records for his father's business.

Architectural Drafting Assistant, Customs Service: Any productive work experience in inter-personal relationships is considered a valuable asset in the mission of the Space and Communications Branch.

Electrocardiogram Technician, Veterans Hospital: Very helpful if he wants to get a job as an EKG technician. The experience will be helpful in acquainting him with the routine of a hospital and in giving patient care should he choose a health field.

Statement Clerk, Bank: Basic "getting along with people." Learning to listen to people's problems or complaints.

Research Assistant, Promotion Dept., Convention and Visitors Bureau: Aware of advertising and its methods.

Accounting Clerk, Farmers Insurance: Experience on job only real help.

Data Processing, American Cyanamid: Hands on experience and some job knowledge (even minor) has to be helpful.

Engineering, Dickerson/Gladstone Associates: Their experience outside of school should prepare them in the real world of business.

Veterinarian Aide, Chatoak Pet Clinic: Again it lets them see what is is they are hoping to be doing in future years.

Dental Assistant, Riley Dental Corporation: Experiences outside of school could be helpful if this experience was associated with the medical field.

Microbiological Aide, Sepulveda Veterans Hospital: I have no idea what her experiences are outside of school; therefore I have no idea whether or not they would be helpful.

Editorial Assistant, U.S. Army Engineering District: A student who reads a variety of publications and books outside of school would find that that experience would be helpful in this particular work experience placement.

Shop Worker, Northwest Fruit Company: Hobbies and interests such as working on cars or electronic kits of various types are helpful in learning the shop skills.

Travel Consultant, Travelwise: School learning in math, geography, typing, and reading is important to travel.

Teller Trainee, Lloyd's Bank: No response.

Cash Receipts Clerk, Farmers Insurance: Learning how to work with all ages.

Animal Caretaker, Pettigrew Science Center: Hobbies such as riding horses and hiking would be especially helpful because the student will be caring for both domestic animals and wild animals of California.

Electron Microscope Aide, Sepulveda Veterans Hospital: His experiences out of school are not as necessary for this position except for knowledge of mechanics--for the use and maintenance of our apparatus and instruments.

Finance Assistant, Atlantic Ritchfield: Not applicable.

3. If the student does a good job, how likely is it that he or she could get a full time job in this area upon completion of school?

With your company:

Very likely

Granada Datsun (Cashier)
Security Pacific (Statement Clk.)
Vets Hosp. (EM Aide)
Farmers (Cash Receipts Clk.)
Lloyd's (Teller Trainee)
Riley Corp. (Dental Assist.)
Chatoak (Veterinarian Aide)
Dickerson/Gladstone (Engin.)

Fairly likely

Weston Hydraulics (Jr. Accountant)
U.S. Customs (Architect. Assist.)
Travelwise (Travel Consultant)
U.S. Army (Editorial Assistant)
Farmers Ins. (Accounting Clk.)

Somewhat likely

Veterans Hospital (EKG Tech.)
Mayor's Office (Survey)
Blue Cross Library (Library Assist.)
Atlantic Ritchfield (Finance Assist.)
Northwest Fruit Co. (Shop Worker)
Veterans Hospital (Microbiol. Aide)

Not likely

McDonnell Street Schl. (Phys. Ther.)
L.A. Convention Bur. (Research Assist.)
Mayor's Office (Editing)
American Cyanamid (Data Processing) "Fully staffed"

No response

Lokrantz Schl. (Spec. Ed.) "Not applicable"
Pettigrew Science Center (Animal Caretaker)

Item #3

With another company:

Very likely

Granada Datsun (Cashier)
Farmers Ins. (Cash Receipts Clerk)
Lloyd's (Teller Trainee)
Riley Corp. (Dental Assistant)
Dickerson/Gladstone (Engineering)

Fairly likely

Mayor's Office (Editing)
Blue Cross Library (Library Aide)
U.S. Customs (Architectural Drafting)
Weston Hydraulics (Junior Accountant)
McDonnell St. Schl. (Physical Therapy)
Veterans Hospital (EKG Technician)
Veterans Hospital (Electron Microscope Aide) "Full-time"
Northwest Fruit Company (Shop Worker)

Somewhat likely

Mayor's Office (Survey Worker)
Atlantic Ritchfield (Finance Assistant)
Travelwise (Travel Consultant)
US Army (Editorial Assistant)
Veterans Hospital (Microbiological Aide)
American Cyanamid (Data Processing)
Farmers Insurance (Accounting Clerk)

Not likely

L.A. Convention Bur. (Research Assistant)

No response

Security Pacific Bank (Statement Clerk)
Lokrantz Schl. (Special Education Aide)
Pettigrew Science Center (Animal Caretaker)
Chatoak (Veterinarian Aide)

4. *To what extent do you think the student's work experience placement will be enjoyable and satisfying work?*

Very enjoyable

Veterans Hospital (Electron Microscope Aide)
Travelwise (Travel Consultant)
Riley Corp. (Dental Assistant)
Dickerson/Gladstone Assoc. (Engineering)
Security Pacific Bank (Statement Clerk)
Granada Datsun (Cashier)

Fairly enjoyable

Farmers Insurance (Cash Receipts Clerk)
Lloyd's Bank (Teller Trainee)
U.S. Army (Editorial Assistant)
Chatoak Pet Clinic (Veterinarian Aide)
L.A. Convention Bureau (Research Assistant)
Blue Cross (Library Assistant)
Mayor's Office (Survey Worker)
U.S. Customs (Architectural Drafting Assistant)
Lokrantz School (Special Education Aide)
Weston Hydraulics (Junior Accountant)
McDonnell Street School (Physical Therapy Aide)
Veterans Hospital (EKG Technician) [1]

Somewhat enjoyable

Atlantic Ritchfield (Finance Assistant)
Northwest Fruit Company (Shop Worker)
Veterans Hospital (Microbiological Aide)
American Cyanamid (Data Processing)

Not very enjoyable

Farmers Insurance (Accounting Clerk)

No response

Pettigrew Science Center (Animal Caretaker)
Mayor's Office (Editing Clerk)

[1] *"For Al it may be fairly enjoyable as a temporary job"*

4a. Briefly explain the ways in which you expect them to derive satisfaction and enjoyment from their work experience.

Library Assistant (Technical): By acquiring a greater degree of self-reliance and confidence in their ability to perform in a work environment.

Cashier and General Office Worker, Granada Datsun: She is in constant contact with the public and this will make her more self-assured in what she is doing and will enable her to progress as she learns how to handle the job without constant supervision.

Editing Clerk-, Mayor's Office: Satisfaction can be derived from a measure of professionalism experienced, the people associated and if work is done well, the sense of achievement in a professional area.

Survey Worker (Research and Data Collection Assistant), Mayor's Office: The ways in which this experience could be satisfactory would be: increase in the student's sense of self-worth and ability to cope with the real world; knowledge of city processes; contact with community programs and services affecting youth; sense of contributing to a large cooperative effort.

Physical Therapy Aide, McDonnell Street School: Learning to deal with other workers. Learning to deal with children and the associated problems of a crippled child.

Special Education Aide, Lokrantz Elementary School: The experience of being around children with their uncomplicated approach to life should be enjoyable.

Junior Accountant, Weston Hydraulics: We attempt to assign duties which will provide as much exposure to accounting functions as possible in the short time permitted.

Architectural Drafting Assistant, Customs Service: Exposure of the student to the day-to-day operations of an organization utilizing his particular skills should result in certain intangible personal benefits to him or her.

Electrocardiogram Technician, Veterans Hospital: Al would probably enjoy the job very much as a part-time or temporary job while he is in college, because it relates to his goal of becoming an M.D. He seems to enjoy himself while here and does an excellent job.

Statement Clerk, Bank: To be able to gain self-confidence in both technical areas and learning to work with people gaining satisfaction and enjoyment.

Research Assistant, Promotion Department, Convention and Visitors Bureau: A "work" environment as opposed to a classroom offers an exchange with adults in a new manner. He has a function, duties and becomes a peer of others around him. Seeing research progress to a printed end satisfies a creative drive.

Employer Questionnaire I
Item #4a

Accounting Clerk, Farmers Insurance: "Student appears too academic."

Data Processing, American Cyanamid: "Head start on others in field and satisfaction of taking assignment to completion."

Engineering, Dickerson/Gladstone Associates: "1) An opportunity to interface their school experience with professionals. 2) An opportunity to apply their academic studies to real problems and situations."

Veterinarian Aide, Chatoak Pet Clinic: No response.

Dental Assistant, Riley Dental Corporation: "The student will receive satisfaction from helping the patients. The job is enjoyable because the work is different each day."

Microbiological Aide, Sepulveda Veterans Hospital: "I hope the student receives satisfaction by learning new tasks and mastering these tasks."

Editorial Assistant, U.S. Army Engineering District: "The student would derive satisfaction and enjoyment from this work experience placement by exercising her skills learned in school on a professional level and by the actual experience of being in a professional setting and observing how the business world functions."

Shop Worker, Northwest Fruit Company: "By learning to use their hands effectively as well as their minds."

Travel Consultant, Travelwise: "When they perform a service for a client and makes a sale. To deal with adults in a business manner."

Teller Trainee, Lloyd's Bank: "Exposure to the operational procedures of a bank; meeting and coming into contact with downtown business people."

Cash Receipts Clerk, Farmers Insurance: "It's different than what they do in school."

Animal Caretaker, Pettigrew Science Center: "The student should derive much satisfaction from knowing how to care for animals and knowing how they are used. In addition the enjoyment of knowing how to properly care for pets and knowing information about the wildlife of our state should be a source of enjoyment that will last a lifetime."

Electron Microscope Aide, Sepulveda Veterans Hospital: "Our student will derive satisfaction (hopefully) from his job because he will learn darkroom techniques and be producing the final visual product of our research. It will also be enjoyable since he will learn photographic techniques that he can use in his own hobby of photography."

Finance Assistant, Atlantic Ritchfield: "Projects which can be completed during the student's stay should be assigned, thus giving the satisfaction of accomplishment."

4b. Briefly explain what kinds of things you expect to be dissatisfying to the student in their work experience placement.

Electron Microscope Aide, Sepulveda Veterans Hospital: "Housekeeping duties--glassware, etc."

Animal Caretaker, Pettigrew Science Center: "Total responsibility for animals. Constant cleaning up after animals. Handling of some animals (mice, snakes, etc.).

Cash Receipts Clerk, Farmers Insurance: "Could be very boring."

Teller Trainee, Lloyd's Bank: "Perhaps the more routine and repetitious aspects of teller/banking responsibilities."

Travel Consultant, Travelwise: "To have to perform menial tasks."

Shop Worker, Northwest Fruit Company: "None that I can think of."

Editorial Assistant, U.S. Army Engineering District: "The only thing that I can think of that would be dissatisfying to the student in this work experience placement is that not enough time is allowed for the student to participate in this program."

Microbiological Aide, Sepulveda Veterans Hospital: "By coming in only a couple of days a week, the student can never follow an experiment from beginning to end; therefore, the small things they do probably seem insignificant."

Dental Assistant, Riley Dental Corporation: "The student might disagree with other patients."

Veterinarian Aide, Chatoak Pet Clinic: "See some of the physical labors involved."

Engineering, Dickerson/Gladstone Associates: "None."

Data Processing, American Cyanamid: "Book study and stand alone. Homework, also work may become repetitive."

Accounting Clerk, Farmers Insurance: "See 4a and too routine." "Student appears too academic."

Electrocardiogram Technician, Sepulveda Veterans Hospital: "Possibly too routine a job for his capabilities."

Physical Therapy Aide, McDonnell Street School: "Not enough time nor enough contact with the patients."

Junior Accountant, Weston Hydraulics: "Since, generally, the students do not yet have sufficient outside, or school exposure, most assignments require a good deal of detail accounting work."

Special Education Aide, Lokrantz School: "The routine cleanup and "dirty" work could prove to be monotonous."

Cashier, Granada Datsun: "Perhaps the confinement of the cashier's office as it is a very hectic place at certain times of the day."

Finance Assistant, Atlantic Ritchfield: "All assignments may not be attractive (Example: Filing, repetitive work). Would probably depend on person."

Architectural Drafting Assistant, U.S. Customs: "Often, situations shall arise whereby the student shall learn that in a job environment, the demands of his resources for the maximum benefit of the organization shall result in exposure to certain unexpected pressures."

Survey Worker, Mayor's Office: "Items which might be dissatisfying might be: complexity of project and the amount of unglamorous work required, and the lack of organized social activity."

Statement Clerk, Security Pacific Bank: "Learning to deal with irate customers sometimes can be hard!"

Editing Clerk, Mayor's Office: "Processes in some areas are long and delayed at times. This can prove to be discouraging. Also, it is fairly easy to over project goals and become dissatisfied when time and other limitations do not allow for achievement of goals."

Library Aide, Blue Cross: "Probably the routine nature of the job."

Research Assistant, L.A. Convention and Visitors Bureau: "To a highly motivated student, the gathering of source material might seem mundane and tedious."

5. To what extent do you think you will be satisfied with the student's work?

Very satisfied

Veterans Hospital (EKG Technician)
McDonnell Street School (Physical Therapy Aide)
Weston Hydraulics (Junior Accountant)
Lokrantz School (Special Education Aide)
Granada Datsun (Cashier)
U.S. Customs (Architectural Drafting Assistant)
Mayor's Office (Survey Worker)
Security Pacific Bank (Statement Clerk)
Blue Cross (Library Aide)
Mayor's Office (Editing Clerk)
Atlantic Ritchfield (Finance Assistant)
Veterans Hospital (Electron Microscope Aide)
Farmers Insurance (Cash Receipts Clerk)
Travelwise (Travel Consultant)
Northwest Fruit Company (Shop Worker)
Riley Dental Corp. (Dental Assistant)
Dickerson/Gladstone Associates (Engineering)

Fairly satisfied

U.S. Army (Editorial Assistant)
Veterans Hospital (Microbiological Aide)
Chatoak Pet Clinic (Veterinarian Aide)
L.A. Convention Bureau (Research Assistant)

Somewhat satisfied

Farmers Insurance (Accounting Clerk)

Not very satisfied

American Cyanamid (Data Processing)

No response

Pettigrew Science Center (Animal Caretaker)
Lloyd's Bank (Teller Trainee)[1]

[1] "Unable to adequately determine"

5a. Briefly explain the kinds of things that you think will satisfy you with the student's work.

Library Assistant: Giving encouragement and realizing that the student is actually acquiring more job maturity.

Cashier and General Office Worker, Granada Datsun: She has a very nice personality and an aptitude to learn quickly. Everything she has done, she has done well. She gets along well with the other employees.

Editing Clerk, Mayor's Office: A student in this position having the basic skills should be able to cope with responsibility. The student should be self-starting with initiative to follow through on tasks.

Survey Worker (Research and Data Collection Assistant), Mayor's Office: I would be satisfied if the student was conscientious and able to work with little supervision.

Physical Therapy Aide, McDonnell Street School: Tyrone is eager and has an air of maturity about him that is hard to find in a boy of his age.

Special Education Aide, Lokrantz Elementary School: Her willingness to do what is asked of her. The friendly manner she has with all she comes in contact with.

Junior Accountant, Weston Hydraulics: Present student very quick to grasp assignment instructions. Very able to work on own with very little additional supervision required, and with very few errors.

Architectural Drafting Assistant, Customs Service: The student's attention to detail and his/her desire to learn.

Electrocardiogram Technician, Veterans Hospital: The student is very responsible, learns quickly, does a thorough and accurate job and has a pleasant personality.

Statement Clerk, Bank: Karen's attitude is great. Her ability to learn is above average. She gets along with management and her co-workers very well.

Research Assistant, Promotion Dept., Convention and Visitors Bureau: He is punctual, takes directions well and continues quietly on his project.

Accounting Clerk, Farmers Insurance: Student's lack of interest will probably make the student's work unsatisfying to me.

Data Processing, American Cyanamid: "See 1a." School learning should stress good attendance, on time arrival and attentive attitude when learning.

Engineering, Dickerson/Gladstone Associates: Enthusiasm and motivation.

Veterinarian Aide, Chatoak Pet Clinic: Their willingness to do all jobs.

Dental Assistant, Riley Dental Corporation: His (or her) personality towards the patients. Being efficient and reliable. Being cooperative and able to follow directions.

Microbiological Aide, Sepulveda Veterans Hospital: The student is eager and quick to learn things. I will be satisfied, if, when she leaves, she can perform all the tasks listed in Question 7.

Editorial Assistant, U.S. Army Engineering District: A command of English grammar, punctuation, and apelling; reading comprehension; and typing ability. Also, the student should have experience in written composition.

Shop Worker, Northwest Fruit Company: Interest in his job. Promptness. Ability and desire to stick with it. Ability to take instruction. Ability to work with other personnel.

Travel Consultant, Travelwise: To be able to see a student develop. Example how to answer a telephone properly.

Teller Trainee, Lloyd's Bank: No response.

Cash Receipts Clerk, Farmers Insurance: Accuracy. Neatness.

Animal Caretaker, Pettigrew Science Center: Neatness, responsible, eager to learn--growth in learning about and handling animals.

Electron Microscope Aide, Sepulveda Veterans Hospital: His work will satisfy our need for more time to do certain specialized duties while he can help take care of routine work.

Finance Assistant, Atlantic Ritchfield: Previous work experience. Conscientiousness. Neatness. Accuracy.

5b. *Briefly explain the kinds of things that will make you dissatisfied with the student's work (List at least four things).*

Editing Clerk, Youth Programs, Mayor's Office:
"Dissatisfaction could come from a number of areas. Lack of initiative. Improper preparation (duty of program). Lack of basic skills."

Research Assistant, L.A. Convention and Visitors Bureau:
"Perhaps shy, the student doesn't "reach out." A conversation with him is one-sided. Don't believe I am either talking over his head or talking down to him, he just seems quiet. He understands the overall project and sees the step-by-step process yet shows no drive. I had asked for someone with a demonstrated "flair" for writing or interest in public relations/advertising and he does not seem directed in these fields."

Library Assistant, Blue Cross:
1. *Time it takes to learn*
2. *Lack of work field expertise*
3. *Immaturity of approach*
4. *Time involved in training*

Statement Clerk, Security Pacific Bank:
"None"

Survey Worker, Youth Programs, Mayor's Office:
"Four things that would dissatisfy me are:
1. *Not showing up for work*
2. *Not listening to instructions*
3. *Work of such poor quality that it has to be redone*
4. *Substantial conflict with supervision*

Architectural Drafting Assistant, U.S. Customs Service:
1. *Inattention to details of architectural planning*
2. *Tardiness*
3. *Unreliability*
4. *Disinterest*

Cashier and General Office Worker, Granada Datsun:
"Tardiness--Not treating the customers courteously--Leaving people hanging on the phone without going back in to let them know you are still aware they are waiting--A lot of talking instead of attending to work."

Special Education Aide, Lokrantz School:
"Needs to use a little more initiative perhaps. There are no other suggestions."

Junior Accountant, Weston Hydraulics:
"More experiences with present student."

Physical Therapy Aide, McDonnell Street School:
(Tyrone doesn't show any of these things)
1. *Lack of attendance*
2. *Inappropriate behavior around children*
3. *Lack of respect for fellow workers*
4. *Criticizing without knowledge*

Employer Questionnaire I
Item #5b

Electrocardiogram Technician, Veterans Hospital:
"Al has done nothing that would make us dissatisfied, but in general, sloppiness, irresponsibility in taking tracings, mounting them, or chronic tardiness or absence would make us dissatisfied."

Finance Assistant, Atlantic Ritchfield:
"Errors; sloppy work habits; lack of interest and desire to learn."

Electron Microscope Aide, Sepulveda Veterans Hospital:
"1. Time needed to train.
2. Only working half day--many projects take longer."

Animal Caretaker, Pettigrew Science Center:
"1. Not doing the work needed.
2. Not showing up.
3. Not showing interest in activities.
4. Not asking questions (freely) about animals and activities.

Cash Receipts Clerk, Farmers Insurance:
?

Teller Trainee, Lloyd's Bank: No response

Travel Consultant, Travelwise:
"Time--working one or two days a week is very hard to learn."

Shop Worker, Northwest Fruit Company:
"No interest in his work.
Not dependable.
Unable to take instruction well.
Inability to work well with others."

Editorial Assistant, U.S. Army Engineering District:
"If the student does not have a command of the English grammer, punctuation, spelling, reading comprehension, and typing ability, I would be dissatisfied. Also, if the student does not have experience in written composition, I would be dissatisfied."

Microbiological Aide, Sepulveda Veterans Hospital:
"1) Filling out questionnaires about student's work and progress
2) Having to pay the postage to return unsolicited questionnaires."

Dental Assistant, Riley Dental Corporation:
"Not being able to learn quick enough.
Not thinking ahead.
Not being quick when working.
Not being efficient."

Veterinarian Aide, Chatoak Pet Clinic:
"1. Anyone not getting out and doing his share.
2. Failure to show.
3. Tardy.
4. Unclean."

Engineering, Dickerson/Gladstone Associates:
"Lack of interest and motivation."

Data Processing, American Cyanamid:
"See 1a."
"School learning should stress good attendance, on time arrival and attentive attitude when learning."

Accounting Clerk, Farmers Insurance:
"1. Speed.
2. Knowledge.
3. Accuracy.
4. Interest."

6. What kinds of skills and knowledge do you believe are necessary for the student to perform well in their work experience placement?

Electrocardiogram Technician, Veterans Hospital:
1. Willingness to work and to learn
2. No specific skills or knowledge is required for this job although a course in biology and anatomy can be helpful

Physical Therapy Aide, McDonnell Street School:
1. Patience
2. Interest in working with others
3. Interest in children and problems
4. Willingness to listen

Junior Accountant, Weston Hydraulics:
1. Previous accounting classes
2. Previous outside experience
3. Ability to easily meet and work with other people
4. General education level

Special Education Aide, Lokrantz School:
1. Willingness to do a variety of activities
2. Acceptance of change in plans
3. Ability to relate to adults and children
4. Willingness to do menial chores as well as more important functions

Cashier and General Office Worker, Granada Datsun:
1. Arithmetic--very important

Architectural Drafting Assistant, U.S. Customs Service:
1. Expertise in drafting
2. Knowledge of basic architecture
3. Ability to adjust to changes in project requirements
4. Desire to cooperate with people

Survey Worker, Youth Programs, Mayor's Office:
1. Research
2. Problem and information analysis
3. Telephone survey skills
4. Time consciousness

Statement Clerk, Security Pacific Bank:
1. On-the-job training--practical experience

Library Assistant, Blue Cross:
1. Telephone experience
2. Office methods and procedures
3. Know the alphabet and follow it easily
4. Filing systems

Research Assistant, L.A. Convention and Visitors Bureau:
1. Extensive reading in many areas
2. Awareness of what's going on (TV, radio, papers)
3. Ability to outline projects quickly
4. Desire to communicate (writing/speech)

Editing Clerk, Youth Programs, Mayor's Office:
1. Basic journalism skills
2. (Editing, layout, spelling, punctuation)
3. Organizational skills
4. Typing

Finance Assistant, Atlantic Ritchfield:
1. Read and comprehend
2. Figure aptitude
3. Calculator - skill
4. Filing

Electron Microscope Aide, Sepulveda Veterans Hospital:
1. Biology - to comprehend our research
2. Chemistry - gives him the ability to make solutions needed in our research
3. Scientific terms i.e. metric measurements
4. Mechanical aptitude - darkroom equipment use

Animal Caretaker, Pettigrew Science Center:
1. Knowledge of care and feeding of various animals
2. Knowledge of living habits of various animals
3. Knowledge of health procedures for animals
4. Skill and handling and caring for animals

Cash Receipts Clerk, Farmers Insurance:
1. Typing
2. Use of 10-key adding machine
3. Bookkeeping

Teller Trainee, Lloyd's Bank:
1. Public speaking, communication
2. Basic math and accounting skills
3. Any business-related courses

Travel Consultant, Travelwise:
1. Math
2. Reading comprehension
3. Geography
4. Typing

Shop Worker, Northwest Fruit Company:
1. How to trace electrical circuits
2. How to solder
3. How to weld

Editorial Assistant, U.S. Army Engineering District:
1. Above average ability in written composition.
2. Above average ability in reading comprehension
3. Above average ability in problem solving
4. Typing (45 wpm)

Employer Questionnaire I
Item #6

Microbiological Aide, Sepulveda Veterans Hospital:
1. Knowledge of chemistry
2. Knowledge of biology
3. Ability to follow directions accurately

Dental Assistant, Riley Dental Corporation:
1. Verbal ability
2. Dependability
3. Punctuality
4. Tact

Veterinarian Aide, Chatoak Pet Clinic:
1. Willingness

Engineering, Dickerson/Gladstone Associates:
1. Drafting
2. Lettering
3. Mathematics
4. Spelling and composition

Data Processing, American Cyanamid:
1. Good reading and understanding skills
2. Logical and consistent thought process
3. Attendance and punctuality

Accounting Clerk, Farmers Insurance:
1. Knowledge of business machines
2. Basic accounting
3. Math
4. Logical judgment

7. What kinds of things do you hope to teach the student in their work experience placement?

Editing Clerk, Youth Programs, Mayor's Office:
1. Familiarization in governmental process
2. Organization of public relations skills
3. Development of public relations resources
4. Evaluation ability
5. Working within specified time frame

Research Assistant, L.A. Convention and Visitors Bureau:
1. See the "real world" with its deadlines
2. Relate with co-workers
3. Learn about communicating to public via writing
4. Organize a work day to reach set goals
5. Suggest an exchange of thoughts

Library Assistant, Blue Cross Library:
1. Speed and accuracy in filing catalog cards.
2. Check for errors and correct them.
3. Telephone manners and voice.
4. Library circulation procedures

Statement Clerk, Security Pacific Bank:
1. Technical knowledge
2. Customer Service
3. Ability to communicate

Survey Worker, Youth Programs, Mayor's Office:
1. How to work as part of a larger cooperative effort
2. How the City's Youth Service System works
3. How an information and referral directory is compiled
4. Filing skills: editing, cross-referencing
5. Resources: youth services and programs

Architectural Drafting Assistant, U.S. Customs Service:
1. Application of drafting skills
2. Different styles of architecture
3. Research procedures
4. Presentation of ideas in meetings
5. Securing approval of plans from management personnel

Cashier and General Office Worker, Granada Datsun
1. How to handle the telephone correctly
2. How to cashier correctly
3. How to make bank deposits
4. How to close out repair orders

Special Education Aide, Lokrantz School:
1. To relate to handicapped children
2. To assume responsibility
3. To get along (relate) with adults
4. To prepare for a game--a story, etc.
5. Be aware of safety factors in school

Junior Accountant, Weston Hydraulics:
1. General accounting organizational structure
2. Overall department responsibilities
3. Detail experience in various accounting functions
4. General exposure to other, main accounting functions
5. Relation of Accounting Department in company structure

Physical Therapy Aide, McDonnell Street School:
1. Feeding techniques for children
2. Removal and putting on of braces
3. Games, activities with the children
4. Understanding some medical terms
5. Understanding some diseases and conditions

Electrocardiogram Technician, Veterans Hospital:
1. How to take EKG's and to mount them
2. A little general knowledge on the routine of the hospital
3. How to relate to a patient in many types of situations and conditions

Accounting Clerk, Farmers Insurance:
1. Basic idea of accounts receivable

Data Processing, American Cyanamid:
"This is a tough world, and if a person wants to keep a job they had better show up for it."

Engineering, Dickerson/Gladstone Associates:
"Same as 4a."
"1) An opportunity to interface their school experience with professionals.
2) An opportunity to apply their academic studies to real problems and situations."

Veterinarian Aide, Chatoak Pet Clinic:
No response

Dental Assistant, Riley Dental Corporation:
1. Self-confidence
2. Poise
3. Self respect
4. Good manners
5. Ability to work with others

Microbiological Aids, Sepulveda Veterans Hospital:
1. To use various equipment--Metler balance, centrifuge, autoclave
2. To learn to pipet accurately
3. To use aseptic technique
4. To make media

Editorial Assistant, U.S. Army Engineering District:
1. How to make logical arrangements
2. How to be precise
3. Correct form and layout for various reports
4. How to prepare tables
5. What to check for on plates and graphs

Shop Worker, Northwest Fruit Company:
Basic intelligence and a willingness to learn

Travel Consultant, Travelwise:
1. Answer telephone properly
2. To learn the airline guides for fares and routings
3. Write airline tickets
4. To make out travel itinerary

Teller Trainee, Lloyd's Bank:
1. Fundamentals of banking
2. Customer relations
3. Responsibility for assets

Accounting Clerk, Farmers Insurance:
1. Knowledge of checks
2. Balancing adding machine tapes
3. Use of an adding machine

Animal Caretaker, Pettigrew Science Center:
1. Feeding of various animals
2. Health conditions of various animals
3. Methods of caring for animals
4. Planning for the care of animals (feed orders, changes in cages, etc.)
5. Responsibility

Electron Microscope Aide, Sepulveda Veterans Hospital:
1. Darkroom techniques
2. Preparation of tissue for microscope techniques
3. Observing tissue in electron microscope--practical application of biological knowledge
4. How to operate specialized laboratory apparatus and instruments

Finance Assistant, Atlantic Ritchfield:
1. Business mannerisms
2. Follow through

8. To what extent do you think such a work experience program will be generally helpful in preparing a student to assume a full time job in the world of work?

Very high

Veterans Hospital (Electron Microscope Aide)
Pettigrew Science Center (Animal Caretaker)
Riley Dental Corporation (Dental Assistant)
Dickerson/Gladstone Associates (Engineering)
Granada Datsun (Cashier)
Mayor's Office (Editing Clerk)

Fairly high

Farmers Insurance (Cash Receipts Clerk)
Lloyd's Bank (Teller Trainee)
U.S. Army Engineering District (Editorial Assistant)
Farmers Insurance (Accounting Clerk)
Veterans Hospital (EKG Technician)
McDonnell Street School (Physical Therapy Aide)
Lokrantz School (Special Education Aide)
U.S. Customs (Architectural Drafting Assistant)
Mayor's Office (Survey Worker)
Blue Cross (Library Aide)

Somewhat high

Atlantic Ritchfield (Finance Assistant)
Travelwise (Travel Consultant)
Northwest Fruit Company (Shop Worker)
Veterans Hospital (Microbiological Aide)
Chatoak Pet Clinic (Veterinarian Aide)
American Cyanamid (Data Processing)
Weston Hydraulics (Junior Accountant)
L.A. Convention and Visitors Bureau (Research Assistant)

Low

No response

Security Pacific Bank (Statement Clerk)

9. To what extent do you think such a work experience program will be generally helpful in preparing a student to assume a full time job in this specific job placement?

Very high
- Veterans Hospital (Electron Microscope Aide)
- Riley Dental Corporation (Dental Assistant)
- Dickerson/Gladstone Associates (Engineering)
- McDonnell Street School (Physical Therapy Aide)
- Granada Datsun (Cashier)
- Security Pacific Bank (Statement Clerk)

Fairly high
- Pettigrew Science Center (Animal Caretaker)
- Farmers Insurance (Cash Receipts Clerk)
- Travelwise (Travel Consultant)
- U.S. Army Engineering District (Editorial Assistant)
- Farmers Insurance (Accounting Clerk)
- Veterans Hospital (EKG Technician)
- Lokrantz School (Special Education Aide)
- U.S. Customs (Architectural Drafting Assistant)
- Mayor's Office (Editing Clerk)
- Blue Cross (Library Aide)

Somewhat high
- Lloyd's Bank (Teller Trainee)
- American Cyanamid (Data Processing)
- Weston Hydraulics (Junior Accountant)
- Mayor's Office (Survey Worker)

Low
- Atlantic Ritchfield (Finance Assistant)
- Northwest Fruit Company (Shop Worker)
- Veterans Hospital (Microbiological Aide)[1]
- L.A. Convention and Visitors Bureau (Research Assistant)

No response
- Chatoak Pet Clinic (Veterinarian Aide)

[1] "The Dept. of Infectious Diseases is moving in total to Boston, Mass., in July 1975; therefore no opportunity for employment will exist."

10. Indicate with a check, the degree to which you expect the placement of this student to be a service to the student and a service to your company.

Service to the Student

Very high
- Sec. Pac. Bk. (State. Clk.)
- Granada Datsun (Cashier)
- U.S. Customs (Arch. Draft.)
- Dickerson/Gladstone (Eng.)

High
- Blue Cross (Lib. Aide)
- Mayor's Off. (Edit. Clk.)
- Mayor's Off. (Survey W.)
- Lokrantz S. (Spec. Ed. A.)
- Weston Hydraul. (Jr. Acct.)
- McDonnell St. Sc. (Phys. Th.)
- Vet Hosp. (EKG Tech.)
- Farmers Ins. (Acct'g Clk.)
- Riley Dental Corp. Dent. Ast.)
- Travelwise (Trav. Consult.)
- Farmers Ins. (C. R. Clk.)
- Vet Hosp. (Elec. Mic. Aide)
- Atlantic Ritchfield (Fin. A.)

Average
- L.A. Conv. Bur. (Res. Asst.)
- Amer. Cyanamid (DP)
- Vet Hosp. (MB Aide)
- U.S. Army E.D. (Edit. Asst.)
- NW Fruit Co. (Shop Wrkr.)
- Lloyd's Bk. (Teller Tr.)

Low

Very low

No response
- Chatoak (Vet. Aide)[1]
- Pettigrew S. Ctr. (Anim. C.)

Service to the Company

Very high
- Mayor's Off. (Edit. Clk.)
- Sec. Pac. Bk. (State. Clk.)
- Granada Datsun (Cashier)
- Dickerson/Gladstone (Eng.)
- Riley Dent. Corp. (Dent. Asst.)
- Vet.Hosp. (Elec. Mic. Aide)

High
- L.A. Conv. Bur. (Res. Asst.)
- Mayor's Off. (Survey W.)
- U.S. Customs (Arch. Draft.)
- Lokrantz S. (Spec. Ed. A.)
- McDonnell St. Sc. (Phys. Th.)
- Vet Hosp. (EKG Tech.)
- Farmers Ins. (Acct'g Clk.)
- Farmer Ins. (C. R. Clk.)

Average
- Blue Cross (Lib. Aide)
- Weston Hydraul. (Jr. Acct.)
- Vet Hosp. (Microbiol. Aide)
- U.S. Army Eng.D. (Edit. Asst.)
- Travelwise (Trav. Consult.)

Low
- NW Fruit Co. (Shop Wrkr.)
- Lloyd's Bk. (Teller Tr.)
- Atlantic Ritchfield (Fin. Asst.)

Very low
- Amer. Cyanamid (DP)

No response
- Chatoak (Vet. Aide)[1]
- Pettigrew S. Ctr. (Anim. C.)

[1] "Not applicable"

11. To what extent do you favor having students gain work experience with your company?

Very much in favor
- Security Pacific Bank (Statement Clerk)
- Mayor's Office (Survey Worker)
- Granada Datsun (Cashier)
- U.S. Customs (Architectural Drafting Assistant)
- McDonnell Street School (Physical Therapy Aide)[1]
- American Cyanamid (Data Processing)
- Dickerson/Gladstone Associates (Engineering)
- U.S. Army Engineering District (Editorial Assistant)
- Travelwise (Travel Consultant)
- Veterans Hospital (Electron Microscope Aide)

Fairly favorable
- L.A. Convention and Visitors Bureau (Research Assistant)[2]
- Blue Cross (Library Aide)
- Mayor's Office (Editing Clerk)
- Lokrantz School (Special Education Aide)
- Weston Hydraulics (Junior Accountant)
- Veterans Hospital (EKG Technician)
- Farmers Insurance (Accounting Clerk)
- Riley Dental Corporation (Dental Assistant)
- Veterans Hospital (Microbiological Aide)
- Northwest Fruit Company (Shop Worker)
- Lloyd's Bank (Teller Trainee)
- Farmers Insurance (Cash Receipts Clerk)

Somewhat in favor
- Atlantic Ritchfield (Finance Assistant)

Not in favor

No response
- Chatoak Pet Clinic (Veterinarian Aide)[3]
- Pettigrew Science Center (Animal Caretaker)

[1] "The only problems involved are:
1. I often don't have a lot of time to spend in observing the student.
2. As you have undoubtedly noticed, it is often difficult for me to compute extra paperwork--I have loads of my own."

[2] "With better selection"

[3] "Not applicable"

12. This item has not been considered because the heading was left off and only a few respondents had the item in their questionnaire.

13. What is your main reason for agreeing to participate in this career experience program?

"Need for help in the creation of house organ. Offer the student opportunity to work in large organization." (Jr. Administrative Assistant, Youth Programs, Mayor's Office).

"A wish to contribute to the educational process by offering a first hand look at a field which probably seems attractive to certain students. Expected a student who had been attracted to PR/Advertising and one eager to learn as much as possible during the brief test period." (Promotion Director, L.A. Convention and Visitors Bureau, Inc.)

"Hoping to help increase the knowledge of library operations and help the students avail themselves of this knowledge." (Librarian, Blue Cross).

"To help the student gain self-confidence and to be able to learn the "working world," and still gain on the job training." (Assistant Manager, Bank).

"My main readon by participation was because this program potentially extends existing staff and provides an opportunity for students to gain firsthand knowledge of governmental processes." (Junior Administrative Assistant, Youth Programs, Mayor's Office).

"This agreement was made in order to provide the student an opportunity for exposure to the day-to-day work of an organization staffed with employees with training similar to that of the student's. It is hopeful that this exposure will encourage the student to pursue the architectural design career field in college." (Branch Chief, U.S. Customs Service).

"We felt it would be a good program to participate in."

(General Accountant, Atlantic Ritchfield Co.)

14. To what extent will the job in which the student is being placed be a modification of an already existing position within the company?

Job will be greatly modified.
L.A. Convention and Visitors Bureau (Research Assistant)

Job will be somewhat modified.
Mayor's Office (Survey Worker)
Security Pacific Bank (Statement Clerk)
Blue Cross (Library Aide)

Job will not be modified at all.
Atlantic Ritchfield (Finance Assistant)
U.S. Customs (Architectural Drafting Assistant)
Mayor's Office (Editing Clerk)

15. If the job will be modified to some extent, please indicate in what ways.

"The student's tasks have been scaled down to meet the short hours available and the lack of daily continuity." (Jr. Admin. Assist., Youth Programs, Mayor's Office). SM

"Karen has already gained a lot of technical knowledge but still needs some supervision." (Assistant Manager, Bank) SM

"By giving access to work that can be accomplished satisfactorily only and holding back on the more frustrating jobs." (Librarian, Blue Cross). SM

"Research for this particular publication has not been done." (Promotion Director, L.A. Convention and Visitors Bureau). GM

"Presently such a position does not exist." (Jr. Administrative Assistant, Youth Programs, Mayor's Office). NM

"N/A." (General Accountant, Atlantic Ritchfield Co.) NM

18. Which of the following statements best describes the degree of supervision that the student will receive during this career experience program?

Student will be given direction and close supervision while working on his tasks.

Atlantic Ritchfield (Finance Assistant)
Security Pacific Bank (Statement Clerk)

Student will be expected to work on tasks on his own, but someone will be close at hand if he has questions or need help.

L.A. Convention and Visitors Bureau (Research Assistant)
Blue Cross (Library Aide)
Mayor's Office (Editing Clerk)
Mayor's Office (Survey Worker)
U.S. Customs (Architectural Drafting Assistant)

Student will work independently until a task is completed.

17. When a job task is completed by the student, which of the following will occur?

All seven responded "The student will be told how well he did on the completed assignment (and what improvements, if any, are needed) before being given another task."

18. Does your company have a training program for new employees?

Yes

Mayor's Office (Survey Worker):
"The normal training program includes close supervision, weekly staff meetings and staff development sessions."

Security Pacific Bank (Statement Clerk):
"Workshops."

Blue Cross (Library Aide):
"Consult Paula Cowan on this one."

No

Atlantic Ritchfield (Finance Assistant)
L.A. Convention and Visitors Bureau (Research Assistant)
Mayor's Office (Editing Clerk)
U.S. Customs (Architectural Drafting Assistant)

If "yes," will the student(s) in this career experience program participate in your company's training program?
All said "yes."
Blue Cross Librarian specified "only the library program."

19. Do you have any reservations about your company's participation in this career experience program?

Yes

L.A. Convention and Visitors Bureau (Research Assistant):
"Stress a careful screening of candidate. It is a waste of the student's time--and mine--if he is unmotivated to pursue this field or some related aspect."

Mayor's Office (Survey Worker):
"It is not clear at this point what kinds of preparation the student has received prior to placement."

Mayor's Office (Editing Clerk):
"The actual preparation of a student for this program must be thorough. The needs and requests of the City must be evaluated and be filled as closely as possible in order to help the City and the student."

No

Atlantic Ritchfield (Finance Assistant)
Blue Cross (Library Aide)
Security Pacific Bank (Statement Clerk)
U.S. Customs (Architectural Drafting Assistant)

IV

EMPLOYER POST TEST DATA

Employer Questionnaire II

1. Indicate with a check mark how helpful you think what the student learned in school was in their work experience program placement.

Very helpful

U.S. Customs (Architectural Drafting Assistant)
Veterans Hospital (Electron Microscope Aide)
Veterans Hospital (EKG Technician)
Miller H.S. (Special Education Aide)
U.S. Customs (Budget Analyst)

Fairly helpful

U.S. Army Engineering District (Editorial Assistant)
Chatoak Pet Clinic (Vet. Aide)
Litton Data Systems (Scientific Programming Aide)

Somewhat helpful

Lloyd's Bank (Teller Trainee)
Riley Dental Corporation (Dental Assistant)
IRS (Personnel Clerk)
Mayor's Office (Editing Clerk)
Atlantic Ritchfield (Professional Resume Assistant)
Mayor's Office (Survey Worker)
Advertising Copywriter, L.A. Convention Bureau

Not helpful

Farmers Insurance (Cash Receipts Clerk)
Farmers Insurance (Accounting Clerk)

No response

Employer Questionnaire II

1a. Briefly explain how their school learning was helpful (or not helpful) in their work experience placement.

Teller Trainee, Lloyd's Bank: No response.

Cash Receipts Clerk, Farmers Insurance: "Should know how to run a 10-key adding machine."

Editorial Assistant, U.S. Army Engineering District: "Courses in reading comprehension, written composition, grammar, and typing were helpful in this particular work experience placement."

Accounting Clerk, Farmers Insurance: "Unless the student worked in the cafeteria or in the offices, his normal course of studies would not be helpful in this position."

Personnel Clerk, IRS: "No tie-ins of school and work experience. The majority of the work given to the student was not all helpful to the student. For example, student had never typed on an electric typewriter."

Electron Microscope Aide, Sepulveda Veterans Hospital: "Knowledge of technical terms, i.e., metric measures, chemicals etc. enabled him to follow written instructions easily. His biology gave him a headstart in understanding our projects."

Electrocardiograph Technician, Sepulveda Veterans Hospital: "School learning is not particularly helpful in this type of job except in a general way, e.g., reading, writing, learning to get along with others."

Special Education Aide, Miller High School: "Academic background necessary for presenting educational materials."

Veterinarian Aide, Chatoak Pet Clinic: "It takes somewhat more of our time than was anticipated, but it is very helpful to the student. Both students we had did all they could to learn and help us."

Budget Analyst, U.S. Customs: "Very helpful for the projects she was assigned to do, particularly in the budget."

Editing Clerk, Mayor's Office: "Although student did have some journalism classes, she had little practical knowledge."

Survey Worker, Mayor's Office: "The school learning was helpful in that Charlotte grasped very quickly the tasks outlined and performed them efficiently."

Architectural Drafting Assistant, U.S. Customs: "This experience has given the student opportunities to apply academic knowledge and skills to practical on-the-job situations."

Professional Resume Assistant, Atlantic Ritchfield: "Unable to answer."

Employer Questionnaire II
Item #1a

Scientific Programming Aide, Litton Data Systems: "English composition a must for documentation of work in programming. Math very useful in certain programming applications at Litton. Physics is also useful as background information. History, government, etc., not directly applicable."

Dental Assistant, Riley Dental Corporation: "General knowledge of medicine. Communicating with people and patients."

Advertising Copywriter, L.A. Convention Bureau: "General discipline, awareness."

Employer Questionnaire II

2. *Indicate with a check mark how helpful you think the student's experiences outside of school were in the student's work experience placement.*

Very helpful
- *Miller H.S. (Special Education Aide)*
- *U.S. Customs (Architectural Drafting Assistant)*

Fairly helpful
- *Chatoak Pet Clinic (Vet. Aide)*
- *Veterans Hospital (Electron Microscope Aide)*
- *Atlantic Ritchfield (Professional Resume Assistant)*

Somewhat helpful
- *Mayor's Office (Editing Clerk)*
- *Farmers Insurance (Accounting Clerk)*
- *U.S. Army Engineering District (Editorial Assistant)*
- *Riley Dental Corporation (Dental Assistant)*
- *Lloyd's Bank (Teller Trainee)*
- *Advertising Copywriter, L.A. Convention Bureau*

Not helpful
- *Veterans Hospital (EKG Technician)*

No response
- *Mayor's Office (Survey Worker)*
- *IRS (Personnel Clerk)*
- *Farmers Insurance (Cash Receipts Clerk) "Not applicable"*
- *Litton Data Systems (Scientific Programming Aide)*

No page for
- *U.S. Customs (Budget Analyst)*

Employer Questionnaire II

2a. Briefly explain how their experiences outside of school were helpful (or not helpful) in their work experience placement.

Teller Trainee, Lloyd's Bank: No response.

Cash Receipts Clerk, Farmers Insurance: No response.

Editorial Assistant, U.S. Army Engineering District: "Reading a variety of publications and books outside of school was helpful in this particular work experience placement."

Accounting Clerk, Farmers Insurance: "This again would depend upon that particular student's outside occupation(s). If a clerical position had been assumed, it could be beneficial in this position."

Personnel Clerk, IRS: "Unaware of student's experiences outside of school."

Electron Microscope Aide, Sepulveda Veterans Hospital: "Very neat --good at keeping the lab clean which is very important in an EM laboratory. His mechanical ability allowed him to operate and maintain equipment (especially darkroom) without supervision."

Electrocardiograph Technician, Sepulveda Veterans Hospital: "Poorly worded--do you mean extracurricular activities? If so not helpful. If you mean the work training he is getting here--it is very helpful in training for an EKG Tech. job."

Special Education Aide, Miller High School: "Ability to relate to our students. Also helpful to our students in finding acceptance from people outside of their school."

Veterinarian Aide, Chatoak Pet Clinic: "I believe this will give an insight as to her proposed vocation."

Budget Analyst, U.S. Customs: No page for.

Editing Clerk, Mayor's Office: "While student was adaptable to change, she had no real experience out of school relevant to responsibilities of job."

Survey Worker, Mayor's Office: "Charlotte was personable, able to get along with others in the office and coped with the working situation very well."

Architectural Drafting Assistant, U.S. Customs: "The student's experiences in interpersonal relationships have helped him in his dealing with members of the space and communications staff--as well as other staff agencies of our office."

Professional Resume Assistant, Atlantic Ritchfield: "N/A"

Scientific Programming Aide, Litton Data Systems: No response.

Employer Questionnaire II
Item #2a

Dental Assistant, Riley Dental Corporation: "Same as 1a. "General knowledge of medicine. Communicating with people and patients."

Advertising Copywriter, L.A. Convention Bureau: "While advertising/marketing is specialized, his general awareness was good."

Employer Questionnaire II

3. Based on the student's performance, how likely is it that he or she could get a full time job in this area upon completion of school?

With your company

Very likely
- Vets Hosp. (EM Aide)[1]
- IRS (Personnel Clk.)
- Riley Dental (Dent. Asst.)
- U.S. Customs (Arch. Draft.)
- Atlantic Ritchfield (PRA)
- Litton (Sci . Prog. Aide)

Fairly likely
- Mayor's Off. (Survey)
- Chatoak (Vet. Aide)
- Miller H.S. (SE Aide)
- Farmers (Acctg. Clk.)
- Farmers (Cash Rcts. Clk.)

Somewhat likely
- Vets Hosp. (EKG Techn.)
- U.S. Army (Edit. Asst.)
- Lloyd's Bk. (Teller T.)

Not likely
- Mayor's Off. (Edit. Clk.)
- L.A. Conv. Bur. (Ad. CW)

No response

No page for
- U.S. Customs (BA)

With another company

Very likely
- IRS (Personnel Clk.)
- U.S. Customs (Arch. Dr.)
- Atlantic R. (PRA)

Fairly likely
- Vets Hosp. (EKG Tech.)
- Vets Hosp. (EM Aide)[2]
- Farmers (Acctg. Clk.)
- Farmers (CRC)

Somewhat likely
- Mayor's Off. (Survey)
- U.S. Army (Edit. Assist.)
- Riley Dent. (Dent. Assist.)
- Lloyd's Bk. (Teller T.)

Not likely
- Mayor's Off. (Edit. Clk.)[2]
- Litton (Sci. Prog. Aide)
- L.A. Conv. Bur. (Ad. CW)

No response
- Chatoak (Vet. Aide)
- Miller H.S. (SE Aide)

No page for
- U.S. Customs (BA)

[1] "Full time lab aides are sometimes an extravagance."

[2] "City does not employ editing clerks."

4. To what extent do you think the student's work experience placement was enjoyable and satisfying work?

Very enjoyable
- Veterans Hospital (EKG Technician)
- Riley Dental Corporation (Dental Assistant)
- U.S. Customs (Architectural Drafting Assistant)
- Atlantic Ritchfield (Professional Resume Assistant)

Fairly enjoyable
- Mayor's Office (Survey Worker)
- Chatoak Pet Clinic (Veterinarian Aide)
- Miller High School (Special Education Aide)
- Veterans Hospital (Electron Microscope Aide)
- Farmers Insurance (Cash Receipts Clerk)
- Litton Data Systems (Scientific Programming Aide)

Somewhat enjoyable
- IRS (Personnel Clerk)
- U.S. Army Engineering District (Editorial Assistant)
- Lloyd's Bank (Teller Trainee)
- Advertising Copywriter, L.A. Convention Bureau

Not very enjoyable
- Mayor's Office (Editing Clerk)
- Farmers Insurance (Accounting Clerk)

No response

No page for
- U.S. Customs (Budget Analyst)

4a. Briefly explain the ways in which the student derived satisfaction and enjoyment from their work experience.

Teller Trainee, Lloyd's Bank: No response.

Cash Receipts Clerk, Farmers Insurance: No response.

Editorial Assistant, U.S. Army Engineering District: "I assumed that the student derived satisfaction and enjoyment from exercising her skills learned in school on a professional level and from having the experience of being in a professional setting and observing how the business world functions."

Accounting Clerk, Farmers Insurance: "This student may have enjoyed the overall concept of the insurance business as a whole. But I don't feel that one particular job was enjoyable for him in particular."

Personnel Clerk, IRS: "The student was a very good mixer. She didn't shy easily. Her meet and deal qualities were food. I think she enjoyed the surroundings of the Office personnel and the satisfaction of working at ease in a very friendly office atmosphere."

Electron Microscope Aide, Sepulveda Veterans Hospital: "Darkroom experience is the most enjoyable--unfortunately there didn't seem to be enough time to have him learn all darkroom techniques --e.g., film developing."

Electrocardiograph Technician, Sepulveda Veterans Hospital: "It gave him some experience in relating to patients and operating in a hospital routine, which is satisfying since the student plans to be a doctor."

Special Education Aide, Miller High School: "The satisfaction of working on a one-to-one basis with the handicapped student and the friendships that develop from this relationship."

Veterinarian Aide, Chatoak Pet Clinic: "The endeavor to learn more."

Budget Analyst, U.S. Customs: No page for.

Editing Clerk, Mayor's Office: "She stated she learned about City Hall and liked the people."

Survey Worker, Mayor's Office: "Charlotte was treated as an adult, and this was pleasing to her; she learned about Youth Programs and Services, and began to understand how her tasks fit into the larger picture of the City as the program ended."

Architectural Drafting Assistant, U.S. Customs: "When the student realized that his drawings would be incorporated in construction plans--and actually used to build U.S. Customs facilities; he then began to appreciate the value of his assignments and accomplishments."

Professional Resume Assistant, Atlantic Ritchfield: "N/A"

Scientific Programming Aide, Litton Data Systems: "1) Taking on adult-level responsibilities in a highly technical industry. 2) Producing computer programs which have uses other than for obtaining a grade from an instructor."

Dental Assistant, Riley Dental Corporation: "Enjoyed office personnel. She enjoyed the jobs required; there interesting and different."

Advertising Copywriter, L.A. Convention Bureau: "Started projects, saw progress and (soon) will see a net result in printed form."

4b. Briefly explain what kinds of things were dissatisfying to the student in their work experience placement.

Teller Trainee, Lloyd's Bank: "Money."

Cash Receipts Clerk, Farmers Insurance: No response.

Editorial Assistant, U.S. Army Engineering: "Not enough time was allowed for the student to fully participate in this program."

Accounting Clerk, Farmers Insurance: "Ron has a very inquisitive nature and is very intelligent. A student with his potential would normally find this position rather mundane."

Personnel Clerk, IRS: "I believe that Helene would have been more satisfied if she would have been able to apply her school experience to the work that she performed on the job."

Electron Microscope Aide, Sepulveda Veterans Hospital: "Routine jobs; labeling print--busy paper work tedious--sorting, storing, filing."

Electrocardiograph Technician, Sepulveda Veterans Hospital: "Seeing very sick patients was somewhat upsetting to the student."

Special Education Aide, Miller High School: "The inability to follow through an assignment in class due to being here only 2 or 3 times weekly."

Veterinarian Aide, Chatoak Pet Clinic: No response.

Budget Analyst, U.S. Customs: No page for.

Editing Clerk, Mayor's Office: "Student had not been put into placement she requested."

Survey Worker, Mayor's Office: "The work she performed was quite detailed and frequently unexciting. She felt the need to be doing more 'people contact' work and in the beginning was unsure of how her tasks related to our office. In addition, her work was unable to be completed within the time-frame of the placement, and this may have frustrated her."

Architectural Drafting Assistant, U.S. Customs: "Unexpected changes in priorities, which necessitated changes in project assignments."

Professional Resume Assistant, Atlantic Ritchfield: "Not enough challenge."

Scientific Programming Aide, Litton Data Systems: "Due to being present only 25% of the business hours, the types of assignments the student are somewhat limited. The student cannot be given responsibility for the development of a computer program which must be delivered according to a schedule."

Dental Assistant, Riley Dental Corporation: "Nothing."

Employer Questionnaire II
Item #4b

Advertising Copywriter, L.A. Convention Bureau: "Conflict in schedule--he was due here at 2 PM yet had a class at that time. Therefore, I had..."

5. To what extent were you satisfied with the student's work?

Very satisfied
- U.S. Customs (Architectural Drafting Assistant)
- Riley Dental Corporation (Dental Assistant)
- IRS (Personnel Clerk)
- Veterans Hospital (Electron Microscope Aide)
- Veterans Hospital (EKG Technician)
- Miller H.S. (Special Education Aide)
- Chatoak Pet Clinic (Veterinarian Aide)
- Mayor's Office (Editing Clerk)
- Mayor's Office (Survey Worker)
- Atlantic Ritchfield (Professional Resume Assistant)
- L.A. Convention Bureau (Advertising Copywriter)

Fairly satisfied
- Farmers Insurance (Cash Receipts Clerk)
- U.S. Army Engineering District (Editorial Assistant)
- Litton Data Systems (Scientific Programming Assistant)

Somewhat satisfied
- Lloyd's Bank (Teller Trainee)
- Farmers Insurance (Accounting Clerk)

Not very satisfied

No response

No page for
- U.S. Customs (Budget Analyst)

5a. Briefly explain the kinds of things that satisfied you with the student's work.

Teller Trainee, Lloyd's Bank: No response.

Cash Receipts Clerk, Farmers Insurance: No response.

Editorial Assistant, U.S. Army Engineering District: "A command of English grammar, punctuation, spelling, reading comprehension, written composition, and typing ability."

Accounting Clerk, Farmers Insurance: "1. He is a very rapid learner. 2. He is inquisitive. 3. He was punctual."

Personnel Clerk, IRS: "Helene is a fast worker. She receives instructions very well and carries them out accurately and completely. She works independently. She is a likable person to work with."

Electron Microscope Aide, Sepulveda Veterans Hospital: "He was very helpful in taking care of darkroom work which is very time consumingfor me. Thus, I could take care of other more technical tasks."

Electrocardiograph Technician, Sepulveda Veterans Hospital: "He was careful and responsible in taking EKGs, was cheerful and pleasant to work with and learned quickly."

Special Education Aide, Miller High School: "Initiative, dependability."

Veterinarian Aide, Chatoak Pet Clinic: "Willingness."

Budget Analyst, U.S. Customs: No page for.

Editing Clerk, Mayor's Office: "Due to some problems, student was asked to handle a number of unrelated tasks. She was adaptable and did her work cheerfully."

Survey Worker, Mayor's Office: "Charlotte is bright, conscientious and able to work on her own."

Architectural Drafting Assistant, U.S. Customs: "Shaumon's attention to details and his desire to excel (along with his natural talent)."

Professional Resume Assistant, Atlantic Ritchfield: "Cooperative, conscientious."

Scientific Programming Aide, Litton Data Systems: "Undertaking and completing mutually agreed-on assignments, delivered and documented when scheduled to be, and requiring minimal supervision to carry out the work."

Dental Assistant, Riley Dental Corporation: "Her dependability. Attitude towards patients. Efficient."

Advertising Copywriter, L.A. Convention Bureau: "Followed directions well, compiled information from several (actually 5) sources and kept it all straight."

5b. Briefly explain the kinds of things that dissatisfied you with the student's work (list at least four things).

Teller Trainee, Lloyd's Bank: No response.

Cash Receipts Clerk, Farmers Insurance: No response.

Editorial Assistant, U.S. Army Engineering District: "None."

Accounting Clerk, Farmers Insurance: "1. He was for the most part bored. 2. I felt this position was beneath his intellect. 3. He should have (him in particular) been in a different position. 4. I feel that student should have been picked from the average or below average level. One that would have to work to get through school would have been helped far more than one with a fairly secure position in society."

Personnel Clerk, IRS: "1. Student's tardiness (which I understand was due to bus schedule and special bell schedule). 2. Student's lack of complete motivation. 3. Not too interested in the work assignments. This could be that student is not very interested in the clerical field."

Electron Microscope Aide, Sepulveda Veterans Hospital: "Honestly nothing--leaving after 4 hours--not staying full day. Sometimes a project cannot be finished within this time."

Electrocardiograph Technician, Sepulveda Veterans Hospital: "Nothing."

Special Education Aide, Miller High School: "We wish they had some more time available for us."

Veterinarian Aide, Chatoak Pet Clinic: "Time schedule--this varied from day to day."

Budget Analyst, U.S. Customs: No page for.

Editing Clerk, Mayor's Office: "The student had not been evaluated to see if she fit the requirements for placement in this particular job."

Survey Worker, Mayor's Office: "1. She was frequently faced with a conflict between her schoolwork and her placement, causing her to be absent on two occasions. 2. The program was too short to assess completely what Charlotte had and had not done. 3. It was apparent upon her arrival that she had not been apprised of the work which she was to do."

Architectural Drafting Assistant, U.S. Customs: "None."

Professional Resume Assistant, Atlantic Ritchfield: "N/A"

Scientific Programming Aide (Litton Data Systems): "1. Unreliable attendance. 2. Requirement for constant direction and supervision. 3. Doing work other than that directed. 4. Failing to produce on schedule. 5. Failing to adequately document work."

Dental Assistant, Riley Dental Corporation: "Nothing."

Employer Questionnaire II
Item #5b

Advertising Copywriter, L.A. Convention Bureau: "N/A."

6. What kinds of skills and knowledge do you believe the student learned in the work experience placement?

Teller Trainee, Lloyd's Bank: No response.

Cash Receipts Clerk, Farmers Insurance:
S 10-key adding machine

Editorial Assistant, U.S. Army Engineering District:
S Additional written composition
S Additional reading comprehension
S Addition problem solving ability
S Improved typing ability
K How to make logical arrangements
K How to be precise
K Correct form and layout for various reports
K How to prepare tables

Accounting Clerk, Farmers Insurance:
S Applying cash
S Reading computer cards
K Relating to people in a business atmosphere

Personnel Clerk, IRS:
S Electric typewriter
S Proper telephone technique
K Branch secretary's duties
K Preparing documents for briefing session

Electron Microscope Aide, Sepulveda Veterans Hospital:
S Printing micrographs
S Complete darkroom processing of negative for our data
S Making solutions for both darkroom and tissue processing
S Maintenance of out experiment records
K More familiar with biological systems and recognizing what micrographs were
K Tissue preparation techniques--the whole EM procedure
K What darkroom work entails

Electrocardiograph Technician, Sepulveda Veterans Hospital:
S Take an EKG
S Mount an EKG
S Operate in a hospital setting
S Answer the office phone

Special Education Aide, Miller High School:
S Tutoring
S Use of educational equipment

Veterinarian Aide, Chatoak Pet Clinic:
S Uses of library
S Other sources of reference material
S Insight into veterinary medicine
K Expand their background

Budget Analyst, U.S. Customs: No page for

Editing Clerk, Mayor's Office:
- S Organizational skills
- K Familiarization with governmental process

Survey Worker, Mayor's Office:
- S Research
- S Cross-referencing, editing
- S Telephone survey skills
- K Knowledge of the machinations of the Youth Service System
- K How a Youth Services Directory is compiled
- K A general knowledge of existing resource directories
- K A specific knowledge of existing youth services and programs

Architectural Drafting Assistant, U.S. Customs:
- S Preparing drawings for reproduction
- S Use of the appropriate grades of pencils, in lieu of ink, in drawing architectural plans
- S Researching structural drawings prior to preparing remodeling plans
- S Scaling construction drawings--as required
- K Preconstruction research procedures
- K Group participation in design conferences for developing designs for facilities
- K Procedures for presenting plans and ideas to managers
- K Knowledge of basic architectural materials

Professional Resume Assistant, Atlantic Ritchfield:
- S Filing

Scientific Programming Aide, Litton Data Systems:
- S Ability to learn by reading manuals
- S Ability to operate a keypunch
- S Ability to write in an understandable manner
- S How to properly design and document a program
- S How to debug and test a program
- K Knowledge of how a computer works
- K Recognize a well-designed versus a poorly designed program

Dental Assistant, Riley Dental Corporation:
- S Develop xrays
- S Assist doctor
- S Pour impressions
- K Booking appointments
- K Dentistry knowledge (general)

Advertising Copywriter, L.A. Convention Bureau:
- K Compiling a "master" from several sources
- K Awareness of L.A. County diversity
- K What appeals to a potential visitor

7. To what extent do you think such a work experience program is generally helpful in preparing a student to assume a fulltime job in the world of work?

Very high
- Miller H.S. (Special Education Aide)
- IRS (Personnel Clerk)
- Farmers Insurance (Accounting Clerk)
- U.S. Customs (Architectural Drafting Assistant)
- Atlantic Ritchfield (Professional Resume Assistant)

Fairly high
- Mayor's Office (Editing Clerk)
- Chatoak Pet Clinic (Veterinarian Aide)
- Veterans Hospital (Electron Microscope Aide)
- Riley Dental Corporation (Dental Assistant)
- Lloyd's Bank (Teller Trainee)
- Litton Data Systems (Scientific Programming Aide)

Somewhat high
- Mayor's Office (Survey Worker)
- Veterans Hospital (EKG Technician)
- U.S. Army Engineering District (Editorial Assistant)
- Farmers Insurance (Cash Receipts Clerk)
- L.A. Convention Bureau (Advertising Copywriter)

Low

No response

No page for
- U.S. Customs (Budget Analyst)

8. To what extent do you think such a work experience program is generally helpful in preparing a student to assume a full-time job in this specific job placement?

Very high
- Miller H.S. (Special Education Aide)
- Veterans Hospital (Electron Microscope Aide)[1]
- Farmers Insurance (Accounting Clerk)
- Riley (Dental Assistant)
- U.S. Customs (Architectural Drafting Assistant)
- Lloyd's Bank (Teller Trainee)
- Atlantic Ritchfield (Professional Resume Assistant)

Fairly high
- Chatoak Pet Clinic (Veterinarian Aide)
- Veterans Hospital (EKG Technician)
- IRS (Personnel Clerk)
- U.S. Army Engineering District (Editorial Assistant)
- Litton Data Systems (Scientific Programming Aide)

Somewhat high
- Mayor's Office (Survey Worker)
- Farmers Insurance (Cash Receipts Clerk)

Low
- Mayor's Office (Editing Clerk)
- L.A. Convention Bureau (Advertising Copywriter)

No response

No page for
- U.S. Customs (Budget Analyst)

[1] "If there is money"

Employer Questionnaire II

9. Indicate with a check the degree the placement of this student to be a service to the student and a service to your company.

Service to the Student

Very high
- Miller H.S. (SE Aide)
- Vets Hosp. (EKG Techn.)
- Riley (Dent. Asst.)
- U.S. Customs (Arch. Draft.)
- Lloyd's Bk. (Teller T.)

High
- Mayor's Off. (Survey)
- Vets Hosp. (EM Aide)
- IRS (Personnel)
- Litton (Sci. Prog.)

Average
- Mayor's Off. (Edit. Clk.)
- U.S. Army (Edit. Asst.)
- Atlantic Ritch. (PRA)
- L.A. Conv. Bur. (Ad. CW)

Low
- Farmers (Acctg. Clk.)

Very low

No response
- Chatoak (Vet. Aide)
- Farmers (CRC)

No page for
- U.S. Customs (BA)

Service to the Company

Very high
- Miller H.S. (SE Aide)
- Vets Hosp. (EKG Tech.)
- Vets Hosp. (EM Aide)
- Riley (Dent. Asst.)
- U.S. Customs (Arch. Draft.)
- Lloyd's Bk. (Teller T.)

High
- IRS (Personnel)
- L.A. Conv. Bur. (Ad. CW)

Average
- Mayor's Off. (Survey)
- Mayor's Off. (Edit. Clk.)
- U.S. Army (Edit. Asst.)
- Litton (Spec. Prog. Aide)
- Atlantic Ritch. (PRA)

Low
- Farmers (Acctg. Clk.)

Very low

No response
- Chatoak (Vet. Aide)
- Farmers (CRC)

No page for
- U.S. Customs (BA)

10. To what extent do you favor having students gain work experience with your company?

Very much in favor
- Lloyd's Bank (Teller Trainee)
- U.S. Customs (Architectural Drafting Assistant)
- U.S. Army Engineering District (Editorial Assistant)
- Farmers Insurance (Accounting Clerk)
- IRS (Personnel Clerk)
- Veterans Hospital (Electron Microscope Aide)
- Veterans Hospital (EKG Technician)
- Miller H.S. (Special Education Aide)
- Chatoak Pet Clinic (Veterinarian Aide)
- U.S. Customs (Budget Analyst)
- Mayor's Office (Survey Worker)
- Litton Data Systems (Scientific Programming Aide)

Fairly favorable
- Farmers Insurance (Cash Receipts Clerk)
- Mayor's Office (Editing Clerk)
- Atlantic Ritchfield (Professional Resume Assistant)

Somewhat in favor
- Riley Dental Corporation (Dental Assistant)
- L.A. Convention Bureau (Advertising Copywriter)[1]

Not in favor

No response

[1]"Careful screening to select one who wants to be in this field."

11. Please list the kinds of things that could be changed in the work experience program that would make it more valuable for your company and the participating student.

Teller Trainee, Lloyd's Bank: No response.

Cash Receipts Clerk, Farmers Insurance: No response.

Editorial Assistant, U.S. Army Engineering District:
1. More time allowed for the student to fully participate in this program.
2. Only select students that have an interest in the particular work experience, i.e., those planning to enter that field.

Accounting Clerk, Farmers Insurance:
1. The environmental background of the student.
2. The family background of the student.
3. The necessity of the student to work while going to school.
4. The student should not necessarily be picked from "the honors group" of his class.
5. Unless the student is specifically being chosen to train in the supervisory level, an average, rather than an above average, student would seem more acceptable.

Personnel Clerk, IRS:
1. More working days.
2. Background knowledgr on student's field of study for arranging a better work plan.
3. More contact from the work experience program before the program actually starts.
4. Preparing a brief personal resume on student so that supervisor has a general knowledge of the student.
5. More interest from all concerned in the program.

Electron Microscope Aide, Sepulveda Veterans Hospital:
1. If the program would last longer, i.e., a whole school year, more types of work can be trained for and more work done after training.

Electrocardiograph Technician, Sepulveda Veterans Hospital: No response.

Special Education Aide, Miller High School:
1. The first reaction of the students participating in the work program to our school was shock! I think they need a better understanding that this is a handicapped children's school and that they will be confronted with nearly 200 students with a variety of disabilities.

Veterinarian Aide, Chatoak Pet Clinic:
1. Set up program.
2. Regular schedule.
3. Testing program.
4. Students' evaluation to us.
5. Critique.

Budget Analyst, U.S. Customs:
1. Start earlier in the academic year. We need more notice to set up such a program.
2. I would like to have the student for a longer period of time.
3. It would be helpful if the student could travel.
4. It would be helpful to know more about the student's school outside activities.

Editing Clerk, Mayor's Office:
1. Student should be closely consulted regarding placement.
2. Placement officers should evaluate carefully qualifications of students to fill positions.
3. Ongoing counseling with student is necessary.
4. Ongoing consultation with placement site is necessary.

Survey Worker, Mayor's Office:
1. Six weeks is too short a time: the program should at least be a semester.
2. Specific time and credits must be given by the school for the program.
3. The placement supervisors and the high school counselors should meet in advance with the student.
4. A more specific training program should be planned.
5. The placemant should be given the weight of a regular class, but made flexible to the company's time needs.

Architectural Drafting Assistant, U.S. Customs:
1. The student should provide a minimum of 3 hours of service to the agency...thereby, allowing us more time to work with him.

Professional Resume Assistant, Atlantic Ritchfield:
1. Better communication between counselor and student in explaining exact nature of job.

Scientific Programming Aide, Litton Data Systems:
1. More lead time in the placing of the student.
2. An extra course for students on what to expect in companies and work environments.

Dental Assistant, Riley Dental Corporation:
Nothing

Advertising Copywriter, L.A. Convention Bureau:
1. Careful screening to select one who wants to be in this field.
2. Marketing/advertising is an outgoing field--need an extrovert-type of student who asks questions, probes, discusses.

12. What type of work atmosphere best describes your company?

Formal

- Farmers Insurance
- Lloyd's Bank
- U.S. Customs
- U.S. Army Engineering District
- Farmers Insurance
- IRS
- U.S. Customs2
- Mayor's Office
- Mayor's Office
- Litton Data Systems
- L.A. Convention Bureau

Informal

- Riley Dental Corporation
- Veterans Hospital 1
- Veterans Hospital
- Miller High School
- Chatoak Pet Clinic
- Atlantic Ritchfield

[1] "In this dept. (EXG)"

[2] "Although most of my division tries to be more informal" (Budget Analysis)

13. In what ways do you feel that participation in this career experience program has benefited your company?

Recruited permanent personnel

Yes	No	No opinion	No response
VH(EMA)	Farmers(CRC)	Riley	Chatoak(VA)[1]
Miller	Lloyd's	U.S.C.(BA)	
Litton	U.S.C.(ADA)	AR(PRA)	
	U.S.A.(EA)		
	Farmers(AC)		
	IRS(PC)		
	VH(EKG)		
	MO(EC)		
	MO(SW)		
	LACB(AC)		

Attained closer contact and communication with academic institutions

Lloyd's	Farmers(CRC)	VH(EMA)	Chatoak(VA)
U.S.C.(ADA)	VH(EKG)	MO(EC)	
Riley	MO(SW)		
U.S.A.(EA)			
Farmers(AC)			
IRS(PC)			
Miller			
U.S.C.(BA)			
AR(PRA)			
Litton			
LACB(AC)			

Provided opportunity to screen trainees, leading to a reduction of employee turnover

VH(EMA)	Lloyd's	U.S.C.(BA)	Chatoak
MO(SW)	U.S.C.(ADA)	Farmers (CRC)	Miller
	U.S.A.(EA)	Riley	
	Farmers(AC)	MO(EC)	
	IRS(PC)	AR(PRA)	
	VH(EKG)		
	Litton		
	LACB(AC)		

Released other employees from the more basic work tasks

Farmers(CRC)	Lloyd's	U.S.C(BA)	Chatoak
USC(ADA)	U.S.A.(EA)		
Riley	Farmers(AC)		
VH(EMA)	IRS(PC)		
VH(EKG)	MO(SW)		
Miller	Litton		
MO(EC)	LACB(AC)		
AR(PRA)			

[1] "Really does not apply"

Employer Questionnaire II
Item #12

Provided an important community service

Yes	No	No Opinion	No Response
Lloyd's	Farmers(AC)	U.S.A.(EA)	Farmers(CRC)
IRS(PC)		VH(EKG)	
VH(EMA)		MO(EC)	
Miller		AR(PRA)	
Chatoak(VA)		Riley	
U.S.C.(BA)			
MO(SW)			
Litton			
LACB			
U.S.C.(ADA)			

Provided a highly motivated source of temporary part-time employment

Farmers(AC)	Lloyd's	MO(EC)	Farmers(CRC)
IRS(PC)	U.S.A.(EA)	MO(SW)	Chatoak(VA)
VH(EMA)	LACB	AR(PRA)	
VH(EKG)			
Miller			
U.S.C.(BA)			
U.S.C.(ADA)			
Litton			
Riley			

Updated the school curriculum through contact with school coordinator

Lloyd's	U.S.A.(EA)	U.S.C.(BA)	Farmers(CRC)
Farmers(AC)	VH(EMA)	AR(PRA)	Miller
IRS(PC)	VH(EKG)	Litton	
Chatoak(VA)	MO(EC)		
U.S.C.(ADA)	MO(SW)		
LACB	Riley		

Provided an opportunity to refine and validate job training methods

Farmers(AC)	Lloyd's	VH(EMA)	Farmers(CRC)
IRS(PC)	U.S.A.(EA)	MO(EC)	Miller
VH(EKG)	U.S.C.(ADA)	AR(PRA)	Chatoak(VA)
U.S.C.(BA)	Litton		
MO(SW)	LACB		
Riley			

Fulfilled affirmative action requirements set forth by the government

Lloyd's	VH(EMA)	Farmers(AC)	Farmers(CRC)
U.S.A.(EA)	U.S.C.(BA)	VH(EKG)	Miller
IRS(PC)	Litton	MO(EC)	Chatoak
U.S.C.(ADA)	LACB	MO(SW)	
		AR(PRA)	
		Riley	

Note: No one responded to the final section of the item "Other (Describe)..."

14. Has your company ever participated in a work experience program with other learning institutions?

Yes	No	No response
Mayor's Office (SW)	Farmers (AC) [3]	
Mayor's Office (EC)	U.S. Army(EA)	
U.S. Customs(BA)	Atlantic Ritch.	
Chatoak (VA)	Riley	
Miller (SEA)	U.S. Customs(ADA)	
Vets Hosp.(EKG)	Farmers(CRC)	
Vets Hosp.(EMA)	Lloyd's (TT)	
IRS (Personnel)	L.A. Convent. Bur.(AC)	
Litton (SPA)		

High School Students
- Miller H.S.
- Veterans Hospital (EMA)
- IRS(Personnel)

College Students
- Mayor's Office (Survey)
- Mayor's Office (Editing Clk.)
- U.S. Customs (BA)
- Chatoak [1]
- Miller H.S.
- Veterans Hospital (EKG) [2]
- IRS (Personnel)
- Litton Data Systems

Student Organizations

[1] "Graduate students only"
[2] "Medical students, premed, interns, residents, student nurses"
[3] "Not to my knowledge"

15. To what extent was the job in which the student was placed a modification of an already existing position within the company?

Greatly modified
- Mayor's Office (Editing Clerk)
- Chatoak Pet Clinic (Veterinarian Aide)
- Miller High School (Special Education Aide)
- U.S. Army Engineering District (Editorial Assistant)

Somewhat modified
- Mayor's Office (Survey Worker)
- Veterans Hospital (EKG Technician)
- Veterans Hospital (Electron Microscope Aide)
- IRS (Personnel Clerk)
- Litton Data Systems (Scientific Programming Aide)

Not at all
- Farmers Insurance (Accounting Clerk)
- Atlantic Ritchfield(Professional Resume Assistant)
- L.A. Convention Bureau (Advertising Copywriter)

No response

Other
- U.S. Customs (Budget Analyst)
  "We really had no existing job of this type"

IRS (Personnel): "Lesser responsibilities, such as technical information to operating officials which was referred to other employees. Typing duties were minimum."

Veterans Hospital (EKG Technician): "We did not send the student out on the wards to take EKG's by himself."

Miller High School (Special Education Aide): "Physical needs of students not involved--feeding, toileting, seizure care, etc."

Mayor's Office (Editing Clerk): "Editing Clerk, no job exists."

Mayor's Office (Survey Worker): "Job was drastically simplified to meet six-week program time."

U.S. Customs (Architectural Drafting Assistant): "The operations of the branch are subdivided into several areas, i.e., telecommunications systems design and management, space utilization and management, budget review, and construction management. Shaumon was exposed only to the drafting segment of our operations."

Litton Data Systems (Scientific Programming Aide): "1. Simplified. 2. Adjusted to allow work on a parttime basis."

Dental Assistant, Riley Dental Corporation: Yes
"It isn't worth her time, unless paid."

If "yes," who do you feel should have been responsible for providing student salary funds? (If you check more than one, please circle the source that you feel should have been primarily responsible for providing the funds.)

Employer
Veterinarian Aide, Chatoak Pet Clinic[2]
Architectural Drafting Assistant, U.S. Customs
*Scientific Programming Aide, Litton Data Systems
Dental Assistant, Riley Dental Corporation

School District
Survey Worker, Mayor's Office[3]
Scientific Programming Aide, Litton Data Systems

Community

Government grant
Editorial Assistant, U.S. Army Engineering District
Electron Microscope Aide, Sepulveda Veterans Hospital
Editing Clerk, Mayor's Office
*Architectural Drafting Assistant, U.S. Customs
Scientific Programming Aide, Litton Data Systems

Private foundation

Other (describe)

[1]"We operate partially on government grant."

[2]"...or other...insurance would limit us."

[3]"as work study."

16. Do you feel that the students should have been paid for their participation in this career experience program?

Teller Trainee, Lloyd's Bank: No

Cash Receipts Clerk, Farmers Insurance: No

Editorial Assistant, U.S. Army Engineering District: Yes
"If the student had been paid, her interest and participation would have been more motivated and sincere. Also, being paid would have added a more realistic aspect to the program."

Accounting Clerk, Farmers Insurance: No
"Should they get paid for going to school?"

Personnel Clerk, IRS: No
"Even though the student receives experience, he should be paid for transportation. Otherwise job should be regarded as classroom training and one grade credit should be allowed."

Electron Microscope Aide, Sepulveda Veterans Hospital: Yes
"He did work for us that we normally have to include in our workload. Therefore, since we would get paid for it why shouldn't he?"

Electrocardiograph Technician, Sepulveda Veterans Hospital: No
"Because it is a government hospital, governed by civil service, there is no way payment could be made on a temporary basis."

Special Education Aide, Miller High School: No
"Credit given as is other school work."

Veterinarian Aide, Chatoak Pet Clinic: No response
"If this program continues we sould set a formal program and utilize some of our employees to train them before they do actual work. Salary could be worked out for actual work."

Budget Analyst, U.S. Customs: No
"I think the experience was sufficient enough. After all, the students are not experienced applicants."

Editing Clerk, Mayor's Office: Yes
"Provides for more incentive."

Survey Worker, Mayor's Office: Yes
"Yes, because it's a job and that's how it is in the real world."

Architectural Drafting Assistant, U.S. Customs: Yes
"Even though this was an educational experience, whenever the student leaves the classroom for the job market, he(she) should be paid as an employee - parttime."

Professional Resume Assistant, Atlantic Ritchfield: No
"Not enough time contributed by the student."

Scientific Programming Aide, Litton Data Systems: Yes
"Minimum wage seems fair."

Dental Assistant, Riley Dental Corporation: Yes
"It isn't worth her time, unless paid."

Advertising Copywriter, L.A. Convention Bureau: No
"Since I had no hand in the selection process, I did not, I feel, get the best prospect. Further, if a business has to budget monies, the school system will have fewer takers in the community."

17. Has a school coordinator from a participating school visited your company in connection with this career experience program?

Yes

Accounting Clerk, Farmers Insurance
Special Education Aide, Miller H.S.
Veterinarian Aide, Chatoak Pet Clinic
"Had a interview"
Architectural Drafting Assistant, U.S. Customs
"Shaumon's overall performance and the agency's acceptance of him as a team associate."
Scientific Programming Aide, Litton Data Systems
"Areas in the company where students could be placed. Possible students who had education that could be used in our company."
Advertising Copywriter, L.A. Convention Bureau

No

Teller Trainee, Lloyd's Bank
Personnel Clerk, IRS
Electron Microscope Aide, Sepulveda Veterans Hospital
Budget Analyst, U.S. Customs
Editing Clerk, Mayor's Office
Survey Worker, Mayor's Office
Professional Resume Assistant, Atlantic Ritchfield
Dental Assistant, Riley Dental Corporation
Editorial Assistant, U.S. Army Engineering District

Didn't know

Electrocardiograph Technician, Sepulveda Veterans Hospital

No response

Cash Receipts Clerk, Farmers Insurance

18. How would you describe the opportunities for advancement in the career area in which the participating student was placed?

Excellent

Veterinarian Aide, Chatoak Pet Clinic

Good

Teller Trainee, Lloyd's Bank
Editorial Assistant, U.S. Army Engineering District
Accounting Clerk, Farmers Insurance
Personnel Clerk, IRS
Electron Microscope Aide, Sepulveda Veterans Hospital
Budget Analyst, U.S. Customs
Survey Worker, Mayor's Office
Architectural Drafting Assistant, U.S. Customs
Scientific Programming Aide, Litton Data Systems

Fair

Professional Resume Assistant, Atlantic Ritchfield
Dental Assistant, Riley Dental Corporation
Advertising Copywriter, L.A. Convention Bureau

Poor

Electrocardiograph Technician, Sepulveda Veterans Hospital
Editing Clerk, Mayor's Office

Very Poor

No response

Cash Receipts Clerk, Farmers Insurance
Special Education Aide, Miller H.S.

19. *Which of the following statements best describes the degree of supervision that the student received during the career experience program?*

Student was given direction and close supervision while working on his tasks.

Teller Trainee, Lloyd's Bank
Editorial Assistant, U.S. Army Engineering District
Accounting Clerk, Farmers Insurance

Student was expected to work on tasks on his own, but someone was close at hand if he had questions or needed help.

Cash Receipts Clerk, Farmers Insurance
Personnel Clerk, IRS
Electron Microscope Aide, Sepulveda Veterans Hospital
Electrocardiograph Technician, Sepulveda Veterans Hospital
Special Education Aide, Miller H.S.
Veterinarian Aide, Chatoak Pet Clinic
Budget Analyst, U.S. Customs
Editing Clerk, Mayor's Office
Survey Worker, Mayor's Office
Architectural Drafting Assistant, U.S. Customs
Professional Resume Assistant, Atlantic Ritchfield
Scientific Programming Aide, Litton Data Systems
Dental Assistant, Riley Dental Corporation
Advertising Copywriter, L.A. Convention Bureau

Student worked independently until a task was completed.

20. When a job task was completed by the student, which of the following occurred?

The student handed in the work and then was assigned another task.
Editing Clerk, Mayor's Office
Professional Resume Assistant, Atlantic Ritchfield

The student was told how well he did on the completed assignment (and what improvements, if any, were needed) before being given another task.

All others.

No response
Cash Receipts Clerk, Farmers Insurance
Special Education, Miller H.S.
Veterinarian Aide, Chatoak Pet Clinic

21. Did your company provide information about the career experience program to others outside the company?

Yes

Personnel Clerk, IRS

No

Teller Trainee, Lloyd's Bank
Electron Microscope Aide, Sepulveda Veterans Hospital
Electrocardiograph Technician, Sepulveda Veterans Hospital
Veterinarian Aide, Chatsock Pet Clinic
Editing Clerk, Mayor's Office
Professional Resume Assistant, Atlantic Ritchfield
Scientific Programming Aide, Litton Data Systems
Dental Assistant, Riley Dental Corporation
Advertising Copywriter, L.A. Convention Bureau

Don't know

Editorial Assistant, U.S. Army Engineering District
Accounting Clerk, Farmers Insurance
Special Education Aide, Miller H.S.
Budget Analyst, U.S. Customs
Survey Worker, Mayor's Office
Architectural Drafting Assistant, U.S. Customs

No response

Cash Receipts Clerk, Farmers Insurance

If "yes," what audience did the company reach?

Only one response to this part:
Personnel Clerk, IRS: Other schools (and school board)
Civil Service Commission

If "yes," what means of communication did the company use?

Only one response to this part:
Personnel Clerk, IRS: "Group meetings"

22. Should students who have successfully completed the career experience program receive assistance in finding a job from the school or the participating employer?

Yes, assistance should be provided by the school

Electrocardiograph Technician, Sepulveda Veterans Hospital
Budget Analyst, U.S. Customs
Editing Clerk, Mayor's Office

Yes, assistance should be provided by the employer

Yes, assistance should be provided by both the school and the employer

Cash Receipts Clerk, Farmers Insurance
Editorial Assistant, U.S. Army Engineering District
Accounting Clerk, Farmers Insurance
Personnel Clerk, IRS
Electron Microscope Aide, Sepulveda Veterans Hospital
Survey Worker, Mayor's Office
Architectural Drafting Assistant, U.S. Customs
Professional Resume Assistant, Atlantic Ritchfield
Scientific Programming Aide, Litton Data Systems

No, students should assume full responsibility for finding a job

Teller Trainee, Lloyd's Bank
Veterinarian Aide, Chatoak Pet Clinic
Dental Assistant, Riley Dental Corporation

No response

Special Education Aide, Miller H.S.

Other

Advertising Copywriter, L.A. Convention Bureau: "Doesn't apply"

33. How important do you feel that each of the following goals/objectives are for a career experience program? (Indicate the degree of importance by checking the appropriate column.)

Note: Except as indicated, all others responded "Major Importance" to the item.

		Minor Importance	Un-important	No Opinion	No Response
a.	Transition experience from school to full-time work	VH(EMA) VH(EKG)			FI(CRC) M(SE) C(VA)
b.	Basis for selecting or ruling out a career area	VH(EKG) LACB(AC)			FI(CRC) C(VA)
c.	Learning basic job skills	FI(AC) VH(EKG) R(DA) LACB(AC)	VH(EMA)		FI(CRC) M(SE) C(VA)
d.	Student awareness of and knowledge of skills needed for progress in a particular area	VH(EMA) LACB(AC)			FI(CRC)
e.	Personal development (self confidence, poise, initiative, etc.)	R(DA)			FI(CRC)
f.	Social Skills development (ability to work with others, communication skills, etc.)	IRS(PC) VH(EMA) R(DA) LACB(AC)			FI(CRC) C(VA) LDS(SPA)
g.	Greater student appreciation of the value of education	FI(AC) MO(EC) MO(SW) R(DA) LACB(AC)			FI(CRC)
h.	Opportunity to observe a variety of jobs being performed	USA(EA) FI(AC) IRS(PC) USC(BA) MO(EC) USC(ADA) LDS(SPA) LACB(AC)		R(DA)	FI(CRC) M(SE)

	Minor Importance	Un-important	No Opinion	No Response
i. Reinforcement of theories and principles learned in the classroom and observation of applications of these theories and principles in actual job situations	FI(AC) USC(BA) AR(PRA) LACB(AC)	VH(EMA) VH(EKG) MO(SW)	R(DA)	FI(CRC) C(VA)
j. Development of student competence in a particular skills area	VH(EMA) VH(EKG) MO(SW) USC(ADA) LDS(SPA) LACB(AC)		R(DA)	FI(CRC) M(SE) C(VA)
k. Decreasing student drop-out rate	FI(AC) MO(EC) MO(SW) LACB(AC)	VH(EKG) USC(BA)	USA(EA) VH(EMA) AR(PRA) R(DA)	FI(CRC) M(SE) C(VA)
l. Promoting better communication between school and industry	FI(AC) VH(EKG) MO(EC) LDS(SPA) LACB(AC)		VH(EMA) R(DA)	FI(CRC) M(SE) C(VA)

m. Only one response to this item:
Veterinarian Aide, Chatoak Pet Clinic: "Exposure to career for college."

24. How important do you feel each of the following factors were in contributing to student success in the career experience program?

Note: Except as indicated, all others responded "Major Importance" to the item.

	Minor Importance	Un-important	No Opinion	No Opinion
a. Intelligence	FI(AC) MO(SW)		AR(PRA)	FI(CRC)
b. Appearance	FI(AC) M(SE) MO(EC) MO(SW) AR(PRA) LDS(SPA) R(DA) LACB(AC)	VH(EMA)		FI(CRC)
c. Tact	VH(EMA) MO(SW) LDS(SPA)			FI(CRC)
d. Motivation				FI(CRC)
e. Initiative				FI(CRC) C(VA)
f. Pleasing personality	FI(AC) IRS(PC) MO(EC) USC(ADA) LDS(SPA) LACB(AC)			FI(CRC) C(VA)
g. Self confidence	VH(EMA) R(DA)			FI(CRC) C(VA)
h. Punctuality	VH(EKG) M(SE) MO(SW)	VH(EMA)		FI(CRC)
i. Self respect	VH(EMA)		AR(PRA)	FI(CRC) C(VA)
j. Accuracy of work				FI(CRC)
k. Speed of work	USA(EA) IRS(PC) VH(EMA) VH(EKG) M(SE) C(VA) MO(EC)			FI(CRC)

Note: Except as indicated, all others responded "Major Importance" to the item.

		Minor Importance	Un-important	No Opinion	No Response
l.	Self control	VH(EMA) MO(SW)		AR(PRA)	FI(CRC) C(VA)
m.	Dependability				FI(CRC)
n.	Poise	USA(EA) IRS(PC) VH(EKG) AR(PRA) LACB(AC)	VH(EMA)		FI(CRC) C(VA)
o.	Good manners	FI(AC) IRS(PC) VH(EMA) MO(SW) AR(PRA) LDS(SPA) R(DA) LACB(AC)			FI(CRC)
p.	Verbal ability	FI(AC) IRS(PC) VH(EMA) VH(EKG) MO(EC) MO(SW) R(DA) LACB(AC)			FI(CRC)
q.	Ability to work well with others	IRS(PC)			FI(CRC)
r.	Prior work experience related to career experience position	LB(TT) FI(AC) IRS(PC) M(SE) USC(BA) LDS(SPA)	USA(EA) VH(EMA) VH(EKG) MO(SW) R(DA)	C(VA) AR(PRA)	FI(CRC)
s.	Course work related to career experience position	FI(AC) IRS(PC) M(SE) USC(BA)	VH(EMA) VH(EKG) R(DA)	AR(PRA)	FI(CRC)

25. How well do you feel the student learned the job skills for which he/she was being trained?

Very well

Personnel Clerk, IRS
Electron Microscope Aide, Sepulveda Veterans Hospital
Electrocardiograph Technician, Sepulveda Veterans Hospital
Special Education Aide, Miller H.S.
Budget Analyst, U.S. Customs
Survey Worker, Mayor's Office
Architectural Drafting Assistant, U.S. Customs
Professional Resume Assistant, Atlantic Ritchfield
Dental Assistant, Riley Dental Corporation

Moderately well

Teller Trainee, Lloyd's Bank
Editorial Assistant, U.S. Army Engineering District
Accounting Clerk, Farmers Insurance
Veterinarian Aide, Chatoak Pet Clinic
Editing Clerk, Mayor's Office
Scientific Programming Aide, Litton Data Systems
Advertising Copywriter, L.A. Convention Bureau

Not well at all

No response

Cash Receipts Clerk, Farmers Insurance

26. How many times did the student miss work?

Teller Trainee, Lloyd's Bank: 0

Cash Receipts Clerk, Farmers Insurance: No response.

Editorial Assistant, U.S. Army Engineering District: 9

Accounting Clerk, Farmers Insurance: 3

Personnel Clerk, IRS: 1

Electron Microscope Aide, Sepulveda Veterans Hospital: 0

Electrocardiograph Technician, Sepulveda Veterans Hospital: 3-4

Special Education Aide, Miller H.S.: 1 "Conflicting school schedules."

Veterinarian Aide, Chatoak Pet Clinic: 0

Budget Analyst, U.S. Customs: 1

Editing Clerk, Mayor's Office: 1

Survey Worker, Mayor's Office: 2

Architectural Drafting Assistant, U.S. Customs: 5

Professional Resume Assistant, Atlantic Ritchfield: 2

Scientific Programming Aide, Litton Data Systems: --

Dental Assistant, Riley Dental Corporation: 2

Advertising Copywriter, L.A. Convention Bureau: 1

Range: 0 - 9

27. Do you feel that students should have a course devoted to preparing them for participation in a job situation taken at the same time or just before participating in the career experience program?

Yes

Teller Trainee, Lloyd's Bank
Cash Receipts Clerk, Farmers Insurance
Editorial Assistant, U.S. Army Engineering District
Accounting Clerk, Farmers Insurance
Special Education Aide, Miller H.S.
Budget Analyst, U.S. Customs
Editing Clerk, Mayor's Office
Survey Worker, Mayor's Office
Scientific Programming Aide, Litton Data Systems
Advertising Copywriter, L.A. Convention Bureau

No

Personnel Clerk, IRS
Electron Microscope Aide, Sepulveda Veterans Hospital
Electrocardiograph Technician, Sepulveda Veterans Hospital
Architectural Drafting Assistant, U.S. Customs
Dental Assistant, Riley Dental Corporation

Not sure

Veterinarian Aide, Chatoak Pet Clinic
Professional Resume Assistant, Atlantic Ritchfield

No response

28. *If you could do it over again, would you have chosen to participate in this program?*

Teller Trainee, Lloyd's Bank: Yes.

Cash Receipts Clerk, Farmers Insurance: It depends. "If the hours the student is here could be rotated--AM some days, PM on others."

Editorial Assistant, U.S. Army Engineering District: It depends. "The student sent to us is interested in medicine, not writing and editing, the work experience assignment. Therefore, I would only choose to participate in this program again if the student assigned is interested in writing and/or editing."

Accounting Clerk, Farmers Insurance: Yes. It depends. "If the student was one that really needed the experience to get a job in this field."

Personnel Clerk, IRS: Yes. The program is worthwhile; especially if additional procedures are set forth."

Electron Microscope Aide, Sepulveda Veterans Hospital: Yes. "He was very helpful and it was very pleasant and refreshing to have a student working in our lab."

Electrocardiograph Technician, Sepulveda Veterans Hospital: Yes. "Al was a very pleasant student to work with and was very cooperative. We enjoy teaching students like them. We are always happy to train students for a particular job, especially if he plans to have a job in this area."

Special Education Aide, Miller H.S.: Yes.

Veterinarian Aide, Chatoak Pet Clinic: Yes.

Budget Analyst, U.S. Customs: Yes. "Jo Ann was definitely a big help and worked diligently. I always think it's good to have a firm relationship with the city schools."

Editing Clerk, Mayor's Office: Yes.

Survey Worker, Mayor's Office: It depends. "A closer coordination with the school is an absolute requirement for further participation."

Architectural Drafting Assistant, U.S. Customs: Yes. "Please see Question #34... My associates have been able to spend more time on technical work while Shaumon has handled the job of preparing illustrations and layouts for presentation."

Professional Resume Assistant, Atlantic Ritchfield: Yes.

Scientific Programming Aide, Litton Data Systems: Yes.

Dental Assistant, Riley Dental Corporation: No. "I don't need any more student workers. I currently have a full staff working."

Advertising Copywriter, L.A. Convention Bureau: Yes. "With better screening. This student had little interest in this field."

29. *If you would consider participating again, would you be interested in accepting a larger number of students?*

Teller Trainee, Lloyd's Bank: No.

Cash Receipts Clerk, Farmers Insurance: No. "No room in our dept. for more students."

Editorial Assistant, U.S. Army Engineering District: No. "There are a limited number of positions in this agency that a student could easily adapt to on this basis. Also, there are not enough employees to supervise the students in other areas."

Accounting Clerk, Farmers Insurance: Yes.

Personnel Clerk, IRS: Yes.

Electron Microscope Aide, Veterans Hospital: No.

Electrocardiograph Technician, Sepulveda Veterans Hospital: No. "We can only teach 1 or 2 students at a time due to limited space and time required by the staff."

Special Education Aide, Miller H.S.: Yes.

Veterinarian Aide, Chatoak Pet Clinic: No. "More students would complicate our operation."

Budget Analyst, U.S. Customs: Yes.

Editing Clerk, Mayor's Office: Yes. "Depending on staffing and projects."

Survey Worker, Mayor's Office: Yes. "Not under present circumstances of inadequate working space."

Architectural Drafting Assistant, U.S. Customs: No. "Since the student is working with a small staff of specialists, he is exposed to individual attention by the whole staff...in general during his time at work. If additional students were assigned, some of the individual attention would decrease. Additionally, the production of such a small staff might be adversely affected. This wouldn't be true, possibly, with a large staff."

Professional Resume Assistant, Atlantic Ritchfield: No.

Scientific Programming Aide, Litton Data Systems: Yes.

Dental Assistant, Riley Dental Corporation: I would not consider participating again. "I don't have time to train students."

Advertising Copywriter, L.A. Convention Bureau: No. "One is fine--we have a small staff and I would want a one-to-one experience."

30. What changes would you like to see made in the career experience program to make it a more rewarding and beneficial experience for the company?

Teller Trainee, Lloyd's Bank: No response.

Cash Receipts Clerk, Farmers Insurance: No response.

Editorial Assistant, U.S. Army Engineering District: "Allow more time for the student to participate. Send only students that have an interest in the particular work experience assignments."

Accounting Clerk, Farmers Insurance: "I feel that the company and the student would benefit more if a student was picked because he needed the job more than being picked for his intelligence."

Personnel Clerk, IRS: "Participating schools have a more in-depth interest in the total program and contribute guidance to the participating company."

Electron Microscope Aide, Sepulveda Veterans Hospital: "Spend more time at work."

Electrocardiograph Technician, Sepulveda Veterans Hospital: "Do not know of any changes that would make the program better for student or hospital."

Special Education Aide, Miller H.S.: No response.

Veterinarian Aide, Chatoak Pet Clinic: No response.

Budget Analyst, U.S. Customs: "I can't think of any at the present time."

Editing Clerk, Mayor's Office: "Having a student who more closely fits requirements."

Survey Worker, Mayor's Office: "Longer placement, better counseling."

Architectural Drafting Assistant, U.S. Customs: "The program should be limited to 3 months per student. We could be introduced to a new student every 3 months (4 students per year). Students should be in junior or senior year of study."

Professional Resume Assistant, Atlantic Ritchfield: No response.

Scientific Programming Aide, Litton Data Systems: "More time available for the student to gain experience on the job."

Dental Assistant, Riley Dental Corporation: "Nothing."

Advertising Copywriter, L.A. Convention Bureau: "A few days with more hours--so the student could accompany me to the ad agency, visit with a printing house."

30. What changes would you like to see made in the career experience program to make it a more rewarding and beneficial experience for the company?

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Special Education Aide, Miller H.S.: No response.

Veterinarian Aide, Chatoak Pet Clinic: No response.

Budget Analyst, U.S. Customs: "I can't think of any at the present time."

Editing Clerk, Mayor's Office: "Having a student who more closely fits requirements."

Survey Worker, Mayor's Office: "Longer placement, better counseling."

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Professional Resume Assistant, Atlantic Ritchfield: No response.

Scientific Programming Aide, Litton Data Systems: "More time available for the student to gain experience on the job."

Dental Assistant, Riley Dental Corporation: "Nothing."

Advertising Copywriter, L.A. Convention Bureau: "A few days with more hours--so the student could accompany me to the ad agency, visit with a printing house."

30. What changes would you like to see made in the career experience program to make it a more rewarding and beneficial experience for the student?

Teller Trainee, Lloyd's Bank: No response.

Cash Receipts Clerk, Farmers Insurance: No response.

Editorial Assistant, U.S. Army Engineering District: "Pay the student. Have the student take courses relevant to the work experience assignment."

Accounting Clerk, Farmers Insurance: "I feel that the company and the student would benefit more if a student was picked because he needed the job more than being picked for his intelligence."

Personnel Clerk, IRS: "Allow more working time so that the student can perform duties at a higher level and be able to gain more exposure to the job."

Electron Microscope Aide, Sepulveda Veterans Hospital: No response.

Electrocardiograph Technician, Sepulveda Veterans Hospital: No response.

Special Education Aide, Miller H.S.: No response.

Veterinarian Aide, Chatoak Pet Clinic: No response.

Budget Analyst, U.S. Customs: "It would be a better experience for the students if they could travel or work over a larger area in L.A."

Editing Clerk, Mayor's Office: "More counseling and support."

Survey Worker, Mayor's Office: "Longer placement, better counseling, 'trial' period, money."

Architectural Drafting Assistant, U.S. Customs: "The student should be prepared to work at least 3 hours consecutively each day that he (she) reports for duty."

Professional Resume Assistant, Atlantic Ritchfield: No response.

Scientific Programming Aide, Litton Data Systems: "More structured preparation in the development of courses or training to prepare the student for a job."

Dental Assistant, Riley Dental Corporation: "Pay."

Advertising Copywriter, L.A. Convention Bureau: "I keep repeating--better screening."

31. If you had to do it over again, what would you do differently concerning the level and types of responsibilities assigned to students and the supervisory techniques used to monitor student performance?

Teller Trainee, Lloyd's Bank: No response.

Cash Receipts Clerk, Farmers Insurance: No response.

Editorial Assistant, U.S. Army Engineering District: "In my particular case, I would do nothing differently. The student and I did as much as we could in the little time allowed as best we could."

Accounting Clerk, Farmers Insurance: "If the student picked was one in need of a job and interested in my particular position I would train him a lot more specifically on my job."

Personnel Clerk, IRS: "I would get a general knowledge of the student before hand and schedule a work plan in advance applicable to the student's school work, and try to assign work that would help him in his chosen career field."

Electron Microscope Aide, Sepulveda Veterans Hospital: "None--without more time no more tasks could have been given."

Electrocardiograph Technician, Sepulveda Veterans Hospital: "We have taught Al as we have taught other students. He has been very cooperative and quick to learn. We can think of nothing we would do differently."

Special Education Aide, Miller H.S.: No response.

Veterinarian Aide, Chatoak Pet Clinic: "Have reading material for them."

Budget Analyst, U.S. Customs: "Nothing."

Editing Clerk, Mayor's Office: "Responsibilities would be more basic, supervision would need to be tighter."

Survey Worker, Mayor's Office: "I would endeavor to meet with school counselor."

Architectural Drafting Assistant, U.S. Customs: "I would have no change in assignments under this program."

Professional Resume Assistant, Atlantic Ritchfield: "Nothing."

Scientific Programming Aide, Litton Data Systems: "Would not do anything differently."

Dental Assistant, Riley Dental Corporation: "Nothing."

Advertising Copywriter, L.A. Convention Bureau: "The same."

32. How have the regular employees reacted to student participation in the career experience program?

Teller Trainee, Lloyd's Bank: "Favorably."

Cash Receipts Clerk, Farmers Insurance: No response.

Editorial Assistant, U.S. Army Engineering District: "The regular employees were receptive to this idea."

Accounting Clerk, Farmers Insurance: "With interest."

Personnel Clerk, IRS: "Good reaction. Regular employees understand the need for training students for the future."

Electron Microscope Aide, Sepulveda Veterans Hospital: "Very good."

Electrocardiograph Technician, Sepulveda Veterans Hospital: "They have been most happy to have Al, and have felt the program was a good one from most respects."

Special Education Aide, Miller H.S.:"Enthusiastic."

Veterinarian Aide, Chatoak Pet Clinic: "Very well."

Budget Analyst, U.S. Customs: "Very well. The rapport in my office has been good."

Editing Clerk, Mayor's Office: "Favorably."

Survey Worker, Mayor's Office: "Very friendly."

Architectural Drafting Assistant, U.S. Customs: "My associates have expressed their acceptance of this program. The overall reaction has been positive."

Professional Resume Assistant, Atlantic Ritchfield: "Very well."

Scientific Programming Aide, Litton Data Systems: "No problems."

Dental Assistant, Riley Dental Corporation: "Reacted quite well. No modifications were necessary."

Advertising Copywriter, L.A. Convention Bureau: "Fine."

33. Has the exposure of the regular employees to the student affected the employees adversely in any way that you have noticed? (e.g., less productive, sloppier work habits, etc.)

All responded "No" to this item.

34. In what ways, if any, have the regular employees benefitted?

Teller Trainee, Lloyd's Bank: No response.

Cash Receipts Clerk, Farmers Insurance: No response.

Editorial Assistant, U.S. Army Engineering District: "None."

Accounting Clerk, Farmers Insurance: "They have gained knowledge about this program."

Personnel Clerk, IRS: No response.

Electron Microscope Aide, Sepulveda Veterans Hospital: "We've all enjoyed."

Electrocardiograph Technician, Sepulveda Veterans Hospital: "The student has been able to take over some of the time consuming tasks such as mounting old tracings and freed the employees for other work that Al could not do. In general, he helped speed the work of the office."

Special Education Aide, Miller H.S.: No response.

Veterinarian Aide, Chatoak Pet Clinic: "Explaining facets of a job."

Budget Analyst, U.S. Customs: "One of them helped supervise Jo Ann. She achieved more sense of responsibility."

Editing Clerk, Mayor's Office: "Being released from a number of basic tasks."

Survey Worker, Mayor's Office: "None. Charlotte's task was specifically tailored for a work experience placement."

Architectural Drafting Assistant, U.S. Customs: "My associates have been able to spend more time on technical work while Shaumon has handled the job of preparing illustrations and layouts for presentation."

Professional Resume Assistant, Atlantic Ritchfield: "Student helped with heavy work load."

Scientific Programming Aide, Litton Data Systems: "No significant benefit."

Dental Assistant, Riley Dental Corporation: "Many little time-consuming tasks were performed by our student worker."

Advertising Copywriter, L.A. Convention Bureau: "A feeling of 'participating' in an experience with school system."

35. Check the items that, if implemented, would in your opinion improve the career experience program.

More school-employer communication

Teller Trainee, Lloyd's Bank
Editorial Assistant, U.S. Army Engineering District
Personnel Clerk, IRS
Editing Clerk, Mayor's Office
Survey Worker, Mayor's Office
Architectural Drafting Assistant, U.S. Customs
Professional Resume Assistant, Atlantic Ritchfield
Advertising Copywriter, L.A. Convention Bureau

Handbook describing objectives of the career experience program and its operating procedures

Teller Trainee, Lloyd's Bank
Editorial Assistant, U.S. Army Engineering District
Personnel Clerk, IRS
Veterinarian Aide, Chatoak Pet Clinic
Budget Analyst, U.S. Customs
Architectural Drafting Assistant, U.S. Customs
Scientific Programming Aide, Litton Data Systems
Advertising Copywriter, L.A. Convention Bureau

Background information about the student similar to that obtained on an employment application or interview

Teller Trainee, Lloyd's Bank
Editorial Assistant, U.S. Army Engineering District
Accounting Clerk, Farmers Insurance
Personnel Clerk, IRS
Veterinarian Aide, Chatoak Pet Clinic
Budget Analyst, U.S. Customs
Editing Clerk, Mayor's Office
Survey Worker, Mayor's Office
Architectural Drafting Assistant, U.S. Customs
Dental Assistant, Riley Dental Corporation
Advertising Copywriter, L.A. Convention Bureau

Increase the time students spend in the program

Teller Trainee, Lloyd's Bank
Editorial Assistant, U.S. Army Engineering District
Personnel Clerk, IRS
Electron Microscope Aide, Sepulveda Veterans Hospital
Special Education Aide, Miller H.S.
Budget Analyst, U.S. Customs
Survey Worker, Mayor's Office
Architectural Drafting Assistant, U.S. Customs
Scientific Programming Aide, Litton Data Systems
Dental Assistant, Riley Dental Corporation
Advertising Copywriter, L.A. Convention Bureau

Item #35

Decrease the time students spend in the program

None

Student followup to obtain information useful for program modification and revision

Teller Trainee, Lloyd's Bank
Editorial Assistant, U.S. Army Engineering District
Veterinarian Aide, Chatoak Pet Clinic
Editing Clerk, Mayor's Office
Survey Worker, Mayor's Office
Professional Resume Assistant, Atlantic Ritchfield
Architectural Drafting Assistant, U.S. Customs
Scientific Programming Aide, Litton Data Systems

Other

Electrocardiograph Technician, Sepulveda Veterans Hospital: "None of these seem particularly helpful."

No response

Cash Receipts Clerk, Farmers Insurance

36. Please evaluate the student according to the traits listed below.

Note: Except as indicated, all others responded "Above Average" to the item.

	Average	Below Average	No Opinion	No Response
a. Intelligence	LB(TT) USA(EA) AR(PRA) LACB(AC)			
b. Appearance	LB(TT) FI(CRC) USA(EA) FI(AC) IRS(PC) AR(PRA) LDS(SPA) LACB(AC)			
c. Tact	LB(TT) FI(CRC) USA(EA) FI(AC) IRS(PC) MO(EC) LDS(SPA) LACB(AC)			
d. Motivation	LB(TT) FI(CRC) IRS(PC) MO(EC) AR(PRA)	USA(EA) LACB(AC)		
e. Initiative	LB(TT) FI(CRC) IRS(PC) MO(EC) AR(PRA) LDS(SPA)	USA(EA) LACB(AC)		
f. Pleasing personality	LB(TT) USA(EA) FI(AC) IRS(PC) LACB(AC)	LDS(SPA)		FI(CRC) M(SE)
g. Self confidence	LB(TT) USA(EA) MO(EC) USA(AC) AR(PRA) LDS(SPA)	LACB(AC)		FI(CRC) M(SE)

Note: Except as indicated, all others responded "Above Average" to the item.

	Average	Below Average	No Opinion	No Response
h. Punctuality	LB(TT) USA(EA) VH(EKG) MO(EC) MO(SW) AR(PRA) LDS(SPA)	IRS(PC)		FI(CRC) M(SE)
i. Self respect	LB(TT) USA(EA) IRS(PC) MO(EC) LDS(SPA) LACB(AC)		AR(PRA)	FI(CRC) M(SE)
j. Accuracy of work	LB(TT) USA(EA) MO(EC) LDS(SPA) LACB(AC)			FI(CRC) M(SE) C(VA)
k. Speed of work	LB(TT) USA(EA) VH(EKG) C(VA) MO(EC) AR(PRA) LDS(SPA) LACB(SPA)	FI(AC)		FI(CRC) M(SE)
l. Self control	LB(TT) USA(EA) IRS(PC) MO(EC) MO(SW) LDS(SPA) LACB(AC)		FI(AC) AR(PRA)	FI(CRC) M(SE)
m. Dependability	LB(TT) MO(EC) AR(PRA) LDS(SPA) LACB(AC)	USA(EA)		FI(CRC) M(SE)
n. Poise	LB(TT) USA(EA) FI(AC) IRS(PC) LDS(SPA) LACB(AC)			FI(CRC) M(SE)

Note: Except as indicated, all others responded "Above Average" to the item.

	Average	Below Average	No Opinion	No Response
o. Good manners	LB(TT) USA(EA) FI(AC) IRS(PC) MO(SW) LDS(SPA) LACB(AC)			FI(CRC) M(SE)
p. Verbal ability	LB(TT) USA(EA) IRS(PC)	AR(PRA) LDS(SPA) LACB(AC)		FI(CRC) M(SE)
q. Ability to work well with others	LB(TT) USA(EA) FI(AC) LDS(SPA) LACB(AC)			FI(CRC) M(SE)
r. Quality of work	LB(TT) USA(EA) MO(EC) AR(PRA) LDS(SPA)		FI(AC)	FI(CRC) M(SE)
s. Potential for future improvement and development as he/she matures	LB(TT) USA(EA) IRS(PC) LDS(SPA)			FI(CRC) M(SE) C(VA)

37. In general, what occurred when problem(s) arose concerning student behavior?

Contacted school

Talked to student
Survey Worker, Mayor's Office[1]

Contacted school and talked to student
Editorial Assistant, U.S. Army Engineering District[2]
Professional Resume Assistant, Atlantic Ritchfield[3]

Let it go by

No problems arose
Teller Trainee, Lloyd's Bank
Cash Receipts Clerk, Farmers Insurance
Accounting Clerk, Farmers Insurance
Personnel Clerk, IRS
Electron Microscope Aide, Sepulveda Veterans Hospital
Electrocardiograph Technician, Sepulveda Veterans Hospital
Special Education Aide, Miller H.S.
Veterinarian Aide, Chatoak Pet Clinic
Editing Clerk, Mayor's Office
Architectural Drafting Assistant, U.S. Customs
Scientific Programming Aide, Litton Data Systems
Dental Assistant, Riley Dental Corporation
Advertising Copywriter, L.A. Convention Bureau
Budget Analyst, U.S. Customs

No response

[1] "Charlotte was twice absent due to schoolwork, but notified me. Charlotte did not inform me of program end."

[2] "Sometimes the student did not come as scheduled and I was never contacted regarding the reasons why. So, I would call the school coordinator to find out if the student was planning to continue on this program. Then, when I saw the student again, I would ask her to please contact me whenever shw is not planning to come to work so I would know."

[3] "Student disappointed in task assignment."

38. Would you recommend that the student continue studying toward this type of occupation?

Yes

Accounting Clerk, Farmers Insurance
Electron Microscope Aide, Sepulveda Veterans Hospital[1]
Special Education Aide, Miller H.S.
Veterinarian Aide, Chatoak Pet Clinic[3]
Architectural Drafting Assistant, U.S. Customs
Scientific Programming Aide, Litton Data Systems
Dental Assistant, Riley Dental Corporation
Budget Analyst, U.S. Customs[4]

No

Editorial Assistant, U.S. Army Engineering District
Personnel Clerk, IRS
Electrocardiograph Technician, Sepulveda Veterans Hospital[2]
Advertising Copywriter, L.A. Convention Bureau

No opinion

Editing Clerk, Mayor's Office
Survey Worker, Mayor's Office
Professional Resume Assistant, Atlantic Ritchfield

No response

Teller Trainee, Lloyd's Bank
Cash Receipts Clerk, Farmers Insurance

[1] "Biological research--not at this level though"

[2] "He can go much further in medicine beyond this job."

[3] "Both Steven A. Sherman and Jill Liscom should."

[4] "Yes--if she works"

39. How can the school help this person become a better candidate for employment, in general?

Teller Trainee, Lloyd's Bank: No response.

Cash Receipts Clerk, Farmers Insurance: No response.

Editorial Assistant, U.S. Army Engineering District: "Have the student take courses relevant to a particular field. Encourage the student to be dependable and responsible. Encourage the student to be punctual and reliable."

Accounting Clerk, Farmers Insurance: "Pick the student who will need the job."

Personnel Clerk, IRS: "Background information."

Electron Microscope Aide, Sepulveda Veterans Hospital: No response.

Electrocardiograph Technician, Sepulveda Veterans Hospital: No response.

Special Education Aide, Miller H.S.: No response.

Veterinarian Aide, Chatoak Pet Clinic: "Set a regular program."

Budget Analyst, U.S. Customs: "By first more work experience, in general. Nothing can replace work experience."

Editing Clerk, Mayor's Office: "More counseling and follow up in programs."

Survey Worker, Mayor's Office: "See 30b." "Longer placement, better counseling, 'trial' period, money."

Architectural Drafting Assistant, U.S. Customs: "The student should be provided with architectural drawing projects that will require him to do all of the pre-drawing research, arrange design meeting, and draw complete architectural plans for the building layout.

Professional Resume Assistant, Atlantic Ritchfield: "No opinion."

Scientific Programming Aide, Litton Data Systems: "More specialized training or education in programming. Counseling in selling himself and improved interpersonal skills."

Dental Assistant, Riley Dental Corporation: "Offer more pre-med classes."

Advertising Copywriter, L.A. Convention Bureau: "Get him to 'open up,' come out of his 'shell,' to communicate, ask questions."

40. What are the student's special strengths?

Teller Trainee, Lloyd's Bank: No response.

Cash Receipts Clerk, Farmers Insurance: No response.

Editorial Assistant, U.S. Army Engineering District: "She was quick and alert in learning new experiences."

Accounting Clerk, Farmers Insurance: "Intelligence, punctuality, and inquisitiveness."

Personnel Clerk, IRS: "Self confidence, follow instructions very well, overall good worker."

Electron Microscope Aide, Sepulveda Veterans Hospital: "Very dependable and efficient."

Electrocardiograph Technician, Sepulveda Veterans Hospital: "He is intelligent, quick learning, accurate, responsible and pleasant."

Special Education Aide, Miller H.S.: No response.

Veterinarian Aide, Chatoak Pet Clinic: "Gain experience."

Budget Analyst, U.S. Customs: "Dependability, cooperation, accuracy with figures, pleasant personality."

Editing Clerk, Mayor's Office: "Personality and willingness to work."

Survey Worker, Mayor's Office: "Pleasing personality, good work habits."

Architectural Drafting Assistant, U.S. Customs: "1. Natural talent for drawing. 2. Special attention to detail."

Professional Resume Assistant, Atlantic Ritchfield: "Personality, perseverance."

Scientific Programming Aide, Litton Data Systems: "Good technical knowledge and background for his age. Eager to learn."

Dental Assistant, Riley Dental Corporation: "Intelligence, tact, pleasing personality, accuracy of work, speed of work, dependability, ability to work well with others, prior work experience related to career experience position."

Advertising Copywriter, L.A. Convention Bureau: "Follows directions well."

41. What are the student's special weaknesses?

Teller Trainee, Lloyd's Bank: No response.

Cash Receipts Clerk, Farmers Insurance: No response.

Editorial Assistant, U.S. Army Engineering District: "Lack of motivation and initiative. This may have been because her interests were in another field."

Accounting Clerk, Farmers Insurance: "He was placed in the wrong position for his intelligence; therefore, it would be difficult to determine his weaknesses."

Personnel Clerk, IRS: "Punctuality."

Electron Microscope Aide, Sepulveda Veterans Hospital: No response.

Electrocardiograph Technician, Sepulveda Veterans Hospital: "None that we particularly observed."

Special Education Aide, Miller H.S.: No response.

Veterinarian Aide, Chatoak Pet Clinic: "Unfamiliar with this work,"

Budget Analyst, U.S. Customs: "None that I can see."

Editing Clerk, Mayor's Office: "Distracted by friends."

Survey Worker, Mayor's Office: "None."

Architectural Drafting Assistant, U.S. Customs: "None was noted."

Professional Resume Assistant, Atlantic Ritchfield: "N/A"

Scientific Programming Aide, Litton Data Systems: "Needs to develop interpersonal skills."

Dental Assistant, Riley Dental Corporation: "Nothing."

Advertising Copywriter, L.A. Convention Bureau: "Shyness."

42. Please describe what means were used to determine how well the student learned the job skills for which he/she was being trained.

Teller Trainee, Lloyd's Bank: "Student observed and then was allowed to do job on her own."

Cash Receipts Clerk, Farmers Insurance: No response.

Editorial Assistant, U.S. Army Engineering District: "None."

Accounting Clerk, Farmers Insurance: "Observation."

Personnel Clerk, IRS: "Production."

Electron Microscope Aide, Sepulveda Veterans Hospital: "Final product--quality of micrograph and general showing of efficiency in any task."

Electrocardiograph Technician, Sepulveda Veterans Hospital: "Watching him take and mount EKG's. (Personal observation.)"

Special Education Aide, Miller H.S.: "Observation by teacher and supervisorySpecial Education Assistant."

Veterinarian Aide, Chatoak Pet Clinic: "Cassetts, tapes, pictures, talks, etc."

Budget Analyst, U.S. Customs: "By the proficiency with which she performed the tasks and the final results of the projects."

Editing Clerk, Mayor' Office: "Observation."

Survey Worker, Mayor's Office: "Work was reviewed."

Architectural Drafting Assistant, U.S. Customs: "During completion project reviews, instructions given the student are compared with the results and determinations and decisions are made as to how well the student is learning."

Professional Resume Assistant, Atlantic Ritchfield: "Completion of assigned responsibilities."

Scientific Programming Aide, Litton Data Systems: "Project type work - with schedules and deadlines. Close supervision."

Dental Assistant, Riley Dental Corporation: "By the end-product."

Advertising Copywriter, L.A. Convention Bureau: "The end-product was used as a masterlist and supplied to printer. Only a few errors."

43. What could the school have done to make the program more successful?

Teller Trainee, Lloyd's Bank: No response.

Cash Receipts Clerk, Farmers Insurance: No response.

Editorial Assistant, U.S. Army Engineering District: "Send only students that are sincerely interested in the particular work experiences. Also, have the school coordinator keep in closer contact with both the student and the employer to make sure that the program is running smoothly and effectively."

Accounting Clerk, Farmers Insurance: "Pick students who would really need employment. Not those necessarily from the "honors" group."

Personnel Clerk, IRS: "Detailed information to supervisors and more participation from the school."

Electron Microscope Aide, Sepulveda Veterans Hospital: No response.

Electrocardiograph Technician, Sepulveda Veterans Hospital: "Nothing."

Special Education Aide, Miller H.S.: No response.

Veterinarian Aide, Chatoak Pet Clinic: No response.

Budget Analyst, U.S. Customs: "More planning ahead and a longer working period."

Editing Clerk, Mayor's Office: "Closer communication both with student and site."

Survey Worker, Mayor's Office: "See question 11 and 30 a and b!
1. Six weeks is too short a time: the program should at least be a semester. Specific time and credits must be given by the school for the program. The placement supervisors and the high school counselor s should meet in advance with the student. A more specific training program should be planned. The placement should be given the weight of a regular class, but made flexible to the company's time needs.
2. Longer placement, better counseling, 'trial' period, money."

Architectural Drafting Assistant, U.S. Customs: "1. By giving the student another hour of on-the-job training per duty day. 2. By providing the student's OJT supervisor with a background information folder of the student's school activities and technical training."

Professional Resume Assistant, Atlantic Ritchfield: No response.

Scientific Programming Aide, Litton Data Systems: "More advance notice for placing students. Literature on the content and objective of the program."

Dental Assistant, Riley Dental Corporation: "I don't have any suggestions."

Advertising Copywriter, L.A. Convention Bureau: "Screening."

41. In general, how would you evaluate the program?

Very satisfactory
- Electron Microscope Aide, Sepulveda Veterans Hospital
- Budget Analyst, U.S. Customs
- Architectural Drafting Assistant, US Customs

Satisfactory
- Teller Trainee, Lloyd's Bank
- Accounting Clerk, Farmers Insurance
- Personnel Clerk, IRS [1]
- Electrocardiograph Technician, Sepulveda Veterans Hospital
- Veterinarian Aide, Chatoak Pet Clinic
- Survey Worker, Mayor's Office
- Professional Resume Assistant, Atlantic Ritchfield
- Scientific Programming Aide, Litton Data Systems
- Dental Assistant, Riley Dental Corporation
- Advertisint Copywriter, L.A. Convention Bureau

Unsatisfactory
- Cash Receipts Clerk, Farmers Insurance
- Editorial Assistant, U.S. Army Engineering District
- Editing Clerk, Mayor's Office

No response
- Special Education Aide, Miller H.S.

[1] Note: "Student did not spend enough time on job for such a detailed questionnaire. I think if more effort were spent on preparing the program with complete details, as the effort was spent here in preparing the questionnaire, the program would be more successful."

45. Check the item below that best describes your feelings about participation in the career experience program.

Participation in the career experience program was very enjoyable.

Electron Microscope Aide, Sepulveda Veterans Hospital
Special Education Aide, Miller H.S.
Budget Analyst, U.S. Customs
Architectural Drafting Assistant, U.S. Customs
Professional Resume Assistant, Atlantic Ritchfield
Scientific Programming Aide, Litton Data Systems

Participation in the career experience program was somewhat enjoyable.

Teller Trainee, Lloyd's Bank
Editorial Assistant, U.S. Army Engineering District
Accounting Clerk, Farmers Insurance
Personnel Clerk, IRS
Electrocardiograph Technician, Sepulveda Veterans Hospital
Veterinarian Aide, Chatoak Pet Clinic
Survey Worker, Mayor's Office
Advertising Copywriter, L.A. Convention Bureau

Participation in the career experience program was not enjoyable at all.

No feelings one way or the other.

Editing Clerk, Mayor's Office
Dental Assistant, Riley Dental Corporation

No response

Cash Receipts Clerk, Farmers Insurance

V

SCHOOL COORDINATOR PRETEST RESPONSES

1975 CAREER EXPERIENCE PROGRAM
SCHOOL COORDINATOR QUESTIONNAIRE I

Name: _____ Date: _____

School Title or Position: *Sample = 4*

Years of Vocational/Industrial Experience: _____

1. Please list other school personnel, besides yourself, who are directly or indirectly involved with this career experience program. Specify the responsibilities of each in relation to this program.

	Number Involved	Program Responsibilities
Teacher	2	
Psychologist		
Guidance Counselor	2	
Probation Officer		
Principal	3	
Other (specify)	3	

1. *Teacher* -*"Those who have students in the program will have to have a class time when student can share experience."*

Gifted and Honors Counselor -*"Coordinator checked with him on her progress and activities. He knew the students and made suggestions or ok'd their selection. In several instances he discussed program with prospective employers."*

Principal - *"Approved credit plan, discussed teacher participation."*

"Continuing."

Other - *"Bob Myers - doing feasibility study on innovative ed. No responsibilities - provided contact with CSUN - was very interested in program."*

"Miss Munson, Director of Curriculum, asked me to find a student for this program."

2. Do you feel that the career training options provided by this program represent career areas not currently offered on a large scale by other school district programs? Yes 3 No___ Don't Know 1

3. Which of the following options has your school chosen for having students demonstrate performance skills at the completion of the career experience program? (Check more than one, if applicable.)

___ Employer's signature on the Permit Form

___ Student demonstrates performance skills on campus, for coordinator

___ Student demonstrates performance skills at job site, for coordinator

___ Student takes a written examination

1 Other (describe) *"Students will share their experience in an appropriate class--or an AP class whose work is completed after AP test."*

3 Option to be used has not yet been chosen

4. Will course credit be given for students who successfully complete this career experience program? Yes 4 No___ Undecided___

If "yes," which of the following methods of assigning course credit have been chosen by your school?

___ Give course credit, certify the DPS (demonstrated performance skills), but give no DPS credit

___ Course credit, certification, plus 15 or 25 credits for the DPS based upon the tentative guidelines established by the Division of Instruction, Educational Goals

3 Course credit, certification, plus a sliding scale of DPS credits (5 to 25) based on number of hours in training (current standard is one unit credit for 12 clock hours) *(One added: "Tentatively agreed upon")*

1 Other (describe) *"Five credits for each 60 hours of instruction. DPS method not determined yet."*

___ Option has not yet been chosen

5. Please describe how students were recruited and what criteria were used to select them for participation in this career experience program. (Be sure to include the part, if any, played by participating teachers in the recruiting and selection process.)

5. *"I was asked to find a student for the Animal Caretaker position. Since I had enrolled Janet Mosten in Animal Care and Control last semester and Veterinary Assistant this semester, I knew she was well qualified. I also checked her cumulative record and verified that she is an excellent student."*

"I was not in on the selection of students, but I believe recruitment was by interest only."

"Computer printout source--summons used. Teacher and classroom contacts for some."

"Coordinator spoke to several A.P. and Honors classes describing program and benefits of participating. She told of available jobs. She collected cards from interested students which listed their names, interest in a particular career area, and available time. Coordinator sought jobs for particular students, called them at home or summoned them to office to discuss available job. Some students heard about the program from others and came into see coordinator. A couple of teachers were asked for suggestions of students, but students were not interested, generally. Students generally were in A.P. Honors classes."

6. Please describe the method and criteria used for selecting teachers for participation in this career experience program.

6. *"I was chosen since I handle the Career Education Program at Van Nuys High School."*

"Not aware of the method used."

"Those with related classes, such as drafting and business, as well as journalism, were contacted."

"No specific selection of teachers was made. (We did choose teachers who seem more willing to cooperate in innovative ideas from program of each student. Nine were selected from 20+ programs.) They are the teachers of the students selected to participate. A.P. and Honors teachers can give class time to the project after A.P. tests. Generally, sharing of the experiences will take place at the end of the semester. If the career relates to a particular class, student will share experience in that class i.e., journalism student will share public relations/journalism job (at Pacific Telephone) in her journalism class. (However, woodshop teacher does not seem "interested" in woodworking skills job -- so we will use another class.)

7. How were teachers briefed or prepared for participation in this career experience program?

4 Individually briefed — *One added: "Not actually briefed. I was shown the Employer Questionnaire.*

1 Group session was held

8. Who was responsible for acquainting the participating teachers with the nature and goals of this career experience program?

2 Coordinator

1 Principal

2 - Counselor

1 Other (specify) *"There are no ~~participating teachers at this~~ time."*

9. Please describe the sequence of events that occurred during the briefing session. (If a written agenda is available, please note here and attach.) List teacher concerns and questions about the program.

___Written agenda is attached

9. "As I previously mentioned, Miss Munson showed me the Employer Questionnaire and asked me if I knew a qualified student. I checked my records and recommended Janet Mosten."

"1. Inquiry of interest. 2. Tour of program facilities."

"Verbal contact only."

"This has not yet taken place--scheduled for 4/74."

10. How were students (or how will they be) briefed for participation in this career experience program?

3 Individually briefed by coordinator

___ Individually briefed by teacher(s)

1 A group session was held

1 Other (describe) *"Coordinator spoke to several A.P. and Honors Classes. Some had read me a letter sent to their parents telling about the program."*

If a group session was held:

a. Who was it (will it be) conducted by? (Give title of school person.)
"Career coordinator."
"Coordinator."

b. What other school personnel were (will be) present at this session?
"Not in on this session."(Career coordinator)
"Classroom teacher. Honors counselor sometimes." (Coordinator)

c. Briefly describe the agenda for this session, or the sequence of events that took place, and highlights of the session. (If you have a written agenda, please note here and attach.)

___ Written agenda attached *"Coordinator told about program benefits, available jobs. Answered any questions. Handed out cards for home, job or career interest, available time. Collected cards."*

11. Will students miss any classes as a result of participation in this career experience program? Yes___ No 4 Don't Know___

If "yes":

a. Approximately how many hours per week of class will they miss? _____

b. In general, what were the reactions of teachers concerning the class time to be missed by participating students?

___ Mostly negative ___ Mostly neutral

___ Mostly positive ___ Mixed reactions

12. Did the school assist students in arranging for transportation to and from the job site? Yes 1 No 3

If "yes":

a. What percent of the students needed assistance?

___ 25% or less ___ 51% - 75%

___ 26% - 50% X 76% or more

b. Please describe how transportation assistance was provided.

"School district bus."

12. *The coordinator who responded "yes" said: "Coordinator discussed transportation with students. Lack of transportation was a factor in locating jobs and placing students. While there are more buses in our area now, there still is a time factor involved making bus transportation unfeasible in most cases."*

13. Have you had an opportunity to visit the job site(s)? Yes 2 No 2

13. *Comment: "I visited every job site, some more than once, to describe the program and to get the necessary signatures. In most instances I took the student to the job the first time. I usually saw just where the student would be working and met other employees."*

If "yes," please describe briefly what occurred and the topics discussed with the site contact/employer.

13. *(continued)*

"I saw where the student would be working and met other personnel. I told the employer the type of student we would send and why we were doing the project. Some employers had more questions than others. Big companies take more time. All meetings were pleasant and cordial."

14. Do you feel that students should be paid for their participation in this career experience program? Yes___ No 2 *(Two said, essentially, "It depends")*

Why or why not?

14. (NO). "It is part of their education. They are receiving credit. They are "taking" from the employer more than they are "giving" in most cases. I think employers should be paid for training the students. Then we might have more job sites available."

(NO). "Students are receiving credit for course and intrinsic benefits."

(NO RESPONSE). "I'm not sure. Maybe during the training period, school credit is sufficient, but if the student is acceptable, an effort should be made to obtain at least part-time or summer employment for pay."

(YES and NO). "But it would be much easier for filling classes if small payments could be made. Some students took time off paid jobs to participate."

This is subject to debate--the students in the GHHS program for the most part were gifted and/or capable students and had the maturity to appreciate the value of the program. Also, many knew what their career interests were. However, many students must work although they would like to participate. Also, a number participated hoping it would mean a summer job. I think it might be difficult to find a large number of students willing and able to give 40-60 hours with no pay. A couple of students have had to drop out to seek paid employment. A number are working in the program, elsewhere for pay, plus school and activities --a heavy load."

If "yes," who do you feel should be responsible for providing the student salary funds? (If you check more than one, please circle the source that you feel should be primarily responsible for providing the funds.)

1 Employer

1 School district

___ Community

2 Government grant *"To give funds to school district"*

1 Private foundation grant

___ Other (describe)_____

15. How important do you feel that each of the following goals/objectives are for a career experience program? (Indicate the degree of importance by checking the appropriate column.

	Major Importance	Minor Importance	Unimportant	No Opinion
a. Transition experience from school to full-time work	3	1		
b. Basis for selecting or ruling out a career area	2	3		
c. Learning basic job skills	2	2		
d. Student awareness of and knowledge of skills needed for progress in a particular area	3	1		
e. Personal development (self confidence, poise, initiative, etc.)	4			
f. Social skills development (ability to work with others, communication skills, etc.)	4			
g. Greater student appreciation of the value of education	2	2		
h. Opportunity to observe a variety of jobs being performed	3	1		
i. Reinforcement of theories and principles learned in classroom and observation of applications of these theories and principles in actual job situations	1	3		
j. Development of student competence in a particular skill area	2	2		
k. Decreasing student dropout rate	1	1	2	
l. Promoting better communication between school and industry	2	2		
m. Other (specify) *One responded here: "Appreciating the need for entry level skills to a job regardless of one's ultimate goal (i.e., a professional degree or a college degree")*				

16. How important do you feel each of the following factors are in contributing to student success in this career experience program?

	Major Importance	Minor Importance	Unimportant	No Opinion
a. Intelligence *Comment: "Depends on type of job".*	2	2		
b. Appearance	2	2		
c. Tact	2	2		
d. Motivation	4			
e. Initiative	4			
f. Pleasing personality	3	1		
g. Self confidence	3	1		
h. Punctuality	4			
i. Self respect	3			1
j. Accuracy of work	4			
k. Speed of work		4		
l. Self control	4			
m. Dependability	4			
n. Poise	3	1		
o. Good manners	3	1		
p. Verbal ability *Comment: "Depends"*	2	2		
q. Ability to work well with others	4			
r. Prior work experience related to career experience position		3	1	
s. Course work related to career experience position	1	2	1	

17. Do you plan to provide information about the career experience program to others in the school and the community? Yes 3 No___ Don't Know 1

If "yes": *Comment: "Depends. So far, my experience is very limited--one job, one student who is just beginning*

a. What audience do you plan on reaching?

2 Parents — 1 Other schools

2 Other students — 1 Other employers

2 Community groups — ___ Other (specify)_____

b. What means of communication do you plan to use?

___ Newspaper — 1 Flyers

___ TV — ___ Radio

3 Personal appearances — ___ Other (specify)_____

18. What problems, if any, have developed so far in preparing for this career experience program?

18. *"A time pressure problem. I had about 4 weeks to find 2o+ jobs and the 20+ students who had the interest and available time. Large companies have red tape and cannot commit themselves readily. I would have preferred more lead time. Also, while I understand why, it would have helped to have an office, desk, files, phone, business cards, typewriter."*

"Developing a meaningful mark for each student other than basing it on attendance. Developing an instrument to test entering and leaving knowledge."

"We experienced difficulty in matching students with the programs because we were trying the match in the middle of the semester. Computer usage would be necessary if this match were to be done on a large scale, as well as clerical time to do the work."

1 - No response

19. What further problems, if any, do you anticipate during the course of this career experience program?

19. "The hourly pay situation is not ideal. I know I have thought a lot about the program at night, away from the job, etc. Also, now that the major work is over, I am putting in 1-2 hours a day (or less), but there is still the responsibility of being available, most of the time. I'm not sure what the answer is because the initial part of the program takes too much time to ask a counselor to do it, but the latter part of the program would be better if it could be turned over to a counselor since it doesn't pay enough to be tied to the job."

3 - No response

VI

SCHOOL COORDINATOR POST TEST RESPONSES

1975 CAREER EXPERIENCE PROGRAM
SCHOOL COORDINATOR QUESTIONNAIRE II

Name: *Sample = 4* Date: _____

School title or position: *Campus Coordinator - 1*
Career Advisor - 3

1. Which of the following options did your school select for having students demonstrate performance skills at the completion of the career experience program? (Check more than one, if applicable.)

   3 Employer's signature on the Permit Form.

   ____ Student demonstrates performance skills on campus, for coordinator.

   ____ Student demonstrates performance skills at job site, for coordinator.

   ____ Student takes a written examination.

   3 Other (describe) *-Coordinators talked with contact person.*
   -Verbal presentation in a class
   -Demonstrated performance skills not a graduation requirement

2. Will course credit be given to students who successfully complete this career experience program? Yes 3 No 1

   If "yes," which of the following methods of assigning course credit was chosen by your school?

   1 Gave course credit, certified the DPS (demonstrated performance skills), but gave no DPS credit.

   0 Course credit, certification, plus 15 or 25 credits for the DPS based upon the tentative guidelines established by the Division of Instruction, Educational Goals.

   2 Course credit, certification, plus a sliding scale of DPS credits (5 to 25) based on number of hours in training (current standard is one unit credit for 12 clock hours). *One respondent said: "Certification, but it does not fulfill any requirements."*

   2 Other (describe) *-"Credit based only on DPS - 5 credits"*
   -"Gave 10 credits for 120 hours"

   Probably one of the most important items, but you will be more aware of the significance of the responses

3. Did you get an opportunity to visit the job site(s)? Yes 2 No 2

   If "yes,"

   a. Please describe briefly what occurred and the topics discussed with the site contact/employer.

   Only one comment given: "I visited each job site in my original contact, then when I took the student for the first time. In some instances, I stopped by to check on the progress of getting permission to

"1 or 2 for all"
"1 - 4 times"

b. How many times were you able to visit the job site(s)? _____ times

c. Were you able to observe the students being trained or attending to any job tasks? _____ Yes __2__ No

If "yes," briefly describe what occurred.

3c. "I am sure I could have /observed/. The fact that I had asked both students and employers to contact me in the event of any problems seemed enough. I trusted both and looking in on them seemed an intrusion or lack of trust."

3 - No response

4. Did you ever contact the employer by phone as a means for monitoring students performance? __4__ Yes _____ No

If "yes,"

a. How many times? _____ times *2, 3, 1-3, 3-5*

b. Please describe the types of questions that were asked and the responses given.

4b. "I asked if everything was satisfactory, and it always was. Once I called because the "employer" was not fulfilling his responsibility, and another time to clarify the situation due to the absence of the supervisor. In all instances the conversations were cordial. One job just didn't work out--working with aphasia children."

"Job duties and responsibilities. Skills learned."

"Trying to determine if the experience was meaningful."

"How was (student name) working out? Did you have any problems?"

5. Did the employer ever contact you about any student or program problems?

2 Yes 2 No

If "yes,"

a. Briefly describe the problems

5a. "Sandra Bujaider had stopped going to Arco."

"When student did not show up."

"I gave each employer my card with a school and a home number and asked that I be called if there were any problems or questions. No one ever called. The fact that we were dealing with gifted, responsible, students is surely one reason why there were no problems."

1 - No response

b. How were they dealt with?

5b. "Called student and found out about her problem."

"I followed up the situation."

2 - No response (One of these had no problems--see #5a)

6. Do you feel that the students should have been paid for their participation in this career experience program? Yes ____ No 4

Why or why not?

6. "But, participation would have been better as well as recruitment would have been easier. Some students had to give up paid employment to take this program."

"They never reach a point where they are productive. This is really exploratory in nature."

"...although some of the jobs were of real benefit to the employers. Because this was part of a student's education, and he is not paid for other classwork. However, I think a student should receive class credit that would fulfill some specific requirement, i.e., practical arts. Since most of my participants were graduating seniors, the DPS credits meant nothing toward graduation requirements. If fulfills

no requirement for 11th graders, either. Another reason not to be paid is that this program enabled some students access to jobs they could never have gotten on their own, i.e., Litton Data Systems for a student who could do computer programming. I believe he was going to get a summer job. Another student got to work at a travel bureau, is getting extra training and a summer job. Only through our program did they get past the front door."

"Get students who are really interested to learn if no money is involved."

If "yes," who do you feel should have been responsible for providing student salary funds? (If you check more than one, please circle the source that you feel should have been primarily responsible for providing the funds.)

_____ Employer *(None answered "yes")* _____ Government grant

_____ School district _____ Private foundation

_____ Community _____ Other (describe) _____

7. Did your company provide information about the career experience program to others outside the company? Yes 1 No _____ Don't know 3

If "yes,":

a. What audience did the company reach?

_____ Parents 1 Other schools

_____ Other students _____ Other employers

_____ Community groups _____ Other (specify) _____

b. What means of communication did the company use?

_____ Newspaper _____ Flyers

_____ TV _____ Radio

_____ Personal appearances 1 Other (specify) *Verbalization*

8. Should students who have successfully completed the career experience program receive assistance in finding a job from the school or participating employer? (Check one.)

_____ Yes, assistance should be provided by the school.

_____ Yes, assistance should be provided by the employer.

-3 Yes, assistance should be provided by both the school and employer.

1 No, students should assume full responsibility for finding a job.

8. *"However, this may include asking the employer for his help, recommendation or suggestions as well as looking into the career advisor's available jobs at school and/or asking for his help. Regarding the latter, I think the work experience advisor should be doing what I was doing all along... trying to find jobs for students with particular career interests, offering the possibility of letting the student gain experience without pay and then hiring him if he performs well." (for the coordinator who responded "no")*

9. How important do you feel that each of the following goals/objectives are for a career experience program? (Indicate the degree of importance by checking the appropriate column.)

	Major Importance	Minor Importance	Un-important	No Opinion
a. Transition experience from school to full-time work	3	1		
b. Basis for selecting or ruling out a career area	3	1		
c. Learning basic job skills	3	1		
d. Student awareness of and knowledge of skills needed for progress in a particular area	4			
e. Personal development (self confidence, poise, initiative, etc.)	4			
f. Social skills development (ability to work with others, communication skills, etc.)	4			
g. Greater student appreciation of the value of education	1	3		
h. Opportunity to observe a variety of jobs being performed	3	2		
i. Reinforcement of theories and principles learned in classroom and observation of applications of these theories and principles in actual job situations	2	2		
j. Development of student competence in a particular skill area	2	2		
k. Decreasing student drop-out rate	3			1
l. Promoting better communication between school and industry	2	2		
m. Other (specify) _____				

On i, one coordinator commented: "Important, but I doubt that it often occurred."

On k, she commented: This woul be of major importance. Howeve the typical dropout wou probably not perform sa factorily for an emplo to keep him. A low le skill job would not te many students for no p I felt a real obligatio to provide the employer with a proven, responsible..."

(None wrote in a response for m)

10. How important do you feel each of the following factors were in contributing to student success in the career experience program?

	Major Importance	Minor Importance	Un-important	No Opinion
a. Intelligence	1	3		
b. Appearance	1	2	1	
c. Tact	1	3		
d. Motivation	4			
e. Initiative	3	1		
f. Pleasing personality	1	3		
g. Self confidence	3	1		
h. Punctuality	4			
i. Self respect	1	3		
j. Accuracy of work	3	1		
k. Speed of work		4		
l. Self control	1	3		
m. Dependability	3	1		
n. Poise	1	3		
o. Good manners	1	3		
p. Verbal ability		4		
q. Ability to work well with others	4			
r. Prior work experience related to career experience position	1	1	2	
s. Course work related to career experience position	2	1	2	

Only one student for this coordinator--was an animal caretaker

11. How many students did not finish the program? ____ students *0, 1, 4, 4,*

If any students did not finish, please list all reasons for dropping out or being terminated.

11. *"(1) Duplication of another training project that was paid. (2) Mother ill. (3) Mother in Mexico. (4) Not prepared to train her."*

"(1) Unknown."

"(1) Had to drop out to get a paying job to meet college costs. Was not unhappy with the program. (2) Said he had too little time but actually felt the job was beneath his abilities. He only went twice and didn't give it enough time to develop. (3) Not related enough to a business experience (at C.S.U.N.), parental pressure and limited time. (4) Job site didn't work out--aphasia children became too excited. Student was satisfied. (A fifth, working with aphasia, switched to a bank job.)

"Only one student started and she completed the program."

12. What changes, if any, would you make concerning how students were recruited and the criteria used to select them for participation in the career experience program?

12. *"More lead time. Greater teacher involvement. More counselor involvement. Pre-registration to fit in program with an occupational interest."*

"Students had to be selected who could make the arrangement for schedule and transportation. Therefore, excluded a lot of good candidates."

"Recruitment should take place before the start of the semester, not during. It should not be limited to gifted students. There should be better communication within the school. My only communication was to speak to several AP and honors classes. Announcements read to these few classes brought little response. It is important to select responsible students which immediately eliminates many from the hope of participating."

1 - *No response*

13. What changes, if any, would you make concerning the method and criteria used for selecting teachers to participate in the career experience program?

13. "Greater involvement with many teachers."

"A board coordinator should introduce the program to the academic department from which students are taken."

"The planned participation of teachers, coming as it did mid-way through the term, was entirely impractical. They had no time to change their plans, and since several were teaching AP classes, they wouldn't have changed even with advanced notice. Some of the most likely participants in relation to the job had the reputation of being against change and anything innovative so their help was not requested."

1 - No response

14. In general, how well do you feel the students learned the job skills for which they were being trained?

__1__ Very well ____ Moderately well ____ Not well at all

__2__ Have no evidence other than employer statements *1 - No response*

15. How many of the teachers at your school were asked to integrate students' work experiences with classroom learning? __1__ teachers *(3 said none; one said one)*

How many teachers were willing to do so? __1__ teachers

If any were willing:

a. Did you get an opportunity to visit the classroom(s) to see what occurred?
____ Yes __X__ No

If "yes," please describe _____

b. Generally, how do you think the participating teachers feel about the career experience program?

____ Mostly negative ____ Mostly neutral

__X__ Mostly positive ____ Mixed reactions

c. Please list any comments or concerns made by teachers that you can recall.

15a. 3 - No response

"Teachers were asked to allow time before the end of the year to let students share orally their experiences with the class. All teachers were cooperative, but only cooperative teachers were asked.

15a. "Still to come - will report later. A student at a travel agency presented a travel program to a literature class in connection with a book the class was reading concerning the Caribbean. Teacher reported it was delightful."

15c. 2 - No response

"She appreciated the help."

"Teachers have no time to incorporate changes for the sake of one or 2 students. Job experiences do not relate that closely to most classes. Curriculum changes would have to come from downtown, supervisors or someone other than a coordinator like myself called in on a short term basis. Teachers would need to know before the semester begins if they are to incorporate changes. A.P. teachers seemed to infer they could use more class time as it was in trying to prepare students for AP tests."

16. Do you feel that students should have a course devoted to preparing them for participation in a job situation taken at the same time or just before participating in the career experience program?

__2__ Yes ____ No __2__ Not sure

17. If you could do it over again, would you have chosen to participate in this program?

__2__ Yes ____ No __2__ It depends

Please explain:

17. "I could have done a better job with a 36-hour day." (NO)

"I need to know much more in advance. I have to have the commitment for support from some academic teachers and they must put the effort into it." (IT DEPENDS)

"I would have learned job skills opening the way to employment while I was in school. I might have learned whether I did or didn't like the field I thought I was interested in. This is not a particularly valid question, though, because a teenager's world is so different than when I was a teenager. Life was very slow and dull by comparison. On the other hand, during war years, teens got job they couldn't get today."

1 - No response.

18. What changes would you like to see made in the career experience program to make it a more rewarding and beneficial experience for:

a. the school? (Answered together for both school and student). "A greater breadth and length of program. I would like the program to run for 10 weeks to a semester with a possibility of a job waiting at the end."

"Get the commitment for involvement from some academic departments and let them carry the ball."

b. the student? "The school seemed to get no benefit from the program except for public relations.

"More advance notice."

Student

"Pay."

"Provide transportation."

"He should know about the possibility of participating ahead of time so as to plan his schedule accordingly. He should get graduation requirement credits, then no one would drop out. Ideally, he would like to know if there is a chance of getting a job at the job site if he performs well. The hours required to learn the job might be more accurately worked out. There should be some regular basis of communicating with the coordinator."

1 - No response.

19. If you had to do it over again, what would you personally do differently concerning supervision and operating procedures?

19. "It takes more time than I have to supervise, etc. There needs to be closer contact with the training site."

"Attempt to get some academic teachers to pursue this project."

"I would have liked more lead time in securing the job sites. There should have been more communication possibilities with students and faculty. (Most of the faculty and students have no idea this program is going on). I could have used an office, phone, files, etc. Somehow it should be a full time job with regular hours for contact purposes. There should be some way of checking with students on a regular basis."

"Try to find time to visit job site."

20. Check the items that, if implemented, would, in your opinion, improve the career experience program

4 More school-employer communication

4 Handbook describing objectives of the career experience program, and its operating procedures

2 More school coordinators

2* Increase the time students spend in the program

* Decrease the time students spend in the program

One coordinator commented: "Depends on the job"

3 Student follow-up to obtain information useful for program modification and revision

20. Comment

"I can possibly see a career ed. class where students check in on a regular basis, share their experiences and problems and communicate on a regular basis with the coordinator."

21. Did the employer raise any obstacles that hindered the program? ____ Yes 3 No
(One responded "?")

If "yes," please explain

21. 3 - No response

(Responded "?" to item.1 "Larger companies have so much red tape that it took a while to get their o.k. and with such limited time, it was a problem (Litton, banks)."

22. Did the employer screen students in any manner? 2* Yes 2 No
(One said: "With the exception of 1 student")

If "yes," how many students were turned down? 0-1 students

If any were turned down, please explain why.

22. 3 - No response

(Responded "No - with one exception" to item) "A communication problem between in-town contact-job site person got an erroneous idea of student's skills--when it was cleared up, there wasn't time left for the student to participate (Pacific Telephone)."

23. Describe the benefits the school derived from participation in the career experience program.

23. "Provides a better educational experience for some students."

"Experience for the students."

"Possibly good public relations with the students and parents of those who were happy with the program."

1 - No response

24. What could the employer have done to make the program more successful?

24. *"Probably involve the student in more activities."*

"A greater readiness for the student and her training."

"None ever called me (except to ask about the forms). Perhaps the students forms will tell more."

1 - No response.

25. Please describe any problems that developed during the career experience program that haven't already been mentioned.

25. *"One student said all he did was sit around and watch."*

"The forms sent to the employers were unexpected and considered a nuisance. Coordinator did not know about them -- they caused some confusion and some irritation."

2 - No response

26. Please list the main reasons for the degree of program success that has been achieved by your school.

26. *"Interested students."*

"Good students."

"Working with responsible, superior students. Working in a stable, positive community (Northridge and Granada). It may Be immodest But I think the coordinator was a large factor. I can't really see many people coming in on such short notice and doing what I did."

1 - No response.

27. Check the item below that best describes your feelings about participation in the career experience program

1* Participation in the career experience program was very enjoyable.

1 Participation in the career experience program was somewhat enjoyable.

1** Participation in the career experience program was not enjoyable at all.

1 No feeling one way or the other.

*"At times very frustrating and pressured at others."
** "I felt it was rewarding."

27. Comment

"I enjoy young people and was and am thrilled when one of them lands the job or is excited about his job. I enjoy meeting people. I enjoy speaking to groups. However, I disliked being turned down. The lack of an office was frustrating."

28. In general, how would you evaluate the program?

___3___ Very satisfactory ___1___ Satisfactory _____ Unsatisfactory

28. *Comment*

"The program is very satisfactory and exciting in the instances where it has been successful. However, I do not see how it could be expanded to include an entire class or school on the basis with which it was conducted. It takes too long to find job sites on an individual contact basis. Many of the job sites are one time only sites.

I can see the Board of Ed. making an all out effort to have career ed. by contacting industry and paying them to provide career experience with a classroom type of training for a few sessions and then placing the students in the actual job site. The Board of Ed. funds would pay for the coordinator at the job site. On the other hand, once the student is trained and performing good work, he should be paid. On a smaller scale, the school coordinator could speak to service groups (Kiwanis), Chambers of Commerce, etc. to enlist their aird. It is vital that the Board of Ed. provide Workmen's Comp. insurance and that there be a contact at the school to deal with problems that may arise. A small business man may not feel he has the time to give to train someone (or can afford a supervisor's time) but if he were paid to do so, could afford it.

Why don't we have students doing some jobs at school that outside people are hired to do? Painting, electrical repairs, audio-visual repairs, etc., secretarial work. GHHS has a catering class which is a great example of career experience.

I can also see possibly having a career experience class as I have mentioned elsewhere with class time devoted to filling out job applications, interviewing, having the students go out and look for a job backed up by the school providing the insurance and a coordinator. One of my students did that at the Va hospital...he made the contact and then I went with the forms, etc.

Is there any coordination now between schools' programs already in existence which provide career experience...i.e., GHHS's catering class..are there others? A health services class has been proposed at Granada. Could woodworking classes accept jobs, electrical classes hire out students, etc? Do schools share how these classes are set up and working?"

EVALUATION OF COMPETENCY BASED WORK EXPERIENCE/EXPLORATION PROGRAM: STUDENT AND SUPERVISOR PERSPECTIVE

EVALUATION OF COMPETENCY BASED WORK EXPERIENCE/EXPLORATION PROGRAM: STUDENT AND SUPERVISOR PERSPECTIVE

I. Introduction

This project was aimed at developing and field testing 60 different competency based work experience/exploration contract models appropriate for secondary students. While the overall program was evaluated from several points of view, this evaluation effort was specifically concerned with perceptions, attitudes and beliefs about the work experience/exploration program from the student and supervisor (of the cooperative organization) points of view. Data were gathered from both participating students and supervisors before and following the work experience assignments. The use of impact measures was precluded by the short time frame of this project.

After an extensive review of the work experience literature, the following variables were selected for measurement purposes and assessed through the administration of questionnaires to students and supervisors (see Appendix I for actual questionnaires employed).

1. Student Pre-Work Experience Variables

- Standard demographic information
- Work and/or educational plans following graduation from high school
- Types of work they anticipate pursuing following formal education
- Amount and types of work experience they have had
- A rating of how helpful they thought their school learnings would be in their work experience placement and how they thought this learning would help
- A rating of how helpful they thought their experiences outside of school would be in their work experience placement and how they thought this learning would help

- How likely it would be that they would seek full time work in the same area as their placement following completion of school
- The extent to which they anticipated that their work experience placement would be enjoyable and satisfying and how it would or would not be enjoyable and satisfying
- Their perception of being prepared to hold down a full time job and why
- The extent to which they anticipated that their supervisor would be satisfied with their work and why
- What kinds of skills and knowledge they felt were necessary to perform well in their work experience placement
- The kinds of things they hoped to learn in their placement

2. Student Post-Work Experience Variables

- Work and/or educational plans following graduation from high school
- Types of work they anticipate pursuing following formal education
- A rating of how helpful they thought their school learnings were in their work experience placement and how these learnings were helpful
- A rating of how helpful they thought their experiences outside of school were in their work experience placement and how these learnings were helpful
- How likely it would be that they would seek full time work in the same area as their placement following completion of school
- The extent to which their work experience placement was enjoyable and satisfying and how it was and was not satisfying

- Their perception of being prepared to hold down a full time job and why
- The extent to which they felt their supervisor was satisfied with their work and why
- What kinds of skills and knowledge they felt were necessary to perform well in their work experience placement
- The kinds of things they learned in their work experience placement
- The extent to which they favor providing work experience programs to other students in the future
- The kinds of things that could be changed in the work experience program that would make it more valuable

3. Supervisor Pre-Work Experience Variables

- Basic demographics and job description
- Expectation of how helpful what the student has learned in school will be in their work placement experience and how it will be helpful
- Expectation of how helpful outside of school experiences will be in the student's work experience placement and how they will be helpful
- Probability of student getting a job in this work experience area upon completion of school (providing the student works out well)
- Expectation that the student's work experience will be enjoyable and satisfying and why
- Expectation of satisfaction with student's work and what will lead to satisfaction and dissatisfaction
- Skills and knowledge necessary to perform well in placement
- Kinds of things supervisor hopes to teach the student in their work experience placement
- Extent to which supervisor expects work experience placement will be helpful in preparing students to assume a full time job in the world of work

- Extent to which supervisor expects work experience program will be helpful in preparing students to assume a full time job in this specific job placement area
- Extent to which they expect the placement to be of service (1) to the student and (2) the cooperating organization
- Extent to which supervisor favors having students gain work experience with their company
- Value of work experience programs to the organization
- Reason for agreeing to participate in a work experience program
- Extent to which job will be modified to accommodate student
- Amount of supervision that will be provided to the student
- Whether there is an existing training program for new employees
- Whether or not supervisor has any reservations about participating in the work experience program

4. Supervisor Post-Work Experience Variables

- Extent to which what the student's school learnings were helpful in their performance in the work experience placement and how it was helpful
- Extent to which the student's experiences outside of school were helpful in their performance in the work experience placement and how these experiences were helpful
- Likelihood of the student being able to obtain a full time job in the area of their placement upon completion of school with either the cooperating organization or some other company

- The extent to which the supervisor believed the student's work experience was enjoyable and satisfying
- Supervisor's level of satisfaction with the student's performance
- Types of skills and knowledge learned by the student
- Extent to which the work experience was generally helpful in preparing the student to assume a full time job in the world of work
- Extent to which the work experience was helpful in preparing the student to assume a full time job in the specific job placement area
- Rating of the degree the placement experience was of a service to (1) the student and (2) the company
- Extent to which supervisor favors providing work experience opportunities to students
- Whether the company's work atmosphere is formal or informal
- Ways in which the work experience program was judged beneficial to the participating organization
- Ways in which the work experience program could be modified to make it more valuable for the organization and the participating students

II. Evaluation Methodology

The short time frame in which evaluation data could be collected coupled with the limited sample size imposed severe constraints on the type of data that could be collected for evaluat ion purposes and the development of an evaluation design.

1. Evaluation Design

The design employed as a pre-test post-test model involving both participating students and the students' immediate supervisors. (See Figure 1).

Figure 1. Evaluation Design

Pre-Test One Week Prior to Work Placement	Post-Test Immediately Following Completion of Assignment
Administer Student Questionnaire I Administer Employer Questionnaire I	Administer Student Questionnaire II Administer Employer Questionnaire II

The pre-test questionnaires were largely aimed at assessing the students' and supervisors' expectations of the work experience placement prior to actual involvement in the program (the expectancy variables for these two populations have been summarized above). The post-test questionnaires provided performance based measures of these same variables, plus recommendations for improving the work experience program and other outcome measures. Since the items paralelled one another on the pre-test and post-test for both students and supervisors, it provided for congruency measures within the student sample, supervisor sample and between these two samples.

2. Questionnaire Development and Pre-Test

The questionnaires were developed after a thorough review of the work experience literature and the grant proposal to ensure inclusion of relevant and important work experience related variables. Following

the development of these questionnaires, they were pre-tested on the pilot sample, completed questionnaires were reviewed with the pilot sample and revised according to pre-test findings.

3. Interviewer Training and Data Collection

The student sample was drawn from three different high schools in Los Angeles City Unified School District. For each school there was a work experience coordinator with responsibility for the recruitment of students and coordination of the program. To ensure the quality of the student data, these coordinators were trained to administer Student Questionnaires I and II through using a structured interview procedure. Supervisors were provided with questionnaires prior to student placement and completed them at designated times.

III. Results and Discussion

Due to the return rate of the four questionnaires administered being considerably less than anticipated (total N of 60), it was not feasible to perform certain statistical procedures such as tests of inference (calculating significance levels for various comparisons) and correlational analyses. The actual questionnaire return rate for students and supervisors is summarized in Table 1.

Table 1. Return Rate of Questionnaires

Type of Questionnaire	Number of Questionnaires Returned
Student Questionnaire I	36
Student Questionnaire II	21
Supervisor Questionnaire I	19
Supervisor Questionnaire II	8

There are also problems posed in comparability of questionnaire data across students and employers in that all four questionnaires were completed in only six instances. Consequently, evaluation results were restricted to descriptive statistics, with, in many cases, the assumption being made that differences in sample size did not affect the representativeness of the samples and introduce bias.

1. Description of the Student Sample

The student sample consisted of 36 participants with an age range between 16 years and one month and 18 years and eight months. 16 were male and 20 were female, with one student being in the 10th grade, two in the 11th grade, and 33 were in the 12th grade.

2. Student Plans Following High School Graduation

Two of the questionnaire items were directed at assessing the students' plans following high school graduation on both Student Questionnaire I (SQ I) and Student Questionnaire II (SQ II). The first item was

direct in nature and the pre and post findings are reported in Table 2.

Table 2. Student Intent After Completion of High School

Response Category	% of Response to SQ I	% of Response to SQ II
Attend school full time	50	43
Work full time	3	0
Attend school and work	47	52
Not sure	0	5

The second item tapped student plans after high school graduation more indirectly by asking students to list the types of jobs they would seek if they were planning to assume a full or part time job upon completion of high school. The findings are reported below in Table 3.

Table 3. Students Listing Jobs They Would Seek After High School

Listing of Jobs	% of Response to SQ I	% of Response to SQ II
Yes	92	76
No	8	24

The results are somewhat ambiguous, but the large majority of students (over 90 percent) clearly plan to continue their education following the completion of high school with about 50 percent intending to work at least part time following high school graduation.

Even many of those students that indicated that they planned to attend school full time appear to be considering possible job opportunities while in school since 92 percent of the sample listed jobs they might seek. However, following their work experience/exploration experience a lower percentage (76%) of students listed jobs, suggesting further crystalization of their post high school graduation plans.

3. Helpfulness of School Learning in Work Experience Placement Performance

Both students and supervisors rated the degree to which they expected school learnings would be helpful to performance in the work experience placement prior to the students starting in their assignments, and both were asked to make similar ratings upon the students' completion of their assignments. The results are summarized in Table 4.

Table 4. Ratings of Helpfulness of School Learning in Work Experience Performance Before and After Work Experience

Response Category	Percent of Response			
	Students Before	Students After	Supervisor Before	Supervisor After
Very Helpful	33	10	39	40
Fairly Helpful	28	38	9	20
Somewhat Helpful	31	29	48	20
Not Helpful	8	23	4	20

While the before and after ratings of the supervisors reflect no shift in the very helpful rating category, there was a marked shift among students with 33 percent expecting to find their school learning very helpful but only 10 percent rating it as very helpful following actual work experience. There was also a marked shift in before and after ratings of students and supervisors with respect to school learning not being helpful in the work experience placement, with a high percentage of both students and supervisors viewing school learning as less helpful in the placement

than they expected it would be. The shift among the student sample suggests that the students did acquire a better appreciation for the types of skills and knowledge required in the world of work, though they may be dissappointed in the discovery that their school experiences were not as relevant to the work environment as they anticipated.

4. Helpfulness of Outside Experience in Work Experience Performance

As with school learning, both students and supervisors rated the degree to which they expected outside of school experiences to be helpful to performance in the work experience placement prior to the students starting in their assignments, and both samples made similar a rating upon the students' completion of their assignments. These results are presented in Table 5.

Table 5. Ratings of Helpfulness of Outside of School Experiences in Work Experience Performance Before and After Work Experience

Response Category	Percent of Response			
	Students Before	Students After	Supervisors Before	Supervisors After
Very Helpful	49	20	48	12
Fairly Helpful	28	38	29	38
Somewhat Helpful	31	29	14	38
Not Helpful	8	23	9	12

These results reflect that both students and supervisors anticipated that outside of school experiences would be more helpful than they were judged to be following completion of the work experience. This finding, along with the finding in Section III, 3 indicates that the majority of the students felt considerably more prepared to assume work responsibilities than they actually were.

5. Likelihood of Students Seeking a Job in the Same Area as Their Work Experience

Students rated the likelihood of them seeking full time employment in the same field of work as they were placed both prior to starting their assignment and following its completion. Thier responses are reported in Table 6.

Table 6. Student Pre and Post Ratings of Seeking Full Time Employment in Work Experience Field

Response Category	Percent of Response	
	Before Assignment	After Completion of Assignment
Very likely	60	38
Fairly Likely	17	24
Somewhat Likely	17	10
Not Very Likely	6	28

The findings in Table 6 clearly show that a large percentage of the students changed their opinion about possibly seeking full time employment in the work experience area as a consequence of the opportunity to have some experience working in a job. It might be assumed that the work experience assignment enabled students to better assess their own needs in relation to the world of work.

6. Supervisors' Opinion Regarding Students' Ability to Obtain Employment in Work Experience Area

Supervisors rated the likelihood of students being able to obtain full time employment in the work experience area with either the cooperating organization or another company upon completion of school. These ratings are presented in Table 7.

Table 7. Supervisors' Ratings of Students' Ability to Obtain Full Time Employment in Work Experience Area

Response Category	Percent of Response			
	Before Starting Work		After Completion of Assignment	
	With Their Company	With Another Company	With Their Company	With Another Company
Very Likely	45	22	28	14
Fairly Likely	14	56	33	57
Somewhat Likely	23	22	28	29
Not Likely	18	0	11	0

These findings suggest several things. First, supervisors were more optimistic about students being able to assume or obtain work in the field before placement than following placement. Second, they also became less pessimistic about students not being likely to obtain work in the placement area following completion of assignment than prior to it. Third, the students' opportunity to participate in a work experience situation with a particular company enhances the probability that the student will be able to obtain full time employment at a later date with that company.

7. Student Satisfaction and Enjoyment with Work Experience

Both students and supervisors rated the extent to which students would find the work experience satisfying and enjoyable prior to the students starting in their assignments, and both samples made a similar rating upon the students' completion of their assignments. These results are presented in Table 8.

Table 8. Ratings of Student Satisfaction with Work Experience Before and After Work Experience by Students and Supervisors

Response Category	Percent of Response			
	Students Before	Students After	Supervisors Before	Supervisors After
Very Enjoyable	61	52	30	20
Fairly Enjoyable	36	28	43	60
Somewhat Enjoyable	3	10	22	10
Not Very Enjoyable	0	10	5	10

The findings in Table 8 reflect an interesting discrepancy between student expectations and supervisors' prediction of student degree of enjoyment. Students expected to find their work experience more enjoyable than their supervisors thought they would, and students, in fact, found it more enjoyable than their supervisors thought they did. In short, it seems that students found their work experience, on the whole, more satisfying than their supervisors realized.

8. Student Before and After Ratings of Their Preparedness To Assume Full Time Employment

Students were asked to rate the extent to which they were prepared to assume full time work prior to starting work experience assignment and following completion of their assignment. Results are summarized in Table 9.

Table 9. Student Self Rating of Degree of Preparedness to Assume Full Time Employment Before and After Work Experience

Response Category	Percent of Response	
	Before Placement	After Placement
Very Ready	36	38
Fairly Ready	39	33
Somewhat Ready	11	10
Not Very Ready	4	19

The only finding of interest is that there was a higher percentage of students realizing as a consequence of their work experience that they were relatively unprepared to enter the world of work. This is not surprising and in all likelihood a valuable realization for the students since 39 percent of them had virtually no work experience prior to participating in this program.

9. Supervisors Degree of Satisfaction with Student Performance

Both students and supervisors rated the extent to which the supervisor would be satisfied with student performance prior to the students starting in their assignments, and both samples made a similar rating upon the students completion of their assignments. The results are summarized below in Table 10.

Table 10. Ratings of Supervisors' Satisfaction with Student Performance Before and After Work Experience by Students and Supervisors

Response Category	Percent of Response			
	Students Before	Students After	Supervisors Before	Supervisors After
Very Satisfied	72	75	66	70
Fairly Satisfied	25	10	26	10
Somewhat Satisfied	0	15	4	20
Not Very Satisfied	3	0	4	0

It can be concluded from these findings that there was a high degree of congruency between both student and supervisor expectations and the outcomes, with students expecting that their supervisors would, on the whole, be satisfied with their performance and supervisors, on the whole, indicating a high degree of satisfaction with student performance.

10. Supervisors Opinion of the Usefulness of Work Experience Programs in Preparing Students to Assume Full Time Employment

Supervisors rated the degree of usefulness of work experience programs in preparing students to assume full time employment in the specific job assignment and in general prior to actual student placement and upon completion of work placement. The results are presented in Table 11.

Table 11. Supervisors' Ratings of Work Experience Program in Preparing Students for Full Time Employment in General and for Specific Assignment

Response Category	Percent of Response			
	General Work Preparation		Preparation in Placement Area	
	Before	After	Before	After
Very High	23	30	33	60
Fairly High	32	50	33	30
Somewhat High	45	20	10	10
Low	0	0	24	0

These findings clearly indicate that the supervisors were of the opinion that the work experience was considerably more valuable in preparing students to assume full time employment (general and specific work preparation) than they had anticipated prior to the students entry into the work experience assignment.

11. Extent to Which Work Experience Program is of Service to the Student and Cooperating Organization

Supervisors rated the extent to which they thought the work experience program would be of service to participating students and their company prior to student assignment and upon completion of the assignment. The results are presented in Table 12.

Table 12. Supervisors' Ratings of the Service of Work Experience Program to Students and Their Organization

Response Category	Percent of Response			
	Service to Student		Service to Organization	
	Before	After	Before	After
Very High	19	72	29	86
High	57	14	29	0
Average	19	14	24	14
Low	5	0	14	0
Very Low	0	0	4	0

In examining the before and after rating of supervisors for the very high response category, it must be concluded that inspite of the supervisors initial opinion being guarded about the program having an extremely high degree of value to both students and their company, most supervisors were of the opinion following the student assignments that this program was extremely beneficial for both the student and their company.

12. Student and Supervisor Opinion of the Value of Providing Work Experience to Other Students In the Future

Supervisors were asked to rate the extent to which they favored work experience programs prior to student assignment and following completion of work experience assignment. Students were asked following the completion of their assignment the extent to which they favored such a program. These findings are summarized below in Table 13.

Table 13. Supervisor and Student Ratings on Value of Work Experience Program

Response Category	Percent of Response		
	Students	Supervisors	
	After	Before	After
Very Strongly in Favor	81	52	80
Somewhat in Favor	19	38	10
Mildly Opposed	0	5	10
Very Opposed	0	5	0

These findings show that the overwhelming majority of students (81 percent) and supervisors (80 percent) are very strongly in favor of the work experience program after having participated in it. It is also noteworthy that supervisors clearly showed a marked shift in the direction of being very strongly in favor of the program following participation in it.

13. Supervisors' Ratings of How the Work Experience Program Benefited Their Company

Supervisors responsed to four items by answering "yes," "no," or "no opinion" with respect to how the work experience program benefited their company. These responses are summarized below:

		Yes	No	No Opinion
1.	Recruited new personnel	25%	50%	25%
2.	Attained closer contacts and communication with academic institutions	63%	25%	12%
3.	Provided opportunity to screen trainees, leading to a reduction in employee turnover	0%	50%	50%
4.	Released other employees from the more basic work tasks	38%	38%	24%

Thus, supervisors felt that the primary value to their company was the opportunity to attain closer contact and communication with academic institutions. Next most beneficial was that the students freed up other employees from more basic tasks. Thirdly, it provided the company with an opportunity to recruit permanent personnel.

14. Student and Supervisors' Recommendations on How Work Experience Program Might Be Modified to Make it Even More Valuable to Participating Students and Companies

Students listed ways in which the program could be improved. Their recommendations ranked in terms of the frequency of times mentioned were as follows:

- Provide students with a wider range of exposure to different job activities in the work experience placement

- Students should receive some pay or the opportunity secure a job with the company in which they are placed
- The school should provide them with better preparation for the job prior to be placed
- The work experience program should be longer in duration so they have a greater work experience opportunity
- The school should arrange it so their schedule is more flexible, perhaps through providing them with credit for the work experience which would lighten their academic schedule
- The students felt that recruitment should include a broader range of students, rather than favoring honor students for inclusion

The participating supervisors indicated that the following changes would improve the program:

- The program should be longer in duration so they could provide the students with a broader range of experiences
- The school should do a more thorough job of preparing the students for the work experience responsibilities
- They should be provided with greater background information on the student such as a brief resume
- There should be ongoing consultation between the school counselors and the supervisor during the students' placement

By and large, the students and supervisors are in agreement on how to improve the program, especially with regard to the issues of better preparing the students for their assignments and extending the length of the program so that the students could be exposed to a broader range of work experiences in their placement.

IV. Summary of Evaluation Findings

1. Students saw school learning as less helpful in work experience placement than they anticipated it would be. To a lesser extent, supervisors viewed the usefulness of school learning similar to the students.

2. Both students and supervisors found experiences outside of the school context as less helpful in job performance than they anticipated.

3. As a consequence of their work experience placement, a high percentage of students decided that they would not seek a job in the same area as they were placed, suggesting that the work experience enabled students to better assess their own needs in relation to the world of work.

4. Supervisors were more optimistic about students being able to obtain work in their area of placement experience after their experience with the students than before students were placed.

5. Students expected to find their work experiences more enjoyable than their supervisors thought they would, and the students found them more enjoyable than their supervisors thought they did.

6. A higher percentage of students realized as a consequence of their work experience that they were less prepared to enter the world of work than they thought they were before the work experience.

7. On the whole, supervisors of cooperating organizations were very satisfied with the students' job performance.

8. Supervisors were of the opinion that the work experience was considerably more valuable in preparing students for the world of work than they had anticipated it would be prior to the students' entry into the work experience assignment.

9. Inspite of the supervisors' initial opinion being guarded about the program having an extremely high degree of value to both the students and their company, most supervisors were of the opinion following the student assignments that this program was extremely beneficial for both the students (72 percent) and their company (86 percent).

10. Eighty percent of the supervisors indicated that they were very strongly in favor of the work experience program after being involved in it, while only 52 percent were very strongly in favor of it prior to involvement.

11. Eighty-one percent of the students were very strongly in favor of the work experience program.

12. Supervisors indicated that the major value of the program resided in the opportunity to attain close contact and communication with academic institutions.

13. Both students and supervisors of cooperating companies indicated that the program would be more effective if (1) the school did a better job of preparing the students for their placement and (2) by extending the length of the program so that the students could be exposed to a broader range of work experiences in their placement.

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ABSTRACT: THE THIRD PARTY EVALUATION WAS CONCERNED WITH BOTH PROCESS AND PRODUCT EVALUATION. BASED ON SITE VISITATIONS, SUMMARY REPORTS ARE PRESENTED OF PROCESS EVALUATIONS OF THE CAREER GUIDANCE, JOB PLACEMENT, AND WORK EXPERIENCE PROGRAMS, AND THE CURRICULUM MATERIALS FOR THE INDUSTRIAL COOPERATIVE TRAINING PROGRAMS. THE PRODUCT EVALUATION ENTAILED THE ADMINISTRATION OF THE MINNESOTA VOCATIONAL INTEREST INVENTORY AND THE TENNESSEE SELF-CONCEPT SCALE AS PRETESTS AND POSTTESTS TO EXPERIMENTAL AND CONTROL GROUPS OF STUDENTS. RESULTS OF THE ANALYSIS OF TEST SCORES ARE DISPLAYED IN TABLES. ALSO PRESENTED ARE RESULTS OF A FOLLOWUP SURVEY OF 196 GRADUATES OF THE FIVE HIGH SCHOOLS. MAJOR CONCLUSIONS ARE THAT THE OBJECTIVE OF ESTABLISHING A COMPREHENSIVE CAREER GUIDANCE AND JOB PLACEMENT PROGRAM HAS BEEN ATTAINED, THE OBJECTIVE OF ESTABLISHING A MODEL WORK EXPERIENCE IN TEXTILES AND FURNITURE MANUFACTURING HAS BEEN INITIATED AND IS UNDERWAY, AND PROGRESS ON THE LEARNING ACTIVITY PACKAGES HAS BEEN EXCELLENT. THE INCREASE AND DECREASE OF STUDENT INTEREST IN OCCUPATIONAL FIELDS AS A RESULT OF PROGRAM PARTICIPATION IS SUMMARIZED. APPENDED ARE THE EVALUATION CONTRACT, INSTRUMENTS USED FOR PROCESS EVALUATION, THE OCCUPATIONAL SURVEY QUESTIONNAIRE, AND A DESCRIPTION AND ANALYSIS OF THE DROPOUT IDENTIFICATION SYSTEM. INADEQUATE READING ABILITY WAS FOUND TO BE THE SINGLE GREATEST CONTRIBUTOR TO DROPOUT POTENTIALITY. (RG)

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A SUMMATIVE EVALUATION REPORT OF THE CALDWELL COUNTY GUIDANCE ORIENTED ALTERNATIVE WORK EXPERIENCE PROGRAM

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A SUMMATIVE EVALUATION REPORT OF THE CALDWELL COUNTY GUIDANCE ORIENTED ALTERNATIVE WORK EXPERIENCE PROGRAM

Ron Tuttle

College of Learning and Human Development
Appalachian State University

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During September, 1974, Mr. Bill Stone, Director of the Caldwell County Guidance Oriented Alternative Work Experience Program, contacted Dr. Ron Tuttle concerning the possibility of Appalachian State University's serving as a third party evaluator of the above mentioned program. During the next several weeks joint meetings were held between officials of Appalachian State University and the Caldwell County Guidance Oriented Alternative Work Experience Program for the purpose of drawing up an evaluation contract between the two agencies. Attending these meetings along with Mr. Stone and Dr. Tuttle were Mrs. Marty Barnes, Career Counselor for the Caldwell County Program; Dr. Gerald Bolick, Director of the Division of Community and Regional Services at Appalachian State University, and Ms. Ellen Walters, a coordinator in the Division of Community and Regional Services at A.S.U. A contractual agreement between Appalachian State University and the Caldwell County Board of Education was made and entered into on October 17, 1974. This agreement called for a third party evaluation of the Caldwell County Guidance Oriented Alternative Work Experience Program by A.S.U. A copy of this contract is contained in Appendix A of this report.

Dr. Ron Tuttle, Associate Professor in the Department of Counselor Education and Research at A.S.U., was named in the contract as evaluator of the Caldwell County program. Dr. Tuttle, Mr. Stone, and Mrs. Barnes met frequently throughout 1974 and 1975 to plan and execute the evaluation of the Guidance Oriented Alternative Work Experience Program.

OBJECTIVES OF THE GUIDANCE ORIENTED ALTERNATIVE WORK EXPERIENCE PROGRAM

The primary purpose of the project is to research a program designed to alleviate and overcome:

(1) Lack of communication between industries, businesses, and the public schools concerning needed changes in vocational-occupational training.

(2) High percentage of students trained in our schools in traditional occupational programs who do not remain on those jobs after graduation.

(3) Lack of adequate placement programs for students.

(4) Lack of a training curriculum developed by industry and public schools in the area of textile and furniture manufacturing for industrial cooperative training programs.

These problems are common to many areas of the nation. The project expects to accomplish the following benefits to deal with the above problems:

(1) Development of comprehensive career guidance programs within the county high schools.

(2) Establishment of a model county-wide job placement program to serve high school students in Caldwell County.

(3) Development of work experience programs in the area of textile and furniture manufacturing that will reduce requirements for more and more expensive occupational laboratories within our schools.

(4) Development of an individualized curriculum for industrial cooperative training classes.

This report will evaluate the following:

(1) The extent to which a comprehensive career guidance program has been developed within Caldwell County High Schools.

(2) The extent to which a model job placement program has been implemented to serve all high school students within the Caldwell County School System.

(3) The extent to which model work experience programs have been established in the areas of textile and furniture manufacturing that will provide both the skill, development, and job climate necessary to achieve and maintain meaningful employment in local industries.

(4) The extent to which a follow-up study of the work experience students, regular I. C. T. students who were randomly selected in the control groups, and all 1974-75 high school graduates of Caldwell County Schools has been established in order to determine the success of these people in terms of salary, job mobility, etc.

PROCESS EVALUATION

Procedure

During February, 1975, a third-party visitation team was chosen. This team included expert educators in the fields of job placement, career guidance, and work experience programs and was made up of the following persons:

Career Guidance and Job Placement

(1) Ms. Joann Horton, Assistant Director, Placement and Career Development, Appalachian State University, Boone, North Carolina.

(2) Dr. Ed Harrill, Associate Dean, College of Learning and Human Development, Appalachian State University, Boone, North Carolina. (Dr. Harrill is also Professor of Counselor Education at A.S.U.)

Work Experience Programs

(1) Mr. Claude F. Eldridge, Director, Occupational Education, Surry County Schools, Dobson, North Carolina.

(2) Mr. Arnold Lingle, Director, Occupational Education, Rowan County Schools, Salisbury, North Carolina.

(3) Mr. Al Stuckey, I.C.T. Coordinator, Hickory High School, Hickory, North Carolina.

During March, 1975, the members of this evaluation team were contacted to confirm the date of April 16, 1975 as the day for their visitation. During early April each member of the team was sent an information packet containing the following:

(1) A cover letter

(2) A schedule of the day's activities for the visitation on April 16, 1975 (See Appendix B)

(3) Brief descriptions of the program (See Appendix C and pages 1-5 of the evaluation proposal in Appendix A)

(4) Evaluation forms to be used in evaluating career guidance and job placement (Appendix D) and work experience (Appendix E)

On April 16, 1975, the visitation committee spent the day visiting the Caldwell County Guidance Oriented Alternative Work Experience Program generally following the schedule mentioned earlier. At the close of the day, the committee met as a group and issued the following overall evaluation of the program.

On-Site Third Party Evaluation Summary

of

The Guidance Oriented Alternative Work Experience Project

April 16, 1975

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OVERVIEW

The Administration of Caldwell County is aware of the career guidance needs of students in the county and had the foresight to attempt to meet them by developing this project. After funding, the selection of personnel was excellent in that they brought strengths to the program.

I. Strengths

A. Rapport between coordinators and industry and business is excellent.

B. Rapport between guidance personnel and central administration is good.

C. Administrators (principals) were supportive.

D. Progress on Learning Activity Packages to date has been excellent and should continue.

E. Placement program has positively affected student body - lowered attrition rate and created more positive attitudes for many.

F. The co-operation between school, advisory committee, staff, students, and business and industry is to be commended for their articulation of LAPS and training plans.

II. Weaknesses

The evaluation team is aware that the depressed economy has weakened the goals of the project.

A. Communication and dissemination of details of project is lacking within the school and the community.

B. Late initiation of the project contributed to guidance weaknesses, and enrollment difficulties for the target population during the 1974-75 academic year.

C. Lack of communication between industrial supervisors and student-learners.

D. Underutilization of some Industrial Cooperative Training personnel.

III. Recommendations

A. Administration should continue to support objectives of the project in order that it may be adequately researched and evaluated.

B. Local funds should be provided to ensure continued maintenance of instructional personnel.

C. The Placement Coordinators position should be extended from 10 months to 12 months. Each of the 3 proposed high schools should have one placement coordinator.

D. Continue the development and field testing of Learning Activity Packages and other curriculum materials.

E. Business and industry should be made aware of the limitations of a federal project.

F. The administration should consider the need for additional instructional materials.

Each of the members of the third-party evaluation team was also asked to complete an individual evaluation of the Guidance Oriented Alternative Work Experience Program. Members of the job placement and career guidance team completed the form found in Appendix D, and the members of the work experience team completed the form found in Appendix F. These evaluations were later mailed to the program evaluator and the results are summarized below.

Career Guidance and Job Placement

The questions and the responses of the committee were as follows:

1. One of the objectives of the Guidance Oriented Alternative Work Experience Project is the development of a comprehensive career guidance program in the Caldwell County high schools. To what extent has this objective been met?

   (a) A comprehensive Career Guidance program has been instituted in all five high schools in Caldwell County. A guidance coordinator has been employed by the school system; and as a result, a battery of materials has been developed for use within the schools in determining student needs, providing adequate information regarding agencies, testing materials available, developing education orientation packages as well as providing an opportunity for students to interact with persons in varied work areas. There is a high level of involvement by students, teacher-counselors, and principals.

   (b) From my vantage point in talking with the guidance counselors, there is awareness of the work which Mr. Duncan is doing in the area of Placement. There is also a repeated expression of appreciation of Mr. Duncan's time and talent, along with a desire that a placement counselor be at least twice that of Mr. Duncan now in the respective schools. Furthermore, there is expressed "relief" from the guidance counselors in that they have more time to do some of the other guidance functions other than placement. In these ways Objective I has been met.

2. What are the greatest strengths or most notable features of the career guidance program?

(a) Rapport between guidance personnel and central administration. Students have exhibited a high level of interest in career guidance.

(b) The excellent development of Learning Activity Packages (LAPS).

(c) The personality of Mr. Duncan.

(d) The thoroughness with which Mr. Duncan has worked with industries.

(e) The up-to-date knowledge that Mr. Duncan has and shares with guidance counselors regarding the local labor market.

(f) The overall acceptance of the placement service by the schools, the industries and seemingly the entire community.

(g) The statistical reporting which Mr. Duncan does to the various groups concerned.

(h) Decrease in high school drop-outs.

(i) Coordination with other groups such as 4-H clubs in the county.

3. What are the weakest or least adequate features of the career guidance program?

(a) Guidance weaknesses due to late initiation of the project along with enrollment difficulties for the target group for the 1974-75 academic year.

(b) Lack of total communication among guidance counselors and school personnel for implementing the goals and strategies of the entire project; this weakness comes despite numerous efforts of the central office.

(c) Lack of personnel; one half the number of schools which Mr. Duncan has would be more realistic.

(d) Lack of time for Mrs. Barnes to work in a greater liason capacity for the county.

(e) Lack of understanding by the respective faculties of the project and their involvement in the referral method.

4. What recommendations or changes would you suggest for the career guidance program?

   (a) Administration should continue program in order for it to be most effective.

   (b) The development of Learning Activity Packages should be continued and tested in order to ascertain their effectiveness.

   (c) More information should be circulated among the administrators and guidance personnel throughout the newly consolidated system.

   (d) The good work begun with the test results should be continued in the areas of special abilities tests such as the DAT and achievement tests.

   (e) Plans should be made with counselors, project personnel and curriculum personnel for implementing changes in curriculum based upon tests and other empirical results.

5. Other comments or observations about the career guidance program.

   (a) There is a need for some specialized career guidance for persons who are returning to school or who have special problems. Group meetings between staff involved would promote more dissemination and articulation of careers information.

   (b) There should be regularly scheduled county-wide guidance meetings, say every six weeks, for the purpose of disseminating information, engaging in county-wide planning, and improving articulation.

   (c) All guidance counselors should be encouraged either to use and/or learn skills which enable them to implement more group activities.

   (d) Each guidance counselor should be encouraged to submit a written proposal to the county office specifying strategies he/she would like to use to get more involvement of faculty and students in career and self exploration planning; Dr. Tuttle may assist in devising an evaluation methodology for next year's work.

   (e) A thorough in-house and third party evaluation of guidance programming, planning, staffing, and co-ordinating should be undertaken next year (1975-76) so as to include benefits

in the building, planning and personnel selection for the new schools which will merge within the next few years.

6. Another objective of the Guidance Oriented Alternative Work Experience Project is the implementation of a model job placement program to serve all high school students within the Caldwell County School System. To what extent has this objective been met?

   (a) A skeletal job placement program has been instituted in Caldwell County Schools with all five high schools involved. It appears that the program has served both the school and the community well. The program is highly successful in that the guidance personnel are committed to educating for careers. A number of businesses have been involved, and the placement coordinator keeps abreast of all openings, conducts interviews, makes referrals, and has periodic conferences with principals and teachers. A booklet entitled "Guide to Getting a Job" is in process. A major part of the work is being contributed by students whose involvement is growing.

   (b) I feel this objective has been well met.

7. What are the greatest strengths or most notable features of the job placement program?

   (a) The experience of the placement coordinator is a strong element in the success of the program.

   (b) Working relationship of placement coordinator and guidance personnel is good.

   (c) There is a high level of student interest and participation.

   (d) A lower attrition rate and creation of more positive attitudes toward school and work is evident.

   (e) This program is a positive link between the school and the community.

   (f) Rapport between coordinators, business, and industry is excellent.

   (g) The number of students placed in jobs has been commendable although the economic conditions are very poor in Caldwell County.

8. What are the weakest or least adequate features of the job placement program?

   (a) At the current time, the placement coordinator spends only one day per week at each school; it is evident that there is interest in and need for another placement person.

   (b) There were possibilities for detection of subtle discrimination in regard to sex (no woman in horticulture, e.g.) race and socio-economic status in film.

   (c) There was little communicated information to evaluators of how placement service assists in extending itself beyond parochialism.

9. What recommendations or changes would you suggest for the job placement program?

   (a) Program should be expanded to two placement coordinators in order to better serve the student clientele. In addition, the placement coordinator's position should be extended from 10 months to 12 months.

   (b) Each of the proposed new high schools should have one placement coordinator.

   (c) Some out-of-county exploration trips should be taken for the following purposes: to gain more and broader information, to provide broader bases for decision-making and to find new ways to explore, in depth or on an individual basis, vocations such as herpetologist, forest ranger, seismologist, e.g.

   (d) That State Department personnel should be utilized more in assisting with information dissemination.

10. Other comments or observations about the job placement program.

   (a) There is a need for a systematic follow-up in order to ascertain how many students remain in positions after graduation.

   (b) This is a good project, one worthy of publicizing. It is recommended that you now concentrate on refining the "model" concept via your overall objectives and specific strategies, all produced material, written and otherwise, and demonstrations which you could have and encourage outsiders "to come to see us and learn."

Work Experience Programs

The questions and the responses of the committee were as follows:

1. One of the objectives of the Guidance Oriented Alternative Work Experience Program is to establish model work experience programs in the areas of textiles and furniture manufacturing that will provide both the skill, development, and job climate necessary to achieve and maintain meaningful employment in local industries. To what extent has this objective been met?

   (a) Progress toward this objective was initiated and well under way as the 1974-75 school year began. However, since the beginning of the project the economic conditions in Caldwell County have turned from practically no unemployment to nearly 25% unemployment as of April, 1975.

   (b) The program is well planned and the extent of progress to meet this objective will most surely accelerate as economic conditions improve. It is a sound program with excellent administration.

   (c) The objectives of the guidance oriented work experience in the furniture manufacturing program is definitely being met. The model program has been initiated and is functioning properly and according to plans.

   (d) The model program is designed so that students are receiving skill development within an atmosphere conducive to a good training situation, being on the job. The training situation is within the furniture establishment, and the students are receiving remuneration for their service.

   (e) The job climate is such that the students are happy and realizing success. This is very important at this stage of their educational development.

   (f) Considering the limitations imposed upon the program by the late funding and the subsequent drastic reduction of the local industrial economy, it is evident that this objective has been met to a substantial degree.

   (g) The administrative personnel of the secondary school system of Caldwell County, North Carolina, appear to have an insight and awareness of the career needs of the students. They have selected capable personnel to head this work experience program and have given those personnel support and the necessary freedom in their actions to implement the program requirements.

2. What are the greatest strengths or most notable features of the alternative work experience program?

   (a) Administrative staff is well organized and functioning well.

   (b) There is excellent rapport between coordinators, business and industry.

   (c) Progress on Learning Activity Packages to date has been excellent.

   (d) Placement program has positively affected student body.

   (e) Attrition rate has been lowered and more positive attitudes have been developed.

   (f) The cooperation between school, advisory committee, staff, students and industry is good.

   (g) Program has contributed to improved cooperation between industries.

   (h) In times of normal and high production, this program provides an excellent source of employment.

   (i) The leaders of the program are aware of the needs of these students and care about them.

   (j) The leaders of the program have involved the community and home in an educational partnership.

   (k) Management is participating for various reasons such as: long-range skills, happy employee, involvement the community and school.

   (l) The school administration is aware of the needs of these students beyond the regular curriculum.

   (m) Student attitudes have improved.

   (n) Student personal image has improved.

   (o) Students are appreciative.

   (p) The two Industrial Cooperative Training teacher-coordinators are enthusiastic.

(q) The Textile Advisory Committee has cooperated and offered positive assistance.

(r) There is rapport between coordinator (textile) and industrial supervisor.

(s) A good relationship appears to exist between the guidance personnel and the central administrative personnel.

(t) The principal of Granite Falls High School, where the textile program was instituted, has given his cooperation and support.

(u) Some excellent training station situations for future on-the-job training of student-learners have been established.

(v) Hazardous occupation guidelines have been established for use in student employment in the local textile industry (previously these had varied from plant to plant).

(w) Specific vocational guidance has been promoted within the school system.

3. What are the weakest or least adequate features of the alternative work experience program?

(a) The depressed economy has been the greatest detaining factor on the progress of the program.

(b) There has been under-utilization of some ICT personnel.

(c) There has been a lack of communication among all teachers within the school concerning the needs of students having problems either physically, socially, mentally or educationally.

(d) The late funding of the program prevented the proper student testing, guidance, and selection, thus hampering the placement and retention of students on the job.

(e) Industrial Cooperative Training teacher-coordinators appeared to need more help in preparing training plans for students.

(f) A major weakness, potentially, is the possibility of a cut in funding for the subsequent year, which would leave the programs with inadequate support.

(g) The interest test given the pre-high schoolers, as well as some of the other tests administered, did not appear to meet the needs of the local students or the local industry; categories were too general in nature.

(h) Some on-the-job supervisors did not understand cooperative work program or communicate well with the student-learner.

4. What recommendations or changes would you suggest for the alternative work experience program?

(a) Extensive guidance and screening should be conducted in the spring of 1975 for the 1975-76 academic year.

(b) Each of the three proposed high schools should have a placement coordinator.

(c) The need for additional instructional materials and equipment should be considered.

(d) The development and field testing of LAPS and other curriculum materials should be continued.

(e) An extra hour of in-school experiences should be provided for certain trainees who are unemployed due to present economy.

(f) The school administration and industry should continue to support this program and other similar programs in order to give students an opportunity to achieve success under actual live training situation.

(g) The program should provide coordinating personnel on a full time basis year round. (This type of student has problems in the summer on the job, as well as during the school term.)

(h) This program needs individualized instructional materials.

(i) Industry needs to provide opportunities for more students.

(j) The activities of this program should be publicized within the school, newspaper, radio and T.V.

(k) An Industrial Cooperative Training program is needed in this school.

(l) Administration should insure that student recruitment, testing, counseling and selection be made at an early date and that the teacher-coordinator be permitted final approval on selections; that specific criteria be used as basis for selections.

(m) Personnel should be used to provide more help at the actual teaching level.

(n) Administration should make every attempt possible to obtain local "matching" funding sufficient to maintain the program at its first year level and/or advise local industry of the limitations of a federally sponsored program.

(o) Research and evaluation of testing procedures should be continued.

(p) Advisory committees should be asked to formulate better methods for orientation of supervisors of working student-learners, perhaps through talks by the coordinator-teachers.

5. Other comments or observations about the alternative work experience program.

(a) Business and industry should be kept aware of the limitations of a federal project.

(b) Local funds should be provided to ensure continued maintenance of instructional personnel.

(c) Administration should continue to support objectives of the program in order that it may be adequately researched and evaluated.

(d) Comprehensive career guidance programs in the high schools should be developed.

(e) The ICT program is a valuable asset to local industries. Efforts should be continued to articulate information on this program between staff, students and industrial leaders so that the potential value of the program will be fully realized and utilized.

(f) The alternative furniture work experience program is a tremendous boost to the educational curriculum. Other educational units should initiate a program of this nature or similiar nature in order to meet the needs of many

students who are not mentally, physically, socially, emotionally or economically able or prepared to meet the demands of our present system of education.

(g) This program obviously has been well supervised and effectively operated. It has accomplished many of its objectives in spite of two major but unavoidable handicaps--the late start and the severe recession. The latter, particularly, has adversely affected the student placement and on-the-job training. It has, however, benefitted one aspect of the program--the assimilation and writing of LAPS, training plans and other teaching materials. Without the time made available by student unemployment, the cooperative work teacher-coordinators would not have been able to accomplish the fine work in this area that they did.

6. The Guidance Oriented Alternative Work Experience Project has developed learning activities packages for the Industrial Cooperative Training curriculum. What is your evaluation of these curriculum materials?

(a) The staff involved in the development of Learning Activity Packages are commended for the progress made at this point in time.

(b) The job description sheets for textiles are seemingly helpful and serve as good instructional aids in the ICT program.

(c) The implementation process of using LAPS seems to be well administered by the staff.

(d) The guidance oriented alternative furniture work experience learning activities packages which have been developed are good. The long range objectives of the classroom portion of the program is very realistic. In order to meet the needs of the students training on the job there is a definite need for classroom activities. Learning certain economical phases of the job will make training more enjoyable and profitable.

(e) This is probably one of the weakest areas in most Industrial Cooperative Training programs--the shortage of teaching materials, especially trade related, and adequate training

plans. I feel the development of teaching materials and training plans in two industrial areas, textiles and furniture, is the strongest asset of this pilot program and that the results obtained, provided the program is permitted to continue for three years, will be of great benefit to all ICT programs where textile and furniture employment is available.

7. What are the most outstanding or notable features of the ICT curriculum materials?

   (a) Much enthusiasm is exhibited by the staff in the development and in the use of the LAPS.

   (b) The students have a choice of materials in their areas of interest.

   (c) Materials on specific job descriptions and training plans were jointly developed by industry representatives, students, and staff.

   (d) Curriculum materials are readily available for student use.

   (e) Rapport between the ICT coordinators and media staff is evidenced by the various learning experiences set up in the curriculum materials.

   (f) The planning and organization of the curriculum is good.

   (g) Industry and the community were involved in developing the guides.

   (h) The format is simple and yet workable in learning situations.

   (i) An advisory committee was established to help with technical information.

   (j) Training plans in textiles (furniture not seen) appeared to be well organized, complete and encompassing most of the possible textile training positions.

   (k) Learning activities packets appeared to be practical, comprehensive and written at the potential student level of understanding.

8. What are the weakest or least adequate features of the ICT curriculum materials?

   (a) The materials need to be expanded as time and funds will allow.

   (b) Materials are not as much help to students this academic year since the LAPS and other aids have been in the developmental stage.

   (c) The greatest need is seemingly in the area of "hardware" and "software" to reinforce the effectiveness of the LAPS material. Items such as tape cassettes, film strips, sound viewers, and other audio visuals would be extremely helpful to some students and very supplemental to the learning activities of every ICT student.

   (d) There is a lack of resource materials to develop guides (LAP).

   (e) There is a lack of time and personnel to develop the guide.

   (f) There is a lack of secretarial help in locating resource material and printing.

   (g) Some of the materials used appeared to be more fitting for an exploratory level student; these were principally purchased materials.

9. What recommendations or changes do you suggest for the ICT curriculum materials?

   (a) LAPS should be up-dated as the need arises and new trends develop.

   (b) Students and industrial representatives should be involved as much as possible in the process of continual evaluation and reassessment of LAPS activities and written content.

   (c) The LAPS approach should be reinforced by including more "hands-on activities," "hardware" and "software" in the learning package units.

   (d) Periodic conferences with previous and present instructors should be held to prevent undue overlapping of some materials.

(e) The staff should continue to develop the learning activity packages as rapidly as possible to insure students a thorough knowledge of the job tasks.

(f) The administration should purchase resource materials needed to develop LAPS.

(g) The administration should budget funds to enable technical writers to publish materials written.

(h) The administration should budget funds to employ the ICT coordinator on 12-month basis in order to further develop LAPS and follow-up students during the summer months.

(i) The staff should survey the ICT programs state wide for possible resource materials already developed along these same lines.

(j) The administration should continue to develop new materials.

(k) More emphasis should be placed on guidance personnel or aides to assist in developing general related and trade related materials.

10. Other comments or observations concerning the ICT curriculum materials.

(a) A more comprehensive selection of LAPS will (should) be available next year if present progress continues.

(b) The progress on LAPS has been excellent. It is hoped that this material can be made available to other school units in North Carolina.

(c) The cooperation between school, advisory committees, staff, students and industry is to be commended for their articulation of LAPS and training plans.

(d) My personal view of the entire Guidance Oriented Alternative Work Experience Project is that the program is great and the Caldwell County School System is doing a great job of meeting the needs of students that have been left behind for so long. Yet, these students will be our next door neighbors, our clerks in our stores, the mechanics who repair our cars, the ones who will build and wire our homes, protect our homes against fire and burglars, etc. The Caldwell County School

System has recognized the student who isn't motivated to pursue an education beyond the secondary level and who plays an important part in our community. These are the people who keep the wheels turning and provide the goods and service for a happy and prosperous community.

(e) These materials are a most important phase of this program.

(f) It is hoped that materials developed will be evaluated and disseminated to appropriate states and areas.

PRODUCT EVALUATION

Procedure

During October, 1974, the experimental and control groups for the evaluation were chosen and tested. The students participating in the Guidance Oriented Alternative Work Experience Program at Lenoir and Granite Falls High Schools comprised the experimental group. The control group was selected by securing the names of all students working in furniture and textile related jobs enrolled in regular industrial cooperative training classes from the four high schools where these programs existed. The number of available subjects in furniture totaled fifty-nine. In order to have each school represented, the only two furniture ICT students at Hibriten High School were automatically selected along with twenty other furniture ICT students selected at random from the remaining total of fifty-seven. Thus, twenty-two regular ICT furniture students were chosen to correspond to the twenty-two participants enrolled in the Guidance Oriented Alternative Work Experience Program in furniture at Lenoir High School.

The number of available subjects in textiles was forty-two. Again, in order that each school be represented, two of the four textile ICT students

at Hibriten High School were selected at random as well as two from the five textile ICT students at Gamewell-Collettsville High School. The remaining twenty-two subjects were chosen at random from the remaining textile ICT subject pool. Again, twenty-six textile students were randomly chosen to correspond to the twenty-six students participating in the Alternative Work Experience Program in textiles at Granite Falls High School. The final make-up of the control group by school may be found in Table I.

During October, 1974, both the experimental and control groups were administered the Minnesota Vocational Interest Inventory (MVII) and the Tennessee Self Concept Scale (TSCS). During May, 1975, the post-testing of the experimental and control groups was carried out. Several experimental and control subjects were lost in the post-testing for various reasons. Tables I, II, III, and IV present a summary of these reasons and the number of subjects tested in each of the groups.

TABLE I. SUMMARY OF THE NUMBER OF SUBJECTS PER CELL FOR THE ANALYSIS OF THE DATA.

	Pre-Test		Post-Test	
	MVII	TSCS	MVII	TSCS
Experimental Group				
Lenoir High School	20	20	9	11
Granite Falls High School	23	23	16	18
Total Number	43	43	25	29
Control Group				
Gamewell-Collettsville High School	11	11	8	9
Hibriten High School	5	5	3	3
Granite Falls High School	13	13	13	13
Hudson High School	19	19	16	16
Total Number	48	48	40	41
Total Number of Subjects	91	91	65	70

TABLE II. A SUMMARY OF THE DISPOSITION OF SUBJECTS FROM THE LENOIR HIGH SCHOOL FURNITURE PROGRAM USED IN THE EXPERIMENTAL GROUP ANALYSIS OF DATA.

Subject	Employed During Pre-Test	Post-Test		Employed During Post-Test
		MVII	TSCS	
1	**	no	no	no
2	yes	yes	yes	no
3	yes	**	**	no
4	yes	no	no	no
5	yes	yes	yes	no
6	yes	no	yes	*
7	yes	no	yes	yes
8	***	no	no	no
9	yes	no	yes	yes
10	yes	yes	yes	yes
11	yes	yes	no	yes
12	yes	yes	no	****
13	yes	yes	yes	yes
14	yes	yes	yes	yes
15	yes	**	**	no
16	yes	no	yes	no
17	yes	yes	yes	no
18	yes	**	**	no
19	yes	**	**	no
20	yes	**	**	no
21	yes	**	**	no
22	yes	yes	yes	*

* Rehired elsewhere but not in furniture or textiles
** Dropped
*** Refused to take tests
**** Fired

TABLE III. A SUMMARY OF THE DISPOSITION OF SUBJECTS FROM THE GRANITE FALLS TEXTILE PROGRAM USED IN THE EXPERIMENTAL GROUP ANALYSIS OF DATA.

Subject	Employed During Pre-Test	Post-Test		Employed During Post-Test
		MVII	TSCS	
23	yes	yes	yes	yes
24	yes	**	**	no
25	yes	**	**	no
26	no	**	**	no
27	yes	**	**	no
28	no	no	yes	*
29	yes	yes	yes	*
30	yes	yes	yes	yes
31	yes	yes	yes	yes
32	no	yes	yes	no
33	yes	yes	yes	yes
34	yes	yes	yes	yes
35	yes	**	**	no
36	yes	yes	yes	yes
37	yes	no	no	*
38	yes	yes	yes	yes
39	yes	no	yes	no
40	yes	yes	yes	yes
41	yes	yes	yes	no
42	yes	yes	yes	*
43	yes	no	no	no
44	yes	yes	yes	no
45	no	**	**	*
46	no	yes	yes	no
47	no	yes	yes	no
48	yes	yes	yes	yes

* Rehired elsewhere but not in furniture or textiles
** Dropped
*** Refused to take tests
**** Fired

TABLE IV. A SUMMARY OF THE DISPOSITION OF SUBJECTS USED IN THE CONTROL GROUP ANALYSIS OF DATA.

Subject	Employed During Pre-Test	Post-Test MVII	Post-Test TSCS	Employed During Post-Test
	Gamewell-Collettsville High School			
49	yes	yes	yes	yes
50	yes	**	**	no
51	yes	yes	yes	yes
52	yes	yes	yes	no
53	yes	yes	yes	yes
54	yes	yes	yes	yes
55	yes	yes	yes	no
56	yes	**	**	no
57	yes	yes	yes	yes
58	yes	yes	yes	yes
59	yes	no	yes	yes
	Hibriten High School			
60	yes	**	**	no
61	yes	yes	yes	yes
62	yes	yes	yes	yes
63	yes	***	***	no
64	yes	yes	yes	yes
	Granite Falls High School			
65	yes	yes	yes	*
66	yes	yes	yes	yes
67	yes	yes	yes	yes
68	yes	yes	yes	yes
69	yes	yes	yes	yes
70	yes	yes	yes	yes
71	yes	yes	yes	yes
72	yes	yes	yes	yes
73	yes	yes	yes	yes
74	yes	yes	yes	yes
75	yes	yes	yes	yes
76	yes	yes	yes	yes
77	yes	yes	yes	*

TABLE IV. (Continued)

Subject	Employed During Pre-Test	Post-Test MVII	Post-Test TSCS	Employed During Post-Test
		Hudson High School		
78	yes	yes	yes	yes
79	yes	yes	yes	no
80	yes	yes	yes	no
81	yes	yes	yes	yes
82	yes	yes	yes	yes
83	yes	yes	yes	yes
84	yes	yes	yes	yes
85	yes	yes	yes	no
86	yes	no	yes	yes
87	no	no	yes	yes
88	yes	yes	yes	yes
89	yes	no	no	no
90	yes	yes	yes	yes
91	yes	yes	yes	yes
92	yes	**	**	no
93	yes	yes	yes	yes
94	yes	yes	yes	yes
95	yes	no	no	yes
96	yes	yes	yes	yes
97	yes	yes	no	yes
98	yes	yes	no	yes

* Rehired elsewhere but not in furniture or textiles
** Dropped
*** Refused to take tests
**** Fired

Measuring Instruments

The Tennessee Self Concept Scale (TSCS) is based on the hypothesis that other factors being equal, the more positive a person's self concept, the more effectively the individual will function. This instrument was used to determine the extent to which the self perceptions of the students participating in the Guidance Oriented Alternative Work Experience Program were affected by their experiences in the program. The TSCS consists of 100 self descriptive items to which the examinee responds by means of a five-point scale ranging from "completely true" (of me) to "completely false" (of me). The examinee is asked to describe himself as he sees himself through his responses to the TSCS items.

The scores on the TSCS examined by this evaluation were:

1. Method of Self Definition Score (true/false ratio). This score indicates whether a person tends to agree or disagree regardless of item content.
2. Self Criticism Score. This scale is a measure of defensiveness.
3. Total Conflict Score. This score measures the total amount of conflict within the same areas of perception.
4. Total Self Concept Score (Total Positive). This is the most important single score on the scale. It reflects the overall level of self esteem. Persons with high scores tend to like themselves, feel that they are persons of value and worth, have confidence in themselves, and act accordingly. People with low scores are doubtful about their own worth, see themselves as undesirable, often feel anxious, depressed,

and unhappy and have little faith or confidence in themselves.

5. Identity Score. This is the "what I am" scale; the scale represents how the individual perceives himself or his basic identity.

6. Self Satisfaction Score. This is the "how I accept myself" scale; the score reflects the general self satisfaction of the examinee.

7. Behavior Score. This is the "how I act" scale; this score represents how the person perceives his own behavior.

8. Physical Self. Here the individual is presenting his view of his body, his state of health, his physical appearance, skills, and sexuality.

9. Moral-Ethical Self. This score describes the self from a moral-ethical frame of reference--moral worth, relationship to God, feelings of being a "good" or "bad" person, and satisfaction with one's religion or lack of it.

10. Personal Self. This score reflects the individual's sense of personal worth, his feeling of adequacy as a person and his evaluation of his personality apart from his body or his relationships to others.

11. Family Self. This score reflects one's feelings of adequacy, worth, and value as a family member. It refers to the individual's perception of self in reference to his closest and most immediate circle of associates.

12. Social Self. This is another "self as perceived in relation to others" category but pertains to "others" in a more general way. It reflects the person's sense of adequacy and worth in his social interaction with other people in general.

13. Certainty about Self Perception Score (distribution score). This score reflects the way in which a person distributes his responses over the five available alternatives of each item. It represents the certainty of a person's perceptions about himself.

14. Defensive Positive Scale. This scale measures defensiveness, but in a more subtle way than does the self criticism scale.

15. General Maladjustment Scale. This scale consists of 24 items which differentiate psychiatric patients from non-patients.

16. Psychosis Scale. This scale is based on 23 items which best differentiate psychotic patients from non-patients.

17. Personality Disorder Scale. These 27 items differentiate persons with personality defects and weaknesses from other groups.

18. Neurosis Scale. This scale of 27 items differentiates neurotic patients from non-patients.

19. Personality Integration Scale. These 25 items differentiate persons with integrated personalities from other groups.

20. Number of Deviant Signs. This score is a count of the number of deviant features on all other scores and is the TSCS's best indicator of psychological disturbance.

The Minnesota Vocational Interest Inventory (MVII) was used to determine the extent of change in the vocational interest of the participants in the program. The MVII is modeled after the widely used Strong Vocational Interest Blank, but uses tradesmen as the reference group rather than professional and business

occupations. There are 474 items grouped in threes or a total of 158 triads. From each triad the examinee is asked to indicate which activity he would most like to do and which activity he would least like to do. An individual's responses are compared with those of persons employed in particular occupations. The following occupations are included: milk wagon driver, stock clerk, baker, retail sales clerk, carpenter, warehouseman, painter, printer, hospital attendent, tabulating machine operator, food service manager, pressman, radio-TV repairman, sheet metal worker, truck driver, electrician, machinist, plumber, truck mechanic, plasterer, and Industrial Education Teacher.

A second set of scales has been developed by identifying areas that are related to each other. These scales are: sales-office, office work, food services, clean hands, health services, electronics, carpentry, outdoors, and mechanical. A third and more general scale of the MVII is the occupational cluster scores. These are: white collar--clerical, food orientation, construction trade, electronics, and blue collar--mechanical.

ANALYSIS OF THE DATA

The data was analyzed at the Appalachian State University Computer Center. The Multivariate Analysis of Variance (MANOVA) statistical program developed by the Clyde Computing Service of Miami, Florida was used. For each of the TSCS variables studied, the means, standard deviations, and gain scores were computed for the experimental and control groups from pretest to post-test. These results for the Tennessee Self Concept Scale may be found

in Tables V and VI. The experimental and control group results for each of the TSCS variables were analyzed by analysis of covariance to determine if there were any statistically significant differences. The covariance analysis was a one factor, two level design with the pretest scores being treated as covariates and post-test scores as criteria. The results of this analysis is found in Table VII. Using an alpha level of .05, no statistically significant differences were found between the experimental and control groups.

The Minnesota Vocational Interest Inventory results were also analyzed by the Clyde Multivariate Analysis of Variance statistical program. For each of the MVII variables studied, the means, standard deviations, and gain scores were computed for the experimental and control groups from pretest to post-test. These results may be found in Tables VIII, IX, X, and XI. The experimental and control group results for each of the MVII variables were compared by analysis of covariance to determine if there were any statistically significant differences. The covariance analysis was a one factor, two level design with the pretest scores being treated as covariates and the post-test scores as criteria. Table XII and XIII contain the results of this analysis. There were two measures in which there were statistically significant differences between the experimental and control groups at the .05 level of significance.

On the carpentry area scale the experimental group showed a decrease in interest of 2.80 while the control group increased in interest by 1.48. The F value of 6.242 was significant at the .015 level (Table XIII). The experi-

TABLE V. THE PRETEST AND POST-TEST MEAN SCORES ON THE TENNESSEE SELF CONCEPT SCALE FOR THE EXPERIMENTAL GROUP.

	Pretest		Post-Test		Mean
	Mean	SD	Mean	SD	Gains
True/False Ratio	1.39	.57	1.34	.53	- .05
Self Criticism	35.38	5.21	35.24	5.04	- .14
Total Conflict	39.35	12.07	33.97	10.69	-5.38
Total Positive	314.38	31.50	317.55	32.14	3.17
Identity	115.97	12.22	115.17	15.17	- .80
Self Satisfaction	97.14	12.79	100.79	13.14	3.83
Behavior	101.28	11.13	101.59	11.76	.31
Physical Self	66.48	7.61	66.52	8.91	.04
Moral-Ethical Self	61.90	7.49	60.86	6.23	-1.04
Personal Self	60.97	8.09	62.17	6.76	1.20
Family Self	63.59	9.41	62.93	8.26	- .66
Social Self	61.45	7.84	65.07	8.75	3.62
Distribution	102.38	28.63	98.66	27.11	-3.72
Defensive Positive	51.35	10.95	53.24	9.11	1.89
General Maladjustment	85.59	9.60	86.90	10.16	1.31
Psychosis	53.07	6.23	51.41	7.18	-1.66
Personality Disorder	63.86	9.80	64.55	9.61	.69
Neurosis	77.17	10.19	78.62	11.32	1.45
Personality Integration	7.55	3.77	7.52	2.81	- .03
Deviant Signs	28.55	19.36	24.41	16.08	-4.14

N = 29

TABLE VI. THE PRETEST AND POST-TEST MEAN SCORES ON THE TENNESSEE SELF CONCEPT SCALE FOR THE CONTROL GROUP.

	Pretest		Post-test		Mean
	Mean	SD	Mean	SD	Gains
True/False Ratio	1.16	.50	1.16	.32	.00
Self Criticism	34.37	6.09	35.66	5.89	1.29
Total Conflict	36.15	10.28	30.46	9.01	-5.69
Total Positive	334.98	33.70	331.44	37.05	-3.54
Identity	126.15	11.16	124.02	12.00	-2.13
Self Satisfaction	101.00	16.94	100.71	18.20	- .29
Behavior	107.83	12.70	106.71	12.28	-1.12
Physical Self	70.02	7.59	68.88	8.90	-1.14
Moral-Ethical Self	64.34	8.95	64.56	9.07	.22
Personal Self	66.02	7.50	64.98	8.85	-1.04
Family Self	67.73	9.80	66.17	10.45	-1.56
Social Self	66.85	7.21	66.85	7.12	.00
Distribution	116.32	24.43	110.90	32.32	-5.42
Defensive Positive	55.75	12.75	54.46	11.67	-1.29
General Maladjustment	94.46	9.49	92.29	10.37	-2.17
Psychosis	49.27	6.53	48.27	5.58	- .55
Personality Disorder	69.02	12.69	68.98	12.19	- .04
Neurosis	84.81	11.33	82.49	11.72	-2.32
Personality Integration	8.17	3.29	8.46	3.48	.29
Deviant Signs	18.68	15.80	16.49	12.85	-2.19

N = 41

TABLE VII. RESULTS OF THE ANALYSIS OF COVARIANCE TESTS FOR THE TENNESSEE SELF CONCEPT SCALE VARIABLES.

	Experimental Group Mean Gain	Control Group Mean Gain	Difference	F Value	Probability Less Than
True/False Ratio	- .05	.00	.05	.954	.332
Self Criticism	- .14	1.29	1.57	.908	.344
Total Conflict	-5.38	-5.69	.31	1.420	.238
Total Positive	3.17	-3.54	6.71	.002	.965
Identity	- .80	-2.13	1.33	.623	.433
Self Satisfaction	3.83	- .29	4.12	1.071	.304
Behavior	.31	-1.12	1.43	.367	.547
Physical Self	.04	-1.14	1.18	.006	.938
Moral-Ethical Self	-1.04	.22	1.26	2.101	.152
Personal Self	1.20	-1.04	2.24	.010	.922
Family Self	- .66	-1.56	.90	.015	.904
Social Self	3.62	.00	3.62	.888	.349
Distribution	-3.72	-5.42	1.70	.202	.655
Defensive Positive	1.89	-1.29	3.18	.262	.611
General Maladjustment	1.31	-2.17	3.48	.085	.772
Psychosis	-1.66	- .55	1.11	1.303	.258
Personality Disorder	.69	- .04	.73	.322	.572
Neurosis	1.45	-2.32	3.77	.051	.822
Personality Integration	- .03	.29	.32	.914	.343
Deviant Signs	-4.14	-2.19	1.95	.755	.388

mental group's decrease was statistically significant when compared to the increase of the control. On the mechanical area scale of the MVII, the experimental group increased their interest by 2.00 as compared to an increase in the control of .02. This difference was statistically significant at the .05 level (Table XIII). The increased interest of the experimental group in the mechanical area was statistically significant as compared to the control. An increase on the mechanical area score indicates an interest in mechanical things, machine operation, and design; whereas a decrease on the carpentry area scale indicates less interest in carpentry and furniture making. Since the experimental group was not broken down into furniture and textile groups for analysis, it is impossible to determine which groups influenced these changes.

Although not significant at the .05 level, the F value of 3.221 (Table XII) calculated as a result of the analysis of the industrial education teacher occupational scale was significant at the .078 level. The large increase of 3.12 by the experimental group as compared to the .92 decrease of the control indicates an increased interest in this occupation by the experimental subjects. This finding suggests that the increased interest was a result of their experiences in the Alternative Work Experience Program and reflects favorably on the industrial education teachers in the program as job models.

Due to the economic situation during 1974-75, many of the participants in the Alternative Work Experience Program lost their jobs during the school year. This unavoidable situation undoubtedly had a negative effect upon the

program itself as was stated earlier in the process evaluation. In an effort to neutralize those effects an additional analysis of the data was undertaken. Only subjects who were employed in their jobs throughout the entire school year were analyzed for statistically significant differences.

The Tennessee Self Concept Scale results were reanalyzed using only those subjects who were employed throughout the school year. The results of this additional analysis are presented in Tables XIV, XV, and XVI. The one factor, two level analysis of covariance again yield no statistically significant differences between the experimental and control subjects on self concept.

The Minnesota Vocational Interest Inventory was also reanalyzed and the means, standard deviation, and gain scores may be found in Tables XVII, XVIII, XIX, and XX. Several statistically significant differences were found between the experimental and control group results for only those subjects who were employed throughout the 1974-75 school year. The decrease of 3.61 on the painter occupational scale by the experimental group as compared to the increase of 2.30 by the control were statistically different at the .025 level of significance (Table XXI). The F value of 5.406 indicates that the experimental group showed a significant decrease in interest in the occupation of a painter. A similiar decrease was noted for the experimental subjects on the hospital attendent occupational scale. The F value of 7.483 was significant at the .009 level (Table XXI). The 1.23 decrease by the experimental group was statistically different as compared to the 2.00 increase of the control.

On the area scales of the MVII there were two statistically significant differences found. The Alternative Work Experience students showed a statistically significant decrease on the health services and carpentry area scales at the .017 and .008 levels of significance respectively (Table XXII). The 2.92 decrease by the experimental group on the health services area scale was significantly different when compared to the increase of 1.60 by the control. The 4.93 decrease on the carpentry area scale was also significantly different when compared to the control group increase of 1.36. Thus the reanalysis of the data using only those subjects employed throughout the year produced decreases for the experimental group on the occupational scales of painter and hospital attendant and the area scales of health services and carpentry.

TABLE VIII. THE PRETEST AND POST-TEST MEAN SCORES ON THE OCCUPATIONAL SCALES OF THE MINNESOTA VOCATIONAL INTEREST INVENTORY FOR THE EXPERIMENTAL GROUP.

	Pretest		Post-test		Mean
	Mean	SD	Mean	SD	Gain
Milk Wagon Driver	45.92	8.43	47.00	9.72	1.08
Stock Clerk	53.92	8.98	52.04	11.75	-1.88
Baker	49.80	7.47	49.68	7.43	- .12
Retail Sales Clerk	45.88	10.12	45.32	10.70	- .56
Carpenter	28.80	8.74	27.76	11.34	-1.04
Warehouseman	45.24	7.73	46.12	7.60	.88
Painter	33.68	8.40	33.88	7.09	.20
Printer	41.88	9.14	42.32	10.27	.44
Hospital Attendant	40.16	5.52	39.88	6.50	- .28
Tabulating Machine Operator	38.52	8.16	37.84	9.60	- .68
Food Service Manager	44.04	7.60	44.80	7.68	.76
Pressman	27.60	11.46	26.36	8.72	-1.24
Radio-TV Repairman	26.24	8.09	27.60	8.16	1.36
Sheet Metal Worker	26.12	8.69	24.00	9.01	-2.12
Truck Driver	27.96	14.95	28.12	11.72	.16
Electrician	16.60	13.12	15.68	13.67	- .92
Machinist	18.84	8.13	20.20	8.74	1.36
Plumber	20.88	12.93	17.36	13.13	-3.52
Truck Mechanic	20.28	16.01	21.92	17.11	1.64
Plasterer	29.00	8.51	27.56	8.87	-1.44
Industrial Education Teacher	11.84	11.35	14.96	10.50	3.12

N = 25

TABLE IX. THE PRETEST AND POST-TEST MEAN SCORES ON THE OCCUPATIONAL SCALES OF THE MINNESOTA VOCATIONAL INTEREST INVENTORY FOR THE CONTROL GROUP.

	Pretest		Post-test		Mean
	Mean	SD	Mean	SD	Gain
Milk Wagon Driver	43.70	11.96	44.58	12.67	.88
Stock Clerk	53.75	11.73	53.83	13.14	.08
Baker	50.20	9.79	51.53	11.77	1.33
Retail Sales Clerk	44.68	13.04	45.25	14.22	.57
Carpenter	33.45	11.48	30.10	11.84	-3.35
Warehouseman	47.68	8.04	48.03	7.79	.35
Painter	33.98	8.52	35.63	9.83	1.65
Printer	41.28	12.24	40.58	12.19	- .70
Hospital Attendant	38.78	7.24	40.30	7.34	1.52
Tabulating Machine Operator	37.50	11.57	38.68	11.21	1.18
Food Service Manager	42.65	8.52	44.13	8.78	1.48
Pressman	23.88	8.98	22.78	9.87	-1.10
Radio-TV Repairman	24.73	8.93	25.58	9.61	.85
Sheet Metal Worker	25.90	13.71	23.88	12.73	-2.02
Truck Driver	29.95	15.05	31.43	14.31	1.48
Electrician	15.10	14.36	15.10	14.22	.00
Machinist	19.65	9.77	18.78	9.72	- .87
Plumber	19.40	16.24	19.48	15.63	.08
Truck Mechanic	22.20	18.07	22.75	19.80	.55
Plasterer	28.03	8.53	27.88	7.99	- .15
Industrial Education Teacher	15.20	13.44	14.28	13.59	- .92

N = 40

TABLE X. THE PRETEST AND POST-TEST MEAN SCORES ON THE AREA SCALES AND THE OCCUPATIONAL CLUSTER SCALES OF THE MINNESOTA VOCATIONAL INTEREST INVENTORY FOR THE EXPERIMENTAL GROUP.

	Pretest		Post-test		Mean
	Mean	SD	Mean	SD	Gain
I. Area Scales					
Sales-Office	58.04	7.76	57.92	9.81	- .12
Office Work	60.36	14.96	60.04	15.07	- .32
Food Services	58.64	9.10	58.60	11.05	- .04
Clean Hands	55.92	11.18	54.00	11.41	-1.92
Health Services	54.48	7.24	54.72	9.21	.24
Electronics	44.32	10.36	45.80	12.04	1.48
Carpentry	46.28	5.78	43.48	7.55	-2.80
Outdoors	39.40	9.86	37.00	10.12	-2.40
Mechanical	35.80	10.05	37.80	11.89	2.00
II. Cluster Scales					
White Collar--Clerical	45.22	8.00	45.14	9.48	- .08
Food Orientation	46.92	6.88	47.16	7.36	.24
Construction Trade	30.40	6.03	29.73	5.60	- .67
Electronics	21.34	9.63	21.44	10.33	.10
Blue Collar--Mechanical	19.40	9.78	19.27	10.83	- .13

N = 25

TABLE XI. THE PRETEST AND POST-TEST MEAN SCORES ON THE AREA SCALES AND THE OCCUPATIONAL CLUSTER SCALES OF THE MINNESOTA VOCATIONAL INTEREST INVENTORY FOR THE CONTROL GROUP.

	Pretest		Post-Test		Mean
	Mean	SD	Mean	SD	Gain
I. Area Scales					
Sales-Office	55.80	9.08	56.00	10.05	.20
Office Work	60.78	17.57	61.68	17.69	.90
Food Services	57.50	11.12	58.35	11.16	.85
Clean Hands	59.18	13.14	57.25	13.92	-1.93
Health Services	53.95	10.52	55.15	10.87	1.20
Electronics	43.75	12.00	42.90	12.07	- .85
Carpentry	46.30	10.35	47.78	10.56	1.48
Outdoors	41.73	12.44	42.55	14.61	.82
Mechanical	37.68	13.23	37.70	14.90	.02
II. Cluster Scales					
White Collar-Clerical	44.23	11.39	44.58	11.95	.35
Food Orientation	46.44	8.84	47.83	9.96	1.39
Construction Trade	31.81	7.51	31.20	7.86	- .61
Electronics	19.31	11.36	20.01	11.26	.70
Blue Collar-Mechanical	19.53	13.48	19.34	13.59	- .19

N = 40

TABLE XII. RESULTS OF THE ANALYSIS OF COVARIANCE TESTS FOR THE OCCUPATIONAL SCALES OF THE MINNESOTA VOCATIONAL INTEREST INVENTORY.

	Experimental Group Mean Gain	Control Group Mean Gain	Difference	F Value	Probability Less Than
Milk Wagon Driver	1.08	.88	.20	.083	.775
Stock Clerk	-1.88	.08	1.96	1.030	.314
Baker	- .12	1.33	1.45	.949	.334
Retail Sales Clerk	- .56	.57	1.13	.429	.515
Carpenter	-1.04	-3.35	2.31	.189	.665
Warehouseman	.88	.35	.53	.076	.783
Painter	.20	1.65	1.45	.633	.429
Printer	.44	- .70	1.14	.611	.437
Hospital Attendant	- .28	1.52	1.80	2.535	.116
Tabulating Machine Operator	- .68	1.18	1.86	1.536	.220
Food Service Manager	.76	1.48	.72	.105	.747
Pressman	-1.24	-1.10	.14	1.007	.319
Radio-TV Repairman	1.36	.85	.51	.305	.583
Sheet Metal Worker	-2.12	-2.02	.10	.001	.977
Truck Driver	.16	1.48	1.32	.768	.384
Electrician	- .92	.00	.92	.084	.772
Machinist	1.36	- .87	2.23	.734	.395
Plumber	-3.52	.08	3.60	2.597	.112
Truck Mechanic	1.64	.55	1.09	.304	.583
Plasterer	-1.44	- .15	1.29	.300	.586
Industrial Education Teacher	3.12	- .92	4.40	3.221	.078

TABLE XIII. RESULTS OF THE ANALYSIS OF COVARIANCE TESTS FOR THE AREA SCALES AND OCCUPATIONAL CLUSTER SCALES OF THE MINNESOTA VOCATIONAL INTEREST INVENTORY.

	Experimental Group Mean Gain	Control Group Mean Gain	Difference	F Value	Probability Less Than
I. Area Scales					
Sales-Office	- .12	.20	.32	.001	.982
Office Work	- .32	.90	1.22	.439	.510
Food Services	- .04	.85	.89	.104	.748
Clean Hands	-1.92	-1.93	.01	.119	.731
Health Services	.24	1.20	.96	.317	.575
Electronics	1.48	- .85	2.33	1.517	.223
Carpentry	-2.80	1.48	4.28	6.242	.015
Outdoors	-2.40	.82	3.22	2.320	.133
Mechanical	2.00	.02	1.98	3.972	.050
II. Cluster Scales					
White Collar-Clerical	- .08	.35	.43	.119	.731
Food Orientation	.24	1.39	1.15	.706	.404
Construction Trade	- .67	- .61	.06	.124	.726
Electronics	.10	.70	.60	.008	.931
Blue Collar-Mechanical	- .13	- .19	.06	.001	.974

TABLE XIV. THE PRETEST AND POST-TEST MEAN SCORES ON THE TENNESSEE SELF CONCEPT SCALE FOR THAT PORTION OF THE EXPERIMENTAL GROUP WHOSE WORK EXPERIENCE WAS CONTINUOUS THROUGHOUT 1974-75.

	Pretest		Post-Test		Mean
	Mean	SD	Mean	SD	Gain
True/False Ratio	1.26	.61	1.17	.39	- .09
Self Criticism	36.64	4.90	36.07	5.03	- .57
Total Conflict	39.35	11.49	35.14	9.07	14.21
Total Positive	314.64	33.01	321.14	34.07	6.50
Identity	116.50	10.74	117.50	15.43	1.00
Self-Satisfaction	96.21	12.75	100.71	9.44	4.50
Behavior	101.92	12.89	102.92	12.21	1.00
Physical Self	66.50	7.46	67.35	9.16	.85
Moral-Ethical Self	60.71	5.60	60.50	6.32	- .21
Personal Self	60.71	9.64	62.36	7.21	1.65
Family Self	64.07	11.11	64.21	9.84	.14
Social Self	62.64	8.64	66.71	8.23	4.07
Distribution Score	104.57	29.04	103.64	28.89	- .93
Defensive Positive	49.57	13.39	53.00	8.69	3.43
General Maladjustment	87.42	10.15	88.35	11.32	.93
Psychosis	51.57	6.03	48.29	6.55	-3,28
Personality Disorder	63.50	10.64	65.57	10.62	2.07
Neurosis	77.28	10.02	80.29	12.62	3.01
Personality Integration	7.21	4.09	7.86	3.23	.47
Deviant Signs	29.71	21.21	20.86	13.51	-8.85

N = 14

TABLE XV. THE PRETEST AND POST-TEST MEAN SCORES ON THE TENNESSEE SELF CONCEPT SCALE FOR THAT PORTION OF THE CONTROL GROUP WHOSE WORK EXPERIENCE WAS CONTINUOUS THROUGHOUT 1974-75.

	Pretest		Post-Test		Mean
	Mean	SD	Mean	SD	Gain
True/False Ratio	1.19	.54	1.12	.30	- .07
Self Criticism	34.26	6.16	35.55	6.10	1.29
Total Conflict	36.20	10.83	30.73	9.08	-5.47
Total Positive	334.73	33.77	330.61	37.45	-4.12
Identity	126.58	11.85	123.94	12.63	-2.64
Self-Satisfaction	100.20	15.60	99.88	17.88	- .32
Behavior	107.94	13.09	106.79	12.44	-1.15
Physical Self	69.79	7.85	68.50	9.09	-1.29
Moral-Ethical Self	64.35	9.14	64.55	9.59	.20
Personal Self	66.32	7.46	64.97	9.00	-1.35
Family Self	67.52	9.56	65.94	10.03	-1.58
Social Self	66.73	6.80	66.64	7.52	- .09
Distribution Score	116.05	26.38	110.52	34.54	-5.53
Defensive Positive	55.41	12.46	54.38	12.01	-1.03
General Maladjustment	94.38	10.04	92.08	10.66	-2.30
Psychosis	48.91	6.80	48.00	5.79	- .91
Personality Disorder	69.23	12.83	69.02	12.64	- .21
Neurosis	84.94	11.07	82.44	10.96	-2.50
Personality Integration	8.44	3.18	8.47	3.55	.03
Deviant Signs	18.55	16.58	16.47	12.41	-2.08

N = 34

TABLE XVI. RESULTS OF THE ANALYSIS OF COVARIANCE TESTS FOR THE TENNESSEE SELF CONCEPT SCALE FOR THAT PORTION OF THE EXPERIMENTAL AND CONTROL GROUPS WHOSE WORK WAS CONTINUOUS THROUGHOUT 1974-75.

	Experimental Group Mean Gain	Control Group Mean Gain	Difference	F Value	Probability Less Than
True/False Ratio	- .09	- .07	.02	.104	.748
Self Criticism	- .57	1.29	1.86	.375	.544
Total Conflict	-4.21	-5.47	1.26	1.556	.219
Total Positive	6.50	-4.12	10.62	.507	.480
Identity	1.00	-2.64	3.64	.113	.738
Self-Satisfaction	4.50	- .32	4.82	1.180	.283
Behavior	1.00	-1.15	2.15	.007	.933
Physical Self	.85	-1.29	2.14	.356	.554
Moral-Ethical Self	- .21	.20	.41	.555	.460
Personal Self	1.65	-1.35	3.00	.073	.789
Family Self	.14	-1.58	1.72	.202	.655
Social Self	4.07	- .09	4.16	1.823	.184
Distribution Score	- .93	-5.53	4.60	.109	.742
Defensive Positive	3.43	-1.03	4.46	.730	.397
General Maladjustment	.93	-2.30	3.23	.166	.686
Psychosis	-3.28	- .91	2.37	.221	.641
Personality Disorder	2.07	- .21	2.28	.030	.864
Neurosis	3.01	-2.50	5.51	.725	.399
Personality Integration	.47	.03	.44	.025	.876
Deviant Signs	-8.85	-2.08	6.77	.131	.719

TABLE XVII. THE PRETEST AND POST-TEST MEAN SCORES ON THE OCCUPATIONAL SCALES OF THE MINNESOTA VOCATIONAL INTEREST INVENTORY FOR THAT PORTION OF THE EXPERIMENTAL GROUP WHOSE WORK EXPERIENCE WAS CONTINUOUS THROUGHOUT 1974-75.

	Pretest		Post-Test		Mean
	Mean	SD	Mean	SD	Gain
Mils Wagon Driver	47.00	7.91	47.61	9.99	.61
Stock Clerk	54.62	10.82	51.61	15.22	-3.01
Baker	51.39	8.17	49.76	8.20	-1.63
Retail Sales Clerk	47.84	10.39	45.84	12.40	-2.00
Carpenter	28.76	8.74	26.92	11.87	-1.84
Warehouseman	46.15	8.13	48.30	7.07	2.15
Painter	35.61	9.87	32.00	7.58	-3.61
Printer	41.69	8.48	41.84	10.85	.15
Hospital Attendant	41.15	5.94	39.92	6.87	-1.23
Tabulating Machine Operator	38.61	9.50	39.30	10.55	.69
Food Service Manager	44.69	7.64	45.15	8.33	.46
Pressman	25.46	10.43	24.15	7.35	-1.31
Radio-TV Repairman	25.23	8.54	27.61	8.83	2.38
Sheet Metal Worker	24.61	7.55	24.00	9.46	- .61
Truck Driver	26.46	13.37	28.76	11.19	2.30
Electrician	15.53	15.08	17.00	14.30	1.47
Machinist	18.61	5.60	20.76	9.63	2.15
Plumber	17.61	11.65	19.00	14.92	1.39
Truck Mechanic	18.92	15.58	22.07	19.46	3.15
Plasterer	27.30	7.15	26.38	7.90	- .92
Industrial Education Teacher	11.23	11.79	12.53	11.10	1.30

N = 13

TABLE XVIII. THE PRETEST AND POST-TEST MEAN SCORES ON THE OCCUPATIONAL SCALES OF THE MINNESOTA VOCATIONAL INTEREST INVENTORY FOR THAT PORTION OF THE CONTROL GROUP WHOSE WORK EXPERIENCE WAS CONTINUOUS THROUGHOUT 1974-75

	Pretest		Post-Test		Mean
	Mean	SD	Mean	SD	Gain
Milk Wagon Driver	43.75	12.78	44.60	13.56	.85
Stock Clerk	53.63	12.55	54.24	13.73	.61
Baker	50.30	10.42	51.45	12.17	1.15
Retail Sales Clerk	44.69	14.20	45.90	14.73	1.21
Carpenter	33.36	12.07	30.03	12.34	-3.33
Warehouseman	48.27	8.01	48.72	8.16	.45
Painter	33.97	8.98	36.27	10.47	2.30
Printer	41.57	12.52	40.78	12.32	- .79
Hospital Attendant	38.36	6.83	40.36	7.01	2.00
Tabulating Machine Operator	37.27	12.21	39.27	11.44	2.00
Food Service Manager	43.18	8.97	44.36	9.04	1.18
Pressman	24.51	9.11	23.30	9.27	-1.21
Radio-TV Repairman	24.97	9.24	26.15	9.47	1.18
Sheet Metal Worker	25.78	14.84	22.93	12.97	-2.85
Truck Driver	29.12	14.18	30.78	14.08	1.66
Electrician	14.90	15.04	14.93	15.05	.03
Machinist	19.78	9.92	18.24	9.83	-1.54
Plumber	18.69	16.73	18.81	15.72	.12
Truck Mechanic	21.75	18.69	22.09	20.61	.34
Plasterer	27.93	8.59	27.97	8.14	.04
Industrial Education Teacher	15.03	14.10	13.94	14.11	-1.09

N = 33

TABLE XIX. THE PRETEST AND POST-TEST MEAN SCORES ON THE AREA SCALES AND THE OCCUPATIONAL CLUSTER SCALES OF THE MINNESOTA VOCATIONAL INTEREST INVENTORY FOR THAT PORTION OF THE EXPERIMENTAL GROUP WHOSE WORK EXPERIENCE WAS CONTINUOUS THROUGHOUT 1974-75.

	Pretest		Post-Test		Mean
	Mean	SD	Mean	SD	Gain
I. Area Scales					
Sales-Office	58.38	8.85	56.00	8.71	-2.38
Office Work	62.30	17.83	62.15	17.06	- .15
Food Services	57.84	10.17	60.84	11.58	3.00
Clean Hands	55.30	13.80	54.76	12.46	- .54
Health Services	56.76	7.87	53.84	8.14	-2.92
Electronics	43.69	11.29	45.46	12.39	1.77
Carpentry	47.69	6.12	42.76	8.67	-4.93
Outdoors	39.92	11.54	37.61	10.79	-2.31
Mechanical	34.84	10.78	36.69	13.33	1.85
II. Cluster Scales					
White Collar-Clerical	45.95	8.82	45.70	10.94	- .25
Food Orientation	48.03	7.38	47.46	8.05	- .57
Construction Trade	30.58	6.24	28.43	5.93	-2.15
Electronics	20.34	11.04	22.15	10.76	1.81
Blue Collar-Mechanical	17.90	9.37	19.23	12.42	1.33

N = 13

TABLE XX. THE PRETEST AND POST-TEST MEAN SCORES ON THE AREA SCALES AND THE OCCUPATIONAL CLUSTER SCALES OF THE MINNESOTA VOCATIONAL INTEREST INVENTORY FOR THAT PORTION OF THE CONTROL GROUP WHOSE WORK EXPERIENCE WAS CONTINUOUS THROUGHOUT 1974-75.

	Pretest		Post-Test		Mean
	Mean	SD	Mean	SD	Gain
I. Area Scales					
Sales-Office	56.09	9.20	56.33	9.82	.24
Office Work	61.42	18.39	62.18	18.36	.76
Food Services	57.69	12.01	58.72	11.48	1.03
Clean Hands	59.93	12.01	57.66	13.27	-2.27
Health Services	53.24	9.70	54.84	9.83	1.60
Electronics	43.66	12.67	43.00	12.22	- .66
Carpentry	46.54	10.97	47.90	10.26	1.36
Outdoors	42.45	12.60	41.54	14.26	- .91
Mechanical	37.57	13.70	37.30	15.19	- .27
II. Cluster Scales					
White Collar-Clerical	44.24	12.18	44.96	12.48	.72
Food Orientation	46.76	9.36	47.90	10.27	1.14
Construction Trade	31.75	7.93	31.42	8.19	- .33
Electronics	19.22	12.09	20.15	11.75	.93
Blue Collar--Mechanical	19.06	14.28	18.69	14.02	- .37

N = 33

TABLE XXI. RESULTS OF THE ANALYSIS OF COVARIANCE TESTS FOR THE OCCUPATIONAL SCALES OF THE MINNESOTA VOCATIONAL INTEREST INVENTORY FOR THAT PORTION OF THE EXPERIMENTAL AND CONTROL GROUPS WHOSE WORK EXPERIENCE WAS CONTINUOUS THROUGHOUT 1974-75.

	Experimental Group Mean Gain	Control Group Mean Gain	Difference	F Value	Probability Less Than
Milk Wagon Driver	.61	.85	.24	.004	.949
Stock Clerk	-3.01	.61	3.62	1.957	.169
Baker	-1.63	1.15	2.78	2.029	.161
Retail Sales Clerk	-2.00	1.21	3.21	3.145	.083
Carpenter	-1.84	-3.33	1.49	.014	.906
Warehouseman	2.15	.45	1.70	.187	.667
Painter	-3.61	2.30	5.91	5.406	.025
Printer	.15	- .79	.94	.306	.583
Hospital Attendant	-1.23	2.00	3.23	7.483	.009
Tabulating Machine Operator	.69	2.00	1.31	.609	.440
Food Service Manager	.46	1.18	.72	.068	.796
Pressman	-1.31	-1.21	.10	.039	.845
Radio-TV Repairman	2.38	1.18	1.20	.352	.556
Sheet Metal Worker	- .61	-2.85	2.24	1.081	.304
Truck Driver	2.30	1.66	.64	.002	.968
Electrician	1.47	.03	1.44	.328	.570
Machinist	2.15	-1.54	3.69	1.658	.205
Plumber	1.39	.12	1.27	.293	.591
Truck Mechanic	3.15	.34	2.81	1.442	.236
Plasterer	- .92	.04	.96	.343	.561
Industrial Education Teacher	1.30	-1.09	2.39	.571	.454

TABLE XXII. RESULTS OF THE ANALYSIS OF COVARIANCE TESTS FOR THE AREA SCALES AND THE OCCUPATIONAL CLUSTER SCALES OF THE MINNESOTA VOCATIONAL INTEREST INVENTORY FOR THAT PORTION OF THE EXPERIMENTAL AND CONTROL GROUPS WHOSE WORK EXPERIENCE WAS CONTINUOUS THROUGHOUT 1974-75.

	Experimental Group Mean Gain	Control Group Mean Gain	Difference	F Value	Probability Less Than
I. Area Scales					
Sales-Office	-2.38	.24	2.62	1.168	.286
Office Work	- .15	.76	.91	.106	.746
Food Services	3.00	1.03	1.97	.657	.422
Clean Hands	- .54	-2.27	1.73	.151	.699
Health Services	-2.92	1.60	4.52	6.165	.017
Electronics	1.77	- .66	2.43	1.090	.302
Carpentry	-4.93	1.36	6.29	7.717	.008
Outdoors	-2.31	- .91	1.40	.425	.518
Mechanical	1.85	- .27	2.12	.763	.392
II. Cluster Scales					
White Collar-Clerical	- .25	.72	.97	.492	.487
Food Orientation	- .57	1.14	1.71	.971	.330
Construction Trade	-2.15	- .33	1.82	1.660	.204
Electronics	1.81	.93	.88	.257	.615
Blue Collar-Mechanical	1.33	- .37	1.70	.767	.386

FOLLOW-UP STUDY

During the summer of 1975 a follow-up occupational survey of the Caldwell County graduating class of 1974 was conducted. The questionnaire in Appendix F was sent to 750 graduates. One hundred ninety-six or 26% were returned. The questionnaire return rate by school is listed in Table XXIII. The responses to the questionnaires were tabulated and the results summarized by school and for the entire county.

TABLE XXIII. RETURN RESULTS BY SCHOOL FOR THE FOLLOW-UP STUDY OF 1974 GRADUATES OF CALDWELL COUNTY SCHOOLS.

	Total Number of Graduates Contacted	Total Number of Returns	Percentage of Returns
Gamewell-Collettsville High School	109	21	19%
Granite Falls High School	113	26	23%
Hibriten High School	145	43	30%
Hudson High School	268	81	30%
Lenoir High School	115	[illegible]	22%
Total	750	196	26%

The results for Gamewell-Collettsville High School were as follows:

1. Fifty-two percent of the graduating class entered into employment after graduation with a salary range of $2,500 - $5,000 per year.

2. Thirty-two percent enrolled in an institution of higher learning with the majority of students attending Appalachian State University and Caldwell Community College and Technical Institute.

3. None of the graduating class entered the military.

4. Ninety-four percent of those who responded felt that the current curriculum was sufficient in preparing them for their occupational choices while 4% felt that it offered little assistance or was totally worthless.

5. The majority of students felt that all departments had met their expectations.

6. Recommendations were to make the school curriculum:

   (19%) more academically oriented.
   (61%) more occupationally oriented.
   (19%) remain as it is.

7. Some of the more prevalent ideas and suggestions in making school more meaningful and relevant are as follows:

   a. There should be more occupational courses to prepare students who go directly to work after graduation.

   b. The school should have better teacher/student relations.

   c. The school should have better facilities and more materials for students to use.

   d. The school should be given more money so that the students would not have to spend so much time fund-raising for things that they need.

The results for Granite Falls High were as follows:

1. Thirty-eight percent of the graduating class entered into employment after graduation with a salary range of $2,500 - $5,000 per year.

2. Sixty-four percent enrolled in an institution of higher learning with the majority of students attending Appalachian State University and Caldwell Community College and Technical Institute.

3. None of the graduating class entered the military.

4. Eighty-three percent of those who responded felt that the current curriculum was sufficient in preparing them for their occupational choices while 10% felt that it offered little assistance or was totally worthless.

5. The majority of students felt that all departments had met their expectations.

6. Recommendations were to make the school curriculum:

   (15%) more academically oriented.
   (42%) more occupationally oriented.
   (30%) remain as it is.

7. Some of the more prevalent ideas and suggestions in making school more meaningful and relevant are as follows:

   a. The school should get the students more involved in school system.

   b. The school should have more field trips and labs so students can put to use what they have learned.

   c. There should be more business courses for boys also.

   d. Teachers, principal, and students should learn to work together.

The results for Hibriten High School were as follows:

1. Forty-one percent of the graduating class entered into employment after graduation with a salary range of $2,500 - $5,000 per year.

2. Fifty-nine percent enrolled in an institution of higher learning with the majority of students attending Appalachian State University, Caldwell Community College and Technical Institute, and University of N. C. at Chapel Hill.

3. One percent of the graduating class entered the military with most students going into the Navy.

4. Seventy-one percent of those who responded felt that the current curriculum was sufficient in preparing them for their occupational choices while 17% felt that it offered little assistance or was totally worthless.

5. The majority of students felt that all departments had met their expectations.

6. Recommendations were to make the school curriculum:

   (27%) more academically oriented.
   (44%) more occupationally oriented.
   (25%) remain as it is.

7. Some of the more prevalent ideas and suggestions in making school more meaningful and relevant are as follows:

   a. Teachers should work more with the students and have better understanding.

   b. The school should offer more occupational courses.

   c. The school should give more money to the music department.

The results for Hudson High School were as follows:

1. Forty-one percent of the graduating class entered into employment after graduation with a salary range of $2,500 - $5,000 per year.

2. Fifty-five percent enrolled in an institution of higher learning with the majority of students attending Appalachian State University and Caldwell Community College and Technical Institute.

3. One percent of the graduating class entered the military with most students going into the Nary.

4. Seventy percent of those who responded felt that the current curriculum was sufficient in preparing them for their occupational choices while 18% felt that it offered little assistance or was totally worthless.

5. The majority of students felt that all departments had met their expectations.

6. Recommendations were to make the school curriculum:

   (23%) more academically oriented.
   (60%) more occupationally oriented.
   (14%) remain as it is.

7. Some of the more prevalent ideas and suggestions in making school more meaningful and relevant are as follows:

   a. The school should improve on overcrowded situations.

   b. Teachers should be more interested in their work and make the students more involved.

   c. The administration should give students more voice in school activities.

The results for Lenoir High School were as follows:

1. Twenty eight percent of the graduating class entered into employment after graduation with a salary range of $2,500 - $5,000 per year.

2. Seventy-six percent enrolled in an institution of higher learning with the majority of students attending Appalachian State University, University of N. C. at Chapel Hill, and East Carolina University.

3. One percent of the graduating class entered the military with most students going into the Marines.

4. Seventy-six percent of those who responded felt that the current curriculum was sufficient in preparing them for their occupational choices while 12% felt that it offered little assistance or was totally worthless.

5. The majority of students felt that all departments had met their expectations.

6. Recommendations were to make the school curriculum:

   (44%) more academically oriented.
   (16%) more occupationally oriented.
   (36%) remain as it is.

7. Some of the more prevalent ideas and suggestions in making school more meaningful and relevant are as follows:

   a. There should be closer student/teacher relationships.

   b. There should be more activities for the students.

   c. All administrative personnel and faculty should strive for a better balance between leniency and discipline.

   d. There should be a greater variety of courses.

The results for the five Caldwell County high schools taken together were as follows:

1. Forty percent of the graduating class entered into employment after graduation with a salary of $2,500 - $5,000 per year.

2. Fifty-seven percent enrolled in an institution of higher learning with the majority of students attending Appalachian State University, Caldwell Community College and Technical Institute, and the University of North Carolina at Chapel Hill.

3. Less than 1% of the responding graduates entered the military.

4. Seventy-five percent of those who responded felt that the current curriculum was sufficient in preparing them for their occupational choices while 14% felt that it offered little assistance or was totally worthless.

5. The majority of students felt that all departments had met their expectations.

6. Recommendations were to make the school curriculum:

   (25%) more academically oriented.
   (49%) more occupationally oriented.
   (22%) remain as it is.

It must be remembered in examining the above data that the results are based on only those questionnaires that were returned. Those persons who chose to complete and return the questionnaires may not represent the 1974 graduating class population. The 26% return is also quite low in terms of making decisions based on this data.

PROJECT EXTENSION

During the summer of 1975, Mr. Stone, the Project Director, applied for and received an extension to the original grant proposal. This extension reduced the Project Staff to the Director, Research Assistant, Project Secretary, and Placement Coordinator from July 1, 1975, until June 30, 1976, when the project would be ended. No additional funds were allocated for evaluation during the extension period. Thus, the evaluator was unable to fund formal evaluations of the numerous products produced during the extension period. However, the accomplishments of the project during the extension period are quite noteworthy and are discussed below.

During the extension period a job placement booklet was developed and distributed to school districts across western North Carolina. A copy of this pamphlet may be found in the Project Report. Representatives from the Catawba, Wilkes, Cabarrus, Forsyth, Surry, New Hanover, and Iredell county schools have traveled to Caldwell County to see the job placement program in operation.

The individualized work experience materials were field tested during the extension period in Hibriten, Gamewell-Collettsville, Granite Falls, and Hudson High Schools in Caldwell County. As a result of the feedback received from the teachers and students, numerous revisions have been made in these materials. A copy of the individualized work experience materials may be found in the Project Report.

The project staff worked with Bernhardt Industries of Lenoir in developing a furniture training manual using sixty-three Bernhardt employees to assist in the effort. This manual was distributed to all industrial cooperative programs in Caldwell County and to the North Carolina State Department of Public Instruction. A copy of this document may be found in the Project Report. Bernhardt Industries also developed a proposal for a management training program for high school industrial cooperative students. The proposal was approved by the Caldwell County Board of Education and will begin with the 1976-77 school year.

In the area of career guidance, during the extension period the project concentrated on student drop-out identification and prevention. Dr. Kenneth Jenkins, former principal of North Miami Beach High School and currently, Assistant Dean of the College of Learning and Human Development at Appalachian State University, assisted in the development of a computerized drop-out identification system. This procedure enables a school system to compile already available educational data into a format that will identify those students who exhibit characteristics of the potential drop-out. The system also identifies the individual's areas of educational problems so that resources may be directed toward drop-out prevention. A description of the drop-out criteria may be found in Appendix G. During January, 1976, this procedure was used to identify 980 potential drop-outs in the Caldwell County Schools. The results of this analysis may be found in Appendix H.

The project also developed a publication "Responsibility of School Personnel for School Conduct, Behavior, and Discipline," which may be found in Appendix I. This brochure was developed to improve communications in the area of discipline.

SUMMARY AND CONCLUSION

Process Evaluation

(1) The objective of establishing a comprehensive career guidance and job placement program in the high schools of Caldwell County has been attained. Materials have been developed for use in the schools to determine student needs, to provide adequate information regarding agencies, to test materials available, to develop orientation packages, and to provide interaction between students and persons in various work areas. The placement coordinator has established a smoothly run and effective program; he keeps abreast of local job openings, conducts interviews, makes referrals, and has periodic conferences with teachers and principals.

(2) The objective of establishing a model work experience program in the area of textiles and furniture manufacturing has been initiated and is well under way. Unfortunately, the economic conditions in Caldwell County have gone from practically no unemployment in January, 1974, to 25% unemployment as of April, 1975. These factors have imposed uncontrollable variables upon the work experience model which have undoubtedly had a negative effect. It is important to stress, however, that the program staff has done an excellent job considering these restrictions.

(3) The project staff was effectively chosen so as to bring together an enthusiastic group of professionals possessing the diverse skills and knowledge required to get a program of this type functioning smoothly. The staff was a definite strength to the overall project.

(4) Excellent rapport and lines of communication have been established between local industry and the public schools of Caldwell County. The coordinators in furniture and textile were particularly effective in their communications and relations with local industry. Effective lines of communication were also formed between guidance personnel, principals, the central administration, advisory committees, staff, faculty, and students.

(5) The progress made on the Learning Activity Packages was excellent and should be continued.

(6) The late funding of the program prevented the proper student selection, testing, and guidance, thus hampering the placement and retention of students on the job.

Product Evaluation

(1) The students in the Guidance Oriented Alternative Work Experience Program displayed a decrease in interest in the occupational field of carpentry as a result of their experiences in the program.

(2) The students in the Work Experience Program displayed an increase in interest in the mechanical occupational fields as a result of their experiences in the program. They increased in interest in mechanical

things, machine operation, and design.

(3) The students in the Work Experience Program who were employed throughout the 1974-75 school year displayed a decrease in interest in the occupation of painter as a result of their experience in the program.

(4) The students in the Work Experience Program who were employed throughout the 1974-75 school year displayed a decrease in interest in the occupational field of hospital attendant as a result of their experience in the program.

(5) The Work Experience students who were employed throughout the 1974-75 school year displayed a decreased interest in the occupational areas of carpentry and health services as a result of their participation in the program.

RECOMMENDATIONS

(1) The placement coordinator has done an excellent job; however, one coordinator serving five high schools is unrealistic. At least one and, if possible, two additional placement coordinators should be employed by the Caldwell County School System. Three coordinators would be ideal in that each new high school would have its own placement coordinator.

(2) The position of career counselor funded by the project should be underwritten by the Caldwell County School System. The functions performed by the person in this position are essential to continuing the established program. The person who assumes this position might also be utilized to establish a uniform county wide testing program and a procedure for the dissemination and use of measurement results. This person could also coordinate and conduct regularly scheduled county wide guidance meetings, perhaps every six weeks, for the purpose of disseminating information, engaging in county-wide planning, and improving articulation.

(3) Effective lines of communication have been established between the Caldwell County School System and local industry. It is recommended that this foundation be built upon and continued.

(4) Work should continue on the Learning Activity Packages, and these curriculum materials should be field tested throughout Caldwell County.

(5) Extensive guidance and screening should be conducted before the selection of students for the 1975-76 program.

Appendix A containing A Proposal for Evaluation of the Guidance Oriented Alternative Work Experience Program and Follow-Up Study was not reproducible and was removed from this document prior to its being submitted to the ERIC Document Reproduction Service.

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APPENDIX B

GUIDANCE ORIENTED ALTERNATIVE WORK EXPERIENCE PROJECT

On-Site Evaluation

April 16, 1975

8:00 - 9:00 Orientation Caldwell County administrative offices
Welcome - Dr. Gerald D. James, Supt.
Introduction of evaluation team - Dr. Ron Tuttle, Director Third Party Evaluation
Special Problems - Bill Stone, Project Director
Career Guidance Materials
Review of evaluation packets - Dr. Tuttle
Team Assignments

Guidance Team - escort Martie Barnes
9:30 Lenoir High School
10:30 Gamewell-Collettsville High School
11:30 Hibriten High School
12:30 Granite Falls High School (LUNCH)
2:00 Hudson High School
2:45 Caldwell County Administrative Offices
2:45 Talk with project staff
3:30 Team time to complete evaluation forms

Furniture Team - escort Bill Stone
9:30 - 11:00 Lenoir High School
9:30 Talk with principal
10:00 Observe furniture program
10:30 Look at individualized materials produced by the project in library
11:00 - 12:00 Talk to Dan Wortman, Bernhardt Ind.
12:00 - 1:00 LUNCH
1:00 - 2:15 Plant tour of Bernhardt Plant #1
2:45 Caldwell County School Administrative Offices
2:45 - 3:30 Talk with project staff, secondary coordinator and occupational director
3:30 - 4:30 Team time to complete evaluation forms

Textile Team - escort Bruce Whitely
9:30 - 11:00 Granite Falls High School
9:30 Talk with principal
10:00 Observe textile program
10:30 Look at individualized materials produced by the project in library
11:00 - 12:00 Talk to Steve Bumgarner, Shuford Mills, Inc.
12:00 - 1:00 LUNCH
1:00 - 2:15 Plant tour
2:45 Caldwell County School Administrative Offices
2:45 - 3:30 Talk with project staff, secondary coordinator and occupational director
3:30 - 4:30 Team time to complete evaluation forms

APPENDIX C

GUIDANCE ORIENTED ALTERNATIVE WORK EXPERIENCE PROJECT

Funding Period: July 1, 1974 to June 30, 1976

Funding Amount: $123,363.00

Grant Authority: P. L. 90-576, Title I, Vocational Education, Part C, Research and Training in Vocational Education, CFDA #13.498, APPRO: 7540273, CAN: 2001319, OBJ. CL.: 41.51

PROJECT PERSONNEL

1. Director: William S. Stone (24 Months)
2. Textile Coordinator: Michael K. Holt (12 Months)
   Granite Falls High School
3. Furniture Coordinator: William White (12 Months)
   Lenoir High School
4. Guidance Coordinator: Martha A. Barnes (10 Months)
5. Placement Coordinator: Burl Duncan
   (Paid out of state man-month funds) Assigned to the project
6. Research Assistant: Debra Pennell (16 Months)
7. Project Secretary: Rebecca A. Robbins (23 Months)

OBJECTIVES AND PRODUCTS OF THIS STUDY

I. Development of comprehensive career guidance programs within the county high schools.

   A. Development of an occupational education orientation package consisting of a guidebook and a slide-tape presentation on occupational education for 8th grade students.

   B. Development of a procedure to test 10th grade students for interest and design ways to use this data to better plan future programs based on student need.

   C. Career guidance materials furnished to each guidance office in Caldwell County Schools.

   D. Development of counselor tips or information sheets on such subjects as companies that market testing materials and agencies in Caldwell County that offer services to high school students.

   E. Demonstrating the value of special assembly speakers who would talk on such subjects as attitudes and behavior.

   F. Demonstrating value of a broad testing program to high school guidance counselors.

II. Establish a county wide job placement program to serve high school students in Caldwell County.

   A. Unit wide job placement service is operational serving all five high schools in the Caldwell County Schools.

   B. Development of a guidebook on job placement for other units to use has begun.

D. Development of a student booklet on "How To Get A Job" has begun.

III. Development of work experience programs that will seek teaching innovations to improve the quality of instruction in our cooperative program areas.

A. Develop an individualized general related curriculum for use in Industrial Cooperative Training Programs.

B. Develop technical manuals on textile and furniture manufacturing for use in Industrial Cooperative Training Programs.

C. Initiate workshops to train the I.C.T. instructors in Caldwell County in the use of individualized materials. (Fall, 1975)

D. Establish advisory committees in furniture and textile manufacturing which will work jointly with the project in developing technical related materials for use in Industrial Cooperative Training classes.

IV. Develop procedures to successfully obtain follow-up information on graduates of the Caldwell County School System and to develop ways to utilize this data in program planning.

A. A questionnaire was used to obtain follow-up data from the 1974 graduates but only a 30% response was obtained.

B. The 1975 graduates will be contacted by phone in order to achieve a much higher response. This data will then be compiled and distributed to program planners across Caldwell County.

Page 100 consisting of a budget summary chart was not reproducible and was removed from this document prior to its being submitted to the ERIC Document Reproduction Service.

APPENDIX D

I. One of the objectives of the Guidance Oriented Alternative Work Experience Project is the development of a comprehensive career guidance program in the Caldwell County high schools. To what extent has this objective been met?

(a) What are the greatest strengths or most notable features of the career guidance program?

(b) What are the weakest or least adequate features of the career guidance program?

(c) What recommendations or changes would you suggest for the career guidance program?

(d) Other comments or observations about the career guidance program.

II. Another objective of the Guidance Oriented Alternative Work Experience Project is the implementation of a model job placement program to serve all high school students within the Caldwell County School System. To what extent has this objective been met?

(a) What are the greatest strengths or most notable features of the job placement program?

(b) What are the weakest or least adequate features of the job placement program?

(c) What recommendations or changes would you suggest for the job placement program?

(d) Other comments or observations about the job placement ~~career guidance~~ program.

APPENDIX E

1. One of the objectives of the Guidance Oriented Alternative Work Experience Program is to establish model work experience programs in the areas of textiles and furniture manufacturing that will provide both the skill, development, and job climate necessary to achieve and maintain meaningful employment in local industries. To what extent has this objective been met?

(a) What are the greatest strengths or most notable features of the alternative work experience program?

(b) What are the weakest or least adequate features of the alternative work experience program?

(c) What recommendations or changes would you suggest for the alternative work experience program?

(d) Other comments or observations about the alternative work experience program.

I. The Guidance Oriented Alternative Work Experience Project has developed learning activities packages for the Industrial Cooperative Training curriculum. What is your evaluation of these curriculum materials?

(a) What are the most outstanding or notable features of the ICT curriculum materials?

(b) What are the weakest or least adequate features of the ICT curriculum materials?

(c) What recommendations or changes do you suggest for the ICT curriculum materials?

(d) Other comments or observations concerning the ICT curriculum materials.

APPENDIX F

Name _____ High School Attended _____

EMPLOYMENT

1. Are you currently employed on a full time basis?
   Yes_____
   No _____

2. State name of your employer: _____
   When were you employed? _____
   What is your title? _____
   What are your duties or responsibilities? _____
   _____
   Please check your expected annual salary range:
   ( ) $ 00. —$ 1000.
   ( ) $1000. —$ 2500.
   ( ) $2500. —$ 5000.
   ( ) $5000. —$ 7500.
   ( ) $7500. —$10000.
   ( ) over $10,000.

3. Did you encounter difficulty in securing employment?
   Yes_____
   No _____

4. Check method(s) used in obtaining employment:
   ( ) Applied directly to employer.
   ( ) Referred to employer by friends or relatives.
   ( ) Referred to employer by the N.C. State Employment commission.
   ( ) Referred to employer by the school.
   ( ) If none of the above state the method you used in getting your job. ____
   _____

5. Would you say that you:
   ( ) Are extremely pleased with your job.
   ( ) Are moderately pleased with your job.
   ( ) Think of it as an average job, just somewhere to work.
   ( ) Dislike your job.
   ( ) Have intense dislike for your job.

6. Do you feel your chances for advancement are:
   ( ) Good
   ( ) Average
   ( ) Poor

7. Do you consider your duties to be:
   ( ) Extremely hazardous
   ( ) Fairly safe
   ( ) Completely safe

8. Would you recommend your job and your employer to your friends?
   Yes _____ Explain _____
   No _____ Explain _____

EDUCATION

9. Are you currently enrolled in a:
   ( ) 4-year college
   If so give name of college. _____
   ( ) 2-year college or technical institute
   If so give name of institution. _____
   ( ) Trade school
   If so give name of school. _____
   ( ) None of the above.

10. When will you start college? _____

11. What is your anticipated graduation date? _____

12. Please state your major course of studies. _____

13. What is your minor? _____

14. Please indicate the reason(s) for your occupational choice: _____
    _____
    _____

15. If you attend an institution out of the Caldwell County area do you plan to return to the county to work in your chosen field?
    Yes _____
    No _____

U. S. MILITARY

16. Did you enter the military after graduation?
    Yes _____
    No _____

17. Check your branch of service
    ( ) Army
    ( ) Navy
    ( ) Air Force
    ( ) Marine Corps

18. Do you tentatively plan a permanent career in the military?
    Yes _____
    No _____
    If not what is your expected discharge date? _____

19. While in service are you now or will you be working toward a specific skill?
    Yes _____
    No _____
    If yes indicate the skill _____

20. If you do not stay in service on a permanent basis will you return to Caldwell County to work?
Yes _____
No _____

21. If college is planned state your college preference: _____

_____

OCCUPATIONAL PREPARATION

22. Regarding school preparation for your occupational choice please check one of the following that is most appropriate to you.
( ) High School curriculum (courses) was extremely beneficial.
( ) High School curriculum (courses) was more than adequate.
( ) High School curriculum (courses) was adequate.
( ) High School curriculum (courses) offered very little assistance.
( ) High School curriculum (courses) was totally worthless.

23. Would you prefer to see the high school curriculum:
( ) More academically oriented?
( ) More occupationally oriented?
( ) Remain as it is?

24. Did the following departments in high school meet with your expectations?

English Dept. Yes _____ No _____
Explain _____

Math and Science Dept. Yes _____ No _____
Explain _____

Social Studies Dept. Yes _____ No _____
Explain _____

Business Dept. Yes _____ No _____
Explain _____

Vocational Dept. (including Home Ec.) Yes _____ No _____
Explain _____

Guidance Dept. Yes _____ No _____
Explain _____

25. Please offer your comments, ideas, and suggestions as to how school administration in meeting the needs of all students could make school more meaningful, more relevant, and more interesting.

_____

_____

_____

Thank you for your cooperation.

Burl F. Duncan

APPENDIX G

CRITERIA - GRADES 4-9

CATEGORY I - Academic Abilities and Achievement

1. History of academic failure and low scholastic achievement. Any student who has been retained and/or who has failed two or more courses and/or who has a D average or below should be flagged for further study.
2. Depressed reading scores. Any student who has an ID from criterion I_1, and has a standardized reading score more than 1.5 grade levels below norms should be given "tentative" identification.
3. Depressed IQ. Any student who exhibits criterion I_1 and I_2 and has a measured IQ from 0-16 percentile should be given "possible" identification.
4. Low academic motivation. By teacher observation, any student who exhibits criterion I_1 and I_2 and/or I_3 and is lax in completing assignments, forgetful of academic obligations, indifferent in doing in-class assignments, inattentive during class discussions, has low achievement scores and/or is unprepared consistently to do classwork, should be given a "probable" identification.

CATEGORY II - School Environment

1. High absentee rate. Any student who can be characterized by any three criteria in Category I and has an absentee rate more than five days per marking period should be given a "probable" identification. Each criterion less than three will reduce the classification one level.
2. Abrasive and self-denying behaviors. Any student who can be

characterized by any three criteria in Category I and consistency is rude, disruptive, clownish, self-deprecating, and/or hostile, should be given a "probable" identification. Any student who shows all characteristics listed so far is "most probable" and should receive immediate attention.

3. Frequent transferring of schools. Any student who can be characterized by any three of the existing six criterion and has a history of attending excessive numbers of different schools should be given a "possible" identification. For each additional criterion that can be applied, the identification classification should be raised one level.

CATEGORY III - Familial

1. Low parental education. Any student who has been classified by the above seven criterion and whose parent(s) have less than an eighth grade education should be reclassified one level higher.
2. Low support to achieve. Any student who has been classified by the seven criterion in categories I and II and whose parent(s) are indifferent to his/her school achievements should be reclassified one level higher. If both familial criterion apply, the reclassification should be two levels higher.

CATEGORY IV - Physical

1. Visual-Motor Problems. Any student who has been classified by the criterion given in Categories I-III and has observed problems in visual-motor coordination such as apparent dyslexia or lack of hand-eye coordination in physical education should be reclassified one level higher.

2. Untreated dental and medical problems. Any student who has been classified by the criterion in Categories I-II and who shows medical and/or dental symptoms that are untreated, including poor nutrition, should be reclassified one level higher. If both physical criterion apply, the reclassification should be two levels higher.

CATEGORY V - Social Relationships

1. Non-participant in school activities. Any student who has been classified by the criterion in Categories I-IV and who has little or no participative activity in the school's extra-curricular program should be reclassified one level higher.
2. Reported delinquent activity. Any student classified by the criterion in Categories I-III and who has been arraigned for delinquent activities such as running away, substance abuse (drugs, alchohol, etc.), assault, breaking and entering, and larceny should be reclassified one level higher. If both social relationship criterion apply, the reclassification should be two levels higher.

CATEGORY VI - Personality Characteristics

1. Low attitude toward school. Any student who has been classified by the criteria in Categories I-IV and who has a low attitude toward school should be reclassified one level higher.
2. Low need to achieve. Any student who has been classified by the criterion in Categories I-IV and who indicates a low need to achievement should be reclassified one level higher. If both personality criteria apply, the reclassification should be two levels higher.
3. Low desire for order and control. Any student who has been classified by the criterion in Categories I-V and who reveals a low desire

for control and orderliness should be reclassified one level higher. If one other personality criterion applies, the reclassification should be moved up two levels. If all three apply, the reclassification should go up three levels.

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SUMMARY SHEET

Student's Name _____ School _____

Age _____ Grade _____ Sex _____ HR _____

Home Address _____

Parent(s) Name _____ Phone _____

Criteria

Category/Criterion	YES	NO	N/A	1 - 6 *SCALE
I. Academic Abilities & Achievements				
1. Academic Failure/Low GPA				
2. Low Reading Score				
3. Low I. Q.				
4. Low Academic Motivation				
II. School Environment				
1. High Absentee Rate				
2. Abrasive Behavior				
3. Frequent Transfers				
III. Familial				
1. Low Parent Education				
2. Low Support to Achieve				
IV. Physical				
1. Visual-Motor Problems				
2. Untreated Medical/Dental				
V. Social Relationship				
1. Non-Participant/Extra-Curr.				
2. Delinquent Behavior				
VI. Personality Characteristics				
1. Low Attitude Toward School				
2. Low Need to Achieve				
3. Low Desire For Order				
TOTAL	#	#	#	

*Scale Values:

1:Flag 2:Tentative 3:Possible 4:Probable 5:Most Probable 6:Near Certain

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APPENDIX H

ANALYSIS OF RESULTS FROM THE

DROP-OUT IDENTIFICATION SYSTEM

1. As suspected, the academic area (1_1-1_4) turned out to be most predictive of drop-out potential. This finding is consistent with the literature and with our own hypothesis.

* 2. <u>The single greatest contributor to drop-out potentiality is an inadequate reading ability</u>. Since schooling is so highly verbal oriented, an inability to read will negatively influence many other manifestations of drop-out potentiality. An unsuccessful reader, by and large, is an inadequate and unsuccessful student.

3. Excessive absenteeism is not a major factor in drop-out potential in Caldwell County. The spread of students identified as excessive in absence increases with age, a factor consistent with the reality that ADA is higher in elementary schools than in secondary or middle schools.

4. As indicated by 1_4 (Low Motivation to Achieve), 111_2 (Low Home Support for Achievement) and V_1 (Non-participant in extra curriculars) much work needs to be done to strengthen the affective education of Caldwell students. For students who exhibit these characteristics, ways must be found to build their confidence and self-image.

5. Based on the finding in the third area dealing with parental influence, some rather intensive work in parent effectiveness is warranted, particularly for Special Education youngsters.

6. Lack of academic success (and hence drop-out potential) does not manifest itself in abrasive or abusive behavior in all

instances. In fact, less than half as many cases were categorized for abrasive behavior is a sympton, but not a cause of drop-out potential.

7. Physical status seems to be a minor factor in predicting drop-out potential. While the presence of untreated medical and/or dental problems, or the presence of visual-motor difficulties is real to those who possess them, they make up a small portion of the total number identified.

8. It would appear that while no single attendance area has a significatnly more pronounced problem than others, several schools seem to have a significantly higher proportion identified. The county average was 9 per cent. Eleven schools registered percentages above that figure; eight registered below. Five recorded a proportion at 12 per cent or above. I would suggest that if target schools are to be taken, they should be selected in decending order of percentage. This is not to pick on or shame a particular school; it is a recognition of the location of problem concentration.

9. The classification sub-system revealed that as the severity of the categories increased, so did the number of students so classified, ranging from one (flagged) to 442 (near certain). The whole matter of dropout prevention by curricular means needs severe attention.

10. No particular grade level stands out as needing more attention than others. The numbers are pretty consistent.

SCHOOL	MEMBERSHIP 5th School Month	NUMBER STUDENTS IDENTIFIED	PERCENT
Baton Elementary	739	75	10%
Collettsville Elem.	471	26	6%
Davenport Elem.	244	17	7%
Dudley Shoals Elem.	402	43	11%
East Harper Elem.	270	9	3%
Gamewell Elem.	834	80	10%
Gamewell Middle	310	61	20%
Granite Falls Elem.	929	100	11%
Happy Valley Elem.	542	90	17%
Hudson Elem.	1286	61	5%
Kings Creek Elem.	299	35	12%
Lenoir Middle	533	36	7%
Lower Creek Elem.	431	31	7%
Oak Hill Elem.	235	14	6%
Rhodhiss Elem.	233	24	10%
Saw Mills Elem.	589	19	3%
Valmead Elem.	331	88	27%
West Lenoir Elem.	392	75	19%
Whitnel Elem.	925	96	10%
TOTAL:	9995	980	9%

REGULAR STUDENTS - 980 STUDENTS IDENTIFIED

Schools	Grade Level							
	2	3	4	5	6	7	8	TOTAL
Hudson Elementary	4	12	8	12	8	12	5	61
Baton Elementary	3	6	11	14	13	18	10	75
Saw Mills Elemen.	2	1	-	6	2	2	6	19
Whitnel Elementary	12	25	8	17	10	13	11	96
TOTAL ATTENDANCE AREA:				(Hudson)				251
Oak Hill Elemen.	1	1	5	3	2	-	2	14
Kings Creek Elem.	-	-	6	6	12	11	-	35
Valmead Elementary	21	13	11	21	22	-	-	88
Lower Creek Elem.	7	8	7	2	7	-	-	31
Happy Valley Elem.	22	19	9	4	12	9	15	90
TOTAL ATTENDANCE AREA:				(Hibriten)				258
Granite Falls El.	3	11	7	17	13	12	37	100
Dudley Shoals El.	2	2	-	8	8	14	9	43
Rhodhiss Elementary	2	3	2	6	1	-	10	24
TOTAL ATTENDANCE AREA:				(Granite Falls)				167
Lenoir Middle	-	-	-	-	-	20	16	36
West Lenoir Elem.	11	12	18	14	20	-	-	75
East Harper Elem.	1	8	-	-	-	-	-	9
Davenport	-	-	3	6	8	-	-	17
TOTAL ATTENDANCE AREA:				(Lenoir)				137
Gamewell Elementary	14	20	13	18	15	-	-	80
Collettsville Elem.	2	4	3	5	3	5	4	26
Gamewell Middle	-	-	-	-	-	35	26	61
TOTAL ATTENDANCE AREA:				(Gamewell Collettsville)				167
							TOTAL:	980

SUPERINTENDENT'S SUMMARY
Special Education

Criterion	Grade Level 2	3	4	5	6	7	8	9	T	%
Ia - Academic Failure	11	22	20	21	17	33	27	0	151	90.4
Ib - Low Reading	10	26	22	25	17	37	25	0	162	97.0
Ic - Low IQ	8	23	18	22	17	35	27	0	150	89.8
Id - Low motivation	12	21	18	17	11	26	23	0	128	76.6
IIa - Absenteeism	3	3	2	2	2	8	9	0	29	17.4
IIb - Abrasive Behavior	2	14	3	4	7	15	3	0	48	28.7
IIc - Transfers	0	1	3	2	0	0	1	0	7	4.2
IIIa - Low Home Education	3	12	10	10	10	26	14	0	85	50.9
IIIb - Low Home Support	8	10	16	15	9	23	14	0	95	56.9
IVa - Visual-Motor Prob.	5	13	7	4	1	6	2	0	38	22.8
IVb - Untreated Problems	4	4	10	6	4	9	4	0	41	24.6
Va - Non-Participant	7	6	9	9	10	23	17	0	78	46.7
Vb - Delinquency	0	0	0	1	0	3	1	0	5	3.0
TOTAL	12	26	22	25	17	37	28	0	167	

SUPERINTENDENT'S SUMMARY
Regular Education

Criterion	Grade Level 2	3	4	5	6	7	8	9	T	%
Ia - Academic Failure	88	103	83	119	122	138	125	0	778	79.4
Ib - Low Reading	84	140	102	152	140	133	131	0	882	90.
Ic - Low IQ	29	93	72	97	105	90	97	0	583	59.5
Id - Low Motivation	80	94	92	130	133	130	134	0	793	80.9
IIa - Absenteeism	14	15	16	18	30	40	48	0	181	18.5
IIb - Abrasive Behavior	32	44	43	56	56	45	45	0	321	32.8
IIc - Transfers	3	5	6	4	6	8	13	0	45	4.6
IIIa - Low Home Education	32	73	34	67	56	53	69	0	384	39.2
IIIb - Low Home Support	56	88	58	83	65	67	98	0	515	52.6
IVa - Visual-Motor Prob.	21	20	13	18	13	6	3	0	94	9.6
IVb - Untreated Problems	30	29	20	30	23	23	23	0	178	18.2
Va - Non-Participant	30	58	36	68	61	91	94	0	438	44.7
Vb - Delinquency	5	1	2	9	6	8	9	0	40	4.1
TOTAL	106	145	111	159	157	151	151	0	980	

APPENDIX I

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1. Notify the parent or guardian in writing, giving a detailed account of the charges and the grounds justifying his action;

2. Request the parent or guardian to appear at school at their earliest convenience, accompanied by the student, to discuss the charges against the student, review the evidence in the case, and investigate the possibility of conciliation.

C. In cases of suspension in excess of ten (10) school days, or expulsion (dismissal), or any suspension during the last ten (10) school days of the school year, the following procedural guidelines will be followed.

1. The principal will notify the parent or guardian in writing, giving a detailed account of the charges and the grounds justifying his action.

2. The principal will further inform the parent or guardian of the student's right to a hearing before the Superintendent of Caldwell County Schools (or in the event of his absence or disability, his designee) who will act as the hearing authority. Such hearings shall be held not less than five (5) nor more than ten (10) school days after the date of dismissal.

3. The principal will also notify the parent or guardian of the students right to be represented by legal counsel at the hearing.

4. The principal will furnish the Superintendent with copies of all correspondence pertaining to the case; and to the parent, guardian, or legal representative if requested.

The following procedural guidelines will govern the hearing:

1. The parent or guardian may be present at the hearing.

2. The student, parent, or guardian may be represented by legal counsel.

3. If he so desires, the hearing authority will have legal counsel from the Board Attorney.

4. A record of the hearing shall be kept.

5. The principal shall present his findings and the reasons for his action.

6. The student shall be allowed to observe all evidence offered against him, and he shall be allowed to question any witness.

7. The student shall be allowed an opportunity to give his version of the facts and their implications. He shall also be allowed to offer other evidence and the testimony of other witnesses.

8. The hearing authority shall be impartial and make his determination solely on the evidence presented at the hearing.

9. The hearing authority shall state within a reasonable time after the hearing, and before it is adjourned, his findings as to whether or not the student is guilty of the conduct charged and his decision, if any, as to disciplinary action.

10. The findings of the hearing authority shall be reduced to writing and sent the student and his parent or guardian.

11. The student and his parent or guardian shall be informed of their right to appeal to the Caldwell County Board of Education and/or the courts.

12. If either the hearing authority (Superintendent) or the appellate authority (Board of Education) find against the student, the suspension or expulsion (dismissal) will remain in effect until reversed by a higher appellate authority, or until the suspension or expulsion period is over, whichever comes first.

D. All notifications required by this regulation will be deemed complied with if notice is mailed to the last address on record of a parent or guardian as shown in school files.

Caldwell County Board of Education Members

Mrs. Barbara H. Deverick, Chairman

James L. Clark, Vice-Chairman

T. Maneval Bolick

Dr. Jack L. Church

Dr. Allen R. Hefner

Roy M. Reid

Robert N. Styres

For further information, contact:

Dr. Gerald D. James
Superintendent
Caldwell County Schools
Drawer 1590
Lenoir, N. C. 28645

Responsibility of School Personnel for School Conduct, Behavior, and Discipline

"The Caldwell County Board of Education recognizes that discipline should assist the student in discarding immature ways of satisfying urges and substituting some mature forms of self-expression. Positive measures which best serve to fulfill this purpose should be used whenever possible in dealing with student behavior, and in no case should student achievement be penalized as a means of discipline. However, if a student is suspended or has an unexcused absence, the teacher may or may not accept make-up work. Therefore, corporal punishment, suspension, and expulsion are measures to be employed only after available school and support services have been considered, or when school personnel are unable to cope constructively with pupil misconduct, or where emergency conditions require the use of corporal punishment, suspension, or recommendations for expulsion." (Board Policy JD)

"The hallmark of the exercise of disciplinary authority in the Caldwell County Schools will be fairness. The Constitutional rights of individuals assures the protection of due process of law; therefore, this system of legally sound procedures is developed with regard to the administration of discipline in the schools." (Board Regulation JCAA-R)

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Responsibility of Administration

The Superintendent and his designated representatives shall support principals and teachers in the proper exercise of their disciplinary responsibility. In addition, the Superintendent or his designee shall be responsible for seeing that all state and local laws relating to student behavior and all school board policies and regulations are enforced and that copies of specific policies, laws, rules, and regulations are distributed to parents and teachers.

Responsibility of Principals

It is the principal's responsibility to maintain good discipline. He shall enforce in his school all state and local laws and regulations pertaining to the development of good discipline. He may delegate to the assistant principal or to any teachers such duties as may be desirable for the orderly operation of the school. However, he retains the final responsibility for all conduct in his school.

In addition, the principal shall provide for the development of a code of behavior for the school which he administers. This code shall include rules not in conflict with school board policy, which the principal, members of the advisory committee, teachers and students deem necessary in order to provide for the development of wholesome human relationships to further the effective and efficient operation of the school.

Responsibility of Teachers

Teachers are responsible for the development of well-planned classroom activities. It is the duty of the teacher to attend to the disciplinary problems in the classroom and in the school (both in the building and on the playground) and to encourage a high standard of conduct among all students. Teachers are authorized to administer any reasonable punishment.

Corporal Punishment

Caldwell County Board of Education policy JDA based on N. C. State Law (115-146) gives principals, teachers, substitute teachers, voluntary teachers, teachers' aides, assistants, and student teachers in the public schools the right to use reasonable force in the exercise of lawful authority to restrain or correct pupils and maintain order.

These guidelines are to be followed in the administration of corporal punishment; however, guideline (2) need not be followed when the behavior is . . . "so anti-social or disruptive in nature as to shock the conscience." (Baker vs Owen)

1. Corporal punishment should never be administered to a student known by school personnel to be under psychological treatment unless there has been a pre-conference with the school psychologist or that student's physician.

2. Corporal punishment should not be used until alternative methods of punishment have been unsuccessfully tried first, and unless the child has been warned that corporal punishment may be the result of further misbehavior.

3. A second school official is required to witness the punishment. The student must be told the reason for the punishment in the presence of the above witness before punishment is administered.

4. Parents who request a written explanation as to the reason for the punishment should be provided with such an explanation.

5. The person administering the discipline shall maintain a record of all instances where corporal punishment is administered. This record shall contain the name of the student, the date, the time, the number of strokes administered, the infraction of rules which caused the punishment, who administered the punishment, and the name of the adult witness. This shall be a private record of the person administering the punishment.

Suspension and Expulsion

Some types of conduct for which students who violate these regulations may be suspended or expelled are listed below (Board Policy JD). The list is not intended to include all of the regulations, but rather to illustrate clearly the types of conduct which the Board feels are inconsistent with the orderly and efficient operation of the Caldwell County Schools.

1. Students shall refrain from fighting.

2. Students shall refrain from drinking or possessing intoxicating beverages at school or at school activities.

3. Students shall refrain from partaking of or possession of illegal narcotics at school or at school activities.

4. Students shall refrain from gambling.

5. Once students have entered upon the school grounds, they shall remain there until the close of the day, unless they are granted permission to leave by the principal. They are expected to report to school on time and to report to each class on time.

6. Students under 16 years of age shall obey the attendance laws of the state. Those over 16 years of age shall observe the same laws if they choose to remain in school.

7. Students shall not possess or explode any type of fireworks or explosives.

8. Smoking will be permitted only at designated times and places. The times and places will be designated by the principal.

9. Students are expected to be properly dressed commensurate with the activity being conducted. Grooming which does not meet the social standards of the community will not be allowed.

10. Students shall not carry a concealed weapon.

11. Students shall refrain from engaging in any activity that would disrupt the normal school procedure.

The above shall apply at all school functions, on or off campus.

Student Due Process Rights

The following procedures shall be followed in dealing with any alleged violation of the above regulations: (Board regulation JCAA-R)

A. Before any suspension of a student from the Caldwell County Schools, unless said student poses a continuing danger to person or property or an on-going threat of disrupting the academic process, the principal will

1. Give the student either oral or written notice of the charges against him;
2. Give an explanation of the evidence against the student if he denies the charges against him;
3. Provide the student an opportunity to present his side of the story;

B. In case of a student's suspension from school for ten (10) school days or less, the principal will

ACCESSION NUMBER: VT103369

PUBLICATION DATE: 1JUL76

TITLE: GUIDANCE ORIENTED ALTERNATIVE WORK EXPERIENCE PROGRAM AND FOLLOW-UP STUDY. FINAL REPORT.

PERSONAL AUTHOR: STONE, WILLIAM S.

DESCRIPTOR: SECONDARY EDUCATION; *INSTRUCTIONAL MATERIALS; CURRICULUM GUIDES; INDUSTRIAL TRAINING; TRADE AND INDUSTRIAL EDUCATION; PROGRAM DESCRIPTIONS; COUNTY SCHOOL SYSTEMS; DROPOUT IDENTIFICATION; FURNITURE INDUSTRY; RURAL AREAS; *WORK EXPERIENCE PROGRAMS; *JOB PLACEMENT; *COOPERATIVE PROGRAMS; *GUIDANCE PROGRAMS; MANUALS

IDENTIFIER: CALDWELL COUNTY; NORTH CAROLINA

EDRS PRICE: MF AND HC AVAILABILITY WILL BE ANNOUNCED IN VOL. 10, NO. 2.

DESCRIPTIVE NOTE: 897P.; RELATED DOCUMENT VT 103 368 IN THIS ISSUE. PAGES 40, 41, 42, 43, 44, 58 THROUGH 62, 887 THROUGH 906 AND APPENDIXES A AND J WERE REMOVED. THEY ARE NOT INCLUDED IN THE PAGINATION. PORTIONS OF THIS DOCUMENT ARE OF MARGINAL REPRODUCIBILITY. BEST COPY AVAILABLE.

ABSTRACT: THE DOCUMENT CONTAINS A SUMMARY REPORT (22 PAGES) AND EXTENSIVE APPENDIXES DETAILING A TWO-YEAR PROJECT DESIGNED TO: (1) DEVELOP COMPREHENSIVE CAREER GUIDANCE PROGRAMS WITHIN THE COUNTY HIGH SCHOOLS; (2) ESTABLISH A MODEL COUNTY-WIDE JOB PLACEMENT PROGRAM FOR HIGH SCHOOL STUDENTS; (3) DEVELOP WORK EXPERIENCE PROGRAMS IN TEXTILE AND FURNITURE MANUFACTURING; AND (4) DEVELOP AN INDIVIDUALIZED CURRICULUM FOR INDUSTRIAL COOPERATIVE TRAINING CLASSES. ALONG WITH SUPPORTIVE MATERIALS DESCRIBING PROJECT ACTIVITIES, STUDENT TEST RESULTS, AND THE EVALUATION PLAN, THE PRODUCTS DEVELOPED ARE INCLUDED IN THE REPORT. AN INDIVIDUALIZED CURRICULUM FOR INDUSTRIAL WORK EXPERIENCE PROGRAMS COMPRISES 30 UNITS, EACH CONTAINING OBJECTIVES, LEARNING ACTIVITIES, AND TESTS. UNIT TOPICS INCLUDE EMPLOYMENT INFORMATION, HUMAN RELATIONS, DAILY LIVING SKILLS, AND BASIC MATH SKILLS. TWO TRAINING MANUALS, ONE FOR TEXTILE MANUFACTURING AND ONE FOR FURNITURE MANUFACTURING, PRESENT DETAILED TRAINING PLANS FOR SPECIFIC JOBS IN THESE TWO INDUSTRIES AND SUPPLEMENTARY TECHNICAL INFORMATION. OTHER PRODUCTS ARE: A COMPUTERIZED DROPOUT IDENTIFICATION SYSTEM, A TRANSPORTABLE MODEL FOR A JOB PLACEMENT SERVICE IN RURAL AREAS, A GUIDEBOOK ON OCCUPATIONAL EDUCATION FOR EIGHTH GRADE STUDENTS, AND BROCHURES ON A DISCIPLINE CODE OF CONDUCT FOR TEACHERS, PARENTS, AND STUDENTS. (RG)

CONTRACT NUMBER: OEG-0-74-8580

INSTITUTION NAME: CALDWELL COUNTY PUBLIC SCHOOLS, LENOIR, N.C.

VT 103369

SPONSORING AGENCY NAME: OFFICE OF EDUCATION (DHEW), WASHINGTON, D.C.

BEST COPY AVAILABLE

FINAL REPORT

Project Number: V0180VZ
Grant Number: OEG-0-74-8580

Guidance Oriented Alternative Work Experience Program and Follow - Up Study

Research Project in Vocational Education
Conducted Under
Part C of Public Law 90 - 576

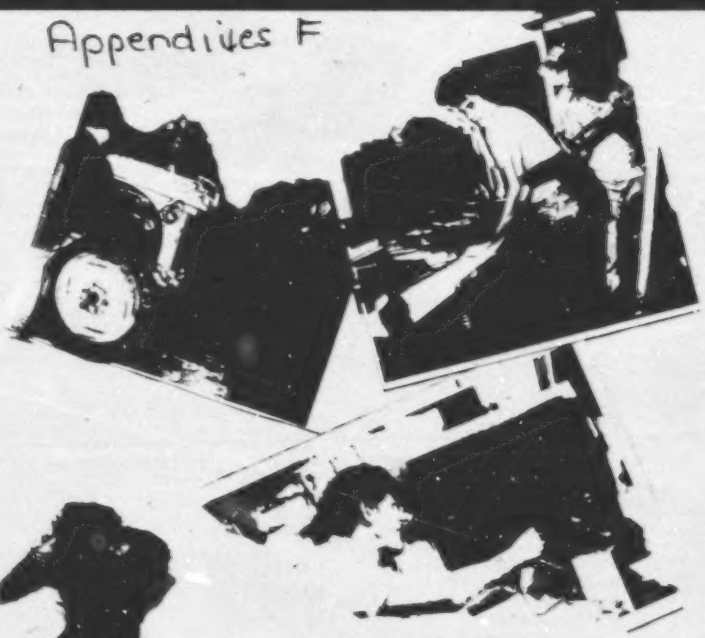
William S. Stone
Caldwell County Schools
Drawer 1590
Lenoir, North Carolina 28645

July 1, 1976

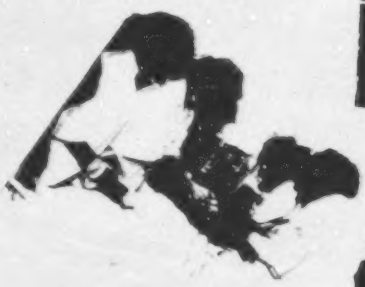
CE 009 037
VT 103 369

Appendives F

HIGHLIGHTS



OF OCCUPATIONAL EDUCATION



IN CALDWELL COUNTY SCHOOLS

4

SEX BIAS IN OCCUPATIONAL EDUCATION

Any student, both male and female, college-bound or non-college-bound, will be afforded the opportunity to enroll in any occupational course offered in the Caldwell County School System.

For Further Information Contact:
Mr. Bruce Whitely
Director Occupational Education
Caldwell County Schools
Post Office Box 309
Lenoir, North Carolina 28645
Telephone: 754-5381 Ext. 53

FOREWORD

Occupational education is an integral building block in the comprehensive educational structure of the Caldwell County Schools. All students who want, need, and can profit from occupational education are enrolled in appropriate courses based on their interests, needs, and abilities with respect to present and anticipated employment opportunities.

The citizens of Caldwell County expect, need, and deserve a sound total education program for the young men and women, they send to their schools. Consequently, the school system must continually search for ways and means to improve the quality of the occupational education programs offered in our schools. The real test of our educational progress will be the extent to which our schools produce the productive well-rounded citizen in which we all can take pride.

This document represents a brief summary of the occupational courses now offered in our schools. We hope you will find the information both helpful and informative.

Dr. Gerald D. James
Superintendent
Caldwell County Schools

ACKNOWLEDGEMENT

This booklet was sponsored by the Guidance Oriented Alternative Work Experience Project; Grant Number OEG-O-74-8580, Project Number V0180VZ; a federally funded occupational research project. The design and printing of this booklet was done by the students in the Hibriten High School Graphics Department.

The project staff in their search for new approaches to vocational guidance felt a booklet of this type would enhance the occupational orientation of students as they prepare to go to high school, the awareness of all high school students of the availability of occupational courses, and the flow of information concerning occupational education to the citizens of Caldwell County.

William S. Stone
Project Director

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7006

TITLE: Introduction to Agriculture

GRADE LEVEL: Students enrolled in the 9th and 10th grades

UNIT CREDIT: 1

LOCATION OF COURSE OFFERING: Gamewell-Collettsville, Granite Falls, Hibriten, and Hudson High Schools

COURSE DESCRIPTION:

This course is designed to give students an understanding and appreciation in the broad field of agriculture. The course covers six areas: production farming, agriculture services, agriculture supplies, processing, distribution, and professionalism. Students are also introduced to the opportunities and requirements needed in agriculture occupations. The term agriculture as used in this course encompasses far more than farming. Although farming is the nucleus of all agriculture, other agricultural occupational areas are included.

7008

TITLE: Agricultural Science and Mechanics

GRADE LEVEL: Students enrolled in the 10th, 11th, and 12th grades

UNIT CREDIT: 1

LOCATION OF COURSE OFFERING: Gamewell-Collettsville, Granite Falls, Hibriten, and Hudson High Schools

COURSE DESCRIPTION:

Agricultural mechanics is designed to develop proficiencies in all phases of welding, small engine service and repair, internal combustion engines, tractor maintenance, system of power transmission, automation of mechanization electric motors and drives, chemical equipment, planting, tillage and harvesting equipment, with safety integrated in all aspects of these learning areas.

Instruction is also provided in the areas of animal science, plant science, soil science, and agricultural business. Emphasis is given to the practice of "learning by doing" – students apply the principles and concepts learned in planned learning experiences both during and after school hours.

7018 and 7019

TITLE: Agricultural Co-op

GRADE LEVEL: Students enrolled in the 11th and 12th grades

UNIT CREDIT: 2

LOCATION OF COURSE OFFERING: Granite Falls High School

COURSE DESCRIPTION:

Cooperative Education in Vocational Agriculture is a program which combines instruction at school with supervised learning experiences on the job which center around the student's field of interest. Although earning is an important aspect as cooperative education in agriculture, the key element is "learning" rather than "earning".

7030

TITLE: Agricultural Construction I

GRADE LEVEL: Students enrolled in the 11th and 12th grades

UNIT CREDIT: 1

LOCATION OF COURSE OFFERING: Gamewell-Collettsville High School

COURSE DESCRIPTION

This course enables students to develop an understanding of the basic principles and concepts essential for the construction of farm buildings and facilities and to developmental and manipulative skills necessary for the application of these principles. It is composed of four major units, each related to a specific occupation: (1) farm carpentry; (2) concrete and masonry; (3) rural electrification, and (4) water and waste disposal. Safety habits are developed in each unit of instruction.

7034

TITLE: Agriculture Mechanics I

GRADE LEVEL: Students enrolled in the 11th and 12th grades

UNIT CREDIT: 1

LOCATION OF COURSE OFFERING: Hibriten and Granite Falls High Schools

COURSE DESCRIPTION:

This course enables students to develop an understanding of the basic principles and concepts of engineering in the area of agricultural machinery and equipment; and to develop mental and manipulative skills necessary for the application of these principles and concepts. The course includes units of instruction in internal combustion engines, systems of power transmissions, welding; farm implements, and farm-product handling equipment.

7051

TITLE: Ornamental Horticulture

GRADE LEVEL: Students enrolled in the 11th and 12th grades

UNIT CREDIT: 1

LOCATION OF COURSE OFFERING: Hibriten High School

COURSE DESCRIPTION:

Learning experiences are provided through study and participation in classroom, laboratory, and through planned supervised practice at home, school or in an ornamental horticultural establishment. Vocational guidance and leadership development are integral parts of each unit of instruction. The course covers:

Plant Nursery Practice, including plant propagation, growing and handling plants, landscape planting.

Greenhouse Management, growing and handling flowers, and study of floral crops.

Landscape Gardening, including landscaping principles, public, private, and service areas landscape drawing, identification, setting, and maintenance of plants.

7050

TITLE: General Horticulture

GRADE LEVEL: Students enrolled in the 11th and 12th grades

UNIT CREDIT: 1

LOCATION OF COURSE OFFERING: Hibriten and Hudson High Schools

COURSE DESCRIPTION:

Learning experiences are provided through study, classroom, and laboratory exercises in General Horticulture. This includes production, management and marketing of fruits, vegtables, flowers and ornamental plants.

Horticulture practices, including propagation, plant nutrition, greenhouse and field management, pest control, mechanics, harvesting and marketing are included.

7070

TITLE: Forestry

GRADE LEVEL: Students enrolled in the 12th grade

UNIT CREDIT: 1

LOCATION OF COURSE OFFERING: Hibriten High School

COURSE DESCRIPTION:

This course is designed to enable students to develop an understanding of the underlying principles of plant science and soil science as related to forestry and forest management. Learning experiences are provided through classroom study, laboratory activities, and field trips to forest management areas.

7241 and 7251

TITLE: Cooperative Distributive Education

GRADE LEVEL: Students enrolled in the 11th and 12th grades who are 16 years old or older

UNIT CREDIT: First year - 2
Second year - 3

LOCATION OF COURSE OFFERING: Gamewell-Collettsville, Granite Falls, Hibriten, Hudson, and Lenoir High Schools

COURSE DESCRIPTION

This course is designed for students who have an interest in a career in retailing, wholesaling or business services. The course combines on-the-job training under school supervision with instruction in the class at school related to the student's work and interest. The classroom instruction includes a unit on marketing, selling, sales promotion, buying operation and management.

7221

TITLE: Marketing

GRADE LEVEL: Students enrolled in the 11th and 12th grades

UNIT CREDIT: 1

LOCATION OF COURSE OFFERING: Hudson High School

COURSE DESCRIPTION:

Marketing prepares high school students in becoming efficient in marketing the products of production to consumers and industrial users. The general purposes of marketing are to develop understandings, attitudes, and a desire to work in our nation marketplace; to provide an understanding of the importance of competition in our free enterprise economy; and to motivate youth through vocational interest to profit from the total secondary educational program. Students are prepared for various careers in marketing through the use of resource persons from the business community, through marketing studies, through observations of business practices through short-term employment, and through specialized studies or projects in keeping with the student's interests in some specialized field of marketing.

7831 and 7832

TITLE: Health Occupations I and II

GRADE LEVEL: Students enrolled in the 10th, 11th, 12th grades

UNIT CREDIT: First year - 1
Second year - 2

LOCATION OF COURSE OFFERING: Lenoir High School

COURSE DESCRIPTION:

Health Occupations I introduces the student to the health field, to concepts of personal, family, and community health and disease control, to the ethical and professional aspects of health occupations, to communication skills, to the basic sciences, and to the opportunities in the health field.

Health Occupations II provides the high school student with instruction in theory, and principles of health care, related health care information and basic health care skills. Through the co-operation of community health care facilities, the student is oriented to the clinical environment, to the medical team, and to the individual contributions of the assistant as a member of the health team.

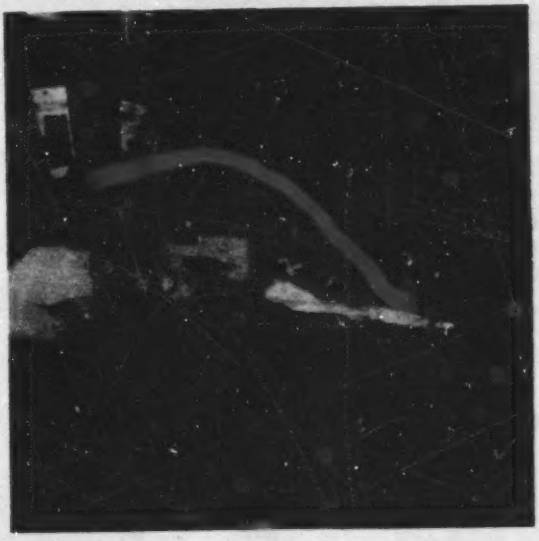
7110

TITLE: Introductory Home Economics

GRADE LEVEL: Students enrolled in the 10th, 11th, and 12th grades

UNIT CREDIT: 1

LOCATION OF COURSE OFFERING: Gamewell-Collettsville, Granite Falls, Hibriten, Hudson, and Lenoir High Schools



COURSE DESCRIPTION:

This course develops homemaking skills in the areas of food and nutrition, child care, consumer education, clothing construction, personal grooming, personal and family relationship, and housing. Various handicrafts and leisure time activities are also taught through the use of resource persons and hands-on experiences for the students. The course is designed as a basic introduction into consumer and homemaking economics.

7135

TITLE: Interpersonal Relationships

GRADE LEVEL: Students enrolled in the 11th and 12th grades

UNIT CREDIT: ½ unit

LOCATION OF COURSE OFFERING: Granite Falls High School

COURSE DESCRIPTION:

Advanced opportunities to study ways to prepare for multiple adult roles, including marriage; and ways the family is related to society; and to develop personal characteristics which contribute to employability. Emphasis is placed on the knowledge, skills and understandings in the area of interpersonal relationships which help prepare individuals for adult roles in the home, the community, and in employment.

7115

TITLE: Consumer Education

GRADE LEVEL: Students enrolled in the 9th, 10th,11th, or 12th grades

UNIT CREDIT: 1

LOCATION OF COURSE OFFERING: Lenoir High School

COURSE DESCRIPTION:

This course is designed for students who are interested in acquiring basic skills in food management and preparation along with emphasis on clothing needs. Concepts on consumer and managerial practices as well as changing family needs are incorporated into the course.

7132

TITLE: Advanced Clothing and Textiles

GRADE LEVEL: Students enrolled in the 10th, 11th, and 12th grades

UNIT CREDIT: 1

LOCATION OF COURSE OFFERING: Lenoir High School

COURSE DESCRIPTION:

This course places emphasis on learning which helps prepare individuals for adult responsibilities in meeting personal and/or family clothing needs; or for pursuing professions leading to employment in related occupations or professions.

7133

TITLE: Advanced Food and Nutrition

GRADE LEVEL: Students enrolled in the 11th and 12th grades

UNIT CREDIT: 1

LOCATION OF COURSE OFFERING: Hibriten High School

COURSE DESCRIPTION:

This course is designed to help prepare individuals for adult responsibilities and opportunities in satisfying personal and family food needs; or may contribute to the employability in food occupations or professional careers.

7120

TITLE: Advanced Home Economics

GRADE LEVEL: Students enrolled in the 10th, 11th, and 12th grades

UNIT CREDIT: 1

LOCATION OF COURSE OFFERING: Gamewell-Collettsville, Granite Falls, Hudson, and Hibriten High Schools

COURSE DESCRIPTION:

This course is designed as a sequential course to any of the introductory home economics courses. The course provides advanced learning in the major content areas of home economics; career orientation; child development; clothing and textiles; consumer education; family relationships; food and nutrition; health and home care of the sick; and housing and home furnishings.

7145

TITLE: Child Care Services

GRADE LEVEL: Students enrolled in 11th and 12th grades

UNIT CREDIT: 2

LOCATION OF COURSE OFFERING: Hibriten High School

COURSE DESCRIPTION:

The child care course is designed to prepare high school juniors and seniors for positions in related areas of child care services. The trainee is provided opportunities for related study, observation and actual experiences pertaining to the many facets of child care. The child care center operates on regular school schedule, five days a week, from 7:45 to 4:00 p.m. Each class of child care meets for two hours daily with total enrollment limited to approximately 30 trainees.

Actual care of children: Up to 15 children ages 3 and 4 years old are available daily for students to work with in a real life child care setting.

7170

TITLE: Family Life Education

GRADE LEVEL: Students enrolled in the 10th, 11th and 12th grades

UNIT CREDIT: 1

LOCATION OF COURSE OFFERING: Hudson, Gamewell-Collettsville, and Hibriten High Schools

COURSE DESCRIPTION:

This course is planned for both boys and girls at the upper high school level and is directed towards preparation for marriage and homemaking for those who have had little or no home economics. The instruction covers nutrition and preparation of simple meals; care and selection of clothing; spending the family income; family relationships and child development; preparation for marriage; establishing and furnishing a home; and management of time, money, and human resources.

7144

TITLE: Clothing Services

GRADE LEVEL: Students enrolled in the 11th and 12th grades

UNIT CREDIT: 2

LOCATION OF COURSE OFFERING: Gamewell-Collettsville High School

COURSE DESCRIPTION:

The course is designed to develop occupational competencies needed for employment as a seamstress, dressmaker, alterer, mender, reweaver, or accessory maker; and for advanced managerial or technical training. The course includes an orientation to scope and nature of jobs in clusters; grooming and personal appearance; interpersonal relationships; garment construction. alterations of patterns and clothing; construction of clothing accessories; use and care of fabrics; use and care of sewing equipment; safety practices and management techniques for planning work schedules and organizing work areas.

7131

TITLE: Child Development

GRADE LEVEL: Students enrolled in the 10th, 11th and 12th grades

UNIT CREDIT: 1

LOCATION OF COURSE OFFERING: Lenoir High School

COURSE DESCRIPTION:

The Child Development class gives a student a practical approach in studying child development. Each student gets first hand classroom experience in working with young children within their school environment.

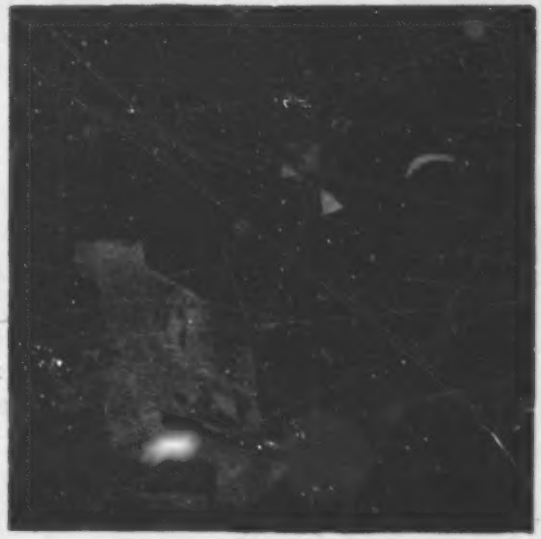
7181

TITLE: Preparation for Employment

GRADE LEVEL: Students enrolled in the 11th and 12th grades

UNIT CREDIT: ½ unit

LOCATION OF COURSE OFFERING. Gamewell-Collettsville High School



COURSE DESCRIPTION:

The course gives the student a chance to study the effect of employment on roles of men and women in the family and society, the relationship of interest and abilities to occupational choice, the factors affecting entry into selected occupations, and the relationships of employability to employment. The course is especially designed to assist any student who plans to go directly into the labor market after graduation.

7160

TITLE: Singles Living

GRADE LEVEL: Students enrolled in the 9th thru 12th grades

UNIT CREDIT: 1

LOCATION OF COURSE OFFERING: Gamewell-Collettsville High School

COURSE DESCRIPTION:

Introductory experiences for students who desire just enough home economics training to enable them to take care of their personal food and clothing needs. The course includes study in the area of child development, clothing, family relationships, foods, consumer education, housing and home furnishings, grooming and personal appearance, and orientation to employment in home economics related occupations.

7134

TITLE: Housing and Home Furnishings

GRADE LEVEL: Students enrolled in the 11th and 12th grades

UNIT CREDIT: ½ unit

LOCATION OF COURSE OFFERING: Hudson High School

COURSE DESCRIPTION:

Advanced opportunities to study alternatives in housing to meet individual and family needs, self expression through planning for selected areas within the home, creative techniques in home decoration, techniques in the management of a home and career opportunities in housing and home furnishings. The course will prepare the student for adult responsibilities opportunities in satisfying their personal or family housing needs; or help in pursuing programs leading to employment.

6431

TITLE: Directed Office Occupations

GRADE LEVEL: Students enrolled in the 12th grade

UNIT CREDIT: 2

LOCATION OF COURSE OFFERING: Garnewell-Collettsville, Hibriten, Hudson, and Lenoir High Schcols

COURSE DESCRIPTION:

This course develops skills and understandings necessary for the mastery of office tasks that are central to the smooth functioning of departments that handle mail, central files, copying and duplicating, financial records, purchasing and selling, inventories, and behavior that is most conducive to pleasant, rewarding relationships with fellow associates is developed. The students develop the above skills by working in the different offices of the school for actual "hands-on" experiences.

6430

TITLE: Cooperative Office Occupations

GRADE LEVEL: Students enrolled in the 12th grade

UNIT CREDIT: 3

LOCATION OF COURSE OFFERING: Gamewell-Collettsville and Granite Falls High Schools

COURSE DESCRIPTION:

This course permits students to attend classes for a half day and be employed in an office training station where on the job instruction is provided. The course provides two hours of classroom instruction daily to provide knowledge, skills and abilities needed in clerical, stenographic and junior management jobs.

7990

TITLE: Introduction to Vocations

GRADE LEVEL: Students enrolled in the 9th grade

UNIT CREDIT: 1

LOCATION OF COURSE OFFERING: Hudson High School and Lenoir Middle School

COURSE DESCRIPTION:

This is a course designed to introduce students to the world of work. The course centers around instruction on job success and its relationship to their interest, aptitudes, abilities, and physical characteristics. Students become acquainted with the American economic system, forms of business organizations, money management, and changing occupational patterns. The course will enable the student to be able to better determine their career goals.

THE MIDDLE GRADES OCCUPATIONAL EXPLORATION PROGRAM

The Middle Grades Occupational Exploration Program provides students with occupational information, an opportunity for self-appraisal, and exploratory learning activities that will enable them to wisely prepare for making a living.

These opportunities are offered through four exploratory labs: Service Occupations, Industrial Occupations, Business and Office Occupations, and Occupational Information.

Every student is assigned to an occupational class for a nine-week period. At the end of each nine weeks, students rotate to another exploration class, until by the year's end, they will have had the opportunity to broaden their experience in four vocational areas and will have explored hundreds of job competencies.

7651

TITLE: Introduction to Technical Drafting I

GRADE LEVEL: Students enrolled in the 10th and 11th grades

UNIT CREDIT: 1

LOCATION OF COURSE OFFERING: Gamewell-Collettsville, Hibriten, Hudson, and Lenoir High Schools

COURSE DESCRIPTION:

The basic technical drawing course is primarily designed for the beginner in high school who is interested in technical drawing because he wishes to be a draftsman, an engineer, an industrial designer, an architect, or a member of anyone of the numerous other professions which demand a knowledge of technical drawing.

7652

TITLE: Technical Drafting II

GRADE LEVEL: Students enrolled in the 11th and 12th grades

UNIT CREDIT: 2

LOCATION OF COURSE OFFERING: Gamewell-Collettsville, Hibriten, Hudson, and Lenoir High Schools

COURSE DESCRIPTION:

This course of study in Advance Drafting is prepared for those students who have completed the first year course in Technical Drafting I.

This course is based upon the three main areas of: Basic Technical Drawing, Sheet Metal Layout, and Architectural Drafting. It is somewhat exploratory in nature and is designed to provide a basis for drafting as a vocation as well as provide a broad area of knowledge for pre-engineering and trade school students.

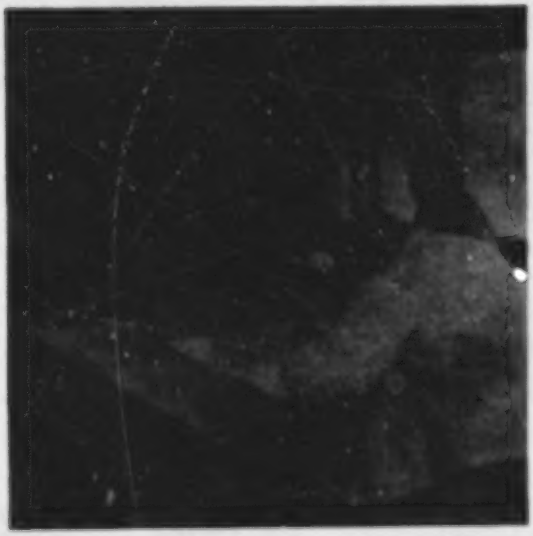
7653

TITLE: Architectural Drafting III

GRADE LEVEL: Students enrolled in the 12th grade

UNIT CREDIT: 2

LOCATION OF COURSE OFFERING: Gamewell-Collettsville, Hibriten, and Lenoir High Schools



COURSE DESCRIPTION:

The course will teach students the fundamentals of architectural drawing and basic ideas of light construction. This will include sketching rooms, drawing floor plans, electrical plans, elevations and perspectives as well as learning the basic symbols of architectural design.

7611 and 7612

TITLE: Bricklaying

GRADE LEVEL: Students enrolled in the 11th and 12th grades

UNIT CREDIT: Either 2 or 3 depending on length of class

LOCATION OF COURSE OFFERING: Gamewell-Collettsville, Granite Falls, Hibriten, Hudson and Lenoir High Schools

COURSE DESCRIPTION

The philosophy of this course is to develop the necessary skills, technical information, and job judgement that is required for employment as qualified apprentice in the bricklaying trade. To provide the broad experience necessary to perform jobs where other building units of clay, stone, and concrete blocks are used. To develop safe, orderly, and reliable work habits. To develop occupational competence and high standards of workmanship. To develop an appreciation and understanding of the work done by others and how this work fits into the total building process. Practice is given in handling tools, laying brick, leveling and plumbing brick. Also the care and use of supporting tools and equipment such as wheelbarrows, scaffolds and mixers is taught.

7863 and7864

TITLE: Graphics and Industrial Communications

GRADE LEVEL: First year – Students enrolled in the 9th thru 12th grades. Second year – Students enrolled in the 11th and 12th grades.

UNIT CREDIT: First year – 1
Second year – 2

LOCATION OF COURSE OFFERING: Hibriten High School

COURSE DESCRIPTION:

Graphics and industrial communications is a designed course of study to familarize the student with the major processed composing graphic arts, and their relative merits. Upon completion of this course of study the learner will have a saleable skill in the Graphics Industry above the entry level.

This course is designed to meet the interest, experiences, needs and abilities of the secondary student. Specific areas of study will be: photography, bindery, lithography, and silk screen printing.

7330

TITLE: Construction Industry

GRADE LEVEL: Students enrolled in the 9th and 10th grades

UNIT CREDIT: 1

LOCATION OF COURSE OFFERING: Hibriten and Lenoir High Schools

COURSE DESCRIPTION:

This is an introductory course which will offer an opportunity to explore five areas of vocational trades and their relationship to construction. The areas of study include drafting, bricklaying, carpentry, electricity, and graphic arts.

7867

TITLE: Commercial Art

GRADE LEVEL: Students enrolled in the 10th, 11th, and 12th grades

UNIT CREDIT: 1

LOCATION OF COURSE OFFERING: Hudson High School

COURSE DESCRIPTION:

The course will enable the student to develop a working knowledge of the materials and methods used by industry to display their products or services to the public. The course includes instruction in lettering; freehand sketching; work in pen and ink, charcoal, water color, pastels and acrylics; photography; advertising techniques; and investigation of jobs in the commercial art field and schools that offer art - related courses.

7413

TITLE: Industrial Cooperative Training

GRADE LEVEL: Students enrolled in the 11th and 12th grades

UNIT CREDIT: First year - 2
Second year - 3

LOCATION OF COURSE OFFERING: Gamewell-Collettsville Granite Falls, Hibriten, Hudson, and Lenoir High Schools

COURSE DESCRIPTION:

The Industrial Cooperative Training Program is a plan for bringing together the training resources of the community and the school. It is an arrangement between business, industrial and professional establishments in the community and the public high school whereby the establishments provide part-time employment and training to students and the school provides supervision and general and technical subject matter related to the occupation.

7631 and 7632

TITLE: Carpentry

GRADE LEVEL: Students enrolled in the 11th and 12th grades

UNIT CREDIT: First year – 2
Second year – 3

LOCATION OF COURSE OFFERING: Hibriten High School

COURSE DESCRIPTION:

Carpentry is an ancient art, yet today it is a modern high paying skill requiring precision training. Students learn everything from reading blue prints, using electric tools, "framing square" to how different cuts should fit. Students get first hand training on live projects as part of their class training.

7712 and 7713

TITLE: Electricity and Electronics

GRADE LEVEL: Students enrolled in the 10th, 11th, and 12th grades

UNIT CREDITS: First year – 2
Second year – 3

LOCATION OF COURSE OFFERING: Hibriten High School

COURSE DESCRIPTION:

This course enables a student to develop a marketable skill in house wiring, appliance, radio, and television repair. The student develops a basic understanding of electrical theories using lab experiences related to theoretical concepts. The student learns to read schematic diagrams, use of measuring devices, construction and maintenance of electronic equipment.

Extended Day School

The Extended Day School is designed for students, who are out of school, for all or a portion of the school year; (suspension, pregnancy, sickness, economic needs, etc.) or students who need to make up additional credits, or students who need financial aid to attend school, and/or students who are having difficulty in the traditional academic program.

The Extended Day School program is developed around a self-paced programmed instructional method. All work is individualized with little traditional group teaching. The achievement level of each student is determined at the time of entrance, and he is assisted through the educational process at his own pace of learning.

Students can take up to five units for transfer credit back to their original residence school or work towards the high school equivalency diploma program. Also vocational training programs as well as help in securing day time employment is provided.

TITLE: Vocational Orientation For The Educable Mentally Retarded

LOCATION OF PROGRAM: Oak Hill, Whitnel, Sawmills, Hudson and Gamewell Elementary Schools.

This program enables the EMR student at the upper elementary level or age range, 12 - 15, to be introduced to the vocational and occupational aspects of education with emphasis on programs designed to retain them long enough in school to develop vocational competency. The program utilizes a man teacher with training and experience which enables him to carry out a prevocational hands-on type orientation program primarily for boys in occupational areas in which persons with these types of handicaps might eventually find employment. A woman teacher trained in home economics and related areas works with the girls in the program and provides instruction in basic cooking, serving, mending, child care, and hygienic needs as related to occupations.

TITLE: Occupational Research

Part C of the Vocational Education Act of 1963 as amended.

Caldwell County Schools have been fortunate in being selected as a site for two major research studies for the U. S. Office of Education.

In January of 1972, the State Board of Education selected a six member team to be responsible for the administration and planning of a career education model development program for Caldwell County. The project developed a model career education curriculum from grade K kindergarten to grade 14 or community college curriculum. The project involved all schools in Caldwell County along with the community college. The project ended December 31, 1974 and results were sent to the U. S. Office of Education.

In July of 1974, the U. S. Office of Education selected Caldwell County Schools as a site for an 18 month research project involved in Industrial Cooperative Training, job placement, and career guidance. The project now underway will search for ways to improve training methods in Industrial Cooperative Training Programs and establish and operate a unit wide job placement service.

Responsibility of School Personnel for School Conduct, Behavior, and Discipline

"The Caldwell County Board of Education recognizes that discipline should assist the student in discarding immature ways of satisfying urges and substituting some mature forms of self-expression. Positive measures which best serve to fulfill this purpose should be used whenever possible in dealing with student behavior, and in no case should student achievement be penalized as a means of discipline. However, if a student is suspended or has an unexcused absence, the teacher may or may not accept make-up work. Therefore, corporal punishment, suspension, and expulsion are measures to be employed only after available school and support services have been considered, or when school personnel are unable to cope constructively with pupil misconduct, or where emergency conditions require the use of corporal punishment, suspension, or recommendations for expulsion." (Board Policy JD)

"The hallmark of the exercise of disciplinary authority in the Caldwell County Schools will be fairness. The Constitutional rights of individuals assures the protection of due process of law; therefore, this system of legally sound procedures is developed with regard to the administration of discipline in the schools." (Board Regulation JCAA-R)

Responsibility of Administration

The Superintendent and his designated representatives shall support principals and teachers in the proper exercise of their disciplinary responsibility. In addition, the Superintendent or his designee shall be responsible for seeing that all state and local laws relating to student behavior and all school board policies and regulations are enforced and that copies of specific policies, laws, rules, and regulations are distributed to parents and teachers.

Responsibility of Principals

It is the principal's responsibility to maintain good discipline. He shall enforce in his school all state and local laws and regulations pertaining to the development of good discipline. He may delegate to the assistant principal or to any teachers such duties as may be desirable for the orderly operation of the school. However, he retains the final responsibility for all conduct in his school.

In addition, the principal shall provide for the development of a code of behavior for the school which he administers. This code shall include rules not in conflict with school board policy, which the principal, members of the advisory committee, teachers and students deem necessary in order to provide for the development of wholesome human relationships to further the effective and efficient operation of the school.

Responsibility of Teachers

Teachers are responsible for the development of well-planned classroom activities. It is the duty of the teacher to attend to the disciplinary problems in the classroom and in the school (both in the building and on the playground) and to encourage a high standard of conduct among all students. Teachers are authorized to administer any reasonable punishment.

Corporal Punishment

Caldwell County Board of Education policy JDA based on N. C. State Law (115-146) gives principals, teachers, substitute teachers, voluntary teachers, teachers' aides, assistants, and student teachers in the public schools the right to use reasonable force in the exercise of lawful authority to restrain or correct pupils and maintain order.

These guidelines are to be followed in the administration of corporal punishment; however, guideline (2) need not be followed when the behavior is . . . "so anti-social or disruptive in nature as to shock the conscience." (Baker vs Owen)

1. Corporal punishment should never be administered to a student known by school personnel to be under psychological treatment unless there has been a pre-conference with the school psychologist or that student's physician.

2. Corporal punishment should not be used until alternative methods of punishment have been unsuccessfully tried first, and unless the child has been warned that corporal punishment may be the result of further misbehavior.

3. A second school official is required to witness the punishment. The student must be told the reason for the punishment in the presence of the above witness before punishment is administered.

4. Parents who request a written explanation as to the reason for the punishment should be provided with such an explanation.

5. The person administering the discipline shall maintain a record of all instances where corporal punishment is administered. This record shall contain the name of the student, the date, the time, the number of strokes administered, the infraction of rules which caused the punishment, who administered the punishment, and the name of the adult witness. This shall be a private record of the person administering the punishment.

Suspension and Expulsion

Some types of conduct for which students who violate these regulations may be suspended or expelled are listed below (Board Policy JD). The list is not intended to include all of the regulations, but rather to illustrate clearly the types of conduct which the Board feels are inconsistent with the orderly and efficient operation of the Caldwell County Schools.

1. Students shall refrain from fighting.

2. Students shall refrain from drinking or possessing intoxicating beverages at school or at school activities.

3. Students shall refrain from partaking of or possession of illegal narcotics at school or at school activities.

4. Students shall refrain from gambling.

5. Once students have entered upon the school grounds, they shall remain there until the close of the day, unless they are granted permission to leave by the principal. They are expected to report to school on time and to report to each class on time.

6. Students under 16 years of age shall obey the attendance laws of the state. Those over 16 years of age shall observe the same laws if they choose to remain in school.

7. Students shall not possess or explode any type of fireworks or explosives.

8. Smoking will be permitted only at designated times and places. The times and places will be designated by the principal.

9. Students are expected to be properly dressed commensurate with the activity being conducted. Grooming which does not meet the social standards of the community will not be allowed.

10. Students shall not carry a concealed weapon.

11. Students shall refrain from engaging in any activity that would disrupt the normal school procedure.

The above shall apply at all school functions, on or off campus.

Student Due Process Rights

The following procedures shall be followed in dealing with any alleged violation of the above regulations: (Board regulation JCAA-R)

A. Before any suspension of a student from the Caldwell County Schools, unless said student poses a continuing danger to person or property or an on-going threat of disrupting the academic process, the principal will

1. Give the student either oral or written notice of the charges against him;
2. Give an explanation of the evidence against the student if he denies the charges against him;
3. Provide the student an opportunity to present his side of the story;

B. In case of a student's suspension from school for ten (10) school days or less, the principal will

1. Notify the parent or guardian in writing, giving a detailed account of the charges and the grounds justifying his action;

2. Request the parent or guardian to appear at school at their earliest convenience, accompanied by the student, to discuss the charges against the student, review the evidence in the case, and investigate the possibility of conciliation.

C. In cases of suspension in excess of ten (10) school days, or expulsion (dismissal), or any suspension during the last ten (10) school days of the school year, the following procedural guidelines will be followed.

1. The principal will notify the parent or guardian in writing, giving a detailed account of the charges and the grounds justifying his action.

2. The principal will further inform the parent or guardian of the student's right to a hearing before the Superintendent of Caldwell County Schools (or in the event of his absence or disability, his designee) who will act as the hearing authority. Such hearings shall be held not less than five (5) nor more than ten (10) school days after the date of dismissal.

3. The principal will also notify the parent or guardian of the students right to be represented by legal counsel at the hearing.

4. The principal will furnish the Superintendent with copies of all correspondence pertaining to the case, and to the parent, guardian, or legal representative if requested.

The following procedural guidelines will govern the hearing.

1. The parent or guardian may be present at the hearing.

2. The student, parent, or guardian may be represented by legal counsel.

3. If he so desires, the hearing authority will have legal counsel from the Board Attorney.

4. A record of the hearing shall be kept.

5. The principal shall present his findings and the reasons for his action.

6. The student shall be allowed to observe all evidence offered against him, and he shall be allowed to question any witness.

7. The student shall be allowed an opportunity to give his version of the facts and their implications. He shall also be allowed to offer other evidence and the testimony of other witnesses.

8. The hearing authority shall be impartial and make his determination solely on the evidence presented at the hearing.

9. The hearing authority shall state within a reasonable time after the hearing, and before it is adjourned, his findings as to whether or not the student is guilty of the conduct charged and his decision, if any, as to disciplinary action.

10. The findings of the hearing authority shall be reduced to writing and sent the student and his parent or guardian.

11. The student and his parent or guardian shall be informed of their right to appeal to the Caldwell County Board of Education and/or the courts.

12. If either the hearing authority (Superintendent) or the appellate authority (Board of Education) find against the student, the suspension or expulsion (dismissal) will remain in effect until reversed by a higher appellate authority, or until the suspension or expulsion period is over, whichever comes first.

D. All notifications required by this regulation will be deemed complied with if notice is mailed to the last address on record of a parent or guardian as shown in school files.

Caldwell County Board of Education
Members

Mrs. Barbara H. Deverick, Chairman

James L. Clark, Vice-Chairman

T. Maneval Bolick

Dr. Jack L. Church

Dr. Allen R. Hefner

Roy M. Reid

Robert N. Styres

For further information, contact:

Dr. Gerald D. James
Superintendent
Caldwell County Schools
Drawer 1590
Lenoir, N. C. 28645

DUTIES AND RESPONSIBILITIES OF SCHOOL BUS PASSENGERS

Safe school transportation is considered an integral part of the total educational program within the Caldwell County Schools. The primary purpose of school buses is to transport pupils from home to school and return safely. The Caldwell County Board of Education recognizes that a safe school bus operation is only possible with the full cooperation of our parents, students, and school staff. Please read the following duties and responsibilities of school bus passengers carefully and do your part in ensuring an accident free school bus transportation program for our schools.

Meeting and Entering The Bus

- Select the safest route to your bus stop.
- Be on time — **Bus will not wait for tardy passengers.**
- If a highway must be crossed to enter the bus, you should wait until the bus and all traffic has stopped. Then cross the highway in front of the bus.
- Enter the bus only after the bus and all traffic has stopped. Be sure to enter the bus quickly and hold the handrail and **watch your step.**

On The Bus

- Take your seat quickly and remain seated.
- Open windows only if you get permission from the driver.
- Keep your head, arms, and feet inside the bus at all times.
- Never throw objects in the bus or out the windows
- Never shout to pedestrians or occupants of other vehicles from the bus windows.
- Never eat or drink in the school bus.
- Never pile books, musical instruments, lunch boxes, or other objects in the bus aisles.
- Never use profane and indecent language, tobacco, or alcoholic beverages while riding the school bus.

- Never talk to the driver or distract the driver's attention while the bus is operating except in an emergency.
- Never play, fight, or scuffle on the bus.
- Passengers must maintain complete silence at all railroad crossings.
- Never tamper with the emergency door or any part of the bus.
- Never mar or deface the bus in any way.
- **Never attempt to ride on a school bus, unless assigned to it by your principal.** It is not lawful for a person to ride on a school bus without proper assignment. [G.S. 115-184(a).]

Arrival on The School Grounds

- **Passengers shall remain seated or in position if standing, until the bus reaches the unloading area, has come to a complete stop, and the driver has opened the front door.**
- Passengers in front should move out first.
- Passengers shall not loiter or play near a stopped bus, but walk quickly away from the bus.
- **During the school day, all persons shall stay away from the bus parking area.**

Entering The Bus After School

- Follow instructions of your principal and teachers in going to the bus parking area and entering the bus after school.

- Students should leave their rooms at the appropriate bell and walk quickly (not run) and quietly to the bus loading area.
- After you enter the bus, take your place quietly.
- Second load bus passengers will leave their rooms at the appropriate bell and walk quickly (not run) to their respective bus lines. They should remain there until their bus arrives. **No running, playing, scuffling, or fighting will be tolerated.**

Leaving The Bus Enroute

- Leave your bus only at your designated stop.
- Never get off the bus at authorized stops to make purchases, visit or perform errands.
- Remain in position until bus has completely stopped at your bus stop and the driver has opened the door, then leave the bus in an orderly manner. If a highway must be crossed to leave the bus, you should cross the highway in front of the bus.
- Passengers should leave the bus stop as soon as possible and never remain near the bus to talk with, frolic with, or touch hands with bus passengers.
- **Students shall refrain from engaging in any activity while riding a school bus, loading or unloading from a school bus, or in the bus loading areas that would disrupt normal school procedures.**

Violations

Students who willfully violate these rules will be dealt with according to Caldwell County School Board Policy concerning Bus Conduct (JCDAD) or appropriate other school board discipline policies.

The following are the procedures used in Bus Conduct as outlined by board policy (JCDAD).

1. Parents of students who refuse to cooperate with bus drivers, principals, and teachers will be notified of their child's misconduct.

2. If said student, or students, persist in causing trouble on the bus by refusing to cooperate, **said student, or students, will be barred from riding a school bus for a period of one week, and parent should be notified.**

3. If said student, or students, continue to cause trouble on the bus after having been barred from riding the bus for one week, **then the parent should be notified again and said student, or students, shall be denied the privilege of riding a public school bus for the remainder of the school year.**

Caldwell County Board of Education
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Dr. Jack L. Church

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Roy M. Reid

Robert N. Styres

For further information, contact:

Dr. Gerald D. James
Superintendent
Caldwell County Schools
Drawer 1590
Lenoir, N. C. 28645

Send to AIM/AEM with copies.

Caldwell County Schools

P. O. Box 309

Lenoir, North Carolina 28645

GERALD D. JAMES
SUPERINTENDENT

AREA CODE 704
TELEPHONE 754-8381

June 15, 1976

Occupational and Adult Education Branch
Grant and Procurement Management Division
U.S. Office of Education
400 Maryland Avenue, S.W.
Washington, D.C. 20202

Dear Sirs:

I have enclosed an original computer program which is Appendix O in the final report of Project Number V0180VZ, Grant Number OEG-0-74-8580.

We experienced problems in getting real clear copies and consequently, the copies of the computer program in the final report are very light. I hope the original will be useful when microfilming is done.

Sincerely,

William S. Stone

William S. Stone, Director
Guidance Oriented Alternative
Work Experience Program and
Follow-up Study

WSS/th

12713

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**************************************************************
**                                                          **
** USER I.D.- FAC                          TSN - JCGV       **
** ACCT. NO.- CS01                                          **
** FILENAME -              - SYSTEM FILE                    **
** MAILING ADR.- P.GAYNOR-C.SOMERS                          **
** DATE     -  02/23/76                    TIME-13:24:44    **
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 C E776 JOB SCHEDULED AT 1322 ON 02/23/76 FOR TSN JCGV..

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*       70/46     *

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/REMARK   DATA FILE SPOOLED  NAME = SRCE.CALD002

/REMARK   DATA FILE SPOOLED  NAME = SRCE.CALD003

/REMARK   DATA FILE SPOOLED  NAME = SRCE.CALD004

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/PRINT SRCE.CALD002,ERASE

 C SB01 PRINT SRCE.CALD002 INITIATED: TSN=JCG4.

/PRINT SRCE.CALD003,ERASE

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/PRINT SRCE.CALD004,ERASE

 C SB01 PRINT SRCE.CALD004 INITIATED: TSN=JCG6.

/LOGOFF

C E420 LOGOFF AT 1322 ON 02/23/76, FOR TSN JCGV.

C E421 CPU TIME USED:  000005.1724 SECONDS.
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** FILENAME - SRCE.CALD001                                          **
** MAILING ADR.- P.GAYNOR-C.SOMERS                                  **
** DATE     -  02/23/76                          TIME-13:24:53       **
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000010 IDENTIFICATION DIVISION.
000020 PROGRAM-ID.      CALD001.
000030 AUTHOR.          CECIL SOMERS.
000040 INSTALLATION.    ASU COMPUTER CENTER.
000050 DATE-WRITTEN.
000060      10/13/75.
000070 DATE-COMPILED.
000080 REMARKS.
000090      THIS PROGRAM ACCEPTS CARD INPUT CONTAINING INFORMATION ABOUT
000100      CALDWELL COUNTY ELEMENTARY SCHOOL CHILDREN---THIS INFORMATION
000110      IS THEN USED TO CLASSIFY THE STUDENTS---THEN THE INFORMATION
000120      IS STORED ON DISC FOR FURTHER REPORTING---BOTH THE CARDFILE
000130      AND DISKFILE ARE PRINTED---ANY INVALID CARD RECORDS ARE NOT
000140      PROCESSED BUT PRINTED WITH THE JCL---THIS PROGRAM ASSUMES DATA
000150      ALREADY SORTED BY SCHOOL-CODE, TEACHER-CODE, AND NAME.
000160*********************************************************************
000170 ENVIRONMENT DIVISION.
000180*********************************************************************
000190 CONFIGURATION SECTION.
000200 SOURCE-COMPUTER.     UNIVAC-SERIES-70.
000210 OBJECT-COMPUTER.     UNIVAC-SERIES-70.
000220 SPECIAL-NAMES.
000230      TERMINAL IS S-LIST,
000240      C01 IS TOP-PAGE.
000250 INPUT-OUTPUT SECTION.
000260 FILE-CONTROL.
000270      SELECT CRDFILE, ASSIGN TO SYSIPT,
000280          RESERVE NO ALTERNATE AREAS.
000290      SELECT RPTFILE, ASSIGN TO SYSLST,
000300          RESERVE NO ALTERNATE AREAS.
000310      SELECT DSKFILE, ASSIGN TO DA-590-S-SYS010.
000320*********************************************************************
000330 DATA DIVISION.
000340*********************************************************************
000350 FILE SECTION.
000360 FD   CRDFILE
000370      RECORDING MODE IS F
000380      LABEL RECORDS ARE OMITTED
000390      DATA RECORD IS CRD-REC.
000400 01   CRD-REC.
000410      03  PART-1.
000420          05  SCHOOL-CODE      PIC      S9(3).
000430          05  TEACHER-CODE     PIC      S9(3).
000440          05  GRADE-LEVEL      PIC      S9.
000450          05  NAME.
000460              10  LAST-N       PIC      X(15).
000470              10  FIRST-I      PIC      X.
000480              10  MI           PIC      X.
000490          05  CARD-RES.
000500              10  RES          PIC      X   OCCURS 16 TIMES.
000510      03  FILLER               PIC      X(40).
000520 FD   RPTFILE
000530      RECORDING MODE IS U
000540      LABEL RECORDS ARE OMITTED
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000550      DATA RECORD IS RPT-REC.
000560 01   RPT-REC.
000570      05  FILLER                 PIC     X(15).
000580      05  PR-SCHOOL-CODE         PIC     9(3).
000590      05  FILLER                 PIC     X(15).
000600      05  PR-TEACHER-CODE        PIC     9(3).
000610      05  FILLER                 PIC     X(18).
000620      05  PR-GRADE-LEVEL         PIC     9.
000630      05  FILLER                 PIC     X(9).
000640      05  PR-NAME.
000650          10  LAST-N             PIC     X(15).
000660          10  FIRST-I            PIC     X.
000670          10  MI                 PIC     X.
000680      05  FILLER                 PIC     X(11).
000690      05  PR-CARD-RES.
000700          10  RES                PIC     X   OCCURS 16 TIMES.
000710      05  FILLER                 PIC     X(12).
000720      05  PR-CLASS               PIC     X(13).
000730 FD   DSKFILE
000740      RECORDING MODE IS F
000750      LABEL RECORDS ARE STANDARD.
000760 01   DISC-REC.
000770      05  D-SCHOOL-CODE          PIC     S9(3).
000780      05  D-TEACHER-CODE         PIC     S9(3).
000790      05  D-GRADE-LEVEL          PIC     S9.
000800      05  D-NAME.
000810          10  LAST-N             PIC     X(15).
000820          10  FIRST-I            PIC     X.
000830          10  MI                 PIC     X.
000840      05  D-CARD-RES.
000850          10  D-RES              PIC     X   OCCURS 16 TIMES.
000860      05  D-CLASS                PIC     X(13).
000870*****************************************************************
000880 WORKING-STORAGE SECTION.
000890 77   TALLY-I                    PIC     S9(6)   COMP-3.
000900 77   CLASSIFICATION             PIC     X(13).
000910 77   CLASS-CODE                 PIC     S999     COMP-3.
000920 77   J                          PIC     S999    COMP-3.
000930 77   LINE-CTR                   PIC     S999    COMP-3 VALUE 0.
000940 77   HD-CTR                     PIC     S9      COMP-3 VALUE 0.
000950 01   CRD-HD.
000960      05  FILLER                 PIC     X(58).
000970      05  FILLER                 PIC     X(8)    VALUE 'CARDFILE'.
000980      05  FILLER                 PIC     X(67).
000990 01   DISK-HD.
001000      05  FILLER                 PIC     X(58).
001010      05  FILLER                 PIC     X(8)    VALUE 'DISKFILE'.
001020      05  FILLER                 PIC     X(67).
001030 01   HD-1.
001040      05  FILLER                 PIC     X(11).
001050      05  FILLER                 PIC     X(11)   VALUE 'SCHOOL-CODE'.
001060      05  FILLER                 PIC     X(7).
001070      05  FILLER                 PIC     X(12)   VALUE 'TEACHER-CODE'.
001080      05  FILLER                 PIC     X(8).
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001090      05  FILLER                PIC      X(11)    VALUE 'GRADE-LEVEL'.
001100      05  FILLER                PIC      X(10).
001110      05  FILLER                PIC      X(4)     VALUE 'NAME'.
001120      05  FILLER                PIC      X(18).
001130      05  FILLER                PIC      X(9)     VALUE 'RESPONSES'.
001140      05  FILLER                PIC      X(10).
001150      05  FILLER                PIC      X(14) VALUE 'CLASSIFICATION'.
001160      05  FILLER                PIC      X(8).
001170*****************************************************************
001180 PROCEDURE DIVISION.
001190*****************************************************************
001200 OPEN-FILES.
001210      OPEN INPUT CRDFILE, OUTPUT RPTFILE, DSKFILE.
001220 READ-FILE.
001230      IF LINE-CTR = 0 OR LINE-CTR = 54,
001240          PERFORM PAGE-HD THRU PAGE-HD-EXIT.
001250      READ CRDFILE, AT END GO TO CLOSE-FILES-1.
001260      MOVE SCHOOL-CODE TO PR-SCHOOL-CODE.
001270      MOVE TEACHER-CODE TO PR-TEACHER-CODE.
001280      MOVE GRADE-LEVEL TO PR-GRADE-LEVEL.
001290      MOVE CORRESPONDING NAME TO PR-NAME.
001300      MOVE CARD-RES TO PR-CARD-RES.
001310      WRITE RPT-REC AFTER ADVANCING 1.
001320      ADD 1 TO LINE-CTR.
001330      PERFORM MOVE-TO-DISC THRU MOVE-TO-DISC-EXIT.
001340      EXAMINE CARD-RES TALLYING ALL '1'.
001350      MOVE TALLY TO TALLY-1.
001360      IF RES OF CRD-REC (1) NOT = '1' AND
001370          RES OF CRD-REC (2) NOT = '1' AND
001380          RES OF CRD-REC (3) NOT = '1' AND
001390          RES OF CRD-REC (4) NOT = '1',
001400          COMPUTE TALLY-1 = TALLY-1 - 2.
001410      IF TALLY-1 < 7, MOVE TALLY-1 TO CLASS-CODE,
001420          ELSE MOVE 6 TO CLASS-CODE.
001430      PERFORM CLASSIFY THRU CLASSIFY-EXIT.
001440      MOVE CLASSIFICATION TO D-CLASS.
001450      WRITE DISC-REC.
001460      GO TO READ-FILE.
001470 MOVE-TO-DISC.
001480      IF SCHOOL-CODE NOT NUMERIC,
001490          OR TEACHER-CODE NOT NUMERIC,
001500          OR GRADE-LEVEL NOT NUMERIC,
001510          DISPLAY PART-1 UPON S-LIST,
001520          GO TO READ-FILE,
001530          ELSE MOVE SCHOOL-CODE TO D-SCHOOL-CODE,
001540          MOVE TEACHER-CODE TO D-TEACHER-CODE.
001550      IF GRADE-LEVEL < 2 OR GRADE-LEVEL > 9,
001560          DISPLAY 'INVALID GRADE LEVEL' UPON S-LIST,
001570          DISPLAY PART-1 UPON S-LIST,
001580          GO TO READ-FILE,
001590      ELSE MOVE GRADE-LEVEL TO D-GRADE-LEVEL.
001600      PERFORM CHECK-RES THRU CHECK-RES-EXIT
001610          VARYING J FROM 1 BY 1 UNTIL J > 16.
001620      IF MI OF CRD-REC NUMERIC OR FIRST-I OF CRD-REC NUMERIC,
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001630          DISPLAY 'INVALID NAME FIELD' UPON S-LIST,
001640          DISPLAY PART-1 UPON S-LIST,
001650          GO TO READ-FILE,
001660          ELSE MOVE CORRESPONDING NAME TO D-NAME.
001670 MOVE-TO-DISC-EXIT.
001680      EXIT.
001690 CHECK-RES.
001700      IF RES OF CRD-REC (J) = '1',
001710          MOVE RES OF CRD-REC (J) TO D-RES (J),
001720      ELSE IF RES OF CRD-REC (J) = '0' OR
001730          RES OF CRD-REC (J) = SPACE,
001740          MOVE SPACE TO D-RES (J),
001750      ELSE DISPLAY 'INVALID RESPONSE' UPON S-LIST,
001760          DISPLAY PART-1 UPON S-LIST,
001770          GO TO READ-FILE.
001780 CHECK-RES-EXIT.
001790      EXIT.
001800 CLASSIFY.
001810      IF CLASS-CODE < 1, MOVE 'NOT CLASSED  ' TO CLASSIFICATION,
001820          GO TO CLASSIFY-EXIT.
001830      IF CLASS-CODE = 1, MOVE 'FLAGGED      ' TO CLASSIFICATION,
001840          GO TO CLASSIFY-EXIT.
001850      IF CLASS-CODE = 2, MOVE 'TENTATIVE    ' TO CLASSIFICATION,
001860          GO TO CLASSIFY-EXIT.
001870      IF CLASS-CODE = 3, MOVE 'POSSIBLE     ' TO CLASSIFICATION,
001880          GO TO CLASSIFY-EXIT.
001890      IF CLASS-CODE = 4, MOVE 'PROBABLE     ' TO CLASSIFICATION,
001900          GO TO CLASSIFY-EXIT.
001910      IF CLASS-CODE = 5, MOVE 'MOST PROBABLE' TO CLASSIFICATION,
001920          GO TO CLASSIFY-EXIT,
001930                      ELSE MOVE 'NEAR CERTAIN ' TO CLASSIFICATION.
001940 CLASSIFY-EXIT.
001950      EXIT.
001960 CLOSE-FILES-1.
001970      CLOSE CRDFILE, DSKFILE.
001980      ADD 1 TO HD-CTR.
001990      MOVE 0 TO LINE-CTR.
002000 OPEN-FILES-2.
002010      OPEN INPUT DSKFILE.
002020 READ-FILES-2.
002030      IF LINE-CTR = 0 OR LINE-CTR = 54,
002040          PERFORM PAGE-HD THRU PAGE-HD-EXIT.
002050      READ DSKFILE, AT END GO TO CLOSE-FILES-2.
002060      MOVE D-SCHOOL-CODE TO PR-SCHOOL-CODE.
002070      MOVE D-TEACHER-CODE TO PR-TEACHER-CODE.
002080      MOVE D-GRADE-LEVEL TO PR-GRADE-LEVEL.
002090      MOVE CORRESPONDING D-NAME TO PR-NAME.
002100      MOVE D-CARD-RES TO PR-CARD-RES.
002110      MOVE D-CLASS TO PR-CLASS.
002120      WRITE RPT-REC AFTER ADVANCING 1.
002130      ADD 1 TO LINE-CTR.
002140      GO TO READ-FILES-2.
002150 CLOSE-FILES-2.
002160      CLOSE RPTFILE, DSKFILE.
002170      STOP RUN.
002180 PAGE-HD.
002190      IF HD-CTR = 0,
002200          WRITE RPT-REC FROM CRD-HD AFTER ADVANCING TOP-PAGE,
002210          ELSE WRITE RPT-REC FROM DISK-HD AFTER ADVANCING TOP-PAGE.
002220      WRITE RPT-REC FROM HD-1 AFTER ADVANCING 2.
002230      MOVE SPACES TO RPT-REC.
002240      WRITE RPT-REC AFTER ADVANCING 1.
002250      MOVE 0 TO LINE-CTR.
002260 PAGE-HD-EXIT.
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**                                                      **
** USER I.D.- FAC                        TSN - JCG4     **
** ACCT. NO.- C501                                      **
** FILENAME - SRCE.CALD002                              **
** MAILING ADR.- P.GAYNOR-C.SOMERS                      **
** DATE     -  02/23/76                  TIME-13:25:22   **
**                                                      **
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000010 IDENTIFICATION DIVISION.
000020 PROGRAM-ID.        CALD002.
000030 AUTHOR.            CECIL SOMERS.
000040 INSTALLATION.      ASU COMPUTER CENTER.
000050 DATE-WRITTEN.
000060      10/31/75.
000070 DATE-COMPILED.
000080 REMARKS.
000090      THIS PROGRAM FOR CALDWELL COUNTY READS INFORMATION FROM
000100      A PREVIOUSLY CREATED DISKFILE AND PRINTS A REPORT FOR
000110      EACH TEACHER AND A REPORT FOR EACH PRINCIPAL.
000120 ENVIRONMENT DIVISION.
000130 CONFIGURATION SECTION.
000140 SOURCE-COMPUTER.     UNIVAC-SERIES-70.
000150 OBJECT-COMPUTER.     UNIVAC-SERIES-70.
000160 SPECIAL-NAMES.
000170      TERMINAL IS S-LIST,
000180      C01 IS TOP-PAGE.
000190 INPUT-OUTPUT SECTION.
000200 FILE-CONTROL.
000210      SELECT RPTFILE, ASSIGN TO SYSLST,
000220          RESERVE NO ALTERNATE AREAS.
000230      SELECT DSKFILE, ASSIGN TO DA-500-S-SYS010.
000240      SELECT SORTFILE, ASSIGN TO DISC.
000250 DATA DIVISION.
000260 FILE SECTION.
000270 FD  RPTFILE
000280      RECORDING MODE IS U
000290      LABEL RECORDS ARE OMITTED
000300      DATA RECORD IS RPT-REC.
000310 01  RPT-REC.
000320      05  FILLER                 PIC      X.
000330      05  PR-NAME.
000340          10  LAST-N             PIC      X(15).
000350          10  FIRST-I            PIC      X.
000360          10  MI                 PIC      X.
000370      05  FILLER                 PIC      X(3).
000380      05  PR-CARD-RES      OCCURS 10 TIMES.
000390          10  RES                PIC X.
000400          10  FILLER             PIC      X(5).
000410      05  PR-CLASS               PIC X(13).
000420      05  FILLER                 PIC      X(3).
000430 FD  DSKFILE
000440      RECORDING MODE IS F
000450      LABEL RECORDS ARE STANDARD.
000460 01  DISK-REC.
000470      05  D-SCHOOL-CODE          PIC      S9(3).
000480      05  D-TEACHER-CODE         PIC      S9(3).
000490      05  D-GRADE-LEVEL          PIC      S9.
000500      05  D-NAME.
000510          10  LAST-N             PIC      X(15).
000520          10  FIRST-I            PIC      X.
000530          10  MI                 PIC      X.
000540      05  D-CARD-RES.
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000550          10  D-RES              PIC     X   OCCURS 16 TIMES.
000560      05  D-CLASS                PIC     X(13).
000570 SD   SORTFILE
000580      RECORDING MODE IS F
000590      DATA RECORD IS SORT-REC.
000600 01   SORT-REC.
000610      05  S-SCHOOL-CODE          PIC     S9(3).
000620      05  S-TEACHER-CODE         PIC     S9(3).
000630      05  S-GRADE-LEVEL          PIC     S9.
000640      05  S-NAME.
000650          10  LAST-N             PIC     X(15).
000660          10  FIRST-I            PIC     X.
000670          10  MI                 PIC     X.
000680      05  S-CARD-RES.
000690          10  S-RES              PIC     X   OCCURS 16 TIMES.
000700      05  S-CLASS                PIC     X(13).
000710 WORKING-STORAGE SECTION.
000720 77   P-SCHOOL-CODE              PIC     S9(3)   VALUE 0.
000730 77   P-TEACHER-CODE             PIC     S9(3) VALUE 0.
000740 77   P-GRADE-LEVEL              PIC     S9(3)   VALUE 0.
000750 77   LINE-CTR                   PIC     S9(3)   COMP-3 VALUE 0.
000760 77   J                           PIC     S9(3) VALUE 0.
000770 01   TEACH-HDA.
000780      05  FILLER                 PIC     X(40).
000790      05  FILLER                 PIC     X(14) VALUE 'SCHOOL CODE = '.
000800      05  PR-SCHOOL-CODE         PIC     9(3).
000810      05  FILLER                 PIC     X(18) VALUE '   TEACHER CODE
000820-     '= '.
000830      05  PR-TEACHER-CODE        PIC     9(3).
000840      05  FILLER                 PIC     X(55).
000850 01   HD-B.
000860      05  FILLER                 PIC     X(7).
000870      05  FILLER                 PIC     X(13) VALUE 'NAME          '.
000880      05  FILLEER                PIC     X(39) VALUE 'I1    I2    I3
000890-     '  I4    III   II2   II3'.
000900      05  FILLER                 PIC     X(27) VALUE '   IIII  IIII2  I
000910-     'V1   IV2   '.
000920      05  FILLER                 PIC     X(31) VALUE 'V1    V2    VII
000930-     '  VI2   VI3    '.
000940      05  FILLER                 PIC     X(16) VALUE 'CLASSIFICATION
000950-     ''.
000960 01   PRIN-HDA.
000970      05  FILLER                 PIC     X(40).
000980      05  FILLER                 PIC     X(14) VALUE 'SCHOOL CODE = '.
000990      05  PR-SCHOOL-CODE         PIC     9(3).
001000      05  FILLER                 PIC     X(17) VALUE '   GRADE LEVEL =
001010-     ' '.
001020      05  PR-GRADE-LEVEL         PIC     9(3).
001030      05  FILLER                 PIC     X(53).
001040 PROCEDURE DIVISION.
001050 OPEN-FILES.
001060      OPEN INPUT DSKFILE, OUTPUT RPTFILE.
001070      SORT SORTFILE ON ASCENDING KEY S-SCHOOL-CODE,
001080          S-GRADE-LEVEL, S-NAME,
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001090          INPUT PROCEDURE IS IN-PROC,
001100          OUTPUT PROCEDURE IS OUT-PROC.
001110      CLOSE DSKFILE, RPTFILE.
001120      STOP RUN.
001130 IN-PROC SECTION.
001140 READ-DSKFILE.
001150      READ DSKFILE, AT END GO TO IN-PROC-EXIT.
001160      PERFORM PRINT-REPORT THRU PRINT-REPORT-EXIT.
001170      MOVE D-SCHOOL-CODE TO P-SCHOOL-CODE S-SCHOOL-CODE.
001180      MOVE D-TEACHER-CODE TO P-TEACHER-CODE S-TEACHER-CODE.
001190      MOVE D-GRADE-LEVEL TO S-GRADE-LEVEL.
001200      MOVE CORRESPONDING D-NAME TO S-NAME.
001210      MOVE D-CARD-RES TO S-CARD-RES.
001220      MOVE D-CLASS TO S-CLASS.
001230      RELEASE SORT-REC.
001240      GO TO READ-DSKFILE.
001250 PRINT-REPORT.
001260      IF (LINE-CTR NOT = 0 AND LINE-CTR NOT = 54) AND
001270             (D-SCHOOL-CODE = P-SCHOOL-CODE AND
001280              D-TEACHER-CODE = P-TEACHER-CODE),
001290              GO TO SKIP-HEAD.
001300      MOVE D-SCHOOL-CODE TO PR-SCHOOL-CODE OF TEACH-HDA.
001310      MOVE D-TEACHER-CODE TO PR-TEACHER-CODE.
001320      WRITE RPT-REC FROM TEACH-HDA AFTER ADVANCING TOP-PAGE.
001330      WRITE RPT-REC FROM HD-B AFTER ADVANCING 3.
001340      MOVE SPACES TO RPT-REC.
001350      WRITE RPT-REC AFTER ADVANCING 1.
001360      MOVE 0 TO LINE-CTR.
001370 SKIP-HEAD.
001380      MOVE CORRESPONDING D-NAME TO PR-NAME.
001390      PERFORM MOVE-RES THRU MOVE-RES-EXIT
001400          VARYING J FROM 1 BY 1 UNTIL J > 16.
001410      MOVE D-CLASS TO PR-CLASS.
001420      WRITE RPT-REC AFTER ADVANCING 1.
001430      MOVE SPACES TO RPT-REC.
001440      ADD 1 TO LINE-CTR.
001450 PRINT-REPORT-EXIT.
001460      EXIT.
001470 MOVE-RES.
001480      MOVE D-RES (J) TO RES (J).
001490 MOVE-RES-EXIT.
001500      EXIT.
001510 IN-PROC-EXIT.
001520      EXIT.
001530 OUT-PROC SECTION.
001540 SET-LINE-CTR.
001550      MOVE 0 TO LINE-CTR.
001560 RETURN-SORTFILE.
001570      RETURN SORTFILE, AT END GO TO OUT-PROC-EXIT.
001580      PERFORM PRINT-RPT-2 THRU PRINT-RPT-2-EXIT.
001590      MOVE S-SCHOOL-CODE TO P-SCHOOL-CODE.
001600      MOVE S-GRADE-LEVEL TO P-GRADE-LEVEL.
001610      GO TO RETURN-SORTFILE.
001620 PRINT-RPT-2.
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001630      IF (LINE-CTR NOT = 0 AND LINE-CTR NOT = 54) AND
001640              (S-SCHOOL-CODE = P-SCHOOL-CODE AND
001650               S-GRADE-LEVEL = P-GRADE-LEVEL),
001660               GO TO SKIP-HD-2.
001670      MOVE S-SCHOOL-CODE TO PR-SCHOOL-CODE OF PRIN-HDA.
001680      MOVE S-GRADE-LEVEL TO PR-GRADE-LEVEL.
001690      WRITE RPT-REC FROM PRIN-HDA AFTER ADVANCING TOP-PAGE.
001700      WRITE RPT-REC FROM HD-B AFTER ADVANCING 3.
001710      MOVE SPACES TO RPT-REC.
001720      WRITE RPT-REC AFTER ADVANCING 1.
001730      MOVE 0 TO LINE-CTR.
001740 SKIP-HD-2.
001750      MOVE CORRESPONDING S-NAME TO PR-NAME.
001760      PERFORM MOVE-RES-2 THRU MOVE-RES-2-EXIT
001770          VARYING J FROM 1 BY 1 UNTIL J > 16.
001780      MOVE S-CLASS TO PR-CLASS.
001790      WRITE RPT-REC AFTER ADVANCING 1.
001800      MOVE SPACES TO RPT-REC.
001810      ADD 1 TO LINE-CTR.
001820 PRINT-RPT-2-EXIT.
001830      EXIT.
001840 MOVE-RES-2.
001850      MOVE S-RES (J) TO RES (J).
001860 MOVE-RES-2-EXIT.
001870      EXIT.
001880 OUT-PROC-EXIT.
001890      EXIT.
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**                                                          **
** USER I.D.- FAC                          TSN - JCG5       **
** ACCT. NO.- CS01                                          **
** FILENAME - SRCE.CALD003                                  **
** MAILING ADR.- P.GAYNOR-C.SOMERS                          **
** DATE     -  02/23/76                    TIME-13:25:49    **
**                                                          **
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000010 IDENTIFICATION DIVISION.
000020 PROGRAM-ID.        CALD003.
000030 AUTHOR.            CECIL SOMERS.
000040 INSTALLATION.      ASU COMPUTER CENTER.
000050 DATE-WRITTEN.
000060      11/11/75.
000070 DATE-COMPILED.
000080 REMARKS.
000090      THIS PROGRAM COMPILES AND PRINTS A REPORT FOR EACH PRINCIPAL
000100      IN THE CALDWELL COUNTY SCHOOL SYSTEM---A MAXIMUM OF 250C
000110      STUDENTS IS ASSUMED---ALSO ASSUMED ALREADY SORTED
000120      BY SCHOOL-CODE, CLASSIFICATION, AND NAME.
000130 ENVIRONMENT DIVISION.
000140 CONFIGURATION SECTION.
000150 SOURCE-COMPUTER.     UNIVAC-SERIES-70.
000160 OBJECT-COMPUTER.     UNIVAC-SERIES-70.
000170 SPECIAL-NAMES.
000180      C01 IS TOP-PAGE.
000190 INPUT-OUTPUT SECTION.
000200 FILE-CONTROL.
000210      SELECT RPTFILE, ASSIGN TO SYSLST,
000220          RESERVE NO ALTERNATE AREAS.
000230      SELECT DSKFILE, ASSIGN TO DA-590-S-SYS010.
000240 DATA DIVISION.
000250 FILE SECTION.
000260 FD   RPTFILE
000270      RECORDING MODE IS U
000280      LABEL RECORDS ARE UMITTED
000290      DATA RECORD IS RPT-REC.
000300 01   RPT-REC                    PIC      X(133).
000310 FD   DSKFILE
000320      RECORDING MODE IS F
000330      LABEL RECORDS ARE STANDARD.
000340 01   DISK-REC.
000350      05  D-SCHOOL-CODE          PIC      S9(3).
000360      05  D-TEACHER-CODE         PIC      S9(3).
000370      05  D-GRADE-LEVEL          PIC      S9.
000380      05  D-NAME.
000390          10  LAST-N             PIC      X(15).
000400          10  FIRST-I            PIC      X.
000410          10  MI                 PIC      X.
000420      05  D-CARD-RES.
000430          10  D-RES              PIC      X   OCCURS 16 TIMES.
000440      05  D-CLASS                PIC      X(13).
000450 WORKING-STORAGE SECTION.
000460 77   P-CTR                      PIC      S9(3)    COMP-3 VALUE 0.
000470 77   K                          PIC      S9(3)    COMP-3.
000480 77   J                          PIC      S9(5)    COMP-3.
000490 77   L                          PIC      S9(3)    COMP-3.
000500 77   M                          PIC      S9(5)    COMP-3.
000510 77   P-SCHOOL-CODE              PIC      S9(3)    COMP-3 VALUE 0.
000520 77   P-CLASS                    PIC      X(13)    VALUE SPACES.
000530 77   NO-IN-CLASS                PIC      S9(3)    COMP-3.
000540 01   RES-TAB.
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000550      05  CL-2 OCCURS 16 TIMES.
000560          10  NO-RES          PIC     S9(3)   COMP-3.
000570 01   WS-REC.
000580      02  WS-DISK-REC OCCURS 2500 TIMES.
000590          05  WS-NAME.
000600              10  LAST-N      PIC     X(15).
000610              10  FIRST-I     PIC     X.
000620              10  MI          PIC     X.
000630          05  WS-CARD-RES.
000640              10  D-RES       PIC     X OCCURS 16 TIMES.
000650 01   WS-GR-LEVEL.
000660      05  WS-GRADE-LEVEL      PIC     S9  OCCURS 2500 TIMES.
000670 01   PRIN-HDA.
000680      05  FILLER              PIC     X(40).
000690      05  FILLER              PIC     X(14) VALUE 'SCHOOL CODE = '.
000700      05  PR-SCHOOL-CODE      PIC     9(3).
000710      05  FILLER              PIC     X(20) VALUE '   CLASSIFICATIO
000720-     'N = '.
000730      05  PR-CLASS            PIC     X(13).
000740      05  FILLER              PIC     X(13) VALUE '    NUMBER = '.
000750      05  PR-NUM              PIC     Z(4).
000760      05  FILLER              PIC     X(26).
000770 01   PRIN-HDB.
000780      05  FILLER              PIC     X(20).
000790      05  FILLER              PIC     X(20) VALUE 'I1    I2    I3
000800-     '  I4'.
000810      05  FILLER              PIC     X(33) VALUE '   III1   III2   I
000820-     'I3   IIII1  IIII2  '.
000830      05  FILLER              PIC     X(15) VALUE 'IV1   IV2    VI'
000840-     .
000850      05  FILLER              PIC     X(24) VALUE '    V2   VII1   V
000860-     'I2   VI3'.
000870      05  FILLER              PIC     X(21).
000880 01   PRINT-TOT.
000890      05  FILLER              PIC     X(10).
000900      05  FILLER              PIC     X(9) VALUE 'TOTAL    '.
000910      05  RESPONSE OCCURS 16 TIMES.
000920          10  TOT             PIC     Z(3).
000930          10  FILLER          PIC     X(3).
000940      05  FILLER              PIC     X(18).
000950 01   PRINT-HDC.
000960      05  FILLER              PIC X(12)   VALUE ' GRADE LEVEL'.
000970      05  FILLER              PIC X(12).
000980      05  FILLER              PIC X(4)    VALUE 'NAME'.
000990      05  FILLER              PIC X(12).
001000      05  FILLER              PIC X(41)   VALUE 'I1    I2    I3
001010-     'I4   III1   III2   III3   '.
001020      05  FILLER              PIC X(52)   VALUE 'IIII1  IIII2  IV1
001030-     'IV2    V1    V2   VII1   VI2   VI3 '.
001040 01   PRINT-LINE.
001050      05  FILLER              PIC X(6).
001060      05  PR-GRADE-LEVEL      PIC 9.
001070      05  FILLER              PIC X(10).
001080      05  PR-NAME.
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001090          10  LAST-N            PIC X(15).
001100          10  FIRST-I           PIC X.
001110          10  MI                PIC X.
001120      05  FILLER                PIC X(2).
001130      05  PR-CARD-RES OCCURS 16 TIMES.
001140          10  FILLER            PIC X(5).
001150          10  RES               PIC X.
001160      05  FILLER                PIC X.
001170 PROCEDURE DIVISION.
001180 OPEN-FILES.
001190      OPEN INPUT DSKFILE, OUTPUT RPTFILE.
001200 CLEAR-TABLES.
001210      MOVE ALL SPACES TO WS-REC.
001220      MOVE ALL '  ' TO RES-TAB.
001230      MOVE ALL ' ' TO WS-GR-LEVEL.
001240      MOVE 0 TO NO-IN-CLASS.
001250      MOVE 0 TO M.
001260      MOVE 1 TO J.
001270      MOVE SPACES TO P-CLASS.
001280      MOVE 0 TO P-SCHOOL-CODE.
001290      MOVE 0 TO P-CTR.
001300 CLEAR-TABLES-EXIT.
001310      EXIT.
001320 READ-DSKFILE.
001330      READ DSKFILE, AT END MOVE -9 TO D-SCHOOL-CODE.
001340      IF (D-SCHOOL-CODE NOT = P-SCHOOL-CODE AND
001350          P-SCHOOL-CODE NOT = 0) OR
001360          (D-CLASS NOT = P-CLASS AND P-CLASS NOT = SPACES),
001370          PERFORM PART-END THRU PART-END-EXIT,
001380          PERFORM CLEAR-TABLES THRU CLEAR-TABLES-EXIT.
001390 PROCESS-REC.
001400      ADD 1 TO NO-IN-CLASS.
001410      ADD 1 TO M.
001420      MOVE CORRESPONDING D-NAME TO WS-NAME (M).
001430      MOVE D-CARD-RES TO WS-CARD-RES (M).
001440      MOVE D-GRADE-LEVEL TO WS-GRADE-LEVEL (M).
001450      PERFORM TOT-RES THRU TOT-RES-EXIT
001460          VARYING L FROM 1 BY 1 UNTIL L > 16.
001470      IF D-SCHOOL-CODE = -9, GO TO CLOSE-FILES.
001480      MOVE D-SCHOOL-CODE TO P-SCHOOL-CODE.
001490      MOVE D-CLASS TO P-CLASS.
001500      GO TO READ-DSKFILE.
001510 TOT-RES.
001520      IF D-RES OF DISK-REC (L) = '1',
001530          ADD 1 TO NO-RES (L).
001540 TOT-RES-EXIT.
001550      EXIT.
001560 PAGE-HDS.
001570      MOVE P-SCHOOL-CODE TO PR-SCHOOL-CODE.
001580      MOVE P-CLASS TO PR-CLASS.
001590      MOVE NO-IN-CLASS TO PR-NUM.
001600      WRITE RPT-REC FROM PRIN-HDA AFTER ADVANCING TOP-PAGE.
001610      WRITE RPT-REC FROM PRIN-HDB AFTER ADVANCING 2.
001620      PERFORM MOVE-TOT THRU MOVE-TOT-EXIT
```

```
001630          VARYING L FROM 1 BY 1 UNTIL L > 16.
001640      WRITE RPT-REC FROM PRINT-TOT AFTER ADVANCING 2.
001650      WRITE RPT-REC FROM PRINT-HDC AFTER ADVANCING 2.
001660      MOVE SPACES TO RPT-REC.
001670      WRITE RPT-REC AFTER ADVANCING 1.
001680      GO TO PAGE-HDS-EXIT.
001690 SKIP-TO-TOP.
001700      MOVE 0 TO P-CTR.
001710      WRITE RPT-REC FROM PRINT-HDC AFTER ADVANCING TOP-PAGE.
001720      MOVE SPACES TO RPT-REC.
001730      WRITE RPT-REC AFTER ADVANCING 1.
001740 PAGE-HDS-EXIT.
001750      EXIT.
001760 MOVE-TOT.
001770      MOVE NO-RES (L) TO TOT (L).
001780 MOVE-TOT-EXIT.
001790      EXIT.
001800 PART-END.
001810      PERFORM PAGE-HDS THRU PAGE-HDS-EXIT.
001820      PERFORM PRINT-PERSON THRU PRINT-PERSON-EXIT
001830          VARYING K FROM 1 BY 1 UNTIL K > M.
001840 PART-END-EXIT.
001850      EXIT.
001860 PRINT-PERSON.
001870      IF P-CTR = 50,
001880          PERFORM SKIP-TO-TOP THRU PAGE-HDS-EXIT.
001890      MOVE WS-GRADE-LEVEL (K) TO PR-GRADE-LEVEL.
001900      MOVE CORRESPONDING WS-NAME (K) TO PR-NAME.
001910      PERFORM MOVE-RES THRU MOVE-RES-EXIT
001920          VARYING L FROM 1 BY 1 UNTIL L > 16.
001930      WRITE RPT-REC FROM PRINT-LINE AFTER ADVANCING 1.
001940      ADD 1 TO P-CTR.
001950 PRINT-PERSON-EXIT.
001960      EXIT.
001970 MOVE-RES.
001980      MOVE D-RES OF WS-REC (K, L) TO RES (L).
001990 MOVE-RES-EXIT.
002000      EXIT.
002010 CLOSE-FILES.
002020      CLOSE RPTFILE, DSKFILE.
002030      STOP RUN.
```

```
**                                                                  **
** USER I.D.- FAC                                TSN - JCG6         **
** ACCT. NO.- CS01                                                  **
** FILENAME - SRCE.CALD004                                          **
** MAILING ADR.- P.GAYNOR-C.SOMERS                                  **
** DATE     -  02/23/76                          TIME-13:26:16      **
**                                                                  **
**********************************************************************
```

```
*000010 IDENTIFICATION DIVISION.
 000020 PROGRAM-ID.      CALD004.
 000030 AUTHOR.          CECIL SOMERS.
 000040 INSTALLATION.    ASU COMPUTER CENTER.
 000050 DATE-WRITTEN.
 000060      12/14/75.
 000070 DATE-COMPILED.
 000080 REMARKS.
 000090      THIS PROGRAM USES A PREVIOUSLY CREATED DSKFILE TO COMPILE A
 000100      REPORT FOR THE SUPERINTENDENT OF CALDWELL COUNTY---THE
 000110      IS GIVEN BY CLASSIFICATION WITHIN GRADE LEVEL.
 000120*********************************************************************
 000130 ENVIRONMENT DIVISION.
 000140*********************************************************************
 000150 CONFIGURATION SECTION.
 000160 SOURCE-COMPUTER.    UNIVAC-SERIES-70.
 000170 OBJECT-COMPUTER.    UNIVAC-SERIES-70.
 000180 SPECIAL-NAMES.
 000190      TERMINAL IS S-LIST,
 000200      C01 IS TOP-PAGE.
 000210 INPUT-OUTPUT SECTION.
 000220 FILE-CONTROL.
 000230      SELECT RPTFILE, ASSIGN TO SYSLST,
 000240          RESERVE NO ALTERNATE AREAS.
 000250      SELECT DSKFILE, ASSIGN TO DA-590-S-SYS010.
 000260*********************************************************************
 000270 DATA DIVISION.
 000280*********************************************************************
 000290 FILE SECTION.
 000300 FD  RPTFILE
 000310      RECORDING MODE IS U
 000320      LABEL RECORDS ARE OMITTED
 000330      DATA RECORD IS RPT-REC.
 000340 01  RPT-REC.
 000350      05  FILLER                PIC     X(6).
 000360      05  PR-LEVEL              PIC     9.
 000370      05  FILLER                PIC     X(14).
 000380      05  PR-NUMBER             PIC     Z(5).
 000390      05  FILLER                PIC     X(5).
 000400      05  PR-RES  OCCURS 10 TIMES.
 000410          10  RES               PIC     Z(4).
 000420          10  FILLER            PIC     X(2).
 000430      05  FILLER                PIC     X(6).
 000440 FD  DSKFILE
 000450      RECORDING MODE IS F
 000460      LABEL RECORDS ARE STANDARD.
 000470 01  DISK-REC.
 000480      05  D-SCHOOL-CODE         PIC     S9(3).
 000490      05  D-TEACHER-CODE        PIC     S9(3).
 000500      05  D-GRADE-LEVEL         PIC     S9.
 000510      05  D-NAME.
 000520          10  LAST-N            PIC     X(15).
 000530          10  FIRST-I           PIC     X.
 000540          10  MI                PIC     X.
```

```
000550      05  D-CARD-RES.
000560          10  D-RES              PIC     X OCCURS 16 TIMES.
000570      05  D-CLASS                PIC     X(13).
000580*****************************************************************
000590 WORKING-STORAGE SECTION.
000600 77  J                           PIC     S9      COMP-3.
000610 77  K                           PIC     S9      COMP-3.
000620 77  L                           PIC     S9(3)   COMP-3.
000630 77  J1                          PIC     S9      COMP-3.
000640 01  RES-TAB.
000650      05  C1  OCCURS 8 TIMES.
000660          10  C2  OCCURS 8 TIMES.
000670              15  RES             PIC     S9(4) COMP-3 OCCURS 16 TIMES.
000680 01  T-RES-TAB.
000690      05  T1  OCCURS 8 TIMES.
000700          10  T-RES               PIC     S9(4) COMP-3 OCCURS 16 TIMES.
000710 01  NUM-TAB.
000720      05  N1  OCCURS 8 TIMES.
000730          10  NUMBER              PIC     S9(5) COMP-3 OCCURS 8 TIMES.
000740 01  T-NUM-TAB.
000750      05  C-NUMBER                PIC     S9(5) COMP-3 OCCURS 8 TIMES.
000760 01  CLASSIFICATION-TAB.
000770      05  CLASS-TAB.
000780          10  FILLER              PIC     X(13)  VALUE 'NOT CLASSED  '.
000790          10  FILLER              PIC     X(13)  VALUE 'FLAGGED      '.
000800          10  FILLER              PIC     X(13)  VALUE 'TENTATIVE    '.
000810          10  FILLER              PIC     X(13)  VALUE 'POSSIBLE     '.
000820          10  FILLER              PIC     X(13)  VALUE 'PROBABLE     '.
000830          10  FILLER              PIC     X(13)  VALUE 'MOST PROBABLE'.
000840          10  FILLER              PIC     X(13)  VALUE 'NEAR CERTAIN '.
000850          10  FILLER              PIC     X(13)  VALUE 'ALL          '.
000860      05  CLASS-TABLE REDEFINES CLASS-TAB.
000870          10  WS-CLASS            PIC     X(13)  OCCURS 8 TIMES.
000880 01  HD-1.
000890      05  FILLER                  PIC     X(40).
000900      05  FILLER                  PIC     X(17)   VALUE 'CLASSIFICATION
000910-     ' =',
000920      05  PR-CLASS                PIC     X(13).
000930      05  FILLER                  PIC     X(63).
000940 01  HD-2.
000950      05  FILLER                  PIC     X(32)   VALUE ' GRADE LEVEL
000960-     '      NUMBER       '.
000970      05  FILLER                  PIC     X(51)   VALUE 'I1     I2     I3
000980-     '    I4     III    II2    II3  IIII   IIII2'.
000990      05  FILLER                  PIC     X(42)   VALUE '    IV1    IV2
001000-     ' V1     V2     VI1    VI2    VI3'.
001010      05  FILLER                  PIC     X(8).
001020 01  TOT-HD.
001030      05  FILLER                  PIC     X(9)    VALUE '    TOTAL'.
001040      05  FILLER                  PIC     X(12).
001050      05  PR-C-NUMBER             PIC     Z(5).
001060      05  FILLER                  PIC     X(5).
001070      05  PR-TOT-RES   OCCURS 16 TIMES.
001080          10  T-RES               PIC     Z(4).
```

```
001090          10  FILLER              PIC     X(2).
001100      05  FILLER                  PIC     X(6).
001110*****************************************************************
001120 PROCEDURE DIVISION.
001130*****************************************************************
001140 OPEN-FILES.
001150      OPEN INPUT DSKFILE, OUTPUT RPTFILE.
001160      PERFORM CLEAR-TABLES THRU CLEAR-TABLES-EXIT.
001170 READ-DSKFILE.
001180      READ DSKFILE, AT END GO TO FINALE.
001190      IF D-GRADE-LEVEL > 1 AND D-GRADE-LEVEL < 10,
001200          COMPUTE J = D-GRADE-LEVEL - 1,
001210          ELSE DISPLAY 'INVALID GRADE-LEVEL' UPON S-LIST,
001220          DISPLAY DISK-REC UPON S-LIST,
001230          GO TO READ-DSKFILE.
001240      PERFORM CHECK-CLASS THRU CHECK-CLASS-EXIT.
001250      PERFORM TOT-RES THRU TOT-RES-EXIT
001260          VARYING L FROM 1 BY 1 UNTIL L > 16.
001270      ADD 1 TO NUMBER (K, J).
001280      GO TO READ-DSKFILE.
001290 FINALE.
001300      CLOSE DSKFILE.
001310      PERFORM VARY-J THRU VARY-J-EXIT
001320          VARYING K FROM 1 BY 1 UNTIL K > 7,
001330          AFTER   J FROM 1 BY 1 UNTIL J > 8.
001340      PERFORM T-CLASS THRU T-CLASS-EXIT
001350          VARYING K FROM 1 BY 1 UNTIL K > 7
001360          AFTER   J FROM 1 BY 1 UNTIL J > 8.
001370      PERFORM SUM-SUM THRU SUM-SUM-EXIT
001380          VARYING K FROM 1 BY 1 UNTIL K > 7.
001390      PERFORM PRINT-ROUTINE THRU PRINT-ROUTINE-EXIT
001400          VARYING K FROM 1 BY 1 UNTIL  K > 8.
001410      CLOSE RPTFILE.
001420      STOP RUN.
001430 CHECK-CLASS.
001440      IF D-CLASS = 'NOT CLASSED  ', MOVE 1 TO K,
001450          GO TO CHECK-CLASS-EXIT,
001460      ELSE IF D-CLASS = 'FLAGGED      ', MOVE 2 TO K,
001470          GO TO CHECK-CLASS-EXIT,
001480      ELSE IF D-CLASS = 'TENTATIVE    ', MOVE 3 TO K,
001490          GO TO CHECK-CLASS-EXIT,
001500      ELSE IF D-CLASS = 'POSSIBLE     ', MOVE 4 TO K,
001510          GO TO CHECK-CLASS-EXIT,
001520      ELSE IF D-CLASS = 'PROBABLE     ', MOVE 5 TO K,
001530          GO TO CHECK-CLASS-EXIT,
001540      ELSE IF D-CLASS = 'MOST PROBABLE', MOVE 6 TO K,
001550          GO TO CHECK-CLASS-EXIT,
001560      ELSE IF D-CLASS = 'NEAR CERTAIN ', MOVE 7 TO K,
001570          GO TO CHECK-CLASS-EXIT,
001580      ELSE DISPLAY 'INVALID CLASSIFICATION' UPON S-LIST,
001590          DISPLAY DISK-REC UPON S-LIST,
001600          STOP RUN.
001610 CHECK-CLASS-EXIT.
001620      EXIT.
```

```
001630 TOT-RES.
001640     IF D-RES (L) = '1',
001650     ADD 1 TO RES OF RES-TAB (K, J, L).
001660 TOT-RES-EXIT.
001670     EXIT.
001680 VARY-J.
001690     PERFORM VARY-L THRU VARY-L-EXIT
001700         VARYING L FROM 1 BY 1 UNTIL L > 16.
001710     ADD NUMBER (K, J) TO C-NUMBER (K).
001720 VARY-J-EXIT.
001730     EXIT.
001740 VARY-L.
001750     ADD RES OF RES-TAB (K, J, L) TO T-RES OF T-RES-TAB (K, L).
001760 VARY-L-EXIT.
001770     EXIT.
001780 T-CLASS.
001790     ADD NUMBER (K, J) TO NUMBER (8, J).
001800     PERFORM T-CLASS-2 THRU T-CLASS-2-EXIT
001810         VARYING L FROM 1 BY 1 UNTIL L > 16.
001820 T-CLASS-EXIT.
001830     EXIT.
001840 T-CLASS-2.
001850     ADD RES OF RES-TAB (K, J, L) TO
001860         RES OF RES-TAB (8, J, L).
001870 T-CLASS-2-EXIT.
001880     EXIT.
001890 SUM-SUM.
001900     ADD C-NUMBER (K) TO C-NUMBER (8).
001910     PERFORM SUM-IN THRU SUM-IN-EXIT
001920         VARYING L FROM 1 BY 1 UNTIL L > 16.
001930 SUM-SUM-EXIT.
001940     EXIT.
001950 SUM-IN.
001960     ADD T-RES OF T-RES-TAB (K, L) TO
001970         T-RES OF T-RES-TAB (8, L).
001980 SUM-IN-EXIT.
001990     EXIT.
002000 PRINT-ROUTINE.
002010     MOVE WS-CLASS (K) TO PR-CLASS.
002020     IF K = 1 OR K = 3 OR K = 5 OR K = 7,
002030         WRITE RPT-REC FROM HD-1 AFTER ADVANCING TOP-PAGE,
002040     ELSE WRITE RPT-REC FROM HD-1 AFTER ADVANCING 5.
002050     MOVE SPACES TO RPT-REC.
002060     WRITE RPT-REC FROM HD-2 AFTER ADVANCING 2.
002070     MOVE SPACES TO RPT-REC.
002080     PERFORM PRINT-LEVEL THRU PRINT-LEVEL-EXIT
002090         VARYING J FROM 1 BY 1 UNTIL J > 8.
002100     MOVE C-NUMBER (K) TO PR-C-NUMBER.
002110     PERFORM MOVE-T-RES THRU MOVE-T-RES-EXIT
002120         VARYING L FROM 1 BY 1 UNTIL L > 16.
002130     WRITE RPT-REC FROM TOT-HD AFTER ADVANCING 2.
002140     MOVE SPACES TO RPT-REC.
002150 PRINT-ROUTINE-EXIT.
002160     EXIT.
```

```
002170 PRINT-LEVEL.
002180      COMPUTE J1 = J + 1.
002190      MOVE J1 TO PR-LEVEL.
002200      MOVE NUMBER (K, J) TO PR-NUMBER.
002210      PERFORM MOVE-RES THRU MOVE-RES-EXIT
002220          VARYING L FROM 1 BY 1 UNTIL L > 16.
002230      WRITE RPT-REC AFTER ADVANCING 2.
002240      MOVE SPACES TO RPT-REC.
002250 PRINT-LEVEL-EXIT.
002260      EXIT.
002270 MOVE-RES.
002280      MOVE RES OF RES-TAB (K, J, L) TO RES OF RPT-REC (L).
002290 MOVE-RES-EXIT.
002300      EXIT.
002310 MOVE-T-RES.
002320      MOVE T-RES OF T-RES-TAB (K, L) TO T-RES OF TOT-HD (L).
002330 MOVE-T-RES-EXIT.
002340      EXIT.
002350 CLEAR-TABLES.
002360      MOVE ALL '    ' TO RES-TAB.
002370      MOVE ALL '    ' TO T-RES-TAB.
002380      MOVE ALL '    ' TO NUM-TAB.
002390      MOVE ALL '    ' TO T-NUM-TAB.
002400 CLEAR-TABLES-EXIT.
002410      EXIT.
```

	001	Kings Creek:	011 *	Column 1-3: School Code
.tsville:	002	Lenoir Middle:	012 *	4-6: Teacher Code
.port:	003	Lower Creek:	013 *	7: Grade Level
ley Shoals:	004	Oak Hill Elem:	014 *	8-22: Last Name
st Harper:	005	Rhodhiss:	015 *	23: First Initial
amewell Elem:	006	Saw Mills:	016 *	24: Middle Initial
Gamewell Middle:	007	Valmead:	017 *	25-40: Responses
Granite Falls Elem:	008	West Lenoir:	018 *	
Happy Valley:	009	Whitnel:	019 *	
Hudson Elementary:	010		*	
			*	

TEACHER CODE (By Schools)

BATON ELEMENTARY

Adderholdt	100	Dodson	110
Austin	101	Frazier	111
Auton	102	Greene	112
Bales	103	M.Hartley	113
Baily	104	V.Hartley	114
Baker	105	Laney	115
Bingham	106	Osier	116
Cecil	107	Whalen	117
Cline	108	Webb	118
Coffey	109	Woodall	119

COLLETTSVILLE ELEM.

Aldridge	120
P.Campbell	121
Campbell	357*
DeVoto	122
Earp	123
Glass	124
Herren	125
Janey	126
Joines	127
Jones	128
Price	129
Transou	130
Watson	131

DAVENPORT

Aldridge	132
Cole	133
Dula	134
Keyes	135
Phillips	136
Smith	137

DUDLEY SHOALS

Crouch	138
Guthrie	139
Hatley	140
Hodge	141
Marion	142
McCall	143
Mickey	144
Simmons	145
Thompson	146

EAST HARPER

Busko	147
Cartie	148
Messick	149
Hope	150
Rascoe	151
Rayne	152

GAMEWELL ELEMENTARY

Abel	153	McMillan	164
Burgin	154	R.Moore	165
Cavin	155	C.Moore	166
Compton	156	Newman	167
Courtney	157	Slind	168
Cowick	158	Reese	169
Edmundson	159	Smith	170
Ferguson	160	Spencer	171
Hall	161	Storie	172
Hartley	162	Walker	173
Hayes	163	Wilcox	174

GAMEWELL MIDDLE

Cheek	175
Church	176
Collins	177
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Janney	181
Kiser	182
Rector	183
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GRANITE FALLS ELEM.

Annas	185	Kirkpatrick	197
Barger	186	McGuire	198
MF Bolick	187	Moore	199
MS Bolick	188	Myers	200
Bost	189	Owensby	201
Carswell	190	Pope	202
Davis	191	Siemering	203
Eckerd	192	Teague	204
Fox	193	Trivette	205
Frazier	194	Yount	206
Hope	195	Watts	207
Kirby	196	Williams	208

HAPPY VALLEY

Blake	209
Burch	210
Campbell	211
Carney	212
Coffey	213
Dotson	214
Kirby	215
Michael	216
Miller	358*
Phillips	217
A.Triplett	218
S.Triplett	219
Trexler	220
Swift	221
Woodbury	222
Woods	223

HUDSON ELEMENTARY

Anders	224	Moore	240
Barlowe	225	Pennell	241
Buris	226	Pernell	242
Carlton	227	Reese	243
Dula	228	Push	244
Eckerd	229	Simmon	245
Erby	230	Sullivan	246
Foster	231	Taylor	247
Freeman	232	Moss	248
Haas	233	Townsend	249
Hall	234		
Hatley	235		
Hemphill	236		
Holloway	237		
LaFevers	238		
Lethcoe	239		

TEACHER CODE CONTINUED

KINGS CREEK	
Coonse	250
Lanier	251
Miller	252
Pipkins	253
Willard	254

LENOIR MIDDLE			
Asby	255	McCurry	262
Crawford	256	Setzer	263
Frazier	257	Sherrill	264
Graham	258	Stone	265
Hartso	259	Transou	266
Keller	260	Triplett	267
Knight	261	Wilson	268
		Winkler	269

LOWER CREEK	
Costner	270
Ferguson	271
Fleming	272
Hartley	273
Hunt	274
Miller	275
Nevins	276
Pyatte	277
Rose	278
Vaughn	279

OAK HILL ELEMENTARY	
Bynum	280
Hartley	281
Martin	282
Miles	283
Self	284
Tucker	285

RHODHISS ELEM.	
Carmack	286
Fowler	287
Laws	288
Morrison	289
Setzer	290
Simpson	291
Wrike	292

SAW MILLS ELEM.	
Bowles	293
Childers	294
Kohnle	295
Moore	296
Oxford	297
Rainey	298
Rash	299
Stevens	300
Taylor	301

VALMEAD ELEM.	
Beck	302
Ernest	303
Everett	304
Ford	305
Foster	306
Gibbons	307
Hendrix	308
Hobson	559
Keller	309
Kirby	310
McCulley	311
D.Moore	312
G.Moore	313
Rector	314

WEST LENOIR	
Byrd	315
Caudle	316
Falcon	317
Greer	318
Holloway	319
Hood	320
Huggins	321
Land	322
Long	323
McCoy	324
Seagle	325

WHITNEL ELEM.	
Black	326
Bumgarner	327
Clark	328
Crosby	329
Dickson	330
Dyson	331
Gaddy	332
Glass	333
Hawkins	334
Lewis	335
Long	336
Miller	337
Porter	338
Power	360*
Reid	339
Seagle	340
Sherrill	361*
Sides	341
Swanson	342
Tucker	343
Wike	344
Sides	356*

SPECIAL EDUCATION TEACHER CODE (If not already listed)

BATON	
Beason	345
Sounders	346

COLLETTSVILLE	
Martin	347

DAVENPORT	
DeVane	348
Knotts	349

DUDLEY SHOALS

None

EAST HARPER	
Wallace	350

GAMEWELL ELEM	
W. Kirby	351
Lowery	352
Sikes	353

GAMEWELL M.

NONE

GRANITE FALLS E

NONE

HAPPY VALLEY

NONE

HUDSON ELEM.	
Cloer	354
Miller	362
Price	363
Tutlle	364

KINGS CREEK

NONE

LENOIR MIDDLE

Ervin	355

LOWER CREEK

NONE

OAK HILL

NONE

RHODHISS ELEM.

NONE

SAW MILLS

NONE

VALMEAD

NONE

WEST LENOIR

NONE

WHITNEL ELEM.

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FINAL REPORT

Project Number: V0180VZ
Grant Number: OEG-0-74-8580

Guidance Oriented Alternative
Word Experience Program
and Follow - Up Study

Research Project in Vocational Education
Conducted Under
Part C of Public Law 90-576

The project report herein was performed pursuant to a grant from the Office of Education, U.S. Department of Health, Education, and Welfare. Contractors or grantees undertaking such projects under Government sponsorship are encouraged to express freely their professional judgment in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent official Office of Education position or policy.

William S. Stone
Caldwell County Schools
Drawer 1590
Lenoir, North Carolina 29645

July 1, 1976

INFORMATION ACQUISITIONS
CENTER FOR VOCATIONAL AND TECHNICAL EDUCATION
The Ohio State University
1960 Kenny Rd., Columbus, Ohio 43210

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APPENDIXES

Appendixes

A.....A list of the students involved in the Work Experience Area of the Project with their training stations.

B.....Project Advisory Committees

C.....Results of Pre- and Post-Testing

D.....Results of other tests given to the experimental groups.

E.....Results of Kuder Tests

F....."Highlights of Occupational Education", a guidebook for eighth grade students.

G....."Job Placement - Caldwell County Schools", a transportable model of a unit wide placement service for small and rural school districts.

H.....Job Placement Service - Progress Reports

I.....Student Follow-up Instrument and Results of 1974 study.

J.....Newspaper Coverage of the Project

K.....Individualized Curriculum for Industrial Work Experience Programs

L.....Student Guide to Textile Manufacturing

M.....Furniture Manufacturing Training Manual

N.....Proposed Production Trainee Program

O.....Drop-out Identification System and results of 1976 Identification in Caldwell County

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R.....Schedule for on-site evaluation

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5. Summary of the Report:

a. Time period covered by the report: July 1, 1974 - June 30, 1976

b. Goals and Objectives of the Project:

1. To determine the extent to which a Comprehensive Career Guidance Program has been developed within Caldwell County Schools.

2. To determine the extent to which a model Job Placement Program has been implemented to serve all high school students within the Caldwell County School System.

3. To determine the extent to which model Work Experience Programs have been established in the areas of textile and furniture manufacturing that will provide the skill, development, and job climate necessary to achieve and maintain meaningful employment in local industries.

4. To determine the extent to which a follow-up study of the Work Experience students, regular I.C.I. students who were randomly selected in the control group and all 1974-75 High School Graduates of Caldwell County Schools have been established in order to determine the success of these people in terms of salary, job mobility, etc.

c. Procedures Followed:

Since Caldwell County Schools underwent a merger with the former Lenoir City School System on July 1, 1974, as well as the retiring of the County School Superintendent E. M. White, the project was delayed two weeks in getting started. The new Superintendent of schools, Dr. Gerald D. James made a change in the Project Director from Charles E. Waters to William S. Stone. Stone officially became the new Project Director on July 19, 1974, and the project got underway.

The first action taken was to seek out and hire a staff of professionals who could operate effectively as a team in accomplishing the objectives of the project. This was completed by September 1, 1974. After the staff was on board, the first obstacle faced was the choice of target schools for the textile and furniture programs. Granite Falls High School was chosen as the site for the textile program, with Lenoir High School being named the site for the furniture program. Since no Work Experience Program can get off the ground without the necessary industrial support, a drive to get leading industrialist in Caldwell County in the areas of textile and furniture manufacturing involved in the project got underway. By August 8, 1974, the project had a committment from six leading manufacturing concerns in Caldwell County.

After the two target programs were selected, students were recruited with the help of the school guidance offices and pre-testing was begun. The Minnesota Vocational Interest

Inventory and the Tennessee Self-Concept Scale were the pre-test instruments. The career counselor made a random sample of 47 like students from the on-going industrial cooperative programs in the county and tested these students along with the 47 enrolled in the project's textile and furniture work experience programs.

During the first year of the project, July 1, 1974 till June 30, 1975, an Individualized Curriculum for Industrial Cooperative Programs was developed along with a Technical Training Manual in Textile and Furniture Manufacturing for use in work experience programs. From July 1, 1975 till June 30, 1976, these materials were field tested in all industrial cooperative programs in the Caldwell County School System.

The Job Placement Service was operational by September 1, 1974, serving the five high schools in Caldwell County with some 3,500 students. A Job Placement Booklet was also developed as a vehicle to inform other school systems about this type of placement service. These booklets were distributed to some 15 school systems in Western North Carolina.

d. Results and Accomplishments:

The project has developed an Individualized General Related Curriculum for Industrial Work Experience Programs; Technical Related Training Manuals in the area of textile, and furniture manufacturing for use in Work Experience Programs; and a structure for an affordable unit wide Job Placement Service in a rural setting. The project, in the area of career guidance, developed a discipline code of conduct for the county schools. Since disruptive behavior is one characteristic of school drop-outs, the project staff felt that if teachers, parents, and students better understood what the school rules were and the disciplinary procedures used if they are broken, a higher level of communication could be established with those students who were identified as potential drop-outs. Also, in the area of career guidance, the project staff demonstrated the need of adequate testing files in the school guidance offices, demonstrated the need of interest testing at the unit level for program planning, developed an Occupational Orientation Package for 8th grade students, developed a Drop-out Prevention Program which includes a computerized identification system for grades 2-8. This system was used in January, 1976 to identify potential drop-outs in grades 2-8 in the Caldwell County Schools. The data from this identification was used to determine the extent of the drop-out problem in Caldwell County by the Board of Education as well as by the Central Staff in designing programs such as a School Social Worker Program, Occupational Exploration Program for potential drop-outs, and a Developmental Reading Program.

e. Evaluation

The third-party evaluation contract was initiated with Appalachian State University by the project director under procedure 100a.105 Negotiated Procurements by state or local governments of the General Provisions for Programs.

f. Conclusions and Recommendations

A team approach to work experience programs where students in a class are divided into teams that operate as a unit on the job has proven a very effective training method.

The use of individualized curriculum materials in work experience classes will allow each student to work at his own pace without regard to where his classmates are in the text, allow the instructor to be free to personally help students who are having problems, and will provide more efficient use of time to allow more technical related instruction to take place.

The use of interest data on students compiled on a system wide basis is one effective ingredient in program planning.

A system wide Job Placement Service can be operated at a very affordable cost of one person's salary for ten months a year for every 3,500 students served. Using the structure developed in this project, the only other expense is minimal material cost and travel expense for the placement coordinator.

The use of craft instruction as a regular part of the curriculum for work experience programs with emphasis on quality construction of items being made will stimulate student interest, reduce absenteeism, and discourage drop-outs.

The development of any drop-out prevention program should incorporate an identification system based on sound educational data that will be used system wide to identify attendance areas with high concentration of potential drop-outs, grades in schools where potential drop-outs are found, and individual students who have learning problems which may lead to the student dropping out of school. The system should also be able to identify specific potentiality of each student.

6. Body of the Report

a. Problem Area Toward Which the Project Was Directed

Technological, scientific, and sociological changes in our society have made occupational and career-oriented programs essential within our schools. But more occupational education does not necessarily mean better occupational information for the students. Several areas of concern to occupational educators

are changes in work opportunities requiring more technical training; high percentage of students trained in our schools in traditional occupational programs who do not remain on those jobs after graduation; lack of communication between industry, businesses and the public schools concerning needed changes in vocational-occupational training; and a lack of adequate placement programs for students, (White, 1973, pp. 1-2). These problems are common to all areas of our nation. The purpose of this project is to research a program designed to alleviate and overcome these problems and to this end let us examine some community characteristics which have influenced this effort.

The 1970 population of Caldwell County was 56,699 with 17,525, the estimated average family income for the period from 1969 to the present falls between $8,000 and $9,000 for Caldwell County. Twenty percent of the county's population had an estimated income under $3,000, while approximately the same percentage has an income over $10,000. In 1970, there were 436 employers in Caldwell County who employed four or more employees. The combined labor force employed by these employers was 17,308. Annually, $93,956,244 in wages was paid with an average weekly wage payment of $104.73.

Household furniture manufacturing is the leading industry in the county with 28 establishments employing 7,839 workers at an annual payroll or $42,766,100. Textiles and textile products comprise the second largest category of industries with annual wage payments of approximately $15,000,000. In general, manufacturing constitutes 58.5 percent of the total employment in the county, of which furniture manufacturing comprises 61.1 percent and textiles 21 percent. Approximately 40 percent of the total employed are in non-manufacturing categories. The furniture and textile industries show no signs of decreasing growth (McClure and Bullard, 1972). Because of the high percentage of industrial jobs within the county, the project concentrated on developing an industrial based work experience program with two major industries, textile and furniture manufacturing.

Another area of concern referred to in the project proposal concerns job placement services for students. The educational activities in the curriculum attempt to build attitudes, skills, and knowledge such that the student will be well prepared for the transition from school to work. The typical high school however, stops short of a systematic effort in job placement. (Task Force on Career Information, Placement, and Follow-up, N.C. State Department of Public Instruction, 1972).

This project has attempted to design a system wide placement service for school systems of similar size and economic capabilities that is based on the assumption that job placement is a systematic effort desiring such assistance at any exit point into any career goal. Following the research efforts of the Caldwell Career Education Project, (Waters, Charles E., Comprehensive Research Model in Career Education, Final Report, Lenoir, N.C.: Caldwell Career Education Project, 1974), which stated that counselors should assist all students in selecting and making necessary adjustments in preparing for careers which will insure placement upon leaving school in either a job and/or additional education. The following is a breakdown of the organizational structure of the placement service developed under the Caldwell Career Education Project which was used as a take off point for our present unit wide placement service:

> The counselor assists students in selecting and enrolling in post-secondary education. This is accomplished by recurring information on admission requirements, financial aid, and school catalogs for student use. Students entering the world of work may need assistance from the counselor in getting a job. If they decide to enter the job market upon graduating, awareness of job opportunities should be provided for them. The counselor can initiate and complete this service by locating students who are interested in employment either full-time or part-time; conducting a survey of employment needs in business and industry; informing the students of the job availabilities; and using introductory or referral cards when sending a student for an interview.

The Guidance Oriented Alternative Work Experience Project was not designed to provide more of the same programs that we have always had. The project is designed to use the best ideas that years of research have brought to our state and nation, to research new and better ways of training, to place the responsibility of guidance, counseling, placement and follow-up on the school, and to share the demands of training and development of skills with industry and business.

b. Goals and Objectives of the Project

1. To determine the extent to which a comprehensive career guidance program has been developed within Caldwell County High Schools.

2. To determine the extent to which a model job placement program has beem implemented to serve all high school students within the Caldwell County School System.

3. To determine the extent to which model work experience programs have been established in the areas of textile and furniture manufacturing that will provide the skill, development, and job climate necessary to achieve and maintain meaningful employment in local industries.

4. To determine the extent to which a follow-up study of the work experience students, regular I.C.T. students who were randomly selected in the control group, and all 1974-1975 high school graduates of Caldwell County Schools has been established in order to determine the success of these people in terms of salary, job mobility, etc.

c. Description of the General Project Design and Procedures Followed

The following chronological program description of the Guidance Oriented Alternative Work Experience Project was based primarily on detailed daily activities taken from quarterly reports submitted during the period from July 1, 1974 to June 30, 1975 along with personnel daily logs covering the period from July 1, 1974 to June 30, 1976.

Since Caldwell County Schools underwent a merger with the former Lenoir City School System on July 1, 1974, as well as the retiring of the county school superintendent, Mr. E.M. White on June 30, 1974, the project was delayed two weeks in getting started. The new superintendent of schools, Dr. Gerald D. James, made a change in the project director from Charles E. Waters to William S. Stone. Stone officially became the new project director on July 19, 1974, and the project got underway.

The first action taken by the project director was to seek out and hire a staff of professionals who could operate effectively as a team in accomplishing the objectives of the program. The project staff is broken down into four main areas which are: Furniture Work Experience, Textile Work Experience, Job Placement, and Career Guidance. The administrative structure of the Guidance Oriented Alternative Work Experience Project is shown in Figures 1-4, pages 19-22.

The project director is responsible directly to the Superintendent of Schools, but has been assigned to work under the Director of Occupational Education since the project is accepted as an integral part of the total occupational effort being conducted in this school system. The project director has a secretary and a research assistant to assist him in the various reporting functions of the project. In the schools, the project is divided into areas of responsibility with each coordinator assuming responsibility for his or her area and reporting directly to the project director.

Project Personnel and Job Descriptions

Project funds support six full time staff members with the county furnishing an additional member from local funds.

Project Staff	Months Employed
Project Director	24 months
Project Secretary	24 months
Research Assistant	16 months
Textile Coordinator	12 months

Furniture Coordinator	12 months
Career Counselor	10 months
Placement Coordinator	Furnished through local funds

Job Descriptions

Title: Director of the Guidance Oriented Alternative Work Experience Program and Follow-up Study
Date Employed: July 1st, 1974
Duties: 1. Primary Function:

To administer a work experience program in accordance with Board of Education and U.S. Office of Education rules and regulations and to provide leadership in the development and improvement of the Guidance Oriented Alternative Work Experience Program and Follow-up Study.

2. Organizational Relationships:

a. Report and account for the operation of the work experience project to the U.S. Office of Education and to the Superintendent of Caldwell County Schools.

b. Work with and through principals in the implementation of a comprehensive program.

Major Responsibilities

3. Instructional Services

a. Assume responsibility for the quality of the instructional program concerned with the Guidance Oriented Alternative Work Experience Project.

b. Provide for staff involvement in evaluating present programs.

c. Assist staff in determining objectives and procedures for program improvement.

d. Coordinate the planning and development of curriculum in the work experience area.

4. Staff Personnel Services

a. Coordinate the employment, placement, scheduling, and evaluation of work experience project personnel.

b. Provide guidance and supportive services that lead to improved job performance of staff members.

5. Community Relations

a. Organize and maintain active advisory committees.

b. Assist in interpreting the program to the Community which it serves.

Related Major Responsibilities

6. Budgeting and Accounting

a. Development of Guidance Oriented Alternative Work Experience Budget.

b. Develop necessary accounting procedures.

c. Work with coordinators, teachers, and principals in selecting and purchasing materials and equipment for the program.

7. Planning and Research

a. Perform the necessary research to give positive direction to the program.

b. Develop immediate and long-range plans for the program.

c. Develop a continuing evaluation procedure.

d. Assist in planning and modifying facilities for the program.

8. Records and Reports

a. Develop a system of record-keeping.

b. Assume leadership in compiling the necessary data for local, state, and federal reporting.

9. Additional Responsibilities:

a. Approve all project expenditures in accordance with local, state, and federal regulations.

b. Perform other duties assigned by the U.S. Office of Education or the Superintendent of Caldwell County Schools.

The duties of the furniture and textile coordinators are identical and are presented her only once.

Title: Textile Coordinator
Date Employed: August 1, 1974

Title: Furniture Coordinator
Date Employed: August 1, 1974

Duties:

1. Coordinate a work experience class which includes providing both general related and technical related instruction during morning class hours and supervising these student on the job during each afternoon.

2. Develop an individualized curriculum for use in industrial work experience programs.

3. Meet with community advisory committess which have been established by the director in conjunction with the principals.

4. Renew and evaluate new instructional materials for classroom use and to inform principals and teachers of these materials.

5. Assist in planning, implementing and directing in-service training for professional and para-professional personnel.

6. Serve as public relation agents in disseminating school information to the community and others.

7. Assist in compiling the necessary data for local, state, and federal reporting.

Title: Career Counselor
Date Employed: August 19, 1974
Allocation of time per week: Lenoir High 35%; Granite Falls 35%; Hibriten High 10%; Hudson High 10%; Gamewell Collettsville 10%

Duties:

1. Work with the textile and furniture coordinators in seeking out new innovations in guidance as related to work experience programs.

2. Initiate individual career exploration through career tapes and discussions.

3. Assist vocationally undecided students through vocational testing.

4. Work with all secondary guidance personnel in seeking out better methods of career guidance.

5. Conduct and tabulate all pre- and post-testing for the project.

Title: Research Assistant
Date Employed: September 1, 1974
Duties:

1. Assist in the collection of project data.

2. Assist in the writing of the project reports.

3. Assist in the development and writing of an individualized curriculum for industrial work experience programs.

4. Serve as a resource person to both the textile and furniture coordinators.

5. Perform any other duties assigned by the project director.

Title: Job Placement Coordinator
Date Employed: August 1, 1974
(Paid out of local funds)
Duties:

1. Organize the structure of a unit wide job placement program.

2. Initiate the placement activities through the guidance offices in all five Caldwell County High Schools.

3. Serve as a resource person in providing training to personnel in North Carolina in the area of Job Placement Services.

4. Develop and write a job placement handbook for other school units to use in initiating their own programs.

5. Serve as a liason person between the school system and business and industry in Caldwell County in promoting job placement services for high school students.

Personal Data on Project Staff

1. Appointed as Director of the project is William S. Stone, a native of Surry County, NC. He received his A.B. Degree from the University of North Carolina, Chapel Hill, NC and his M.A. Degree in school administration from Appalachian State University in Boone, NC. Before accepting the position as Director, Stone was the Assistant Director of the Caldwell Career Education Project of the Caldwell County Schools.

2. Mrs. Martha A. Barnes, the Career Counselor is a native of Gainesville, Georgia. She attended Mercer University, Macon, Georgia and obtained her B.S. and M.A. Degrees in Guidance and Counseling from Appalachian State University in Boone, NC.

3. The Research Assistant for the project is Mrs. Debra Pennell. She is a native of Caldwell County where she completed her education in the public schools. Mrs. Pennell received her B.S. Degree in Business Education from Appalachian State University, Boone NC. Prior to joining the project, Mrs. Pennell was a part-time instructor and research assistant with Caldwell Community College.

4. Mr. Michael K. Holt is the textile coordinator for the project. Mr. Holt is a native of Alamance County. He received his B.S. Degree from Appalachian State Univeristy, Boone, NC. Before accepting the position with the project, Mr. Holt had served as the Industrial Cooperative Training Coordinator at Granite Falls High School.

5. Mr. William White is the furniture coordinator for the project. He holds a B.S. Degree in Industrial Arts from Appalachian State University, Boone, NC. Prior to joining the project, Mr. White was self-employed with White and Dougherty Construction Company.

6. Mr. Burl Duncan is the Placement Coordinator for the project. He is a native of Huntington, West Virginia. He received his B.S. Degree and M.S. Degree in Guidance and Counseling from Marshall University, Huntington, West Virginia. Before accepting the position with the project, Duncan was the job placement coordinator with the Caldwell Career Education Project.

7. Miss Rebecca A. Robbins was the project secretary. She is a native of Caldwell County. Having graduated in 1974 from Caldwell Community College, she holds and A.S. Degree in Library Technology.

8. Miss Tamara S. Hamby became the project secretary on July 1, 1975 after Miss. Rebecca A. Robbins was promoted to executive secretary to the Caldwell County Board of Education. Miss Hamby graduated from Gamewell-Collettsville High School in 1975 with a consentration of business courses. She is now attending Caldwell Community College at night studying in the secretarial area.

After the project staff was hired the next obstacle to be faced was the choice of a sight or sights to place the work experience program. Granite Falls High School was chosen as the site for the textile center of the county and the school was very receptive to the idea. On August 8, 1974, a meeting was held with the leading textile industrialists in the county and the textile program was born. Burlington Industries, both the Caldwell and Rhodhiss Plants, and Shuford Mills Inc. were selected as the textile training sites for the Granite Falls High School students.

Lenoir High School was chosen as a site for the furniture program because it is virtually surrounded by furniture manufacturing and there was no industrial cooperative program at the school so it had the greatest need. Training sites for the furniture program are Fairfield Chair Company - Plant 1; Singer Furniture Company - Plants 6 and 7; and Bernhardt Industries - Plant 1.

The most important task after site selection was the recruiting of students. All junior and senior records were reviewed and a prospective list of names was compiled. A letter was prepared and sent to these students introducing the program. Follow-up telephone calls were made to the students inviting them to come by and talk about the new program. The recruiting and interviewing continued into the first week of school. By the end of the first week of school, the membership in the work experience project at Lenoir High School was 22 and 26 at Granite Falls High School. A list of the student involved in the work experience area of the project with their training stations is in Appendix A.

Two Advisory Committees have been appointed for the project by the Caldwell County Board of Education. One committee deals with the textile work experience program, while the other is involved with the furniture program. Membership of these committees was determined by each industry involved, submitting names to the project director, who in turn made recommendations to the local Board of Education. These committees have been busy researching for ways to create better communication between schools and industry. A list of the members of the advisory committees can be found in Appendix B.

After the work experience programs were underway, the career counselor took a random sample of students from the regular industrial cooperative programs in the county who were working in the textile and furniture industries. This group thus became the control group. The pre-test instruments and the Tennessee Self-Concept Scale. These tests were administered during October, 1974,

and also during May, 1975, as a post-test to both control and experimental groups (25 students at Granite Falls High School and 22 at Lenoir High School make up the experimental group with 47 students randomly selected from Hudson, Hibriten, and Gamewell-Collettsville High Schools in the control group). Each person in both the control and experimental groups are being given individual counseling sessions to reveal and explain the results of this testing. The experimental group has also been given a series of various tests. The results of the pre- and post-testing, as well as other testing information concerning tests given to the experimental group, are found in Appendix C and D.

After several meetings with the guidance personnel in the county school system, the suggestion was made that the project in its career guidance function, consider looking at ways to compile data on student interest. In this endeavor, the project staff tested all 10th grade students in Caldwell County Schools using the Kuder Vocational Preference Test. The results are found in Appendix E. The project staff is still in the process of searching for detailed recommendations concerning the use of this interest data in program planning.

Also in the area of career guidance in Caldwell County, it was decided that a great need existed in eighth grade orientation. Many of the students enter high school with little or no knowledge of existing occupational programs offered at the high school level. This has caused undue pressure in the area of career counseling on the high school guidance team. The project has undertaken to develop an orientation package that will make eighth grade students aware of the occupational courses available before they register for high school. The package consists of a booklet on occupational education. The booklet has been distributed to eighth students in the Caldwell County Schools. A copy can be found in Appendix F.

The Job Placement program was already developed by the director in another Part C project, but was only associated with two schools. This placement program was the beginning point in designing the structure of the present unit-wide placement program serving 3,500 students through five high schools. The placement coordinator involved the existing high school counselors in this effort as they designed the structure of the program. A description of the placement program can be found in Appendix G and a Progress Report in Appendix H.

In August, the placement coordinator conducted a follow-up study of all 1974 graduates of the Caldwell County Schools. The results and instrument used are found in Appendix I. The 30% responses was very disappointing, therefore a direct telephone follow-up study will be made with the 1975 graduates. Also newspaper coverage of the project can be seen in Appendix J.

From July 1, 1975 till June 30, 1976, the project staff was reduced to the Director, Research Assistant, Project Secretary, and Placement Coordinator. The Job Placement Service, during the 1975 - 76 school year really began to come into it's own. A Job Placement Booklet was developed and distributed to school districts across Western North Carolina. (Appendix G). Visitors from Catawba, Wilkes, Cabarrus, Forsyth, Surry, New Hanover, and Iredell counties representing school systems in those counties came to see the Job Placement Program in operation.

Field Test of Individualized Work Experience
Materials July 1, 1975 - June 30, 1976

Schools Involved	ICT Students Involved
Hibriten High School	44
Gamewell-Collettsville High	28
Granite Falls High School	44
Hudson High School	65
Total	181

From July 1, 1975 till August 18, 1975, the project staff prepared kits of the individualized materials for industrial cooperative programs for each of the 181 students enrolled in the four county high schools. Beginning August 19, 1975, each industrial cooperative teacher began to use the individualized general related curriculum (Appendix K). This material was well received with the teachers from the first day on. The teachers reported that this material freed them from the lectur approach and enabled more individualized instruction. Activity 1 of each "lap" deals with the text material while the Activity 11 section is involved with "hands-on" activities. The North Carolina State Department of Instruction was involved in the field testing of this curriculum. Copies of this curriculum were made available to other school units in Western North Carolina.

Bernhardt industries of Lenoir, N.C., working with the project staff developed a furniture training manual using 63 of their employees to assist in this effort. (Appendix M) From this manual which was distributed to all industrial cooperative programs in the Caldwell County Schools as well as the NC State Department of Public Instruction, Bernhardt Industries developed the idea of a management training program for high school industrial cooperative students. This proposal was presented to the Caldwell County Board of Education on February 2, 1976. The program, which is a direct outgrowth from the Work Experience Project will begin with the school year 1976-77. (A brochure explaining this program can be seen in Appendix N).

In the area of career guidance, the project consentrated in the field of student drop-out prevention during the 1975 - 76 school year. Since Caldwell County has one of the worst drop-out problems in North Carolina, the project staff felt a real challenge in trying to design sound procedures to get at this problem. The project director contacted Dr. Kenneth Jenkins, who was principal of North Miami Beach High School and is now Assistant Dean of the College of Learning and Human Development at Appalachian State University. Dr. Jenkins had a good background in

drop-out prevention and agreed to serve as a project consultant in this field. After the project staff reviewed the records of the student drop-out population from the Caldwell County Schools for school year 1974-75, it was determined that no progress could be made towards reducing the drop-out rate, currently reported by the N.C. Department of Public Insturction at 47%, until an identification process had been developed.

d. Results and Accomplishments of the Project

The project has developed an individualized curriculum for the general related instruction of industrial work experience programs. This curriculum was developed in a target school situation during the 1974-75 school year and field tested in all industrial cooperative program areas in the Caldwell County School System during the 1975-76 school term. This curriculum can be seen in Appendix K.

The project has developed technical training manuals in the area of textile and furniture manufacturing through a cooperative effort between the project staff and Bernhardt Industries of Lenoir, NC; Shuford Mills Inc. of Hickory, NC; and Burlington Industries Fabric Plant in Rhodhiss, NC. These manuals can be seen in Appendix L and Appendix M. As an outgrowth from the Furniture Manual, Bernhardt Industries has developed an open ended management training program for cooperative student in Caldwell County for the school year 1976-77.

The project has developed an occupational handbook for use in eighth grade classes to improve the occupational orientation of students preparing to enter high school. (Appendix F)

The project has utilized an interest test in program planning. All 10th grade students in the Caldwell County Schools were given the Kuder Vocational Preference Test and the results were tabulated on a unit wide basis. These results, found in Appendix E, have been distributed to administrators and program planners in the Caldwell County School System.

The project has developed a Job Placement Program designed to serve the needs of small school districts in the area of vocational placement. A booklet has been designed to explain this program to other school systems in order to make this program transportable at a minimum cost. This document can be seen in Appendix G.

The project has developed a computerized drop-out identification system designed to assist school systems to compile already available educational data into a format that will identify with students who exhibit characteristics of a drop-out as well as show the areas of educational problems so proper planning can occur to direct resources towards student needs. This system along with system wide data from an identification of 1190 students in Caldwell County Schools during January 1976 can be seen in Appendix O.

The project developed a discipline code of conduct for teachers, parents, and students which was approved by the Caldwell County Board of Education. This code was designed to improve communications in the area of discipline problems which are closely associated with the high drop-out rate in Caldwell County. (Appendix P)

e. Evaluation of the Project

The State Occupational Research Unit's Director, Dr. Charles Rogers, was called in during August of 1974, by the project director for help in discussing plans for initiating an evaluation proposal. The following procedures were followed:

1. The State Occupational Research Unit Director recommended that only institutions in the near by area be considered to do the evaluation because of the limited $4,355.00 budgeted for the evaluation.

2. The project director chose to negotiate a contract in lieu of formal advertising because of the few agencies in the Caldwell County area that could handle the job and because the amount budgeted for the evaluation would limit agencies beyond a 50 mile radius. Following 100a.105 Negotiated Procurements of the General Provisions for Programs of the Office of Education, the project director began to seek an evaluator within a fifty mile radius of Caldwell County.

3. The local community college was contacted about doing the evaluation, but the close relationship between the project director and the director for research at the community college over the last few years would seem to limit the objectivity of the evaluation.

4. Appalachian State Univeristy, Boone, NC, is the only state university within fifty miles of Lenoir, The university indicated an interest in doing the evaluation. Because of their interest and their physical closeness to Caldwell County, an evaluation contract was awarded to them for $4,335.00. The contract can be seen in Appendix Q. This contract was approved on October 25, 1974, by the Caldwell County Board of Education.

5. Appalachian State University Scheduled an on-site visitation for April 16, 1975 and an agenda of this visitation can be found in Appendix R.

6. A final evaluation report has been prepared by Appalachina State University as the third party evaluator under separate cover from this report.

f. Conclusions, Implications, and Recommendations for the Future

A team approach to work experience programs where students in a class are divided into teams that operate as a unit on the job has proven to be a very effective training method.

The use of individualized curriculum materials in the work experience class will allow each student to work at his own pace without regard to where his classmates are in the test; will allow the instructor to be free to personally help studetns who are having problems; and will provide a more efficient use of time that will allow more technical follow-up instruction related to the student's work to take place.

The use of interest data on students compiled on a system wide

basis is one effective ingredient in program planning.

The Unit Wide Job Placement Service described in this report in Appendix G can be operated at a very affordable cost of one person's salary for ten months employment per year for every 3,500 students served.

The use of craft instruction as a regular part of the curriculum for work experience programs with emphasis on quality construction of items being made will stimulate student interest, reduce absenteeism, and discourage drop-outs.

No drop-out prevention effort can be very effective until a legitimate method of identifying potential drop-outs can be made and then gear program development to meet the needs of these studetns. The identification process described in Appendix O in this report is based on characteristics of potential drop-outs described in almost all studies on drop-out prevention such as low IQ, low reading level, poor attendance, low grades, lack of motivation to achieve, etc. These characteristics are then validated by using the student's permanent folder as the major source of information as well as his teacher's observation. This process requires little teacher time, is inexpensive, and generates essential data to begin effective drop-out prevention program development.

7. Appendix and Supplementary Material

William S. Stone

Signature of Project Director
Guidance Oriented Alternative
Work Experience Project
July 1, 1976

Table 1. Population Characteristics for Caldwell County, 1970

Population	Population Per Sq. Mile	Urban Population	Population Per Household
56,699	119.1	17,525	3.30

Rural Population

Total Rural Population	Rural Non-Farm	Rural Farm
39,174	36,786	2,388

Ethnic

White	Negro	Indian	Japanese	All Others
52,950	3,688	4	5	57

Sex

Total		White		Negro	
Male	Female	Male	Female	Male	Female
27,639	29,060	25,903	27,108	1,736	1,952

Age

Under 20	20 thru 64	65 and over
20,702	32,055	3,942

Source: U.S. Bureau of the Census

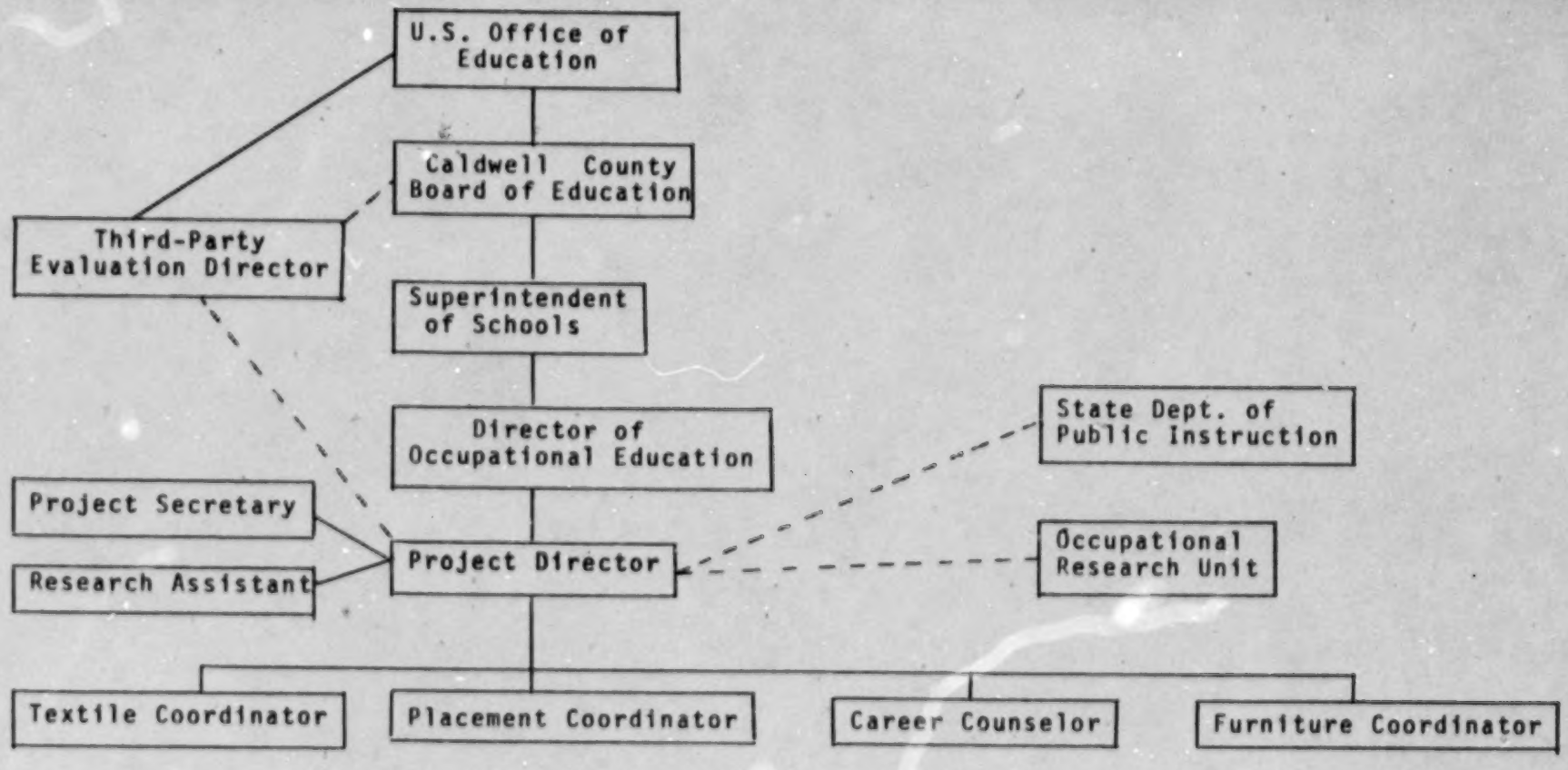


Figure 1. Administrative Organization of the Guidance Oriented Alternative Work Experience Project

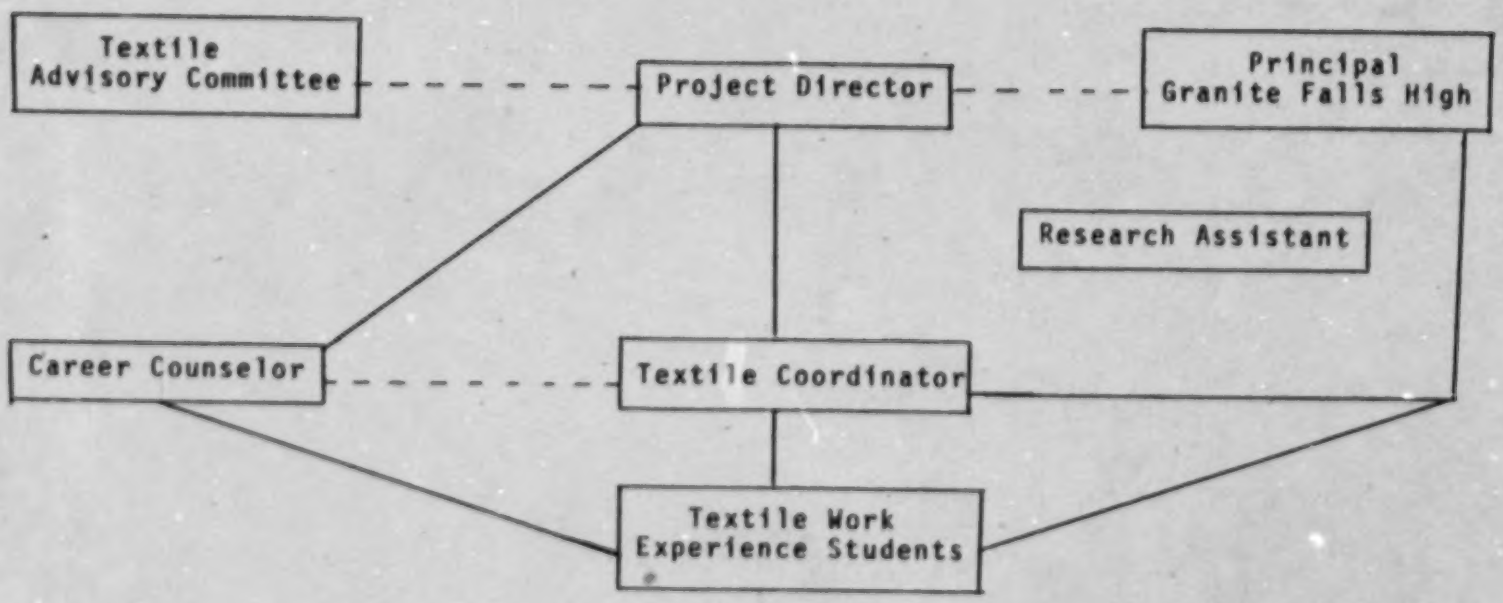


Figure 2. Organization Chart for Textile Work Experience Program

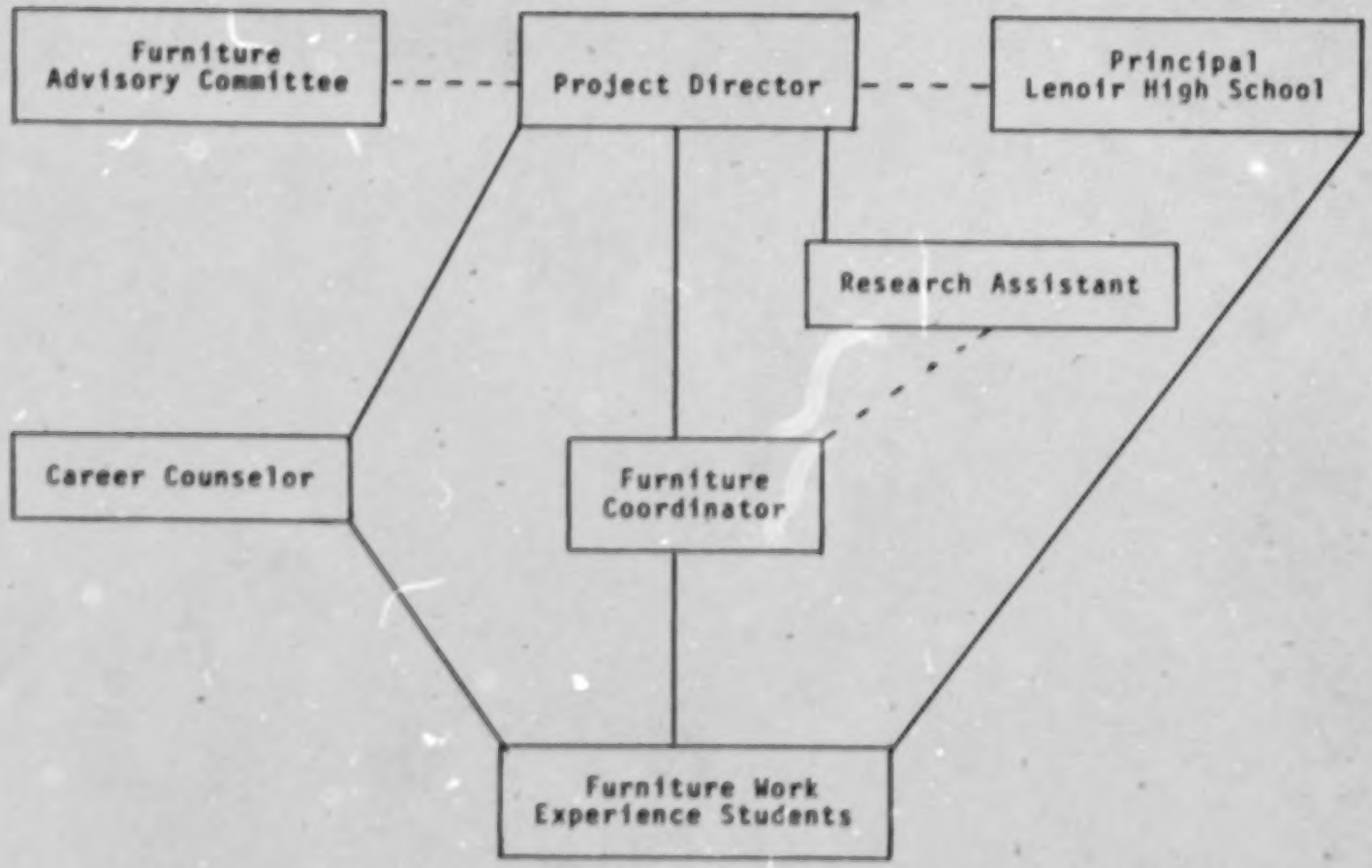


Figure 3. Organization Chart for Furniture Work Experience Program

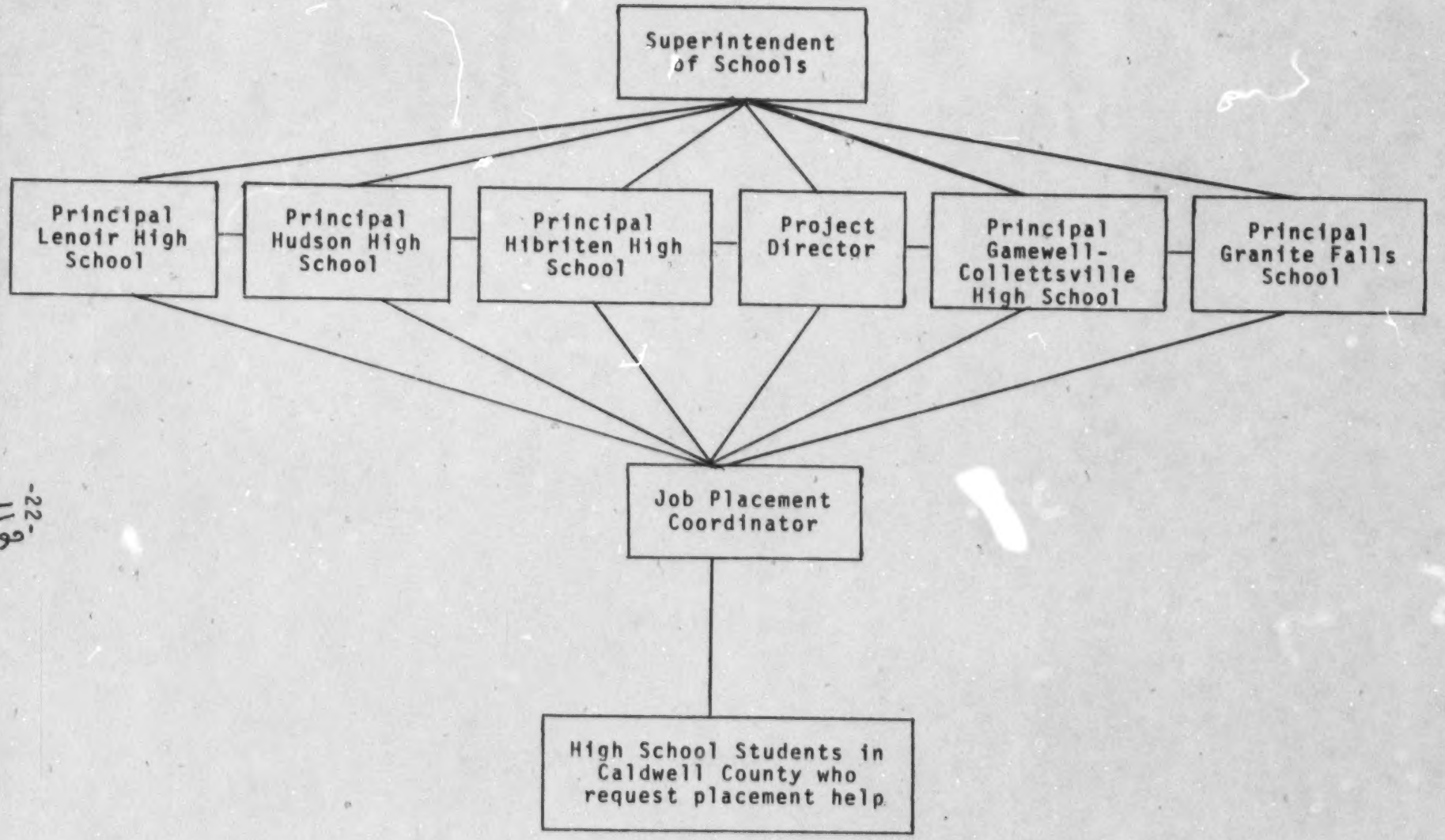


Figure 4. Organization Chart for Job Placement Program

APPENDIXES

Appendix A containing a list of students involved in the Work Experience Area of the Project with their Training Stations was not reproducible and was removed from this document prior to its being submitted to the ERIC Document Reproduction Service.

APPENDIX B

Project Advisory Committees

ADVISORY COMMITTEE

FOR

GUIDANCE ORIENTED ALTERNATIVE WORK EXPERIENCE PROGRAM

Foreword

This advisory committee will be composed of key laymen and educators who will provide communicating lines between project activities and the community, thereby assisting educators in improving ongoing programs from information gained in the research project.

I. Purposes of the Committee

The main purpose of the advisory committee is to establish communications between the project and the community whereby the quality of the Alternative Work Experience Program may be maintained and further improved.

In order to accomplish its intended purpose, the following functions are recommended:

A. To serve in a counseling and consulting capacity for the Alternative Work Experience Program.

B. To assist the project staff in the following activities:

(1) Planning activities which will be of interest and value to students

(2) Revising the program to meet the changing needs of students

(3) Developing and conducting a good public relations program

(4) Conducting community surveys

C. To evaluate the Alternative Work Experience Program.

This should be done continuously in order to ascertain whether the program is meeting the needs of students.

II. Organizational Structure

A. Membership: Membership on the committee shall be limited to individuals recognized as leaders and successful in his or her chosen profession and who have time to participate in scheduled meetings. The size of the committee will be not more than ten members plus the project director.

B. Appointment: Members on the committee will be appointed by the Caldwell County Board of Education following consultation with each prospective member to obtain his willingness to serve.

C. Term of office: Members should be appointed for the duration of the project.

D. Officers: The officers of the committee shall consist of the chairman, vice-chairman, and secretary. The committee as a whole will elect its own chairman and vice-chairman with the secretary being the co-op coordinator.

E. Duties of officers:

(1) Chairman: The primary responsibility of the chairman is to preside at all committee meetings, to appoint all short term sub-committees, to represent this committee when it is deemed desirable or necessary, and call special committee meetings.

(2) Vice-Chairman: Assume all the responsibility of the chairman in his or her absence and any other duties

assigned by the chairman.

(3) Secretary: The primary responsibility of the secretary is to take and record the minutes of each meeting and to notify members of the time, date, and location of each meeting.

FURNITURE ADVISORY COMMITTEE NOMINEES

Fairfield Chair Company

Allan Smith
P.O. Box 311, Lenoir, NC 28645

Mitch Grayveal
P.O. Box 311, Lenoir, NC 28645

Bernhardt Industries

Nick Foust
1540 Morganton Boulevard, SW, Lenoir, NC 28645

George Brown
1540 Morganton Boulevard, SW, Lenoir, NC 28645

Singer

Henry Starnes
P.O. Box 511, Lenoir, NC 28645

Professional Personnel

John Scott, Principal
Lenoir High School
Willow Street, Lenoir, NC 28645

Bill White, Furniture Coordinator
Lenoir High School
Willow Street, Lenoir, NC 28645

TEXTILE ADVISORY COMMITTEE NOMINEES

Burlington Industries

Bill Eustler, Personnel Director
P.O. Box 40, Rhodhiss, NC 28667

Carl Purdee, Plant Manager
P.O. Box 40, Rhodhiss, NC 28667

Jom Cranford
P.O. Box 40, Rhodhiss, NC 28667

Shuford Mills Inc.

Steve Bumgarner
P.O. Drawer 488, Hickory, NC 28601

Merlin Lewis
P.O. Box 228, Hickory, NC 28601

Professional Personnel

Bill Metcalf, Principal
Granite Falls High School
North Main Street, Granite Falls, NC 28638

Michael Holt, Textile Coordinator
Granite Falls High School
North Main Street, Granite Falls, NC 28638

APPENDIX C

Results of Pre- and Post-Testing

SUMMARY OF PRE-TESTING

The pre-testing period was completed in four weeks (schedule sheet attached). The experimental ICT students were tested on both the MVII and TSCS tests October 1-11 and the control groups in four high schools from October 14-25. The time involved was approximately two (2) hours for both tests.

Two (2) pre-tests were selected. The Minnesota Vocational Interest Inventory (MVII) is an instrument modeled after the Strong Vocational Interest Blank (SVIB), but uses tradesmen in general as the reference group, rather than professional and businesses occupations. There is a cross reference with the Occupational Outlook Handbook and the Dictionary of Occupational Titles (DOT) codes. The test contains 158 items for a selection of the most liked and the least liked on each item. The MVII shows examinee's degree of liking for certain general kinds of work activities common to several occupations. The Tennessee Self-Concept Scale (TSCS) goes on the hypothesis that "other things being equal, the more optional the self-concept the more effectively the individual will function." The TSCS consists of 100 items to be rated on a 1-5 scale. (More detailed information available.)

Other tests will be administered to the Experimental ICT students during the school year. These will include: personality tests; Eysenck Personality Inventory (EPI), Multiple Affect Adjective Check List (MAACL), Taylor Manifest Anxiety

Scale (TMAS), Mooney Problem Check List; interest and value tests; Gordon Occupational Check List, Allports' Study of Values; aptitude tests; Armed Services Vocational Aptitude Battery.

Along with the research value, the results will be used as a counseling aid.

TESTING SCHEDULE

OCTOBER 1974

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
1 MVII Holt Granite Falls	2 MVII White Lenoir High	3	4	5
7	8 TSCS Holt Granite Falls	9 TSCS White Lenoir High	10	11 TSCS Holt Granite Falls
14 MVII Granite Falls 8:30-11:30	15 TSCS Hudson 8:30	16	17 TSCS Hibriten 10:30	18
21	22 MVII Hudson 8:30	23	24 TSCS Gamewell-Coll. 8:45 MVII Hibriten 10:30	25 MVII Gamewell-Coll. 8:45

PRODUCT EVALUATION

Procedure

During October, 1974, the experimental and control groups for the evaluation were chosen and tested. The students participating in the Guidance Oriented Alternative Work Experience Program at Lenoir and Granite Falls High Schools comprised the experimental group. The control group was selected by securing the names of all students working in furniture and textile related jobs enrolled in regular industrial cooperative training classes from the four high schools where these programs existed. The number of available subjects in furniture totaled fifty-nine. In order to have each school represented, the only two furniture ICT students at Hibriten High School were automatically selected along with twenty other furniture ICT students selected at random from the remaining total of fifty-seven. Thus, twenty-two regular ICT furniture students were chosen to correspond to the twenty-two participants enrolled in the Guidance Oriented Alternative Work Experience Program in furniture at Lenoir High School.

The number of available subjects in textiles was forty-two. Again, in order that each school be represented, two of the four textile ICT students at Hibriten High School were selected at random as well as two from the five textile ICT students at Gamewell-Collettsville High School. The remaining twenty-two subjects were chosen at random from the remaining textile ICT subject pool. Again, twenty-six textile students were randomly chosen to correspond to the twenty-six students participating in the Alternative Work Experience Program in textiles at Granite Falls High School. The final make-up of the control group by school may be found in Table I.

During October, 1974, both the experimental and control groups were administered the Minnesota Vocational Interest Inventory (MVII) and the Tennessee Self Concept Scale (TSCS). During May, 1975, the post-testing of the experimental and control groups was carried out. Several experimental and control subjects were lost in the post-testing for various reasons. Tables I, II, III, and IV present a summary of these reasons and the number of subjects tested in each of the groups.

TABLE I. SUMMARY OF THE NUMBER OF SUBJECTS PER CELL FOR THE ANALYSIS OF THE DATA.

	Pre-Test		Post-Test	
	MVII	TSCS	MVII	TSCS
Experimental Group				
Lenoir High School	20	20	9	11
Granite Falls High School	23	23	16	18
Total Number	43	43	25	29
Control Group				
Gamewell-Collettsville High School	11	11	8	9
Hibriten High School	5	5	3	3
Granite Falls High School	13	13	13	13
Hudson High School	19	19	16	16
Total Number	48	48	40	41
Total Number of Subjects	91	91	65	70

TABLE II. A SUMMARY OF THE DISPOSITION OF SUBJECTS FROM THE LENOIR HIGH SCHOOL FURNITURE PROGRAM USED IN THE EXPERIMENTAL GROUP ANALYSIS OF DATA.

Subject	Employed During Pre-Test	Post-Test		Employed During Post-Test
		MVII	TSCS	
1	**	no	no	no
2	yes	yes	yes	no
3	yes	**	**	no
4	yes	no	no	no
5	yes	yes	yes	no
6	yes	no	yes	*
7	yes	no	yes	yes
8	***	no	no	no
9	yes	no	yes	yes
10	yes	yes	yes	yes
11	yes	yes	no	yes
12	yes	yes	no	****
13	yes	yes	yes	yes
14	yes	yes	yes	yes
15	yes	**	**	no
16	yes	no	yes	no
17	yes	yes	yes	no
18	yes	**	**	no
19	yes	**	**	no
20	yes	**	**	no
21	yes	**	**	no
22	yes	yes	yes	*

* Rehired elsewhere but not in furniture or textiles
** Dropped
*** Refused to take tests
**** Fired

TABLE III. A SUMMARY OF THE DISPOSITION OF SUBJECTS FROM THE GRANITE FALLS TEXTILE PROGRAM USED IN THE EXPERIMENTAL GROUP ANALYSIS OF DATA.

Subject	Employed During Pre-Test	Post-Test		Employed During Post-Test
		MVII	TSCS	
23	yes	yes	yes	yes
24	yes	**	**	no
25	yes	**	**	no
26	no	**	**	no
27	yes	**	**	no
28	no	no	yes	*
29	yes	yes	yes	*
30	yes	yes	yes	yes
31	yes	yes	yes	yes
32	no	yes	yes	no
33	yes	yes	yes	yes
34	yes	yes	yes	yes
35	yes	**	**	no
36	yes	yes	yes	yes
37	yes	no	no	*
38	yes	yes	yes	yes
39	yes	no	yes	no
40	yes	yes	yes	yes
41	yes	yes	yes	no
42	yes	yes	yes	*
43	yes	no	no	no
44	yes	yes	yes	no
45	no	**	**	*
46	no	yes	yes	no
47	no	yes	yes	no
48	yes	yes	yes	yes

* Rehired elsewhere but not in furniture or textiles
** Dropped
*** Refused to take tests
**** Fired

TABLE IV. A SUMMARY OF THE DISPOSITION OF SUBJECTS USED IN THE CONTROL GROUP ANALYSIS OF DATA.

Subject	Employed During Pre-Test	Post-Test MVII	Post-Test TSCS	Employed During Post-Test
	Gamewell-Collettsville High School			
49	yes	yes	yes	yes
50	yes	**	**	no
51	yes	yes	yes	yes
52	yes	yes	yes	no
53	yes	yes	yes	yes
54	yes	yes	yes	yes
55	yes	yes	yes	no
56	yes	**	**	no
57	yes	yes	yes	yes
58	yes	yes	yes	yes
59	yes	no	yes	yes
	Hibriten High School			
60	yes	**	**	no
61	yes	yes	yes	yes
62	yes	yes	yes	yes
63	yes	***	***	no
64	yes	yes	yes	yes
	Granite Falls High School			
65	yes	yes	yes	*
66	yes	yes	yes	yes
67	yes	yes	yes	yes
68	yes	yes	yes	yes
69	yes	yes	yes	yes
70	yes	yes	yes	yes
71	yes	yes	yes	yes
72	yes	yes	yes	yes
73	yes	yes	yes	yes
74	yes	yes	yes	yes
75	yes	yes	yes	yes
76	yes	yes	yes	yes
77	yes	yes	yes	*

TABLE IV. (Continued)

Subject	Employed During Pre-Test	Post-Test MVII	Post-Test TSCS	Employed During Post-Test
		Hudson High School		
78	yes	yes	yes	yes
79	yes	yes	yes	no
80	yes	yes	yes	no
81	yes	yes	yes	yes
82	yes	yes	yes	yes
83	yes	yes	yes	yes
84	yes	yes	yes	yes
85	yes	yes	yes	no
86	yes	no	yes	yes
87	no	no	yes	yes
88	yes	yes	yes	yes
89	yes	no	no	no
90	yes	yes	yes	yes
91	yes	yes	yes	yes
92	yes	**	**	no
93	yes	yes	yes	yes
94	yes	yes	yes	yes
95	yes	no	no	yes
96	yes	yes	yes	yes
97	yes	yes	no	yes
98	yes	yes	no	yes

* Rehired elsewhere but not in furniture or textiles
** Dropped
*** Refused to take tests
**** Fired

TABLE VIII. THE PRETEST AND POST-TEST MEAN SCORES ON THE OCCUPATIONAL SCALES OF THE MINNESOTA VOCATIONAL INTEREST INVENTORY FOR THE EXPERIMENTAL GROUP.

	Pretest		Post-test		Mean
	Mean	SD	Mean	SD	Gain
Milk Wagon Driver	45.92	8.43	47.00	9.72	1.08
Stock Clerk	53.92	8.98	52.04	11.75	-1.88
Baker	49.80	7.47	49.68	7.43	- .12
Retail Sales Clerk	45.88	10.12	45.32	10.70	- .56
Carpenter	28.80	8.74	27.76	11.34	-1.04
Warehouseman	45.24	7.73	46.12	7.60	.88
Painter	33.68	8.40	33.88	7.09	.20
Printer	41.88	9.14	42.32	10.27	.44
Hospital Attendant	40.16	5.52	39.88	6.50	- .28
Tabulating Machine Operator	38.52	8.16	37.84	9.60	- .68
Food Service Manager	44.04	7.60	44.80	7.68	.76
Pressman	27.60	11.46	26.36	8.72	-1.24
Radio-TV Repairman	26.24	8.09	27.60	8.16	1.36
Sheet Metal Worker	26.12	8.69	24.00	9.01	-2.12
Truck Driver	27.96	14.95	28.12	11.72	.16
Electrician	16.60	13.12	15.68	13.67	- .92
Machinist	18.84	8.13	20.20	8.74	1.36
Plumber	20.88	12.93	17.36	13.13	-3.52
Truck Mechanic	20.28	16.01	21.92	17.11	1.64
Plasterer	29.00	8.51	27.56	8.87	-1.44
Industrial Education Teacher	11.84	11.35	14.96	10.50	3.12

N = 25

TABLE IX. THE PRETEST AND POST-TEST MEAN SCORES ON THE OCCUPATIONAL SCALES OF THE MINNESOTA VOCATIONAL INTEREST INVENTORY FOR THE CONTROL GROUP.

	Pretest		Post-test		Mean
	Mean	SD	Mean	SD	Gain
Milk Wagon Driver	43.70	11.96	44.58	12.67	.88
Stock Clerk	53.75	11.73	53.83	13.14	.08
Baker	50.20	9.79	51.53	11.77	1.33
Retail Sales Clerk	44.68	13.04	45.25	14.22	.57
Carpenter	33.45	11.48	30.10	11.84	-3.35
Warehouseman	47.68	8.04	48.03	7.79	.35
Painter	33.98	8.52	35.63	9.83	1.65
Printer	41.28	12.24	40.58	12.19	- .70
Hospital Attendant	38.78	7.24	40.30	7.34	1.52
Tabulating Machine Operator	37.50	11.57	38.68	11.21	1.18
Food Service Manager	42.65	8.52	44.13	8.78	1.48
Pressman	23.88	8.98	22.78	9.87	-1.10
Radio-TV Repairman	24.73	8.93	25.58	9.61	.85
Sheet Metal Worker	25.90	13.71	23.88	12.73	-2.02
Truck Driver	29.95	15.05	31.43	14.31	1.48
Electrician	15.10	14.36	15.10	14.22	.00
Machinist	19.65	9.77	18.78	9.72	- .87
Plumber	19.40	16.24	19.48	15.63	.08
Truck Mechanic	22.20	18.07	22.75	19.80	.55
Plasterer	28.03	8.53	27.88	7.99	- .15
Industrial Education Teacher	15.20	13.44	14.28	13.59	- .92

N = 40

TABLE X. THE PRETEST AND POST-TEST MEAN SCORES ON THE AREA SCALES AND THE OCCUPATIONAL CLUSTER SCALES OF THE MINNESOTA VOCATIONAL INTEREST INVENTORY FOR THE EXPERIMENTAL GROUP.

	Pretest		Post-test		Mean
	Mean	SD	Mean	SD	Gain
I. Area Scales					
Sales-Office	58.04	7.76	57.92	9.81	- .12
Office Work	60.36	14.96	60.04	15.07	- .32
Food Services	58.64	9.10	58.60	11.05	- .04
Clean Hands	55.92	11.18	54.00	11.41	-1.92
Health Services	54.48	7.24	54.72	9.21	.24
Electronics	44.32	10.36	45.80	12.04	1.48
Carpentry	46.28	5.78	43.48	7.55	-2.80
Outdoors	39.40	9.86	37.00	10.12	-2.40
Mechanical	35.80	10.05	37.80	11.89	2.00
II. Cluster Scales					
White Collar--Clerical	45.22	8.00	45.14	9.48	- .08
Food Orientation	46.92	6.88	47.16	7.36	.24
Construction Trade	30.40	6.03	29.73	5.60	- .67
Electronics	21.34	9.63	21.44	10.33	.10
Blue Collar--Mechanical	19.40	9.78	19.27	10.83	- .13

N = 25

TABLE XI. THE PRETEST AND POST-TEST MEAN SCORES ON THE AREA SCALES AND THE OCCUPATIONAL CLUSTER SCALES OF THE MINNESOTA VOCATIONAL INTEREST INVENTORY FOR THE CONTROL GROUP.

	Pretest		Post-Test		Mean
	Mean	SD	Mean	SD	Gain
I. Area Scales					
Sales-Office	55.80	9.08	56.00	10.05	.20
Office Work	60.78	17.57	61.68	17.69	.90
Food Services	57.50	11.12	58.35	11.16	.85
Clean Hands	59.18	13.14	57.25	13.92	-1.93
Health Services	53.95	10.52	55.15	10.87	1.20
Electronics	43.75	12.00	42.90	12.07	- .85
Carpentry	46.30	10.35	47.78	10.56	1.48
Outdoors	41.73	12.44	42.55	14.61	.82
Mechanical	37.68	13.23	37.70	14.90	.02
II. Cluster Scales					
White Collar-Clerical	44.23	11.39	44.58	11.95	.35
Food Orientation	46.44	8.84	47.83	9.96	1.39
Construction Trade	31.81	7.51	31.20	7.86	- .61
Electronics	19.31	11.36	20.01	11.26	.70
Blue Collar-Mechanical	19.53	13.48	19.34	13.59	- .19

N = 40

TABLE XII. RESULTS OF THE ANALYSIS OF COVARIANCE TESTS FOR THE OCCUPATIONAL SCALES OF THE MINNESOTA VOCATIONAL INTEREST INVENTORY.

	Experimental Group Mean Gain	Control Group Mean Gain	Difference	F Value	Probability Less Than
Milk Wagon Driver	1.08	.88	.20	.083	.775
Stock Clerk	-1.88	.08	1.96	1.030	.314
Baker	- .12	1.33	1.45	.949	.334
Retail Sales Clerk	- .56	.57	1.13	.429	.515
Carpenter	-1.04	-3.35	2.31	.189	.665
Warehouseman	.88	.35	.53	.076	.783
Painter	.20	1.65	1.45	.633	.429
Printer	.44	- .70	1.14	.611	.437
Hospital Attendant	- .28	1.52	1.80	2.535	.116
Tabulating Machine Operator	- .68	1.18	1.86	1.536	.220
Food Service Manager	.76	1.48	.72	.105	.747
Pressman	-1.24	-1.10	.14	[illegible]07	.319
Radio-TV Repairman	1.36	.85	.51	[illegible]	.583
Sheet Metal Worker	-2.12	-2.02	.10	.001	.977
Truck Driver	.16	1.48	1.32	.768	.384
Electrician	- .92	.00	.92	.084	.772
Machinist	1.36	- .87	2.23	.734	.395
Plumber	-3.52	.08	3.60	2.597	.112
Truck Mechanic	1.64	.55	1.09	.304	.583
Plasterer	-1.44	- .15	1.29	.300	.586
Industrial Education Teacher	3.12	- .92	4.40	3.221	.078

TABLE XIII. RESULTS OF THE ANALYSIS OF COVARIANCE TESTS FOR THE AREA SCALES AND OCCUPATIONAL CLUSTER SCALES OF THE MINNESOTA VOCATIONAL INTEREST INVENTORY.

	Experimental Group Mean Gain	Control Group Mean Gain	Difference	F Value	Probability Less Than
I. Area Scales					
Sales-Office	- .12	.20	.32	.001	.982
Office Work	- .32	.90	1.22	.439	.510
Food Services	- .04	.85	.89	.104	.748
Clean Hands	-1.92	-1.93	.01	.119	.731
Health Services	.24	1.20	.96	.317	.575
Electronics	1.48	- .85	2.33	1.517	.223
Carpentry	-2.80	1.48	4.28	6.242	.015
Outdoors	-2.40	.82	3.22	2.320	.133
Mechanical	2.00	.02	1.98	3.972	.050
II. Cluster Scales					
White Collar-Clerical	- .08	.35	.43	.119	.731
Food Orientation	.24	1.39	1.15	.706	.404
Construction Trade	- .67	- .61	.06	.124	.726
Electronics	.10	.70	.60	.008	.931
Blue Collar-Mechanical	- .13	- .19	.06	.001	.974

Page 40 containing names of students comprising the control group for testing in furniture was not reproducible and was removed from this document prior to its being submitted to the ERIC Document Reproduction Service.

Pages 41, 42, 43, and 44 containing names of students comprising the control group for testing in textiles was not reproducible and was removed from this document prior to its being submitted to the ERIC Document Reproduction Service.

APPENDIX D

Results of other tests given to the experimental groups.

ASVAB Test Results
November 20, 1974
Lenoir High School Experimental Group

Pages 58 through 62 containing names of students comprising experimental groups were not reproducible and were removed from this document prior to its being submitted to the ERIC Document Reproduction Service.

Positive and Negative Continuum

How 22 Granite Falls High School ICT Students Rate Themselves

September 13, 1974

	7	6	5	4	3	2	1	
Happy	3	8	3	7	1	1	0	Sad
Important	4	2	7	7	3	0	0	Unimportant
Helpful	4	5	5	8	0	1	0	Useless
Smart	2	3	5	9	3	1	0	Stupid
Honest	10	4	6	1	2	0	0	Dishonest
Outgoing	3	7	1	8	2	2	0	Shy
Confident	4	3	4	10	1	0	1	Lack of Confidence
Patient	4	3	3	9	0	2	2	Impatience
Unselfish	5	5	7	6	0	0	0	Selfish
Cooperative	6	8	1	7	1	0	0	Uncooperative
Listened to	1	4	4	10	1	1	2	Ignored
Total	46	52	46	82	14	8	5	

"AM" System Dexterity Test

ICT Experimental Students at Granite Falls High School

Name	Handedness	Dexterity Score
Phil Bowman	Right	6
Ricky Bradshaw	Right	8
Tony Cannon	Left	9
Dale Clark	Right	6
Norma Cline	Right	4
Deborah Colvard	Right	8
Donna Craig	Right	4
Terry Craig	Right	4
Teresa Dyson	Right	8
Bill Fontenberry	Right	4
Janet Greer	Right	5
Mike Henshel	Right	4
James Herring	Right	6
Chipper Hughes	Right	2
Roger Lentz	Right	5
Karen Michael	Right	5
Larry Nichols	Right	8
Steve Parsons	Right	6
Tommy Robinson	Right	6
Curtis Rominger	Right	6
Frank Rominger	Right	6

"AM" System Dexterity Test

ICT Experimental Students at Lenoir High School

Name	Handedness	Dexterity Score
Joyce Brown	Right	6
Kelvin Dula	Left	7
Beverly Ferguson	Right	8
D. L. Harshaw	Right	5
Penny Hudson	Right	5
Barbara Largent	Right	5
Greg Largent	Left	4
Ann Martin	Right	6
Candy Perkins	Right	6
Michael Poarch	Right	5
Cleve Pope	Right	6
Larry Price	Right	7
Lloyd Robbins	Right	7
Billy Roberts	Right	5

Positive and Negative Continuum
How 22 Lenoir High School ICT Students Rate Themselves
October, 1974

Happy	Important	Helpful	Smart	Honest	Outgoing	Confident	Patient	Unselfish	Cooperative	Listened to
5	7	13	3	13	4	10	4	10	10	7
2	3	2	6	5	3	4	3	4	5	4
3	1	4	5	2	4	3	3	2	2	2
8	8	3	7	1	4	4	9	5	5	7
1	1	—	1	1	3	—	1	1	—	1
—	1	—	—	—	1	—	2	—	—	—
—	1	—	—	—	3	1	—	—	—	1

APPENDIX E

Results of Kuder Tests

INTERESTS OF SOPHOMORES
CALDWELL COUNTY SCHOOLS
1975

There are many and varied determinants of vocational and personal choices and these become very strategic as the students embarks on his high school years. Grades 9-12 often and hopefully form crucial years as the student becomes more serious and aware of abilities, interests, cultural and educational determinants in making personal, social and educational decisions about his life. Interests play a major part in these choices. In an effort to do a better job in program planning and guidance, the Caldwell County Schools are taking a new look at student's interests.

The Kuder General Interest Inventory was selected as the tool for determining interests, the sophomores in the county as the target subjects. Five High Schools (Gamewell-Collettsville, Hibriten, Granite Falls, Hudson, and Lenoir) participated in this effort, testing 863 students. The material and statistical analysis were furnished by the Guidance Oriented Alternative Work Experience Project.

Opportunity was made available for each student to talk with the counselor in his school about the results of the test.

The mean, standard deviation and percentile were run on the subjects and charts were plotted indicating the mean scores for male and female in each high school. Additional computations brough out the mean scores for the projected high schools; Gamewell-Collettsville and Lenoir (West); hibriten; and Hudson and Granite Falls (South).

The data showed a similarity in interests across the county with highest area for females being outdoor, mechanical, artistic,

and musical. Even though there were some interesting differences, it would be difficult at the present time to relate a "why".

Outdoor, artistic, musical, and social services comprised the top four interest areas for the males. A very similar profile resulted among the schools except a shart incline in the scientific area at Granite Falls High School (whose program does participate in many extra projects and club activities.)

Additional information was provided each principal, giving the exact number of students who scored above the 75th percentile (high interest) in each of the ten areas. (attached)

What are some of the values of this type of study:

1. Student's awareness of his own interest areas.
2. Counselor's contact with each interested individual student who took the test.
3. Recognition by perceptive teachers of opportunities within the classroom in given areas.
4. Possible course selections to be offered.
5. Striving toward unification of schools or unification efforts.
6. First effort for county wide testing results.

Projection:

As these are interest areas, it would be advantageous to correlate achievement and aptitude with these results, using the standardized tests that are given within the high schools.

Continuing research and finding such as these will provide lasting aids to students and faculties toward better education throughout Caldwell County.

Caldwell County Schools

KUDER GENERAL INTEREST INVENTORY

Number of students above 75% (High Interest)

Number of students -- Sophomores	138 Gamewell-Collettsville	127 Granite Falls	195 Hibriten	295 Hudson	108 Lenoir
Outdoor	37	45	63	130	18
Mechanical	40	40	62	107	28
Computational	22	17	38	40	20
Scientific	13	23	16	34	10
Persuasive	26	27	31	67	18
Artistic	49	60	70	113	34
Literary	29	23	39	59	16
Musical	53	42	76	126	35
Social Service	30	31	54	107	16
Clerical	26	16	20	52	14

*SPONSORED BY THE GUIDANCE ORIENTED ALTERNATIVE WORK EXPERIENCE PROJECT

KUDER FORM E GENERAL INTEREST TEST
Sophomores in Caldwell County
March, 1975

	Gamewell-Collettsville Total - 138		Granite Falls Total - 127		Hibriten Total - 195		Hudson Total - 295		Lenoir Total - 108	
	Boys (69)	Girls (69)	Boys (59)	Girls (68)	Boys (106)	Girls (89)	Boys (147)	Girls (148)	Boys (62)	Girls (46)
0 Outdoor	26* (57)	23* (66)	28* (63)	25* (73)	27* (60)	22* (61)	28* (63)	24* (69)	24* (51)	21* (56)
1 Mechanical	43 (39)	27 (58)	47 (51)	29 (65)	44 (42)	26 (54)	46 (48)	28 (62)	41 (33)	26 (54)
2 Computational	27 (32)	25 (44)	28 (35)	23 (35)	29 (40)	25 (44)	28 (35)	24 (39)	29 (40)	26 (47)
3 Scientific	32 (31)	25 (43)	37 (45)	25 (43)	30 (25)	26 (46)	32 (31)	22 (31)	31 (28)	26 (46)
4 Persuasive	57 (49)	53 (53)	57 (48)	52 (51)	56 (46)	52 (51)	60 (58)	51 (47)	58 (51)	49 (42)
5 Artistic	31 (59)	35 (54)	35 (74)	37 (62)	32 (63)	35 (54)	32 (63)	35 (54)	35 (74)	34 (51)
6 Literary	25 (42)	34 (49)	26 (45)	32 (42)	27 (48)	33 (46)	28 (52)	32 (42)	28 (52)	31 (38)
7 Musical	14 (70)	16 (63)	14 (70)	16 (63)	14 (70)	14 (56)	14 (70)	15 (60)	14 (70)	17 (68)
8 Social Service	45 (55)	60 (48)	44 (51)	59 (46)	46 (59)	61 (51)	46 (59)	63 (57)	43 (48)	55 (35)
9 Clerical	50 (48)	60 (46)	48 (42)	56 (38)	47 (38)	57 (40)	51 (50)	58 (42)	49 (44)	57 (40)

* Mean (%)

	Gamewell-Collettsville & Lenoir (Proposed West High Consolidation)		Granite Falls & Hudson (Proposed South High Consolidation)		Hibriten	
	Boys	Girls	Boys	Girls	Boys	Girls
0 Outdoor	25* (54)	22* (61)	28* (63)	24* (69)	27* (60)	22* (61)
1 Mechanical	42 (36)	27 (58)	46 (48)	28 (62)	44 (42)	26 (54)
2 Computational	28 (35)	25 (44)	28 (35)	24 (39)	29 (40)	25 (44)
3 Scientific	32 (31)	25 (43)	33 (34)	23 (34)	30 (25)	26 (46)
4 Persuasive	57 (48)	51 (48)	59 (55)	51 (48)	56 (46)	52 (51)
5 Artistic	33 (68)	35 (53)	33 (68)	36 (58)	32 (63)	35 (54)
6 Literary	26 (45)	33 (46)	27 (48)	32 (42)	27 (48)	33 (46)
7 Musical	14 (70)	16 (63)	14 (70)	15 (60)	14 (70)	14 (56)
8 Social Service	44 (50)	58 (43)	45 (55)	62 (54)	46 (59)	61 (51)
9 Clerical	50 (48)	59 (44)	50 (48)	57 (40)	47 (38)	57 (40)

* Mean (%)

SPONSORED BY THE GUIDANCE ORIENTED ALTERNATIVE WORK EXPERIENCE PROJECT.

APPENDIX F

"Highlights of Occupational Education"
A guidebook for eighth grade students.

APPENDIX G

"Job Placement - Caldwell County Schools"

A transportable model of a unit wide placement service for small and rural school districts.

JOB PLACEMENT

CALDWELL COUNTY SCHOOLS

INTRODUCTION

In one form or another, schools are the focal point for occupational information. Job placement has long been an integral part of both Occupational Education and Guidance Programs.

Caldwell County Schools, through a federal occupational research project under Public Law 90-576, Part C, entitled "Guidance Oriented Alternative Work Experience Program and Follow-up Study," have developed a unit wide job placement program utilizing one placement coordinator. This booklet is designed to show procedures used in the implementation of this unit wide job placement program.

Project Number: V0180VZ

Grant Number: OEG-0-74-8580

For further information, contact:

William S. Stone, Director
Work Experience Project
Caldwell County Schools
P.O. Drawer 1590
Lenoir, North Carolina 28645

Acknowledgement

Special recognition and acknowledgement is given to Brian Watson and Pumroy Bolick for the illustrations contained in this booklet. Both are students of Hibriten High School; Lenoir, North Carolina.

Purpose

The purpose of this booklet is to demonstrate to school administration the existence of an accelerated student interest in job placement and to provide suggested procedures to implement a placement service.

Objectives

I. To provide Occupational Guidance and Placement Assistance to any and all interested students.

II. To promote a better relationship between the school system and the general public including business and industry.

III. To strengthen school guidance programs by offering a more complete service to the students.

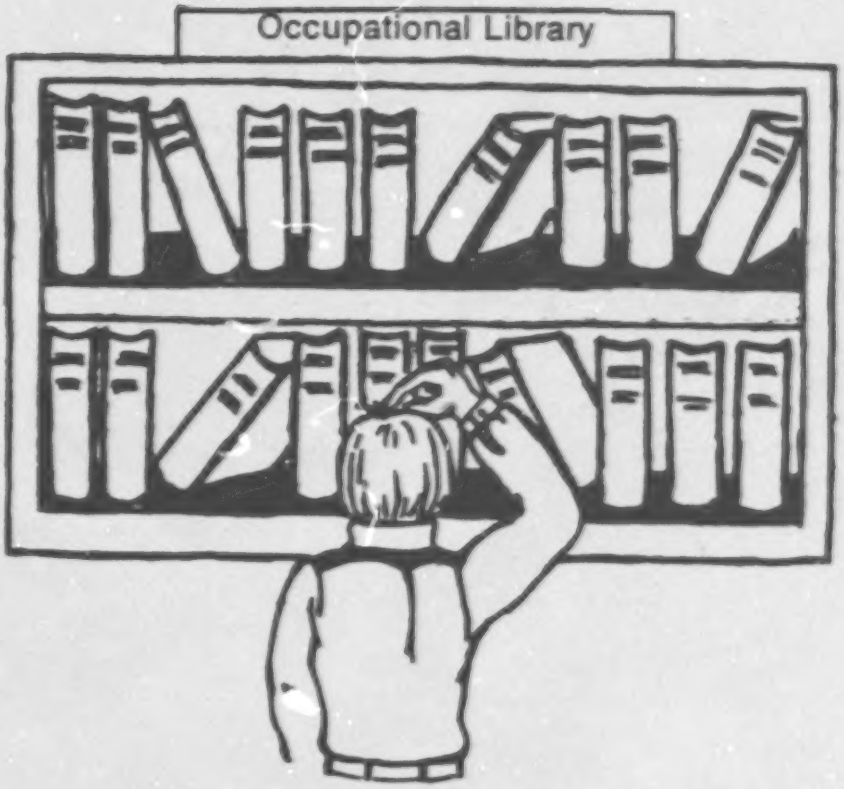
Why?

Why should school systems seriously consider job placement services for their students?

I. To satisfy an interest and need that has been shown through student response.

II. To assist underprivileged and lower income students meet financial demands of both school and personal activities.

III. To render Occupational Guidance as it relates to career planning so that career choices may be made prior to, not after, graduation.

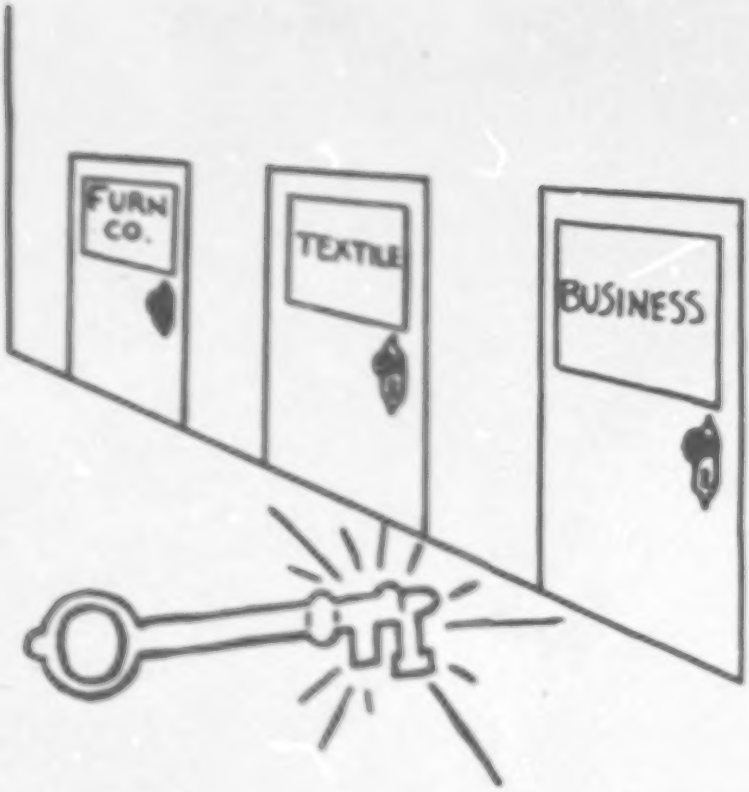


IV. To assist in the reduction of the school drop-out rate.

V. To aid in the development of a sound Public Relations Program.

WHO?

Who should assume the responsibility for implementing and maintaining an effective job placement service in the schools?



I. Organizing a placement service to meet the needs of all students should be the responsibility of a placement coordinator.

A. The Coordinator's Functions:

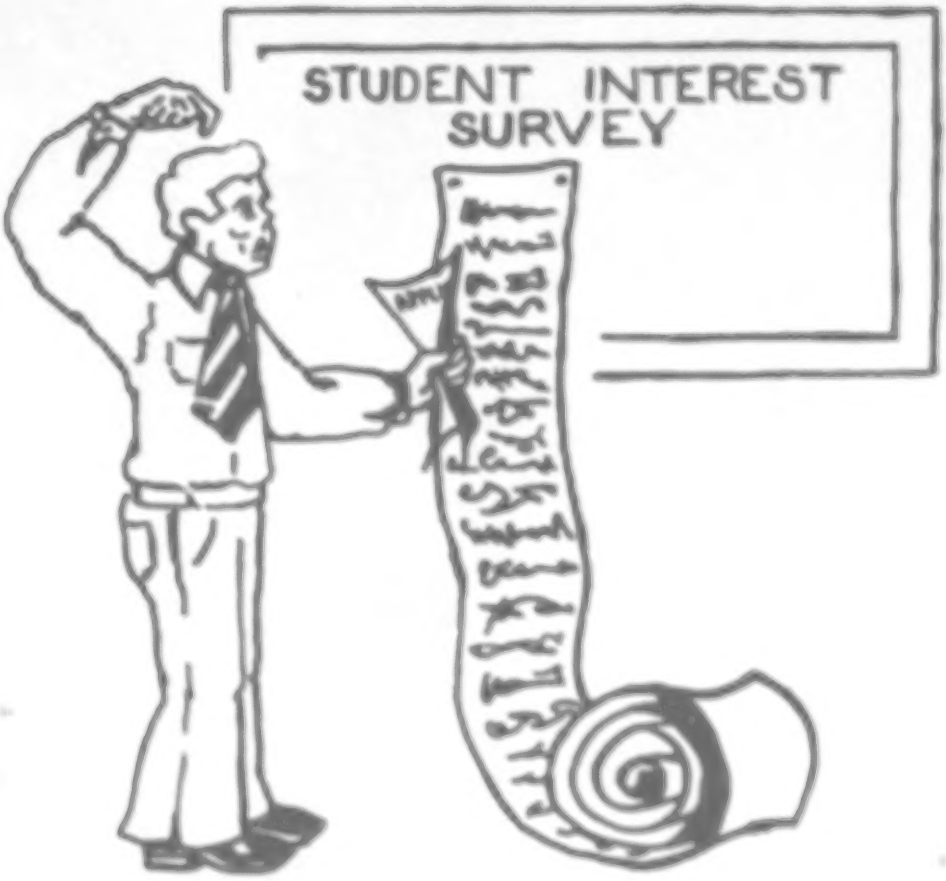
1. Make job availability surveys in the community to determine job openings and specific requirements.

A. By telephone

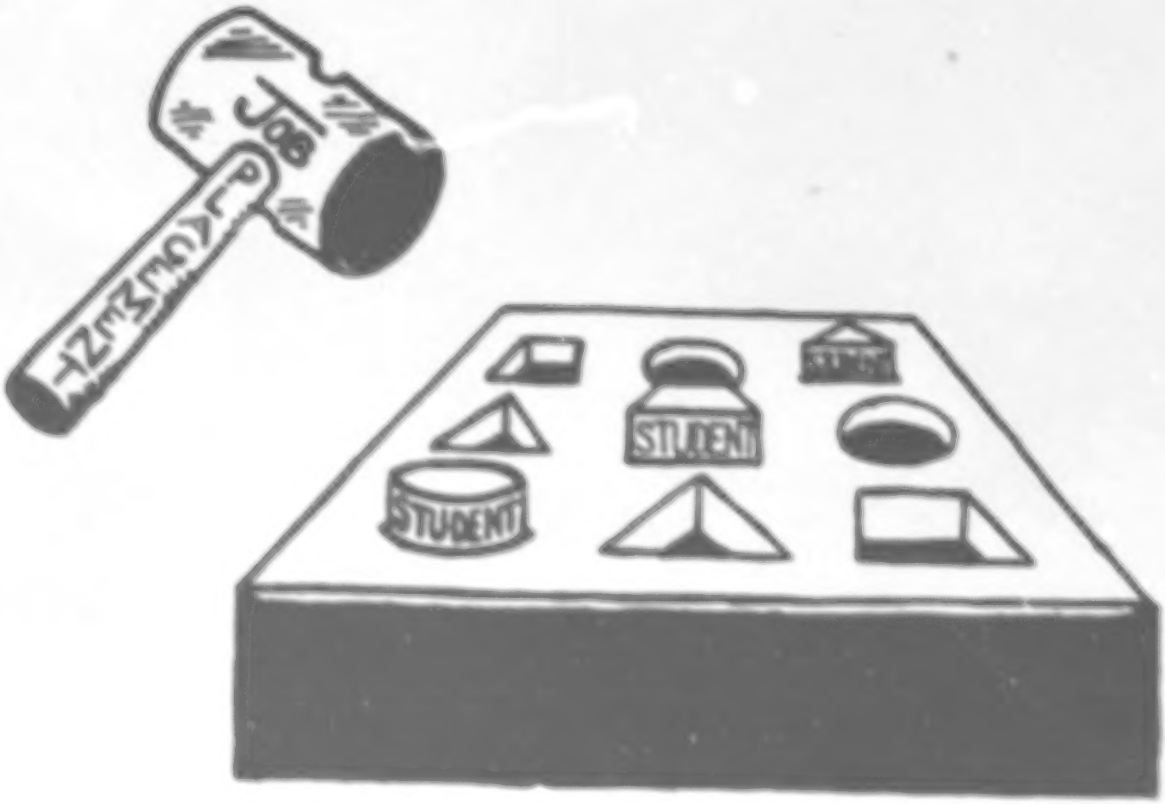
b. In personal contacts.

Coordinator Student Employer

2. Conduct student surveys to discuss employment interests and job availabilities. Student conferences should be held during study halls, homeroom periods, and release periods only.



3. The matching of job openings to the student's career choice should be accomplished if at all possible. For example, the right slot for a particular career choice.



B. The Coordinators Role:

1. Reports to the director of Occupational Education on all matters relating to placement activities.

2. Acts as liaison between the school and the business community.

3. Coordinates with principals, counselors, faculties, and students on matters pertaining to placement.

4. Works in conjunction with (not in competition with) the regular work-study program coordinators.

A Team

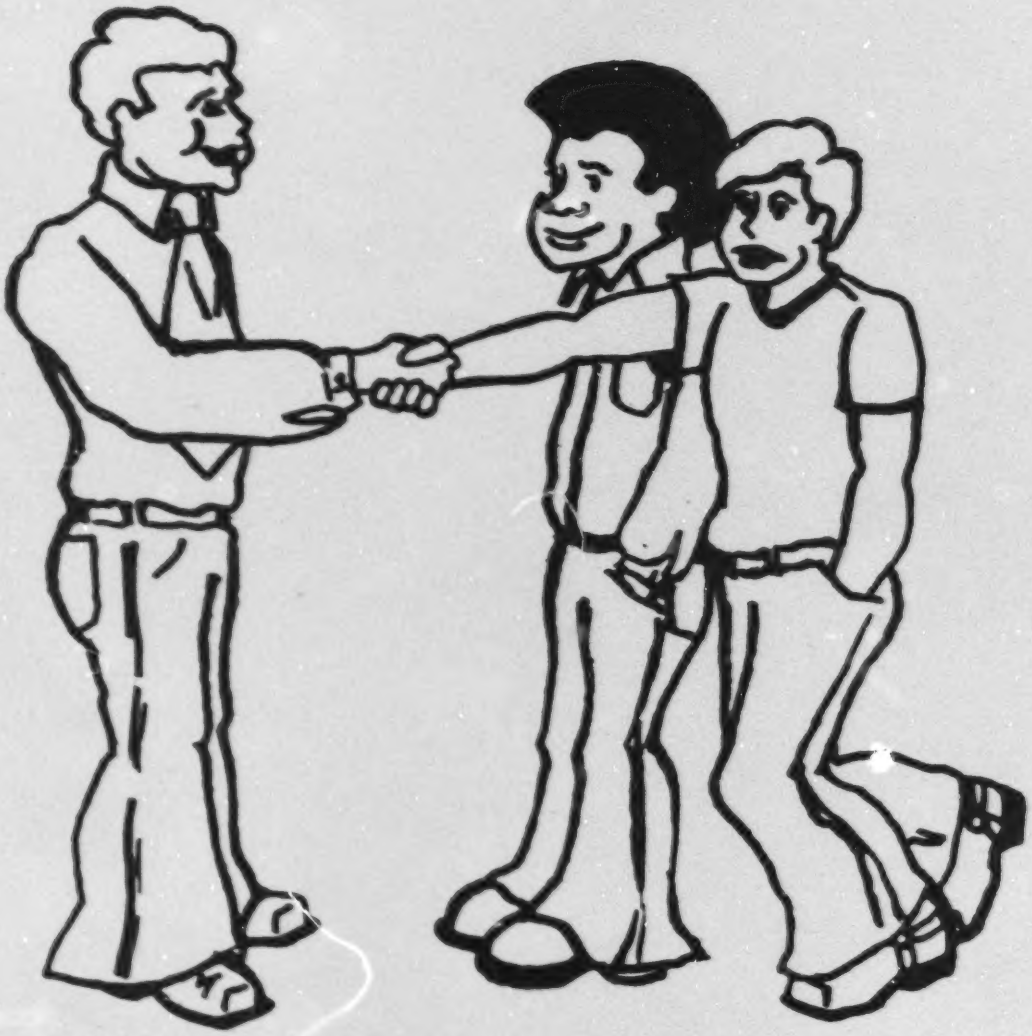
1. Guidance Personnel
2. Cooperative Teachers
3. Placement Coordinator

C. The Coordinators Qualifications:

1. A masters degree in guidance and counseling is preferrable but not essential.

2. Demonstrated ability and desire in working with people is absolutely essential.

3. Previous experience in business industry or sales work is desirable.



HOW?

How does a school system go about setting up a job placement program?

The following procedures may be used for the organization of a placement service in any given school system:

1. Employment of a placement coordinator to work with all secondary schools in the system.

2. Once employed and established, the coordinator should conduct a student survey to determine those interested in employment.

3. Each student is then requested to complete a registration form (Personal Data Sheet).

PERSONAL DATA SHEET

_____ Student's Name

_____ Name of H.S.

Personal Information

Grade: _____ Age: _____ Today's Date _____
Height: _____ Weight: _____ Social
Date of Birth: _____ Security Number: _____

Placements:
1. _____
2. _____
3. _____

Education Courses

Check the following Occupational Education Courses you are now taking and show number of years taken for each course:

Course	No. of Yrs. Taken	Course	No. of Yrs. Taken
1. Agriculture _____	_____	9. Home Economics _____	_____
2. Bricklaying _____	_____	10. Health Occupations _____	_____
3. Carpentry _____	_____	11. I.C.T. _____	_____
4. D.E. _____	_____	12. I.V. _____	_____
5. Drafting _____	_____	13. Office Occupations _____	_____
6. Electrical Wiring _____	_____	14. Typing _____	_____
7. Electronics _____	_____	15. Shorthand _____	_____
8. Graphics _____	_____	16. Other _____	_____

Work Experience

1. Name of Organization _____ Dates of Employment _____
2. Name of Organization _____ Dates of Employment _____
3. Name of Organization _____ Dates of Employment _____

Class Schedule

Period	Subject	Room No.	Period	Subject	Room No.
1st	_____	_____	5th	_____	_____
2nd	_____	_____	6th	_____	_____
3rd	_____	_____	Homeroom	_____	_____

Can you provide your own transportation to and from work? _____

**********Do Not Write in Space Below**********

1. Referral _____ Comments _____
2. Referral _____ Comments _____
3. Referral _____ Comments _____
4. Referral _____ Comments _____
5. Referral _____ Comments _____

4. After the student survey is made, the coordinator should contact local businesses and industries for job openings. Individual employee card files should be maintained and periodically up-dated.

5. It is then necessary to re-contact those students interested in employment. The matching of job openings to student's pre-selected career choices should be made whenever and wherever possible. Issuance of employment referral cards similar to those used by state employment agencies have proven helpful.

EMPLOYMENT REFERRAL

This will introduce: _____

Who is a _____ at _____

Student is an applicant for position of: _____

Work Experience Consists of: _____

School Courses Consists of: _____

_____

Student's Signature

To report for Interview: _____

Comments: _____

Burl Duncan, Place Coord.
Caldwell County Schools

6. Follow-up studies with students and employers (telephone) should then be contacted to determine those that were employed and the reasons for those that were not.

7. The program can be easily evaluated. A brief review of the coordinators daily logs will quickly show whether or not the stated objectives have been met. The coordinator's records could easily be his (her) continuing self-evaluation. In addition, school administrators may wish to interview principals, faculty, and students to ascertain the effectiveness of the program.

WHAT?

What would be the anticipated costs of implementing a job placement service in a school system?

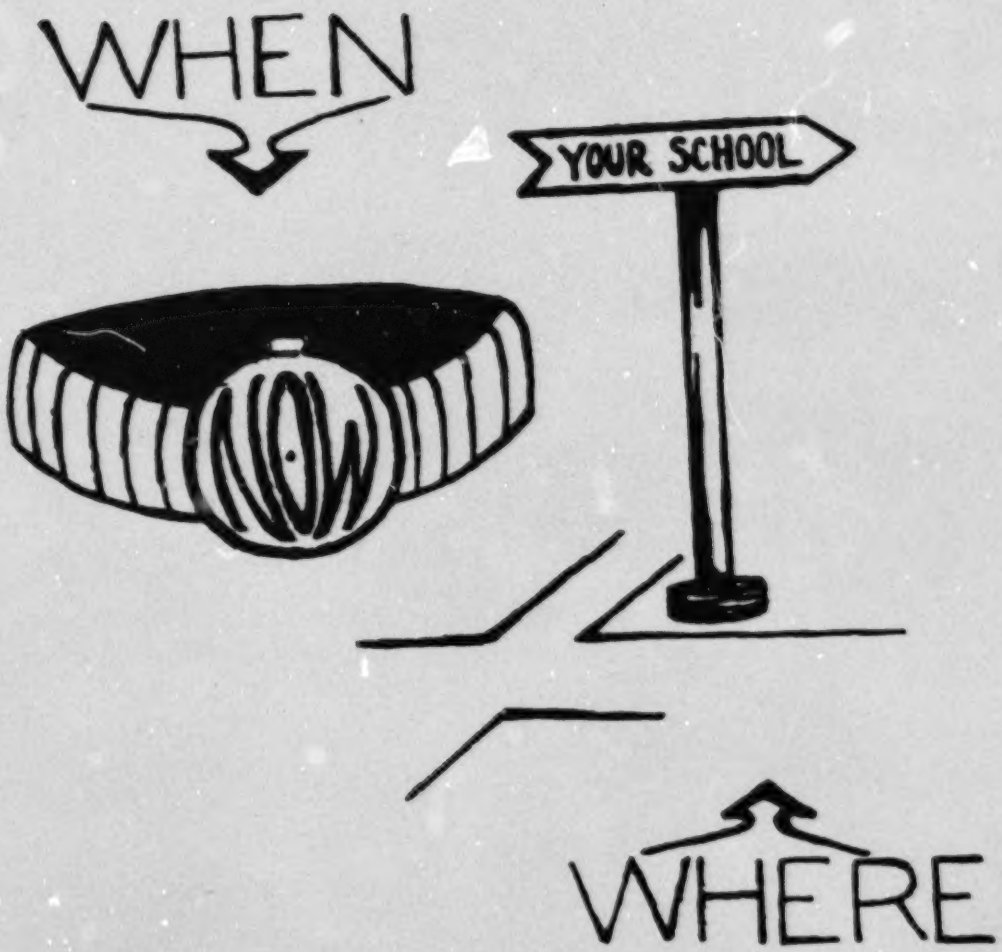
To pinpoint with exactness the cost of establishing a placement service is difficult. Too much depends on the size of the system in terms of the number of secondary schools and total enrollment. However, from all indications the cost is relatively small when viewed from the stand point of increased student benefits and improved community relations.

In most instances, the employment of a placement coordinator certified in the vocational area is all that is required. This would hold especially true in small to intermediate school systems where no more than five secondary schools are involved.

WHEN AND WHERE?

If your school system is interested in making academic and occupational services to students more complete;
If your system is interested in implementing a service that could help reduce the drop-out rate;
If your system is interested in improving the school image in your community;
If you are interested in a low cost service which strengthens your guidance programs;

THEN:
You should consider job placement services as a real option!



APPENDIX H

Job Placement Services - Progress Reports

JOB PLACEMENT SERVICE

WEEKLY SUMMARY ACTIVITIES

	Lenoir TOTALS This Wk.	Lenoir TOTALS To Date	Hudson TOTALS This Wk.	Hudson TOTALS To Date	Granite Falls TOTALS This Wk.	Granite Falls TOTALS To Date	Hibriten TOTALS This Wk.	Hibriten TOTALS To Date	Gamewell Collettsville TOTALS This Wk.	Gamewell Collettsville TOTALS To Date	TOTAL
A. Conferences:											
1. Principal	0	8	0	4	0	9	0	2	0	7	30
2. Teachers	0	13	2	22	0	22	0	22	1	10	89
3. Others	0	3	0	0	0	3	1	7	0	0	13
B. Meetings:	0	14	0	1	0	4	0	5	0	0	24
C. Student Interviews:											
1. No. Interviewed	18	342	23	485	10	209	15	361	10	242	1639
2. No. Referrals	14	146	9	219	4	95	12	193	3	88	741
3. No. Placements	2	36	2	36	2	30	2	30	0	19	161
D. Class Visits:	0	4	0	10	0	20	0	13	0	5	52
E. Other Activities:											
1. Employer Contacts:											
a. Telephone	9	387	4	39	7	345	1	79	3	118	968
b. In Person	0	4	0	0	0	2	0	5	0	11	22

JOB PLACEMENT SERVICE

WEEKLY SUMMARY ACTIVITIES

	Lenoir TOTALS This Wk.	Lenoir TOTALS To Date	Hudson TOTALS This Wk.	Hudson TOTALS To Date	Granite Falls TOTALS This Wk.	Granite Falls TOTALS To Date	Hibriten TOTALS This Wk.	Hibriten TOTALS To Date	Gamewell Collettsville TOTALS This Wk.	Gamewell Collettsville TOTALS To Date	TOTAL
A. Conferences:											
1. Principal	0	8	0	4	0	9	0	2	0	7	30
2. Teachers	0	13	2	22	0	22	0	22	1	10	89
3. Others	0	3	0	0	0	3	1	7	0	0	13
B. Meetings:	0	14	0	1	0	4	0	5	0	0	24
C. Student Interviews:											
1. No. Interviewed	18	342	23	485	10	209	15	361	10	242	1639
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E. Other Activities:											
1. Employer Contacts:											
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b. In Person	0	4	0	0	0	2	0	5	0	11	22

JOB PLACEMENT SERVICE

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A. Conferences:											
1. Principal	0	8	0	4	0	9	0	2	0	7	30
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3. Others	0	3	0	0	0	3	1	7	0	0	13
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JOB PLACEMENT SERVICE

WEEKLY SUMMARY ACTIVITIES

	Lenoir TOTALS This Wk.	Lenoir TOTALS To Date	Hudson TOTALS This Wk.	Hudson TOTALS To Date	Granite Falls TOTALS This Wk.	Granite Falls TOTALS To Date	Hibriten TOTALS This Wk.	Hibriten TOTALS To Date	Gamewell Collettsville TOTALS This Wk.	Gamewell Collettsville TOTALS To Date	TOTAL
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B. Meetings:	0	14	0	1	0	4	0	5	0	0	24
C. Student Interviews:											
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JOB PLACEMENT SERVICE

WEEKLY SUMMARY ACTIVITIES

	Lenoir TOTALS This Wk.	Lenoir TOTALS To Date	Hudson TOTALS This Wk.	Hudson TOTALS To Date	Granite Falls TOTALS This Wk.	Granite Falls TOTALS To Date	Hibriten TOTALS This Wk.	Hibriten TOTALS To Date	Gamewell Collettsville TOTALS This Wk.	Gamewell Collettsville TOTALS To Date	TOTAL
A. Conferences:											
1. Principal	0	8	0	4	0	9	0	2	0	7	30
2. Teachers	0	13	2	22	0	22	0	22	1	10	89
3. Others	0	3	0	0	0	3	1	7	0	0	13
B. Meetings:	0	14	0	1	0	4	0	5	0	0	24
C. Student Interviews:											
1. No. Interviewed	18	342	23	485	10	209	15	361	10	242	1639
2. No. Referrals	14	146	9	219	4	95	12	193	3	88	741
3. No. Placements	2	36	2	36	2	30	2	30	0	19	161
D. Class Visits:	0	4	0	10	0	20	0	13	0	5	52
E. Other Activities:											
1. Employer Contacts:											
a. Telephone	9	387	4	39	7	345	1	79	3	118	968
b. In Person	0	4	0	0	0	2	0	5	0	11	22

JOB PLACEMENT SERVICE

WEEKLY SUMMARY ACTIVITIES

	Lenoir TOTALS This Wk.	Lenoir TOTALS To Date	Hudson TOTALS This Wk.	Hudson TOTALS To Date	Granite Falls TOTALS This Wk.	Granite Falls TOTALS To Date	Hibriten TOTALS This Wk.	Hibriten TOTALS To Date	Gamewell Collettsville TOTALS This Wk.	Gamewell Collettsville TOTALS To Date	TOTAL
A. Conferences:											
1. Principal	0	8	0	4	0	9	0	2	0	7	30
2. Teachers	0	13	2	22	0	22	0	22	1	10	89
3. Others	0	3	0	0	0	3	1	7	0	0	13
B. Meetings:	0	14	0	1	0	4	0	5	0	0	24
C. Student Interviews:											
1. No. Interviewed	18	342	23	485	10	209	15	361	10	242	1639
2. No. Referrals	14	146	9	219	4	95	12	193	3	88	741
3. No. Placements	2	36	2	36	2	30	2	30	0	19	161
D. Class Visits:	0	4	0	10	0	20	0	13	0	5	52
E. Other Activities:											
1. Employer Contacts:											
a. Telephone	9	387	4	39	7	345	1	79	3	118	968
b. In Person	0	4	0	0	0	2	0	5	0	11	22

JOB PLACEMENT SERVICE

WEEKLY SUMMARY ACTIVITIES

	Lenoir TOTALS This Wk.	Lenoir TOTALS To Date	Hudson TOTALS This Wk.	Hudson TOTALS To Date	Granite Falls TOTALS This Wk.	Granite Falls TOTALS To Date	Hibriten TOTALS This Wk.	Hibriten TOTALS To Date	Gamewell Collettsville TOTALS This Wk.	Gamewell Collettsville TOTALS To Date	TOTAL
A. Conferences:											
1. Principal	0	8	0	4	0	9	0	2	0	7	30
2. Teachers	0	13	2	22	0	22	0	22	1	10	89
3. Others	0	3	0	0	0	3	1	7	0	0	13
B. Meetings:	0	14	0	1	0	4	0	5	0	0	24
C. Student Interviews:											
1. No. Interviewed	18	342	23	485	10	209	15	361	10	242	1639
2. No. Referrals	14	146	9	219	4	95	12	193	3	88	741
3. No. Placements	2	36	2	36	2	30	2	30	0	19	161
D. Class Visits:	0	4	0	10	0	20	0	13	0	5	52
E. Other Activities:											
1. Employer Contacts:											
a. Telephone	9	387	4	39	7	345	1	79	3	118	968
b. In Person	0	4	0	0	0	2	0	5	0	11	22

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JOB PLACEMENT SERVICE

WEEKLY SUMMARY ACTIVITIES

	Lenoir TOTALS This Wk.	Lenoir TOTALS To Date	Hudson TOTALS This Wk.	Hudson TOTALS To Date	Granite Falls TOTALS This Wk.	Granite Falls TOTALS To Date	Hibriten TOTALS This Wk.	Hibriten TOTALS To Date	Gamewell Collettsville TOTALS This Wk.	Gamewell Collettsville TOTALS To Date	TOTAL
A. Conferences:											
1. Principal	0	8	0	4	0	9	0	2	0	7	30
2. Teachers	0	13	2	22	0	22	0	22	1	10	89
3. Others	0	3	0	0	0	3	1	7	0	0	13
B. Meetings:	0	14	0	1	0	4	0	5	0	0	24
C. Student Interviews:											
1. No. Interviewed	18	342	23	485	10	209	15	361	10	242	1639
2. No. Referrals	14	146	9	219	4	95	12	193	3	88	741
3. No. Placements	2	36	2	36	2	30	2	30	0	19	161
D. Class Visits:	0	4	0	10	0	20	0	13	0	5	52
E. Other Activities:											
1. Employer Contacts:											
a. Telephone	9	387	4	39	7	345	1	79	3	118	968
b. In Person	0	4	0	0	0	2	0	5	0	11	22

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JOB PLACEMENT SERVICE

WEEKLY SUMMARY ACTIVITIES

	Lenoir TOTALS This Wk.	Lenoir TOTALS To Date	Hudson TOTALS This Wk.	Hudson TOTALS To Date	Granite Falls TOTALS This Wk.	Granite Falls TOTALS To Date	Hibriten TOTALS This Wk.	Hibriten TOTALS To Date	Gamewell Collettsville TOTALS This Wk.	Gamewell Collettsville TOTALS To Date	TOTAL
A. Conferences:											
1. Principal	0	8	0	4	0	9	0	2	0	7	30
2. Teachers	0	13	2	22	0	22	0	22	1	10	89
3. Others	0	3	0	0	0	3	1	7	0	0	13
B. Meetings:	0	14	0	1	0	4	0	5	0	0	24
C. Student Interviews:											
1. No. Interviewed	18	342	23	485	10	209	15	361	10	242	1639
2. No. Referrals	14	146	9	219	4	95	12	193	3	88	741
3. No. Placements	2	36	2	36	2	30	2	30	0	19	161
D. Class Visits:	0	4	0	10	0	20	0	13	0	5	52
E. Other Activities:											
1. Employer Contacts:											
a. Telephone	9	387	4	39	7	345	1	79	3	118	968
b. In Person	0	4	0	0	0	2	0	5	0	11	22

JOB PLACEMENT SERVICE

WEEKLY SUMMARY ACTIVITIES

	Lenoir TOTALS This Wk.	Lenoir TOTALS To Date	Hudson TOTALS This Wk.	Hudson TOTALS To Date	Granite Falls TOTALS This Wk.	Granite Falls TOTALS To Date	Hibriten TOTALS This Wk.	Hibriten TOTALS To Date	Gamewell Collettsville TOTALS This Wk.	Gamewell Collettsville TOTALS To Date	TOTAL
A. Conferences:											
1. Principal	0	8	0	4	0	9	0	2	0	7	30
2. Teachers	0	13	2	22	0	22	0	22	1	10	89
3. Others	0	3	0	0	0	3	1	7	0	0	13
B. Meetings:	0	14	0	1	0	4	0	5	0	0	24
C. Student Interviews:											
1. No. Interviewed	18	342	23	485	10	209	15	361	10	242	1639
2. No. Referrals	14	146	9	219	4	95	12	193	3	88	741
3. No. Placements	2	36	2	36	2	30	2	30	0	19	161
D. Class Visits:	0	4	0	10	0	20	0	13	0	5	52
E. Other Activities:											
1. Employer Contacts:											
a. Telephone	9	387	4	39	7	345	1	79	3	118	968
b. In Person	0	4	0	0	0	2	0	5	0	11	22

JOB PLACEMENT SERVICE

WEEKLY SUMMARY ACTIVITIES

	Lenoir TOTALS This Wk.	Lenoir TOTALS To Date	Hudson TOTALS This Wk.	Hudson TOTALS To Date	Granite Falls TOTALS This Wk.	Granite Falls TOTALS To Date	Hibriten TOTALS This Wk.	Hibriten TOTALS To Date	Gamewell Collettsville TOTALS This Wk.	Gamewell Collettsville TOTALS To Date	TOTAL
A. Conferences:											
1. Principal	0	8	0	4	0	9	0	2	0	7	30
2. Teachers	0	13	2	22	0	22	0	22	1	10	89
3. Others	0	3	0	0	0	3	1	7	0	0	13
B. Meetings:	0	14	0	1	0	4	0	5	0	0	24
C. Student Interviews:											
1. No. Interviewed	18	342	23	485	10	209	15	361	10	242	1639
2. No. Referrals	14	146	9	219	4	95	12	193	3	88	741
3. No. Placements	2	36	2	36	2	30	2	30	0	19	161
D. Class Visits:	0	4	0	10	0	20	0	13	0	5	52
E. Other Activities:											
1. Employer Contacts:											
a. Telephone	9	387	4	39	7	345	1	79	3	118	968
b. In Person	0	4	0	0	0	2	0	5	0	11	22

JOB PLACEMENT SERVICE

WEEKLY SUMMARY ACTIVITIES

	Lenoir TOTALS This Wk.	Lenoir TOTALS To Date	Hudson TOTALS This Wk.	Hudson TOTALS To Date	Granite Falls TOTALS This Wk.	Granite Falls TOTALS To Date	Hibriten TOTALS This Wk.	Hibriten TOTALS To Date	Gamewell Collettsville TOTALS This Wk.	Gamewell Collettsville TOTALS To Date	TOTAL
A. Conferences:											
1. Principal	0	8	0	4	0	9	0	2	0	7	30
2. Teachers	0	13	2	22	0	22	0	22	1	10	89
3. Others	0	3	0	0	0	3	1	7	0	0	13
B. Meetings:	0	14	0	1	0	4	0	5	0	0	24
C. Student Interviews:											
1. No. Interviewed	18	342	23	485	10	209	15	361	10	242	1639
2. No. Referrals	14	146	9	219	4	95	12	193	3	88	741
3. No. Placements	2	36	2	36	2	30	2	30	0	19	161
D. Class Visits:	0	4	0	10	0	20	0	13	0	5	52
E. Other Activities:											
1. Employer Contacts:											
a. Telephone	9	387	4	39	7	345	1	79	3	118	968
b. In Person	0	4	0	0	0	2	0	5	0	11	22

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JOB PLACEMENT SERVICE

WEEKLY SUMMARY ACTIVITIES

	Lenoir TOTALS This Wk.	Lenoir TOTALS To Date	Hudson TOTALS This Wk.	Hudson TOTALS To Date	Granite Falls TOTALS This Wk.	Granite Falls TOTALS To Date	Hibriten TOTALS This Wk.	Hibriten TOTALS To Date	Gamewell Collettsville TOTALS This Wk.	Gamewell Collettsville TOTALS To Date	TOTAL
A. Conferences:											
1. Principal	0	8	0	4	0	9	0	2	0	7	30
2. Teachers	0	13	2	22	0	22	0	22	1	10	89
3. Others	0	3	0	0	0	3	1	7	0	0	13
B. Meetings:	0	14	0	1	0	4	0	5	0	0	24
C. Student Interviews:											
1. No. Interviewed	18	342	23	485	10	209	15	361	10	242	1639
2. No. Referrals	14	146	9	219	4	95	12	193	3	88	741
3. No. Placements	2	36	2	36	2	30	2	30	0	19	161
D. Class Visits:	0	4	0	10	0	20	0	13	0	5	52
E. Other Activities:											
1. Employer Contacts:											
a. Telephone	9	387	4	39	7	345	1	79	3	118	968
b. In Person	0	4	0	0	0	2	0	5	0	11	22

JOB PLACEMENT SERVICE

WEEKLY SUMMARY ACTIVITIES

	Lenoir TOTALS This Wk.	Lenoir TOTALS To Date	Hudson TOTALS This Wk.	Hudson TOTALS To Date	Granite Falls TOTALS This Wk.	Granite Falls TOTALS To Date	Hibriten TOTALS This Wk.	Hibriten TOTALS To Date	Gamewell Collettsville TOTALS This Wk.	Gamewell Collettsville TOTALS To Date	TOTAL
A. Conferences:											
1. Principal	0	8	0	4	0	9	0	2	0	7	30
2. Teachers	0	13	2	22	0	22	0	22	1	10	89
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C. Student Interviews:											
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E. Other Activities:											
1. Employer Contacts:											
a. Telephone	9	387	4	39	7	345	1	79	3	118	968
b. In Person	0	4	0	0	0	2	0	5	0	11	22

JOB PLACEMENT SERVICE

WEEKLY SUMMARY ACTIVITIES

	Lenoir TOTALS This Wk.	Lenoir TOTALS To Date	Hudson TOTALS This Wk.	Hudson TOTALS To Date	Granite Falls TOTALS This Wk.	Granite Falls TOTALS To Date	Hibriten TOTALS This Wk.	Hibriten TOTALS To Date	Gamewell Collettsville TOTALS This Wk.	Gamewell Collettsville TOTALS To Date	TOTAL
A. Conferences:											
1. Principal	0	8	0	4	0	9	0	2	0	7	30
2. Teachers	0	13	2	22	0	22	0	22	1	10	89
3. Others	0	3	0	0	0	3	1	7	0	0	13
B. Meetings:	0	14	0	1	0	4	0	5	0	0	24
C. Student Interviews:											
1. No. Interviewed	18	342	23	485	10	209	15	361	10	242	1639
2. No. Referrals	14	146	9	219	4	95	12	193	3	88	741
3. No. Placements	2	36	2	36	2	30	2	30	0	19	161
D. Class Visits:	0	4	0	10	0	20	0	13	0	5	52
E. Other Activities:											
1. Employer Contacts:											
a. Telephone	9	387	4	39	7	345	1	79	3	118	968
b. In Person	0	4	0	0	0	2	0	5	0	11	22

JOB PLACEMENT SERVICE

WEEKLY SUMMARY ACTIVITIES

	Lenoir TOTALS This Wk.	Lenoir TOTALS To Date	Hudson TOTALS This Wk.	Hudson TOTALS To Date	Granite Falls TOTALS This Wk.	Granite Falls TOTALS To Date	Hibriten TOTALS This Wk.	Hibriten TOTALS To Date	Gamewell Collettsville TOTALS This Wk.	Gamewell Collettsville TOTALS To Date	TOTAL
A. Conferences:											
1. Principal	0	8	0	4	0	9	0	2	0	7	30
2. Teachers	0	13	2	22	0	22	0	22	1	10	89
3. Others	0	3	0	0	0	3	1	7	0	0	13
B. Meetings:	0	14	0	1	0	4	0	5	0	0	24
C. Student Interviews:											
1. No. Interviewed	18	342	23	485	10	209	15	361	10	242	1639
2. No. Referrals	14	146	9	219	4	95	12	193	3	88	741
3. No. Placements	2	36	2	36	2	30	2	30	0	19	161
D. Class Visits:	0	4	0	10	0	20	0	13	0	5	52
E. Other Activities:											
1. Employer Contacts:											
a. Telephone	9	387	4	39	7	345	1	79	3	118	968
b. In Person	0	4	0	0	0	2	0	5	0	11	22

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JOB PLACEMENT SERVICE

WEEKLY SUMMARY ACTIVITIES

	Lenoir TOTALS This Wk.	Lenoir TOTALS To Date	Hudson TOTALS This Wk.	Hudson TOTALS To Date	Granite Falls TOTALS This Wk.	Granite Falls TOTALS To Date	Hibriten TOTALS This Wk.	Hibriten TOTALS To Date	Gamewell Collettsville TOTALS This Wk.	Gamewell Collettsville TOTALS To Date	TOTAL
A. Conferences:											
1. Principal	0	8	0	4	0	9	0	2	0	7	30
2. Teachers	0	13	2	22	0	22	0	22	1	10	89
3. Others	0	3	0	0	0	3	1	7	0	0	13
B. Meetings:	0	14	0	1	0	4	0	5	0	0	24
C. Student Interviews:											
1. No. Interviewed	18	342	23	485	10	209	15	361	10	242	1639
2. No. Referrals	14	146	9	219	4	95	12	193	3	88	741
3. No. Placements	2	36	2	36	2	30	2	30	0	19	161
D. Class Visits:	0	4	0	10	0	20	0	13	0	5	52
E. Other Activities:											
1. Employer Contacts:											
a. Telephone	9	387	4	39	7	345	1	79	3	118	968
b. In Person	0	4	0	0	0	2	0	5	0	11	22

JOB PLACEMENT SERVICE

WEEKLY SUMMARY ACTIVITIES

	Lenoir TOTALS This Wk.	Lenoir TOTALS To Date	Hudson TOTALS This Wk.	Hudson TOTALS To Date	Granite Falls TOTALS This Wk.	Granite Falls TOTALS To Date	Hibriten TOTALS This Wk.	Hibriten TOTALS To Date	Gamewell Collettsville TOTALS This Wk.	Gamewell Collettsville TOTALS To Date	TOTAL
A. Conferences:											
1. Principal	0	8	0	4	0	9	0	2	0	7	30
2. Teachers	0	13	2	22	0	22	0	22	1	10	89
3. Others	0	3	0	0	0	3	1	7	0	0	13
B. Meetings:	0	14	0	1	0	4	0	5	0	0	24
C. Student Interviews:											
1. No. Interviewed	18	342	23	485	10	209	15	361	10	242	1639
2. No. Referrals	14	146	9	219	4	95	12	193	3	88	741
3. No. Placements	2	36	2	36	2	30	2	30	0	19	161
D. Class Visits:	0	4	0	10	0	20	0	13	0	5	52
E. Other Activities:											
1. Employer Contacts:											
a. Telephone	9	387	4	39	7	345	1	79	3	118	968
b. In Person	0	4	0	0	0	2	0	5	0	11	22

JOB PLACEMENT SERVICE

WEEKLY SUMMARY ACTIVITIES

	Lenoir TOTALS This Wk.	Lenoir TOTALS To Date	Hudson TOTALS This Wk.	Hudson TOTALS To Date	Granite Falls TOTALS This Wk.	Granite Falls TOTALS To Date	Hibriten TOTALS This Wk.	Hibriten TOTALS To Date	Gamewell Collettsville TOTALS This Wk.	Gamewell Collettsville TOTALS To Date	TOTAL
A. Conferences:											
1. Principal	0	8	0	4	0	9	0	2	0	7	30
2. Teachers	0	13	2	22	0	22	0	22	1	10	89
3. Others	0	3	0	0	0	3	1	7	0	0	13
B. Meetings:	0	14	0	1	0	4	0	5	0	0	24
C. Student Interviews:											
1. No. Interviewed	18	342	23	485	10	209	15	361	10	242	1639
2. No. Referrals	14	146	9	219	4	95	12	193	3	88	741
3. No. Placements	2	36	2	36	2	30	2	30	0	19	161
D. Class Visits:	0	4	0	10	0	20	0	13	0	5	52
E. Other Activities:											
1. Employer Contacts:											
a. Telephone	9	387	4	39	7	345	1	79	3	118	968
b. In Person	0	4	0	0	0	2	0	5	0	11	22

JOB PLACEMENT SERVICE

WEEKLY SUMMARY ACTIVITIES

	Lenoir TOTALS This Wk.	Lenoir TOTALS To Date	Hudson TOTALS This Wk.	Hudson TOTALS To Date	Granite Fa[illegible] TOTALS This Wk.	Granite Fa[illegible] TOTALS To Date	Hibriten TOTALS This Wk.	Hibriten TOTALS To Date	Gamewell Collettsville TOTALS This Wk.	Gamewell Collettsville TOTALS To Date	TOTAL
A. Conferences:											
1. Principal	0	8	0	4	0	9	0	2	0	7	30
2. Teachers	0	13	2	22	0	22	0	22	1	10	89
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B. Meetings:	0	14	0	1	0	4	0	5	0	0	24
C. Student Interviews:											
1. No. Interviewed	18	342	23	485	10	209	15	361	10	242	1639
2. No. Referrals	14	146	9	219	4	95	12	193	3	88	741
3. No. Placements	2	36	2	36	2	30	2	30	0	19	161
D. Class Visits:	0	4	0	10	0	20	0	13	0	5	52
E. Other Activities:											
1. Employer Contacts:											
a. Telephone	9	3[illegible]7	4	39	7	345	1	79	3	118	968
b. In Person	0	[illegible]4	0	0	0	2	0	5	0	11	22

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JOB PLACEMENT SERVICE

WEEKLY SUMMARY ACTIVITIES

	Lenoir TOTALS This Wk.	Lenoir TOTALS To Date	Hudson TOTALS This Wk.	Hudson TOTALS To Date	Granite Falls TOTALS This Wk.	Granite Falls TOTALS To Date	Hibriten TOTALS This Wk.	Hibriten TOTALS To Date	Gamewell Collettsville TOTALS This Wk.	Gamewell Collettsville TOTALS To Date	TOTAL
A. Conferences:											
1. Principal	0	8	0	4	0	9	0	2	0	7	30
2. Teachers	0	13	2	22	0	22	0	22	1	10	89
3. Others	0	3	0	0	0	3	1	7	0	0	13
B. Meetings:	0	14	0	1	0	4	0	5	0	0	24
C. Student Interviews:											
1. No. Interviewed	18	342	23	485	10	209	15	361	10	242	1639
2. No. Referrals	14	146	9	219	4	95	12	193	3	88	741
3. No. Placements	2	36	2	36	2	30	2	30	0	19	161
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E. Other Activities:											
1. Employer Contacts:											
a. Telephone	9	387	4	39	7	345	1	79	3	118	968
b. In Person	0	4	0	0	0	2	0	5	0	11	22

JOB PLACEMENT SERVICE

WEEKLY SUMMARY ACTIVITIES

	Lenoir TOTALS This Wk.	Lenoir TOTALS To Date	Hudson TOTALS This Wk.	Hudson TOTALS To Date	Granite Falls TOTALS This Wk.	Granite Falls TOTALS To Date	Hibriten TOTALS This Wk.	Hibriten TOTALS To Date	Gamewell Collettsville TOTALS This Wk.	Gamewell Collettsville TOTALS To Date	TOTAL
A. Conferences:											
1. Principal	0	8	0	4	0	9	0	2	0	7	30
2. Teachers	0	13	2	22	0	22	0	22	1	10	89
3. Others	0	3	0	0	0	3	1	7	0	0	13
B. Meetings:	0	14	0	1	0	4	0	5	0	0	24
C. Student Interviews:											
1. No. Interviewed	18	342	23	485	10	209	15	361	10	242	1639
2. No. Referrals	14	146	9	219	4	95	12	193	3	88	741
3. No. Placements	2	36	2	36	2	30	2	30	0	19	161
D. Class Visits:	0	4	0	10	0	20	0	13	0	5	52
E. Other Activities:											
1. Employer Contacts:											
a. Telephone	9	387	4	39	7	345	1	79	3	118	968
b. In Person	0	4	0	0	0	2	0	5	0	11	22

JOB PLACEMENT SERVICE

WEEKLY SUMMARY ACTIVITIES

	Lenoir TOTALS This Wk.	Lenoir TOTALS To Date	Hudson TOTALS This Wk.	Hudson TOTALS To Date	Granite Falls TOTALS This Wk.	Granite Falls TOTALS To Date	Hibriten TOTALS This Wk.	Hibriten TOTALS To Date	Gamewell Collettsville TOTALS This Wk.	Gamewell Collettsville TOTALS To Date	TOTAL
A. Conferences:											
1. Principal	0	8	0	4	0	9	0	2	0	7	30
2. Teachers	0	13	2	22	0	22	0	22	1	10	89
3. Others	0	3	0	0	0	3	1	7	0	0	13
B. Meetings:	0	14	0	1	0	4	0	5	0	0	24
C. Student Interviews:											
1. No. Interviewed	18	342	23	485	10	209	15	361	10	242	1639
2. No. Referrals	14	146	9	219	4	95	12	193	3	88	741
3. No. Placements	2	36	2	36	2	30	2	30	0	19	161
D. Class Visits:	0	4	0	10	0	20	0	13	0	5	52
E. Other Activities:											
1. Employer Contacts:											
a. Telephone	9	387	4	39	7	345	1	79	3	118	968
b. In Person	0	4	0	0	0	2	0	5	0	11	22

APPENDIX I

Student Follow-up Instrument and Results of 1974 study.

MEMO

TO: All Secondary School Principals and Guidance Offices

FROM: Burl F. Duncan, Placement Coordinator

SUBJECT: Occupational Survey for the class of 1974

Please refer to our memo dated August 21, 1974 advising each principal of our intention to initiate an occupational survey of the graduating class of 1974.

Responses have been received, tabulated and results of which are attached for your records.

Caldwell County Schools

SUMMARY

Total contacted in county	750
Total responded to survey	196
Percentage of response	26%

Gamewell-Collettsville High School

Total number of students contacted	109
Total number of responses	21
Percentage of response	19%

Granite Falls High School

Total number of students contacted	113
Total number of responses	26
Percentage of response	23%

Hibriten High School

Total number of students contacted	145
Total number of responses	43
Percentage of response	29%

Hudson High School

Total number of students contacted	268
Total number of responses	81
Percentage of response	30%

Lenoir High School

Total number of students contacted	115
Total number of responses	25
Percentage of response	21%

Gamewell-Collettsville High School

SUMMARY

Total number of students contacted	109
Total number of responses	21
Percentage of response	19%

The foregoing results of the occupational survey may be summarized as follows:

52% of the graduating class entered into employment after graduation with a salary range of $2,500 - $5,000 per year.

32% enrolled in an institution of higher learning with the majority of students attending Appalachian State University and Caldwell Community College and Technical Institute.

0% of the graduating class entered the military.

94% of those who responded felt that the current curriculum was sufficient in preparing them for their occupational choices while 4% felt that it offered little assistance or was totally worthless.

The majority of students felt that all departments had met their expectations.

Recommendations were to make the school curriculum:

(19%) more academically oriented.
(61%) more occupationally oriented.
(19%) remain as it is.

Some of the more prevalent ideas and suggestions in making school more meaningful and relevant are as follows:

1. Should have more occupational courses to prepare students who go directly to work after graduation.

2. Should have better teacher/student relations.

3. Should have better facilities and more materials for students to use.

4. School should be given more money so that the students would not have to spend so much time fund-raising for things that they need.

Granite Falls High School

SUMMARY

Total number of students contacted	113
Total number of responses	26
Percentage of response	23%

The foregoing results of the occupational survey may be summarized as follow:

38% of the graduating class entered into employment after graduation with a salary range of $2,500 - $5,000 per year.

64% enrolled in an institution of higher learning with the majority of students attending Appalachian State University and Caldwell Communtiy College and Technical Institute.

0% of the graduating class entered the military.

83% of those who responded felt that the current curriculum was sufficient in preparing them for their occupational choices while 10% felt that it offered little assistance or was totally worthless.

The majority of students felt that all departments had met their expectations.

Recommendations were to make the school curriculum:
(15%) more academically oriented.
(42%) more occupationally oriented.
(30%) remain as it is.

Some of the more prevalent ideas and suggestions in making school more meaningful and relevant are as follows:

1. Should get the students more involved in school system.

2. Have more field trips and labs so students can put to use what they have learned.

3. Should offer more business courses for boys also.

4. Teachers, principal, and students should learn to work together.

Hibriten High School

SUMMARY

Total number of students contacted	145
Total number of responses	43
Percentage of response	29%

The foregoing results of the occupational survey may be summarized as follows:

41% of the graduating class entered into employment after graduation with a salary range of $2,500 - $5,000 per year.

59% enrolled in an institution of higher learning with the majority of students attending Appalachian State University , Caldwell Community College and Technical Institute, and University of N. C. at Chapel Hill.

1% of the graduating class entered the military with most students going into the Navy.

71% of those who responded felt that the current curriculum was sufficient in preparing them for their occupational choices while 17% felt that it offered little assistance or was totally worthless.

The majority of students felt that all departments had met their expectations.

Recommendations were to make the school curriculum:
(27%) more academically oriented.
(44%) more occupationally oriented.
(25%) remain as it is.

Some of the more prevalent ideas and suggestions in making school more meaningful and relevant are as follows:

1. Teachers should work more with the students and have better understanding.

2. Should offer more occupational courses.

3. Should give more money to the music department.

Hudson High School

SUMMARY

Total number of students contacted	268
Total number of responses	81
Percentage of response	30%

The foregoing results of the occupational survey may be summarized as follows:

41% of the graduating class entered into employment after graduation with a salary range of $2,500 - $5,000 per year.

55% enrolled in an institution of higher learning with the majority of students attending Appalachian State University and Caldwell Community College and Technical Institute.

1% of the graduating class entered the military with most students going into the Navy.

70% of those who responded felt that the current curriculum was sufficient in preparing them for their occupational choices while 18% felt that it offered little assistance or was totally worthless.

The majority of students felt that all departments had met their expectations.

Recommendations were to make the school curriculum:
(23%) more academically oriented.
(60%) more occupationally oriented.
(14%) remain as it is.

Some of the more prevalent ideas and suggestions in making school more meaningful and relevant are as follows:

1. Should improve on overcrowded situations.

2. Teachers should be more interested in their work and make the students more involved.

3. Should give students more voice in school activities.

Lenoir High School

SUMMARY

Total number of students contacted	115
Total number of responses	25
Percentage of response	21%

The foregoing results of the occupational survey may be summarized as follows:

28% of the graduating class entered into employment after graduation with a salary range of $2,500 - $5,000 per year.

76% enrolled in an institution of higher learning with the majority of students attending Appalachian State University, University of N. C. at Chapel, and East Carolina University.

1% of the graduating class entered the military with most students going into the Marines.

76% of those who responded felt that the current curriculum was sufficient in preparing them for their occupational choices while 12% felt that it offered little assistance or was totally worthless.

The majority of students felt that all departments had met their expectations.

Recommendations were to make the school curriculum:
(44%) more academically oriented.
(16%) more occupationally oriented.
(36%) remain as it is.

Some of the more prevalent ideas and suggestions in making school more meaningful and relevant are as follows:

1. Have closer student/teacher relationships.

2. Have more activities for the students.

3. All administrative personnel and faculty should strive for a better balance between leniency and discipline.

4. Have more various types of courses.

Occupational Survey
for the
Graduating Class of 1974

Name _____ High School Attended _____

EMPLOYMENT

1. Are you currently employed on a full time basis?
   Yes_____
   No _____

2. State name of your employer: _____
   When were you employed? _____
   What is your title? _____
   What are your duties or responsibilities? _____
   _____
   Please check your expected annual salary range:
   ( ) $ 00. —$ 1000.
   ( ) $1000. —$ 2500.
   ( ) $2500. —$ 5000.
   ( ) $5000. —$ 7500.
   ( ) $7500. —$10000.
   ( ) over $10,000.

3. Did you encounter difficulty in securing employment?
   Yes_____
   No _____

4. Check method(s) used in obtaining employment:
   ( ) Applied directly to employer.
   ( ) Referred to employer by friends or relatives.
   ( ) Referred to employer by the N.C. State Employment commission.
   ( ) Referred to employer by the school.
   ( ) If none of the above state the method you used in getting your job. ____
   _____

5. Would you say that you:
   ( ) Are extremely pleased with your job.
   ( ) Are moderately pleased with your job.
   ( ) Think of it as an average job, just somewhere to work.
   ( ) Dislike your job.
   ( ) Have intense dislike for your job.

6. Do you feel your chances for advancement are:
   ( ) Good
   ( ) Average
   ( ) Poor

7. Do you consider your duties to be:
   ( ) Extremely hazardous
   ( ) Fairly safe
   ( ) Completely safe

8. Would you recommend your job and your employer to your friends?
Yes _____ Explain _____
No _____ Explain _____

EDUCATION

9. Are you currently enrolled in a:
( ) 4-year college
If so give name of college. _____
( ) 2-year college or technical institute
If so give name of institution. _____
( ) Trade school
If so give name of school. _____
( ) None of the above.

10. When will you start college? _____

11. What is your anticipated graduation date? _____

12. Please state your major course of studies. _____

13. What is your minor? _____

14. Please indicate the reason(s) for your occupational choice: _____
_____
_____

15. If you attend an institution out of the Caldwell County area do you plan to return to the county to work in your chosen field?
Yes _____
No _____

U. S. MILITARY

16. Did you enter the military after graduation?
Yes _____
No _____

17. Check your branch of service
( ) Army
( ) Navy
( ) Air Force
( ) Marine Corps

18. Do you tentatively plan a permanent career in the military?
Yes _____
No _____
If not what is your expected discharge date? _____

19. While in service are you now or will you be working toward a specific skill?
Yes _____
No _____
If yes indicate the skill _____

20. If you do not stay in service on a permanent basis will you return to Caldwell County to work?
Yes _____
No _____

21. If college is planned state your college preference: _____
_____

OCCUPATIONAL PREPARATION

22. Regarding school preparation for your occupational choice please check one of the following that is most appropriate to you.
( ) High School curriculum (courses) was extremely beneficial.
( ) High School curriculum (courses) was more than adequate.
( ) High School curriculum (courses) was adequate.
( ) High School curriculum (courses) offered very little assistance.
( ) High School curriculum (courses) was totally worthless.

23. Would you prefer to see the high school curriculum:
( ) More academically oriented?
( ) More occupationally oriented?
( ) Remain as it is?

24. Did the following departments in high school meet with your expectations?

English Dept. Yes _____ No _____
Explain _____

Math and Science Dept. Yes _____ No _____
Explain _____

Social Studies Dept. Yes _____ No _____
Explain _____

Business Dept. Yes _____ No _____
Explain _____

Vocational Dept. (including Home Ec.) Yes _____ No _____
Explain _____

Guidance Dept. Yes _____ No _____
Explain _____

25. Please offer your comments, ideas, and suggestions as to how school administration in meeting the needs of all students could make school more meaningful, more relevant, and more interesting.

_____
_____
_____

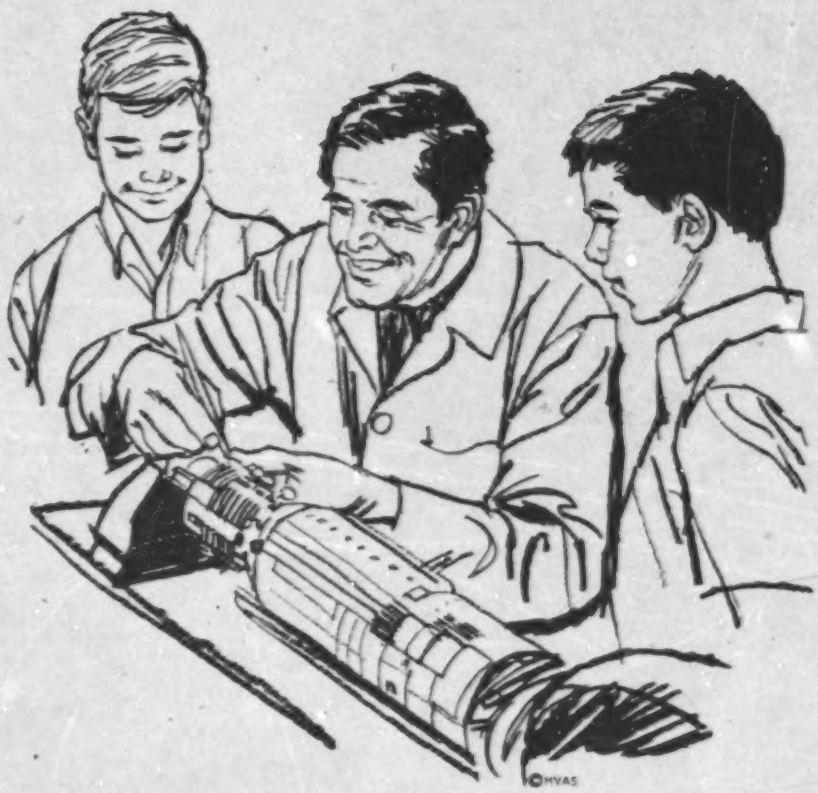
Thank you for your cooperation.

Burl P. Duncan

Appendix J containing newspaper publicity regarding the project was not reproducible and was removed from this document prior to its being submitted to the ERIC Document Reproduction Service.

APPENDIX K

Individualized Curriculum for Industrial Work Experience Programs



UNIT 1

Orientation

UNIT I: Orientation

PREREQUISITE: None

TERMINAL OBJECTIVE:

Upon the completion of this unit, the student will understand the concept of Vocational Education as it relates to himself, school, parent, and employer. Evidence of this knowledge will be shown by a score of 80% on the post-test.

AIMS AND OBJECTIVES:

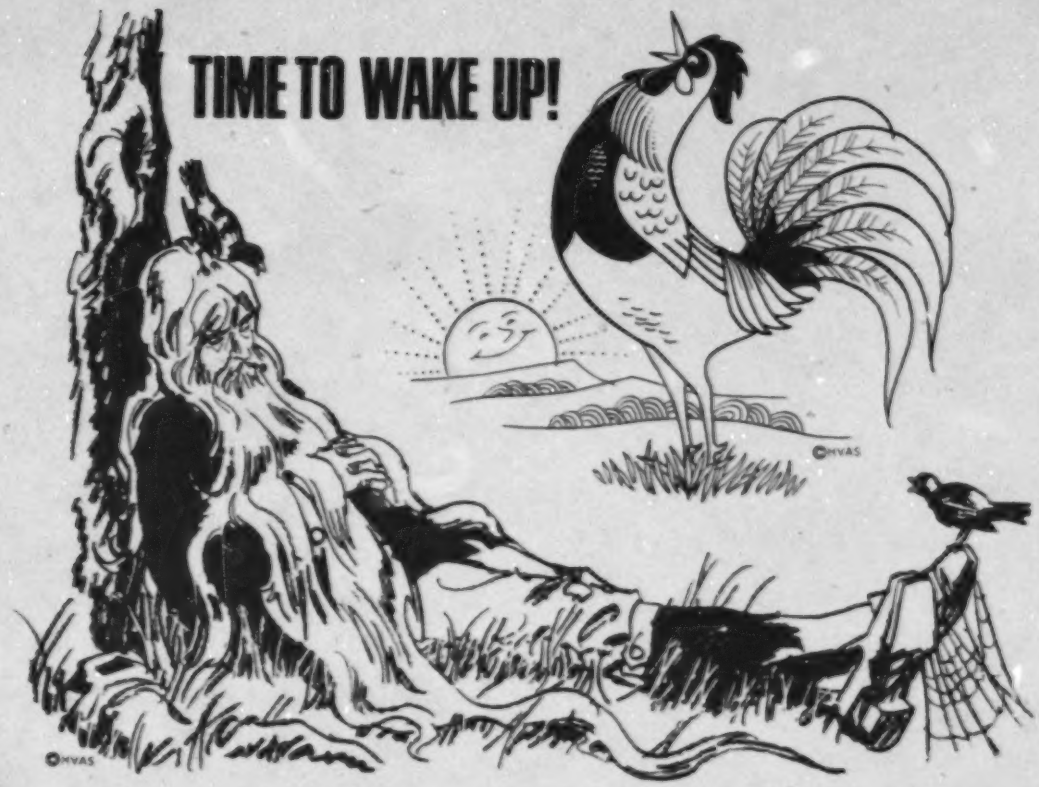
1. To acquaint the student with the definition, purpose, and types of vocational education.
2. To give the student in the Industrial Cooperative Training Program an orientation.
3. To provide the student with an understanding of the Industrial Cooperative Training Program, and a knowledge of his responsibilities in the program, as a part of his total educational program.
4. To introduce the student to the Vocational Industrial Clubs of America.

INTRODUCTION:

Vocational education is concerned with teaching students about the world of work. It is designed to develop skills, abilities, understandings, attitudes, work habits, and appreciations encompassing knowledge and information. Vocational education is an integral part of the total educational

program and contributes toward the development of good citizens by developing their physical, social, civic, cultural and economic competencies.

There are six formal divisions of vocational education: Agricultural Education, Business Education, Distributive Education, Home Economics Education, Trade and Industrial Education (including Trade Preparatory and Industrial Cooperative Training), and Vocational Guidance.



TIME TO WAKE UP!

ACTIVITY I

You must complete (A) and then, you may choose any four of the following activities.

A. Read pages 1 - 23 in the General Related Curriculum Guide, Volume 1, or pages 1 - 2 in the World of Work, 1st Edition, or pages 1 - 9 in the World of Work, 2nd Edition. (Encyclopedias may be used to answer some of the questions in Activities I and II.

B. Using your text or encyclopedias as a reference, define the following acts:

Smith-Hughes Act
George-Dean Act
George-Barden Act
The G. I. Bill of Rights
The National Defense Education Act
Manpower Development and Training Act of 1962
Vocational Education Act of 1963

C. Write a short paragraph on the history of Industrial Cooperative Training.

D. List at least five requirements for being eligible to be a student in Industrial Cooperative Training.

E. What does VICA mean to you?

F. Familiarize yourself with the following necessary records and forms. Write a brief description of each one:

a. Daily Work Sheet
b. Training Agreement
c. Progress Report
d. Training Plan

ACTIVITY II

Choose two of the following activities.

A. You have just been elected President of your local VICA Chapter, list some things you could do to make your VICA Chapter Number 1.

B. List all vocational courses taught at your school, and interview at least one vocational teacher concerning the subject matter taught in that course. Write a paragraph concerning your findings.

C. Write a short summary on the job you would like to have and explain why.

OTHER ACTIVITIES USING OUTSIDE RESOURCES FOR CLASS PARTICIPATION

Ask the Local Director of Occupational Education to come and speak to your class on the different occupational areas that are available in your county.

SUGGESTED RESOURCE PERSONNEL

Area Director of Occupational Education

Local Director of Occupational Education

EVALUATION

Ask your instructor for the "Orientation" quiz to see how much knowledge you have obtained from this lap.

UNIT I

ORIENTATION QUIZ

Fill in the blanks

1. _____ education is concerned with teaching students about the world of work.

2. An _____ was a young boy who was taught a trade by a master craftsman while he lived and worked for the master.

3. Poor Europeans who could not afford passage to the new world often became _____ servants in order to gain passage to the new world.

4. The _____ system was the system of producing goods before the Industrial Revolution.

5. The _____ Act of 1917 was the first national Vocational Education Act.

6. The _____ Bill of Rights provided educational training benefits for veterans.

7. _____ Florida was the sight of the first D.O. (ICT) program.

8. A student-learner must be at least _____ years old before he can be a part of the ICT program.

9. I.C.T. stands for _____.

10. In I.C.T., you should work at least _____ hours per week.

11. In I.C.T., you must not work more than _____ hours per week.

12. You get _____ units credit for I.C.T.

13. You get _____ units credit for I.C.T. II.

14. I.C.T. class work is divided into _____ related and _____ related materials.

15. List two things you must have before you go to work.

A. _____ permit (if under 16)
B. _____ card.

16. The youth organization of I.C.T. students is the _____ Club.

17. The _____ is a worker who has satisfactorily completed his apprenticeship and is classified as a skilled worker in his trade.

<u>True-False</u>

_____1. The Industrial Revolution came to an end in 1944.

_____2. The factory system was destroyed by the Industrial Revolution.

_____3. The I.C.T. program was once known as D.O.

_____4. You are not required to work during school holidays.

UNIT I

ORIENTATION QUIZ

Fill In The Blank

1. Vocational
2. apprentice
3. indentured
4. domestic
5. Smith-Hughes
6. G. I.
7. Jacksonville
8. 16
9. Industrial Cooperative Training
10. 15
11. 25
12. 2
13. 3
14. general and technical
15. workers permit
    social security
16. VICA
17. journeymen

True-False

1. False
2. False
3. True
4. False

UNIT II

Employment

UNIT II: Employment

PREREQUISITE: None

TERMINAL OBJECTIVE:

After the completion of this unit, the student will recognize the concepts of applying for and obtaining employment. Evidence of this knowledge will be shown by a score of 80 percent on the post-test.

AIMS AND OBJECTIVES:

1. To aid the student through counseling by the I.C.T. coordinator to select the vocation he is best physically and mentally suited to pursue.
2. To acquaint the student with available sources of employment information.
3. To develop fundamental techniques in acquiring a job.
4. To bring out the importance of professional growth and loyalty to the employer.

INTRODUCTION:

Selecting the way to earn one's living in our democratic society is probably one of the most important decisions that one will have to make in his lifetime. More occupations are open to young people today than ever before. Deciding upon a lifelong job is more difficult than it used to be. Occupational opportunities in the United States today range around 30,000.

ACTIVITY I

You must complete (A), and then you may choose any <u>four</u> of the following activities.

A. Read pages 24 - 47 in the <u>General Related Curriculum Guide</u>, Volume I, or pages 38 - 64 in the <u>World of Work</u>, 1st Edition, or pages 10 - 27 and 37 - 41 in the <u>World of Work</u>, 2nd Edition.

B. In choosing the right vocation, what are some questions one should consider?

C. For most people the main value of a well-chosen occupation is the personal satisfaction it gives them. List some personal traits you should consider about yourself.

D. Name several routes you could take if you were looking for a perspective job.

E. What is a data sheet, and what are the four classifications of information which should be included in a data sheet?

F. For an interview, what papers should you take with you?

7

ACTIVITY II

Choose two of the following activities.

A. You are to choose a job from the SRA Job Experience Kit on something that would be of interest to you. Below is a list of jobs from the SRA Job Experience Kit. Choose a job that you think you might be interested in learning more about. Look at the job as a game. Do the best you can for your own satisfaction. THIS IS NOT A TEST.

Accountant Kit	Police Officer Kit
Automobile Mechanics Kit	Sales Person Kit
Beautician Kit	Secretary Kit
Designer Kit	Truck Driver Kit
Electronic Technician Kit	Veterinarian Kit
Elementary School Teacher Kit	X-Ray Technician Kit
Lawyer Kit	Appliance Serviceman Kit
Library Kit	Carpenter Kit
Medical Technologist Kit	Draftsman Kit
Motel Manager Kit	Plumber Kit

B. Suppose that you are an employer for a local industry, and you have an opening. What would be some of the characteristics that you would look for in a perspective employee?

C. Suppose you are going for a job interview. Fill out the accompanying data sheet and application form. When completed, this will aid you in your interview. (Ask your instructor for these forms.)

D. Save the "Help Wanted" ads from your newspaper for one week. Determine which jobs are available in each of the following categories: Professional, technical, managerial, clerical, sales, etc.

OTHER ACTIVITIES USING OUTSIDE RESOURCES FOR CLASS PARTICIPATION

Ask an Employment Interviewer from your local Employment Security Commission to come and speak to your class on the job opportunities available in your community.

SUGGESTED RESOURCE PERSONNEL

Career Counselor

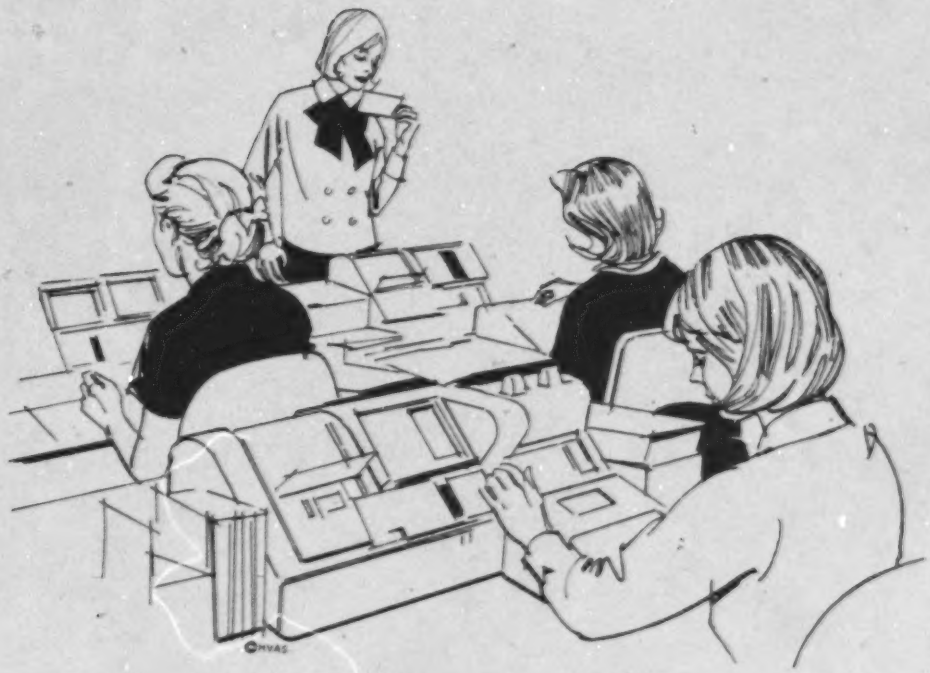
Employment Interviewer

Information Clerk

Job Analyst

EVALUATION

When you have completed this lap, ask your instructor for the "Employment" quiz, and see how much knowledge you have obtained from this unit.



PERSONAL DATA SHEET

Name:

Address:

City & State:

Age:

Height:

Weight:

Date:

Nationality:

Church:

Education:

Experience:

References (by permission):

APPLICATION FOR EMPLOYMENT Date_____

Fill In All Sections Giving Complete and Accurate Answers

Last Name	First Name	Middle Name	Social Security No.
Address	City & State		Telephone No.

Sex	Weight	Height	Date of Birth	Age

☐ Single ☐ Married ☐ Divorced	No. of Children	Other Dependents

FAMILY DATA

Wife/Husband's Name	Occupation and Company

Father's Name	Occupation & Co.	Mother's Name	Occupation & Co.

MEDICAL

State of Health	Physical Defects or Work Limitations	Any Accidents on the Job

Name and Address Of Person To Be Notified In Case of Emergency	Telephone No.

EDUCATION AND TRAINING

Circle Highest Grade Completed 1 2 3 4 5 6 7 8 9 10 11 12 13 14	Name and Location Of Last School Attended

Special Training or Other Education

List Office Machine On Which You Have Had Training Or Experience And No. Years

MILITARY SERVICE

Branch	Date Entered	Date Discharged	Type Discharge	Highest Rank	Type Duties

Present Military Status Reserve Status Branch of Reserve ☐ Active ☐ Inactive

GENERAL

Type Work Desired	Would You Work Any Day Of Week Or Shift ☐ Yes ☐ No

What Wages Do You Expect $	Distance Do you Live From Plant	Lived In This Community Since

Interest In Sports, Hobbies And Clubs

(Continue on the next page)

EMPLOYMENT RECORD

	Date	Wage or Salary	Position and Nature of Duties	Reason For Leaving
Present or Last Employer	From			
Address	To			
Nature of Business		$		
Previous Employer	From			
Address	To			
Nature of Business		$		
Previous Employer	From			
Address	To			
Nature of Business		$		
Previous Employer	From			
Address	To			
Nature of Business		$		

CHARACTER REFERENCES--DO NOT REFER TO PREVIOUS EMPLOYERS OR RELATIVES

Name	Address	Business or Occupation

CREDIT REFERENCES

Name	Address	Business

Names of Personal Friends Now or Formerly Employed At This Plant

Have You Ever Been Involved With The Law Other Than Minor Traffic Violations?
☐ Yes ☐ No If Yes, Explain

Interviewer	Signature of Applicant

DO NOT WRITE BELOW THIS LINE

Date Employed	Shift	Occupation	Department	Salary or Rate	Signature of Super.

UNIT II

EMPLOYMENT

True-False

_____1. There are fewer women workers today than there was ten years ago.

_____2. There are more blue collar workers than white collar workers today.

_____3. In order to advance in the world of work, you must be able to sell yourself.

_____4. Agricultural employment is an area of expanding employment.

_____5. Jobs in the future will require more training.

_____6. Small engine repair is an expanding area of employment.

_____7. American workers are more productive today than ever before.

_____8. Civil service jobs are jobs in private industries.

_____9. The employment security commission keeps a list of job openings in other states.

_____10. You should always take a friend along on an interview.

_____11. Do not smoke or chew gum during an interview.

_____12. If you are given a job, you should always be loyal to both those for whom and with whom you work.

Fill in the blank

. There are about _____ occupational opportunities in the United States.

. _____ percent of all jobs lost are due to personality conflicts.

. The _____ test shows your aptitude in different areas.

4. _____unemployment means a worker's job is being taken by a machine.

5. _____collar workers usually work in a factory.

6. _____collar workers usually work in an office.

7. The average work day consists of _____hours per day.

8. _____are the most discriminated against group in America today.

9. Civil Service jobs are filled on the basis of _____exams.

0. List three sources one can use to find a job.

1. A.

B.

C.

1. List three records you should carry with you when seeking employment.

A.

B.

C.

2. List two ways of arranging for an interview.

A.

B.

UNIT II

EMPLOYMENT

True-False

1. False
2. False
3. True
4. False
5. True
6. True
7. True
8. False
9. True
10. False
11. True
12. True

Fill In The Blank

1. 10,000
2. 66 2/3
3. General Aptitude Test Battery
4. Technological
5. Blue
6. White
7. 8
8. Women
9. competitive
10. Employment Security Commission, magazine, newspaper, friends teachers

11. Birth Certificate
    Personal Data Sheet
    Social Security Card

12. Telephone
    Letter

UNIT III

You, Your Employer, And Your Co-Worker

BEST COPY AVAILABLE

UNIT III: Needs and Responsibilities of the Worker

PREREQUISITE: None

TERMINAL OBJECTIVE:

Upon the completion of this unit, the student will better understand his position as an employee and the relationship between him, his employer, supervisor, and co-workers. Evidence of this knowledge will be shown by a score of 80 percent onthe post-test.

AIMS AND OBJECTIVES:

1. To enable the student worker to establish good relationships with his employer, supervisor, and fellow workers.
2. To teach the student that certain duties and responsibilities on the part of the worker are necessary for good rapport.
3. To enable the student worker to hold and advance on the job due to having good rapport.

INTRODUCTION:

It is the duty of an employee to please his employer. It has been said that getting along with a supervisor is an art.

Showing a willingness to learn is one of the best ways to have a good relationship with your employer. If you do not understand something about your job, ask questions.

Intelligent questions show eagerness and willingness to learn.

Not only does an employee need to satisfy his employer, he must try to get along with his fellow workers. In order to acquire this ability, you must learn to think of people as individuals, to be able to put yourself in another persons place, and to want sincerely to get along with others.

ACTIVITY I

You must complete (A) and then you may choose any two of the following activities.

A. Read pages 49 - 57 in the General Related Curriculum Guide, Volume I, or pages 67 - 82 in the World of Work, 1st Edition, or pages 50 - 60 in the World of Work, 2nd Edition.

B. It pays to develop a certain sensitivity to the moods of your supervisor. How can you, as an employee, be aware of the moods or feelings of your supervisor.

C. There are many personal qualities that an employer likes to find in his employees. List a few of these.

D. Tardiness and absenteeism have certain short and long term effects. List some of these effects. How could you, as an employee, control tardiness and absenteeism?

ACTIVITY II

Choose three of the following activities.

A. You have just been employed to work for a large industry. The boss is a rather nice person, but everyone seems to talk about him to you when he is not around. How do you think you would react to this situation?

B. Select a partner and role play an interview. Use the tape recorder and tape the interview, then play it back, having the class point out the mistakes made by the participants.

C. Draw cartoons to illustrate three duties and responsibilities of the worker. With the assistance of the classmates, decide proper captions for each.

D. Tell about your actual work experiences in small groups (2 or 3 people). For example: some of the experiences you have had delivering papers, baby sitting, being a bag boy, sales clerk, working in textile or furniture industries, etc.

OTHER ACTIVITIES USING OUTSIDE RESOURCES FOR CLASS PARTICIPATION

Since most everybody in the class will have a different employer, decide which employer you would like to invite to your classroom as a guest speaker. Ask him to build his speech around "Employer-Employee" relationships.

SUGGESTED RESOURCE PERSONNEL

Guidance Counselor

Job Supervisor

Personnel Manager

Training Director

EVALUATION

When you have completed this lap, ask your instructor for the "Needs and Responsibilities of the Worker" quiz and see how much knowledge you have obtained.

UNIT III

YOU, YOUR EMPLOYER, AND YOUR CO-WORKER

Discussion

1. How can an employee be more productive?

2. Why should an employee be aware of the moods or feelings of his supervisor?

3. What does an employer expect from you and why?

4. What are some of the results of being tardy to work?

5. What steps should you follow when you terminate your employment?

Fill In The Blanks

7. Most of our employment today is based upon the _____ law.

8. One of the greatest virtues an employee can have is being _____ to his employer.

9. Try never to assume a _____ ____ ____ attitude.

10. _____ means being late for work.

UNIT III

YOU, YOUR EMPLOYER, AND YOUR CO-WORKER

1 - 5 questions are for discussion. Answers are to be left to the discretion of the instructor.

Fill In The Blanks

7. unwritten

8. loyal

9. know-it-all

10. Tardiness

UNIT IV

Agencies Affecting Employment

UNIT IV: Agencies Affecting Employment

PREREQUISITE: None

TERMINAL OBJECTIVE:

Upon the completion of this unit, the student will beemore aware of the federal and state regulations on employment. Evidence of this will be shown by a score of 80 percent on the post-test.

AIMS AND OBJECTIVES:

1. To acquaint the student with child labor laws in the early 19th Century and today.
2. To acquaint the student with the contents of the Federal Labor Standards Act.
3. To familiarize the student with the federal and state labor agencies as they affect industrial education.

INTRODUCTION:

During the beginning of the labor movement, there were very few rules enacted. In the early part of the 19th Century, experienced manpower was scarce and child labor was cheap. As a result of this, children had to work very long hours. Poor working conditions for children prevailed. These children had very little time for education because of the number of hours spent on the labor force.

Due to the theory that free people needed an education, child labor laws sprang into existence. By 1870,

several states had prohibited the hiring of children under 12 years of age. Improvements in child labor laws were made gradually as the public became more aware of the effects of child labor.

ACTIVITY I

You must complete (A) and then you may choose any five of the following activities.

A. Read pages 60 - 65 in the General Related Curriculum Guide, Volume 1, or pages 417 - 420 in the World of Work, 1st Edition, or pages 302 - 307 in the World of Work, 2nd Edition. (Also, encyclopedias or reference books may be needed).

B. In the early 19th Century, children were poorly educated. List some of the reasons for this.

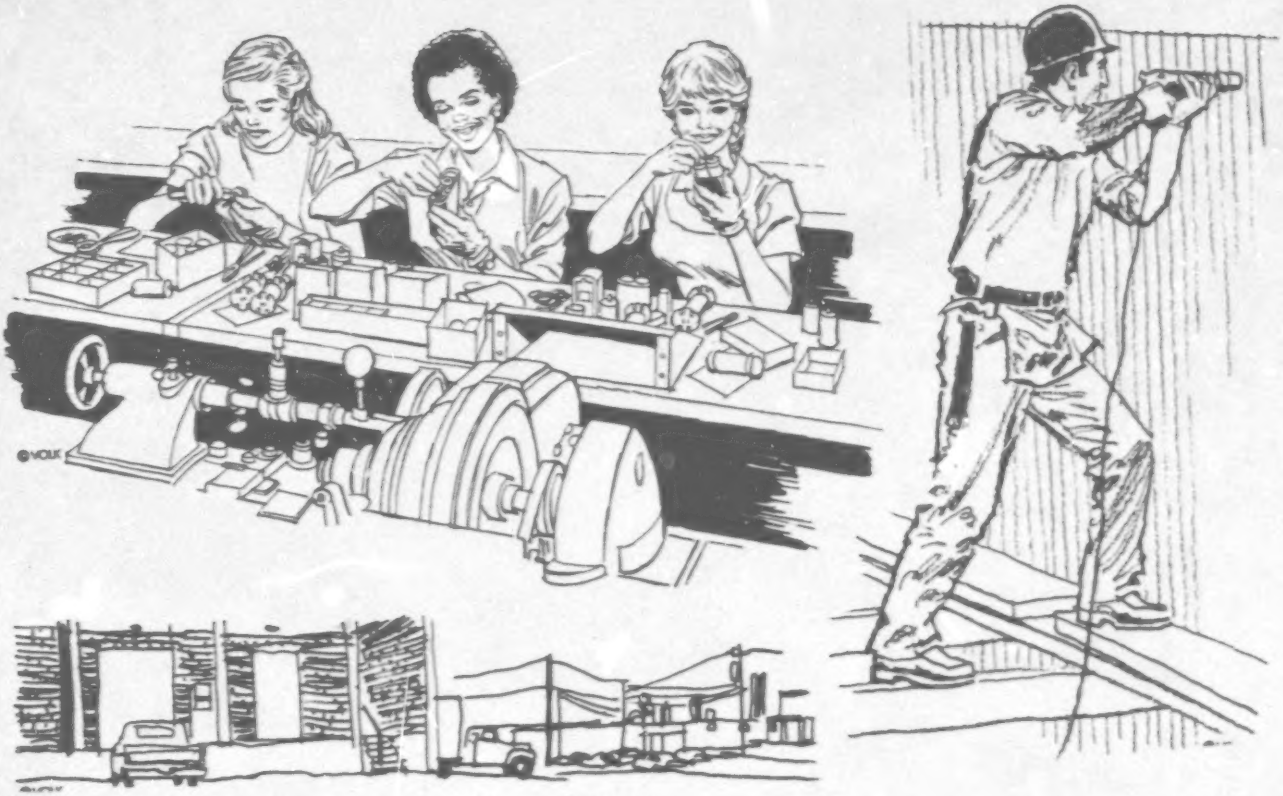
C. There are laws in effect today that states certain provisions in which a child can work. If an employer violates any portion of the child labor provisions, what can the federal government do to this individual?

D. What does the Federal Wage Law provide?

E. An apprentice is a worker of legal age employed to learn a skilled trade in conformity with the standards set forth by the Bureau of Apprenticeship and Training, United States Department of Labor. List some of these standards.

F. The sub-minimum wage certificate discussed previously is applicable to the apprenticeship program, also. A joint apprenticeship committee established to direct the training of apprentices must also keep records. What are some of these records?

G. The Federal Minimum Wage changes occasionally. At the present time, what is the minimum wage that can be paid to an employee?



ACTIVITY II

Choose two of the following activities.

A. There are many special child labor regulations. Find out all the information you can regarding this situation. Report to your class on your findings. You may obtain this information from the encyclopedias in your library or home.

B. Discuss how an increase in population will create a demand for more service workers of all types. Discuss and report on changes in population in your community.

C. You are to choose a job from the SRA Job Experience Kit on something that would be of interest to you. Below is a list of jobs from the SRA Job Experience Kit. Choose a job that you think you might be interested in learning more about. Look at the job as a game. Do the best you can for your own satisfaction. This is not a test.

Accountant Kit
Automobile Mechanics Kit
Beautician Kit
Designer Kit
Electronic Technician Kit
Elementary School Teacher Kit
Lawyer Kit
Library Kit
Medical Technologist Kit
Motel Manager Kit
Police Officer Kit
Sales Person Kit
Secretary Kit
Truck Driver Kit
Veterinarian Kit
X-Ray Technician Kit
Appliance Serviceman Kit
Carpenter Kit
Draftsman Kit
Plumber Kit

OTHER ACTIVITIES USING OUTSIDE RESOURCES FOR CLASS PARTICIPATION

There are laws regarding the legal regulations affecting employment of student-learners. Ask an attorney or a Juvenile court judge to come and speak to the class on this subject. Write a short report on his speech.

Visit a business or industry in your community which is cooperating with the State Apprenticeship Division. Ask the employer or the apprentice to come and talk with your class on this subject. Write a short summary on the speakers report.

What do you think are the pros and cons of owning and operating a business? Talk with an employer and get his opinion. Give a short report to the class.

SUGGESTED RESOURCE PERSONNEL

Attorney

Juvenile Judge

EVALUATION

Ask your instructor for the "Agencies and Child Labor" quiz, to see how much knowledge you have obtained from this lap.

UNIT IV

AGENCIES AFFECTING EMPLOYMENT

True-False

_____ 1. In the early part of the 19th Century, child labor was very expensive.

_____ 2. Children were forced to work exceedingly long hours in unsafe working conditions for very little pay.

_____ 3. Children in the 19th Century received a very good education.

_____ 4. The federal age limit requirements vary according to the size of the individual.

_____ 5. A minimum age of 16 is required before a worker can engage in jobs listed as hazardous for minors.

_____ 6. Certain occupations and businesses are required by the federal wage law to pay employees a basic minimum wage.

_____ 7. School hours combined with actual work hours should not exceed 30 hours during a five-day week.

Fill In The Blank

8. Child labor laws sprang into existence because of a deep rooted American principle that free people needed _____.

9. An _____ is a worker of legal age employed to learn a skilled trade in conformity with standards set forth by the Bureau of Apprenticeship and Training, United States Department of Labor.

10. The _____ sets minimum ages for the employment of minors in commerce.

UNIT IV

AGENCIES AFFECTING EMPLOYMENT

True-False

1. False
2. True
3. False
4. false
5. False
6. True
7. False

Fill In The Blank

8. education
9. apprentice
10. Fair Labor Standards Act

UNIT V

Labor Unions

UNIT V: Labor Unions

PREREQUISITE: None

TERMINAL OBJECTIVE:

Upon completion of this unit, the student will have a better understanding of labor unions and their importance to you as an employee. Evidence of this will be shown by a score of 80 percent on the post-test.

AIMS AND OBJECTIVES:

1. To learn how labor unions came into existence.
2. To recognize what the American Federation of Labor (AFL) stands for and its purpose.
3. To learn some of the tactics used by unions to achieve their demands.
4. To become aware of the three types of shops as related to union rules.

INTRODUCTION:

Organizations whose aims are to improve working conditions and better pay are the labor unions. Historically they stem from the guild system of Europe during the middle ages. The growth of labor unions is the greatest during times of prosperity.

Labor unions have many tactics they use to achieve what they are after, such as general strikes, boycotts, picketlines, and wildcat strikes. It is the job of management to employ ways to counteract the strikes and boycotts of the union members.

The labor unions, over a period of years, have been instrumental in achieving higher wages, shorter hours, improved working conditions, support for public education and vocational training, the outlawing of child labor, and improved safety conditions.

ACTIVITY I

You must complete (A) and then you may choose any <u>six</u> of the following activities.
of the

A. Read pages 65 - 67 in the <u>General Related Curriculum Guide</u>, Volume 1, or pages 83 - 85 in the <u>World of Work</u>, 1st Edition, or pages 59 - 60 in the <u>World of Work</u>, 2nd Edition. (Encyclopedias may be used.)

B. Labor unions represent a special interest group of vast importance, socially, economically, and politically. When did they first appear in America?

C. When was the American Federation of Labor organized and why?

D. There are many tactics used by unions to achieve their demands. List <u>four</u> of these. Also, describe the <u>four</u> strike methods used.

E. We have talked about some of the tactics that the unions use, describe some of the tactics used by management to counteract the strikes and boycotts of the union members.

F. What is the CIO and why was it organized?

G. The Labor Movement was further strengthened when Congress passed a certain act in 1947. What was the act and describe it in detail?

H. As an employee, how would the open shop, the union shop, and the closed shop affect you in each particular situation?

ACTIVITY II

Choose <u>three</u> of the following activities.

A. This activity will require a great deal of research and plans, but the results should be very enlightening. Plan for a debate on the following topic: "Why I Think I Should (or Should Not) Join Labor Unions After I Graduate From High School." There are several books in the school library that you can check out or encyclopedias available for your use. List the sources that you used in making your decision.

B. Using magazines and newspapers, make a scrapbook of articles dealing with general strikes, boycotts, picketlines and wildcat strikes. This may include any information you can find on this subject. Also, you may use pictures and illustrations.

C. By way of the press or other news media, find out who is the present leader of the AfL-CIO and write a short bibliography on him, including what he has done for this organization.

D. Going back to the beginning history of the American Labor Movement, trace the development through to the present time.

OTHER ACTIVITIES USING OUTSIDE RESOURCES FOR CLASS PARTICIPATION

Invite a Business Agent from the Local Union office to come to your class to speak about the history of the labor union.

SUGGESTED RESOURCE PERSONNEL

Business Agent

College Teacher of Labor Relations

Labor Arbitrator

Labor Relations Director

Lawyer

Personnel Director

School Administrator

EVALUATION

To see how much knowledge you have obtained from this lap, ask your instructor for the "Labor Unions" quiz.

UNIT V

LABOR UNIONS

Fill in the blanks

1. In 1886, the _____ _____ of _____ was organized and combined the small craft and trade unions together into the first federation of unions.

2. Some of the tactics used by unions to achieve their demands are _____, _____, _____, and _____.

3. A _____ is the refusal of union members to purchase goods produced by union plants.

4. A _____ occurs when strike workers parade in front of a plant to prevent non-union employees from working.

5. The _____, drawn up by management, was a list of undesirable workers usually circulated from plant to plant.

6. Three types of shops are defined by management and labor as the _____, _____, and the _____.

True-False

_____ 7. The yellow dog contract was an agreement signed by a prospective worker stating that he would not join a union while employed at that plant.

_____ 8. The Congress of Industrial Organizations (CIO) organized in 1935 in an effort to consolidate people employed in mass production industries.

_____ 9. The Taft-Hartley Act guaranteed the right of workers to organize and bargain collectively.

_____ 10. The CIO and AFL, at first, were rival federations.

UNIT V

LABOR UNIONS

Fill In The Blanks

1. American Federation of Labor
2. strikes, boycotts, picketlines, wildcat strikes
3. boycott
4. sitdown strike
5. blacklist
6. open shop, union shop, closed shop

True-False

7. True
8. True
9. True
10. True

UNIT VI

Employment Security Commission

UNIT VI: Employment Security Commission

PREREQUISITE: None

TERMINAL OBJECTIVE:

Upon completion of this unit, you should become more aware of the importance of the Employment Security Commission and the Industrial Commission. Evidence of this will be shown by a score of 80 percent on the post-test.

AIMS AND OBJECTIVES:

1. To become more acquainted with the functions of the Employment Security Commission.
2. To obtain an awareness of the unemployment insurance program.
3. To acquaint the student with the functions of the Industrial Commission.

INTRODUCTION:

The Employment Security Commission is a job service employment program. It provides placement services by keeping a list of available jobs in local industry to aid those looking for work. They also provide a testing service to see what your abilities and interests are.

Another act that is most important for employers is the Workmen's Compensation Act. This act is an insurance plan paid for by employers to protect their employees against accidental injury on the job.

ACTIVITY I

You must complete (A) and then you may choose any three of the following activities.

A. Read pages 68 - 70 in the General Related Curriculum Guide, Volume 1, or pages 299 - 310 in the World of Work, 1st Edition, or pages 237 - 246 in the World of Work, 2nd Edition.

B. In your opinion, what do you think are the two basic services offered by the Employment Security Commission?

C. What are some of the qualifications that you must have in order to be able to receive unemployment insurance?

D. Write a short paragraph including all the information that you have learned about Workmen's Compensation.

E. What are the two types of coverage offered by Workmen's Compensation?

ACTIVITY II

Choose two of the following activities.

A. Using the library resources (encyclopedias, reference books, etc.), find all the information that you can covering the subject, "Workmen's Compensation," and write a report on your findings.

B. Stimulate your interest in job tasks by writing a theme on the differences or similarities in diverse occupations, for example, plumbers vs. doctors.

C. Think for a few minutes about your future as a career person. Select two or three occupations which might be of interest to you. Prepare a scrapbook by making a description of the job, including the title of the job, kind of work done, tools used, skills or knowledge needed, and different levels available.

OTHER ACTIVITIES USING OUTSIDE RESOURCES FOR CLASS PARTICIPATION

Invite a counselor from the Employment Security Commission to speak to your class on the services offered by that agency.

SUGGESTED RESOURCE PERSONNEL

Employment Counselor

Labor Relations Specialist

Personnel Clerk

Training Officer

EVALUATION

To measure the knowledge that you have obtained from this unit, ask your instructor for the "Employment Security Commission" quiz.

UNIT VI

EMPLOYMENT SECURITY COMMISSION

True-False

_____ 1. If an employee is unwilling to work, he is eligible for unemployment insurance.

_____ 2. All occupations are covered by unemployment insurance.

_____ 3. The worker cannot receive unemployment insurance if he quits his job voluntarily without cause.

_____ 4. Student-learners are automatically qualified to receive unemployment insurance because of non-availability for full-time employment.

_____ 5. The amount of payment received from unemployment insurance depends on what the worker earned during the base period.

_____ 6. Workmen's Compensation is an insurance plan paid for by employers to protect employees against accidental injury on the job and certain occupational diseases.

_____ 7. Agricultural, domestic, and federal workers are covered by the Workmen's Compensation Act.

_____ 8. To collect compensation under the provisions of the Workmen's Compensation Act the injured employee must give a written notice to the employer within 30 days from the date of the injury.

_____ 9. If death results because of injury on the job, benefits are payable only if a claim is filed with the Industrial Commission within one year.

Fill in the Blank

10. The _____ administers the Workmen's Compensation Act.

11. The _____ is a job service employment program which provides placement services by keeping a list of available jobs in local industry.

UNIT VI

EMPLOYMENT SECURITY COMMISSION

True-False

1. False
2. False
3. True
4. False
5. True
6. True
7. False
8. True
9. True

Fill In The Blank

10. Industrial Commission
11. Employment Security Commission

UNIT VII

Character Development And Personality

UNIT VII: Character Development and Personality

PREREQUISITE: None

TERMINAL OBJECTIVE:

After completing this unit, you should become more aware of the role that your personality can play in society in which you live. Evidence of this will be shown by a score of 80 percent on the post-test.

AIMS AND OBJECTIVES:

1. To acquaint the student with desirable character traits and personality factors.
2. To show the student the importance of a well-rounded person.
3. To develop within the student correct social habits, social behavior, and etiquette.

INTRODUCTION:

To get along most agreeably with the many different individuals whom we contact daily is recognized as the supreme problem facing mankind today. The answer to this problem is dependent upon how well we develop our character.

Character is something that you establish for yourself. You can change your character from weak to strong if you start early enough, but is must come from with. Improving your character is not only your biggest job in life, but it is a job which you should begin immediately.

ACTIVITY I

You must complete (A), and then you may choose any <u>five</u> of the following activities.

A. Read pages 73 - 85 in the <u>General Related Curriculum Guide</u>, Volume 1, or pages 122 - 133 in the <u>World of Work</u>, 1st Edition, or pages 82 - 90 in the <u>World of Work</u>, 2nd Edition.

B. List <u>ten</u> reasons why a person might have a bad character.

C. Suppose you think you have a bad character. Is it possible to change?

D. How do you think you might react to the following situation? You have just walked into a room, and you overhear two of your classmates talking about your best friend in a derogatory manner.

E. List several causes of job losses.

F. How can reading autobiographies of leaders help your ambitions?

G. What are several good personality traits to develop?

ACTIVITY II

Select four of the following activities.

A. Do you really know how you feel about yourself? Answer the questions on the "Self-Rating Form." (Ask your instructor for the form.)

B. This is an excellent opportunity for you to become "Character-Trait Conscious." Without pretending, keep a record of each opportunity you have to build good character traits this week. (Example: In what way can you show your loyalty to your employer.)

C. What do you think is the most important characteristic a person can have a why?

D. You are the owner of a small machine shop and you have a vacancy. What type of person would you prefer t to fill this position and why?

E. You have just started working in a local business and your best friend works there, also. On this particular morning when you came into work, you saw your best friend stealing $90 from the cash register and putting it into his pocket. What are you going to do?

F. After reading the chapter, you will find that there are no two personalities exactly alike. One person may be referred to as a pessimist, while the other may be referred to as an optimist. Explain the meaning of these two words. Which term do you think pertains to you?

OTHER ACTIVITIES USING OUTSIDE RESOURCES FOR CLASS PARTICIPATION

Choose one of the resource personnel in the category below to come and speak to your class on the "Importance of a Good Personality" on the job.

SUGGESTED RESOURCE PERSONNEL

Boy Scout Professional Worker
Camp Counselor
Desk Clerk
Girl Scout Professional Worker
Peace Corps Volunteer
Industrial Personnel Director
Recreation Leader
Social Director
Stewardess
Waiter
Waitress

EVALUATION

To measure the knowledge that you have obtained from this unit, ask your instructor for the "Character Development and Personality" quiz.

"SELF RATING FORM"

DIRECTIONS: Rate yourself on each of the following items. Place a check mark (✓) in the appropriate column for each item.

	Terrible	Poor	Should be better	So-So	Fair	Good	Great
1. Appearance							
2. Personality							
3. Speaking ability							
4. Leadership ability							
5. Popularity							
6. Scholarship							
7. On the job performance (if employed)							
8. Ability to get along with others							
9. Attitude towards school in general							
10. Attitude towards job							
11. Attitude towards persons of the same age							
12. Attitude towards self							
13. Attitudes toward school subjects:							
English							
Math							
History							
Government							
Science							

	Terrible	Poor	Should be better	So-So	Fair	Good	Great
14. Attitude towards study (homework)							
15. Attitude towards school vacations							
16. Attitude towards teachers							
17. Attitude towards parents							
18. Attitude towards school administrators							
19. Attitude towards local gov't officials							
20. Travel experiences							
21. Home experiences							
22. Work experiences							
23. Social Experiences							
24. Recreational experiences							
25. Ability to read							
26. Ability to write and compose							
27. Mathematical ability							
28. Reasoning ability							
29. Decision making ability							
30. Consideration for others							
31. Honesty							
32. Cooperation							
33. Loyalty							
34. Creativity							

UNIT VII

CHARACTER DEVELOPMENT AND PERSONALITY

True-False

_____ 1. You can change your character from weak to strong if you start early in life, but this change must come from within.

_____ 2. The most successful men have discovered their weak points in personality and have turned them into their best points.

_____ 3. Your appearance and voice has a lot to do with your personality in other peoples eyes.

_____ 4. To keep your reputation above reproach is a noble practice of life, which is certain to bring you rich rewards.

_____ 5. Courage is usually thought of in terms of physical bravery, however, moral and mental courage are equally important in our everyday life.

_____ 6. We cheat when we fail to do our best, both at school and at work.

_____ 7. Dishonesties can become habit forming.

_____ 8. One cannot possess good character unless he is reliable.

_____ 9. Employers hire, keep, and promote the person who is lazy.

_____10. One trait of good character is the ability to remain cool under tension and pressures.

_____11. Forethought and understanding are the keys in developing self-control.

_____12. Openmindedness is hearing all sides of any question before forming an opinion.

_____13. No person is independent of others and the person who tries to be will find simple survival to be very difficult.

_____14. The measure of the strength of your business or industry is the ability of the workers to say "I".

_____15. If you are to succeed on your job, you must work!

_____16. Strength overcomes weaknesses, and once we analyze our weakest personality and character traits, we gain strength in our entire being.

17. _____ is the quality of the forces or drives within a person.

18. _____ is what one sees of you, and character is the real you.

19. _____ is what one thinks of you.

20. There are several character traits that are desirable. List four of these.

1.

2.

3.

4.

UNIT VII

CHARACTER DEVELOPMENT AND PERSONALITY

True-False

1. True
2. True
3. True
4. True
5. True
6. True
7. True
8. True
9. False
10. True
11. True
12. True
13. True
14. False
15. True
16. True

Fill In The Blank

17. Character
18. Personality
19. Reputation
20. Honesty, Courage, reliability, industriousness, accuracy, self control, open-mindedness, loyalty, cooperativeness, positive attitude

UNIT VIII

Human Relations

UNIT VIII: Human Relations

PREREQUISITE: None

TERMINAL OBJECTIVE:

Upon the completion of this unit, you will have a greater awareness of the importance of human relations. Evidence of this will be shown by a score of 80 percent on the post-test.

AIMS AND OBJECTIVES:

1. To become aware of the relationship between man and the society in which you live.
2. To understand the importance of good character.
3. To acquaint the student with some of the needs which are universal.

INTRODUCTION:

The success of one does not only depend upon what he knows, but how he conducts himself. The ability to get along with mankind is one of the keys to success. Good human relationships are important if you are to climb the ladder of success. The ability to get along well with other people is more important today than ever in the history of business and industry.

No two people are alike, but everyone has basically the same needs and desires. When you have an understanding of these universal needs, you will be in a better position to know more about people and how to improve your relationship.

ACTIVITY I

You must complete (A), and then you may choose any three of the following activities.

A. Read pages 85 - 101 in the General Related Curriculum Guide, Volume 1, or pages 138 - 149 in the World of Work, 1st Edition, or pages 104 - 111 in the World of Work, 2nd Edition.

B. Everyone has some of the same needs and desires. List and explain in your own words several of these desires or needs.

C. There are many positive and negative traits in which you may possess. Choose a few traits that you think would help you to have a better relationship with the people that you come into contact with, and let some of these become your goal. (Ask your instructor for the list of traits.)

D. Why would it be important for you to want to influence another person in your work situation?

E. Most people have feelings of insecurity. Do you agree? Why or why not?

ACTIVITY II

Choose two of the following activities.

A. Choose seven people (a fellow student, co-worker, teacher, parent, friend, etc.) and, ask them to describe the type of person they like best. Compare your findings with your classmates.

B. Have you ever thought about "how you feel" about certain issues? There are 50 questions confronting you with different lines of thought. Answer each question as accurately as you can. (Ask your instructor for these forms.)

C. Listed below are real-life situations. Select two of the following situations that you would like to comment on:

1. Suppose you are a guest and are served some weird-looking food you never saw before. What do you do besides worry?

2. How can you break that dead silence when you have just been introduced and neither of you can think of anything to say?

3. You are out on a date or at a dinner party and you suddenly realize that you are eating with the wrong fork. What then?

4. How do you introduce a person to a group?

5. Are introductions always necessary?

D. From references, interviews, and personal experiences, list differences in cultural values toward the use

of money, time, energy, and talents. Describe expectations for individuals to be self-supporting to contribute to society, to develop talents and skills, etc.

OTHER ACTIVITIES USING OUTSIDE RESOURCES FOR CLASS PARTICIPATION

Invite a speaker to come to your class and talk with the class on the topic "Your Personality and Your Job."

SUGGESTED RESOURCE PERSONNEL

City Manager

Funeral Director

Guidance Counselor

Minister

Public Relations Man

Public Relations Specialist

Social Worker

Personnel Manager

EVALUATION

To measure the knowledge that you have obtained from this unit, ask your instructor for the "Human Relations" quiz.

POSITIVE TRAITS

(1) Ability to make friends

(2) Ambition and imagination

(3) Cooperation

(4) Initiative and self-discipline

(5) Interest and enthusiasm

(6) Learning to judge values

(7) Love of work

(8) Loyalty and fidelity

(9) Perseverance and patience

(10) Punctuality and foresight

(11) Resourcefulness and tact

(12) Thoroughness and efficiency

NEGATIVE TRAITS

(1) Carelessness

(2) Egotism

(3) Indecision

(4) Indifference

(5) Intolerance

(6) Jealousy

(7) Laziness

(8) Self-pity

(9) Stubbornness

(10) Vanity

DIRECTIONS: Read each of the following questions and think about it carefully. Then write "yes" or "no" in the space provided by each question. Answer as accurately as you can.

_____ 1. Do you feel uneasy when you are around people you don't know?

_____ 2. If you dislike certain people, do you know why?

_____ 3. Do people usually react favorably towards you?

_____ 4. Have you decided what you want to do after you graduate from high school?

_____ 5. Do you know what you like and what you don't like?

_____ 6. Do you find it difficult to admit that the other person is right?

_____ 7. Do you have difficulty deciding what to wear to school or work each day?

_____ 8. Do you like for people to notice you?

_____ 9. Do you feel uncomfortable when others compliment you?

_____10. Are you aware of what you say and do in the presence of others?

_____11. Do you usually speak to people before they speak to you?

_____12. When you observe a group of people whispering, do you think that they are talking about you?

_____13. Are you able to laugh at your mistakes?

_____14. When you receive a poor grade on an exam, do you usually try to determine why?

_____15. Are you usually suspicious of new people you meet?

_____16. Do you find it difficult to concentrate when you read?

_____17. Do you assume work responsibilities at home?

_____18. Are you bored when you are by yourself?

_____19. When things go wrong, do you look for ways to blame others?

_____20. Are you afraid to go to a restaurant by yourself?

_____21. Do you become depressed when you think about yourself?

_____22. Do you complain to others about your troubles?

_____23. Do you find it difficult to listen when others are speaking?

_____24. Do you become jealous when your friends compliment each other and not you?

_____25. Do you think that people misunderstand you?

_____26. Is it difficult for you to talk with others on topics that interest them and not you?

_____27. Do you do things that you normally wouldn't do in order to impress others?

_____28. Are you easily influenced by the attitudes and behaviors of others?

_____29. Do you put off going to the dentist because you fear pain?

_____30. Do you lose your temper often?

_____31. Do you think your parents trust you?

_____32. Do you usually go out of your way to help others?

_____33. When you feel depressed, do you understand why?

_____34. Do you enjoy teasing others?

_____35. Can you accept criticism without becoming angry or defensive?

_____36. Does it bother you to receive poor grades in school?

_____37. Do you regularly participate in active sports (tennis, bowling, swimming, golf, etc.)?

_____38. Are you frequently feel tired and worn out?

_____39. Is your body weight appropriate in relation to your height and bone structure?

_____40. Do you frequently feel tired and worn out?

_____41. Do you often suffer from colds and/or headaches?

_____42. Do you become nervous and tense when you are tested in school?

_____43. Do you usually achieve your personal goals?

_____44. Do you have difficulty making friends?

_____45. Do you have a friend that you can talk with and confide in?

_____46. Do you feel that you are above average in ability?

_____47. Do you often take your frustrations out on others?

_____48. At school or work, do you feel that you really aren't accepted by the others?

_____49. Do you have at least one hobby that you enjoy?

_____50. Are you able to adapt to most situations?

PERSONALITY RATING

Trait	Excellent	Good	Fair	Poor	Very Poor
Attitude					
Courtesy					
Dependability					
Desire to Succeed					
Enthusiasm					
Foresight					
Friendliness					
Health					
Honesty					
Initiative					
Loyalty					
Morality					
Neatness					
Open-Mindedness					
Personal Appearance					
Punctuality					
Self-control					
Sense of Humor					
Tact					
Use of Voice					

UNIT VIII

HUMAN RELATIONS

True-False

_____ 1. Good human relations is necessary if one is to climb the ladder of success in life.

_____ 2. The ability to get along well with other people is more important today than ever in the history of business and industry.

_____ 3. The will of life requires that each person make his own contribution to keep civilization progressing.

_____ 4. The more love one gives, the less he will receive.

_____ 5. Any study of human behavior reveals that one common desire within man is association with other people.

_____ 6. If we can be accepted by the social group of our choice, our need for acceptance will be satisfied and what other people think may be of little importance.

_____ 7. The ability or skill to get along with people is what we call human relations.

_____ 8. You should be in control of your emotions, for this is a good sign of maturity.

_____ 9. Success is simply the ability to be self-sustaining to make others happy, to win and to hold the respect of society.

Discussion

10. There are five basic desires or needs that we all possess. List three of these.

11. List our three basic physical needs.

12. Discuss two common sense rules for good health.

13. All rules of etiquette and social behavior could be divided into two groups. List these.

UNIT VIII

HUMAN RELATIONS

True-False

1. True
2. True
3. True
4. False
5. True
6. True
7. True
8. True
9. True

Discussion

10. The desire to: live, love, excel or ego, to be with people, orientation needs
11. Food, clothing, shelter
12. Develop good health habits
    Innoculations and physical examinations
    Practice safety rules
13. Superficial and Fundamental

UNIT IX

How To Study

UNIT IX: How To Study

PREREQUISITE: None

TERMINAL OBJECTIVE:

Upon the completion of this unit, the student will be able to demonstrate good study habits. Evidence of this will be shown by a score of 80 percent on the post-test.

AIMS AND OBJECTIVES:

1. To work towards maximum student motivation for study habits.
2. To develop with the student the correct habits and techniques of studying.

INTRODUCTION:

The desire for good grades should make you, as a student, wish to study more. The importance of knowing how to study will affect you for the rest of your life. From the time that you are in the first grade of school until you finish your education, your grades are recorded and are available to would-be employers.

ACTIVITY I

You must complete (A), and then you may choose any <u>four</u> of the following activities.

A. Read pages 106 - 132 in the <u>General Related Curriculum Guide</u>, Volume I, or read the attached sheet, "How To Study."

B. In order to understand this chapter, you need a thorough knowledge of the vocabulary listed below. Define the following terms. (You may use a dictionary.)

1. Motivation
2. Aim
3. Objective
4. Prestige
5. Potential
6. Positive
7. Attitude
8. Distraction
9. Frequency
10. Recency

C. One of the keys to proper learning is the correct conditions of studying. List three of these.

D. In order to do well on an exam, you need to know how to study for it. List several ways in which you can study.

E. Every young person between the ages of 6 - 16 must attend school. Even though you are in school, this does not mean you are going to study, but in order to be successful in school, you will have to study. What are some of your reasons for studying?

ACTIVITY II

Choose two of the following activities.

A. Develop a study plan that will best meet your needs. Find your wasted time by dividing your day into 1/2 - hour segments, from the time you get up until you go to bed at night and write down what you do each hour.

B. Try three different types of note-taking for a week, each, in your English class. Report to the class each method you used and which worked best for you and why?

C. Try a new experiment. Attempt earnestly to follow the rules for effective study habits as given in this unit for two weeks. Report any improvement in your school grades to your coordinator.

OTHER ACTIVITIES USING OUTSIDE RESOURCES FOR CLASS PARTICIPATION

This unit is very important because your success, as a student, depends upon your study habits. Ask someone in your school to give a short speech on "The Importance of Studying."

SUGGESTED RESOURCE PERSONNEL

Guidance Counselor

Secondary Teacher

Librarian

EVALUATION

Ask your instructor for the "How To Study" quiz, and see how much knowledge you have obtained from this lap.

How To Study

Many people can tell you how to study, but until you are properly motivated to take the time to study, you never will. In this section, the object is to enlighten you on the subject of studying.

Just reading a book is not considered studying. You must decide to take the time each day and practice the necessary studying skills that make up what are called "good studying habits."

Suppose you are given a book on horse racing, and you read the book, completely from cover to cover. After completing the book, you feel very confident of your racing abilities. So you decide to enter your horse in a local race. What is going to happen? Chances are, you will probably not feel as confident as you did when you were reading about racing. In other words, you need plenty of practice in order to be able to study effectively.

When you begin a new school year, you need to start out trying to develop good studying habits, immediately. Have you ever noticed, school seems very simple at the beginning of the year, and at the end of the year, school seems to be a burden. The reason is because you have let everything go until the end. If you will only keep up your work, school will not be such a hassle. The answer to good studying habits is to make a time chart. Look at the attached time chart, and include all of your activities after you have completed your reading assignment. When you have completed your time chart, stick to it and make it a habit.

STUDENT ACTIVITY TIME CHART

Day Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunda
7:00 a.m.							
8:00 a.m.							
[illegible]00 a.m.							
10:00 a.m.							
11:00 a.m.							
12: Noon							
1:00 p.m.							
2:00 p.m.							
3:00 p.m.							
4:00 p.m.							
5:00 p.m.							
6:00 p.m.							
7:00 p.m.							
8:00 p.m.							
9:00 p.m.							
10:00 p.m.							
11:00 p.m.							
12: M							

UNIT IX

HOW TO STUDY

1. What is motivation and why is it the key to your success?

2. List five principles of learning?

3. List five helpful conditions of study.

4. Discuss several methods for improving your memory.

5. List five things that you should do to make your writing more effective.

6. List and discuss two methods of note taking.

7. List five steps one should take when studying a textbook.

8. How should you study for an exam?

9. What is the principle of frequency?

10. What is the principle of recency?

UNIT IX

HOW TO STUDY

This test is short answer questions. No answers will be set down for this exam.

UNIT X

Communication Skills

UNIT X: Communication Skills

PREREQUISITE: None

TERMINAL OBJECTIVE:

After completing this unit, you will have a greater awareness of the importance of communications. Evidence of this will be shown by a score of 80 percent on the post-test.

AIMS AND OBJECTIVES:

1. To acquaint the student with the basic skills of oral and written communications.
2. To develop leadership and create interest through member participation in speaking and writing activities.
3. To increase student confidence and competence in self-expression.

INTRODUCTION:

Communications is essential, because it is a means of conveying a message from one person to another. Since time began, man has been using all the ingenuity at his command to improve communications skills. Conversation is the most direct of all ways that human beings can communicate with each other. Communication skills are learned over a long period of time. A person's attitude while speaking and his voice quality have a great influence upon his listener. Since the whole atmosphere

of our lives can be affected by the impression we make on others, we need to think seriously about how we can improve our conversation.

ACTIVITY I

You must complete (A), and then you may choose any four of the following activities.

A. Read pages 2 - 11 in the General Related Curriculum Guide, Volume 2, or pages 132 - 134, 297 in the World of Work, 1st Edition, or pages 93 - 94 in the World of Work, 2nd Edition.

B. Communication is a means of conveying a message from one person to another. What are some of the requirements of a good conversation?

C. Characteristics of a person can be revealed by his voice. What are some qualities that we should avoid when speaking? Name some things that we should keep in mind about good speaking habits.

D. Differentiate between submissive and creative listening.

E. In a formal club meeting, parliamentary procedure should be followed. Name some points to remember about parliamentary procedure.

F. Proper telephone etiquette should be followed whether you are making a personal or a business call. List some rules of proper etiquette.

ACTIVITY II

Select any three of the following activities.

A. Prepare a 2-minute talk on some human interest topic related to your job. Tape your talk, play it back to yourself, and then make a list of any weaknesses in oral communication you might discover.

B. Listen carefully to your classmates and friends, and make a list of any "particular sayings" you might discover. Share these with your classmates and discuss methods for overcoming the use of particular sayings. In this instance, "particular sayings" will include any slang, colloquialism, or gestures which are habitually used.

C. Suppose you have just been voted in as the parliamentarian for a local club. What would your responsibilities be as the parliamentarian?

D. In today's society, the role expectations of men and women are changing. Explain this statement.

OTHER ACTIVITIES USING OUTSIDE RESOURCES FOR CLASS PARTICIPATION

Contact your local Western Union office and make arrangements for your students to visit the office to learn about telegrams.

Invite one of the resource people below to come in and speak with the class about how communication skills plays an important role in the jobs.

SUGGESTED RESOURCE PERSONNEL

Cashier

General Office Clerk

Key Punch Operator

PBX Operator

Receptionist

Teletype Operator

Typist

EVALUATION

After you have completed this unit, ask your instructor for the "Communication Skill's" quiz, and see how much knowledge you have obtained.

UNIT X

COMMUNICATION SKILLS

True-False

_____ 1. Communication is a means of conveying a message from one person to another.

_____ 2. In the early stages of time, hands were probably used as much as the voice to convey a message.

_____ 3. The invention of writing first began when man drew crude pictures to express his ideas.

_____ 4. Communication skills are learned over a long period of time.

_____ 5. It is a good idea to bluff your way through a subject about which you have no knowledge.

_____ 6. Creative listening is concentration on an accurate grasp of what others say in order to repeat it correctly when necessary.

Discussion

7. There are six ways to learn to listen submissively. List three of these:

A.
B.
C.

8. We all engage in informal public speaking. For example, when we converse with a group of people and etc. List two other occasions when we use informal public speaking:

A.
B.

9. Name two occasions when we would use formal public speaking:

A.
B.

10. Proper telephone etiquette should be followed whether you are making a personal or a business call. List four rules to keep in mind when using the telephone:

A.
B.
C.
D.

UNIT X

COMMUNICATION SKILLS

True-False

1. True

2. True

3. True

4. True

5. False

6. False

Discussion

7. Find the central idea
   Make a mental outline
   Improve reception through practice
   Be a sponge
   Weigh evidence you assimilated
   Put into words and share with somebody

8. Speaking in a classroom
   Using the telephone
   Making introductions
   Making an oral application
   Job interview

9. Making an announcement
   Making an introduction
   Giving a welcome speech or response
   Making a speech of presentation or acceptance

10. Answer calls promptly
    Identify yourself at once
    Speak slowly, clearly, and distinctly, using a conversational tone
    Cultivate a cheerful tone of voice
    Be as courteous as you would be face to face
    Offer to take a message
    Record calls for persons not present
    Caller hang up first

UNIT XI

Effects of Radio, TV, and Motion Pictures as a Means of Oral Communication

UNIT XI: Effects of Radio, Television, and Motion Pictures As A Means of Oral Communications

PREREQUISITE: None

TERMINAL OBJECTIVE:

Upon completion of this unit, you should become more aware of the various means of communications. Evidence of this will be shown by a score of 80 percent on the post-test.

AIMS AND OBJECTIVES:

1. To emphasize the importance of quality in the various means of communications.
2. To create an understanding of the place and function of the mass media of communications in our society.
3. To develop an awareness of words, word usage, and pronounciation.
4. To emphasize the importance of letters of application and the personal data sheet.

INTRODUCTION:

The effects of radio, television, and motion pictures have been wide spread and numerous. All of these inventions have become an integral part of our system of education. Mass media had carried our education to the far corners of the world and has given us increased knowledge of cultures and people of the world and up-to-date knowledge of world events.

ACTIVITY I

You must complete (A), and then you may choose any five of the following activities.

A. Read pages 12 - 19 in the General Related Curriculum Guide, Volume 2, or pages 17, 33 - 41 in the World of Work, 1st Edition, or pages 26 - 27 in the World of Work, 2nd Edition.

B. List the three mass medias of communication that have become an integral part of our system of education.

C. What are the two main types of letters and explain the difference?

D. There are six main parts of a business letter. List these.

E. When one is writing a business letter, what are some requirements to keep in mind?

F. There are two basic letter styles used today. Name and describe these.

G. Differentiate between the telegram, day letter, and night letter.

ACTIVITY II

Choose any three of the following activities.

A. Listed below are some misspelled words. After reviewing the words from page 22, spell these words correctly, using a dictionary.

absensd	devellop
agrement	extravagent
beleive	pamplet
bookeeper	proced
changable	refered
clasroom	tarif
compeled	similiar
corresponent	familar
dangerus	valable

B. Write a business letter, using any style of your choice, in terms of the requirements discussed in this chapter, and make a thorough evaluation of your letter.

C. Fillout the "What's Your Telephone Score" and compare your score with those of your classmates. (Ask your instructor for the forms.)

D. In order to apply for a job, you need to know how to write a proper letter of application and a data sheet. Review the application letter in your textbook and then, write an application letter and a data sheet in the proper form. (Ask your instructor for the data sheet form.)

E. The following are examples of cases:

Jane is a pleasant girl with a smiling face. She typed 55 words a minute on the typing test, has had one year of bookkeeping, and two years of shorthand. She arrived for the interview five minutes late. Her grades were mostly B's and C's.

Susie arrived for the interview five minutes early. She seemed to be at ease with the interviewer and answered each question with confidence. She scored 45 words per minute on the typing test and her grades in school were mostly C's. She took two years of bookkeeping and one year of shorthand.

Gail was a very nervous girl, so she decided she would take a friend along for the interview. They arrived on time. She was poised, neat, and well dressed. On the typing test she scored 60 words per minute and her grades in high school were mostly C's. She took one year of bookkeeping and two years of shorthand.

Since you now have some of the facts, which girl would you prefer to have as your secretary? What additional information would you like to have had, if any?

F. Choose a recent TV program which was of interest to you, and why?

OTHER ACTIVITIES USING OUTSIDE RESOURCES FOR CLASS PARTICIPATION

Take the students on a field trip to a local radio station. Ask the announcer to explain how a radio station operates.

To help the students become aware of the processes involved in making phone calls, take them on a field trip to the telephone office to see a telephone service with the students what they have learned and the different careers available in a telephone service.

SUGGESTED RESOURCE PERSONNEL

Actor - Actress

Auctioneer

Demonstrator

English Teacher

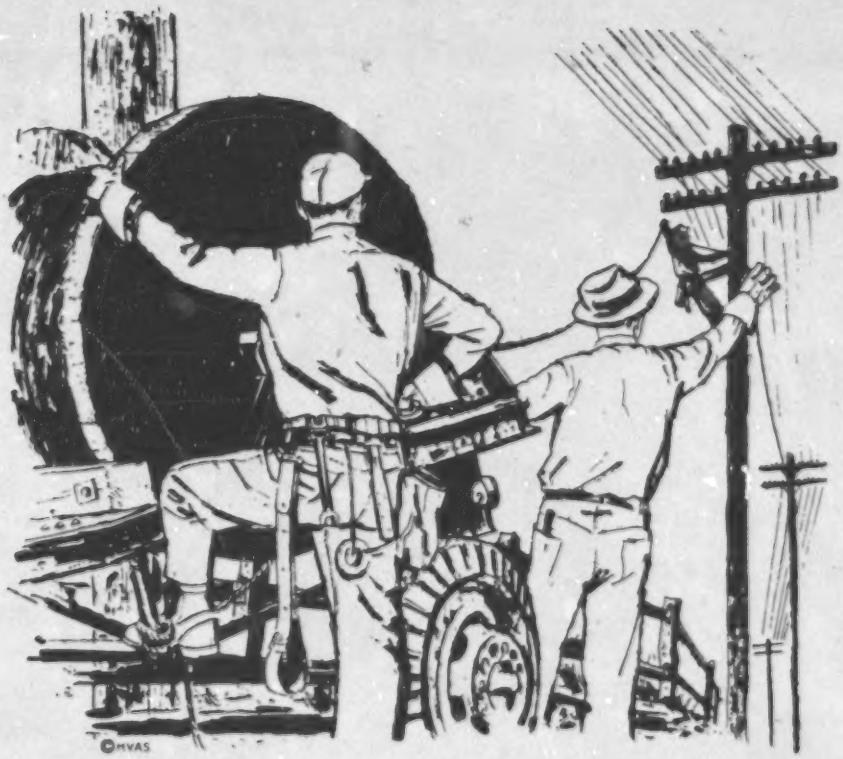
News Analyst

Public Relations Specialist

Secretary

EVALUATION

After you have completed this unit, ask your instructor for the quiz on "Effects of Radio, Television, and Motion Picture As A Means of Oral Communications."



7

WHAT'S YOUR TELEPHONE SCORE?

Do You:	Yes	Sometimes	No
1. Answer promptly			
2. Greet the customer pleasantly			
3. Identify yourself properly			
4. Explain waits			
5. Leave word where you're going			
6. Ask questions tactfully			
7. Take the message			
8. Know the number			
9. Ask if convenient to call			
10. Allow time to answer			
11. Speak in a natural tone			
12. Visualize the person			
13. Say "Thank You" and "you're welcome"			
14. Listen attentively			
15. Use the customer's name and your name			
16. Speak directly into transmitter			
17. Apologize for mistakes			
18. End the call properly			
19. Replace the receiver gently			
20. End conversation if you made call			

P E R S O N A L D A T A

GENERAL DETAILS -- PERSONAL

Name:
Age:
Birthplace:
Present address:

Height:
Weight:
Physical Condition:
Martial Status:

Permanent address:

EDUCATION

High School:
College:

Major field of study:

Courses allied to major field:

Books read on major field and allied subjects:

PRACTICAL TRAINING AND EXPERIENCE

SPECIAL INTERESTS (HOBBIES AND SPORTS)

AFFILIATIONS, LODGES, AND CLUBS

REFERENCES (by permission):

UNIT XI

EFFECTS OF RADIO, TELEVISION, AND MOTION PICTURES AS A MEANS OF COMMUNICATIONS

Multiple Choice: Circle the correct answer.

1. We owe our opportunity to view motion pictures to (a) Vladimir Aworykin, (b) Thomas Jefferson, (c) Thomas Edison.

2. In writing a business letter, a person must be (a) sloppy, (b) prompt, (c) wordy.

3. The data sheet is included along with a letter of (a) resignation, (b) application, (c) collection.

True-False

_____ 4. The two main types of letters are social and business.

_____ 5. Letters of formality can include acknowledgement, appreciation, condolence, congratulations, and formal invitations.

_____ 6. A letter of resignation should be written one day before the date of leaving.

_____ 7. Records and reports are kept for the purpose of informing others of facts, and it is important that they be accurate.

_____ 8. There are ten main parts of a business letter.

_____ 9. The three types of telegraphic communications are telegrams, day letters, and night letters.

_____10. One of the slowest means of communications between individuals are the telegrams.

UNIT XI

EFFECTS OF RADIO, TELEVISION, AND MOTION PICTURES AS A MEANS OF COMMUNICATIONS

Multiple Choice

1. c
2. b
3. b

True-False

4. True
5. True
6. False
7. True
8. False
9. True
10. False

UNIT XII

Industrial Safety And The Student Learner

UNIT XII: Industrial Safety and The Student Learner

PREREQUISITE: None

TERMINAL OBJECTIVE:

Upon completion of this unit, you should become more alert to the potential hazards involved in industry. This will be shown by a score of 80 percent on the post-test.

AIMS AND OBJECTIVES:

1. To teach students about potential work hazards.
2. To become acquainted with rules and safety standards as described in the OSHA regulations.
3. To acquaint the learner with the importance of good maintenance.

INTRODUCTION:

While it is true that no one plans to have an accident, it is also true that accidents can be avoided through knowledge, correct thinking, and good workmanship. It is the purpose of this unit to point out some unsafe conditions and practices and give you rules and safety standards to follow. Careful study of accidents has revealed that the employer and the employee must work together in accident prevention. It is the responsibility of both you and your employer to help make working conditions safe.

ACTIVITY I

You must complete (A), and then you may choose any three of the following activities.

A. Read pages 32 - 51 in the General Related Curriculum Guide, Volume 2, or pages 420 - 424 in the World of Work, 1st Edition, or pages 112 - 126 in the World of Work, 2nd Edition.

B. Write a short report on how "good housekeeping" is a definite safety factor.

C. There are several things to keep in mind to maintain proper maintenance. List six ways that you can help to maintain proper maintenance.

D. Suppose you are asked to carry a heavy box to the stock room. What is the proper procedure to follow when lifting a heavy object?

E. Why is proper ventilation important in a shop? Discuss the health factors involved.

F. Young men have more accidents than young women. Do you agree? Why?

ACTIVITY II

Choose any two of the following activities.

A. Discuss with your employer the safety record of his company. Write a short report on your findings.

B. Go to the library and select a book, reference book, or an encyclopedia, and write a report on any topic related to safety in industry.

C. If someone has an accident on the job, who should be responsible for the accident victims?

OTHER ACTIVITIES USING OUTSIDE RESOURCES FOR CLASS PARTICIPATION

Invite a safety instructor into your classroom to speak on safety procedures that he tries to enforce.

SUGGESTED RESOURCE PERSONNEL

Executive Director

Personnel Manager

Safety Director

Safety Engineer

Safety Officer

Safety Professional

OSHA Representative

EVALUATION

After you have completed this unit, ask your instructor for the Unit XII quiz, "Industrial Safety and The Student Learner."

UNIT XII

INDUSTRIAL SAFETY AND THE STUDENT-LEARNER

True False

_____ 1. Accidents are an "Act of God."

_____ 2. Accidents most often occur in large firms.

_____ 3. Management must accept responsibilities for safety and lead and direct the preventive effort.

_____ 4. Good housekeeping is a major factor in the efficient production of goods of high quality.

_____ 5. When lifting a heavy object, bend your back and do not use your leg muscles.

_____ 6. Workers have more deaths and injuries off the job than they have on the job.

_____ 7. Accidents climb during the vacation season.

Fill in the blank

8. The _____ and the _____ must work together in accident prevention.

9. An _____ is any unexpected or unforseen occurrence that interrupts or inteferes with the orderly progress of the activity in question.

10. Most accidents are caused by _____ on the part of the worker.

11. In all places where dust is so dense as to be injurious to the health of persons concerned, a proper _____ system is needed.

UNIT XII

INDUSTRIAL SAFETY AND THE STUDENT-LEARNER

True-False

1. False
2. False
3. True
4. True
5. False
6. True
7. True

Fill In The Blank

8. employer and the employee
9. accident
10. negligence
11. ventilation

UNIT XIII

First-aid Directions In Case Of Injury

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UNIT XIII: First-Aid Directions In Case of Injury

PREREQUISITE: None

TERMINAL OBJECTIVE:

After you have completed this unit on first-aid, you should be a more qualified worker to take care of any emergency when no medical personnel are available. Knowledge of this will be shown by a score of 80 percent on the post-test.

AIMS AND OBJECTIVES:

1. To become more proficient with emergency procedures.
2. To learn some effective ways to give artificial respiration.
3. To acquaint the student with some safety measures to use in transporting an injured person.

INTRODUCTION:

The purpose of this unit is to enlighten you on the subject of first-aid, and what to do in cases of emergency. When a person's life is in danger, it is nice to have someone at the scene, who has a knowledge of what to do until a physician arrives.

Throughout this unit, you will obtain information about symptoms of shock, heat exhaustion, etc. The proper way to handle these situations and to transport an injured person will be discussed, also.

ACTIVITY I

You must complete (A), and then you may choose any two of the following activities.

A. Read pages 51 - 70 in the General Related Curriculum Guide, Volume 2, or use the encyclopedias in the library.

B. Artificial respiration is a method of getting air into and out of a person's lungs; that is, until he can breathe for himself. Explain the steps that you would use when giving artificial respiration by the mouth-to-mouth method.

C. In a paragraph or so, list some of the things that you would not do to a person that had had a serious burn.

D. What are the causes and dangers of shock? Discuss the treatment in which you would use on a person in this state.

ACTIVITY II

Choose any two of the following activities.

A. Pretend that you are walking to the drug store and you see a child being struck by a automobile, and he is bleeding severely. If you are the only person at the scene of the accident, what would you do to help this child?

B. If you were hunting with a friend and he was to fall down an embankment and break a bone, would you pick him up immediately? If your answer is no, explain why? In this particular situation, you and your friend are alone and about three miles from a phone.

C. Maybe you are interested in a health career, such as, a doctor, nurse, pharmacist, etc. Go to the library and find as much information on your topic as possible. THIS FIELD OF STUDY IS WIDE-OPEN!

OTHER ACTIVITIES USING OUTSIDE RESOURCES FOR CLASS PARTICIPATION

Invite someone from your local American Red Cross tc come in and speak to your class about some of the techniques used in cases of emergency.

OUTSIDE RESOURCE PERSONNEL

Ambulance Attendant

American Red Cross Employee

Rescue Worker

EVALUATION

After you have completed this unit, ask your instructor for the quiz on "First-Aid Directions In Case of Injury."

UNIT XIII

FIRST AID DIRECTIONS IN CASE OF INJURY

Fill In The Blank

1. _____ is a method of getting air into and out of a person's lungs until he can breathe for himself.

2. One of the most effective ways to give artificial respiration is by the _____ method.

3. Any break in a bone is called a _____ .

4. In _____ _____ _____, there is deeper destruction, and the burned area may appear either charred or white.

5. In _____ _____ _____ the skin is merely reddened as by a slight sunburn.

6. In _____ _____ _____, blisters develop.

True-False

_____ 7. You can blow air into a person's lungs either through the mouth or the nose when administering artificial respiration.

_____ 8. A tourniquet should be used only for a severe, life-threatening hemorrhage that cannot be controlled by other means.

_____ 9. Splints can be made of almost any material that is rigid enouth to give support to the fractured body part.

_____10. Do not change dressings that are initially applied to a serious burn until absolutely necessary.

_____11. First aid objectives are to treat for shock, relieve pain, and prevent infection.

_____12. It is very easy to determine the degree of a burn.

_____13. All seriously injured persons should be treated for shock, even though all of these symptoms have not appeared, and the person seems normal and alert.

_____14. A person with an extensive burn needs a lot of liquid and salt.

_____15. Symptoms of a heat stroke include a headache, dizziness, irritability, and seeing objects through a red or purplish haze.

UNIT XIII

FIRST AID DIRECTIONS IN CASE OF INJURY

Fill In The Blank

1. Artificial Respiration
2. Mouth-to-Mouth
3. fracture
4. third degree burns
5. first degree burns
6. second degree burns

True-False

7. True
8. True
9. True
10. True
11. True
12. False
13. True
14. True
15. True

UNIT XIV

Health And Hygiene

UNIT XIV: Health and Hygiene

PREREQUISITE: None

TERMINAL OBJECTIVE:

Upon completion of this unit, the student will have a greater understanding of the importance of good health, and how to take care of their health. Evidence of this will be shown by a score of 80 percent on the post-test.

AIMS AND OBJECTIVES:

1. To learn the importance of physical examinations.
2. To become more acquainted with immunizations as a weapon against communicable disease.
3. To obtain a workable knowledge of the five rules to good health and hygiene.

INTRODUCTION:

Every year millions of dollars are lost by wage earners, due to illness. Being free of illness and disease is certainly a factor in good health. It is important to know how the body functions.

Immunizations are very helpful in guarding against communicable diseases. During childhood, most people have been immunized against common diseases, such as, small pox, polio, etc.

After adulthood is reached, there will be very few assets greater than good health. The periodic health

examination is the best way to protect one's good health. This consists of a early check-up of the entire body.

ACTIVITY I

You must complete (A), and then you may choose any three of the following activities.

A. Read pages 70 - 78 in the General Related Curriculum Guide, Volume 2, or pages 54 - 56 in the World of Work, 1st Edition, or page 43 in the World of Work, 2nd Edition.

B. Discuss how good health is important to you. How can you contribute to maintaining good health?

C. If a person has rotten teeth, what are going to be some contributing factors?

D. There are several things you can do for good eyesight. List four of these.

E. Smoking has developed into a very bad habit for a lot of people. Name eight of the harmful substances that are combined into a cigarette.

F. Good table manners are very important. List three.

ACTIVITY II

Choose four of the following activities.

A. Health in terms of human relationships simply means the way in which your personal appearance and presence affects other people. How can you maintain a good personal appearance?

B. Suppose for a minute that you have a very close friend, and this particular friend has a terrific body odor. How could you tactfully tell him to do something about it, or he wasn't going to have many friends left?

C. How would you feel if you were to go into a restaurant and the employees were not well-groomed. Do you think you would recommend this restaurant to your friends? Why? To top it all off, you look upon the wall and notice that their sanitation rating is C.

D. All the findings concerning smoking seem to indicate that it is likely to be a harmful habit. What are the results or the harm cigarettes can do to a person's health?

E. In most of the industries today, there are safety equipment for the eyes and ears. If this particular plant in which you work happens to not participate in the safety program, what would be some suggestions that you could make to your supervisor?

OTHER ACTIVITIES USING OUTSIDE RESOURCES FOR CLASS PARTICIPATION

Invite someone from your local Health Center to come out and speak with the class on the topic "Personal Cleanliness."

SUGGESTED RESOURCE PERSONNEL

Coach

Dental Assistant

Nurse

Nurse's Aide

EVALUATION

After you have completed this unit, ask your instructor for the unit quiz on "Health and Hygiene."

UNIT XIV

HEALTH AND HYGIENE

True-False

_____ 1. Many people today neglect their diet simply through irresponsibility.

_____ 2. A clean tooth may decay, while a dirty tooth may never decay.

_____ 3. Sugar does not encourage tooth decay.

_____ 4. The best brushing will always remove food from between the teeth.

_____ 5. In caring for the ears, cleanliness is a must to avoid infection.

_____ 6. The care of the hair, teeth, and skin are things that make lasting first impressions on people.

_____ 7. Smokers tend to have more colds and longer lasting ones.

_____ 8. When you are eating, the food should be in a near liquid state before it is swallowed.

_____ 9. Physical examinations can serve as an early warning signal for many diseases.

_____ 10. Physical examinations and immunization will perhaps be the doctors greatest weapon against communicable diseases and other illnesses.

_____ 11. A well-balanced meal consists of the dairy foods, meat groups, vegetables and fruits, and breads and cereals.

Matching

_____ 1.	Formaldehide	a.	a solid, brittle poisonous chemical element of tin white to steel gray color and metallic luster.
_____ 2.	Arsenic		
_____ 3.	Amonia	b.	a material that stains the inside of a smokers lungs and acts as a slow poison.
_____ 4.	Tar		
_____ 5.	Nicotine	c.	the poisonous gas that comes from the exhaust of a car.
_____ 6.	Carbon Monoxide		
		d.	a poison that comes from a cigarette
		e.	a substance often used as a strong household cleaning fluid.

UNIT XIV

HEALTH AND HYGIENE

True-False

1. True
2. True
3. False
4. False
5. True
6. True
7. True
8. True
9. True
10. True
11. True

Matching

1. e
2. a
3. f
4. b
5. d
6. c

UNIT XV

Budgeting

UNIT XV: Budgeting

PREREQUISITE: None

TERMINAL OBJECTIVE:

Upon the completion of this unit, the student will be able to budget his money more efficiently. Evidence of this will be shown by a score of 80 percent on the post-test.

AIMS AND OBJECTIVES:

1. To develop a properly constructed budget.
2. To impress upon the student the importance of saving.
3. To teach the student to manage his monetary affairs to obtain the greatest benefit.

INTRODUCTION:

Every successful business firm and individual, as well, makes a budget to guide their spending. It is the key to buying, saving, borrowing, investing, and planning for the future.

Operating without a budget is like driving blindfolded. A well-planned budget will aid you in getting the things you want from your earnings.

ACTIVITY I

You must complete (A) and then you may choose any <u>three</u> of the following activities.

A. Read the Overview on pages 82 - 86 in the <u>General Related Curriculum Guide</u>, Volume 2. Also, read pages 89 - 91 in the <u>General Related Curriculum Guide</u>, Volume 2, or pages 153 - 176 in the <u>World of Work</u>, 1st Edition, or pages 131 - 144 in the <u>World of Work</u>, 2nd Edition.

B. What is a budget, and how may a budget help you to develop efficient spending habits?

C. Explain what part the following items have in budget making:

   1. Goals
   2. Individual wants and needs
   3. Fixed expenses
   4. Variable expenses

D. What characteristics contribute to a workable budget?

E. In what ways may past expenses be useful in making a budget?

F. If you had a summer job, what would be a good goal for saving your money?

ACTIVITY II

Choose <u>four</u> of the following activities.

A. As a child, you were probably given a certain amount of money to spend per week. This money was called an allowance. How do you feel you profited from this experience?

B. Now that you are responsible young people, with a job, how can you budget your money for one month, effectively?

C. When you get married and have a family, do you plan to budget your income? Why?

D. What are the pros and cons of budgeting?

E. Suppose you are making a salary of $100 weekly. Make out a monthly budget, for yourself, using these figures.

OTHER ACTIVITIES USING OUTSIDE RESOURCES FOR CLASS PARTICIPATION

In the home the budget is much depended on the wife. Invite a housewife to speak to your class on some of the objectives of budgeting.

SUGGESTED RESOURCE PERSONNEL

Comparison Shopper

Housewife

Personnel Manager

Purchasing Manager

EVALUATION

Ask your instr ctor for the quiz on "Budgeting" and see how much knowledge you have obtained from this lsp.

UNIT XV

BUDGETING

True-False

_____ 1. It is best to be liberal in your estimation of income.

_____ 2. Income should include everything you are going to receive except for wages or salary.

_____ 3. Planning a budget forces us to make decisions on what we want out of life.

_____ 4. The same type of budget should be used for every individual.

_____ 5. People who do not have priorities, usually do not see a need for a budget.

_____ 6. When you are setting up a budget, past experiences and future goals should be considered.

_____ 7. Your budget should be designed by an expert.

_____ 8. A wise budget is one that works.

Fill In The Blank

9. _____ would include such items as food, water, vacation, clothing, and recreation.

10. _____ include such things as a payment on installment purchases, payment on home, church contributions, and insurance policies.

11. A _____ is a plan for the use of income.

UNIT XV

BUDGETING

True-False

1. False
2. False
3. True
4. False
5. True
6. True
7. False
8. True

Fill In The Blank

9. Variable expenses
10. Fixed expenses
11. budget

UNIT XVI

Savings And Investment

UNIT XVI: Savings and Investment

PREREQUISITE: None

TERMINAL OBJECTIVE:

Upon the completion of this unit, the student will be able to understand the importance of saving and to recognize the need to have investments. Evidence of this will be shown by a score of 80 percent on the post-test.

AIMS AND OBJECTIVES:

1. To help the student become aware of the many ways of saving.
2. To help the student develop a savings plan.
3. To acquaint the student with investment and retirement plans.

INTRODUCTION:

Savings provide a sense of independence and security. This feeling of security can be a source of great satisfaction, especially if you are saving for some definite goal.

There are many reasons for saving. Some people may save for a car or boat, while others may save just for the sake of saving.

In times past, many people would hide their money in bed mattresses, in sugar bowls, and other places at home, because they did not trust banks. Today, savings and loan associations have encouraged savings by paying a certain amount of interest.

ACTIVITY I

You must complete (A), and then you may choose any three of the following activities.

A. Read pages 93 - 94 in the General Related Curriculum Guide, Volume 2, or pages 261 - 263 in the World of Work, 2nd Edition.

B. What is the importance of saving?

C. Should you save your money even when you do not have a particular goal?

D. There are many good means of saving. List four of these.

E. In our free economy, why do you think that it is important to have corporate savings?

F. Why is it important for the bank, in which you put your savings, to be a member of the Federal Deposit Insurance Corporation?

ACTIVITY II

Choose three of the following activities.

A. One very good method of saving is through a credit union where a person is employed. What are some of the advantages over other saving plans? Some outside help may be needed to find some good answers, such as encyclopedias or books on saving and investments.

B. Social security insurance is also a good means of saving. Find all the information that could back up this statement and write a short report.

C. Develop a budget according to a set income of $150 (net pay) per week.

D. Using outside resources, develop a retirement plan.

OTHER ACTIVITIES USING OUTSIDE RESOURCES FOR CLASS PARTICIPATION

Visit one of your local savings and loan associations, and talk to a representative in the savings department. Find out all the information about opening a savings account. List all of the information that you can find, including the different types of saving plans, interest, etc. (You could visit a bank in lieu of a savings and loan association).

SUGGESTED RESOURCE PERSONNEL

Savings and Loan Personnel

Stockbroker

Social Security Representative

EVALUATION

Ask your instructor for the "Savings and Investment" quiz, and see how much knowledge you have obtained from this unit.

UNIT XVI

SAVINGS AND INVESTMENT

True-False

_____ 1. A good method for saving is through a credit union.

_____ 2. Often credit unions are able to pay higher rates of earnings than commercial banks.

_____ 3. Home ownership is not a very good means of saving.

_____ 4. There is no need for corporations to save money.

_____ 5. A good investment would be that of buying shares of stock.

Fill In The Blank

6. Individual savings are called _____.

7. In making a _____, one must plan his spending.

8. The money that is paid to a stockholder is called a _____.

UNIT XVI

SAVINGS AND INVESTMENT

True-False

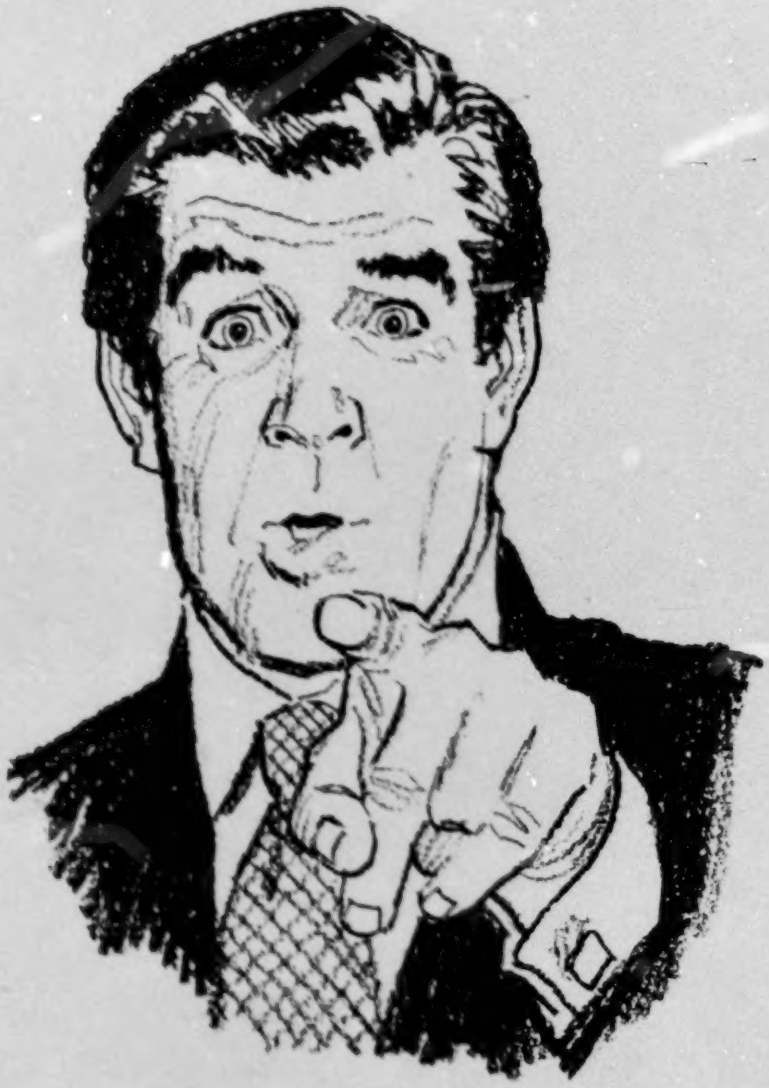
1. True
2. True
3. False
4. False
5. True

Fill In The Blank

6. personal savings
7. budget
8. dividend or profit

UNIT XVII

Banking



UNIT XVII: Banking

PREREQUISITE: None

TERMINAL OBJECTIVE:

Upon the completion of this unit, the student will have a workable knowledge of the many phases of banking. Evidence of this will be shown by a score of 80 percent on the post-test.

AIMS AND OBJECTIVES:

1. To acquaint the student with the many advantages of banking.
2. To help the student to become more aware of the different plans banks offer.
3. To help the student to understand the steps involved in opening a checking account.

INTRODUCTION:

Bank functions have evolved in the various areas of the world in accordance with the development of an area's economic activities. The modern commercial bank performs a wide range of services for its customers. Commercial banks have three principle functions. They are:

1. To accept money for safe guarding in the form of deposits.
2. To supply commerce and industry with circulating capital

in the form of loans.

3. To create money and bank credit as needed for the proper adjustment of the national economy.

ACTIVITY I

You must complete (A), and then you may choose any three of the following activities.

A. Read pages 96 - 98 in the General Related Curriculum Guide, Volume 2, or pages 244 - 261 in the World of Work, 1st Edition, or pages 193 - 203 in the World of Work, 2nd Edition.

B. Explain the difference between time deposits and demand deposits.

C. In what ways would a savings and loan association differ from a commercial bank?

D. When you deposit your money for safe-keeping, the bank will agree to repay your money when you ask for it. What is the purpose of a passbook?

E. Savings banks usually have two functions. List these.

ACTIVITY II

Choose <u>three</u> of the following activities.

A. Check writing is a very popular practice among many people today. It is more convenient than carrying cash and safer, too. Ask your instructor for the check writing exercise that has been prepared for this unit.

B. Find any topic related to banking and write a one-page report. (Encyclopedias and reference books can be found in the library).

C. Have you ever thought of becoming a banker? If so, find out the requirements for this position, and write a short paragraph on this topic.

D. Charge cards are most convenient in today's society, because they are so widely accepted. When you offer a clerk, for example, your charge card, it is the same as offering him quick money. Ask your instructor for the "Master Bank" application form and fill it out as though it was for real.

OTHER ACTIVITIES USING OUTSIDE RESOURCES FOR CLASS PARTICIPATION

Ask your local banker to come to your classroom and talk with your class on the topic, "Bank Statements and Balancing A Checkbook."

SUGGESTED RESOURCE PERSONNEL

Accountant

Bank Manager

Bank Teller

Cashier

Credit Manager

EVALUATION

Ask your instructor for the quiz on "Banking", and see how much knowledge you have obtained from this unit.

MASTER BANK APPLICATION

P. O. Box 101
Little Creek, SC 53201

PLEASE PRINT

For Bank Use Only!

60 GPA _____ 03 XEP

05 GHI _____ 09 DYP

01 NO. GAT _____

60	61	62	63	64	65	66	67

MR.
MRS./MISS ☐ _____ AGE _____
First Name Middle Name Last Name Day Mo. Year

SPOUSE _____ HOME PHONE ( ) _____
Checking Account With Area Code

ADDRESS _____
Number & Street City State Zip Code

OWN HOME _____ RENT _____ PREVIOUS ADDRESS _____
Number & Street City State

NEAREST RELATIVE _____
Name Address City State

EMPLOYER NAME _____ POSITION _____ HOW LONG EMPLOYED _____

EMPLOYER'S ADDRESS _____ EMPLOYER'S PHONE ( ) _____
Area Code

WIFE'S EMPLOYER _____
Name Address City State Phone No.

CREDIT REFERENCES _____ _____

_____ _____

_____ _____

APPLICANT'S SIGNATURE _____ SIGNATURE OF SPOUSE _____

DATE SIGNED _____

OCTOBER CHECKBOOK TRANSACTIONS

The following transactions listed below have taken place during the month October. Write a check for each transaction that you have paid to someone for a certain service, (there are 25 transactions) and fill out a deposit slip if you have deposited money to your account, (there are 4 deposits).

You have a balance in your checkbook of $300.

October 1, 1975 Paid $20 to Duke Power Company for electricity expense. Check No. 1

October 1, 1975 Paid $7 to Southern Bell for telephone expense. Check No. 2

October 3, 1975 Paid $60 to the Lenoir Finance Company for car payment. Check No. 3

October 4, 1975 Deposited $100 to your checking account. Deposit No. 1

October 7, 1975 Paid $90 to Mutual Savings and Loan for house payment. Check No. 4

October 10, 1975 Paid $25 to the Fairway Super Market for groceries. Check No. 5

October 10, 1975 Bought a new coat for $50 from Belk's Department Store. Check No. 6

YOUR CHECKBOOK BALANCE AT THIS POINT SHOULD BE $148.

October 11, 1975 Deposited $150 to your checking account. Deposit No. 2

October 15, 1975 Wrote a check for $10 to Quik Way Grocery Store for cash. Check No. 7

October 17, 1975 Paid $40 to Simpson Insurance for the annual hospital insurance. Check No. 8

October 17, 1975 Paid $30 to Barger Finance Company for a motorcycle payment. Check No. 9

YOUR CHECKBOOK BALANCE AT THIS POINT SHOULD BE $218.

October 18, 1975 Paid $27 to the Lowe's Foods, Inc. for groceries. Check No. 10

October 18, 1975 Deposited $125 to your checking account. Deposit No. 3

October 21, 1975 Paid $5 to City Dry Cleaning Service for the dry cleaning expense. Check No. 11

October 23, 1975 Paid $10 to the Deal High School for band expense. Check No. 12

October 23, 1975 Paid $8 to the Service Distributor for gas expense. Check No. 13

October 24, 1975 Paid $25 to Barringer Oil Company for Heating Oil. Check No. 14

October 24, 1975 Paid $4 to Howard Long for water expense. Check No. 15

YOUR CHECKBOOK BALANCE AT THIS POINT SHOULD BE $264.

October 25, 1975 Deposited $200 to your checking account. Deposit No. 4

October 28, 1975 Paid $15 to Dr. Link for dental expense. Check No. 16

October 28, 1975 Paid $10 to Dr. King for animal expense. Check No. 17

October 29, 1975 Paid $6 to the Norway Esso for gas expense. Check No. 18

October 29, 1975 Paid $12 to Dr. Frye for doctor fees. Check No. 19

October 30, 1975 Paid $6 to Price Dry Cleaning for the dry cleaning expense. Check No. 20

October 30, 1975 Paid $22 to William's Market for groceries. Check No. 21

October 30, 1975 Paid $14 to Holly Drug Store for prescription expense. Check No. 22

October 31, 1975 Paid $6 to Lail High School for typing fees. Check No. 23

October 31, 1975 Paid $11 to Cannon Paint Company for painting supplies. Check No. 24

October 31, 1975 Paid $7 to T.V. Guide for a year's subscription. Check No. 25

YOUR CHECKBOOK BALANCE AT THIS POINT SHOULD BE $355.

UNIT XVII

BANKING

True-False

_____ 1. There is only one type of bank, and it is called a commercial bank.

_____ 2. Only certain individuals can deposit money for safe-keeping.

_____ 3. The passbook for savings acts as a receipt for the depositor.

_____ 4. Money that is deposited in a savings account pays money to the depositor.

_____ 5. The use of a checking account is very inconvenient.

_____ 6. A savings account is called a time deposit.

_____ 7. The best function of a bank is financing business enterprises.

_____ 8. The Federal Deposit Insurance Corporation was formed to protect savings in banks up to $40,000.

UNIT XVII

BANKING

True-False

1. False
2. False
3. True
4. True
5. False
6. True
7. True
8. True

UNIT XVIII

Credit

UNIT XVIII: Credit

PREREQUISITE: None

TERMINAL OBJECTIVE:

Upon the completion of this unit, you will have a greater awareness of the many different types of credit that are available for your use. Evidence of this will be shown by a score of 80% on the post-test.

AIMS AND OBJECTIVES:

1. To teach the student the importance of having a good credit standing.
2. To acquaint the student with the many different types of credit.
3. To acquaint the student with the advantages and disadvantages of credit.

INTRODUCTION:

Consumer credit has not always been an important factor in our economy. Before its development, our economy was essentially rural. As there was a need for a certain item, people would exchange surplus products with their neighbors. This was called the barter system.

The Industrial Revolution brought about many changes. Many people began moving from the farm to the city. As peoples needs increased, it became necessary to have some means of securing the necessities. Therefore, consumer credit was brought about.

ACTIVITY I

You must complete (A), and then you may choose any four of the following activities:

A. Read pages 100 - 110 in the General Related Curriculum Guide, Volume 2, or pages 204 - 227 in the World of Work, 1st Edition, or pages 166 - 182 in the World of Work, 2nd Edition.

B. Explain in your own words why consumer credit is important to us.

C. Credit is an economic transaction. Therefore, we need two or more persons in order to make this transaction. Explain the difference between a debtor and a creditor.

D. Consumer credit is based on trust. Each applicant for credit is judged on three qualifications. List these and explain what each one means.

E. In addition to the method of making payments, there are four important differences between installment and opencharge account credit. List these.

F. There are many advantages and disadvantages of personal credit. Name a few of these.

ACTIVITY II

Choose any four of the following activities.

A. This chapter has been very enlightening about the facts of credit. Just about everybody will reach out for credit at some stage of their life. Credit can be a good thing if it is not over-used. How would you interpret this last sentence?

B. It has been proven that interest rates charged by a small loan or consumer finance agency are usually higher than those charged by banks. If this is the case, do you think you will ever go to a consumer finance agency for a loan and why? Fill out the credit application blank in which your instructor will give you upon request.

C. Tell how unexpected expenditures delayed the achievement of a goal you or your family had set. Explain how credit could have helped in their particular situation.

D. Often times many people are guilty of going over their heads in expenses just so they can be "Keeping up with the Jones's." Write an interpretation of what is meant by this statement.

E. List five tiems you have just purchased. Decide if it would have been more beneficial to have obtained these items on credit. Explain.

OTHER ACTIVITIES USING OUTSIDE RESOURCES FOR CLASS PARTICIPATION

Find the "Yellow Pages" in your local phone directory. Look up the number of a credit card office and ask if a representative would come and speak to your class about the advantages of using credit cards.

SUGGESTED RESOURCE PERSONNEL

Brokerage Manager

Credit Manager

Insurance Manager

Credit Card Representative

EVALUATION

After you have completed this unit, ask your instructor for the quiz on "Credit."

CREDIT APPLICATION

Dottie's
Department
Store

"Everything to suit your fancy"

101 Reynolds Road
Boonesville, Ohio
853-2211

PLEASE PRINT

MR.
MRS./MISS ☐ _____ AGE _____
First Name Middle Name Last Name Day Mo. Yr.

SPOUSE _____ HOME PHONE ( ) _____
Area Code

ADDRESS _____
Street City State Zip Code

OWN HOME _____ RENT _____ HOW LONG AT PRESENT ADDRESS _____

EMPLOYER _____ ADDRESS _____ HOW LONG _____

OCCUPATION _____ EARNINGS _____ WEEK ☐ MONTH ☐

FORMER EMPLOYER (If Less Than
One Year With Present Employer) _____ HOW LONG _____

NAME AND
ADDRESS OF BANK _____ CHECKING ☐ SAVINGS ☐

THE SPACES BELOW ARE TO BE FILLED IN BY THE EMPLOYER

CREDIT REFERENCE	DATE OPENED	HIGH CREDIT	BALANCE DATE CLOSED	AMOUNT PAYMENTS

UNIT XVIII: Credit

PREREQUISITE: None

TERMINAL OBJECTIVE:

Upon the completion of this unit, you will have a greater awareness of the many different types of credit that are available for your use. Evidence of this will be shown by a score of 80% on the post-test.

AIMS AND OBJECTIVES:

1. To teach the student the importance of having a good credit standing.
2. To acquaint the student with the many different types of credit.
3. To acquaint the student with the advantages and disadvantages of credit.

INTRODUCTION:

Consumer credit has not always been an important factor in our economy. Before its development, our economy was essentially rural. As there was a need for a certain item, people would exchange surplus products with their neighbors. This was called the barter system.

The Industrial Revolution brought about many changes. Many people began moving from the farm to the city. As peoples needs increased, it became necessary to have some means of securing the necessities. Therefore, consumer credit was brought about.

ACTIVITY I

You must complete (A) and then you may choose any four of the following activities.

A. Read pages 100 - 110 in the General Related Curriculum Guide, Volume 2, or pages 204 - 227 in the World of Work, 1st Edition, or pages 166 - 182 in the World of Work, 2nd Edition.

B. Explain in your own words why consumer credit is important to us.

C. Credit is an economic transaction. Therefore, we need two or more persons in order to make this transaction. Explain the difference between a debtor and a creditor.

D. Consumer credit is based on trust. Each applicant for credit is judged on three qualifications. List these and explain what each one means.

E. In addition to the method of making payments, there are four important differences between installment and opencharge account credit. List these.

F. There are many advantages and disadvantages of personal credit. Name a few of these.

UNIT XVIII

CREDIT

True-False

_____ 1. Consumer credit is based on trust.

_____ 2. A person's credit rating follows him wherever he goes.

_____ 3. An individual's credit rating is maintained by a credit bureau.

_____ 4. Loans obtained without collateral are called secured loans.

_____ 5. Interest rates charged by a consumer finance agency are usually lower than those charged by a bank.

_____ 6. A person cannot borrow from a credit union unless he is a member.

_____ 7. A wise consumer should try to beware of loan sharks.

Fill In The Blanks

8. _____ credit means that a person buys goods and agrees to pay for them at a later date.

9. A person who buys on credit is called a _____.

10. A business firm's credit rating is listed by a concern called _____ and _____.

11. A person with a good credit standing can receive a loan on his _____.

12. Unlicensed lenders are sometimes referred to as _____.

UNIT XVIII

CREDIT

True-False

1. True
2. True
3. True
4. False
5. False
6. True
7. True

Fill In The Blanks

8. Consumer
9. debtor
10. Dun and Bradstreet
11. signature
12. loan sharks

UNIT XIX

Loans

UNIT XIX: Loans

PREREQUISITE: None

TERMINAL OBJECTIVE:

Upon completion of this unit, you will have a better understanding of the procedures involved in obtaining a loan. Evidence of this will be shown by a score of 80 percent on the post-test.

AIMS AND OBJECTIVES:

1. To emphasize the importance of good character in relation to obtaining a loan.
2. To introduce the various lending agencies.
3. To acquaint the student with the pros and cons of building a house.

INTRODUCTION:

A person who has good character and is a contributing member of the community usually does not have any problems obtaining a loan. In order to obtain these assets, you have to prove that you are capable of repaying the loan. Holding a steady job and paying your bills on time can be valuable to you.

ACTIVITY I

You must complete (A), and then you may choose any two of the following activities.

A. Read pages 111 - 115 in the General Related Curriculum Guide, Volume 2, or pages 208 - 209 and 221 - 222 in the World of Work, 1st Edition, or pages 178 - 180 in the World of Work, 2nd Edition.

B. What is the purpose of the Federal Housing Administration?

C. What are some of the benefits that the Veterans Administration administers?

D. What are some pros and cons for buying a house? Renting a house?

ACTIVITY II

Choose one of the following activities.

A. Owning your own home is practically everyone's choice. But, before you make that giant step, there are several things you have to consider. List some of these.

B. Write a report dealing with the Federal Housing Administration. Find out how you can become eligible for this type of loan. (You may be able to find this information in the library).

OTHER ACTIVITIES USING OUTSIDE RESOURCES FOR CLASS PARTICIPATION

Invite someone from your local Savings and Loan to come to your class and talk with you about the steps involved in obtaining a loan.

SUGGESTED RESOURCE PERSONNEL

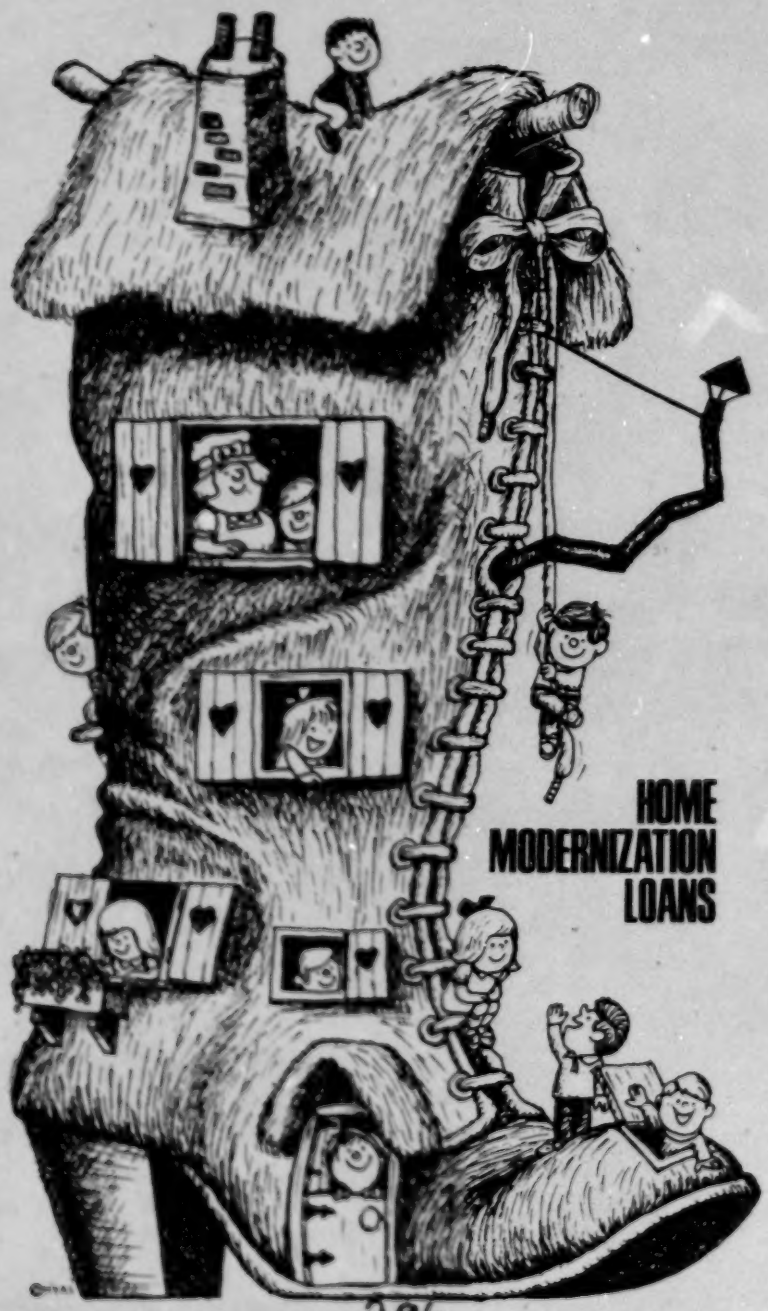
Interest Clerk

Loan Department Manager

Mortgage Clerk

EVALUATION

After you have completed this unit, ask your instructor for the quiz on "Loans."



UNIT XIX

LOANS

True - False

_____ 1. A Federal Housing Administration loan is insured by the Federal Government.

_____ 2. Veterans Administration loans are available for everybody.

_____ 3. A Federal Housing Administration loan can usually be purchased with a smaller down payment than a loan secured through other means.

_____ 4. Buying a home is one of the largest financial investments in one's life.

_____ 5. An oral contract gives better assurance against fraud than a written contract.

_____ 6. The length of time for which a lease is written is unimportant.

_____ 7. Renting a home is more sensible for most people.

_____ 8. During a depression, one could get a better buy in building or buying a home.

UNIT XIX

LOANS

True-False

1. True
2. False
3. True
4. True
5. False
6. False
7. False
8. True

UNIT XX

Buying Goods And Services

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UNIT XX: Buying Goods and Services

PREREQUISITE: None

TERMINAL OBJECTIVE:

Upon completion of this unit, the student will have become more aware of America's complex system of large scale production, manufacturing, and marketing. Evidence of this will be shown by a score of 80 percent on the post-test.

AIMS AND OBJECTIVES:

1. To teach the student about information and consumer protection.
2. To emphasize the importance of the activities performed by the non-government, state, and federal agencies as far as buying goods and services.
3. To provide information and counseling on goods and services.

INTRODUCTION:

If the consumer is to spend his money wisely for goods and services, he must be aware of some important specifications. The consumer can obtain this type of knowledge from non-government and state and federal agencies.

In most cases it would be difficult for an individual to gain special services. The expense and the time required in investigating and testing a product for an individual would be out of the question. These agencies provide their services to all consumers.

ACTIVITY I

You must select (A), and then any two of the following activities.

A. Read pages 116 - 124 in the General Related Curriculum Guide, Volume 2, or pages 173 - 202 in the World of Work, 1st Edition, or pages 145 - 164 in the World of Work, 2nd Edition.

B. Why is research and testing important to you as a consumer?

C. List some of the Federal Agencies mentioned in the textbook and give their their purpose.

D. Why is the Federal Trade Commission so important?

E. Explain the meaning of "long range planning" in buying goods and services.

ACTIVITY II

Choose any two of the following activities

A. Advertising plays an important part in the movement of a new product to the market. Be creative and present a new product to the market, by way of advertising. (Use one full page)

B. Write a one-page report on the law of supply and demand, and relate in your report some of the products that are on the market today.

C. Everybody today has an abundance of clothing. Think of your wardrobe and make an inventory of the clothing you own. Write beside of each item the approximate cost. At your present salary, how long do you think it would take to replace your wardrobe?

OTHER ACTIVITIES USING OUTSIDE RESOURCES FOR CLASS PARTICIPATION

Look at the list of occupations below and decide upon a speaker to come in and talk with your class on the advantages of an advertising career.

SUGGESTED RESOURCE PERSONNEL

Artist

Classified Ad Clerk

Display Man

Marketing Researcher

Photographer

Public Relations

Salesman

Sales Promotion Manager

EVALUATION

Ask your instructor for the quiz on "Buying Goods and Services," and see how much knowledge you have obtained from this unit.

UNIT XX

BUYING GOODS AND SERVICES

Fill in the Blank

1. If you feel you have been cheated by a business you should call the _____.

2. _____ includes everything that takes place with a product from its beginning until it arrives in the presence of the consumer.

3. Prices depend largely on the law of _____ and _____.

4. _____ is a message with a definite objective.

True-False

_____ 5. The Better Business Bureau is a private organization that can be called upon for guidance and protection in buying.

_____ 6. Consumer protection laws vary from state to state.

_____ 7. The basic objective of the Federal Trade Commission is the maintenance of free competitive business as the keystone of the American free enterprise system.

UNIT XX

BUYING GOODS AND SERVICES

Fill In The Blank

1. Better Business Bureau
2. Marketing
3. Supply and demand
4. Advertisement

True-false

5. True
6. True
7. True

UNIT XXI

Legal Relations In Buying And Selling

UNIT XXI: Legal Implications of Buying and Selling

PREREQUISITE: None

TERMINAL OBJECTIVE:

Upon the completion of this unit, the student will have a greater understanding of the obligations and responsibilities with the ownership of goods. Evidence of this will be shown by a score of 80% on the post-test.

AIMS AND OBJECTIVES:

1. To help the student to become knowledgeable with the legal aspects of buying and selling goods.
2. To develop with the student the importance of legal knowledge.
3. To acquaint the student with a variety of situations where they should obtain legal advice.

INTRODUCTION:

The purpose of this unit is to familiarize the student with legal implications of buying and selling. It is most difficult for the average person to be familiar with his rights and obligations provided by law.

There are many situations where an individual should obtain legal advice. When the selection of a lawyer becomes necessary, it would be wise to select one who is a member of the local and state bar association.

ACTIVITY I

You must complete (A), and then you may choose any <u>three</u> of the following activities.

A. Read pages 125 - 129 in the General Related Curriculum Guide, Volume II, or pages 229 - 242 in the <u>World of Work</u>, 1st Edition, or pages 184 - 192 in the <u>World of Work</u>, 2nd Edition.

B. What are contracts? What are the essentials of a valid contract?

C. Explain the difference between expressed and implied warranties.

D. Must a public carrier guarantee the safety of its passengers? Explain.

E. When should a lawyer be contracted to examine a contract?

ACTIVITY II

Choose any two of the following activities.

A. Probably at some time in your life you will need the advice of a lawyer. List at least six situations where this would be true.

B. When you are traveling, there will be times when you will have to make arrangements to stay overnight in a motel. Legally, when does a person become the guest of a motel?

C. As a consumer, there will be many situations where you will receive unordered goods. What are your legal responsibilities when receiving these goods?

OTHER ACTIVITIES USING OUTSIDE RESOURCES FOR CLASS PARTICIPATION

Arrange for a field trip to be taken to your local courthouse to view actual hearings in the courtroom.

SUGGESTED RESOURCE PERSONNEL

FBI Agent

Lawyer

Legal Secretary

Police Office

Title Examiner

EVALUATION

Ask your instructor for the quiz on "Legal Relations In Buying and Selling", and see how much knowledge you have obtained from this unit.

UNIT XXI: LEGAL RELATIONS IN BUYING AND SELLING

True - False

_____ 1. You should have a lawyer write your will.

_____ 2. Being a member of a bar association insures the ability of a lawyer.

_____ 3. Rights and responsibilities of goods, follow the title.

_____ 4. Contracts for essentials by minors are legal.

_____ 5. A person is considered a guest at a hotel when he signs the register.

_____ 6. Only the owner has the legal right to transfer a title.

_____ 7. If a person receives unordered goods, he is under an obligation to keep or pay for them.

Fill in the blank

8. Most transactions in buying and selling goods result in an arrangement called a _____.

9. _____ is another name for ownership.

10. List the two types of warranties.
    A.
    B.

UNIT XXI

LEGAL RELATIONS IN BUYING AND SELLING

True-False

1. True
2. False
3. True
4. True
5. True
6. True
7. False

Fill In The Blank

8. contract
9. Title
10. Expressed and implied

UNIT XXII

Insurance

UNIT XXII: Insurance

PREREQUISITE: None

TERMINAL OBJECTIVE:

Upon completion of this unit, the student will have a greater awareness of the many different types of insurance that are available today. Evidence of this will be shown by a score of 80% on the post-test.

AIMS AND OBJECTIVES:

1. To become acquainted with the advantages of insurance.
2. To understand the importance of insurance as an investment.
3. To develop an awareness of the four basic kinds of insurance policies.

INTRODUCTION:

In the United States, there are many insurance companies serving every possible insurance need. Insurance gives an individual security in his everyday life.

There are four basic kinds of insurance policies. Each policy is constructed to fit a given situation. Insurance is purchased to protect a person from loss of life or anything of value.

Since you have entered the field of work, now is the time to give the subject of insurance a serious thought. Insurance will be a lifetime investment and you need to choose it with care.

ACTIVITY I

Everyone must choose (A), and then any three of the following activities.

A. Read pages 132 - 145 in the General Related Curriculum Guide, Volume II, or pages 313 - 334 in the World of Work, 1st Edition, or pages 249 - 262 in the World of Work, 2nd Edition.

B. Why is it so important to have adequate insurance?

C. There are many kinds and forms of insurance. Name and describe at least four forms of insurance.

D. Straight life insurance differs from term insurance in four ways. List these.

E. The cost of fire insurance differs in various areas. List four reasons that determines the cost of fire insurance.

F. Why is there a greater need for insurance in today's society?

ACTIVITY II

Choose any two of the following activities.

A. As students approach the age of sixteen, the first thing to do is to get their license, and then buy a car. What kind of insurance would you need to purchase if you bought a car? Why?

B. When you go to buy your first car, you will find that insurance for a young person is considerably higher. List the four main factors which determine the cost of insurance.

C. Imagine for a few mintues that you have just had an automobile accident while driving your friend's car. How do you think you would explain the accident to the owner of the car? (You were not injured in the wreck.)

OTHER ACTIVITIES USING OUTSIDE RESOURCES FOR CLASS PARTICIPATION

Invite someone from a local insurance company to come in and talk with your class on the different types of insurance available today.

SUGGESTED RESOURCE PERSONNEL

Actuary

Insurance Adjuster

Insurance Clerk

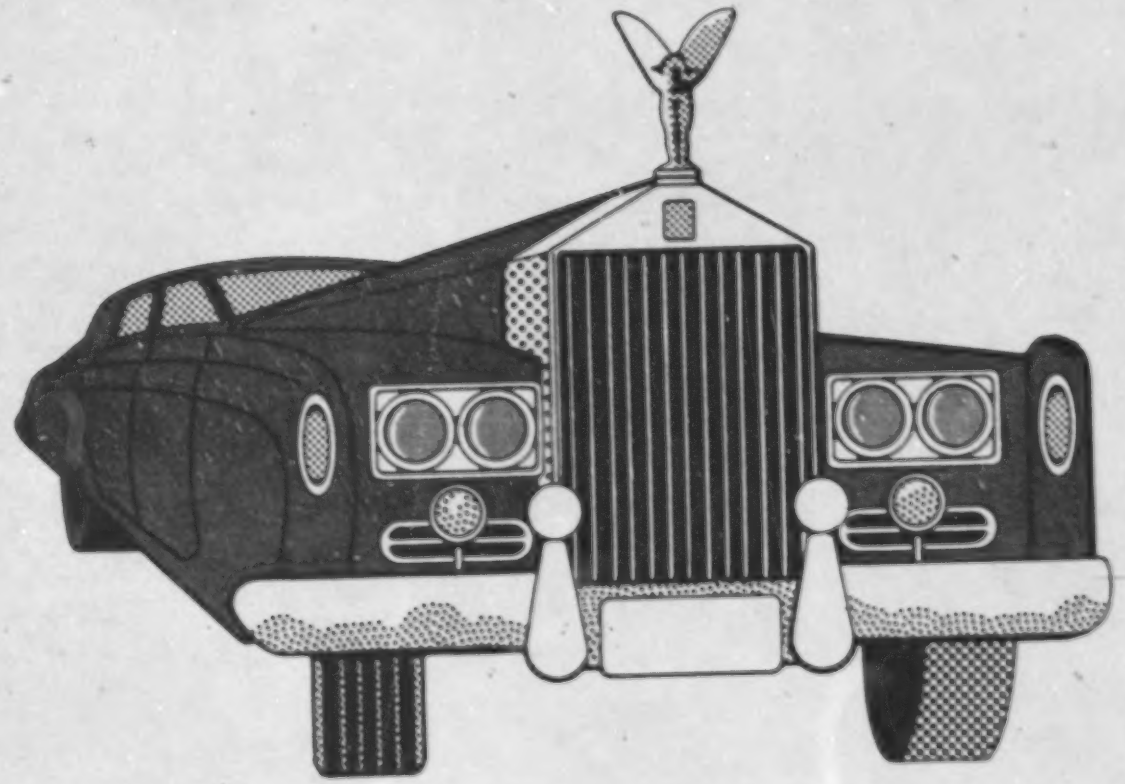
Life Insurance Agent

Office Clerk

Property Insurance Agent

EVALUATION

After you have completed this unit, ask your instructor for the quiz on "Insurance", and see how much knowledge you have obtained.



UNIT XXII: INSURANCE

True - False

_____ 1. A person who buys insurance is called a policy holder.

_____ 2. The consideration paid for a contract of insurance is called a premium.

_____ 3. Insurance policies are illegal documents between the insured and the insuree.

_____ 4. When you are buying insurance, you should be aware of the fine print.

_____ 5. Term insurance is purchased for a definite period of time.

_____ 6. Straight life insurance is the most expensive form of insurance available.

_____ 7. The basic types of home insurance coverage are fire, personal, liability and theft.

_____ 8. Collision insurance provides protection for your own car against damage.

_____ 9. Premiums for car insurance are usually higher if a male driver is over 25 years of age.

_____ 10. The cost of workmen's compensation insurance is paid entirely by the employer.

UNIT XXII

INSURANCE

True-False

1. True
2. True
3. False
4. True
5. True
6. False
7. True
8. True
9. False
10. True

UNIT XXIII
Government Services

UNIT XXIII: Government Services

PREREQUISITE: None

TERMINAL OBJECTIVE:

Upon completion of this unit, the student should become more aware of the basic function which taxation plays in our government. Evidence of this will be shown by a score of 80% on the post-test.

AIMS AND OBJECTIVES:

1. To help the student understand the general tax structure.
2. To acquaint the student with the different types of taxes and the services he receives from them.
3. To help the student understand his individual part in the program.

INTRODUCTION:

Taxes are the means by which society insures that its public financial responsibilities will be met. A tax is that portion of private wealth or income demanded by the government for the payment of its expenses.

Regardless of the level at which taxes are paid, they will give a service to most people. They provide for public expenses such as the salaries of officers, the construction of public improvements, the support of the police, and of the armed forces.

ACTIVITY I

Everyone must choose (A), and then any four of the following activities.

A. Read pages 147 - 157 in the General Related Curriculum Guide, Volume 2, or pages 265 - 287 in the World of Work, 1st Edition, or pages 209 - 225 in the World of Work, 2nd Edition.

B. There are several different types of taxes. What is the difference in a progressive tax and a proportional tax?

C. Explain the difference between a direct and indirect tax. Name two of each.

D. Most of you will be paid for your services by a check. Name two of the deductions that will be taken out of your paycheck.

E. Name three city employees that receive their pay from taxes.

F. What is an intangible tax?

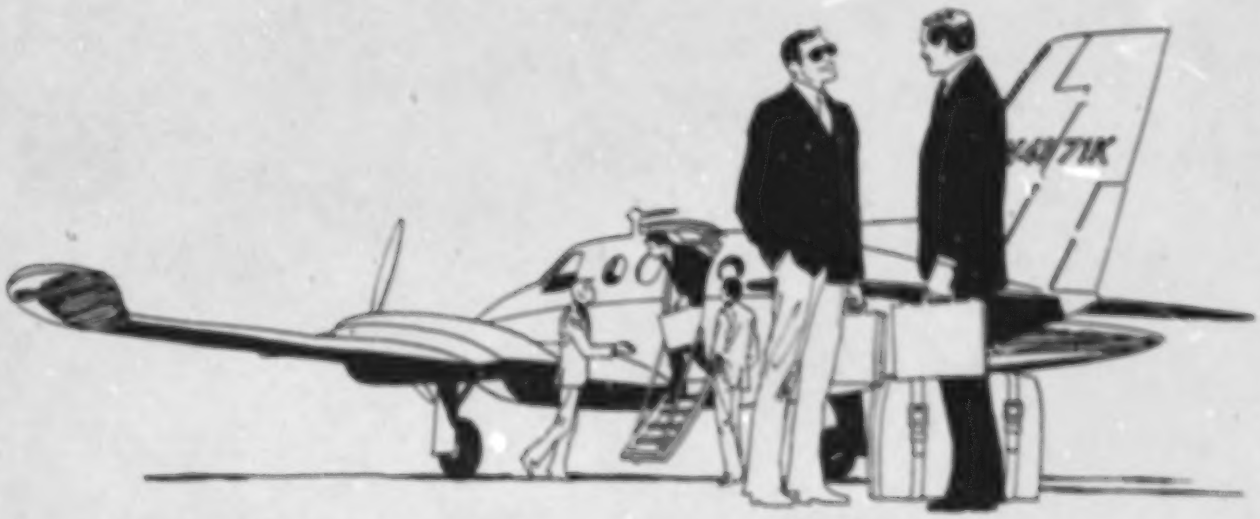
ACTIVITY II

Select two of the following activities.

A. Draw three large circular graphs illustrating the sources from which the government receives money and the ways in which the government spends money. The first graph illustrating the federal government, the second illustrating the state government, and the third illustrating the county government.

B. Taxes are the means by which society insures that its public financial responsibilities will be met. After you do some research on taxes, write a short summary on "Why you do or do not feel justified paying taxes."

C. Taxation dates back as far as the early civilization. Using resource books and encyclopedias, write a report on the "History of Taxation."



OTHER ACTIVITIES USING OUTSIDE RESOURCES FOR CLASS PARTICIPATION

Invite your local tax collector to speak to your class on "Where My Tax Dollar Goes."

SUGGESTED RESOURCE PERSONNEL

Accountant

Bookkeeper

Internal Revenue Agent

Tax Collector

EVALUATION

After you have completed this unit, ask your instructor for the quiz on "Government Services," and see how much knowledge you have obtained.

UNIT XXIII

GOVERNMENT SERVICES

Fill In The Blank

1. _____ is the process by which the people pay the expenses of carrying on government.

2. Taxes will give a _____ to most people.

3. The tax on gasoline is sometimes classified as a _____ tax.

4. _____ taxes are those charged to public utilities.

5. In this country, we have three basic methods of taxation: _____, _____ and _____.

True-False

_____ 6. A direct tax is levied on the person or property upon which it is planned to rest.

_____ 7. An indirect tax is levied in such a way that its burden can be shifted or divided.

_____ 8. The smallest source of revenue to the general fund of our state is through income tax.

_____ 9. The larger the income the more tax one has to pay.

_____10. Social security insures us of employment.

UNIT XXIII

GOVERNMENT SERVICES

Fill In The Blank

1. Taxation
2. service
3. benefit
4. Franchise
5. proportional, progressive, and regressive

True-False

6. True
7. True
8. False
9. True
10. False

UNIT XXIV

Fractions

UNIT XXIV: Fractions

PREREQUISITE: None

TERMINAL OBJECTIVE:

Upon completion of this unit, the student should be able to add, subtract, multiply and divide decimals. Evidence of this will be shown by a score of 80% on the post-test.

AIMS AND OBJECTIVES:

1. To learn the difference between the denominator and the numerator.
2. To learn how to add, subtract, multiply, and divide fractions.
3. To learn how to work with mixed fractions.

INTRODUCTION:

Fractions are numerical representations of two numbers whose quotient is to be determined. They are encountered so frequently in all phases of everyday life. It is very important to review them occasionally. The person who can use them quickly and accurately has the advantage in any transaction.

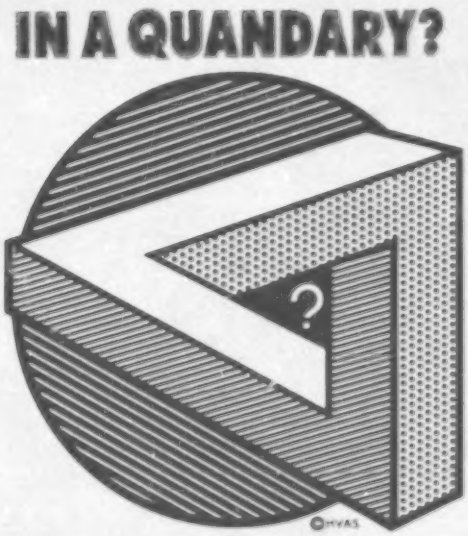
ACTIVITY I

Everyone must complete all of the following activities.

A. Read pages 162 - 168 in the General Related Curriculum Guide, Volume 2, or read the self-contained study sheets that are attached to this unit.

B. What is the meaning of a numerator and a denominator?

C. When you are dividing a fraction, what is the first thing you do?



ACTIVITY II

Everyone must complete all of the following activities.

A. Add the following fractions: (Remember, to add fractions, they must have identical denominators.)

(1) 3/4 + 1/4 =

(2) 10/12 + 8/12 =

(4) 1 1/2 + 2 1/2 =

(5) 1/6 + 3/18 =

B. Subtract the following fractions: (Remember, to subtract fractions, they must have identical denominators.)

(1) 6/10 - 3/10 =

(2) 2 5/9 - 1 4/9 =

(3) 8/16 - 4/16 =

(4) 2 6/12 - 1 3/4 =

(5) 1/6 - 1/3 =

C. Multiply the following fractions: (Remember, when multiplying fractions, multiply the numerator for a new numerator and multiply the denominator for a new denominator and simplify the answer if necessary.

(1) 2/3 X 2/3 =

(2) 6/8 X 7/16 =

(3) 3/4 X 8/12 =

(4) 2 2/6 X 3 3/6 =

(5) 12/16 X 16/32 =

D. Divide the following fractions: (Remember, when dividing fractions, invert the denominator and multiply.)

(1) 3/5 ÷ 3/5 =

(2) 5/15 ÷ 3/15 =

(3) 3/18 ÷ 12/32

(4) 6 2/3 ÷ 4 6/9 =

(5) 12 1/4 ÷ 3 6/10 =

OTHER ACTIVITIES USING OUTSIDE RESOURCES FOR CLASS PARTICIPATION

Invite a teacher from your Math Department to come in and speak to your class on the many areas that involve math.

SUGGESTED RESOURCE PERSONNEL

Applied Mathematician

Math Teacher

Operations Analysts

Statistician

Theoretical Mathematician

EVALUATION

After you have completed this unit, ask your instructor for the quiz on "Fractions" and see how much knowledge you have obtained.

MATH

Fractions, decimals, percentages, and measurements are encountered so frequently in all phases of everyday life that it is important to review them occasionally. The person who can use them quickly and accurately has the advantage in any transaction.

Fractions

The meaning of a fraction like 5/6 is that it tells the number of certain equal parts of a whole, a unit, or one. The numeral below the fraction bar (the denominator) tells the number of equal parts in the whole unit while the numeral above the fraction bar (the numerator) tells the number of these parts that are represented. This fraction is read five-sixths.

1. Read the following: (a) 2/3 (b) 1/4 (c) 3/8 (d) 6/19

2. What is the meaning of each fraction in number 1?

3. A stick is five inches long. Express this as a fraction of a foot.

4. A plane takes 57 minutes between two airports. Express this in a fraction of an hour.

5. Two candy bars are distributed in equal shares to three boys --

   (a) What part of the total candy did each boy get?

   (b) The parts that each boy got make up what fractional part of <u>one</u> bar?

   (c) Is one third of two the same as two thirds of one?

6. The inches on a ruler are divided into eighths.

(a) What part of an inch are five of the small divisions?

(b) What part of an inch are eight of the divisions?

<u>Rule</u>: The numerator and the denominator of a fraction can be divided or multiplied by the same number (except zeros) without changing the value of the fraction.

Examples: $\frac{3 \times 2}{4 \times 2} = \frac{6}{8}$ $\frac{3 \times 3}{4 \times 3} = \frac{9}{12}$ $\frac{3 \times 5}{4 \times 5} = \frac{15}{20}$ $\frac{15 \div 3}{18 \div 3} = \frac{5}{6}$

$\frac{12 \div 6}{18 \div 6} = \frac{2}{3}$

<u>Rule</u>: When the numerator and denominator cannot be further divided by the same number, the fraction is in its lowest terms. Thus, the lowest terms of $\frac{12}{16}$ is $\frac{3}{4}$

Problems: Reduce to the lowest terms.

(1) $\frac{8}{10}$ (2) $\frac{10}{12}$ (3) $\frac{18}{30}$ (4) $\frac{10}{15}$

(5) $\frac{18}{48}$ (6) $\frac{625}{800}$

Write the missing term for each of the following:

(1) $\frac{5}{6} = \frac{\quad}{18}$ (6) $\frac{75}{425} = \frac{3}{\quad}$

(2) $\frac{2}{5} = \frac{\quad}{25}$ (7) $\frac{25}{625} = \frac{1}{\quad}$

(3) $\frac{3}{4} = \frac{18}{\quad}$ (8) $\frac{528}{640} = \frac{33}{\quad}$

(4) $\frac{9}{13} = \frac{\quad}{52}$ (9) $\frac{104}{156} = \frac{8}{\quad}$

(5) $\frac{3}{4} = \frac{108}{\quad}$ (10) $\frac{60}{625} = \frac{\quad}{15}$

<u>Rule</u>: In order to add fractions, they must have identical denominators. When they do, add the numerators and retain the denominator.

Examples: $\frac{1}{4} + \frac{3}{4} = \frac{4}{4}$ $\quad \frac{23}{43} + \frac{1}{43} = \frac{24}{43}$ $\quad \frac{3}{5} + \frac{1}{5} = \frac{4}{5}$

Problems: (1) $\frac{1}{8} + \frac{3}{8} =$ $\quad$ (2) $\frac{17}{90} + \frac{1}{90} =$

<u>Rule</u>: When adding mixed numbers, add the whole numbers and then add the fractions.

Examples: $2\ 1/4 + 3/4 = \begin{array}{r} 2\ 1/4 \\ 3/4 \\ \hline 2\ 4/4 \end{array} = 3$ $\quad 6\ 2/5 + 3/5 = \begin{array}{r} 6\ 2/5 \\ 3/5 \\ \hline 6\ 5/5 \end{array} = 7$

$5\ 1/8 + 3/8 = \begin{array}{r} 5\ 1/8 \\ 3/8 \\ \hline 5\ 4/8 \end{array} = 5\ 1/2$ $\quad 6\ 14/23 + 8\ 2/23 = \begin{array}{r} 6\ 14/23 \\ 8\ \ 2/23 \\ \hline 14\ 16/23 \end{array}$

Problems: (1) $7\ 1/16 + 3\ 3/16 =$

(2) $12\ 1/32 + 18\ 15/32 =$

(3) $289\ 1/4 + 43\ 3/4 =$

(4) $54\ 13/24 + 37\ 5/24 =$

<u>Rule</u>: When adding fractions with unlike denominators find the lowest common denominator, change all fractions so that they have this denominator and add. To do this we must remember another very useful and basic rule about fractions; i.e. if both the numerator and the denominator are multiplied or divided by the same number, it will not change the value of the fraction.

Example: $5/8 = \frac{5 \times 2}{8 \times 2} = \frac{10 \div 2}{16 \div 2} = 5/8$

$13/16 = \frac{13 \times 3}{16 \times 3} = \frac{39 \div 3}{48 \div 3} = 13/16$

$5/20 = \frac{5 \div 5}{20 \div 5} = \frac{1}{4} = \frac{1 \times 4}{4 \times 4}$

What we are doing, of course, is multiplying or dividing all these fractions with 1 since 2/2 = 1, 3/3 = 1, 5/5 = 1 etc. We are simply changing the form of 1 to suit our own immediate purpose.

Examples: $\frac{3}{4} = \frac{3 \times 2}{4 \times 2} = \frac{6}{8}$ $\qquad \frac{9}{16} = \frac{9}{16}$

$\frac{5}{8} = \frac{5}{8}$ $\qquad \frac{3}{4} = \frac{3 \times 4}{4 \times 4} = \frac{12}{16}$

$\frac{11}{8} = 1\ 3/8$ $\qquad \frac{21}{16} = 1\ 5/16$

Problems: (1) 1/2, 7/10 (2) 1/6, 1/3 (3) 1/2, 7/12 (4) 3/4, 13/16

(5) 1/2, 15/16 (6) 1/8, 3/4

Subtracting Fractions

Use the same rules for subtracting fractions that you do in adding them except, of course, that you subtract the numerators instead of adding them.

Examples:

9/10	12/15	12/15	5/8 = 5/8
8/10	7/15	2/15	1/2 = $\frac{1 \times 4}{2 \times 4}$ 4/8
1/10	5/15	10/15 = 2/3	1/8

15/32 $\qquad$ 15/32 $\qquad$ 16/32 = $\frac{16 \div 8}{32 \div 8}$ = 2/4

1/8 = $\frac{1 \times 4}{8 \times 4}$ = 4/32 $\qquad$ 1/4 $\qquad$ = 1/4

11/32

Multiplying Fractions

Rule: When multiplying fractions, multiply the numerators for a new numerator and multiply the denominators for a new denominator and simplify the answer if necessary.

Examples: 1/3 x 1/3 = 1/9 2/5 x 3/8 = 6/40 = 3/20

1/4 x 1/5 = 1/20 2/3 x 3/4 = 6/12 = 1/2

Problems: (1) 3/5 x 10/10 = (2) 3/8 x 4/19 =

(3) 6/11 x 3/10 = (4) 4/7 x 8/9 =

(5) 2/3 x 5/7 = (6) 11/12 x 7/8 =

To make things easier, cancel, (or divide one of the numerators and one of the denominators by the same number) whenever possible.

Examples: Ordinary way --- 3/4 x 1/7 = 3/24 = 1/8

9/10 x 4/27 = 36/270 = 4/30 = 2/15

Short way ---^{1}3/4 x 1/$_{2}$ = 1/8

$$\frac{{}^{1}\cancel{9}}{{}_{5}\cancel{10}} \times \frac{\cancel{4}^{2}}{\cancel{27}_{3}} = \frac{2}{15}$$

Problems: (1) 2/5 x 5/8 (2) 1/4 x 2/5 (3) 1/3 x 3/7

(4) 2/7 x 7/9 (5) 3/8 x 4/9 (6) 2/3 x 6/7

(7) 5/12 x 3/10 (8) 4/7 x 7/9

(9) 225/45 x 75/375 (10) 2/3 x 42/10 x 25/28 x 2/5

<u>Dividing Fractions</u>

When dividing a fraction by a fraction, invert (turn upside down) the denominator and multiply.

Examples: $\frac{3/4}{1/2}$ = 3/4 x 2/1 = 3/2 = 1 1/2

$\frac{3/4}{1/2}$ can also be written as 3/4 ÷ 1/2

3/4 ÷ 1/2 = 3/4 x 2/1 = 6/4 = 3/2 = 1 1/2

4/5 ÷ 4/5 = $\frac{{}^{1}\cancel{4}}{{}_{1}\cancel{5}} \times \frac{\cancel{4}^{1}}{\cancel{4}_{1}}$ = 1 OR $\frac{4/5}{4/5}$ = $\frac{{}^{1}\cancel{4}}{{}_{1}\cancel{5}} \times \frac{\cancel{4}^{1}}{\cancel{4}_{1}}$ = 1

Problems: (1) $5/8 \div 25/32$ (2) $\frac{9/8}{1/96}$ (3) $\frac{6/7}{2/49}$

(4) $\frac{3/4 \times 8/27}{2/9}$ (5) $\frac{32/61}{2/1}$ (6) $\frac{42/53}{7}$

(7) $7/8 \div 49$ (8) $\frac{7/9 \times 18/49 \times 21/10}{5/6 \times 18/15 \times 9/15}$

Multiplying Mixed Numbers

Rule: To multiply mixed numbers (4 1/2, 13 5/8 etc.) Change the mixed numbers into an improper fraction (9/2, 109/8 etc.) and multiply.

Examples: $4\ 2/3 \times 9 = \frac{14}{1\cancel{3}} \times \frac{\cancel{9}^{3}}{1} = 14 \times 3 = 42$

$8 \times 2\ 3/4 = {}^{2}\cancel{8} \times \frac{11}{\cancel{4}_{1}} = 2 \times 11 = 22$

$2\ 3/4 \times 6\ 2/3 = \frac{11}{4} \times \frac{22}{3} = \frac{121}{6} = 20\ 1/6$

Problems: (1) $7\ 1/5 \times 5$ (2) $1\ 1/4 \times 3$ (3) $12\ 1/2 \times 4$

(4) $9 \times 7\ 1/5$ (5) $2\ 2/3 \times 5\ 1/4$

(6) $8 \times 3\ 4/5$ (7) $7\ 1/3 \times 1\ 1/2$

(8) $6\ 6/25 \times 5/12$

Dividing Mixed Numbers

To divide mixed numbers change the mixed numbers into improper fractions and divide.

Examples: $5 \div 1/5 = 5\ 5/1 = 25/1 - 25$

$17 \div 2/3 = 17 \times 3/2 = 51/2 = 25\ 1/2$

$25 \div 5/7 = 25 \times 7/5 = 5 \times 7 = 35$

Problems: (1) 9 5/8 ÷ 2 3/4 (2) $\frac{2\ 3/4}{4\ 7/12}$

(3) 1/5 ÷ 5 (4) 1/6 ÷ 1/6

(5) $\frac{1/100}{1/10}$ (6) $\frac{1/10}{1/100}$

(7) 1/4 ÷ 4 (8) 7 5/8 ÷ 8 1/8

UNIT XXIV

FRACTIONS

Complete The Following Problems And Reduce To The Lowest Terms

1. 3 9/10 + 6 2/5 =

2. 3/4 + 6/12 =

3. 5/6 + 7/9 =

4. 2/3 + 12/36 =

5. 10/12 - 3/16 =

6. 6/15 - 3/20 =

7. 2 8/12 - 1 6/36 =

8. 6 7/14 - 2 3/14 =

9. 2 2/5 x 4 7/9 =

10. 12 8/16 x 10 8/16 =

11. 2 3/6 x 4 2/5 =

12. 12/30 x 16/20 =

13. 10/12 ÷ 10/12 =

14. 7 2/10 ÷ 4 6/30 =

15. 4/16 ÷ 13/32 =

UNIT XXIV

FRACTIONS

Short Answers

1. 10 3/10
2. 1 1/4
3. 1 11/18
4. 1
5. 31/48
6. 1/4
7. 1 1/2
8. 4 2/7
9. 11 7/15
10. 131 1/4
11. 11
12. 8/25
13. 1
14. 1 5/7
15. 8/13

UNIT XXV

Areas And Volumes

UNIT XXV: Areas and Volumes

PREREQUISITE: None

TERMINAL OBJECTIVE:

Upon completion of this unit, you will have had a thorough review of areas and volumes. Evidence of this will be shown by a score of 80% on the post-test.

AIMS AND OBJECTIVES:

1. To acquaint the student with areas and volumes.
2. To familiarize the student with the various formulas used in finding area and volume.

INTRODUCTION:

Area is the number of square units on a surface. The formula you have learned for the area of a rectangle is length times width.

Linear units are used to measure the length of an object, and to measure the area of a surface. Sometimes it is necessary to measure how much space an object contains. This space is called a volume and volume is measured in cubic units.

ACTIVITY I

Everyone must choose (A), and then any two of the follow-activities.

A. Read pages 168 - 182 in the General Related Curriculum Guide, Volume 2, or read the self-contained study sheets that are attached to this unit.

B. What is the meaning of area and volume?

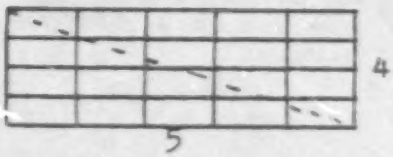
C. List the formulas used for area and volume.

D. Explain how to find the area of a triangle and give an example.

ACTIVITY II

Choose any <u>two</u> of the following activities.

A. Find the area of the following rectangle and triangle.



Area of a rectangle:

$A = L \times W$

$A = \frac{bh}{2}$

*Note: Look at the example on page 169 or page two on the attached study sheets.

B. Look around in your classroom. Use a yard stick and measure the length and the width of the classroom and find the area; then the volume.

C. Using a cardboard box, design your dreamhouse with the dimensions being: Length - 12"; Width - 14"; Height - 10".

*Note: Constr[illegible] dividers for each room.

OTHER ACTIVITIES USING OUTSIDE RESOURCES FOR CLASS PARTICIPATION

Use the "yellow pages" in your local phone directory. Look up the number of an architect and ask him to come and speak to your class about the importance of math to his profession.

SUGGESTED RESOURCE PERSONNEL

Architect

Engineer

Physicists

Systems Analyst

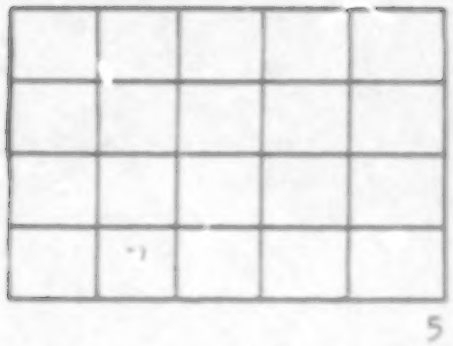
EVALUATION

After you have completed this unit, ask your instructor for the quiz on "Area and Volume", and see how much knowledge you have obtained.

Areas and Volumes

It is difficult to think of a skill that has a more practical and widespread use than that of claculating areas and volumes. Whether it is in your work, figuring the number of board feet of lumber, the amount of sheet metal required for a job, the shipping space in a box car, or in the home, figuring quantity and cost of rugs, drapes, paint, fuel consumption, etc. Many of the students who are reading this material now will be married and have households of their own within three years and this may be their last opportunity to learn these money-saving and money-earning skills.

Area is the number of square units on a surface. It makes no difference what the units are--they could be miles or centimeters. The formula or rule you have learned for the area of a rectangle is L X W, or length times width. It would work the same if you called the sides of the rectangle side one and side two or short side and song side or X and Y--just so long as you remember that you are multiplying the number of square units in a row on one side on the rectangle times the number of rows as counted on the other, adjacent side of the rectangle.



Four rows of five square units each, counted on this side.

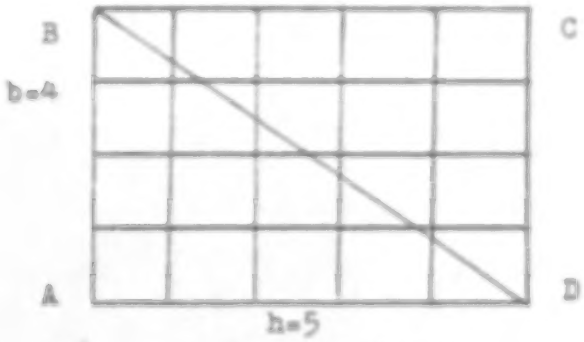
Five square units in a row on this side.

Obviously, four fives, or 4 x 5 equal twenty, the number of square units on the surface of this figure.

Rule: Area of a rectangle: A = L X W

Rule: Area of a triangle: A = $\frac{bh}{2}$

This reads: Area of a triangle equals one-half of the base times the height. Not that if we multiply the base times the height we would have the same rule and same area as we have for a rectangle. If we cut this rectangle in half diagonally, we would get a right triangle with the base equal to one dimension of the rectangle and the height equal to the other dimension. So the triangle area formula is merely half of the rectangle area formula.



b x h would equal the area of the rectangle ABCD. ½b x h would equal one-half of this rectangle or the area of the triangle ABD.

This formula works for all triangles, whether they are right triangle or not. Remember, though, that the height must be measured perpendicular to the base.

Rule: Area of a circle $A_c = \pi R^2$

This is read: Area of a circle equals pi times the square of the radius. (pi is equal to approximately 3.14.) Let's take a look at this mysterious thing called pi (π). A long time ago a very clever mathematician discovered that no matter what the size of the circle, if he measured the diameter and the circumference and divided the diameter into the circumference, he always got the same answer; namely 3.1416 etc. He called this number (which he recognized as a constant ratio) pi, a letter of the Greek alphabet. His statement looks like this.

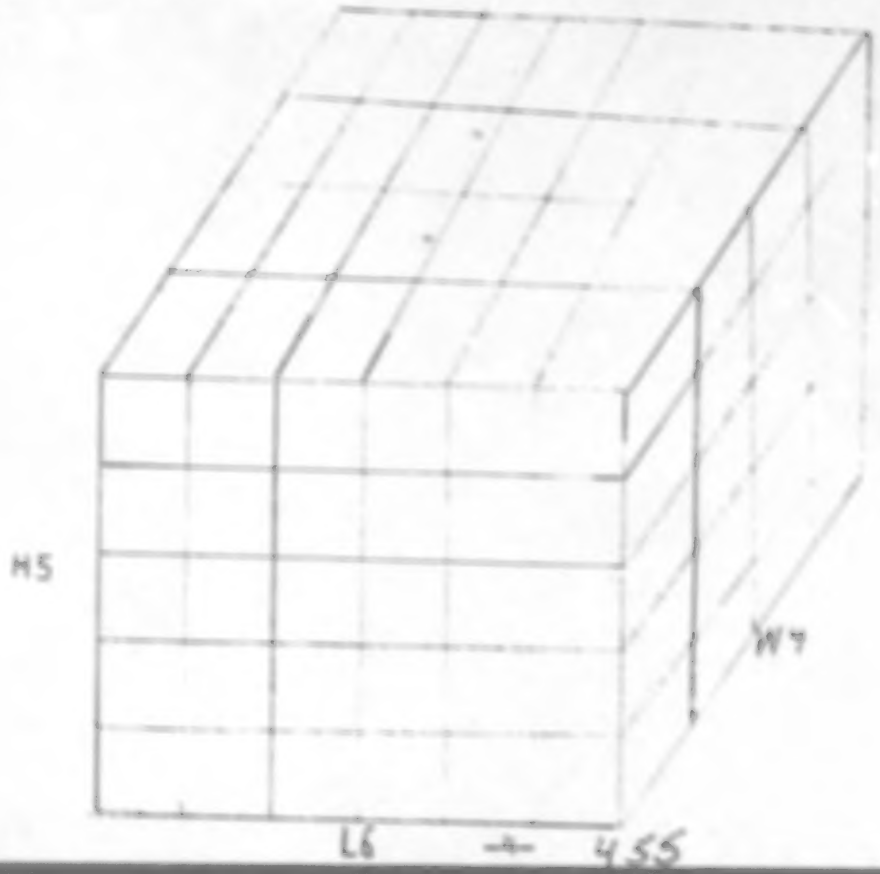
$$\frac{\text{Circumference}}{\text{Diameter}} = 3.14, \text{ or } \frac{C}{D} = \pi$$

Most important of all he saw that knowing the value of π (3.14) and one other dimension of <u>any</u> circle he could

always solve for the other dimension of that circle. Hence, from $\frac{C}{D} = \underline{\quad}$ he could get $C = \underline{\quad}D$ and $D = \frac{\underline{\quad}}{C}$.

Volume

To measure the length of an object, linear units are used and to measure the area of a surface square units are used. At times it is necessary to measure how much space an object contains. For instance, how much water does it take to fill a swimming pool or how much fuel oil will a storage tank hold? This space, or capacity, is called volume, and volume is measured in cubic units. A cubic inch is the space occupied by a cube one inch long, one inch wide, and one inch high. A cubic mile is the space occupied by a cube one mile long, one mile wide, and one mile high.

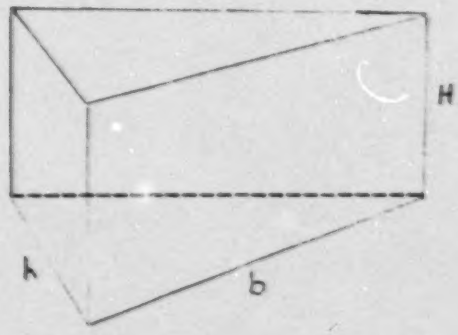


In this illustration you can see that there are 6 rows of cubes with 4 cubes in each row in the top layer. Also, it is obvious that there are 5 such layers in this rectangular solid, making 6 x 4 x 5 = 120 cubes in all. This could be a tiny block of steel measuring 6 x 4 x 5 millimeters, making each cube a cubic millimeter and the volume of the block 120 cubic millimeters. Also, it could be measuring air space in miles, making each unit a cubic mile and the volume 120 cubic miles. From this we can establish a rule or formula:

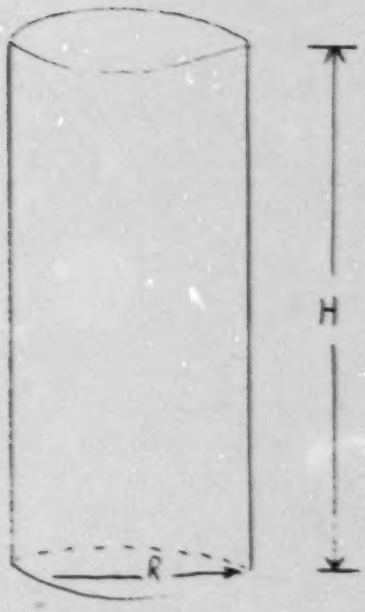
Rule: $V = L \times W \times H$ or volume of a rectangular solid equals its length times its width times its height.

Notice that the first two letters of this rule (L x W) will give us the area of the base of the figure and also the volume of the first layer of cubes since the height of this layer equals 1. So, we don't have to memorize the formulas or rules for regular solids such as rectangular solids, cylinders, and wedges. It is merely necessary to find the area of the base (or the top) and multiply it by the height.

Rule: $V = \frac{bh}{2} \times H$. Volume of a triangular solid one-half the base times the height of its triangular base (or top) times its height (H).



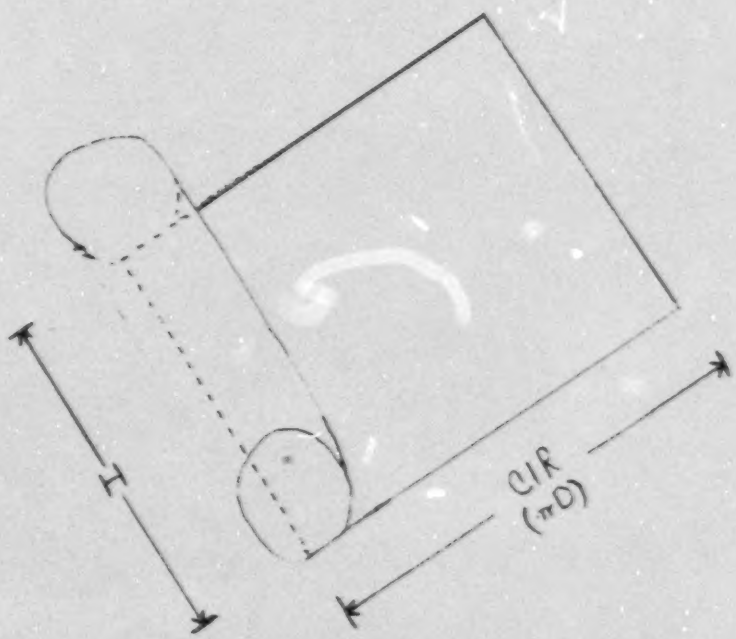
Rule: $V\circledcirc = R^2 \times H$. Volume of a cylinder equals the of its base times its height.



Footnote: The drawings indicate the type of figure in question. For an example, V means the volume of a triangular solid; A_o means the area of a circle; V ⊡ means the volume of a rectangular solid, A_T means total area; etc.

Area

Finding the surface area of these various solids is merely a matter of adding the areas of the several sides. Finding the surface area of the cylinder looks complicated, but is, in fact, quite simple. The trick is to mentally lay the cylinder over on its side and "unroll" it, making the sides of the cylinder into a rectangle whose length (L) is equal to the cylinder's height (H) and whose width (W) is equal to the cylinder's circumference (πD). Don't forget the areas of the top and bottom, which are circles.



Your solution of the surface area of a cylinder problem should look something like this:

$A_T = A \text{ side} + A \text{ top} + A \text{ bottom}$

Total surface area of a cylinder equals the area of the sides plus the area of the top plus the area of the bottom

$A_T = A_{\square} + A_{\bigcirc} + A_{\bigcirc}$

$A_T = L \times W + \pi R^2 + \pi R^2$

$A_T = H \times \pi D + \pi R^2 + \pi R^2 = H \times \pi D + 2\pi R^2$

If you have had algebra you could gather terms before solving; if not, solve by inserting the proper numerical values and to the indicated process.

$A_T = \pi (HD + 2R^2) \qquad D = 2R$

$A_T = 2R\pi (H + R)$

If the height of the cylinder is 12 inches and its diameter is 6 inches, then

$A_T = \cancel{2} \times \frac{6}{\cancel{2}} \times 3.14 \left(12 + \frac{\cancel{6}^{3}}{\cancel{2}_{1}}\right)$

$= 6 \times 3.14 \times 15$

$= 90 \times 3.14$

$= 282.60$ square inches

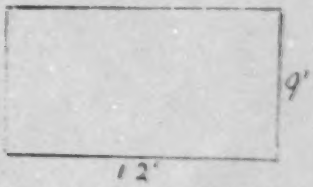
EXAMPLES:

Find the Areas of a rug 12' long and 9' wide

$A_{\square} = L \times W$

$= 12 \times 9$

$= 108$ sq. ft.



Of a circular room the diameter of which is 24 feet.

$A_{O} = \pi R^2$

$= 3.14 \times \frac{\cancel{24}^{12}}{2} \times \frac{\cancel{24}^{12}}{2}$

$= 3.14 \times 144$

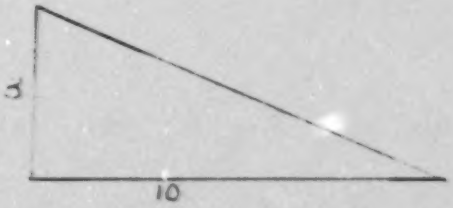
$= 452.16$ sq. ft.

Of the triangular piece of land shown in the drawing.

$A_{\triangle} = \frac{bh}{2}$

$= \frac{\cancel{10}^{5} \times 3}{2}$

$= 15$ square miles



EXAMPLES:

Find the volumes of the following figures:

$V_{\otimes} = L \times W \times H$

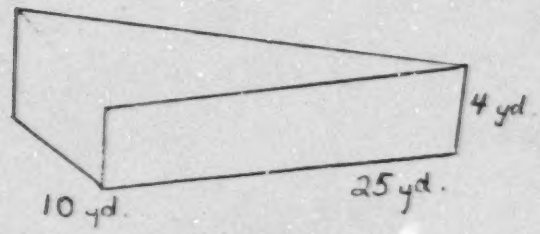
$= 5 \times 3 \times 15$

$= 225$ cubic inches

$V = \frac{bh}{2} \times H$

$= \frac{25 \times \cancel{10}^{5}}{\cancel{2}} \times 4$

$= 500$ cubic yards



$V = A_o \times H$

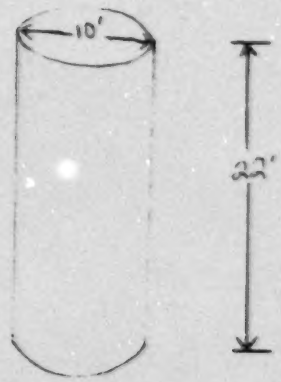
$= \pi R^2 H$

$= 3.14 \times \frac{\cancel{10}^{5}}{\cancel{2}} \times \frac{\cancel{10}^{5}}{\cancel{2}} \times 22$

$= 3.14 \times 25 \times 22$

$= 3.14 \times 550$

$= 1727$ cubic feet



EXAMPLES:

Find the volume and the surface area of a storage tank that is 20 feet tall and 8 feet in diameter.

<u>Surface Area</u>

$A_T = A \text{ top} + A \text{ bottom} + A \text{ side}$

$= A_o + A_o + A_{\square} = 2A_o + A$

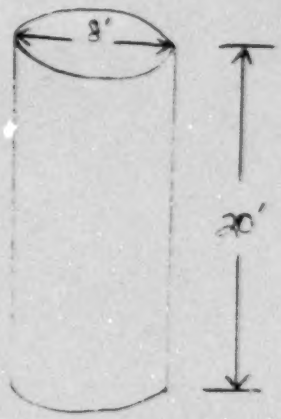
$= 2\pi R^2 + L \times W$

$= 2\pi R^2 + 20 \times \pi D$

$= 2 \times 3.14 \times \frac{\cancel{8}^{4}}{\cancel{2}} \times \frac{\cancel{8}^{4}}{\cancel{2}} + 20 \times 3.14 \times 8$

$= 32 \times 3.14 + 160 \times 3.14$

$= 100.48 + 502.40$



Volume

$V\theta = A\ base \times H$

$= A_o \times H$

$= \pi R^2 \times H$

$= 3.14 \times 4 \times 4 \times 20$

$= 3.14 \times 320$

$V\theta = 1004.8$ cubic ft.

As you can see, a complicated problem can be made simple by doing it step by step. Follow these general rules and you can't go wrong.

First: State your method of solution

Second: Replace your method statement with formulas

Third: Replace your formulas with appropriate numerals

Fourth: Complete the arithmetic

EXAMPLE:

Find the amount of steel in a round bar with a square hole through it as shown:

First, we'll find the volume of a solid cylinder and then take away (or subtract) the volume of the rectangular hold.

$V_{Total} = V\theta - V\square$

$V_T = \pi R^2 H - L \times W \times H$

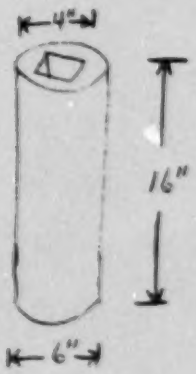
$= 3.14 \times 3 \times 3 \times 16 - 4 \times 4 \times 16$

$= 16\ [(3.14 \times 9) - 16]$

$= 16\ (28.26 - 16)$

$= 16 \times 12.26$

$= 196.16$ cubic inches

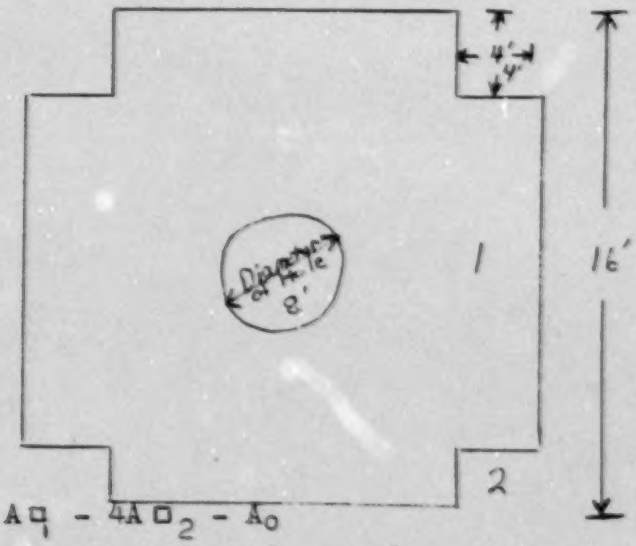


*If you have not had algebra, solve by using arithmetic here.

EXAMPLE:

How many pounds of sheet metal are in this symetrical figure made of galvanized iron weighing 1/4 pounds per square foot?

The simplest approach would be to find the area of the big rectangle (16' x 16') and cut out (or subtract) the four identical corners and the round hole.



$A_{Total} = A\square_1 - 4A\square_2 - A_o$

$= L \times W - 4L^2 \times W^2 - \pi R^2$

$= 16 \times 16 - 4 \times 4 \times 4 - 3.14 \times \frac{8}{2} \times \frac{8}{2}$

$= 16 \times 16 - 4 \times 16 - 3.14 \times 16$

$= 256 - 64 - 50.24$

$= 256 - 114.24$

$= 141.76$ sq. ft.

OR

$= 16\ (16 - 4 - 3.14)$

$= 16 \times 8.86$

$= 141.76$ sq. ft.

Wt = 1/4 lbs./sq. ft. x ~~141.76~~ 35.44 sq. ft. = 35.44 pounds

EXAMPLE:

How much paint will it take to cover <u>all</u> surfaces of this decorative display cube with a hole in it if the paint will cover 400 sq. ft. per gallon?

A_{total} = A top + A bottom + A 4 identical sides + A cylinder

A_T = 2 A top + 4 A sides + A ⊖ sides

= 2 A ▣ + 4 A ▭ + A ⊖ sides

= 2 (A ▭ − A_o) + 4A ▭ + A ⊖ sides

$= 2(L \times W - \pi R^2) + 4 (L^2 \times W^2) + \pi D - H$

$= 2(20 \times 20 - 3.14 \times 6 \times 6) + 4(20 \times 30) + 3.14 \times 12 \times 30$

$= 2(400 - 3.14 \times 36) + 4 \times 600 + 3.14 \times 12 \times 30$

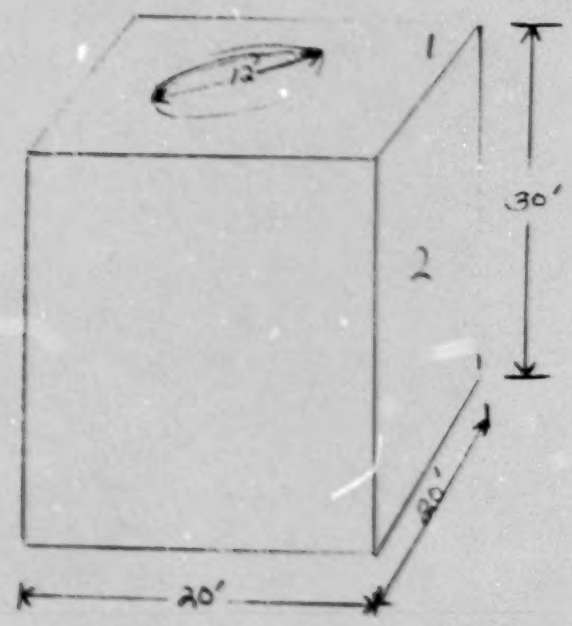
$= 2(400 - 113.04) + 2400 + 3.14 \times 12 \times 30$

$= 2 \times 286.96 + 2400 + 1130.40$

$= 573.92 + 2400 + 1130.40$

= 4104.32 sq. ft.

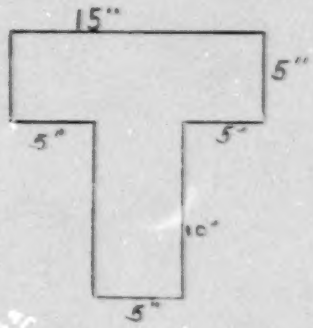
Paint = 4104.32 sq. ft. ÷ 400 sq. ft./gal. = 10.26



PROBLEMS:

Find the Areas of the following figures:

1.



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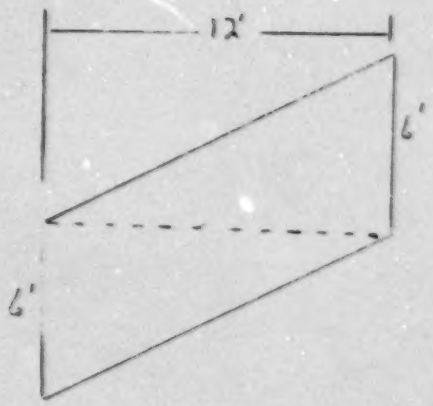

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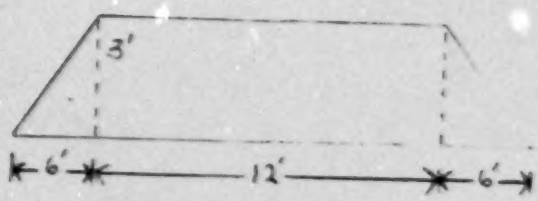

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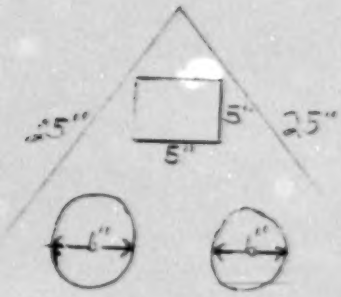
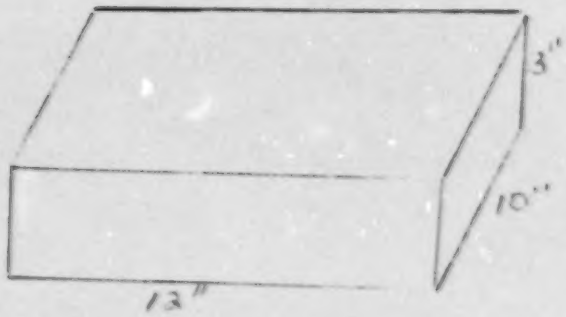


Find the volumes and the surface areas of the following figures:

5.



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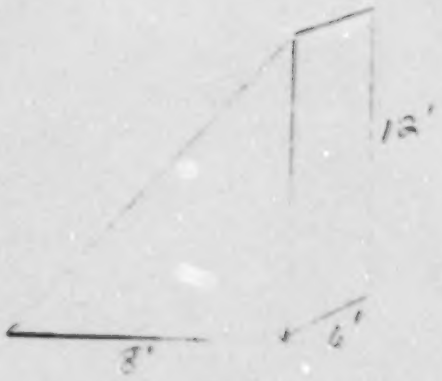

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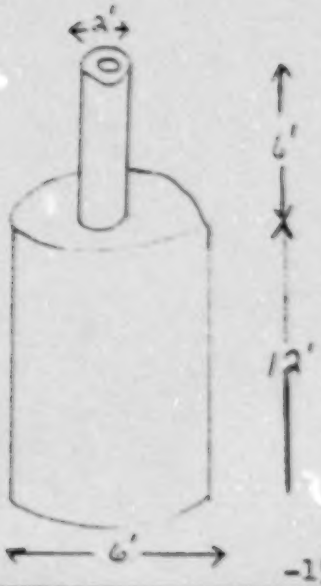

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UNIT: XXV

AREA AND VOLUME

True - False

_____ 1. Area is the number of square units on a surface.

_____ 2. The formula for area is length times width.

_____ 3. The area of a triangle equals one-half of the base times the height.

_____ 4. The triangle area formula is one-fourth of the rectangle area formula.

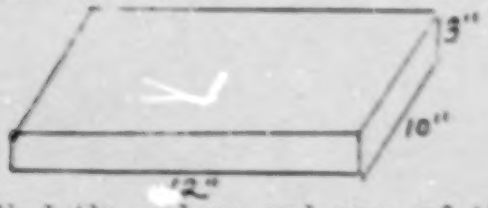
_____ 5. When working with circles, pi is equal to approximately 3.14.

_____ 6. Linear units are used to measure the length of an object.

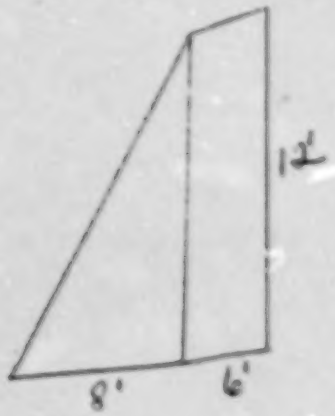
_____ 7. The volume of a rectangular solid equals its length times its width times its height.

Fill in the Blank.

8. Find the volume of the following figure: _____ = Volume.



9. Find the volume and area of the following figure:
Volume = _____; Area = _____.



UNIT XXV

AREA AND VOLUME

True-False

1. True

2. True

3. True

4. False

5. True

6. True

7. True

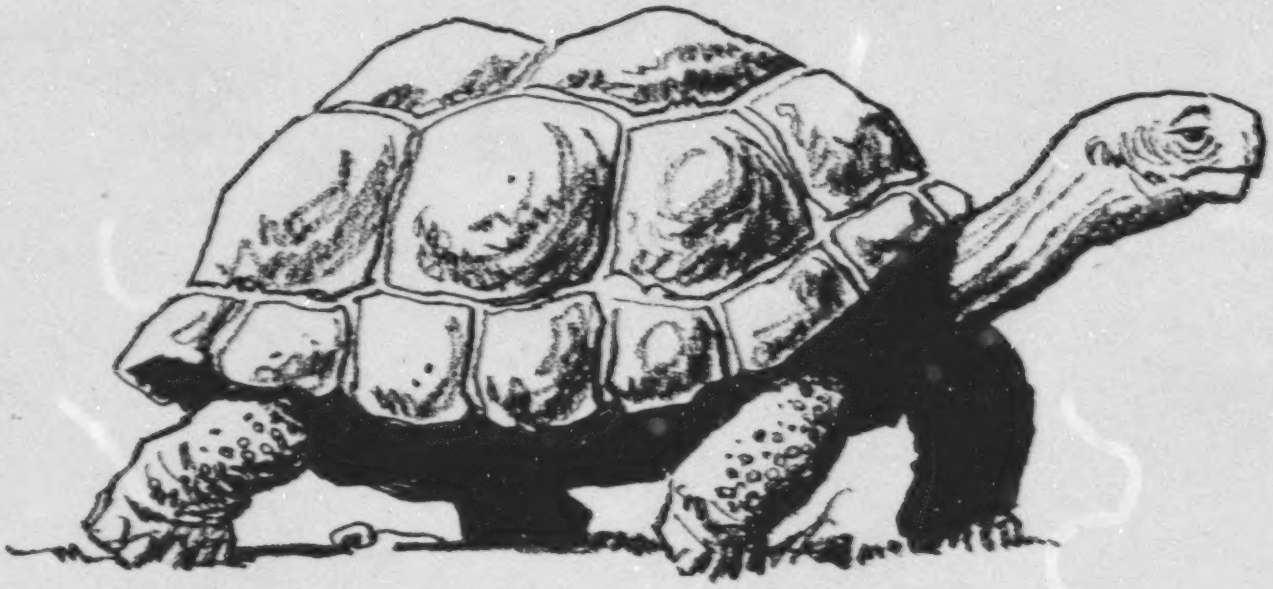
Fill In The Blank

8. 360

9. 288; 24

UNIT XXVI

Kinds Of Decimals



UNIT XXVI: Kinds of Decimals

PREREQUISITE: None

TERMINAL OBJECTIVE:

Upon completion of this unit, the student will have a better understanding of the use of decimals. Evidence of this will be shown by a score of 80 percent on the post-test.

AIMS AND OBJECTIVES:

1. To learn the meaning of fractions.
2. To acquaint the student with the kinds of decimals.
3. To learn the steps involved in converting a common fraction into a decimal fraction.
4. To learn to convert a decimal into a common fraction.

INTRODUCTION:

There are three different types of decimal fractions. They are simple, mixed and complex decimals.

A simple decimal is one that has a whole number at the right of the decimal point. An example of this would be .23.

A mixed decimal is one that consists of a whole number and a decimal fraction. An example of this would be 1.7.

A complex decimal is one that has a whole number and a fraction at the right of the decimal point. An example of this would be .06¼.

ACTIVITY I

Everyone must choose (A), and then any two of the following activities:

A. Read pages 184 - 185 in the General Related Curriculum Guide, Volume II, or read the self-contained study sheets that are attached to this unit.

B. Explain the difference between a simple, mixed, and complex decimal. Give an example of each.

C. How do you convert a common fraction into a decimal fraction? Give an example and explain the steps involved.

D. How do you convert a decimal into a common fraction? Give an example and explain the steps involved.

ACTIVITY II

Choose any two of the following activities.

A. Change the following fractions to their equivalent decimal form. Carry the division to four decimal places:

(1) 2/3 (4) 5/8

(2) 3/4 (5) 6/7

(3) 7/12 (6) 8/9

B. Convert the following decimals into common fractions. The resulting common fractions should be reduced to the lowest terms.

(1) .06 (4) .1250

(2) .50 (5) 2.5

(3) .221 (6) 3.68

C. Before multiplying the following numbers, review on page 185 in the General Related Curriculum Guide, Volume II, on this particular section, or page 2 on the self-contained study sheets.

(1) .55 x .01 = (3) 5.5 x .01 =

(2) 25 x .1 = (4) 62.63 x .001 =

D. When dividing numbers with decimal points, remember both the dividend and the divisor are moved to the right as many places as are required to make the divisor a whole number. Divide the following numbers.

(1) 55 ÷ .01 = (3) 442 ÷ .1 =

(2) $13.55 ÷ .001 = (4) 8.75 ÷ .01 =

OTHER ACTIVITIES USING OUTSIDE RESOURCES FOR CLASS PARTICIPATION

Look at the list below and decide upon a speaker to come to talk with your class on any math related topic that pertains to their profession.

SUGGESTED RESOURCE PERSONNEL

Accountant

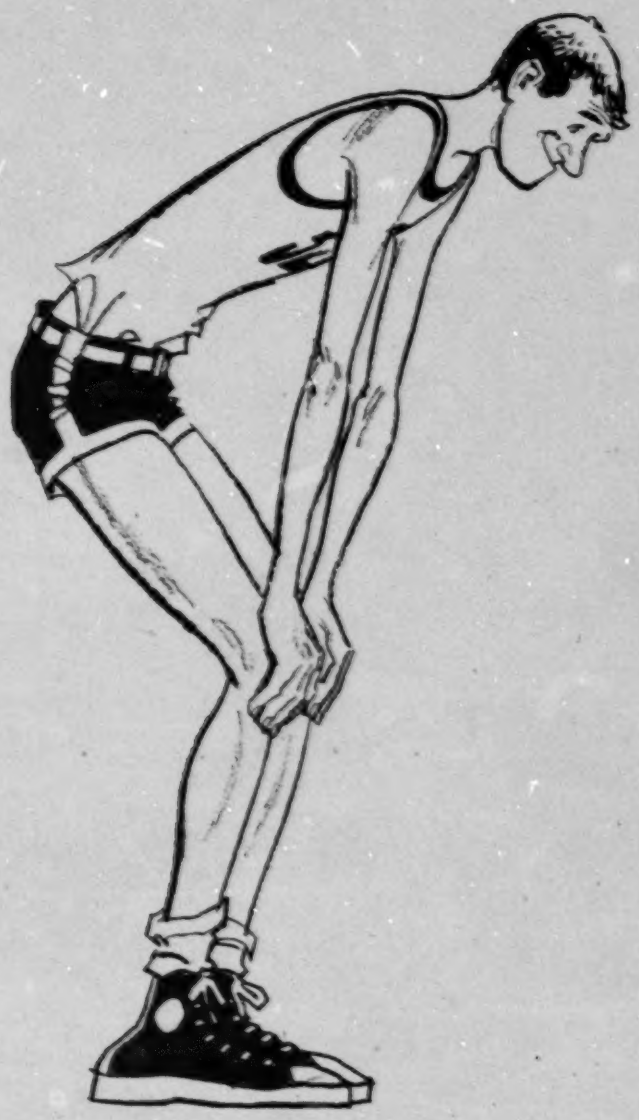
Actuary

Programmer

Technician

EVALUATION

After you have completed this unit, ask your instructor for the quiz on "Kinds of Decimals" and see how much knowledge you have obtained.



Kinds of Decimals

Decimal fractions are of three general kinds--simple or pure, mixed, and complex decimals.

A simple decimal, or pure decimal, is one that has a whole number at the right of the decimal point. Thus, $.18, .45 and .307 are simple decimals.

A mixed decimal is one that consists of a whole number and a decimal fraction. Thus, $4.55 and 23.4 are mixed decimals.

A complex decimal is one that has a whole number and a fraction at the right of the decimal point. Thus, $.08 3/4, $1.12 1/2, .16 2/3, and 3.2 1/4 are complex decimals.

Converting a Common Fraction Into A Decimal Fraction

A common fraction indicates the division of the numerator by the denominator. Hence, the decimal equivalent of the fraction is found by carrying out the indicated division.

Example: Change 3/8 to its equivalent decimal form.

Solution: $\begin{array}{r} .375 \text{ answer} \\ 8\overline{)3.000} \end{array}$

Explanation: The numerator, 3, is divided by the denominator 8, until there is no remainder.

In many cases the division is not exact. No matter how far the quotient is extended, there will always be a remainder. In such cases it is necessary to specify the number of places in the quotient.

Example: Change 3/7 to a decimal of four places of exact value.

Solution: $\underline{.4285\ 5/7}$ answer
7)3.0000

Explanation: The division is carried to 4 decimal places. Since the exact decimal equivalent is required, the remainder, 5, is retained and is written in the common-fraction form, 5/7. The exact decimal equivalent is .4285 5/7.

Converting A Decimal Into A Common Fraction

A decimal may be converted into a common fraction by omitting the decimal point and writing the number as the numerator of a common fraction with a denominator of 10, 100, or 1000, etc., as the case may be. The resulting common fraction should be reduced to lowest terms.

To illustrate:

(a) .75 = 75/100 = 3/4
(b) .125 = 125/1000 = 1/8
(c) 1.4 = 14/10 = 7/5

Sometimes the fraction is a complex fraction, like 14 2/3/100. When it is, multiply the numerator and denominator by the denominator of the fraction in the numerator. Reduce the resulting simple fraction to lowest terms.

Thus, .14 2/3 = 14 2/3/100 = 14 2/3 x 3/100 x 3 = 44/300 = 11/75

Multiplication by .1, .01, and .001

When the multiplier is .1, .01, .001, and so on, the multiplication may be performed by moving the decimal point to the left in the multiplicand as many places as there

are decimal places in the multiplier, prefixing ciphers if necessary. Thus:

64.5 x .01 = .645	$8.50 x .1 = $.85
35 x .001 = .035	$2,450 x .001 = $2.45

Division by .1, .01, and .001

When numbers containing decimals are divided, the decimal point in both the dividend and divisor is moved to the right as many places as are required to make the divisor a whole number. When the divisor is .1, .01, or .001 and so on, the division may be performed by moving the decimal point to the right in the dividend as many places as there are decimal places in the divisor, annexing ciphers if necessary. Thus, 645 ÷ .1 = 6,450

$14.16 ÷ .1 = $141.60

.0275 ÷ .01 = 2.75

$15.25 ÷ .001 = $15,250

UNIT XXVI

KINDS OF DECIMALS

Fill In The Blank

1. A _____ decimal is one that has a whole number at the right of the decimal point.

2. A _____ decimal is one that consists of a whole number and a decimal fraction.

3. A _____ decimal is one that consists of a whole number and a fraction at the right of the decimal point.

4. _____ Change 5/8 to its equivalent decimal form.

5. _____ Change 7/9 to its equivalent form.

6. _____ Convert .125 into a common fraction reduced to its lowest terms.

7. _____ 55.5 x .001

8. _____ 6.9 x 82.79

9. _____ 13.63 ÷ .01

10. _____ 9.51 ÷ 4.77

UNIT XXVI

KINDS OF DECIMALS

Fill In The Blank

1. simple
2. Mixed
3. complex
4. .625
5. .777
6. 1/8
7. .0555
8. 571.25
9. 1363
10. 1.99

UNIT XXVII

Percentage

UNIT XXVII: Percentages

PREREQUISITE: None

TERMINAL OBJECTIVE:

Upon completion of this unit, you will have a better understanding of percentages. Evidence of this will be shown by a score of 80 percent on the post-test.

AIMS AND OBJECTIVES:

1. To become aware of the meaning of percentage.
2. To understand the terminology used when finding percentages.

INTRODUCTION:

Percentage means a part of a whole expressed in hundreths. Therefore, 100% of 60 is 60.

Every problem in percentage contains three elements, the base, rate, and percentage. For example, when we say 5% of $100 is $5, the base is $100, the rate is 5 and the percentage is $5. Anytime that two of these elements are known, the third can be easily found.

ACTIVITY I

Everyone must select (A), and then you may choose any three of the following activities.

A. Read pages 186 - 189 in the General Related Curriculum Guide, Volume 2, or read the self-contained study sheets that are attached to this unit.

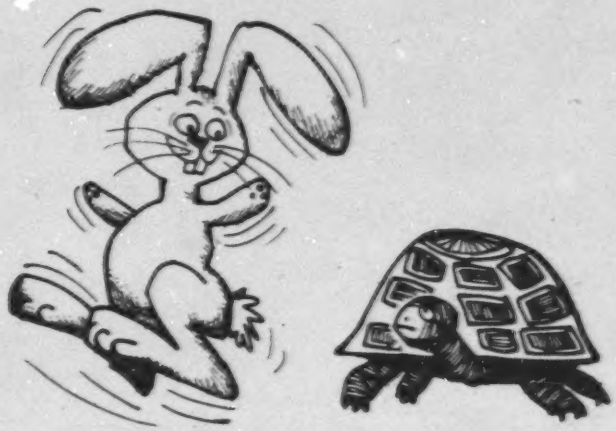
B. Every problem in percentage contains three elements. Explain.

C. List some common fractions and then convert them to percentage equivalents. For example: 1/2 = 50%; 1/4 = 25%

D. Explain how you would find the percentage of a number when you are given only the Base and the Rate.

E. Explain how you would find the rate, when you are given only the Base and the Percentage.

F. Explain how you would find the base, when you are given only the Percentage and the Rate.



ACTIVITY II

Choose any <u>four</u> of the following activities.

A. Find the percentage of the following:

(1) 6% of 600 (3) 5% of 680

(2) 7% of 50 (4) 3% of 125

B. Find the following rates:

(1) What per cent of 9 is 6?

(2) What per cent of 55.7 is 15.5?

(3) What per cent of 12 is 6?

(4) What per cent of .0756 is .35?

C. Finding the base:

(1) 102 is 23% of what number?

(2) 50 is 25% of what number?

(3) 200 is 15% more than what number?

(4) 175 is 33% more than what number?

D. A motorcycle marked at $750 was sold for $700. Find the percentage of discount from the marked price.

E. Mrs. Robbins sold her VW for $3,000. This was 20% more than it cost her. What was the actual cost to Mrs. Robbins?

F. A local dealer was having an after-Christmas sale with everything marked 40% off the original price. If the reduced price of a motorcycle helmet is $30, what was the original price?

OTHER ACTIVITIES USING OUTSIDE RESOURCES FOR CLASS PARTICIPATION

Contact a person that is in charge of a loan department in a local bank. Ask him/her to come and speak to your class on the importance of percentages in their daily job.

SUGGESTED RESOURCE PERSONNEL

Biologist

Economist

Electronic Computer Operating Personnel

Marketing Researcher

Surveyor

EVALUATION

After you have completed this unit, ask your instructor for the quiz on "Percentages," and see how much knowledge you have obtained from this unit.

PERCENTAGE

One percent of a number means one-hundredth of a number, six percent means six-hundredths, and so on.

The symbol % stands for the words percent. Thus 4 percent is written 4%, 6 percent is written 6%. The symbol % does the work of two decimal places. For example, 6% = 0.06; 25% = 0.25; 110% = 1.10; .5% = 0.005; 2¼ = 0.225 or 0.02¼; and 5.7% = 0.057.

Since percent means hundredths, the whole of any number contains 100% of itself. Thus 100% of 75 is 75.

Every problem in percentage contains three elements, the base, the rate, and the percentage. When we say 6% of $100 is $6, the base is $100, the rate percent is 6, and the percentage is $6. If any two of these three elements are known, the third may be found.

The following are examples which give the percentage equivalents of some common fractions most frequently used in practice. 1/8 = 12 1/2%; 5/8 = 62 1/2%; 1/6 = 16 2/3%

Finding the Percentage, Given the Base and the Rate

Example: Find 4% of 683.

Solution: 4% = 0.04 0.04 x 683 = 27.32

Explanation: Since percent means hundredths, 4% of a number means 0.04 of a number. Hence to obtain 4% of 683 by 0.04 and get the percentage 27.32.

To find the percentage, multiply the base by the rate percent. Find the following percentages: 1% of 5000; 1½% of 1062; 50% of 48; ½% of 50.

Finding the Rate, Given the Base and the Percentage

Example: What percent of 8 is 7?

Solution: 7 is 7/8 of 8, and 7/8 = 0.875 = 87.5%

Example: What percent of 64.8 is 16.5%?

Solution: $\frac{16.5}{64.8} = 0.2546 = 25.46\%$

To find the rate percent write a fraction with the percentage as the numerator and the base as the denominator and change this fraction to a decimal with four figures after the decimal point. Multiply the quotient by 100 to get the final answer to two decimal places.

Example: Find the following rates:

What percent of 10 is 5? What percent of 0.625 is .25?

What percent of 208 is 52? What percent of 0.025 is .005?

Finding the Base, Given the Percentage and the Rate

Example: 1022 is 28% of what number?

Solution: $\frac{1022}{.28}$

```
        36 50
28.)1022.00.
    84
     182
     168
      140
      140
```

Explanation: Dividing by 28 gives 1% of the number. To get 100%, that is, the whole number, multiply by 100. The result is obtained in one step by dividing 1022 by .28.

Example: 300 is 20% more than what number?

Solution:

```
300        2 50
1x20.)300x00.
      240
       600
       600
```

Explanation: Since 300 is 120% of the number, divide by 120 to get 1% of the number. To get 100%, or the whole number, multiply by 100. The result is obtained in one step by dividing 300 by 1.20.

Example: 210 is 30% less than what number?

Solution:

```
210      3 00
x70.)210x00.
     210
```

Explanation: Since 210 is 70% of the number, divide by 70 to get 1% of the number. To get 100%, or the whole number, multiply by 100. The result is obtained in one step by dividing 210 by 0.70.

To find the base, divide the percentage by the rate percent expressed as hundredths.

Example: In each of the following problems find the base:

8 is 50% of what number?

67 is 20% of what number?

5 is 1½% of what number?

8½ is 80% of what number?

Percentage

1. A hat was marked to sell for $8, but was sold for $6.
   (a) The decrease was what percentage of the marked price?
   (b) The decrease was what percentage of the sale price?
   ANSWER (a) .25 (b) 33 1/3
2. On his last birthday, Robert weighed 86 pounds. On his birthday this year, he weighed 94 pounds. Find the percentage of increase in his weight.
   ANSWER: 9.3
3. In a certain city, the price of milk was increased from 18 cents to 20 cents a quart. Find the percentage of increase based on the first cost.
   ANSWER: 11 1/9%
4. A bicycle marked at $32 was sold for $28. Find the percentage of discount from the marked price.
   ANSWER: 12 1/2
5. Barbara bought a dress at a sale for $12. This was 66 2/3% of the marked price. What was the marked price?
   ANSWER: $18.00
6. A retail merchant marks his goods to sell at a profit of 30% above the cost. What is the cost of an article marked to sell for $2.60?
   ANSWER: $2.00
7. Mr. Mason sold his house for $9200. This was 15% more than it cost him. What was the cost to Mr. Mason?
   ANSWER: $8,000

8. A sale sign reads, "All Goods Reduced 40%." If the reduced price of a radio is $120, what was the original pr price?

ANSWER: $200

UNIT XXVII

PERCENTAGE

Find the following percentages:

_____ 1. Find 3% of 720

_____ 2. Find 5% of 950

_____ 3. Find 8% of 1068

Find the following rates:

_____ 4. What percent of 9 is 6?

_____ 5. What percent of 15.6 is 9.6?

_____ 6. What percent of .0225 is .0115?

Find the following bases:

7____ 7. 890 is 20% of what number?

_____ 8. 200 is 25% more than what number?

_____ 9. 550 is 40% less than what number?

_____10. Mrs. Stallings sold her boat for $2,000. This was 25% more than it cost her. What was the cost to Mrs. Stallings?

UNIT XXVII

PERCENTAGE

Short Answers

1. 21.6
2. 47.5
3. 85.4
4. 66 2/3%
5. 61 7/13%
6. 51 1/9%
7. 4450
8. 160
9. 916 2/3
10. $1600

UNIT XXVIII

Formulas, Ratio, And Proportions

UNIT XXVIII: Formulas, Ratio, and Proportion

PREREQUISITE: None

TERMINAL OBJECTIVE:

Upon the completion of this unit, the student will have a greater understanding of the relevance between formulas, ratio and proportion. Evidence of this will be shown by a score of 80% on the post-test.

AIMS AND OBJECTIVES:

1. To acquaint the student with the terminology used within the unit.
2. To help the student recognize the importance of accuracy when working with figures.
3. To help the student differentiate between formulas, ratio, and proportions.

INTRODUCTION:

Formulas, ratio, and proportions all seem to tie in together when you are working with mathematics. You need to understand the meaning of these three terms. A formula is a short method of writing the solution of a problem. For example, a formula tells us which mathematical operations to use with certain quantities. Comparing the amount of one thing to the quantity of another thing can be called ratio. For example, ratio shows us how things are related. When you are dealing with proportions, the product of the first and last term is equal to the product of the two middle terms. After being exposed to the definitions, you can visibly see the correlation between these three terms.

ACTIVITY I

Everyone must select (A), and then any four of the following:

A. Read pages 190-195 in the General Related Curriculum Guide, Volume 2, or read the self-contained study sheets that are attached to this unit.

B. Explain the meaning of formulas and give an example.

C. Make up a hypothetical situation and write a formula to use to find the conclusion. (If you need some ideas, look at the examples on page 190)

D. What is a ratio?

E. Explain the reasoning behind this statement on ratios: "Only quantities of the same can be compared."

F. When you hear the statement, "The product of the means is equal to the product of the extremes," what do you think of, and why?

ACTIVITY II

You may choose any <u>four</u> of the following activities:

A. Find the answer to the following problem:

Formula: $W = \frac{1}{2}M + 7$; W = woman; M = man

Find the woman's age if the man's age is 22.

B. Using the same situation as above, find the man's age if we know the woman's age is 2

Formula: $2(W - 7)$

C. If a gear 10 inches in diameter has 70 teeth, how many teeth should a gear 18 inches in diameter have?

D. What number multiplied by 12 will equal 960?

E. If a photographer can take 26 photo shots in 3 hours, how many photo shots can be taken in 8 hours?

OTHER ACTIVITIES USING OUTSIDE RESOURCES FOR CLASS PARTICIPATION

Look at the list below and decide upon a speaker to come in and talk with your class on any job related topic that pertains to their profession.

SUGGESTED RESOURCE PERSONNEL

Photographer

Contractor

Marketing Researcher

Carpenter

EVALUATION

After you have completed this unit, ask your instructor for the "Formulas, Ratio, and Proportion" quiz, and see how much knowledge you have obtained.

Formulas

A formula is a short way writing the method to the solution of a problem. A formula gives us the directions to find the quantity we are looking for. A formula tells us which mathematical operations (adding, multiplying, etc.) to use with certain quantities.

Suppose you wanted to solve the problem of finding the number of square feet in a room which is 11 feet wide and 12 feet long. You probably already know that to find the area of a rectangle (the room is rectangular in shape) you can multiply the width times the length. You also probably know that the amount of a flat surface (called area) can be expressed in square feet (1 ft. x 1 ft.; $ft.^2$). A short way (formula) to write this direction is: area= length x width, or even shorter: a = l x w. Of course, the short formula is worthless to us if we aren't told what a, l, or w stands for.

Now to find the amount of area in the room we must know the amount of the length and the width. l = 12 ft. & w = 11 ft. we now substitute the amounts for the letters in the formula and perform the operation called for (multiply). a = 11 ft. x 12 ft.; l = 132 $ft.^2$

A scientist has said that one can tell the temperature by counting the chirps of a cricket. He gives the formula T= 1/4 C + 40, where C is the number of times the cricket

chirps per minute and T is the temperature. Suppose we count and find that the cricket chirps 16 every minute. What is the temperature? $44^{o}F$

Someone has said that the formula $W = \frac{1}{2}M + 7$ gives the proper relationship between the ages of a man and a woman at the time of marriage. In this formula W stands for the woman's age and M stands for the man's age. Find what the woman's age would be if the man's age was 20. $W = \frac{1}{2} \times 20 + 7$; $W = 17$; the women's age should be 17 years.

Now we might find the man's age if we know the woman's age. We use the same formula but change it around a little so that $W = \frac{1}{2}M + 7$ now becomes $M = 2(W - 7)$. Now what is the proper age of a man, for marriage, if the woman's age is 20? $M = 2(20 - 7)$; $M = 2(14)$; $M = 2 \times 14$; $M = 28$; the man's age should be 28 years.

There is a relationship between the proper cost of a house for a family income. It is expressed as $C = 104W$. Now C stands for the proper cost of a house and W stands for the family's average weekly income. Find how expensive a house one family should buy if their average weekly income is \$80. $C = \$8,320$.

Ratio

We can make up something like a formula if we can understand ratio. When we compare the amount (quantity) of one thing to the quantity of another thing, we make a ratio. A ratio shows us how things are related. If one

pencil is two inches long and another pencil is three o inches long, we can compare the lengths of the two pencils as two inches to three inches or 2" to 3" or in place of the <u>to</u> we can use a colon (:); 2" : 3". Another example would be in the comparison of a line 4" long to a line 6" or we can say the ratio of the lengths are compared we can say 4" to 6" or we can say the ratio or the lengths of the two lines is 4 : 6.

What is the ratio of the length of lines A to B? C to D? B to D? B to C?

A._____

B._____

C._____

D._____

Let's examine the ratio of line A to line D. It's expressed as 2:4, but we can't do anything with 2 : 4 except write it or say 2 to 4 ratio because the colon(:) does not represent a mathematical operation (adding, multiplying, etc.) Now it just so happens that if we express the relationship of line A to line D in a little bit different way we can substitute a division sign between A and D rather than just two dots; like this: line D is how much bigger than line A or how much smaller is line A than D; which is about the same thing as saying how many A's are in D or D can be divided by A how many times. Or

if you wish you can find the lowest common denominator of A and D and say that line D is 2 times longer than line A. But isn't 4 divided by 2 (4 - or 4/2) saying the same thing? Going backward we can say that the quotient of quantity divided by another of the same kind of quantity is called the ratio of the first to the second. The ratio of a 2 foot line to a 12 foot line is 2/12 or reduced to the lowest common terms 1/6 or it may be written 1:6. The ratio of 12 pounds to 3 pounds pounds is 12/3 or 4/1 which may be written 4:1.

What about the ratio of a two foot line to an 18 inch line? That's right, it's 24/18 or 4/3 or 4:3. You see we had to change feet to inches (2 feet = 24 inches) so both quantities were the same. Only quantities of the same kind can be compared. Try these:

1 pint to 2 pints or 1/2 or 1:2

9 inches to 2 yards or 9/72 or _____ or _____:_____

1 pound to 12 ounces or 16/12 or _____ or _____:_____

8 cents to 2 dollars _____ or _____ or _____:_____

Proportion

Now we are ready for the most useful part. Notice that the ratios 3/6 (3:6) and 4/8 (4:8) are equal because each may be reduced 1/2. So we can say that 3/6 = 4/8 or 3:6 = 4:8. Before we go ahead let's clear up one more thing. Suppose a steel bar is 6 feet long and weighs 144 pounds

and you were asked to express the relationship of its length in feet to its weight in pounds. You would say 6:144 is the length/weight ratio or its is 1/24 which can be written like 1/24 = length/weight ratio and we can divide 1 by 24 but remember we cannot divide 6 feet by 144 pounds. If we write 6 ft./144 lbs. we can't divide, but if we get rid of the feet and pounds by a little trick we end up with 6/144 = length/weight ratio and we can divide 6 by 144 since 6 and 144 are the same thing pure numbers. Now back to proportions.

If two ratios have the same values as in 3/6 = 4/8, we can express one of the ratios as being equal to the other. And with a little thought you can see why this important truth can be stated: <u>In any proportion, the product of the first and last term is equal to the product of the two middle terms</u>. You might have heard it expressed as <u>the product of the means is equal to the product of extremes</u>. For example, in the proportion 3/4 + 6/8 or 3:4 = 6:8, the product of the first term, 3, and the last term 8, is 24. Likewise, the product of the middle terms, 4, and 6, is 24. The first and last terms are sometimes called the extremes and the two middle terms are sometimes called the means. You can check a proportion; if the products of the extremes and the means are not equal it is not a true proportion. Remember the rule of the proportions above;

it's a key to solving many useful problems.

When three of the four terms in a proportion are known, the fourth may be found. One easy way to do this is to let X stand for the term that is missing, and place the product of the first and last terms to equal to the product of the middle terms and solve for X.

Problem: A man can make 75 boxes in 9 hours. At this rate, how many boxes can he make in 54 hours? Notice the ratios must be stated in boxes/hour; boxes on top and hours on bottom or boxes first and hours second. Like:

75.9 = X:54 now find the product of the extremes and means

75 x 54 = 9 x X

4040 = 9 x X What number multiplied by 9 will
450 = X equal 4050? Divide 4050 by 9 and find out.

Since X stands for boxes, we find he can make 450 boxes in 54 hours.

A toolmaker can grind 16 tools in 7 hours. At this rate, how many tools can he grind in 49 hours? 112 tools

What is the cost of 40 electric switches at $3.30 a dozen? $11.00

What is the cost of 31 pounds of nails if they are sold at the rate of $2.25 for 75 pounds?

If 3 gallons of paint will cover two square feet of surface, how many gallons of paint are needed for a house that has 3600 square feet of surface?

But please remember we have been talking about direct proportion; this is when we <u>increase</u> the number of one amount the other must also <u>increase</u> at an equal rate.

Some more direct proportion problems are found below:

1. A mechanic receives $31.50 for 18 hours work. How much should he receive for 45 hours work? $78.75

2. A bar of 2" square tool steel 1½ feet long weighs 18 pounds. What is the weight of a 2" square bar of tool steel 6 3/4 feet long? 81 pounds

3. A steel bar 6 feet long weighs 144 pounds. What would 2½ feet of the bar weigh? 60 pounds

4. If a gear 8 inches in diameter has 72 teeth, how many teeth should a gear 15 inches in diameter have? 35

5. If a gear 6¼ inches in diameter has 75 teeth, how many teeth should a gear 6 3/4 inches in diameter have? 81

6. If 15 sheets of galvanized steel weigh 325 pounds, what should be the weight of 33 sheets? 715 pounds

7. If 35 castings weigh 20 pounds, what should be the weight of 14 castings? 8 pounds

8. If 1¼ gallons of gasoline will keep an engine running for 1¼ hours, how many gallons of gasoline are needed to keep the engine running 6 hours? 3 and 1/3 gallons

9. If 28 pounds of nails cost $2.45, what is the cost of 16 pounds? $1.40

UNIT XXVIII

FORMULAS, RATIO, AND PROPORTION

True-False

_____ 1. A formula is a short method of writing the solution of a problem.

_____ 2. When working with ratios, only quantities of the same kind can be compared.

_____ 3. A ratio shows us how things are unrelated.

_____ 4. When you say 2 quarts to 3 quarts, it means the same as saying 2:3.

_____ 5. If three of the four terms in a proportion are known, the fourth can be found.

Problem Solving

_____ 6. A beautician receives $25.75 for 15 hours work. How much should she receive for 20 hours of work?

_____ 7. What is the cost of 50 light bulbs at $2.60 a dozen?

_____ 8. If 12 fire logs weigh 100 pounds, what should be the weight of 28 fire logs?

_____ 9. An electrician receives $33.39 for 9 hours. How much should he receive for 13 hours of work?

_____ 10. What is the price of 60 cans of corn if the price of one can is $.13.

UNIT XXVIII

FORMULAS, RATIO, AND PROPORTION

True-False

1. True
2. True
3. False
4. True
5. True

Short Answers

6. $34.40
7. $11.70
8. 233 1/3 lbs
9. $48.23
10. $7.80

UNIT XXIX

Measuring And Buying Electricity

UNIT XXIX: Measuring and Buying Electricity

PREREQUISITE: None

TERMINAL OBJECTIVE:

Upon the completion of this unit, the student should become more aware of the appliances and products that cause the soaring prices of electricity. Evidence of this will be shown by a score of 80% on the post-test.

AIMS AND OBJECTIVES:

1. To acquaint the student with the unit of measure called Kilowatt-hour.
2. To help the student learn how to do mathematical problems using kilowatt-hours.

INTRODUCTION:

Electricity has become a very popular subject among business owners, homeowners, and anyone else with access to it.

This unit exposes the student to the many aspects of electricity. It also explains the unit of measure called kilowatt-hour, which is used to measure electricity.

ACTIVITY I

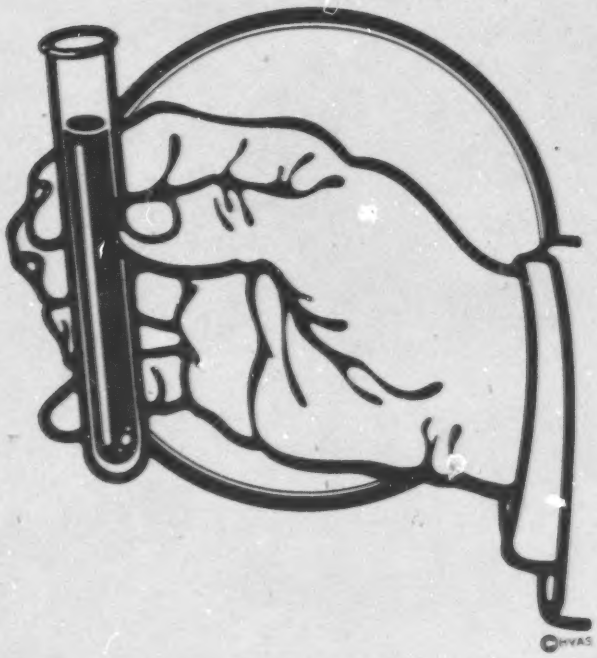
Everyone must select (A), and then any two of the following:

A. Read page 196 in the General Related Curriculum Guide, Volume 2, or read the self-contained study sheets that are attached to this unit.

B. Explain the meaning of a kilowatt-hour and its purpose.

C. When you are buying appliances, what should you consider concerning the operation of it?

D. Name all of the convenience appliances that can be used in the home.



ACTIVITY II

Choose any two of the following activities:

A. Try checking your home meter box and see how close you will come to the actual kilowatts used in one month.

B. Using resources from the library, find out how power companies got their start and how they actually operate.

C. List several ways in which you could help cut the electricity cost in the home.

OTHER ACTIVITIES USING OUTSIDE RESOURCES FOR CLASS PARTICIPATION

Ask a local representative from Duke Power to come and speak with your class on the "Cost of Electricity."

SUGGESTED RESOURCE PERSONNEL

Electrician

Electrical Engineer

Electronics Technician

EVALUATION

After you have completed this unit on "Measuring and Buying Electricity", ask your instructor for the quiz, and see how much knowledge you have obtained.

Measuring and Buying Electricity

Electricity for lights and other electrical appliances is measured by an electric meter. The unit of measure is the kilowatt-hour, (kwh) which is 1000 watt-hours.

If a 1000-watt heater is used for one hour, or a 100-watt light is burned for 10 hours, 1 kilowatt-hour of electricity is used (1 kilowatt = 1000 watts). On most of the electric appliances used in the home you can find a label that tells the amount of electricity they use.

PROBLEMS:

1. On October 1, the meter in Mr. Anderson's house read 4642 kwh. On November 1, the reading was 4677. How many kwh were used?

   ANSWER: 35 kwh

2. The following rates are charged by Mr. Anderson's city:

First 20 kwh	9¢ a kwh
Remainder at	5¢ a kwh

   Find the cost of the electricity used by Mr. Anderson during October.

   ANSWER: 25 hours

Transportation and Travel

Jim used 8½ gallons of gasoline in driving his car 136 miles. How many miles did his car average per gallon of gasoline?

Mr. Brown's car averages 15 miles per gallon of gasoline. How far can he travel on 9 gallons of gasoline?

A truck driver traveled 374 miles in 8½ hours. What was his average rate in miles per hour?

UNIT XXIX

MEASURING AND BUYING ELECTRICITY

True-False

_____ 1. An electric meter is used to measure electricity for lights and other electrical appliances.

_____ 2. The unit of measure is called the kilowatt-hour.

_____ 3. There is never a label on electrical appliances that tells the amount of the electricity they use.

Problem Solving

_____ 4. On April 1, the meter in Mr. Price's house read 5062 kwh. On May 1, the reading was 5185. How many kwh were used?

_____ 5. On June 1, the meter read 6589. On July 1, the reading showed they had used 65 kwh. What was the reading?

_____ 6. What would be the cost of your power bill if you used 1500 kwh. Use the chart below to compute the answer:

Up to 70 =	$4.50	
Next 150 =	.0324	per kwh
Next 780 =	.025	per kwh
Over 1000=	.021	per kwh

UNIT XXIX

MEASURING AND BUYING ELECTRICITY

True-False

1. True
2.
2. True

3. False

Problem Solving

4. 123

5. 6654

6. $39.36

UNIT XXX

Science

UNIT XXX: Science

PREREQUISITE: None

TERMINAL OBJECTIVE:

Upon the completion of this unit, the student will have a better understanding of the functions of the physical world and universe. Evidence of this will be shown by a score of 80% on the post-test.

AIMS AND OBJECTIVES:

1. To acquaint the student with the meaning of scientific method.
2. To help the student learn the steps involved in experimentation.
3. To expose the student to the law of trial and error.

INTRODUCTION:

The universe has always been a controversial subject among man since the beginning of time. The scientific method is a discovery that man came across. This method begins with a question or problem and there are steps involved.

Before the scientific method, man's discoveries came about mostly by trial and error. This method is valid, but it could become very expensive.

ACTIVITY I

Everyone must select (A), and then any two of the following:

A. Read pages 198-204 in the General Related Curriculum Guide, Volume II, or read the self-contained study sheets that are attached to this unit.

B. Why should you not try to pull or push too much electricity through small wires?

C. Explain the law of trial and error.

ACTIVITY II

Select any <u>two</u> of the following activities.

A. When you go to a service station, which grade of gas would you select? Regular, Super, or High Test? Why?

B. There has been a lot of controversy over the usage of gasoline. List some ways in which you could conserve energy?

C. Choose a topic pertaining to any type of energy, such as heat energy, gravitational energy, etc. and write a one-page report on your findings. (These topics can be found within the chapter.

OTHER ACTIVITIES USING OUTSIDE RESOURCES FOR CLASS PARTICIPATION

Invite a teacher from your Science Department to come in and speak to your class on the many areas that involve science.

SUGGESTED RESOURCE PERSONNEL

Science Teacher

Scientist

Biologist

Biochemist

Doctor

Nurse

Laboratory Technician

EVALUATION

After you have completed this unit, ask your instructor for the "Science" quiz and see how much knowledge you have obtained.

SCIENCE

Through the years, man through his efforts to find the how and why of the physical world and universe has accumulated some important ideas that may be of some use to you in your everyday living.

Probably the most wonderful idea that man hit upon is called the scientific method. The word scientific is somewhat misleading since the method can be used by people who are not scientists. The method begins with a question or problem. Now it is very important for the person to want very much to find an answer to his problem or question, since it will require some time and effort. Issac Newton wanted to find out what forces caused the planets to move in their paths around the sun. The question was of such importance to Newton that he spent many years and much effort to find the answer and he was successful. Bill Jones wanted to know what was the best car he could buy for the money and his question was of such importance that he spent several weeks and much time and effort. He too was successful. After the important question the next move is to observe and find out all there is to know about the subject. You can look, read, or even ask other people. By now you might have a hint about the answer. The next step is tricky and requires some clear and unprejudiced thinking. The facts must fit the answer that you had in mind. If not, the facts must be studied

more for a possible answer. But remember the facts and answer must make "sense". Experimentation or testing is the final step. Newton's answer fit all moving bodies from falling apples to circling planets. Bill's answer was tested after he tried out the car.

Before man found out about the scientific method, most of his discoveries and inventions may have come from the trial and error method. Now this method will work, but it is very expensive and time consuming. Think about what it might have cost Bill Jones to solve his problem by the trial and error method.

If you are successful, someone will be paying for the use of your energy and time. And it is for this reason that you could use some ideas about energy. Remember, energy can be in many forms; electricity energy, heat energy, chemical energy, mechanical energy, light energy, magnetic energy, gravitational energy, and nuclear energy.

Electrical energy can't be saved; it must be used as it is made. You can control it by the use of insulating materials such as glass and asbestos and rubber. This energy can move easily through metals (both in a solid form or disolved in liquids.) It has been found that if you push a lot of electricity through a piece of metal or small diameter the metal will heat up. The metal can get hot enough to burn a house down or just warm enough to feel good in a blanket

on a cold night. If the metal wire is small enough the electricity will cause it to glow slowly and give off light energy and heat energy. So don't try to pull or push too much electricity through small wires unless you want the wire to heat up. By the way, household electrical energy is strong enough (11 volts) to kill a person.

Heat energy flows nicely through solids, slowly through liquids, slower through air and other gases, but will not flow at all through nothing (empty space or vacuum). Today man still does not know how to save heat energy and use it over again, if we did we could have machines that once started with heat energy would run forever without adding more fuel.

Magnetic energy can be linked closely with electrical energy although there seems to be some differences. A magnetized piece of metal can exert a push or a pull on certain kinds of matter at a distance without direct contact with the matter. Electrical energy through a wire will produce magnetic energy (magnetic field) and a wire pulled through a magnetic field will produce electrical energy in the wire. This is the way man produces electrical energy (generator) to do some of his work. Magnetic energy from a small magnet will change the course of moving electrons such as found in a television tube. The earth has a little magnetic energy which accounts for a useful instrument called a compass.

Gravitational energy accounts for the pull of the earth on everyday objects (apples, cars, water, etc.) and in part for the paths of the planets. Issac Newton found that all bodies in the universe (except) for small ones such as electrons) followed these set of rules: (1) They will remain at rest until acted on by another force (you can be sure that the book left on the desk will be there tomorrow unless moved by another force). (2) Once an object is in motion it will remain in motion forever until acted on by another force or object. (If you throw a rock, it will move in a straight line forever unless it comes in contact with another object or is acted upon by another force; say gravitational energy.) (3) Every object in the universe exerts a pull (gravitational energy) on every object. The bigger and heavier the object the greater the pull, and the closer the objects are to each other the greater the pull. It is with these rules formulated almost 300 years ago that man has been able to make the calculations for exploring the moon.

Nuclear energy, which the E stands for in the E = mC2 formula was predicted by Albert Einstein. It is the energy that holds the nucleus of an atom together and it is very powerful. A small handful of uranium will produce as much heat as 2.3 million pounds of coal, but the method of changing nuclear energy into heat energy is so expensive that there

are only a relatively few nuclear producing plants in the U.S.A. Man first learned to use nuclear energy when he wanted a powerful weapon of war.

Chemical energy is the only kind of energy that plants, animals, and human beings can use directly for living, but this does not mean that living things can live without all of the other forms of energy as you probably know or will find out from further reading. Chemical energy is released in the form of heat when organic matter (wood, potatoes, fat, oil, coal, sugar, etc.) is burned. Man has learned by trial and error that fuels such as wood, coal, and oil burn at about the right rate for warming up his immediate environment. With some precautions these fuels can be used inside his home. By keeping his outside environment as warm as about seventy degrees he can save on the fuel that his body burns. It is that internal body fuel (food) that when burned slowly by other chemicals in the body that produces heat energy from the chemical energy.

Mechanical Energy--The chemical energy from food is converted into heat energy to maintain life and to give motions for action. We call this energy of motion mechanical energy. We push or pull an object that moves and we have transmitted our mechanical energy to the object. The thrown ball as it moves through the air has mechanical energy. We lift a book from the floor and place it on a

desk. The book lying on the desk now has mechanical energy in moving. The energy of moving machines is mechanical energy.

Conservation of energy--If we were to use our energy to spin a wheel on a shaft it would seem that the total energy we put into the wheel should equal the amount of energy the wheel had. Now we know from experience that the wheel will eventually stop spinning. We also know that there is friction or rubbing of the wheels on the shaft. Perhaps oil will prevent the friction entirely or even a perfectly smooth surface? No, the wheel soon stops. We also know that friction produces heat energy. But if all friction could be eliminated, there is no reason why a machine should not continue to run without any supply of energy after it was once started. Is the energy that disappears because of friction really lost? But if the heat energy produced by the friction is added to the mechanical energy on the moving wheel, the sum will equal the amount of energy we put into the wheel to get it moving. If all the different sorts of energy that go into a transformation are added together and if all the energy produced is accounted for, the two sums are precisely equal. In other words, so far as we know: ENERGY CANNOT BE CREATED OR DESTROYED. This general statement is known as the Law of Conservation of Energy.

Another law that we should remember concerns a common experience. Coal burning in a fireplace warms the air of a room; when the fire goes out, the warmth persists for a little while, but spreads gradually to the wall, to adjoining rooms, to the outside air, and presently is distributed so widely through the surroundings that we can no longer detect it. From any hot object heat flows in like manner to cooler objects about it, spreading indefinitely until it becomes part of the earth, atmosphere, and space. The energy has not disappeared, but is no longer available for conversion into other forms of energy. We may summarize these observations on heat by the form of law statement: IN EVERY ENERGY TRANSFORMATION, SOME OF THE ORIGINAL ENERGY IS ALWAYS CHANGED INTO HEAT ENERGY AND NOT AVAILABLE FOR FURTHER TRANSFORMATIONS.

As far as we know this law form of heat energy is not available for use by man. The light energy from the stars, the chemical energy of food, all are being steadily changed into a low form of unavailable heat energy. The law implies that the distant future will bring a time when there is no energy but heat energy. Heat energy evenly distributed so that no part of the universe is warmer than another, or the so called "heat death" of the universe.

Energy in General--Now let's see how all of these energies are important to you and your success in this world.

We'll start with the sun which produces heat and light energy from nuclear energy. It is the heat that spreads water around to all of us and prevents it from settling in the deep holes in the earth. When the gravitational energy pulls the water from the high places to the low places, man places wheels in energy fields and produces electrical energy and this is channeled into his homes and factories to turn wheels, produce heat, and light. The light energy from the sun is converted into chemical energy by source of energy for living. It just so happens that is the same food that animals and man must have for their energy for living. Man has found great stores of concentrated chemical energy in the form of fossil fuels (ancient remains of plants) which can be converted into heat energy to warm him and to convert to electrical energy for his machines.

Problems--Your success in life will depend to a great degree on how well you can control and conserve energy. When work is done energy is used, or before work is done there must be available energy. In everyday life we don't go around talking about energy very much. We do talk of work or job, or careers or salary or money. If you will think for a minute you will see what money stands for--yes, it stands for energy in our society. Now if you had an unlimited supply of food, coal, and oil (natural sources of energy) you would need no money. But you don't!

So you go to work and sell your energy and time to someone who needs it. Remember you get paid for the use of your energy and time, although there is a bonus for experience and training. This represents how we know that an efficient person uses less energy and time in his work than an inefficient worker.

Well now perhaps you would like to answer some of these questions. Remember money represents energy.

1. What is the best source of energy for your car? Super? High test? Regular?
2. How can you drive your car to get the most efficient use of energy?
3. Do you think it takes energy to stay cool in hot weather?
4. Compare what you will pay for energy and the conservation of energy a month compared with the amount of money you will get paid for the use of your energy. Are they equal?

UNIT XXX: SCIENCE

True-False

_____ 1. Energy can be found in many forms.

_____ 2. Electrical energy can be saved.

_____ 3. Electrical energy can be controlled by the use of insulating materials.

_____ 4. Household electrical energy is strong enough to kill a person.

_____ 5. Heat energy flows rapidly through air and other gases.

_____ 6. Nuclear energy accounts for the pull of the earth on everyday objects.

_____ 7. Chemical energy is the only kind of energy that plants, animals, and human beings can use directly for living.

UNIT XXX

SCIENCE

<u>True-False</u>

1. True
2. True
3. True
4. True
5. False
6. False
7. True

APPENDIX L

Student Guide to Textile Manufacturing

STUDENT GUIDE TO TEXTILE MANUFACTURING

536

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INTRODUCTION

This manual was sponsored by the Guidance Oriented Alternative Work Experience Project, Grant Number OEG-0-74-8580, Project Number V0180VZ, a federally funded occupational research project.

The project staff felt a manual of this type would enhance technical related instruction in textile manufacturing as it relates to industrial cooperative training programs.

Michael K. Holt
Textile Coordinator

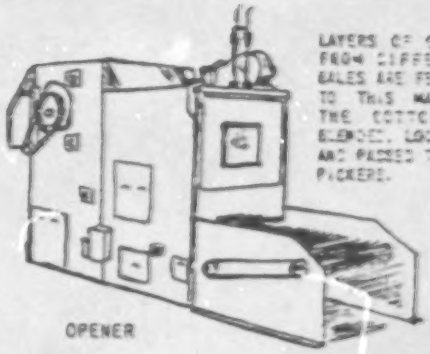
A BIRD'S-EYE VIEW OF THE

Cleaning the cotton- Removal of seeds and all foreign matter

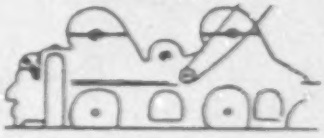
1. HARVESTING

2. GINNING

3. OPENING-BLENDING



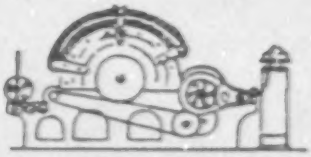
4. PICKING



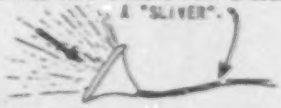
MUCH OF THE REMAINING SEED AND FOREIGN MATTER IS REMOVED FROM COTTON HERE-

IT IS THEN FORMED INTO A ROLL OR "LAP".

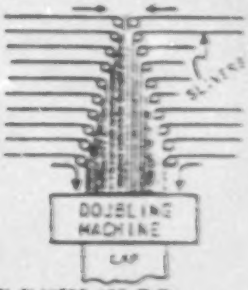
5. CARDING



HERE THE LAP IS BRUSHED OUT INTO A THIN MIST-LIKE SHEET: THEN SHAPED INTO A ROUND FORM CALLED A "SLIVER".



6. DOUBLING

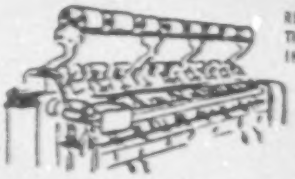


TWENTY SLIVERS ARE THEN COMBINED INTO A BLANKET OR LAP WHICH IS WOUND INTO ROLLS-

Parallelizing of the fibres

Making the yarn

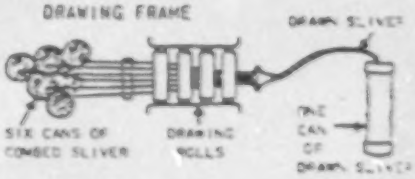
7. COMBING



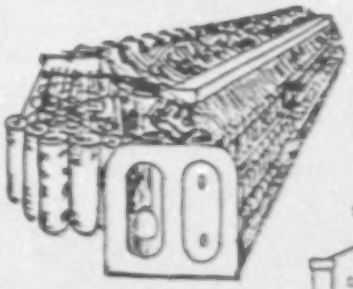
REMOVES THE SHORT FIBRES- THEN CONDENSES THE LAPS INTO A SINGLE SLIVER AGAIN.

8. DRAWING

THE DRAWING FRAME DRAWS OUT SEVERAL SLIVERS AND CONDENSES THEM INTO ONE.



9. SLUBBING



THIS MACHINE DRAWS OUT THE SLIVER STILL MORE. NOW CALLED ROVING, IT GOES TO THE SPINNING FRAME WHERE IT IS TWISTED AND WOUND ONTO BOBBINS.

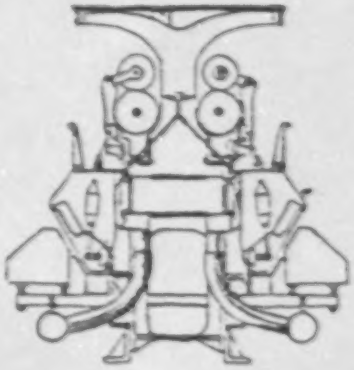
10. SPINNING

THE BOBBINS OF ROVING ARE MOUNTED ON THE SPINNING FRAME WHERE THE STRANDS OF COTTON ARE PUT BETWEEN ROLLERS AND ARE GIVEN THEIR FINAL DRAWING. THE DESIRED TWIST PER INCH IS GIVEN BY THE RATIO OF SPEED OF THE FRONT STEEL ROLLER TO THE SPINDLE. IT IS NOW YARN AND IS AGAIN WOUND ON BOBBINS.

J-3

MANUFACTURE OF COTTON CLOTH

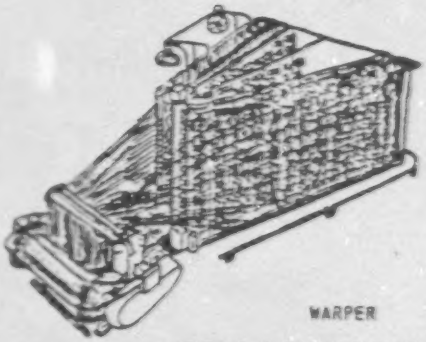
11. SPOOLING



SPOOLER

THE YARN IS NOW WOUND FROM THE BOBBINS ONTO LARGE CHEESES WHICH HOLD FROM 7 TO 8 BOBBINS OF YARN IN ONE CONTINUOUS LENGTH.

12. WARPING



WARPER

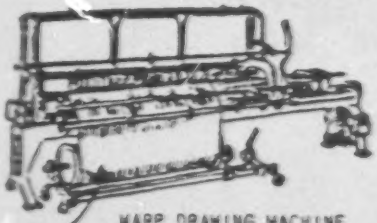
THEN THE STRANDS OR "ENDS" FROM HUNDREDS OF THESE CHEESES ARE WOUND EVENLY AND PARALLEL ON A WARPER BEAM WHICH IS, IN EFFECT, A LARGE SPOOL.

13. SLASHING

SLASHER

THE WARPER BEAMS ARE NEXT PLACED ON THE SLASHER MACHINE, WHERE THE YARN IS GIVEN A PROTECTIVE COAT OF SIZE TO RESIST THE ACTION OF THE SHUTTLE, AND HOLD THE THREADS IN PLACE DURING THE WEAVING PROCESS. THE SLASHER ALSO DRIES THE SIZE COAT AFTER WHICH THE WARP THREADS ARE WOUND ON A LOOM BEAM.

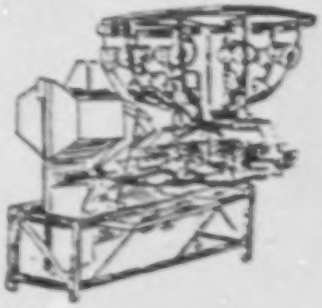
14. DRAWING-IN



WARP DRAWING MACHINE

THE LOOM BEAM IS NOW TAKEN TO A DRAWING-IN FRAME WHERE EACH WARP THREAD OR "END" IS DRAWN THRU A DROP WIRE, THE EYE OF A HEDDLE, AND BETWEEN THE WIRES OF A REED.

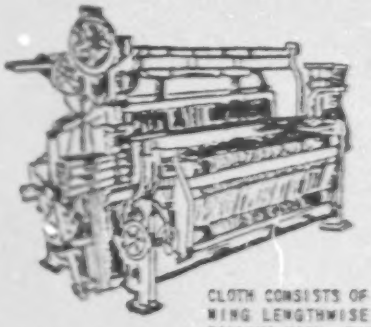
15. WINDING



FILLING BOBBIN WINDER

THIS MACHINE WINDS THE FILLING BOBBINS WHICH FIT INTO THE LOOM SHUTTLE. THE YARN IS WOUND FROM DYED PACKAGES.

16. WEAVING



BOX LOOM

CLOTH CONSISTS OF WARP YARN, RUNNING LENGTHWISE THE CLOTH-AND FILLING YARN, RUNNING CROSSWISE.

WEAVING CONSISTS OF INTERLACING WARP AND FILLING TO PRODUCE STRENGTH, TEXTURE, AND VARIOUS DESIGNS IN THE CLOTH.

THE LOOM WHICH WEAVES THE CLOTH CONSISTS OF A FRAME FOR HOLDING THE WARPER BEAM, DROP WIRES, HEDDLES, HARNESSES, REEDS, SHUTTLES (WITH THE BOBBINS OF FILLING YARN), WOVEN CLOTH AND THE OPERATING MECHANISM, MOST OF WHICH IS AUTOMATIC.

A SHORT HISTORY OF AMERICAN TEXTILES

The textile industry is one of man's oldest industries. The American textile industry was stimulated in its early beginning by a grant of funds from the Massachusetts Legislature to help in the production of the nation's first textile machines. Up until this time most textile products were produced in the home by the domestic system.

The British were the unquestioned leaders of the textile industry during the latter part of the 18th century and the early 19th century. The British parliament passed laws which forbid textile technicians to leave the country. In this manner they hoped to prevent any other country from learning their textile secrets. Their policy worked very well until 1789, when a young Englishman, Samuel Slater, slipped aboard an American bound vessel and landed in America. Slater had worked in Great Britain's most modern textile mill and had memorized how the textile machines were made.

Slater entered into partnership with Moses Brown, an American textile mill owner. He rebuilt all of the machines in Brown's mill at Pawtucket, Rhode Island and launched America's first modern textile industry. Samuel Slater is considered to be "The Father of American Manufacturing."

In 1793, Eli Whitney invented the cotton gin. This invention made it possible to separate the cotton fiber from the seed. With Whitney's invention, one man could

separate as much cotton in a day as fifty could by hand. When the cotton gin was powered, its productive capacity increased by twenty fold. This invention made cotton fibers available in great quantity.

While Slater had introduced modern yarn making methods, the weaving process was still done on hand looms. In 1812, a young Boston merchant, Frances Cabot Lowell, went to Great Britain to observe a modern power loom in operation and to memorize the details of its construction. He returned to America and built a power loom. In 1814, he built the world's first powered textile plant at Waltham, Massachusetts.

From the work of these early textile pioneers, the basis of our textile industry was established. The textile industry slowly moved from New England to the source of its raw materials, the South. Today the American textile industry is truly nation-wide with 7,500 plants in 42 states employing around 900,000 people and annually producing about 15 billion square yards of fabric with annual sales between 16 and 18 billion dollars. The textile industry forms one of the corner stones of America's productive free enterprize system.[2]

YARN PRODUCTION

We must start our story of yarn production with the opening room. In this area, the bales of cotton or man-made fibers are broken open. The fiber is usually fed into a blender where two or more different kinds of fiber might be mixed. The blender also breaks and fluffs the layers of fiber. The fiber is then transported from the opening room by conveyor tubes to the cardroom.

In the cardroom the picking machine separates, cleans, and fluffs up the fiber and forms the fiber into a uniform roll called a lap. Reworkable waste is also fed into the pickers. The carding machine cleans the fibers and straightens the fibers into parallel alignment. The lap is brushed out into a thin mistlike sheet; then, it is shaped into a round strand called a sliver. If high quality clean yarn is desired, the carding sliver is fed from the card cones sliver lapper which drives out and combines several of the strands of sliver into a sheet and winds this sheet onto a spool. This process tends to further arrange the fibers in parallel alignment. The laps are then fed into the combing machine. The purpose of the combing machine is to remove the short fibers, the tangled fibers (neps), and any remaining foreign matter. This lap is returned into a single sliver again. This sliver is deposited in a tall container and moved to the drawing frames. Sometimes up to 15 percent of the fiber is removed as waste. The

drawing machine combines several slivers into one and draws the resultant sliver until it is about the same size and weight of one of the original strands. This combined sliver is superior to anyone of the original slivers in uniformity.

The next process is slubbing. In this process, the fiber will result in a strand similar to yarn. The slubbing machine is sometimes referred to as a fly frame or roving frame. The slubbers transform the thick drawing slivers into a heavy, slightly twisted strand of fibers called roving. Up to this point, the processes which the fiber has been through have been concerned with cleaning the fiber and arrangement of the fiber in parallel lines. The fiber delivered to the spinning department is very weak and breaks easily. The bobbins of the roving machines are mounted on the spinning frame where the strands of fiber again pass between rollers and receive their final drawing. The desired twist per inch is given by the ratio of speed of the front steel roller to the spinning spindle. It is now yarn and is again wound on bobbins. This yarn is strong enough to undergo subsequent processes.

The yarn on the spinning bobbins contain considerable twist and tend to snarl when removed from the bobbin. Therefore, it is necessary to condition this yarn by putting it in a conditioner and steaming it to set the twist.

If the yarn is to be used as warp yarn, it must undergo several different processes. If ply yarn is wanted, it

can be obtained by twisting two or more strands of yarn together. The twisted yarn is wound onto a bobbin. The twisting bobbins hold relatively short lengths of yarn. To eliminate the necessity for piercing up these short lengths and having the creels of the machine in these operations continuously running out, the twister or spinning bobbins are put on a winder. The winding machine winds off the twister as spinner bobbins onto spools, large cones, as cheeses in a continuous strand. The yarn is then ready for warp weaving.[3]

Training Plans Of Jobs In The Opening And Carding Department

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: Granite Falls High COORDINATOR: Mike Holt

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Head Blender

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES Training manuals from Burlington Ind. and Shuford Mills

PRIMARY FUNCTIONS: Responsible for accuracy of all blends. Sets weights on hopper drops, weighs out stock. Does minor fixing. Feeds hoppers and doffs bales from press.

MACHINES, TOOLS, AND EQUIPMENT USED: Calculators, seven-hopper fiber control feed line, Lummus Bale press, Carolina waste machine, fork lift, bale tickets, blend sheet, scales, electric hoist hand tools

Upon completion of each division the supervisor will initial and give the date of completion.

ACCOMPLISHED SUPERVISOR'S INITIALS DATE

DIVISION AND JOBS

I. Bring Bales to Blenders

A. Haul in bales from storage.
   1. Get fork lift truck and ride to warehouse.
   2. Load two proper bales on truck and haul to line.
   3. Place bales in front of the hopper.

B. Weigh out
   1. Transfer stock between hoppers.
   2. Feed stock on floor into hoppers.
   3. Place leftover stock on scales.
   4. Record weight on ticket.
   5. Collect hopper tickets.
   6. Make leftover bale tickets.
   7. Record bale weights on blend sheet.
   8. Determine blend number.
   9. Adjust hopper settings.

C. Make bale tickets.
   1. Prepare new bale tickets include lot number, bale number, batch number on each ticket.

	ACCOMPL. SUPERVISOR INITIAL DATE
D. Feed waste into waste machine. 1. Carry bag of waste to waste machine and empty into waste machine.	
DIVISION COMPLETED	
II. Remaining Doffed Bales	
A. Haul doffed bales to storage. 1. Get fork lift truck and haul bale to storage area. B. Haul bales to picker storage. 1. Get fork lift truck and haul bales to storage area.	
DIVISION COMPLETED	
III. Blend change.	
A. Prepare for blend change. 1. Turn off hoppers as they run out. 2. Stop waste machine. 3. Begin new blend sheet. 4. Copy proper hopper settings onto card from notebook. B. Clean up at blend change 1. Use air hose to blow out and pick feed apron and tint nozzles. 2. Clean beaters in incline conveyor. 3. With pliers turn off tint pump. 4. Empty tint over flow bucket. 5. Disconnect tubing to nozzles. 6. Turn on feed apron at tint nozzles. 7. Get water hose, wash out tint pump reservoir wash feed apron, frame and sides around feed apron. 8. Drain water from tint pump reservoir.	
DIVISION COMPLETED	
IV. Start up after blend change.	
A. Drain out new tint into overflow bucket. 1. Connect tubing to nozzles, turn on tint. 2. Adjust ounces per drop. 3. Turn on power to line. 4. Start hoppers. 5. Turn on press. 6. Start waste machine.	
DIVISION COMPLETED	

ACCOUNTING SUPERVISOR INITIALS DATE

V. Work with tint

A. Mix tint.
1. Wash out mixing drum.
2. Fill drum with water and steam to ten gallons.
3. Check tint formula.
4. Weigh out powder and pour into mixing drum.
5. Fill drum to 30 gallons of steam and water.
6. Turn on pump and pump tint into mixing drum.
7. Mark tint consumption record.
8. Wash out tint mix drum with water.

B. Pump tint upstairs.
1. Drain all container valves and close valves.
2. Run water into line and flush it.
3. Close drain valve after water has drained out of the line.
4. Open valves upstairs and turn on pump.
5. Open line into upstairs container and check as container fills.
6. Close valves to container upstairs when filled.

C. Clean plastic tint container.
1. Open valve from plastic container and drain out all tint.
2. Wash out container tint line and the area around the container.

DIVISION COMPLETED

VI. Instruction, aid to Balers

A. Instruct balers as necessary.
B. Aid balers in feeding lines proper stock lay down and operation of waste machine.

DIVISION COMPLETED

VII. Shift work

A. Fill hydrolic press reservoir.
1. Check fluid level daily.

B. Maintenance and repair work.
1. Make repairs to hoppers and press as needed.
2. Remove hopper chokes.
3. Repair rollers and aprons in waste machines.

C. Check blend line.
1. Check bale tickets to hopper tickets for identification.
2. Check tint nozzles for proper tint spray.
3. Record production and downtime at end of shift.

DIVISION COMPLETED

ACCOMPLISHED SUPERVISOR INITIALS DATE

VIII. Mix Napco oil

A. Wash out mixing drum.
B. Pour oil into drum and steam it until it is thin and pump it upstairs.
C. Drain and wash out mixing drum.

DIVISION COMPLETED

IX. Haul bale ties to blending

A. Drive fork truck to picker room.
   1. Load truck of bale ties on fork truck.
   2. Straighten ties on truck.
   3. Haul truck of ties to bale blend area and unload ties.

DIVISION COMPLETED

X. Haul reusable cardboard from pickers to blending.

A. Drive fork truck to rear platform and load cardboard covers.
B. Drive to blending room and unload.

DIVISION COMPLETED

Total Training Time, Half-Time Basis -- 44 weeks

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: Granite Falls High COORDINATOR: Mike Holt

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Weigher Blender

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES Training manuals from Burlington Ind. and Shuford Mills.

PRIMARY FUNCTIONS: Opens stock and feeds it into hoppers, operates bale press performs weighing out and cleaning duties and operates fork truck.

MACHINES, TOOLS, AND EQUIPMENT USED: Seven-hopper fiber control line. Lummus bale press, Carolina waste machine, fork lift, cardboard covers, bale ties, bale tickets, blend sheet, tie breaking tool, scales, electric hoist, air hose, brooms and card mop

Upon completion of each division the supervisor will initial and give the date of completion.

ACCOMPLISHED
SUPERVISOR'S
INITIALS
DATE

DIVISION AND JOBS

I. Baler

A. Wait for tramp to position.
   1. Buzzer signals that a bale is ready to doff.
   2. Operator stops dump counter.
   3. Locks tramp in place to keep the tramp up.
B. Unlatch, turn, and latch box.
C. Secure top bale cover and position it.
D. Press Bale.
   1. Turn lever to lower press.
E. Open doors and release sides.
F. Turn down cover on top.
G. Place ties in position under the bale.
H. 1. Push ties through.
H. Turn down on top.
I. Push back door closed.
J. Pull ends of ties together and hook.
   1. Raise and secure ties.

	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
K. Roll bale out of press 1. Position bale so it can be picked up with a truck. L. Secure bottom of bale cover and install. M. Adjust sides and close doors. N. Truck bale to storage area and unload. O. Return truck to bale press and position. P. Take empty bale tie truck to warehouse storage. 1. Secure full bale tie truck. DIVISION COMPLETED	
II. Baler Cleaner. A. Clean tramp screen. 1. Use air hose and/or broom. B. Wipe stock from bale press door. C. Sweep around bale press. 1. Deposit waste in proper container. D. Pull waste from inclined conveyor. 1. Places waste in proper container. E. Clean condensor. F. Blow off press at end of shift. G. Close press doors at end of the shift. H. Close press control levers at end of the shift. DIVISION COMPLETED	
III. Feeder operation. A. Position bale at hopper, check ticket number, place ticket on hook. B. Secure bale opener and shield. C. Cut bands or wire on bale. 1. Remove bands from bale. 2. Fold bands from bale and place them in a tie truck. 3. Replace cutter and bale shield back to storage area. D. Pick up spilled stock and put into hopper. 1. Take waste to waste machine. 2. Check waste machine operation to insure proper operation. E. Run out hoppers. 1. Make sure hoppers run out even. F. Gather stock and place on scales to form a piece bale. 1. Weigh and tie up piece bale. G. Stop and start blend line. DIVISION COMPLETED	
IV. Feeder cleaning operations. A. Sweep around hoppers.	

ACCOMPLISHED
SUPERVISOR'S
INITIALS
DATE

1. Dispose of reworkable waste on conveyor and non-reworkable waste and trash in trash cans.

B. Sweep bale storage area or stock warehouse.
   1. Dispose of trash in trash cans.
C. Blow down top and sides of hoppers.
D. Blow down waste machine.
E. Sweep middle alley.
   1. Dispose of non-reworkable waste in trash cans.
F. Sweep behind conveyor.
G. Brush down walls.
H. Blow off waste machine guards.
   1. Take non-reworkable waste to receptacle.
I. Mop outside of superior cleaners.
J. Wipe outside of tint chamber.
   1. Return mop and broom to storage area.
K. Turn off choked hopper.
   1. Clean out choke.
L. Turn on choked hopper.

DIVISION COMPLETED

V. Blend change.

A. Put in extra feeding to obtain even runout.

DIVISION COMPLETED

VI. Cleaning at blend change.

A. Rake staple broom under hopper and apron and put on conveyor.
B. Blow off and pick hoppers clean.
C. Clean waste machine inside and outside.
D. Blow off back of hoppers and conveyor, pick conveyor clean.
E. Assist in weighing piece bale.
   1. Gather stock and place on scale.
F. Secure strapping machine.
   1. Strap bale of staple.
   2. Return strapping machine to storage.
G. Blow off and clean press.

DIVISION COMPLETED

Total Training Time, Half-Time Basis -- 12 Weeks

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: Granite Falls High COORDINATOR: Mike Holt

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Drawing Tender

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES Training Manuals from Shuford Mills and Burlington Ind.

PRIMARY FUNCTIONS: Creel, doff repair breaks, and clean breaker and finishes drawing frames.

MACHINES, TOOLS, AND EQUIPMENT USED: Drawing frame, knife, waste containers, turn can, creel can, goggles, cleaning, breakers.

Upon completion of each division the supervisor will initial and give the date of completion.

ACCOMPLISHED
SUPERVISOR'S
INITIALS
DATE

DIVISION AND JOBS

I. Repair Breaks

A. Roll lap break
1. Push sliver chute aside and put out of the way.
2. Cut the lap off the rollers with a knife.
3. Bump the start switch on the frame to get the sliver feeding through the rolls.
4. Twist the end of the sliver into a strand.
5. Thread the sliver chute.
6. Feed the sliver strand into the trumpet.
7. Start the frame.
8. Place waste in waste can.

B. Creel break.
1. Get broken end from creel risers or can.
2. Thread the end over the creel guides, the knockoff spoon and place the end at the bite of the hack rollers.
3. Press the start button at the back of the frame.

ACCOMPLISHED
SUPERVISOR'S
INITIALS
DATE

C. Turn can break.
   1. Get the broken end from either the creel risers or the creel can.
   2. Thread the end over the creel guides, over the knock-off spoon and place the end at the bite of the back rollers.
   3. Start frame.
D. Mechanical break
   1. Check for faults.
   2. Start machine.
E. Front Break
   1. Repair sliver break
   2. Remove coiler chokes

DIVISION COMPLETED

II. Creel Breaker Drawing Frames

A. Take out empty can, creel full can, and the start frame.
   1. Remove empty creel can to storage area.
   2. Push full can into creel place.
   3. Thread the end over the creel guides and knock-off spoon and into the bite of the back rollers.
   4. Press the start button.
B. Set in turn can
   1. Remove empty can and replace it with a full one.
   2. Thread the end through the creel guides, over the knock-off spoon and into the bite of the back rollers.
   3. Start frame.
   4. Push can to the front of the breakers or finishers.
C. Remove waste from tank.
   1. Open waste tank door.
   2. Remove waste and deposit it in a waste can.

DIVISION COMPLETED

III. Creel and Clean Finisher

A. Break out creel
   1. Break out all ends.
   2. Pull partially full cans out, one at a time.
   3. Place cans behind finisher creel.
B. Turn cans into one can.
   1. Splice the sliver ends of 13 cans with the end of one can.
   2. Place the waste into the one can in a single strand.
C. Push empty cans to breaker drawing.
   1. Remove the empty can from the creel and place it near the breaker frames to be doffed.

	ACCOMPLISHED SUPERVISOR INITIALS DATE
D. Push finisher turn can to breaker drawing. 1. Push turn can to side of breaker drawing creel. E. Remove waste from tank. 1. Remove waste from tank and place in waste containers. F. Get air hose, blow off front and back of each frame. 1. Remove hose from its hanger. 2. Blow out the rollers the can tables and other related of the front of the frame. 3. Blow off the creel hangers and back of the frame. G. Set in new creel and put up ends. 1. Set 14 cans into the creel. 2. Thread the ends over the creel guides and over the knock-off spoons. 3. Hold the ends of one delivery at the bit of the back rolls, press the start button. 4. Repeat with second delivery. 5. Roll the seven ends of each delivery into a single strand and run these strands through the sliver chutes and into the trumpet of the coiler. 6. Start machine. 7. Repair ends.	
DIVISION COMPLETED	
IV. Doffing Breaker and Finisher Drawing Frames A. Replace cans. 1. Remove full cans from coiler with one hand while placing the other hand on top of the sliver to prevent it from spilling. 2. Place full can in back of finisher drawing creel. 3. Remove second can from coiler and replace both cans with two empty cans. B. Reset yardage knock-off counter. C. Blow off front of frame. 1. Remove air hose from hangers. 2. Blow off coiler, rolls, spoon guide wires front of the frame and can table.	
DIVISION COMPLETED	
V. Shift work A. Set hank clock on all assigned frames. B. Secure goggles, and brushes from the storage area. C. Blow off head of frames D. Remove waste from vacuum tubes. E. Blow lent from trumpet pads. F. Pick waste from rolls.	
DIVISION COMPLETED	

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: Granite Falls High COORDINATOR: Mike Holt

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Picker Tender

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES Training manuals from Burlington Ind. and Shuford Mills

PRIMARY FUNCTIONS: Feed stock into hoppers, doff pickers, repair chokes, clean pickers at blend changes, clean up around pickers

MACHINES, TOOLS, AND EQUIPMENT USED: Soco-Sawell process pickers, lap pins, lap scales, lap trucks, air hose, brooms

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR INITIALS DATE
I. Doffing operation A. Doff full from pickers 1. Place lap on scales. 2. Restart pickers. 3. Weigh lap and place it on the doff truck. 4. Take doffed lap to proper storage area. DIVISION COMPLETED	
II. Fill hoppers with blended stock A. Repair any chokes. B. Blow and brush down picker at blend change. C. Start up picker with new stock. DIVISION COMPLETED	

ACCOMPLISHED SUPERVISOR'S INITIALS DATE

III. Cleaning and storage

A. Start clock.
B. Sweep around the pickers, and brush humidifier screens.
C. Load full lap truck lift and unload at the storage area in the card room.
D. Send lift down stairs with empty lap trucks on return trip from storage area.

DIVISION COMPLETED

Total Training Time, Half-Time Basis -- 8 Weeks

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: Granite Falls High COORDINATOR: Mike Holt

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Card Tender

D.O.T. CODE NUMBER 680.885

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES Training Manuals from Burlington Ind. and Shuford Mills

PRIMARY FUNCTIONS: Creels, laps, doff, card cans, repairs, breaks, and cards as necessary.

MACHINES, TOOLS, AND EQUIPMENT USED: Carding machine, lap trucks, carding cans, waste containers.

Upon completion of each division the supervisor will initial and give the date of completion.

ACCOMPLISH SUPERVISOR INITIAL DATE

DIVISION AND JOBS

I. Doffing Assigned Cards

A. Obtain cans for doffing cards.
B. Place cans in alley to be doffed.
C. Push empty cans to proper coiler head.
D. Remove full can from coiler turn-table.
E. Place empty can on turn-table and start sliver into empty can.
F. Pushes full cans to proper place at breaker drawing.

DIVISION COMPLETED

II. Laying Laps on Assigned cards

A. Pull pin allowing last yard or so to unroll on the floor.
B. Tear off lap.
C. Lift lap off stands and place on the feed roll.
D. Place starting end against the finishing end of the old lap.

ACCOMPLI
SUPERVISOR
INITIALS
DATE

E. Guide standing under the feed roll until the new lap is running properly.
F. Lift lap off the feed roll and turn backward to remove any slack

DIVISION COMPLETED

III. Hanging Laps

A. Obtain a truck of the proper laps (identified by color).
B. Push laps to proper cards.
C. Place laps on proper.
D. Remove paper from lap.
E. Remove a portion of the starting end which may have been damaged.
F. Place waste in proper container.
G. Police up area and return lap pins, paper and truck to lap storage area.

DIVISION COMPLETED

IV. Repairing Breaks

A. Calender roll and sliver break.
   1. Clear waste from calender roll, doffer and doffer comb area.
   2. Reach into center of the web and grasp a portion of the stack and twist it into a tight pointed tail.
   3. Feed through the trumpet into the calender rolls.
   4. Feed rest of the stock through rolls.
   5. Break the sliver just in front of the calender roll and twist into a point.
   6. Feed this point into the trumpet and calender rolls of the coiler head.
B. Repair Coiler Choke
   1. Try to pull fibers causing the choke clear with fingers or pliers.
   2. If you have to remove the coiler bonnet, stop the doffer before you clear the obstruction from the rolls or gears.
C. Repair split laps
   1. Separate the lap by layers.
   2. If the lap cannot be straightened tear it apart and place it in reworkable waste containers.

DIVISION COMPLETED

ACCOMPLI...
SUPERVISO...
INITIALS
DATE

V. Cleaning Duties

A. Brush front of card, coiler head and doffer bonnet, four times per shift.
   1. Place rail brush on one of the doffer bonnets when not in use.

B. Mop sides and back of card.
   1. Store mop under the front section of a card when it is not being used.

C. Clean calender roll cleaners.
   1. Remove the top and bottom cleaners from their position on the rolls.
   2. Brush the inside and outside surface area with a rail.
   3. Reposition cleaners on the calender rolls.

D. Strip scavenger roll.
   1. Lift the scavenger roll from its position on the feed roll.
   2. Strip the accumulation of short fibers off the roll into a draw can.
   3. When cleaning cycle is completed empty this waste into proper area.

E. Roll toppins
   1. Sift the Thompson roll from its position at the front of the card.
   2. Strip the accumulation of short fibers off the roll into a draw can.
   3. When cleaning cycle is completed, empty this waste into proper areas.

F. Clean huckle comb.
   1. Use rail brush for this job.

G. Clean feed rolls.
   1. Pick all hard packed lint from the surface of the feed roll.
   2. Pick or brush the lint from the feed roll bearing area.

DIVISION COMPLETED

VI. Patrol Assigned Cards

A. Patrol cards looking for down ends, laps running low, and quality problems.

DIVISION COMPLETED

VII. Quality

A. Keep lap running straight.
B. Watch for splitting laps.
C. Watch for naps and holes in lap.

ACCOMPLISHED SUPERVISOR'S INITIALS DATE

D. Report any quality or mechanical problems to your section man.
E. Flag your machine by stopping the front section and raising the coiler bonnet. (This is a signal to four section men that the machine needs attention.

DIVISION COMPLETED

Total Training Time, Half-Time Basis -- 8-12 Weeks

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: Granite Falls High COORDINATOR: Mike Holt

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Roving Frame Tender

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES Training manuals from Burlington Ind. and Shuford Mills.

PRIMARY FUNCTIONS: Doff full roving bobbins, creel frame, repair breaks, clean frame.

MACHINES, TOOLS, AND EQUIPMENT USED: Rouematic 14 x 7 roving frame, full and empty roving bobbins, finisher drawing cans, air hose, doff trucks, loom duster, broom, chalk

Upon completion of each division the supervisor will initial and give the date of completion.

ACCOMPLISHED
SUPERVISOR'S
INITIALS
DATE

DIVISION AND JOBS

I. Doff Roving Frame

A. Restart frame to run additional sliver up from the creel and roving onto the bobbin.
B. Run sliver through the rolls until sliver splices are on the outer layer of the bobbin.
C. Turn flyers by hand until they are at the proper angle to doff front and back bobbins.
D. Lower spindles, reset builder, reset clock.
E. Break ends at pressor.
F. Doff full bobbins to box.
   1. Remove bobbin from spindle with both hands.
   2. Place full bobbin in doff box.
G. Push full doff boxes to storage area.
H. Get a box of empty bobbins and place them on spindles.
   1. Press down and twist bobbins until each bobbin locks into the grooves on the top of the spindle.
I. Straighten ends at pressor.
   1. Wet down ends with a sponge.

ACCOMPLI
SUPERVISO
INITIALS
DATE

J. Tag frame.
   1. Start and stop frame rapidly until several revolutions of stock turn onto the bobbin.
K. Wrap stock ends.
L. Put end in production.
   1. Thread sliver over creel rolls and into the trumpet behind the front rolls.
   2. Tag the frame to allow roving to turn through the rolls.
   3. Place plastic flyer threader through flyer from the bottom and hook end to the threader and pull end through flyer.
   4. Thread the pressor and wrap the end around the bobbin.
M. Record clock reading and mark the production cord.
N. Start frame.
O. Complete I. D. tag, and place in bobbin.

DIVISION COMPLETED

II. Cleaning per doff

A. Raise and brush top cleaners and sower cleaners.
B. Brush head and boat ends.
C. Use air hose to blow off the rolls and top flyers.
   1. Blow flyers at pressor and spindle base.
D. Clean pneumafil tank and deposit waste.

DIVISION COMPLETED

III. Creeling and cleaning per creel

A. Break out cans.
   1. Break sliver and push cans to spare floor behind the frame.
B. Brush and clean lifting rollers and posts.
C. Clean roller beam back, apron brackets and pneumafill pipes.
D. Place waste in proper can.
E. Move cans into creel splice ends.
   1. Place full cans of sliver two at a time into proper position.
   2. Splice the hanging end and the end from each can together by hand.

DIVISION COMPLETED

IV. Turn cans

A. Line up turn cans.
   1. Splice ends of sliver in each can together.
   2. Accumulate sliver into one can until the can is full.

DIVISION COMPLETED

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INITIALS
DATE

V. Cleaning per shift

A. Get roll picker and brushes.
   1. Stop frame.
   2. Pick all waste and lint accumulation from top rolls and from bottom steel rolls.
B. Inspect and clean apron tension rolls.
C. Get rugs, wipe flyers, spindle housing.
D. Clean head and foot ends.
E. Clean back covers and sompsons, motor base.

DIVISION COMPLETED

VI. Repair breaks

A. Repair ends down below front roll.
B. Repair collier, steel roll and apron.
C. Repair slack end.
   1. Stop frame and turn bobbin on spindle until all slsck is removed.
D. Repair creel break, piece end or splice.

DIVISION COMPLETED

VII. Creel front roll choke.

A. Cut the sliver from around the roll and place the end in the back of the roll.
   1. Then piece up end.

DIVISION COMPLETED

VIII. Choked flyers.

A. Break end at the front roll.
   1. Roll end between palsm to establish twist.
   2. Grasp end at pressor and pull down through flyer to remove choke from flyer leg.
   3. Piece up end.

DIVISION COMPLETED

IX. Take end out of production

A. Grasp flyer at broken end.
B. Position flyers, remove bobbin from spindle. and place an empty bobbin on spindle.
C. Place part-full bobbin in a doff box.
D. Place a empty bobbin on the spindle.
E. Reach behind the front rolls and break sliver.
F. Run sliver in rolls through rolls.
   1. Place this waste in proper waste container.
G. Pull sliver from that end back across rolls and into can.
H. Start frame.

DIVISION COMPLETED

Total Training Time: Half-Time Basis -- 12 Weeks

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INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: Granite Falls High COORDINATOR: Mike Holt

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Utility-Machine Cleaner (Sweeper) Card Room

D.O.T. CODE NUMBER _____ LENGTH OF ACCREDITED _____

TRAINING (1) (2) Years

REFERENCES Training manuals from Burlington Ind. & Shuford Mills

PRIMARY FUNCTIONS: Gather, categorize and weigh card room waste; keep room swept and orderly; truck sliver to roving frames, push roving to elevator, scheduled cleaning

MACHINES, TOOLS, AND EQUIPMENT USED: Brooms, waste containers, slubber turn cans, full and empty drawing cans, full and empty roving cans.

Upon completion of each division the supervisor will initial and give the date of completion.

ACCOMPLISHED
SUPERVISOR'S INITIALS
DATE

DIVISION AND JOBS

I. Sweep around cards, lap storage and can storage areas

A. Sweep around drawing and roving frames and sliver storage areas around roving frames.
1. Place waste sweeps in proper container

B. Sweep between roving frames and rail of roving frames.
1. Clean tags from back of frames when sweeping this area.

DIVISION COMPLETED

II. Collect waste

A. Collect reworkable waste from cards, drawing and winding.
1. Weigh each by operator
2. Record weight and place in proper chutes
3. Return cans to proper place.

B. Collect non-reworkable waste from drawing and roving.
1. Place in proper chutes

	DATE
C. Remove spinning reworkable waste from elevator area to bale blend waste room. 1. Place in proper trucks 2. Return empty waste truck to card room DIVISION COMPLETED	
III. Trucking sliver and roving A. Truck full cans of sliver from drawing frames to back of proper roving frames. 1. Return with empty cans 2. Place empty cans at the front of finisher draw frames. B. Move roving turn cans to back of breaker draw frames C. Move empty roving boxes from the elevator to roving frames 1. Return full boxes of roving to elevator door. DIVISION COMPLETED	
IV. Pull Card Fly. DIVISION COMPLETED	
V. General Housekeeping duties A. Straighten lap trucks B. Straighten card cans C. Straighten cans of sliver as necessary D. Clean cansters on trucks E. Empty each trash can in card room into dumpster F. Brush humidifier screens G. Collect bad roving bobbins H. Clean off commissary floor once per shift I. Clean outside entrance at rear of card room 1. Clean ramp entrance at picker room 2. Clean platform areas at back of mill J. Clean overhead at card room, picker room and bale and lap storage areas DIVISION COMPLETED	

Total Training Time, Half-Time Basis------4 weeks

Training Plans Of Jobs In The Spinning Department

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: Granite Falls High COORDINATOR: Mike Holt

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Spinning Creeler

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES Training Manuals from Burlington Ind. and Shuford Mills

PRIMARY FUNCTIONS: Block Creel, Spinning Frames

MACHINES, TOOLS, AND EQUIPMENT USED: Saco-Lowell Z-2 spinning frames 240, 252, and 264 spindles per frame, roving bobbin trucks, frame card and pencil, hook for removing roll laps, rags, pipe cleaners, bobbin holder fits around operator's neck.

Upon completion of each division the supervisor will initial and give the date of completion.

ACCOMPLISHED
SUPERVISOR'S
INITIALS
DATE

DIVISION AND JOBS

I. Push Box of Roving to the frame

A. Operator packs extra bobbins on full boxes

DIVISION COMPLETED

II. Cleaning Frame Before Creeling

A. Wipe collect-o-vac tubes and button rolls
B. Wipe guides, under stands, and around weight levers.
C. Wipe and pick rings and ring rails.
D. Wipe separator brackets and stops, weight hooks, sifter rods, and guide rods.
E. Pick roving bobbin holders, wipe creel rods and creel post stands.
F. Wipe off collect-o-vac ducts.

DIVISION COMPLETED

	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
III. Hang having bobbin on hanger. DIVISION COMPLETED	
IV. Pull down ends from roving bobbins, feed into trumpets, under pencil rolls or lap rolls. DIVISION COMPLETED	V
V. Start Frame A. Run ends through and into the collect-o-vac ducts. 1. Stop frame. 2. 2. Inspect and repair roving feeding into rolls and collect-o-vac chckes DIVISION COMPLETED	
VI. Piece up Ends A. Start frame B. Piece up ends. 1. Operator pulls thread off the empty bobbin and wraps it around the empty bobbin. 2. Operator threads the traveler and guides. 3. Breaks off the end and splices it into roving. C. Repair roving breaks and roll laps during D. Record start up time. E. Pull handle on blower track. DIVISION COMPLETED	
VII. Remove collect-o-vac waste from tanks. A. Place waste in container on the end of the frame. DIVISION COMPLETED	
VIII. Hang identification tickets from roving trucks in creel of frame. A. Push empty roving boxes to storage area. DIVISION COMPLETED	

Total Training Time, Half-Time Basis -- 12 Weeks

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: Granite Falls High COORDINATOR: Mike Holt

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Spinner

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES Training manuals from Burlington and Shuford Mills

PRIMARY FUNCTIONS: Repair broken ends, roll laps, remove singlings, patrol frames and break out ends at creel run-out, perform cleaning duties such as cleaning guides, removing waste from collect-o-vac tubes.

MACHINES, TOOLS, AND EQUIPMENT USED: Saco-Lowell Z-2 spinning frames 240-252, and 264 spindles per frame, traveler hook, small square brush and hook for removing roll laps.

Upon completion of each division the supervisor will initial and give the date of completion.

ACCOMPLISHED SUPERVISOR'S INITIALS DATE

DIVISION AND JOBS

I. End Breaks

A. Remove bobbin with the broken end.
B. Locates the end, checks it for singling, threads the yarn through the traveler and pigtails guides.
C. Returns the bobbin to the spindle.
D. Pieces up the end.

DIVISION COMPLETED _____

II. Roving Break

A. Spinner secures the end of roving.
B. Places roving through trumpet and allows roving to run through rolls.

DIVISION COMPLETED _____

ACCOMPLI.
SUPERVISOR'S
INITIALS
DATE

III. Roll laps

A. Spinner removes lap from rolls.

DIVISION COMPLETED

IV. Replace traveler off of bad traveler

DIVISION COMPLETED

V. Run off Singling or Doubling

A. Spinner removes the bobbin from the spindle.
   1. Finds the end and loops it around the spindle and allows it to wind around the spindle until singling or doubling is removed.
   2. Spinner removes the yarn from the spindle and places it into her apron.

DIVISION COMPLETED

VI. Patrol Alley

A. Observe side for laps.
B. Observe for break out ends at creel.

DIVISION COMPLETED

VII. Cleaning

A. Clean Collect-O-Vac Tanks.
   1. Remove waste from tank and place into waste container.
B. Run out front guides.
   1. Place guide brush on guides and push guide brush on the guides to the other end of the spinning frame.
C. Pick Front Stands.
   1. Use metal brass hook to remove waste accumulation between the front top roll and the front stand.
D. Punch out drafting zone.
   1. Place pipe cleaner in drafting zone, around rollers and stands; punch waste from these areas.
   2. Remove waste and put it in apron.
E. Pick Steel Rolls.
   1. Spinner places forefingers against smooth portion of steel roll allowing waste to build up.
   2. Spinner picks waste that has built up from roll.
F. Wipe Spindle Base and Rail.

	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
G. Clean inside head above the creel base. 1. Brush inside head above creel base.	
DIVISION COMPLETED	
VIII. Separate and aside waste to container.	
DIVISION COMPLETED	
IX. Patrol Frame At Doff	
DIVISION COMPLETED	
X. Mark Flag Card, Raise Flag	
DIVISION COMPLETED	

Total Training Time, Half-Time Basis -- 16 Weeks

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: Granite Falls High COORDINATOR: Mike Holt

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Spinning Doffer

D.O.T. CODE NUMBER 689.886

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES Training Manuals from Shuford Mills and Burlington Ind.

PRIMARY FUNCTIONS: Stop, Doff and Restart Spinning Frames

MACHINES, TOOLS, AND EQUIPMENT USED: Spinning frames, paper bobbins, doff trucks, detachable empty bobbin compartment, bobbin holder, (fits around operators neck) pencil, and production card.

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR INITIALS DATE
I. Preparing To Doff a Frame A. Obtain an empty doff truck B. Attach empty bobbin compartment C. Fill compartment with bobbins D. Push truck to frame DIVISION COMPLETED	
II. Removal of Bobbins A. Stop frame, bearing down on rail B. Rewind traverse C. Raise guides and doff frames by lifting full bobbins off spindle and placing empty bobbin on spindle DIVISION COMPLETED	

	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
III. Putting Frame Back into Production A. Start frame allowing the rail to rise slowly B. Put up broken ends C. Push doff truck to full bobbin storage area	
DIVISION COMPLETED	
IV. Record Keeping A. Record frame number on production card.	
DIVISION COMPLETED	

Total Training Time, Half-Time Basis -- 6-8 Weeks

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: Granite Falls High COORDINATOR: Mike Holt

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Roll Picker

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES Training Manuals from Burlington Ind. and Shuford Mills

PRIMARY FUNCTIONS: Clean accumulated lint from spinning frame rollers, wipe accumulated lint from Collect-O-Vac tubes and spindle bases and rails.

MACHINES, TOOLS, AND EQUIPMENT USED: Air-powered rotary spindle, lamb's wool pad and loom duster brush. Saco-Lowell Z-2 spinning frames, 240 and 264 spindles per frame.

Upon completion of each division the supervisor will initial and give the date of completion.

ACCOMPLISHED
SUPERVISOR'S
INITIALS
DATE

DIVISION AND JOBS

I. Pick Rolls

A. Obtain and connect air hose.
1. Use air power rotary spindle, clean the accumulated lint from the journals of the top rolls.
2. Slip draft and steel rolls and use spindle to clean around.

DIVISION COMPLETED

II. Piece up ends that are down

A. Stop the spinning bobbin.
1. Thread the traveler and pigtail guide and splice the end to the sliver coming through the front rolls.

III. Clean accumulated lint from collect-o-vac tubes and spindle bases and rails.

DIVISION COMPLETED

Total Training Time: Half-Time Basis -- 4 Weeks

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Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: Granite Falls High School COORDINATOR: Mike Holt

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Spinning Oiler

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES Training Manuals from Burlington Ind. and Shuford Mills

PRIMARY FUNCTIONS: Performs all necessary oiling and greasing on spinning frames. Changes drafting rollers on frames. Repairs broken tapes.

MACHINES, TOOLS, AND EQUIPMENT USED: Saco-Lowell Z-2 spinning frames, oil cans grease gun, oil drums, tape banding tool.

Upon completion of each division the supervisor will initial and give the date of completion.

ACCOMPLISHED
SUPERVISOR'S
INITIALS
DATE

DIVISION AND JOBS

I. Oiling equipment

A. Oil head end gearing on each frame.
   1. Include all oil spouts.
B. Oil front stands.
C. Dib oil front rollers.
   1. Check frames for yarn count.
D. Oil back rollers, saddles, and back stands.
E. Oil rail lift bearings and travis assembly.
F. Oil steel roller end stands.
   1. Remove boat end cover.
   2. Pull away waste.
G. Oil hank clocks.
H. Oil guide lift rods.
I. Oil motor pulleys.
   1. Stop frame.
   2. Loosen pulley set screw and see if oiling is necessary.
   3. Tighten screw and start frame.

	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
J. Oil gear shaft in head. 1. Fill oil cup in head end. DIVISION COMPLETED	
II. Greasing equipment A. Grease cylinder bearings. B. Grease pitman rollers. 1. Remove pitman roller to grease. C. Grease rocker arms. DIVISION COMPLETED	
III. Banding spinning tapes as necessary. A. Stop frames. 1. Put tape on down spindles band together. 2. Put tape on tension roll, align tape on spindles. 3. Start frame. DIVISION COMPLETED	

Total Training Time; Half-Time Basis -- 12 Weeks

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: Granite Falls High COORDINATOR: Mike Holt

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Traveler Changer

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES Manuals from Burlington Ind. and Shuford Mills

PRIMARY FUNCTIONS: Replace worn travelers on spinning frames as scheduled.

MACHINES, TOOLS, AND EQUIPMENT USED: Saco-Lowell Z-2 spinning frames, 240 and 264 spindles per frames, 2½ rings, traveler hook, ice pick, traveler magnet, pencil and production card.

Upon completion of each division the supervisor will initial and give the date of completion.

ACCOMPLISHED
SUPERVISOR
INITIALS
DATE

DIVISION AND JOBS

I. Change Travelers

A. Obtain travelers and magnet at beginning of shift.
B. Stop the frame.
   1. Mark production card.
   2. 2. Stop ring rail about ½ way up the spinning bobbin.
C. Open a can of tarvelers and place them in open pocket.
D. Break off travelers with ice pick.
   1. Pull the yarn so the traveler moves to the front of the spindle.
   2. Insert the ice pick between the ring and the traveler and break the traveler.
   3. Turn back the bobbin until all slack is taken out of the yarn.
E. Replace travelers, using hook.
   1. Place hook in the traveler and move it to the spindle.

	ACCOMPLISHMENT SUPERVISOR'S INITIALS DATE
2. Place traveler around the end of the yarn and attach the traveler to the ring.	
DIVISION COMPLETED	
II. Oil Traveler Rings A. Obtain a bottle of coconut oil 1. Apply coconut oil to rings with a swab of waste after changing travelers.	
DIVISION COMPLETED	
III. Start frame by placing foot on rail pedal and pushing the rail to the bottom to start machine.	
DIVISION COMPLETED	
IV. Piece up ends A. Operator grasps the bobbin and finds the end on the bobbin. 1. Threads the guide and traveler. 2. Releases the bobbin and twists the end into the roving canning off the front reel.	
DIVISION COMPLETED	
V. Fill traveler cups if needed.	
DIVISION COMPLETED	
VI. Turn on air blowers.	
DIVISION COMPLETED	
VII. Put leftover travelers back into can.	
DIVISION COMPLETED	
VIII. Put travelers and equipment away at the end of the shift.	
DIVISION COMPLETED	

Total Training Time, Half-Time Basis -- 4 Weeks

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: Granite Falls High COORDINATOR: Mike Holt

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Sweeper - Spinning Room

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES Training Manuals from Burlington Ind. and Shuford Mills.

PRIMARY FUNCTIONS: Sweep walls and floors, cleans air conditioning screens, and empties waste containers.

MACHINES, TOOLS, AND EQUIPMENT USED: Brooms, air hose, waste containers, roller picker, and waste truck.

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
I. Sweep post and wall alleys five times per shift. DIVISION COMPLETED	
II. Cleans air conditioning screens with broom. DIVISION COMPLETED	
III. Empties waste tanks on all five blowers. A. Get tank opening tool. B. Stop blowers over cross alley. C. Empty four tanks on each blower. D. Restart blowers. E. Empty waste in proper place. DIVISION COMPLETED	

	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
IV. Clean blowers with air hose A. Hook up air hose and turn on the air. B. Blow off blower on return air hose. DIVISION COMPLETED	
V. Pick off motor ends and back side of heads with roller picker. DIVISION COMPLETED	
VI. Take out thread waste from tangle work reel. A. Tape bag of waste closed. B. Deposit bag in its proper place. DIVISION COMPLETED	
VII. Empty trash cans A. Deposit in collection area for burining. DIVISION COMPLETED	
VIII. Empty floor waste A. Deposit with non-reworkable waste. DIVISION COMPLETED	
IX. Brush underside of assigned frames A. Include sompsons, rockers and feet of frame. DIVISION COMPLETED	
X. Drag out bobbins and accumulated lint from floor under all assigned frames. A. Pick up bobbins and place in bobbin, empty doff truck. B. Place empty bobbins in storage bins. C. Aside piece or full bobbins to tangle work reel. DIVISION COMPLETED	
XI. Collect non-reworkable waste A. Get empty roving truck and three empty bags. B. Go to waste cans and empty them into bags. C. Deposit bags in non-reworkable waste areas. DIVISION COMPLETED	

	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
XII. Sweep down post, waste containers, and fire extinguishers. DIVISION COMPLETED	
XIII. Clean walls, window ledges, switch boxes mounted on walls. DIVISION COMPLETED	
XIV. Clean rest rooms. DIVISION COMPLETED	

Total training time, half-time basis -- 4 Weeks

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: Granite Falls High School COORDINATOR: Mike Holt

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Roving Bobbin Stripper

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES Training manuals from Burlington Ind. and Shuford Mills

PRIMARY FUNCTIONS: Clean waste from roving bobbins prior to their return to roving frame area.

MACHINES, TOOLS, AND EQUIPMENT USED: Terrel machine co. roll-open bobbin stripper model 175, air hose used for cleaning of machine, roving bobbin trucks, plastic waste containers.

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
I. Prepair to clean bobbins. A. Obtain and push a full truck of piece bobbins to hoist. B. Remove heaped bobbins from top of the truck. C. Position truck of bobbins on to hoist platform. DIVISION COMPLETED	
II. Strip the bobbins. A. Turn on hoist on stripper and have hoist dump the bobbins in stripper pan. B. Lower the hoist. C. Place empty truck under bobbin stripper conveyor. DIVISION COMPLETED	

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SUPERVISO[illegible]
INITIALS
DATE

III. Removeable Waste

A. Get two empty containers.
   1. Remove full waste containers and replace with empties.
   2. Pour waste into two plastic logs.
B. Remove waste from receptacle lid.
C. Clean waste from receptacle.
   1. Close receptacle lid.
D. Place bags of waste in their proper place.

DIVISION COMPLETED

IV. Remove empty truck from hoist platform.

A. Place the empty truck in the proper storage area.

DIVISION COMPLETED

V. Repair chokes

A. Turn off the bobbin strippers and clean out the choked rollers.
B. Call a fixer if the choke is severe.

DIVISION COMPLETED

VI. Miscellaneous duties

A. Pick up bobbins off of floor.
B. Rearrange trucks.

DIVISION COMPLETED

Total Training Time; Half-Time Basis -- 4 Weeks

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: Granite Falls High COORDINATOR: Mike Holt

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Yarn Service

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES Training Manuals from Burlington Ind. and Shuford Mills

PRIMARY FUNCTIONS: Pack yarn and provide production records.

MACHINES, TOOLS, AND EQUIPMENT USED: Full and empty spinning bobbin trucks, hand trucks, yarn cases, tape and glue dispensers, waste truck, air hose, shipping memo register, yarn case dollies, tangled bobbin spindle, case strapping machine.

Upon completion of each division the supervisor will initial and give the date of completion.

ACCOMPLISHED
SUPERVISOR'S
INITIALS
DATE

DIVISION AND JOBS

I. Pack out cases

A. Put case on conveyor.
   1. Mark full case with proper indentifying information.
   2. Put case on strapping machine.
B. Put case on scales.
   1. Record weight and write shipping memo.
   2. Attach memo to case.
C. Block out any old identifying information.
D. Push cases down the conveyor.
E. Load the full case on a hand truck.
   1. Take full case to platform storage.

DIVISION COMPLETED

II. Pack out shift work

	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Prepare two bundles of inners for assembly and assemble. 1. Dispose of bale wires after assembling bundle of inners. B. Discard unuseable cases. C. Fill tape dispensers with water and new rolls of tape. D. Fill memo containers. DIVISION COMPLETED	
III. Pack cones in cases A. Push case to next section to gather cones. 1. Place label in cone. 2. Place cone in case. DIVISION COMPLETED	
VI. Distribute cones to winders A. Push full doff box to winders. 1. Place cones on shelf under winders. DIVISION COMPLETED	
VII. Handle tangled and backwound cones A. Take tangled cones to Rotoconer. 1. Take backwound cones to cases. B. Pick up tangle work. 1. Get tangled work out of box on winder and place in empty bobbin box. DIVISION COMPLETED	
VIII. Label work A. Make labels. 1. Insert correct stamp into labelmaker. 2. Run labels. B. Distribute labels. 1. Find correct label and put in case dolly. 2. Store excess labels. DIVISION COMPLETED	
Total Training Time; Half-Time Basis -- 16 Weeks	

Training Plans Of Jobs In The Winding Department

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Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: Granite Falls High COORDINATOR: Mike Holt

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Autoconer Tender

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES Training manuals from Shuford Mills and Burlington Ind.

PRIMARY FUNCTIONS: To wind the yarn off the small spinning bobbin onto a cone. This cone of yarn is large enough to be used in a preparation or weaving department. While winding the yarn the autoconer also cleans the yarn by removing weak places, slubs, and gouts.

MACHINES, TOOLS, AND EQUIPMENT USED: Autoconer machine, sorting tray, bobbins, cones, bobbin box, scissors, hook, waste storage can, plastic strip picker.

Upon completion of each division the supervisor will initial and give the date of completion.

ACCOMPLISHED
SUPERVISOR'S
INITIALS
DATE

DIVISION AND JOBS

I. How to Start and Stop Autoconer

A. Start and stop buttons are located on the head end of each fifty spindle unit.
   1. The stop button is located in the center of the panel directly under the green indicator lamp. This button is marked.
   2. The start button is located in the top row of buttons and is marked with the letter "I".

DIVISION COMPLETED

II. Creeling Duties

A. Creeling full bobbins
   1. Pick up two bobbins and creel two at a time.
   2. Pick up two and creel one at a time.
   3. Pick up one piece bobbin creel.
   4. Recreel ejected bobbins.
   5. Strip tailing and dump trays.

DIVISION COMPLETED

ACCOMPLISHED
SUPERVISOR'S
INITIALS
DATE

III. Different Types of Stops

A. Yarn break or bobbin runout.
   1. This stop is automatically repaired by the knotter.
B. Full package stop
   1. Operator doffs the full cone.
   2. Start winding unit by pushing the yellow push/pull button.
C. Mechanical Failure Control
   1. Discover why knotter failed to function.
   2. When corrective action has been taken, push proper button to restart traveling knotter.
D. Drum lap
   1. Manually turn the drum until the drum opening faces the operator.
   2. Insert the point of the scissors into the drum opening and clip the lap and remove it from the drum.
   3. Restart by depressing to push/pull buttons.
E. Manual stop
   1. Pull and briefly hold the push/pull button.

DIVISION COMPLETED

IV. Doff Full Cones

A. Standing facing the unit pick up an empty cone and push full cone onto the storage area.
   1. Break the end from the full cone.
   2. Pull approximately one yard of yarn from the bobbin and roll into a wad.
   3. Place yarn end from the bobbin into slot in cone and drop wad of yarn inside the cone, and wrap yarn around cone one turn.
   4. Place cone onto cone adapters and spin cone on drum.
   5. Push/pull button start knotter.

DIVISION COMPLETED

V. Cleaning Duties

A. Strip Screens
   1. Pull the screen stripping lever toward the body and return to on up position.
B. Clean waste tank
   1. Stop the machine by pushing the stop button on the head of the autoconer.
   2. Open the waste tank door at the foot end of the machine.
   3. Remove all waste and lint from the tank and place in waste box.

ACCOMPLI...
SUPERVISO...
INITIALS
DATE

4. Clean tank door.
5. Start machine by pushing start button.

C. Remove waste from sections.
1. Stop traveling knotter.
2. Open butterfly value near foot end of machine.
3. Insert hook into opening and catch a small portion of the accumulated yarn.
4. Pull yarn through the opening and remove hook.
5. Pull yarn from section beam and place waste storage can.
6. Restart traveling knotter.

D. Pick waste from guides

E. Clean cone arbors.
1. Pick all thread wrap-... and lint from the cone arbor and drum ...ea.

DIVISION COMPLETED

VI. Miscellaneous Duties

A. Eject bobbin-clear jammed chute as necessary.
1. To eject undersirable bobbin pull ejector pull rod.
2. Manually clear the chute by reaching down the chute with the left hand while pushing the black button on the hand rod with the right hand. Lift the bobbin nut by hand.

B. Straighten tangled cones.
1. Break at thread at the large end of cone and peel a sheet of yarn across the face of cone, cut the sheet of yarn and pull until it becomes untangled.

DIVISION COMPLETED

Total Training Time; Half-Time Basis -- 16 Weeks

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: Granite Falls High COORDINATOR: Mike Holt

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Winding - Utility

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES Training Manuals from Burlington Ind. and Shuford Mills

PRIMARY FUNCTIONS: Service yarn lift, empty up bobbins from autoconers, clean hooks of autoconers, sweeps winding room, air conditioner screens, office, restrooms, empty waste cans, sweep cans, trash boxes.

MACHINES, TOOLS, AND EQUIPMENT USED: Brooms, brushes, roll picker, yarn lift, full and empty bobbin boxes.

Upon completion of each division the supervisor will initial and give the date of completion.

ACCOMPLI[illegible] SUPERVIS[illegible] INITIAL[illegible] DATE

DIVISION AND JOBS

I. Service yarn lift every 15 minutes or as necessary

A. Pour out empty bobbins from small boxes at autoconers into bobbin trucks.
B. Place full bobbin trucks on elevator.

DIVISION COMPLETED

II. Cleaning duties

A. Cleans back of autoconers with roll picker or brush.
B. Cleans sprackets, pulleys and screens.

DIVISION COMPLETED

III. Sweeping duties

A. Sweep floors of entire winding room.
B. Sweep air conditioner screens.

ACCOMPLI... SUPERVISOR'S INITIALS DATE

C. Sweep office and rest rooms.
D. Empties thread waste at the autoconer.
E. Empty sweep cans and trash cans.

DIVISION COMPLETED

Total Training Time on a Half-Time Basis -- 4 Weeks

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: Granite Falls High COORDINATOR: Mike Holt

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Cone Delabeler

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES Training manuals from Shuford Mills and Burlington Ind.

PRIMARY FUNCTIONS: Remove labels from used plastic cones, keep own work area clean.

MACHINES, TOOLS, AND EQUIPMENT USED: Hand trucks, delabel table, empty cone trucks.

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
I. Good case of used cones on hand truck delabel spare floor.	
A. Push truck to delabel table	
B. Empty case of cones and return hand truck	
DIVISION COMPLETED	
II. Remove labels with knife	
DIVISION COMPLETED	
III. Stack and empty in empty cone truck	
A. Push truck to storage area at winders.	
DIVISION COMPLETED	

	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
IV. Cleaning duties A. Get broom and sweep around delabel table. B. Put sweeps and trash in trash can. DIVISION COMPLETED	

Total Training Time Half-Time Basis -- 4 Weeks

WEAVING PROCESS

The first department in the production of woven material is the throwing department. The major purpose of the throwing department is to import additional twist to continuous filament rayon yarn. The yarn is also packaged in the throwing room for use as warp or filling in weaving.

There are several sub-departments within the throwing department. The purpose of the soaking and drying yarns is to make it possible to identify yarns by applying removeable tints in the soaking process.

In the winding process, the yarn is wound from skeins, cones or cakes onto special spools in order that it may be handled on the twisting or spinning frames. This is merely a transfer from one type of package to another.

The twisting (or spinning) process puts a certain predertermined number of turns into the yarn. The S-B twisting machine is used for the production of combination yarns involving the doubling or plying of regular, acetate or viscase of normal twist with viscase crepe yarns to obtain special fancy effect yarns. The twist is set in the yarn by the use of a "steam box" where the dry and wet temperature and the relative humidity are predetermined and controlled. The yarn is steamed for about two hours. Without this process, the yarn would have a tendency

to kink and unravel.

The yarn goes from the steam box where it has been conditioned to the redrawing area where it is transferred to the steaming bobbin to lighter shipping spools to be used in some other department within the mill as shipped to some other plant. Redrawing is not always necessary as steaming bobbins are sometimes transferred direct to warp mills or to the quilling department where the yarn is wound directly from the steaming bobbin.

The next over all department is called the preparatory department. The preparatory department is made up of several sub-departments known as warping, slashing, beaming, quilling, and entering.

Warping is the transfer of yarns from spools or cones into a continuous wide sheet of yarn (warps) in which individual threads or "ends" are spread equally apart and parallel to each other on an oversize spool 50" to 65" long and known as a section beam. The warping department is made up of two types of warping known as spool warping and high-speed warping. Usually spool warping is used for warping combination yarns which do not have to be slashed or sized; whereas, high-speed warping is used where yarns have to be slashed and sized before weaving.

The warps go from the warping department to the slashing department where the warp must be slashed or sized. There are several reasons for warp sizing some of them are listed on the following page.

A. To provide an efficient film for yarn filaments, reducing chafing in the looms.

B. To increase the strength of the yarn insofar as this is required to prevent breakage in the loom.

C. To equalize any differences in tension of the warp yarns by a moderate stretch to produce a smooth uniform sheet of warp yarn to prevent loose ends.

D. To afford proper "feed" to the finished cloth by the use of various chemicals in the size solution.

E. To render the warp yarns more resistant to atmospheric changes during weaving.

With the slashing operation, the total ends required in the warp are transferred from the section beams, to the loom beam. One of the most important factors in rayon warp sizing is the amount of stretch that is applied to the yarn. This must be controlled in order to produce good weaving results and to give the desired finished cloth appearance.

After slashing the warps are taken to the entering department where each individual end is drawn through a separate drop wire, heddle eye, and then through a dent in the reed. This process of threading individual ends through these items is called "drawing in". A draw set of harness frames, heddles, and reed can be run several times in a loom before having to be redrawn or rethreaded again. This is done by typing the new warp to be run to the old ends. The new warp then is ready to be remounted

in the loom.

The next step is called quilling. Several terms are employed in speaking of this particular process; they are "copping", "quilling", or "filling winding". This process is the transfer of yarn from a supply package onto a paper or wooden quill. The quill is filled with the desired amount of yarn by a so called "filling winder" or "winding" machine. The temperature and humidity conditions must be regulated and controlled to prevent stretched yarn during filling winding. After quilling, the quills or yarn are steamed in a steam chest, to set the twist. They are then ready to be carried to the weaver room.

Weaving is the process of interlacing two sets of yarns, one running lengthwise in the loom termed "warp" and the other running cross-wise in the loom and called "filling", interlacing each other at right angles. The weaving machine is known as the "loom". The loom consists of eight principal mechanical motions. They are:

A. Shedding harness and head motion

B. Picking motion

C. Beating up motion

D. Set-off motion

E. Take-up motion

F. Filling bobbin replenishing motion

G. Automatic stop motions

H. Box motion

The harness and head motion control the design of the cloth by lifting and lowering individual harness frames.

The cloth is doffed from the looms in rolls of approximately 100 yards and carried to the cloth room.

In the cloth department the cloth is run through what is known as a "shearing machine" to shear off any loose ends on the edges, or other parts of the cloth. The cloth is then run through the grading frames, under flourescent lights, or in front of large, frosted windows in order that the cloth graders can check for weaving defects, dirt, and other evidence of inferior merchandise. If defects are found they are referred back to the weave room in order that the looms, producing bad cloth can be checked and causes corrected. After grading, the cloth is ready for packing and shipping to various finishing plants.[4]

Training Plans Of Jobs In The Weaving Process

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BEST COPY AVAILABLE

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: Granite Falls High COORDINATOR: Mike Holt

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Frequency and Standards Clerk #2

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES Training manuals from Burlington Ind. and Shuford Mills

PRIMARY FUNCTIONS: Make weaving standards changes, issue new rate sheets and make new layout. Give accurate standard date to DPC. Issue various production reports and make miscellaneous production analysis.

MACHINES, TOOLS, AND EQUIPMENT USED: Duplicator, calculator, copy machine, paper shear.

Upon completion of each division the supervisor will initial and give the date of completion.

ACCOMPLISHED
SUPERVISOR'S
INITIALS
DATE

DIVISION AND JOBS

I. Records and reports

A. Check daily loom mounted schedule for style changes and proper constant standards information to DPC daily.
B. Issue warps tied and hung report weekly.
C. Calculate warp fall take up factor.
   1. Post in summary book.
   2. Take new average and apply to new mounted warps.
   3. Post actual warp fall time and predicted time in comparison book.
   4. Send new factor and warp fall information to DPC daily.
D. Issue report of weavers performance weekly
E. Send projected assignment for loom schedule to planning weekly.
F. Check assignment values on posting sheet weekly.
G. Work with department head in making rate changes weekly.

ACCOMPLISHED SUPERVISOR'S INITIALS DATE

H. Revise and audit rate sheet weekly.
I. Make weaver's layout and unifil tender's layout weekly.
J. Prepare CQS package.
   1. Update graphs and figures weekly.
K. Prepare frequency check forms for weave room.
L. Pick up unifil cards from weave room daily.

DIVISION COMPLETED

Total Training Time; Half-Time Basis -- 36 weeks

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: Granite Falls High COORDINATOR: Mike Holt

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Frequency and Standards Clerk #1

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES Training manuals from Burlington Ind. and Shuford Mills

PRIMARY FUNCTIONS: Make frequency checks, time studies, and speed checks as scheduled. Collect inventory weight data and issue reports of data. Issue various production reports and analysis. Assist in miscellaneous engineering activities.

MACHINES, TOOLS, AND EQUIPMENT USED: Pencils, tachometer, duplicator, copy machine, drafting table, drafting equipment, chalk boards, calculator.

Upon completion of each division the supervisor will initial and give the date of completion.

ACCOMPLISHED
SUPERVISOR'S
INITIALS
DATE

DIVISION AND JOBS

I. Issuing records and reports.
   A. Post percent records daily.
   B. Post warper and slasher production indexer, daily.
      1. Issue summary totals weekly.
   C. Summarize cloth room production reports.
      1. Calculate grader indexer.
      2. Yards per man-hours and shift totals daily.
   D. Issue weekly cloth room production summary.
   E. Calculate filling packages for shift and one-half and send notice of change to billing area.
   F. Make dollar loss sheet and percent seconds poster and post weekly.
   G. Summarize daily warper logs and issue efficiency trend report weekly.
   H. Measure cloth roll diameter and obtain yardage from grading sheets for new styles throughout the quarter.

ACCOMPLISHED	SUPERVISOR'S INITIALS	DATE

I. Issue quill and waste report weekly.
J. Take twister speeds and issue speed report weekly.
K. Take loom speeds and issue speed report monthly.
L. Obtain standard weight data for new yarn lot numbers.
M. Obtain weight data for new piras.
N. Prepare and relabel CQS boards quarterly.
O. Issue inventory unit weight sheet quarterly.
P. Issue pira tool weight sheet quarterly.
Q. Prepare new master form for various production reporting programs quarterly.

DIVISION COMPLETED

Total Training Time; Half-Time Basis -- 24 Weeks

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: Granite Falls High School COORDINATOR: Mike Holt

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Mixer Cleaner Scrim

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES Training manuals from Burlington Ind. and Shuford Mills

PRIMARY FUNCTIONS: Clean front stand and stand roller on scrim looms; clean floor area around scrim looms; mop up any wet area around scrim looms; empty trash barrels located at fixer tables and tie in table.

MACHINES, TOOLS, AND EQUIPMENT USED: Brooms, mops, rags, putty knife, hammer, chisel, straight hoe, mop, mop bucket.

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
1. Cleaning	
A. Perform primary function on looms as designated by supervisor (6 per shift)	
B. Empty 10 trash barrels in weave room located at fixer and tie work tables (once per shift)	
DIVISION COMPLETED	

Total Training Time; Half-Time Basis -- 8 weeks

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: Granite Falls High School COORDINATOR: Mike Holt

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Warper Creeler

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES Training manuals from Burlington Ind. and Shuford Mills

PRIMARY FUNCTIONS: Keep yarn of the proper lot number creeled into creel frame to produce a quality work.

MACHINES, TOOLS, AND EQUIPMENT USED: Warper creel frame, spring scissors, twister bobbin pen, board packing truck, flat cart C for moving boxes).

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
I. Clerical work	
A. Check set order, find lot number, packages to be creeled.	
DIVISION COMPLETED	
II. Creeling	
A. Obtain yarn from service area.	
1. Push truck to frame.	
2. Remove empty and transfer tail full bobbin if yarn is on twisted bobbins.	
B. If yarn is on cones or tubes, place cardboard box on flat cart, remove empties and place in cardboard box.	
C. Open case yarn and place in spring box.	
1. Push spring box to frame.	

ACCOMPLISHED
SUPERVISOR'S
INITIALS
DATE

D. Loosen transfer toil on bath twister bobbins and cones and tie transfer toil.
E. Cut down yarn cases and stack on cardboard packing truck.
F. On style change, thread tension disc properly.
   1. Clean with air or wiping if needed.
   2. Adjust tension if necessary.
G. Strip waste from packages with air stripper when needed.
H. Clean wheels of truck when needed.
I. Sweep aisle of creel frame when needed.
   1. Sweep general area around warpers twice per shift.
J. At style change put warper toilings on bobbins on trucks and repack cones and tubes in cases.

DIVISION COMPLETED

Total Training Time; Half-Time Basis -- 6 Weeks

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: Granite Falls High School COORDINATOR: Mike Holt

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Yarn Packer

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES Training manuals from Burlington Ind. and Shuford Mills

PRIMARY FUNCTIONS: Pack and weigh twisted yarn.

MACHINES, TOOLS, AND EQUIPMENT USED: Jaw motor, tape dispenser, hand operated banding machine, floor scales.

Upon completion of each division the supervisor will initial and give the date of completion.

ACCOMPLISHED
SUPERVISOR'S
INITIALS
DATE

DIVISION AND JOBS

I. Packing and weighing

A. Go to supply room and obtain cardboard boxes, tape, labels and rubber bands, if not at work station.
B. Set up work station.
C. Assemble cardboard box.
D. Place rubber bands on packages of yarn and place in box.
E. Put dividers in box in proper position.
F. Tape top of box.
G. Weigh each case of yarn and label.
H. Fill out case label. Information on label includes from, to, yarn type, turns, twists, lot no., etc.
I. With aid of tow motor, place cases on pallet.
J. Strap cases to pallet.
K. Clean up work area and store packing supplies.

DIVISION COMPLETED

Total Training Time; Half-Time Basis -- 2 weeks

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: Granite Falls High School COORDINATOR: Mike Holt

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Supply Clerk

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES Training manuals from Burlington Ind. and Shuford Mills

PRIMARY FUNCTIONS: Orders and receives perpetual and non-perpetual supplies, issues supplies and ships materials to be repaired.

MACHINES, TOOLS, AND EQUIPMENT USED: Purchase requisition, supply issue requisition, receiving sheet, purchase orders.

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
I. Clerical work A. Orders perpetual supplies from cardex file. B. File local and industries purchase orders with purchase requisition. C. Prepare receiving records. D. Record inventory level on perpetual records. E. File paid invoices. F. Verifies accounting tab on supply purchases. G. Records price changes on perpetual records. DIVISION COMPLETED	
II. Issues supplies over the counter. A. Verifies and tags incoming supplies. DIVISION COMPLETED	

	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
III. Repair Duties A. Repair shuttles. 1. Prepare shipping instructions on items to be repaired. DIVISION COMPLETED	
IV. Miscellaneous Duties A. Relief supplies supervisor B. Review outside telephone calls when switchboard is closed. DIVISION COMPLETED	

Total Training Time; Half-Time Basis -- 32 Weeks

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: Granite Falls High School COORDINATOR: Mike Holt

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Supply Room Counterman

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES Training manuals from Burlington Ind. and Shuford Mills

PRIMARY FUNCTIONS: Issues supplies, monitor telephone ADT system, and make cyclical counts.

MACHINES, TOOLS, AND EQUIPMENT USED: Electric tube cutter, broom, hand truck, calculator.

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
I. Clerical duties.	
A. Record inventory level on perpetual records.	
B. Price supply issue requisitions.	
D. Take cyclical counts and verify to perpetual records.	
D. Maintain log on location of shop man.	
E. Verify and bin incoming supplies.	
F. Review and adjust cardex records for scientific inventory control.	
G. Account for sale of tools and scrap drum sales.	
1. Prepare cash receipts.	
2. Collect payments.	
H. Receive outside calls on telephone and record in log.	
I. Monitor the ADT system and maintain log.	
DIVISION COMPLETED	

	ACCOMPLI... SUPERVISOR'S INITIALS DATE
II. Cleaning and repair duties A. Clean and dust supply area. B. Repair and rework supplies. C. Fill fire extinquishers when necessary. DIVISION COMPLETED	
III. Issue Supplies DIVISION COMPLETED	
Total Training Time; Half-Time Basis -- 28 Weeks	

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: Granite Falls High _____ COORDINATOR: Mike Holt _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Sweeper Weave Room

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES Training manuals from Burlington Ind. and Shuford Mills

PRIMARY FUNCTIONS: Sweep yarn waste and other scrap from floor of weave room.

MACHINES, TOOLS, AND EQUIPMENT USED: Push brooms, straight broom, quill drop box, hand trucks, trash barrels.

Upon completion of each division the supervisor will initial and give the date of completion.

ACCOMPLISHED
SUPERVISOR'S
INITIALS
DATE

DIVISION AND JOBS

I. Sweeping and Cleaning

A. Sweep weave room at least six times per shift.
B. Drag out waste, broken quills, etc., from under ends of one third of looms once per shift.
C. Pick up bad quills and clean.
D. Wipe walls of spun area.
E. Clean bad and piece quills and record number cleaned.
F. Empty trash barrels.
G. Pick up trash, sweep waste, and place in barrels.
H. Clean up oil spills on floor.
I. Clean one-third of creel stands once per week.
J. Miscellaneous cleaning duties as directed by supervisor.

DIVISION COMPLETED _____

Total Training Time; Half-Time Basis -- 2 Weeks

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: Granite Falls High School COORDINATOR: Mike Holt

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Time Study Clerk

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES Training manuals from Burlington Ind. and Shuford Mills

PRIMARY FUNCTIONS: Time Studies.

MACHINES, TOOLS, AND EQUIPMENT USED: Stop watches, calculator, etc.

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
I. Time Study. A. Assist in measurement of incentive and non-incentive jobs, including time study, summarization, recommendation for new and improved methods etc. B. Measure all new methods dictated by changes in manufacturing procedures. C. Updates and makes necessary changes in JSS, etc. D. Handle special projects assigned by standards manager.	
DIVISION COMPLETED	

Total Training Time; Half-Time Basis -- 36 Weeks

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: Granite Falls High School COORDINATOR: Mike Holt

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Cloth Doffer

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES Training manuals from Burlington Ind. and Shuford Mills

PRIMARY FUNCTIONS: Doff cloth from loom.

MACHINES, TOOLS, AND EQUIPMENT USED: Cloth doffing truck, scissors, pen, battery hoist, wrench, battery charger, doffing lever.

Upon completion of each division the supervisor will initial and give the date of completion.

ACCOMPLISHED
SUPERVISOR'S
INITIALS
DATE

DIVISION AND JOBS

I. Doffing related work

A. Patrol weave room looking for doff flags.
B. Doff cloth from loom and take to cloth room.
1. Load on cloth frame as instructed by head grader or cloth room supervisor.
2. Creel empty cloth roller on take-up, then start cloth.
C. Change battery on doff truck when needed.

DIVISION COMPLETED

II. Cleaning activities

A. Pick up unifil stripper waste by category.
1. Place in waste bags, label and carry to waste room.
B. Clean moto truck wheels by removing from truck.

DIVISION COMPLETED

Total Training Time; Half-Time Basis -- 6 Weeks

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Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: Granite Falls High COORDINATOR: Mike Holt

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Clerk #2 - Cloth Room

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES Training Manuals from Burlington Ind. and Shuford Mills

PRIMARY FUNCTIONS: Control all cloth in packing and shipping in recording and reporting to New York. Prepare a weekly cloth grading and shipping summary. Prepare notice of shipment (Bill of Lading) for yarn, racks and supplies shipped.

MACHINES, TOOLS, AND EQUIPMENT USED: Calculator, adding machine, typewriter, addressograph teletype, duplicator.

Upon completion of each division the supervisor will initial and give the date of completion.

ACCOMPLISHED
SUPERVISOR'S
INITIAL
DATE

DIVISION AND JOBS

I. Clerical work

A. Type up packing records
B. File piece tickets in numerical order.
C. Separate packing records.
D. File packing records by style.
E. Run two tapes on yardage.
F. Prepare pouch each day for packing records and bills of lading to send to central office.
G. Prepare notice of shipments.
   1. Run tape on yardage and attach to #5 copy.
   2. Determine shipping rate.
H. File #7 copy of packing records by style as shipped.
I. File notice of shipment by release number and customer.
J. Separate grading sheets by style, publish chafer and base off standard report; file.

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ACCOMPLISHED	
SUPERVISOR'S INITIALS	
DATE	

K. Prepare cloth shipments report each Thursday.
L. Prepare receiving examination report on all returned goods.
M. Keep record of all packing records voided.
N. Carry piece tickets to piece tickets storage room and file boxes numerically.
O. Type all bills of lading for warehouse, supply and special orders.
P. Relate cycle check results to tub file contents.
Q. Prepare inventory on all packed goods and notice of shipments.
R. Send all messages over teletype.
S. Assist plant office at Q/E inventory.
T. File data sheets.
U. Maintain bill of lading log.

DIVISION COMPLETED

Total Training Time; Half- Time Basis -- 8 Weeks

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: Granite Falls High School COORDINATOR: Mike Holt

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Creeler - Unifil

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES Training manuals from Burlington Ind. and Shuford Mills

PRIMARY FUNCTIONS: Supply looms with filling yarn.

MACHINES, TOOLS, AND EQUIPMENT USED: Filling truck, razor blade knife and scissors, tin snipe.

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
I. Supply all looms with required number of filling yarn packages.	
DIVISION COMPLETED	
II. Unpack cased yarn as needed.	
DIVISION COMPLETED	
III. Cleaning activities.	
A. Pick up empty twister bobbins and take back to prep. department.	
B. Take all empty racks and filling trucks to prep. department.	
C. Pick up and throw away cones and put in dumpster.	
D. Pick up returnable cones and pirns, segregate and put in boxes.	

	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
E. Clean and sweep filling area one time per shift. F. Cut down and remove all empty boxes once per shift. DIVISION COMPLETED	
IV. Change filling at style change. DIVISION COMPLETED	
V. Miscellaneous duties as directed by supervisor. DIVISION COMPLETED	

Total Training Time; Half-Time Basis -- 8 Weeks

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: Granite Falls High School COORDINATOR: Mike Holt

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Yarn Hauler/Checker

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES Training manuals from Burlington Ind. and Shuford Mills

PRIMARY FUNCTIONS: Weigh all twister production and waste and record. Condition yarn in steam conditioner. Keep empty trucks near twister.

MACHINES, TOOLS, AND EQUIPMENT USED: Twister pin trucks, hydraulic hand truck, scales, hoist, knife, scissors, cardboard baling truck, strapping tool.

Upon completion of each division the supervisor will initial and give the date of completion.

ACCOMPLISH
SUPERVISOR
INITIAL
DATE

DIVISION AND JOBS

I. Weighing and record keeping

A. Weigh all ring twister and verdol production, fill out shipping memos.
B. Keep empty twister pin truck near twister.
C. Repack and weigh all unused yarn from warper and twister changes.
D. Weigh all twister waste at the end of the shift and record.
E. Cut down, stack and strap cardboard boxes and weigh before taking to proper location.

DIVISION COMPLETED

II. Conditioning

A. Condition yarn in steam conditioner and set temperature and time controls as required.
B. Keep proper amount of conditioned yarn available

ACCOMPLI...
SUPERVISOR'S
INITIALS
DATE

for filling and take other warpers or backwinding.

DIVISION COMPLETED

III. Cleaning and Storage

A. Take all non-returnable or non-usuable empty tubes and cones to back platform and place in dumpster.
B. Pack all returnable tubes and palletize.
C. Bring empty twister bobbins and tubes from warper area to twister or storage area.
D. Sweep around verdols, yarn storage areas and aisles at end of shift.
E. Remove empty beams from twisting and slashing area to the storage area.

DIVISION COMPLETED

IV. Miscellaneous jobs

A. Do any miscellaneous duties as directed by supervisor.

DIVISION COMPLETED

Total Training Time; Half-Time Basis -- 6 Weeks

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: Granite Falls High COORDINATOR: Mike Holt

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Clerk #3 - Administration

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES Training Manuals from Burlington Ind. and Shuford Mills

PRIMARY FUNCTIONS: Control all cloth in packing and shipping-in recording and reporting to New York. Weekly chafer and base off standard report. Prepare notice of shipment for yarn, racks and supplies shipped.

MACHINES, TOOLS, AND EQUIPMENT USED: Calculator, adding machines, typewriter, addressograph, duplicator.

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
I. Clerical Work	
A. Type packing records	
B. File piece tickets in numerical order.	
C. Separate packing records.	
D. File packing records by style.	
E. Run two tapes on yardage (must balance).	
F. Prepare pouch each day for shipments.	
1. Run tape on yardage and attach to #5 copy.	
2. Determine shipping rate.	
G. File #7 copy of packing records by style as shipped.	
H. File notice of shipment by release number and customer.	
I. Separate grading sheets by style.	
J. Publish chafer and base-off standard report and file.	
K. Type all bills of lading for warehouse, supply and special bills.	
L. Relate cycle check results to tub file contents.	

	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
M. Send transmittal summary on all shipments daily. N. Assist plant office at Q/E inventory. O. File data sheets. P. Maintain bills of lading log.	
DIVISION COMPLETED	

Total Training Time; Half-Time Basis -- 28 Weeks

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: Granite Falls High School COORDINATOR: Mike Holt

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Clerk Dept. No. 2 (Detail Clerk)

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES Training manuals from Burlington Ind. and Shuford Mills

PRIMARY FUNCTIONS: Order and insure delivery of all filling yarn for weave room. Print piece tickets for all styles.

MACHINES, TOOLS, AND EQUIPMENT USED: Addressograph machine, Graphotype machine, clipboard table, pencil, strapping, strapping tools.

Upon completion of each division the supervisor will initial and give the date of completion.

ACCOMPLISHMENT
SUPERVISOR'S
INITIALS
DATE

DIVISION AND JOBS

I. Clerical work

A. Order filling yarn and check case numbers when delivered by warehouse man.
B. Get data sheets from planning for style changes. Get information for running piece tickets from planning and cost accounting.
C. Make plate with Graphotype machine for piece tickets.
D. Run tickets on addressograph machine for all warp cuts, and run piece tickets for any looms that are changed.
E. Keep piece tickets for running on looms.
F. Maintain supply of loom stop cards on all looms.
G. Hang all piece tickets on loom that are not ready for supervisors.
H. Hang all re-run tickets.
I. Verify all piece tickets.
J. Repack all lots in filling storage area that are not currently being utilized.

ACCOMPLISHED SUPERVISOR'S INITIALS DATE

K. Record daily warp fall on daily loom mounting schedule.
L. Conduct pattern check weekly
M. Strap waste cardboard boxes on platform, weigh, fill out proper forms and take to storage.
N. Take warp tickets to planning (daily)
O. At any filling change, order proper filling and coordinate with warp fall.
P. Notify I.E. Department of any change in filling weight or package type.
Q. Inspect yarn of special lots, cull and repack bad yarn.
R. Keep filling area in order.
S. Do other duties as directed by supervisor.

DIVISION COMPLETED

Total Training Time; Half-Time Basis -- 36 Weeks

QUESTIONS AND ANSWERS OFTEN ASKED ABOUT TEXTILE MANUFACTURING

1. What does the word "textile" mean?
   Answer: Any woven material

2. What does the word "woven" mean?
   Answer: Cloth made by crossing threads

3. Approximately how many people work in the textile industry?
   Answer: 900,000

4. In how many states are textile plants located?
   Answer: 42

5. Name five ways in which textiles are used in everyday products.
   Answer: Bed sheets, blankets, towels, rugs, curtains

6. What happens to cotton in a gin?
   Answer: The seeds and linters are removed.

7. About how many pounds of cotton are in a bale?
   Answer: 500

8. How are man-made fibers created? What materials are used?
   Answer: Chemically; Wood pulp and oil

9. Where does cotton start its trip through a mill?
   Answer: Opening room

10. What is the function of a "carding" machine?
    Answer: To align all the fibers in the same direction

11. What is a "sliver"?
    Answer: A rope like strand of fiber about the size of your finger made by the card machine.

12. What is "drawing" in a cotton mill?
    Answer: The straightening and stretching of sliver

13. What is the function of a "roving frame"?
    Answer: Straightens and stretches the drawing sliver which is reduced in size and a slight twist is added.

14. What is done to cotton on a "spinning frame"?
    Answer: The sliver is stretched into a thin yarn and the yarn is twisted to add strength.

15. Why is yarn dipped into boiling starch before it is woven?

Answer: To keep it from breaking when it is woven.

16. What is the thread pattern in plain weaving?
Answer: The crosswise yarns pass over and under the length wise yarn

17. For what is knitted cloth used?
Answer: Hosiery, underwear, sweaters, shirts, and women's suits

18. How does knitting differ from weaving?
Answer: One yarn can form the entire fabric

19. Name three ways textiles can be dyed or colored.
Answer: (1) The fiber can be dyed before it is spun into a yarn. (2) The spun yarn can be dipped into big vats containing coloring material. (3) The fabric can be colored after it is woven or knitted.

20. Name the three basic weave patterns.
Answer: Plain, twill, and satin

21. How has science helped America's textile industry?
Answer: By developing new processes and better ways of making cloth and developing new fibers

22. What effect does a twill weave give?
Answer: Effect of diagonal lines

23. Which of three basic weave patterns produces a smooth surface?
Answer: Satin

24. What is the role of education in the growth of the textile industry?

25. Approximately how many plants turn out cotton, man-made fiber and silk textile products in the United States?
Answer: 7,500

26. How many Americans directly or indirectly derive their living from the textile industry?
Answer: 15,000,000

27. How many yards of fabric are produced each year?
Answer: 15 billion square yards

28. Explain the function of an opening machine.
Answer: Fluffs up the fiber and removes foreign material

29. How are fibers blended?
Answer: By placing two or more fibers into an opening or blending machine

30. Explain the difference between "warp" and filling yarn.
Answer: Warp yarn is the lengthwise threads in cloth. Filling yarn is the cross wise threads in cloth.

31. Explain the function of a "slasher".
Answer: Yarn from several beams are combined and treated with a hot solution of starch, wax, oils, and water to coat and strengthen the yarn.

32. Explain two ways man-made fibers can be introduced into textile manufacturing.
Answer: (1) Filament, or continuous fiber. (2) Staple cut into lengths suitable for being spun into yarn or blended with cotton or other fibers.

33. What other industries are affected by textiles?
Answer: Almost every industry in the United States

34. Explain the operating principle of the Jacquard loom.
The pattern is imposed on cardboard by means of perforations, the loom mechanism manipulates the warp threads raising or lowering then according to the design.

35. Name three types of looms that are in use.
Answer: Box loom, shuttleless loom, and Jacquard loom

36. What is the first step in finishing?
Answer: Bleaching

37. Explain: (a) printing; (b) package dyeing: (3) color computer.
Answer: (a) Printing is placing designs on cloth; (b) Package dyeing means large numbers of "packages" of yarn are put on a carrier or frame and placed in a dye Machine; (c) Color computer provides quick accurate identification of color.

38. Which is the oldest of the man-made fibers?
Answer: Rayon

39. Name at least five universities or colleges which have special textile schools.
Answer: N. C. State, Auburn University, Clemson University, Massachusetts Institute of Technology, and Philadelphia College of Textiles and Science

40. What early state legislature voted funds to stimulate textile manufacturing?
Answer: Massachusetts

41. Who was the builder of America's first textile machinery?
Answer: Col. Hugh Orr

42. Name and locate three of the earliest attempts to establish textile manufacturing as an American industry.
Answer: Charleston, S. C.; Statesbury, S. C.; and Beverly, Mass.

43. Who is regarded as the "father" of America's textile industry?
Answer: Samuel Slater

44. Where was the first successful cotton mill in America?
Answer: Pawtucket, R. I.

45. Name the inventor of the cotton gin and explain the effect of this invention on the cotton industry.
Answer: Eli Whitney; the cotton gin greatly increased the demand for raw cotton. It also made textile products cheaper so more people could afford them.

46. Who was the builder of America's first power loom?
Answer: Francis C. Lowell

47. When and where was the world's first complete power-operated textile plant?
Answer: Waltham, Massachusetts, 1814

48. Where are the oldest cotton mills owned and operated by the same families?
Answer: Philadelphia

49. What was the machine copied by William Mowry?
Answer: Double speeder

50. What was James Thorpe's invention and why was it important?
Answer: Ring spinning made spinning faster, simpler and less expensive

51. Who was the South's pioneer in large-scale textile manufacturing?
Answer: William Gregg

52. Why was the International Cotton Exposition of 1881 so important?
Answer: It stimulated the growth of the textile industry in the South.

53. When and where was an electric motor drive first used in a cotton mill?
Answer: Columbia, South Carolina, 1893

54. What did James Northrop invent?
Answer: Automatic loom

55. What is "picking" in a cotton mill?
Answer: Opening and cleaning of raw cotton

56. Explain the educational methods used to open new opportunities in the textile industry. Many
Answer: Many mills provide scholarships for deserving students in textiles. Technical schools receive financial assistance from textile mills.

57. What is the importance of research to textile manufacturing?
Answer: Research is necessary in order to better textile products to be products to be produced.

58. What is unusual and unique about the Institute of Textile Technology?
Answer: It is the only post graduate institution in the country existing independently of any college or university.

59. Where is the center of the textile industry's marketing activities?
Answer: New York[5]

TERMS AND DEFINITIONS - SPINNING

ALLEY - The area between the machines.

BACK WINDING - The act of winding yarn from one package to another.

BLEND - To mix different kinds of grades of cotton or rayon fibers to produce yarn posessing characteristics that could not be obtained from any one of the fibers if used alone.

BLENDING MACHINE - A group of devices that are synchronized to proportion definite amounts of various grades of fiber which are to be blended together.

BOARD - A board with 48 holes in it into which are inserted the end of a finished quill to hold the quills upright. Quillers are often paid by the number of boards completed.

BOBBIN - A small, wooden or metal core on which yarn is wound.

BOBBIN CLEANER - A machine that removes any remaining yarn or roving from bobbins (quills) after they have been used in the looms, spinning machines or winders.

BREAKER LAP - A roll of loosely matted cotton fibers formed on the breaker picker from tufts of opened cotton.

BREAKER PICKER - The first of the two units of older style picker machines. In this unit the raw cotton or rayon is partially cleaned by beating and fluffing and then fed into a finisher picker.

BREAKING AND OPENING MACHINE - A line of machines, working as a unit, that tear apart and partially clean matted baled fibers.

BROKEN END - A thread of strand or roving which has broken in a textile machine.

CALENDER ROLLS - A unit on the sliver lapper, ribbon lapper, combing machine, drawing frame or card which presses the lap or sliver, as it comes from the drawing rollers, into a loosely matted layer.

CAN - A large cylindrical container for receiving and holding lengths of sliver delivered from the front of a carding machine, drawing frame, or combing machine.

CARD CLOTHING - Special cloth studded with wire teeth, which serves to open up the cotton fibers and clean them of impurities

CARD FLAT - A metal slat covered with card clothing which aids in opening the cotton fibers in connection with the cylinder. The slats are joined together to form an endless belt that is placed so that it revolves over and above the card cylinder. Following the contour of the cylinder, it passes very closely (7/1000 of an inch) to the card clothing and helps to remove the small particles of dirt, short fibers, or knotted fibers.

CARD GRINDING - The periodic sharpening of the wire teeth of the card clothing with an abrasive cylinder.

CARD SLIVER - A thick, untwisted rope of cotton fibers, uniform in thickness and relatively free from neps, which represents the finished product of the carding machine.

CARD STRIPPING - The act of removing adhering cotton fibers from the wire teeth of the carding machine with a small wire tooth-clad roller.

CARDING - The process of separating and cleaning cotton fibers to prepare them for spinning.

CARDING DRUM - The large, rapidly revolving cylinder of the carding machine, covered with several million wire teeth, that picks up (pulls out) the cotton fibers and, working in conjunction with other rollers or flats, combs the fibers and removes small particles of dirt and knotted fibers.

CARDING MACHINE - A machine which completes the cleaning of the cotton, arranges the fibers so they are not matted and transforms the cotton from lap into sliver.

CHEESE - A roll of yarn built up on a paper or wooden tube in a form that resembles a bulk cheese.

COILING HEAD - A device at the front of carding machines, drawing frames, and combing machines that deposits the sliver in even coiled layers in tall cylindrical cans.

COMBING - The process of extracting fibers below a predetermined length and neps from cotton sliver and straightening the remaining fibers to make tham parallel.

COMBING SLIVER - The loose, untwisted strand of cotton fibers produced by the combing machines from ribbon lap.

COMBING MACHINE - A machine which prepares fibers for spinning into yarn by removing short fibers, dirt, and neps, and straightening the remaining fibers into parallel alignment.

CONE - (1) a tapered cylinder of wood, metal, or cardboard around which yarn is wound. (2) a package of yarn wound onto one of the above.

COTTON YARN MEASURES - 54 inches equals 1 thread (circumference of warp reel); 80 thread equals 1 skein or lea - 120 yards; 7 skeins equals 1 hank equals 840 yards.

CREEL - (1) The rack for holding packages of roving or yarn on any textile machine. (2) The task of mounting packages of roving or yarn on the rack (creel) of any textile machine.

DOFF - To remove a filled package or beam from a textile machine. Frequently the operation includes replacing the full package or beam with an empty one.

DOFFING COMB - An oscillating, notched steel bar, set adjacent to the doffing cylinder of a carding machine, which strips the cotton from the doffing cylinder in a light film or sheet.

DOFFING CYLINDER - A wire-tooth-covered drum on a carding machine that strips the cotton in a light film from the carding drum and which is stripped in turn by the doffing comb.

DOUBLING - The process of combining two or more strands of roving, sliver or yarn. The purpose of this operation is to increase the uniformity of the strand and, ultimately, of the yarn made from it.

DRAFT - To draw out (attenuate or stretch) a strand of fibers usually by running the strand between several pairs of rollers, each pair turning faster than the pair before it.

DRAW OUT - To stretch or attenuate a strand of fibers usually by running the strand between several pairs of rollers, each pair turning faster than the pair before it.

DRAWING SLIVER - The loose, untwisted strand of fibers which is the product of the drawing frames.

DRAWING FRAME - A machine in which several strands of sliver are combined into one strand, the fibers drawn parallel and further drawn out so that the combined strands approximate the weight and size of any one of the original strands.

DRAWING ROLL CLEANER - A pad of felt or similar material, attached to the top and bottom of the cleaner box cover, which serves to wipe away the dust and lint that collects on the drawing rollers as they draw out the roving sliver.

DRAWING ROLLERS - Two or more pairs of rollers, each pair of which rotates at a higher speed than the preceding pair, serving to draw out or attenuate and parallel the roving or sliver passing between them.

END - (1) An individual warp yarn. (2) One strand of sliver, roving or yarn. (3) First or last part of a woven piece of cloth.

FEED ROLL - A roll which feeds the material (stock, fiber, roving) into the machine to be processed.

FIBERS - The hairlike filaments of any textile substance, such as the fibers of cotton, rayon, nylon or the individual hairs of wool.

FINISHER PICKER - The second of the two units of older style picker machines. This unit receives partially cleaned fibers in the form of lap from a breaker picker and continues the cleaning and fluffing process.

FLAT - A flat piece of material covered with a special type of card clothing, held in a horizontal position on the "flat top" type of carding machine. Working in conjunction with a carding drum, it aids in opening the cotton fibers.

FLY FRAME - One of several machines that progressively combines two strands of partially processed roving into one, draws out the combined strands until they are of prescribed weight, and twists them loosely to give them sufficient strength to withstand subsequent operations.

FLYER - A hollow, U-shaped rotor, mounted with the openside down on top of the spindle of a fly frame. It is rotated by the spindle and serves to twist the roving and wind it on bobbins.

FORKS - A metal device with finger-like guides between each of which one strand of sliver passes to the rolls.

FORMING TRUMPET - (1) A short, flared, metal tube used to condense a web into a strand of fibers. The film of fibers from the machine is passed through the tube which forms them into a sliver. (2) A similar device at the front of a warping machine. It is used for gathering a number of strands of yarn into a loose, untwisted rope when ball warping.

GIN - Machine used to remove seeds and to clean dirt from cotton as it comes from the field.

GRINDING ROLL - A device used to sharpen the wire teeth on the cylinders and flats of carding machines.

HANK - A measure of yarn varying for different materials; the cotton hank is 840 yards.

HUMIDIFIER - A device that vaporizes water and sprays it into the atmosphere in order to control the amount of moisture in the air.

HARD END - An end of roving which was lapped or twisted too hard in piecing it up in the carding department.

KNOTTER - An automatic device for tying knots in yarn at various stages of manufacture.

LAP - A general term used to designate wide sheets of loosely matted fibers formed on such textile machines as the breaker picker, finisher picker, ribbon lapper, and sliver lapper.

LAP STICK - A small metal rod, around which the wide sheet of cotton lap is wound as it emerges from a textile machine.

LICKER-IN - A roller, covered with coarse wire teeth, that is located in the carding machine in such a position as to gradually draw in the cotton from the feed rollers, partially open it, and pass it forward to the carding drum.

LIVE SPINDLE - A power-driven shaft that supports and rotates a bobbin on which twisted yarn is wound.

MULE SPINNER - A machine that spins many strands of loosely twisted roving into many strands of yarn. Now considered an obsolete machine.

NEPS - Short, immature fibers, or portions of mature fibers which are tangled and broken.

OPENING PICKER - Machines that tear apart and partially clean matted baled fibers.

PACKAGE - A general term for any wound arrangement of yarn, such as a cheese or cone.

PICKER MACHINE - A machine which cleans, separates, and fluffs raw cotton, forms the cotton into a uniform layer, and winds it into a roll about a core.

PIECING UP - The operation of piecing together broken strands of yarn, sliver, or roving.

REWINDING - The act of winding yarn from one package to another.

RIBBON LAP - The roll of closely matted cotton fibers, about 10 inches wide, formed on the ribbon lapper from several sliver laps.

RIBBON LAPPER - A machine which draws and combines several rolls of lap from a sliver lapper into one roll of ribbon lap ready for feeding to a combing machine, straightening the fibers slightly and making the lap more uniform in weight and texture.

RING RAIL - A rail, extending the length of the ring spinning machine or twister, which by a properly timed up-and down motion, builds the yarn onto bobbins in even layers.

RING SPINNING MACHINE - A machine which transforms one or more strands of slightly twisted roving into one strand of spun yarn.

RING TRAVELER - A small, metal weight on a ring spinning machine, that is arranged to spin freely on a circular track around the bobbin at a rate slightly slower than the bobbin rotates, in order to impart twist to and guide the yarn onto the bobbin.

ROLLS - Spinning rolls consist of two sets of rolls - one, a set of power-driven steel rolls which accepts the roving from the roving guides, draws it out and sends the drawn out strands to the spindles at a constant rate. The second set or top rolls are leather covered rolls which rest upon the steel set and, by being weighted, create sufficient friction upon the roving to keep it moving evenly over the steel rolls.

ROVING SKEWER - A wooden peg or spindle on which bobbins of roving are held in the creel.

SINGLE-PROCESS PICKER - A machine which cleans, separates, and fluffs raw cotton, forms the cotton into a uniform layer, and winds it into a roll about a core.

SLIVER - The loose, untwisted strand of cotton fibers produced on the carding machine, drawing frame, and combing machine.

SLIVER CAN - A large cylindrical container for receiving and holding lengths of sliver delivered from the front of a carding machine, drawing frame, or combing machine.

SLIVER LAP - A general term used to designate wide sheets of loosely matted fibers formed on such textile machines as the breaker picker, finisher picker, ribbon lapper, and sliver lapper.

SLIVER LAPPER - A machine which draws and combines several strands of sliver into a sheet of lap and winds it on a spool ready for ribbon lapping or combing.

SLUB - A thick place in a strand of yarn caused by improper spinning.

SLUBBER - A machine which draws out strands of sliver and twists them together loosely in order to give the strands (now roving) sufficient strength to withstand subsequent operations.

SLUBBING - The process of drawing out and loosely twisting sliver to make roving.

SNARL - A tangle of yarn.

SPINDLE - A metal rod or wooden stick for holding spools, cheeses, or bobbins on such machines as spinning frames, warping machines, and winders.

SPINNING BOBBIN - A bobbin or quill used on the spinning frame to hold the spun yarn.

SPINNING - The process of making yarn from fibers by drawing out and twisting the fibers into a thin strand.

SPLICE ENDS - A term used to designate the method of joining two ends of sliver or ply yarn to make a single end.

SPOOL - A flanged cylinder, usually of wood, upon which yarn is wound.

SPOON - A device between forks and the rolls which guides the sliver to the rolls and which stops the entire frame if one strand of sliver runs out, if an end comes down, or if an end breaks.

SPUN RAYON - General term applying to yarns and fabrics made wholly or principally of rayon staple fiber.

SPUN RAYON YARN - A continuous strand of yarn manufactured of rayon staple fiber or rayon waste and held together by a twist produced by textile spinning.

STAPLE - Term to denote average length of a fiber. (1) Any kind of textile fiber; term used as an index of quality or fineness as long staple. (2) Any fabric or article sold year after year in contrast to a novelty or seasonal article.

STAPLE FIBER - Filaments cut to required length for the purpose of spinning alone, or mixed with other types of fibers, or natural fibers of more than average length.

STOP MOTION DEVICE - An automatic device that is designed to stop a textile machine on the occurrence of such events as a thread breaking or the spindle bobbins becoming full.

TENSILE TESTING MACHINE - A machine for measuring the elasticity and strength of yarn.

TRAVERSE - A mechanism which causes the winding mechanism to travel between determined distances in order to accomplish an even winding motion.

TUBE - A piece of rolled paper or cardboard of suitable dimensions upon which yarn or fabric is wound.

TWIST - The number of turns per inch in a thread, yarn or roving. "S" is right twist and "Z" is left twist.

TWISTING MACHINE - A machine which twists two or more strands of yarn into a heavier, stronger, single strand.

WARPING - (1) Consists in assembling yarns according to number and color, or in any special manner that may be required, and keeping them in their relative position after they have been so arranged. (2) Preparation of a warp for the loom.

WASTE MACHINE - A machine which beats, pulls apart, and fluffs up waste to prepare it for re-use.

WINDER - A machine which simultaneously winds yarn from many spinner bobbins onto many cheeses, cones, or filling bobbins.

WINDING REEL - A cylinder of known circumference about which yarn can be wound for measuring purposes.

YARN - A continuous strand of fibers used for weaving or knitting.[6]

TERMS AND DEFINITIONS - WEAVING

ACETATE RAYON - Fiber, yarn, or material made by the acetate process. It is the fourth method (historically) of making rayon, differing from the other three in that the product is not reconverted cellulose but an ester of cellulose, i.e., cellulose-acetate.

BACK - The underside of the cloth as woven in the loom.

BACK BEAM - The bar, at front of the loom, that guides the woven cloth onto the cloth roll.

BACK WINDING - The act of winding yarn from one package to another.

BATTEN - To align strands of filling yarn and push them up close together as they are woven. The reed accomplishes this by advancing and receding from the cloth after each passage of the shuttle driving each pick against the fell of cloth already woven.

BATTERY - A magazine on the loom that holds the full quills, cops, or bobbins of filling yarn, and from which they are inserted into the shuttle by an automatic changing device.

BEAM - A large spool or roll on which warp yarn is wound.

BEAM WARPING - The transferring of yarn from bobbins, cheeses, or cones onto a warp or section beam in the form of a wide sheet. Yarn from several of these beams is run through the beaming machine to make one loom beam.

BEAMING MACHINE - A machine that winds yarn from several section beams onto one loom beam.

BEAT UP - To align strands of filling yarn and push them up close together as they are woven. The reed accomplishes this by advancing and receding from the cloth after each passage of the shuttle driving each pick against the fell of cloth already woven.

BOBBIN - A small wooden or paper core on which yarn is wound.

BOBBIN CLEANER - A machine that removes any remaining yarn from bobbins (quills) after they have been used in the looms.

BOLT OF CLOTH - A rolled length of cloth.

BOX LOOM - Required for weaving cloth goods containing two or more filling colors or twists as (1) Fabrics made with S and Z twists in filling, as "box loom crepe"; (2) Fabrics made with different filling, as in gingham, necessitate a box loom.

BOX TRUCK - A box mounted on wheels and used for hauling such articles as bobbins and spools from one department of a mill to another.

BREAST BEAM - The bar, at front of the loom, that guides the woven cloth onto the cloth roll.

BROKEN END - A thread or strand of yarn which has broken in a textile machine.

BROKEN PICK - A defect due to filling yarn breaking, thus leaving a part of the pick out of the cloth.

CAKE - Rayon filaments piled into a cake shape by the centrifugal spinning box.

CARD - A unit of a pattern chain used on a Jacquard loom. It is a cardboard strip with holes (similar to those in a player piano roll) punched in it which serve to control the action of the weaving mechanism. It is joined, by lacing to other cardboard strips to make a pattern chain.

CARD CUTTING - The act of punching holes in Jacquard cards according to a pattern of design draft, so that when they are set up in the loom, they will control the weaving mechanism and the pattern will be woven into the cloth.

CARD CYLINDER - (1) That part of a Jacquard loom which holds the pattern cards in position while plungers which control the weaving of patterns, pass through the holes in the cards.

CARD CYLINDER LACING MACHINE - A machine which laces together in a pattern chain the perforated cards that control the operation of a Jacquard loom in weaving designs and patterns in cloth.

CARD PUNCHING MACHINE - A machine which perforates the cards that are used in Jacquard looms to control the weaving of designs and patterns in the cloth.

CASTING OUT - The act of rigging some of the pattern controlling hooks of a Jacquard loom so that they will not act, when the pattern to be woven does not require the action of all the hooks.

CHEESE - A rool of yarn built up on a paper or wooden tube in a form that resembles a bulk of cheese.

CLOSED SHED - That shed in which some of the warp yarns are crossed over others. The distinction between closed shed and open shed arises only in weaving cross-thread tissues, such as gause and leno weave.

CLOTH ROLL - Small wooden roll on which cloth is wound as it comes off the loom or shearing machine.

COMB - A series of upright metal pegs which separate the individual warp strands and guide them onto a beam in proper order.

COMBINATION YARN - A yarn of standard twist is plied with a crepe yarn to make a combination twist. Many varieties exist, which are used in alpacas, moosy crepes, romaines, etc.

CONDITIONING - The act of exposing bobbins of filling yarn to steam or to a spray of conditioning solution in order to set the twist, and to prevent its kinking in subsequent processes.

CONE - A tapered cylinder of wood, metal, or cardboard around which yarn is wound.

COP - A tapered package (paper or wood) on which yarn is wound, ready for the shuttle. Used on a copping or quilling machine.

COPPING - (Quilling) The operation of winding yarn on a cop or quill.

COP WINDING MACHINE - A machine which winds yarn onto a cop or quill.

COTTON LINTERS - The short, fine fibers which cling to the cotton seed after the lint has been removed.

COTTON YARN MEASURES - 54 inches -- 1 thread (circumference of warp reel); 80 thread -- 1 lea -- 120 yards; 7 leas -- 1 hank -- 840 yards; 1 bundle -- 10 pounds (usually).

COUNT - (1) The number of picks and warp ends per inch in cloth. (2) A number assigned to yarn to describe its finishes. The number is based upon number of hanks per pound of yarn.

CREEL - (1) The rack for holding packages of roving or yarn on any textile machine. (2) The task of mounting packages of roving or yarn on the rack (creel) on any textile machine.

CREPE CLOTH - (1) A fabric containing highly twisted yarns. (2) Crepe means to shrink, pucker, or crinkle up.

CREPE YARN - A rayon yarn which has 45 to 74 turns or twists per inch either in the single or ply. Used for making crepe fabrics. S and Z twist is used.

CUT - A length of warp required to weave a piece of cloth. Also refers to the length of a piece of woven cloth.

CUT-MARK - A mark put upon a set of warp threads before they are placed on the warp beam or a loom, to mark off a certain definite length. The mark shows in a woven fabric and serves as a measure for cutting the pieces at the loom.

DENIER - The unit of weight expressing the number of size of filament yarns. A one-denier filament is of such a size that 9,000 meters weigh one gram.

DENT - The space between two wires in a comb or reed through which a warp strand passes.

DESIGN DRAFT - A diagram showing the pattern that is to be woven into a cloth and also the basic weave (plain, twill, or satin) of the cloth to be produced.

DESIGN PAPER - Cross section paper on which design drafts are made.

DOBBY - (1) Loom on which small figure weaves may be produced. (2) Part of a loom (motion) controlling the harness and consequently making it possible to produce different weaves in fabric.

DOFF - To remove a filled package or beam from a textile machine. Frequently the operation includes replacing the full package or beam with an empty one.

DOUBLING (1) The process of combining two or more strands of roving or sliver and drawing out the resulting strand. The purpose of this operation is to increase the uniformity of the cotton strand and, ultimately of the yarn made from it. (2) The act of winding two or more strands of yarn onto one package without twisting them.

DOUBLING MACHINE - A machine which folds cloth to half or quarter of its original width.

DOUP - A special kind of heddle, used in conjunction with ordinary heddles on the harnesses of a loom to cross and uncross warp filaments (in both a horizontal and vertical plane) when weaving cross-thread tissues, such as gauze weave or leno weave.

DRAWING IN - The process of threading the warp filaments from a beam through the heddles and reed of a loom in the order indicated on a design draft.

DRAWING-IN FRAME - A frame for holding a beam of warp strands, harnesses, and reeds so that the strands may be drawn easily through the harnesses and reeds in a specified order.

DRAWING-IN HOOK - A tool similar to a crochet hook, used to draw the individual warp filaments through the heddles and reed of a loom.

DRESSING - (1) Consists in assembling rayon or cotton yarns according to number and color, or in any special manner that may be required, and keeping them in their relative position after they have been so arranged. (2) Preparation of a warp for the loom.

DROP WIRE - A flat piece of metal with a hole in it through which warp yarn is passed. It drops and stops the machine when the yarn threaded through it breaks.

ENDS DOWN - A condition in which one or more ends have broken in a textile machine.

EYELET PLATE - A cross bar attached to the end of a creel immediately in front of each row of spindles. It is perforated with the same number of holes as there are spindles in the row and serves to guide the individual ends from the package on the spindles to the warping machine.

FELL - The last picks that have been woven in the cloth by the shuttle.

FIBERS - The hairlike filaments of any textile substance, such as the fibers of cotton, rayon, or the individual fibers of wool.

FILAMENT - The continuous, individual strand of raw yarn, acetate, or rayon, which comes from a spinnerette. Rayon yarns have 15 - 100 filaments or units.

FILLING - Yarns single or in combination for the shuttle. Each crosswise yarn in a piece of cloth is called a filling pick. Also refers to the finishing of cotton goods with starch.

FILLING BIN - A shelved compartment in which the filling yarn of various sizes, colors, and quality is stored until requisitioned.

FILLING BOBBIN - A tapered core on which filling yarn is wound for use in the shuttle.

FINISHING - Series of processes to which rayon goods are subjected to make them wearable, suitable and marketable for specific purposes.

FOLDING MACHINE - A machine which folds cloth into yarn length of folds for bailing.

GREIGE GOODS - Term designating rayon cloths just off the loom and in unfinished state.

HANK - A measure of yarn varying for different materials; the cotton hank is 840 yards.

HARNESS - An assemblage of heddles mounted on a harness frame that moves them all together. A separate harness is used for each group of warp ends that must be moved independently to weave a desired pattern.

HARNESS FRAME - A wooden or metal frame from which is suspended a series of cords or wires called heddles. Each heddle has a small eye through which the warp end is passed according to a predetermined design. Each harness frame is fastened to a mechanism that raises and lowers it in proper sequence to form the sheds through which the shuttle carries the filling yarn to produce cloth of a specified pattern.

HEDDLE - Flat steel wires which control the opening space (shed) between warp yarns to allow the shuttle to pass through during weaving.

HEDDLE EYE - The opening in the center of the heddle through which the warp threads are drawn.

HOOP CUTTER - A hand tool, resembling a large pair of pliers, which is used to cut the metal ties of cotton bales.

HUMIDIFIER - A device that vaporizes water and sprays it into the atmosphere in order to control the amount of moisture in the air.

INSPECTING MACHINE - A machine which draws cloth over a wide surface for inspection purposes.

INSPECTING TABLE - An inclined table over which cloth to be inspected is drawn by hand.

JACQUARD CARD - A unit of a pattern chain used on a Jacquard loom. It is a cardboard strip with holes (similar to those in a player piano roll) punched in it which serve to control the action of the weaving mechanism. It is joined, by lacing to other cardboard strips to make a pattern chain.

JACQUARD-CARD LACER - A machine which laces together in a pattern chain the perforated cards that control the operation of a Jacquard loom in weaving designs and patterns in cloth.

KNOTTER - An automatic device for tying weavers knots in yarn at various stages of manufacture.

LACING - The operation of uniting a series of Jacquard cards to form the pattern chain that controls the weaving of a Jacquard loom.

LEADER CLOTH - A strip of cloth left threaded through a textile machine to facilitate the starting of a new length through the machines.

LEADER STRINGS - Strands of yarn that are left threaded through the various parts of a textile machine and to which new strands of yarn to be processed are attached. These eliminate the necessity for threading the strands through the machine each time a different lot of yarn is to be processed.

LEASE - In weaving the system of crossing the warp-yarns in a loom between the yarn beam and the heddles, effected by passing each warp yarn alternately over and under two lease-rods.

LEASE ROD - A metal or wooden rod, which is inserted in the lease to prevent the warp yarn from becoming tangled and to facilitate thread selection during the dressing and twisting in.

LETTING OFF - The controlled turning of the loom beam to unwind the warp as weaving progresses.

LINGO - That part of the shedding mechanism sometimes called the weight. It is used for depressing one strand of warp in a Jacquard loom.

LOOM - A machine for weaving warp and filling yarns to produce cloth.

LOOM BEAM - A large spool on which warp is wound. This beam is mounted on a loom for weaving cloth.

LUSTER - (1) The quality of natural glossiness or brilliancy in rayon finished fabric, imparted by finish. (2) Brightness or shine in rayon yarns or staple fiber.

MAGAZINE - A device which holds full bobbins or quills of filling yarn and automatically inserts them, singly, into a shuttle to replace depleted bobbins.

MERCERIZE - Treatment of cotton yarn and goods with strong caustic soda and stretching so as to impart a silk-luke luster, increase strength and affinity of dyestuffs.

METAL PEGS - Small metal pins, about an inch long, which are arranged in the pattern chain of a dobby loom to control the weaving of cloth designs.

MISPICK - An imperfection in the weave caused by a length of filling yarn not being interlaced in its correct place across the warp.

OPEN SHED - The shed in which the warp yarns are uncrossed and parallel. The distinction between open shed and closed shed only arises in a weaving of cross-thread tissues, such as gauze weave or leno weave.

PACKAGE - A general term for any wound arrangement of yarn, such as a cheese or cone.

PATTERN CHAIN - (1) (Dobby Loom) An arrangement of wooden crossbars and metal pegs which is used to control the weaving of cloth designs and patterns. (2) (Jacquard Loom) The sequence of laced-together perforated cards which are used to control the weaving of cloth designs and patterns.

PICK - A single strand of filling yarn carried across and interlaced through the strands of warp yarn.

PICK CLOCK - The automatic counting device attached to a loom which registers the number of filling yarns woven into a piece of cloth.

PICK FINDING - The process of turning back the loom and unweaving the cloth to find a mispick which is to be rectified.

PICKOUT - An imperfection in the weave caused by a length of filling yarn not being interlaced in its correct place across the warp.

PIECING UP - The operation of tying together broken strands of yarn.

PLY - Yarns made of single strands of prepared fibers twisted together.

PORTABLE ENTERING FRAME - A rack for holding a full warp beam while strands of warp yarn are being secured to old warp in a loom.

QUILL - A tapered package (paper or wood) on which yarn is wound, ready for the shuttle. Used on a copping or quilling machine.

RAILWAY SEWING MACHINE - A power sewing machine which is specially devised to sew the ends of cloth lengths together. Located on batcher.

RAYON - (1) The generic name, adopted about 1924, to mean the "filaments made from various solutions of modified cellulose by pressing or drawing the cellulose through an orifice and solidifying it in the form of a filament, or filaments, by means of some precipitating or coagulating medium". (2) Federal Trade Commission definitions: "The generic term for manufactured textile fibers or yarn produced chemically from cellulose or with a cellulose base, and for threads, strands or fabric made therefrom, regardless of whether such fiber or yarn be made under the viscose, acetate, cuprammenium, nitro cellulose, or other process". (3) General: An artificial, man-made material, originating from wood pulp or cotton linters, made into cloth.

RAYON FILAMENT - An individual, thread-like structure of rayon as it comes from one opening of a spinnerette: each rayon filament is usually continuous and, therefore, can be spun to great lengths.

RAYON STAPLE - Rayon fibers of spinable length manufactured directly or by cutting continuous filaments.

RAYON YARN - A group of two or more rayon filaments, laid and twisted together to form a continuous strand for weaving.

REED - A toothed, comb-like part of a loom. Its function is to hold the strands of longitudinal yarn (warp) in alignment between its teeth and also to push each transverse thread (pick) tight against the rest as the cloth is woven.

REED HOOK - A flat, metal tool, similar to a crochet hook, used for drawing the individual strands of yarn through the dents in the reed.

REED MARKS - Marks or lines warpwise of the cloth, usually caused by too many or too few warp yarns being drawn into a dent, a faulty setting of the loom, or imperfections in the reed.

REGAIN - The moisture present in rayon is expressed as the percentage of the moisture-free weight as determined by the A.S.T.M. Method.

REPEATING MACHINE - A machine which automatically duplicates the perforations of a sample Jacquard loom pattern chain in blank cards.

REWINDING - The act of winding yarn from one package to another.

SECONDS - Fabrics woven imperfectly and because of flaws in weave sold as "seconds".

SELVAGE - The edge of woven fabric that is so formed as to prevent raveling. The finish may be different or the same as that of the fabric.

SHEARING MACHINE - A machine which cuts away knots and loose yarn ends from the surface of cloth after it has been woven, to give the cloth a smooth surface.

SHED - The opening made across the warp by the raising of some threads and the depressing of others. It is through this opening that the shuttle passes and lays the cross of filling yarn of a fabric.

SHUTTLE - The device used to carry the cross of filling yarn back and forth through the strands of longitudinal or warp yarn in weaving cloth.

SIZE BOX - A unit of the slashing machine, which contains the sizing solution with which the yarn is prepared.

SIZE MIXER - A large tank equipped with steam coils and a powered paddle, within which sizing is prepared.

SIZING - (1) Process of coating warp ends with a thin layer of binding material, to hold together all loose fibers or filaments and to strengthen the yarn for weaving. (2) Yarns and cloth treated with stiffening substance to give strength, stiffness, or smoothness. Size may contain starch, wax, gelatin gum, paraffin, resins, and antiseptic substances.

SKEIN - A yarn package in the form of a coil made on a reel; used in soaking of rayon yarns.

SLASHING - Treatment of warp threads with starch, gelatin, and other compounds to prepare yarn for weaving operation.

SLEY - The number of warp yarns per inch in a woven cloth in or off the loom.

SLUB - A thick place in a strand of yarn caused by improper spinning.

SMASH - The breakage of a large number of strands of warp yarns while the warp is in the loom.

SNARL - A tangle of yarn.

SOAKING - Process required prior to twisting rayon yarns, for crepe twist. Treating skeins in a lubricant, adhesive and tint solution.

SPINDLE - A metal rod or wooden stick for holding spools, cheeses, or bobbins on such machines as spinner frames, warping machines, and winders.

SPOOL - A flanged cylinder, usually of wood, upon which yarn is wound.

STATIONARY SHED - A method of dividing the warp in which some of the warp strands always remain stationary and the others are pulled up or down to make way for the shuttle.

TAKE-UP ROLLER - A powered shaft, at the front of a textile machine, that rolls up the cloth as it is processed.

TAKE-UP - The action of the take-up roller as it rolls up the cloth when it is processed.

TARE WEIGHT - The weight of the container or wrapping in which goods are purchased. It is deducted from the total (gross) weight to obtain the net weight of a product.

TENSILE TESTING MACHINE - A machine for measuring the elasticity and strength of yarn.

TINTING - Process of coloring with fugituve tints rayon yarns and staple fiber for identification for later operation.

THROWING - Silk term for twisting rayon or silk yarns -- the word means to twist.

TUBE - A piece of rolled paper or cardboard of suitable dimensions upon which cloth is wound after inspection.

TWISTER'S HOOK - A device for holding the ends of strands of warp yarn from the loom and from the warp beam to facilitate the work of the twister in joining them together.

TWO-PLY - (1) Composed of two strands as a cord. (2) Of textile fabrics consisting of two layers woven into one another or on top of one another.

TYING-IN The operation of tying the ends of yarn from the warp beam to the ends of yarn left threaded through a loom.

TYING-IN MACHINE - A machine which automatically ties strands of warp yarn from a fresh beam of warp to those left in a loom from a former beam.

VISCOSE RAYON - The third method (historically) of producing rayon filaments by which about 83% of the world's rayon was produced in 1938. The product by this method is regenerated cellulose, which has been coagulated or solidified from a solution of cellulose exanthate.

WARP - The series of yarns which run lengthwise in a woven fabric; they run parallel to selvage.

WARPING - (1) Consists in assembling rayon or cotton yarns according to number and color, or in any special manner that may be required, and keeping them in their relative position after they have been so arranged. (2) Preparation of a warp for the loom.

WARP BEAM - A large spool or roll on which warp yarn is wound.

WEAVE - The interlacing of warp and filling yarns with each other to form a texture of woven cloth.

WEAVER'S KNOT - A special knot used throughout the textile industry. It can be tied very quickly, does not slip, and is not easily detected.

WEAVING - A mechanical process of interlacing a series of yarns running lengthwise in the loom, i.e., warp, with another series running crosswise, known as filling, at right angles.

WINDER - A machine which simultaneously winds yarn from many spinner bobbins onto many cheeses, cones, or filling bobbins.

WINDING AND MEASURING MACHINE - A device which winds lengths of cloth into rolls and at the same time measures the lengths.

WINDING REEL - A cylinder of known circumference about which yarn can be wound for measuring purposes.

YARN - A continuous strand of spun rayon, cotton, or rayon fibers used for weaving.

YARN NUMBER - (1) The number of picks and warp ends per inch in cloth. (2) A number assigned to yarn to describe its finishes. The number is based upon number of hanks per pound of yarn.

TERMS AND DEFINITIONS - HOSIERY

AFTERWELT - Short section of fabric knitted between the welt and boot sections of the stocking; usually done with the regular welt carrier and principally used in the alternating Three Carrier System of knitting.

FOOT - The leg or main yarn section of a hose.

CALF - That part of the stocking that covers the calf of the leg.

CONE - A body which has a circular base and tapers uniformly to a point at the top. (Textile: a body having this shape and usually made of cardboard; used to wind thread upon to supply knitting machines, etc.)

COURSE - In Full-fashioned knitting, one complete raw of loops across the width of the fabric.

DENIER - The designation of size of silk, rayon or nylon which is the weight in deniers or .05 grams of a 4.50 meter skein of the yarn.

DIAMOND POINT TOE - The toe of a full-fashioned stocking, so-called because the fashioning process gives it the shape of a diamond.

DROP STITCH - A stitch running down in a vertical direction which may be caused purposely in the knitting of various designs or accidentally by a broken thread or needle.

EXAMINING FORM - Used for the same purpose as the examining board; made in the exact shape of the human leg.

FASHION MARKS - Marks caused by the transferring of loops to adjacent needles during the course of shaping and are visible below the welt and near the seam in the leg portion of the full-fashioned stocking.

FASHIONING - Increasing or decreasing the width of a fabric in such a manner as to make the garment form-fitting when the selvages are joined together.

FLARE - The upper part, usually the welt, of a stocking that is wide, or flared, at the top.

FOOTING - The operation of knitting the foot of the stocking which may be carried out on a single unit (i.e., the same machine that has knit the leg) or on a separate machine called the footer which has the "topped" legs transferred to it for completion.

FULL-FASHIONED - This term is applied to any hosiery or underwear which has been knit on a flat frame and shaped in the knitting; generally used in reference to stockings only.

GAUGE - Represents the number of needles per 1 1/2 inches, thus:

36 gauge x 2/3 -- 24 needles per inch.
39 gauge x 2/3 -- 26 needles per inch.
42 gauge x 2/3 -- 28 needles per inch.
45 gauge x 2/3 -- 30 needles per inch.
51 gauge x 2/3 -- 34 needles per inch.

GREY GOODS - Knit goods before undergoing the dyeing process; also called "in the grey".

GREIGE - The term applied to the condition of textile material prior to degumming and scouring.

HIGH SPLICED HEEL - Reinforcement section of the heel above the shoe line.

INSTEP - The arched forepart of the upper side of the human foot. That part of the stocking which covers the instep.

KNITTING - Derived from the Anglo-Saxon word Cnyttan, meaning threads woven by hand. The art of making a loose elastic fabric by the interlocking of one or more continuous yarns or threads employing needles of various character, either by hand or machine, forming rows of connected loops.

LEGGER - A machine for knitting the leg of a full-fashioned stocking.

LOOPING - Term covers the sewing up of the toe and heel of the stocking.

LOOSE COURSE - A row of loops slightly longer than normal, made to facilitate the topping on operation, turning of the welt, and insertion of the welt bar. It is also used for producing various designs through the difference in appearance of the longer loop.

NARROWING - The act of transferring selvedge loops toward the fabric center for the purpose of reducing the fabric width and thus producing a form-fitting garment when the selvedges are seamed together.

NEEDLE LINES - Vertical lines in the fabric caused by the needle being above or below the normal needle line, misalignment in relation to the needle at each side, or by a heavy or thin needle.

PLATING - Process of lining stocking or part thereof by adding

during the process of knitting, a thread of different material or contrasting color, this thread being placed under the original thread in such a manner that it appears on the reverse side of the finished stocking only.

POINTED HEEL - A reinforced heel section which is brought to a point at the seam, by the step-like formation of the reinforcement.

PRESS-OFF - An incompleted stocking which has been removed from the knitting machine due to some defect of loop formation or other cause.

PULL THREADS Threads which have been picked up and pulled accidentally by rough places in work table or by careless handling.

RAYON - Commercial term for artificial fiber resembling silk in luster.

RUNNER - A stitch running down in a vertical direction and caused by a broken thread.

SEAMING - The operation of sewing together the two selvedges of the stocking and closing up the back of the hose from the heel to the welt.

SELVEDGE - The outer edges of the stocking which are joined together in the seaming are known as the selvedges.

SINKER LINES - Vertical streaks showing in the hose as a result of defective sinkers or sinker motion, or from uneven alignment, etc. which cause the uneven appearance in the fabric.

SPLICING - Reinforcement of stocking with extra thread at heel, sole and toe.

STITCH - A stitch consists of one complete needle loop and one-half of each of the two adjacent sinker loops.

TINTING - A process of covering the yarn with a fugitive color that it may be readily distinguished when in contact with other yarns and particularly used in throwing to keep separated the various lots of yarn in the process of throwing.

TOPPING STAND - A rack and table used for the operator to top the stockings on the transfer bar for insertion in the footer.

TOPPING ON - This operation consists of placing a course of knitted loops of a previously made fabric upon the needles of the machine or points of the transfer bar. When a course of loops has been securely placed on the needle the fabric is raveled until this course is reached. In order to save time the separate fabrics are usually topped on the transfer bar and afterwards transferred from it to the needles of the machine.

TWIST - The number of turns or twists given to a yarn to bind its fibers together and thereby add more strength for manipulation and weaving. The amount of twist applied varies according to the material, process, means employed for its application, and ultimate requirement.

WELT - The upper part of the stocking furnishing the garter portion, preferably doubled and usually made of a different material from the rest of the stocking.

YARN - Any thread spun from natural fibers; animal, vegetable, or mineral; especially, thread prepared for weaving or knitting.[8]

FOOTNOTES

[1]Burlington Industries, Inc., Management Trainee Manual, 1964, pp. J.3 - J.4.

[2]American Textile Manufacturers Institute, The Enchanting Story of Textiles, pp. 2 - 23.

[3]Burlington, op. cit., pp. 15 - 21.

[4]Ibid.

[5]American Textile Manufacturers Institute, Textiles For You, p. 2.

[6]Burlington, op. cit., pp. 6 - 14.

[7]Ibid., pp. 22 - 35.

[8]Ibid., pp. 54 - 57.

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American Textile Manufacturers Institute, Inc. The Enchanting Story Of Textiles.

Burlington Industries, Inc. Management Trainee Manual, 1964.

APPENDIX M

Furniture Manufacturing Training Manual

TECHNICAL TRAINING MANUAL

For

MANUFACTURING DINING ROOM CASE GOODS

Tables and Chairs

Written for use in Cooperative
High School Programs under Part C
of Public Law 90 — 576 — Research
Project Entitled, 'Guidance
Oriented Alternative Work Experience
Program and Follow-up Study.'

Project No. V0180VZ
Grant No. OEG-0-74-8580

William S. Stone
Caldwell County Schools
Lenoir, North Carolina 28645

August 7, 1975

GUIDANCE ORIENTED ALTERNATIVE WORK EXPERIENCE PROJECT

William S. Stone

C61

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DEDICATION

This manual is dedicated to Dan Wortman and George Brown, Personnel Director and Plant Manager, respectively, at Bernhardt Industries. Dan and George had the foresight to continue the Industrial Cooperative training program at Plant #1 through the school year 1974 - 75 so that the young people involved would enjoy a successful experience. They were interested enough in the successful experiences and training of eight young people to fight for their security, during the most difficult of economic times. The continuation of the I.C.T. Program made it possible for this training manual to be written. For all of their confidence in the youth of Lenoir, interest in the continued training of future furniture people, and patience with me; I dedicate this work.

I.C.T. Coordinator (Furniture)
Guidance Oriented Work
Experience Project
William E. White

ACKNOWLEDGEMENT

In this manual, the various machine operatings and practices represent the typical processes of furniture manufacturing. The information covered herein is intended to be of value to newcomers to the furniture industry as well as to experienced individuals who desire to cross train. This manual will serve individuals who operate the machines indigenous to furniture manufacturing as well as to those who desire to train for supervisory positions. The author wishes to express his deepest appreciation for the generous co-operation and assistance given by management, lead men, and operators at Bernhardt Industries Plant #1. With the efforts of numerous individuals at Plant #1, this work would not have been possible. To the following individuals, the author would like to give special tribute:

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V.J. Hollar
Robert Welch
Earl Herman
Jim Gilbert
Doc Clippard
Virgil Whittington
Steve Anderson
Junior Hendrix
Mike Shoemaker
Ed Coffey
Carl Robbins
Charles Thompson
Jim Craig
Thirman Whitener
Dwight Drum

Purpose

The purpose of this training manual is to provide technical material and training plans on all of the machines and jobs in typical furniture plants. The manual is intended to provide a workable text and outline for cooperative education programs in the public school system as well as for individuals currently employed in the furniture industry.

The training plans that are included for each department in the furniture plant are a vital part of the training objective. The outlines are not intended to cover every technical point of every job or machine, but are to be used as a guide. The trainer or lead person will supply all of the necessary related information required to supplement the training plans. The outline form is to be used by the trainer as well as the trainee. The trainer should use the outline as a lesson plan to insure that the basic principles and practices of the job are covered. The trainee uses the training plan outline to study the lesson that the trainer has given him. The trainee should also use the outline to make notes on, while the lesson is being given, since the outline will not contain all of the technical information required.

A Brief History of Furniture Manufacturing In America

Furniture making migrated throughout America in the early years of our nation because the need for basic household furniture was so great. In Virginia and the Carolinas, an abundance of native hardwoods and a good supply of skilled craftsmen helped the industry expand at a steady pace, and by the early twenties most of the producers had established a respected name. The depression years failed to slow the growth of the Southern furniture industry and by World Way II, mass production has been developed to a point that furniture manufacturers in the South took the lead in furniture manufacturing innovations. Today, North Carolina and Virginia produce 60% of all wood bedroom furniture, and 52% of all wood dining room furniture produced in this country. North Carolina alone is the number one producer of upholstered furniture.

Furniture Manufacturing

Furniture plants that manufacture dining room and bedroom suites have a systematic procedure for building and selling their furniture. The manufacturing process starts with "feeling out" the demands of the customers. Administrative personnel learn from their sales force and customers the demands of the consumers. Designs that appeal to the homemaker are of utmost importance. After gathering all of the information on design trends, the design department along with company officials decide on a design that they think will sell.

The design department takes the style ideas and blends them with manufacturing experience to come up with a suite that can be procuded at a competative price. A drawing is made of the suite that is complete in every detail. The drawing is full size, full scale, so that it can be used throughout the manufacturing process. Some of the basic styles used today are modern, Danish modern, Early American, Colonial, Mediterranean, Spanish, Italian, and French Provincial.

The drawing is sent to the Process engineering department or the Bill Out Department. In Bill Out, each individual part of every piece in the suite, is put on a tag master. The bill contains all of the operations that the part will encounter in the manufacturing process. The Bill Out Department also cost prices the items used in the piece of furniture. It is essential that the Bill Out Department plan the schedule of

operations and lumber used to that the material will be used to the best advantage. In so doing however, quality, design, and strength must be strictly maintained.

The bills are passed on to the Sample Department where sample pieces are made and finished. If the company planners and design people like the sample, and don't desire to make any changes, then the samples are sent to the showroom.

The company showroom is decorated with the sample suites and accessories. The local showroom is open during the fall and spring shows for buyers to visit. Regional markets are held in Atlanta each July, Sanfrancisco each January, and in Dallas each June. The sales force sells the furniture at the showroom and it is from these orders that the size of the cutting is determined.

When the sale is complete and all orders are in, the plant is tooled for production of the suite that sold. If more than one suite was shown, which is usually the case, the best seller is the suite which is manufactured.

It is the responsibility of the Production Control Department or priority scheduling to route each part through the plant according to the operations required on each. Instead of releasing all of the bills at one time, they are sent out according to the length of time it takes to work each part so that all parts will arrive in the cabinet room at the same time. Through production control, each department is given a planning tool. The production control people do not

guess about what they are doing. They know by each day's production whether or not they are on schedule.

Through the experience of this department, the plant supervisors can look ahead six months and tell what will be in production in the cabinet department. This foresight allows sales and shipping the ability to tell a customer when his furniture will be shipped and predict accurate delivery.

Production control also lets the supervisors see what the problem areas are soon enough that something can be done about them. This saves much lost time and expense. It also tells management if there is time available, in order that one plant might help another in the organization.

Most of all, production control sets up the plant for efficient operation and enables supervision to make any necessary adjustments.

The Lumber Yard and Kiln Area

Most large furniture plants have a central lumber yard. The central lumber yard is where the lumber that comes from the saw mill is sized, stacked, and stored. The most modern lumber yards are equipped with automatic sizing and stacking equipment. The lumber is stacked or "bunked" in lengths from eight feet to sixteen feet. One bunk contains lumber of the same thickness but of varying widths and lengths.

The amount of labor saved and the speed of the operation is very valuable. In some operations, the stickers are put between the layers of boards by men stationed near the bunk but the actual handling of the individual boards is done by the machine. If there are enough boards of the same length to make a bunk, the stepping process is not used.

The lumber yard is the place where the lumber is stored until it is needed in the plant. The central lumber yard has many different kinds of wood, many of which require special drying techniques. For instance some woods are completely air dried. This means that the wood is stored outside

bunks until it is dry enough to be cut and machined into furniture parts.

The bunks are positioned in the lumber yard so that the prevailing breeze hits the end of the bunk. This position is achieved so that the drying process will be slow and as even as possible.

The lumber that requires kiln drying is moved to the kiln from the central lumber yard on a schedule that allows enough time for drying before it is actually needed in the plant. The kiln operator is responsible for calling the central lumber yard and having the lumber delivered so that when he is ready to load his kiln, he will have the correct amount and species of lumber available.

When the lumber comes out of the kiln it is moved to nearby plant storage so that when the rough end is ready for the lumber it can be moved quickly and easily to the lumber lift.

Rough Machine Department (Rough End)

In a typical furniture factory, the lumber used is hardwood. After it has been kiln dried and is ready to enter the shop for production, it is processed through a group of machines which are frequently referred to as the rough mill, or rough end. The rough end is usually very close to the kiln area. This facilitates easy, quick, and safe transportation of the lumber. The lumber is stacked in bunks, and each bunk is loaded on a fork-lift and transported to the lumber lift. The lumber lift is a device that raises the bunk as it is used. This movement keeps the lumber at working height for the people who unload the bunk and move the lumber to the cut-off saw.

Purpose

The hardwood enters the rough mill in the shape of boards of random length and random width. If the factory is making a group of chest of drawers, one of the first things is to get the proper number of pieces of wood of the right size for each of the wood parts in the chest of drawers. These pieces must be cut from random length and width lumber. The cutting to length and width is one of the purposes of the rough mill. Regarding thickness of parts, it is customary to cut each part out of lumber which is one of the standard thicknesses best adopted to that particular part.

Many of the boards will contain natural defects such as knots, bark edges (called wane), decay, and worm holes. In a chest of drawers, the surfaces that are exposed could not

be visable, so they must be cut out and discarded. The chest must be made of acceptable parts that are free of defects. This process of removing defects is another purpose of the rough mill.

In the process of drying lumber, other defects occur which would not be acceptable in the finished chest, chiefly checks and splits. Drying affects some species of wood more than others. For example, swamp oak will check more than poplar. Checks and splits are cut out in the rough mill because they too are not acceptable for exposed surfaces in furniture. Drying also produces the defect called "crooked lumber." This defect is the amount the lumber has changed from its flat and straight shape. Some lumber is affected more than others. For example, poplar will stay straighter and flatter than gum. Crooked boards are either cut into small pieces that can be used or discarded in the rough end.

The quantity of stock for each part depends on the number of finished pieces of furniture to be manufactured. If the plant was to manufacture 1,000 chairs, 2,000 front posts would be needed, 1,000 front seat rails, etc. Some of the parts would be culled during the manufacturing process. The part culled could have been chipped, and broken, or otherwise spoiled. Because of this spoilage, it is necessary to start with an excess amount of stock. For instance, in chair manufacturing, if 2,000 front posts are needed, it may be necessary to start with 2,100 pieces of front post stock. The amount that is excess to begin with is called "over-run". The experienced people in the plant determine the amount of

over-run based on how successful they have been with that type of piece in the past. Over run is generally expressed as a percent of good parts needed. For example, front posts 4%, front seat rails 3%, or solid tops 6% and so on.

In summary, there are six purposes of the rough end.

1. To cut from random length and width lumber pieces of the specific length and width needed for each part. This lumber comes from standard thickness and grade which is specified for each furniture part.

2. To cut out natural defects such as knots, and drying defects such as checks and splits in such a way as to provide stock that is permissable in the finished product.

3. To eliminate stock which is too crooked for the manufacturing process.

4. To cut the required amount of stock including over run for the size lot which is to be run.

5. To maintain the required amount of stock for uninterrupted plant operation.

6. To accomplish the above with the least practical labor cost and preventable lumber waste.

There are many combinations of machines and sequences of operations that can be used in furniture plants. If one layout is understood then it is easy to understand other arrangements and their reason for being different.

The lumber lift is a device which saves considerable labor. The lift is an elevator with rollers and rails on its floor. The rollers and rails make it easy to roll a bunk of lumber on to the lift. The lift operates in a pit that is deep enough so that when a bunk of lumber is on the lift, and it is lowered into the pit, the top boards of the bunk will be at easy working height. The infeed table of the cut-off

saw is very close to the lumber lift which makes it easy to move the lumber off of the lift and onto the table. In fact, most people who feed the cut-off saw never actually lift the boards. Instead, the feeder slides and levers the boards into place. As the top layer of boards is used, the lift operator raises the lift enough to keep the top of the bunk at the most convenient height. The worker at the lumber lift assists the operators by moving boards into position on the infeed table of the cut-off saw. He also removes the stickers and stacks them on trucks or in a position to go back to the lumber yard to be used again.

The sequence of operations for the rough end is as follows: (1) cut-off saw, (2) facer, (3) rough planer, (4) rip saws.

Production Capacity

In a conveyorized or smooth operating rough end, the production of the department is limited by the output of the slowest operation. There is no judgement required at the facer and the rough planer and no material handling is done by the operator. Therefore, it is customary to provide facers and planers with excess production capacity to insure that neither is a bottle neck.

The operators of the cut-off saws and rip saws make judgements on every piece of stock that they handle. They also must handle considerable stock by hand. Consequently, the production capacity of the cut-off saws and rip saws depends on the men and not the machines.

Machines in the Rough End

The following is a list of the machines in the Rough End.

1. Cut off saw
2. Facer
3. Planer
4. Rip saw
5. Glue Reel
6. Continuous Edge Gluer
7. Copy Lathe
8. Moulder

The first machine in the rough end is the cut-off saw. This machine has already been mentioned in conjunction with the lumber lift. The cut-off saw is the machine that cuts the various length boards into the required rough lengths depending on which furniture part is being manufactured. The cut-off saw operator is not required to cut each piece perfectly square nor does he have to cut each piece to the exact length. The purpose of the cut-off saw is to cut to rough length, and to cut out defects, and to do these two operations with minimum lumber waste and labor cost.

The cut-off saw operator cuts pieces for furniture out of random length stock. However, the random length pieces don't always take up the entire piece of lumber. In other words there is some of the board that can't be used and is therefore waste. If the part being cut is a long piece such as for a bed side rail which is 76" long, then the rough would be 77". In such a situation, if the board that the rail was to be cut from were eight feet, the waste would be nineteen inches. There is a great deal of planning that goes into the percentage of waste for each part cut and

naturally the company would try to keep the percentage of waste to a minimum. It should also be kept in mind that the different length boards that come to the cut off saw will affect the waste also. The different lengths range from eight feet to sixteen feet. The exact lengths are eight feet, ten feet, twelve feet, fourteen feet and sixteen feet. So if a board ten feet long and the same 77" bed rail is to be cut from it the waste increases to forty three inches. However, if a piece fourteen feet long is to be cut into 77" bed rails, two rails can be cut from the board with only fourteen inches of waste.

It is a logical rule that the longer the piece to be cut the greater the percentage of waste. Take for instance the case where a fifteen inch piece is cut from an eight foot board. There can be six fifteen inch pieces cut with only six inches of waste.

You have probably already asked yourself about using the long pieces of waste for other furniture parts. In an efficient operation, the cut-off saw operator often cuts several different lengths at one time. By doing this, he is able to use the shorter lengths for shorter parts of the same or related pieces of furniture. Take for instance the case of the 77" bed rail. Each time the cut-off saw operator finds a 19" piece left over from an eight foot board, he can cut a fifteen inch piece out for chair seat rails. This leaves only four inches of waste in an eight foot board.

The ripsaw is a machine that has not been mentioned thus far. There are three different types of ripsaws; the self-

fed circular ripsaw, the straight line ripsaw, and the gang ripsaw. The straight line ripsaw is the most common ripsaw used in furniture manufacturing. The stock comes to the ripsaw after it has been cut to rough length at the cut-off saw, had one face cut flat at the facer and been cut to uniform rough thickness by the rough planer. It is still random width as the boards from which it was cut at the cut-off saw were random width. Therefore, it is the purpose of the ripsaw to:

> rip to rough width, rip out defects, machine straight square edges for edge glueing, and accomplish the above with minimum lumber waste and labor cost.

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Cut-off saw

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES Lead men at each department at Bernhardt Ind.

PRIMARY FUNCTIONS: To cut lumber to rough length. To cut out defects while keeping lumber waste and labor costs to a minimum

MACHINES, TOOLS, AND EQUIPMENT USED:
allen wrench (to set up lumber stops)

Upon completion of each division the supervisor will initial and give the date of completion.

ACCOMPLISHED
SUPERVISOR'S
INITIALS
DATE

DIVISION AND JOBS

A. Safety
   1. Wear eye and ear protection
   2. Stop saw and all belts when setting up

DIVISION COMPLETED

B. Parts
   1. Motor
   2. Blade
   3. Conveyor rollers
   4. On-off switches
   5. Width adjusting lever
   6. Height adjustment
   7. Travel button (leg operated)
   8. Guard
   9. Cut-off conveyor belt (move down when saw finishes it's cut)
   10. Lumber lift
   11. Roller button
   12. Conveyor belt to jointer
   13. Block belt (2 ea.)

DIVISION COMPLETED

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ACCOMPLI... SUPERVISOR'S INITIALS DATE

C. Set-up

1. Set up lumber stops on cut off saw (The stops are adjusted to the various lengths needed in the manufacture of a specific suit-an experienced operator can cut three or four elngths stimultaneously)

   NOTE: The cut off saw operator is responsible for the rough jointer and planer as well as the cut-off saw. All three must operate perfectly in order to run stock across the cut-off saw.

DIVISION COMPLETED

D. Operating Procedure

1. Push lubricating button to lubricate planer
2. Start planer
3. Start jointer
4. Start conveyor belts
5. Start cut-off saw
6. "Bunk" unloader feeds lumber (1 piece at a time) to cut-off saw operator
7. Pull board up to saw
8. Visually determine defects in piece
9. Push lumber to the longest stop that will enable a good board to be cut without defects (knots - checks etc.)
10. Cut out defect
11. Push board up to stop again
12. Repeat process of cutting out defects while obtaining longest boards possible

DIVISION COMPLETED

E. Maintenance

1. Grind planer knives
2. Grind jointer knives
3. Grease entire operation

DIVISION COMPLETED

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Facer Jointer

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES: Lead men at each department at Bernhardt Ind.

PRIMARY FUNCTIONS: To joint (smooth) one side of the stock so that when the board goes through the planer, one side will be flat

MACHINES, TOOLS, AND EQUIPMENT USED:

portable grinding attachment, electric grinder with manual feed

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Safety 1. Wear safety glasses 2. Wear ear protection 3. Be cautious at all times DIVISION COMPLETED	
B. Parts 1. Facer heads (2 ea.) 2. Facer head motor 3. Facer head #1 & 2 adjustment wheel 4. Stock pulling feet and pressure springs 5. Gear boxes and speed adjustment 6. Chain drive and motor 7. Head lock 8. Head assembly lift motor DIVISION COMPLETED	

	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
C. Set-up 1. Grind knives if necessary a. Install grinder b. Lock head c. Start grinder d. Feed grinder across knife e. Sharpen all four knives 2. Select a piece of set-up stock 3. Measure stock 4. Determine how much stock will have to be removed to leave a flat surface eg. 1/16 5. Adjust the machine to 15/16 if the original piece was 1" or 4/4 thick 6. Run set-up piece 7. Adjust machine if necessary DIVISION COMPLETED	
D. Operating Procedure 1. Start facer heads 2. Start conveyor belt 3. Run stock DIVISION COMPLETED	
E. Maintenance 1. Oil motor and bearing cups daily 2. Grease according to manufacutrers recommendations DIVISION COMPLETED	

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Rough Planer

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES: Lead men at each department at Bernhardt Ind.

PRIMARY FUNCTIONS: To size stock to the thickness desired

MACHINES, TOOLS, AND EQUIPMENT USED:

knife grinder (portable attachment)

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Safety 1. Wear safety glasses 2. Wear ear plugs 3. Be cautious at all times DIVISION COMPLETED	
B. Parts 1. Conveyor belt 2. Conveyor bed 3. Conveyor motor 4. Cutter head (5 knives) 5. Head lock 6. Cutter head motor 7. Bottom bed 8. Pressure bar and adjustment - front and rear 9. Feed roller - top and bottom 10. Chip breaker 11. Grinding attachment-motor-stop and start buttons 12. Automatic oiler 13. Tailing table 14. Exhaust duct DIVISION COMPLETED	

	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
C. Set-up 1. Select a piece of set up stock 2. Measure stock 3. Adjust bottom bed to desired thickness 4. Turn on machine 5. Run stock 6. Adjust bottom bed as necessary to run desired thickness exactly DIVISION COMPLETED	
D. Operating Procedure 1. Push lubrication system button 2. Turn on head motor 3. Start conveyor belt motor on jointer 4. Position tail person's shop truck for easy unloading 5. Run stock DIVISION COMPLETED	
E. Maintenance 1. Oil all oil cups on motors and bearings daily 2. Grease machine according to manufacturers recommendations DIVISION COMPLETED	

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Rip Saw (straight line)

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES: Lead men at each department at Bernhardt Ind.

PRIMARY FUNCTIONS: To cut a straight edge for glueing purposes

MACHINES, TOOLS, AND EQUIPMENT USED:
special socket wrench with handle, allen wrench

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Safety 1. Wear glasses and ear plugs 2. Keep hands away from blade and chain DIVISION COMPLETED	
B. Parts 1. Head 2. Rollers 3. Table 4. Blade motor 5. Blade 6. Chain 7. Chain motor 8. Guide 9. Oiler 10. Frame 11. Transmission 12. Speed selector DIVISION COMPLETED	

	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
C. Set-up 1. Adjust rollers to desired height 2. Set guide to desired width 3. Run test piece of stock 4. Check stock for correct dimensions 5. Adjust as necessary DIVISION COMPLETED	
D. Operation 1. Position loaded stock truck with material to be run near loading side of machine 2. Position empty stock truck in tail area 3. Push start button 4. Place lumber on feed chain at edge 5. Chain feeds stock through saw automatically 6. Tail person removes stock from chain 7. Stack lumber or truck neatly to eliminate spills DIVISION COMPLETED	
E. Maintenance 1. Oil cups on motor daily 2. Grease fittings according to manufacturers recommendations DIVISION COMPLETED	

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Glue Reel

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES Lead men at each department at Bernhardt Ind.

PRIMARY FUNCTIONS:

To glue core stock - the narrow boards are glued together to make a wide core or panel. The cores are sometimes glued to exact width and others are cut to narrower widths

MACHINES, TOOLS, AND EQUIPMENT USED:

Pipe or hammer - used for leveling boards in clamp, glue, glue pot roller motor

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Safety 1. Wear eye and ear protection 2. Wear apron to keep glue off of your clothes DIVISION COMPLETED	
B. Parts 1. Arms 2. Clamps with wing nuts (240 ea.) 3. Tracks 4. Ball bearings in wheels 5. Stands (6 ea. hold stock up) 6. Power drive (air to turn reel) 7. Wheels - hold up reel DIVISION COMPLETED	

ACCOMPLISHED	SUPERVISOR'S INITIALS DATE

C. Set-up
   1. Put glue in pot
   2. Hot glue for soft wood, white glue on hard wood holds best
   3. Position arms
      Note: When clamping-up cores 25" stock, use 2 clamps
      When clamping-up cores over 25"-50" use 3 clamps
      When clamping-up cores over 50" use 4 or 5 clamps

DIVISION COMPLETED

D. Operating Procedure
   1. Put glue on edge of pieces
   2. Run across roller to put glue on edge
   3. Make sure glue is all over the edge
   4. The core needs to be square at one end - eyeball
   5. Tighten clamps - 20 - 25 pst watch-for glue squirling up between boards

DIVISION COMPLETED

E. Maintenance
   1. Oil and grease arms and rollers

DIVISION COMPLETED

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Glue Jointer (Rough End)

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES: Lead men at each department at Bernhardt Ind.

PRIMARY FUNCTIONS: To cut a straight edge for gluing up on panel flo

MACHINES, TOOLS, AND EQUIPMENT USED:

one level, one square, wrenches (to mount jointer heads), screwdriver one pocket ruler

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Safety 1. Wear ear and eye protection 2. Make sure jointer heads are secured in place 3. Stay alert at all times 4. Keep hands away from jointer head DIVISION COMPLETED	
B. Parts 1. Motors (3 ea.) 2. Feed chain (1 ea.) 3. Rollers (26 ea.) 4. Jointer heads (2 ea.) 5. Gears (used to pull feed chain, 4 ea.) 6. Machine frame 7. Grease fittings (36 ea.) 8. 4 separate adjustable beds 9. This machine is approximately 4" wide and 6" long 10. Adjustments on jointer heads to raise them up and down, in and out DIVISION COMPLETED	

ACCOMPLISHED SUPERVISOR'S INITIALS DATE

C. Set-up
1. Square up jointer heads
2. Adjust pressure on feed chain to keep stock secured
3. Make sure machine has been greased
4. Machine is now ready to operate

DIVISION COMPLETED

D. Operation
1. Position stock trucks at load and unload areas
2. Push start button
3. Stock goes through machine
5. Turn it over and feed it through again
6. Stock comes out other end of the machine, where it is stacked onto a flat
7. It takes three people to operate this machine

DIVISION COMPLETED

E. Maintenance
1. Machine must be greased everyday before operating
2. Keep machine as clean as possible at all times
3. Keep close check on rollers and replace them as they are needed

DIVISION COMPLETED

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Panel Flo (Continuous Edge Gluer)

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES: Lead men at each department at Bernhardt Ind.

PRIMARY FUNCTIONS: To glue the edges of boards together to make one large solid panel.

MACHINES, TOOLS, AND EQUIPMENT USED:

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Safety 1. Wear eye and ear protection 2. Stay clear of saw 3. Don't over expose body to heating area 4. Don't drop boards on feet at the feed or tail end DIVISION COMPLETED	
B. Parts 1. Feed rollers 2. Platens - top and bottom 3. Retarder rollers 4. Steam coiled in platen 5. Conveyor chains 6. Fence 7. Saw and blade 8. Saw carriage 9. Saw track 10. Infeed and outfeed work tables DIVISION COMPLETED	

ACCOMPLISHED SUPERVISOR'S INITIALS DATE

C. Set-up
1. Adjust the top rollers for the thickness of stock to be run
2. Adjust air pressure on top retarder rollers
3. Turn on heating coils and adjust to required temperature for glue being run
4. Run a couple of pieces of practice "set-up" stock
5. Adjust rip saw to rip the panel
6. Set saw controls

DIVISION COMPLETED

D. Operating Procedure
1. Position loaded stock truck near feed end of machine
2. Position empty stock truck near tail end of machine
3. Apply glue to the edge of the boards
4. Feed boards into machine
5. Cut panels at exact lengths
6. Tail machine
7. Stack on shop truck neatly to eliminate spills

DIVISION COMPLETED

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Sizing Saw

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES: Lead men in each department at Bernhardt Ind.

PRIMARY FUNCTIONS: To make different size cores to be used in gluing up

MACHINES, TOOLS, AND EQUIPMENT USED:
ruler, line up guide, wrench (for changing saw)

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Safety 1. Wear eye and ear protection 2. Be sure shield is mounted on saw 3. Make sure saw is tightened on shaft 4. Stay alert at all times DIVISION COMPLETED	
B. Parts 1. Motor (1 ea.) 2. Saw (1 ea.) 3. Shaft (for saw, 1 ea.) 4. Protection shield (saw) 5. Safety catch mounted on the shield 6. One bed 5" x 6" to lay stock on 7. Two grease fittings on the motor 8. Machine frame DIVISION COMPLETED	

	ACCOMPLI... SUPERVISOR'S INITIALS DATE
C. Set-up 1. Set your saw for desired width 2. Get your stock in and ready to run 3. Lay piece of stock on the bed 4. Line stock up with guide 5. Turn machine on 6. Slowly push stock through the saw 7. Measure test piece to see if it is right 8. Your stock has to be laid on a flat as it is run 9. Usually this job doesn't require an off bearer 10. Make necessary adjustments if required DIVISION COMPLETED	
D. Operation 1. Position a stock truck at the loading and unloading end of the machine 2. Turn saw on 3. Place stock on flat 4. Line stock up with guide 5. Push stock through saw 6. Unload stock 7. Stack neatly on stock truck DIVISION COMPLETED	
E. Maintenance 1. Machine should be greased once a week 2. Keep machine as clean as possible at all times 3. Keep saws sharpened 4. Be sure to keep a good bed on machine DIVISION COMPLETED	

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Moulder

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES: Lead men at each department at Bernhardt Ind.

PRIMARY FUNCTIONS: To cut shapes on all four sides of stock, square and groove stock and to tenon edges of stock

MACHINES, TOOLS, AND EQUIPMENT USED:
adjustable wrench, open end wrench, box end wrench, screw wrenches (special) mitre square, screw driver, hand crank, pipe wrench, hammer, square and level square

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Safety 1. Handle cutting head and knives carefully 2. Do not put hands near heads when they are running 3. Be sure master switch is off when handling heads or when putting in pressure bars 4. When tightening knives, do not let your wrench slip off nut 5. Wear safety glasses when operating 6. Wear ear protection when operating	
DIVISION COMPLETED	
B. Parts 1. Knives 2. Motors (5 ea.) 3. Feed motor - 3 speed 4. Pressure shoes (2 ea.) 5. Front guide 6. Back guide 7. Tail board guides 8. Tail board front shoes (5 ea.) 9. Bottom head front shoes (5 ea.) 10. Top head chip breaker (5 ea.)	

ACCOMPLIS... SUPERVISOR'S INITIALS DATE

Cont.

11. Side head
12. Front plates
13. Bed plates in front of front and back side heads (2 ea.)
14. Front roller guides and springs
15. Adjustable front rollers
16. Chain feed bed under rollers
17. Hopper feed-to pull stack (2 ea.)

DIVISION COMPLETED

C. Set-up

1. Select a practice or "set-up" piece of stock
2. Adjust feed roller to thickness of stock
3. Pull stock under feed roller with feed switch
4. Adjust front guide to stock
5. Set top head ruler to thickness of stock 3/4"-1" (leave 1/16" to 1/32" for bottom head to cut off)
6. Start top head and both side heads
7. Pull stock under top head down to front side head
8. Tighten pressure bar down snug
9. Pull stock past front and back side heads
10. Adjust front guide snug against stock
11. Pull stock down to bottom head
12. Adjust back knife to stock.
13. Adjust pressure bar at bottom head
14. Start bottom head
15. Pull stock out over bottom head
16. Align tail board front and back guides to stock
17. Pull stock on through and measure
18. Run set up piece of stock
19. Make necessary adjustments if stock doesn't run perfectly

    NOTE: If stock is too wide, adjust front head
    If stock is too thick, adjust top head or bottom head. (Be sure not ot take too much off bottom head or your stock won't dress out thick enough)
    Run at "A" speed - (this speed will not Chip stock)

DIVISION COMPLETED

D. Operating Procedure

1. Position loaded stock truck in convenient loading position
2. Position empty stock truck in for easy unloading by the tail person
3. Start machines motor
4. Run stock
5. Tail machine - stack stock neatly on stock truck

DIVISION COMPLETED

ACCOMPLISHED	
SUPERVISOR'S INITIALS	
DATE	

E. Maintenance
   1. Oil all motor cups daily
   2. Grease all fittings according to manufacturers recommendations
   3. Keep knives oiled and greased
   4. Keep pressure bar in good shape

DIVISION COMPLETED

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Finish Planer

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES: Lead men at each department at Bernhardt Ind.

PRIMARY FUNCTIONS: TO plane stock to a pre-set uniform thickness after it has been rough planed.

MACHINES, TOOLS, AND EQUIPMENT USED:
open end wrenches, box end wrenches, allen wrenches

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Safety 1. Wear safety glasses 2. Wear ear protection 3. Keep hands clear of cutter head 4. Be sure machine is off and secure before working around cutter head DIVISION COMPLETED	
B. Parts 1. Infeed bed 2. Center bed 3. Outfeed bed 4. Bottom feed roll, in feed 5. Top feed roll, infeed 6. Bottom feed roll, outfeed 7. Top feed rool, outfeed 8. Cutterhead 9. Chip breakers 10. Pressure bar DIVISION COMPLETED	

ACCOMPLISHMENT SUPERVISOR'S INITIALS DATE

C. Set-up
   1. Adjust the infeed bed for thickness desired
   2. Adjust the feed rate
   3. Run practice piece
   4. Adjust if necessary

DIVISION COMPLETED

D. Operating Procedure
   1. Position loaded stock truck for easy feeding
   2. Position empty stock truck for easy tailing
   3. Feed stock
   4. Tail machine
   5. Stack stock neatly on stock truck.

DIVISION COMPLETED

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Edge Banding

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES: Lead men at each department at Bernhardt Ind.

PRIMARY FUNCTIONS: To band sides and ends of cores to match face.

MACHINES, TOOLS, AND EQUIPMENT USED:

Hex wrenches
Clamp wrench

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Safety 1. Keep all guards in operation 2. Wear gloves when cleaning hot glue pots DIVISION COMPLETED	
B. Parts 1. Glue pots (2 ea.) 2. Bank feeds (2 ea.) 3. Feed drive 4. Pressure bars (2 ea.) 5. Glue rollers (2 ea.) 6. Edge saw motors (2 ea.) 7. Drive motor 8. In and out motor DIVISION COMPLETED	

	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
C. Set-up 1. Set feed chain to desired width and length 2. Set jointer saws to thickness of stock being run 3. Set band feeds to width of bands DIVISION COMPLETED	
D. Operation 1. Heat glue pot and roller pans to 230 degrees 2. Position loaded truck with material to be run near feed position 3. Position empty truck near the unloading area 4. Start feed chain 5. Glue rollers 6. Check band feeds 7. Start jointer 8. Feed stock into machine 9. Tail machine and stack stock neatly on stock truck DIVISION COMPLETED	
E. Maintenance 1. Lubricate every 24 hours of operation 2. Grease glue roller bearings and drive chain cuffs on each end of bars DIVISION COMPLETED	

The Glue Room

Panels, posts, and "block up" used in manufacturing are born in the glue room. The glue room in a furniture factory is the area that receives blocks and sheets of wood that are put together with glue to make new wood forms that are made into furniture.

The term post is used to refer to almost any solid part of a piece of furniture. In a chair, for instance, the front post, front stretcher, arm stub, arm, top back, bottom back, and center back are all cut from wood that has been "glued up." Some parts of the chair are made from wood that has been glued-up, cut to size and then turned on the lathe. Some of the parts that are lathe turned are the front post and stretchers. The list of pieces of furniture that are made from stock that is glue-up or blocked up is very long and the list of parts of these pieces is even longer. To mention a few will illustrate the point. In a table, the center post and legs, are made of glued stock. In cabinet pieces, the legs and tops are glued stock. In beds the headboards are often glued pieces, put together to make a decorative design and functional headboard.

When a furniture person talks about a panel he is usually talking about a door to a case, an end or back on a case, a table top or any other furniture part that is fairly large and flat. Panels that are not solid wood are made out of cores and sheets of veneer. There are two kinds of cores, fibre cores and solid cores. There are several grades of

fibre core. The highest grade has the smallest particles or fibre parts, the lowest grade has the largest particles. The solid wood core is usually a core that has been glued up from narrow pieces of wood. Panels are made in several plies. A ply is one thickness of either veneer or core. The most common panels are two ply, three ply, five ply, and seven ply.

The glueing operation is a fast accurate method of glueing and assembling wood. The stock that is glued up for parts like table center posts comes to the glue room fron the rough machine room. If the required stock is thick and long, it is usually glued up using sheets or blocks approximately one inch thick. The one inch sheets are glued up on the glue reel in the rough end. When the glue is set, the boards are run through the planer. The maximum thickness is assured by checking the stock when it comes out of the planer. The pieces of lumber that are used on the glue reel are boards of different widths. The rip saw provides the glue reel with its stock. "Random ripping" is the term used for the rip saw operation which cuts the different width boards for the glue reel.

The glue room has several pieces of heavy duty equipment. The glue spreader is the machine that spreads glue on both sides of the piece of lumber. The rollers that apply the glue to the board can be adjusted to the different thicknesses of wood. For instance, the glue spreader will apply glue to veneers 1/28 of an inch thick, or to blocks 4 inches thick.

The cold press is the machine that applies the pressure to the pieces being blocked up. While the pressure is being applied, screw clamps are fastened to steel rails that have been placed on top and on the bottom of the stack of boards. The amount of pressure applied by the cold press depends on the square footage of stock being glued. Square footage is figured by multiplying the width by the length. Once the screw clamps are in place and tightened, the pressure is released. The block-up is then hoisted to a place where it can set up. The set up time varies from 3 to 8 hours depending on which glue is used. The "white" glue takes the least amount of time. White glue is usually used when blocking up hard woods such as oak and elm. The brown glue is used for blocking up soft woods. Most panels are glued up with the brown glue.

Panel Gluing and Assembly

The panel making process that takes place in the glue room is interesting. The most common panels are the 3, 5, and 7 ply panels.

The three ply panel assembly is as follows:

The back veneer is placed on the assembly rack which is called the "dump", the core is run through the glue spreader and placed on top of the back, then the face veneer is laid in place. This process continues until the dump is full and ready to be wheeled to the cold press.

The five ply panel construction process is as follows:

The back veneer is run through the glue spreader (the spreader applies glue to both sides of the piece of veneer) and placed on top of the back, the core is placed on the crossing, the other crossing veneer is run through the glue spreader and placed on the core, the face veneer is placed on the crossing. The gluing process continues until the dump is full and then it is wheeled to the cold press.

Seven ply construction is very similar to 5 ply construction except that both crossing veneers on both sides of the core must be run through the glue spreader. This means that between the second and third plies, there will be double glue. However, to run the core through the glue spreader would require adjusting the spreader on each panel run. By gluing the two crossing veneers on each side of the core, the spreader needs no adjustments

becasue both of these veneers are the same thickness, 1/20th of an inch.

Panel Construction

In modern furniture manufacturing case goods are made out of veneered stock. The glue and veneer rooms in the furniture plant make the panels used in case goods. Panels consist of 1/28" veneers which are glued on to solid wood or industrial fibre cores.

There are two types of panel construction. Industrial fibre core panels are three ply and five ply, construction and solid wood core panels are five ply construction. The veneer that goes on fibre core can have its grain running in either direction. The technical terms used in explaining fibre core veneers are "non-directional." Non-directional means that the veneer is glued on fiber cores with grain running in either direction. The direction of the grain pattern will depend on what the part is to be used for. For example, doors will need to have the veneer grains running up and down. However, the front and back should be in the same direction. So, on a panel that has a fibre core, the veneer on the front and back can run in either direction as long as they match.

The solid wood core panel is a little more complicated because they are made of five ply construction.

A ply refers to each thickness of lumber or veneer that goes into a panel. The solid wood core panels require five ply construction to eliminate bowing. With two sheets of

veneer, one face and one crossing on each side of the core, the forces that cause bowing will be equal. This equal or stable situation will keep the panel flat. The direction of the grain in five ply construction is very important. The face veneer and the crossing veneer must be opposite one another. Most crossing veneer is 1/24" thick while face veneers are 1/28" thick. The five ply panel that has the veneer grain running in the opposite direction is a very strong panel.

When the five ply panel is built the face is laid down first with the grain running in the same direction as the solid wood core. Then, the crossing is laid on, which is usually poplar, with the grain running 90° to or opposite the grain of the facing and core. The solid core is the third piece to be laid in place. The fourth ply is the second or back crossing with its grain running the same as the first crossing and opposite the core. Finally, the back veneer is laid in place. This back is sometimes the same grade of veneer as the front. If the back is to be seen when the case is completed, the veneers are the same grade, if not the back can be poplar.

Poplar veneer is cheaper than some of the face veneers, such as pecan. The poplar veneer is just as strong as the fancy veneers so nothing is lost.

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Glue Spreader

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES: Lead men at each department at Bernhardt Ind.

PRIMARY FUNCTIONS: To spread glue on cores or veneers for laminating

MACHINES, TOOLS, AND EQUIPMENT USED:
glue, bucket, shovel

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS

	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Safety 1. Keep hands away from rollers 2. Keep area around machine clean to eliminate possible falls DIVISION COMPLETED	
B. Parts 1. Frame 2. Motor 3. Rollers 4. Roller adjustments 5. Pans 6. Fingers 7. Thickness adjustment wheel 8. Roller ends to hold glue in rollers DIVISION COMPLETED	

	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
C. Set-up 1. Clean hardened glue off of fingers and roller ends 2. Adjust glue wheel 3. Adjust thickness wheel 4. Turn machine on 5. Put glue in rollers 6. Fill pan with water 7. Run a practice piece 8. If glue is not spread properly, adjust glue and thickness wheels as necessary DIVISION COMPLETED	
D. Operating Procedure 1. Position shop truck with material to be run in convenient position for feeding 2. Turn machine on 3. Feed stock into machine DIVISION COMPLETED	
E. Maintenance 1. Grease machine as the manufacturers recommends DIVISION COMPLETED	

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Cold Press

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES: Lead men in each department at Bernhardt Ind.

PRIMARY FUNCTIONS: To hold laminated stock flat and tight for curving process

MACHINES, TOOLS, AND EQUIPMENT USED:
clamps, rails, winch, 4" x 24" boards

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Safety 1. Make sure rails are straight above each other 2. Make sure clamps are on the rail far enough to hold safely 3. Wear gloves DIVISION COMPLETED	
B. Parts 1. Press frame 2. Cylinder 3. Pump 4. Pressure handle 5. Pressure gauge 6. Rollers DIVISION COMPLETED	

ACCOMPLISHED SUPERVISOR'S INITIALS DATE

C. Set-up
   1. Set rollers in position
   2. Set rails in position
   3. Set pressure for size of stock

DIVISION COMPLETED

D. Operating Procedure
   1. Roll a stack of laminated stock into press
   2. Put rails under and on top of the stock
   3. Set pressure for size and kind of stack
   4. Start pump motor
   5. Close pressure vlave when desired pressure is reached
   6. Put clamps on rails to hold stock when compressed
   7. Let press down
   8. Tighten clamps
   9. Take stack out of press with winch and push into position for drying
   10. Let winch down
   11. Remove winch from rails

DIVISION COMPLETED

E. Maintenance
   1. Grease all fittings weekly

DIVISION COMPLETED

Veneer Room

Veneer is a thin sheet of wood that has been sliced or lathe turned off of a log. Veneers that are sliced are used for facings. Face veneers have a pretty grain pattern and can be very decorative on a piece of furniture. The most popular pattern is the cathedral pattern. The cathedral pattern is the one that looks like a church steeple. The cathedral pattern is achieved by positioning the log out of center on the slicer. A one half inch offset is typically used to achieve a good cathedral pattern. The more offset the more chatedral the affect in the pattern. The veneer that is rotary cut like poplar and gum is used for crossings. The crossing is the 1/24" piece of veneer that is laid between the core and the face in five ply panel construction. The most common crossing material is poplar.

When face veneer is shipped to the furniture plant, the entire half log or "flitch" is crated and shipped. In other words, the crated log looks just like a log except that it is sliced lengthwise in 1/28" slices. The veneer is uncrated in the veneer room and sent to the drop clipper. The drop clipper operator is responsible for cutting the proper lengths that are called for on the bill. The bill tell the operator what lengths to cut for the particular panels in the suite being manufactured. Most drop clipper operators can memorize a bill and cut more than one length at a time. It is his job to cut out all defects and eliminate as much waste as possible.

Crossing veneer is also cut on the drop clipper. Since crossing is cut and ordered in the lengths necessary to manufacture a certain piece of furniture, width is the only cutting operation required. The drop clipper operator that is cutting crossing material allows about ⅛" extra. The extra ⅛" makes the glueing operation easier and quicker. With the extra⅛" the pieces that are being glued do not have to line up perfectly. The reason for this is that the edges of the panel will be trimmed later in the machine room. The machine used for the trimming operation is the double end trim saw.

Once the face veneer is cut to length at the drop clipper, it is trucked to the block out shear. The block out shear is used to achieve the required width. The operator tries to keep the waste at a minimum. He first cuts one side to get a straight edge. Using the straight side to work from, he then cuts the width needed. Most block out shear operators leave ⅛" extra so that the edge can be jointed smooth for easy, accurate splicing and trimming.

The printing operation that is used in furniture manufacutring is a process of painting the design (usually wood grain pattern) on to a face veneer. A popular face veneer that is printed is blanquita and another is maple. Blanquita is a South American veneer that has a light color and close grain. The veneered face that is printed can be a surface that is spliced pieces of veneer. In other words, a panel that is thrity six inches wide can be made up of several narrow pieces of veneer that are spliced (glued) together.

In order to splice the veneer the edges have to be straight and smooth.

The head jointer is the machine that makes the edge of the veneer very smooth and straight. Jointing is the operation that follows the block out shear. The smooth edge that the high speed knives of the head jointer produces is important to the glueing operation which is done on a machine called the splicer. Before the veneer goes to the splicer, the edges of the veneer are sprayed with glue. The glue must be allowed to dry up to several hours depending on the mixture of the glue.

The splicer operator aligns the two pieces of veneer and moves the glued edges into the machine. The splicer heats the glue, presses the glued edges together so that they will bond and discharges the spliced piece out the other end. The splicer is very important in both printed veneer and fancy face veneered pieces of furniture. The printed veneers such as blanquita and maple are run through the splicer much faster than the matched fruit woods. The printed veneers can be easily trimmed and printed and need very little care in aligning the grains. On the other hand, the fruit woods such as pecan that are made into "v" patterns for table tops require a lot of careful alignment of the parts to be spliced.

Fancy Face Veneers

Fancy face veneers are made in a special area of the veneer room. Three or four people work together in the cutting, shaping, and taping procedure that is required to achieve pretty and accurate fancy faces. A fancy face veneer is one that has a "v" match, a border or some other specially cut veneer that, when put together, create a fancy covering for a panel. The most common uses for fancy faces are on dining room tables, end tables, chest of drawers, servers, and night stands.

The assembly of fancy faces is probably different in every plant, but basically the procedure is as follows:

> The "v" match or center section is cut on the drop clipper and spliced. Then it is taken to the fancy face assembly area. If the face has a border around it, the sections of the border are shaped with a special jig and router. Once all the pieces are cut, the assembly process starts. The center is laid out on the table and the border pieces are taped to it. The important part of the assembly is the fit between the border and the center. The border must fit up to the center if there are to be no cracks between the two pieces. Once the fancy faces are taped together, they are ready to be taken to the glue room where they will be glued up on panels. The panels will then be made into table tops, etc.

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Drop Clipper

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES: Lead men at each department at Bernhardt Ind.

PRIMARY FUNCTIONS: To cut the desired length of face veneer and split out unwanted defects.

MACHINES, TOOLS, AND EQUIPMENT USED: Ruler on table, tape measure ratchet, oil can, guards

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Safety 1. Keep hands from under knife at all times 2. Never double clip when cutting veneer 3. Be aware of where your tail boys hands are before clipping DIVISION COMPLETED	
B. Parts 1. Motor 2. Frame 3. Sizing table 4. Scrap table 5. Knife DIVISION COMPLETED	
C. Set-up 1. Change knife when dull DIVISION COMPLETED	

	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
D. Operating Procedure 1. Position log in a convenient place so that you can pull as much as you want on to the table easily 2. Push start button 3. Pull desired amount of log onto table 4. Push end of log under knife and square end off 5. Decide when the cut will work best 6. Take into consideration length of cut, defects, and the various lengths to be cut- determined by the hill 7. Mark the length decided on 8. Slide under knife 9. Push the foot pedal which activates the knife 10. Allow the knife to complete its stroke 11. Put cut pieces on the shop truck neatly DIVISION COMPLETED	
E. Maintenance 1. Grease all fittings weekly DIVISION COMPLETED	

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Torwegge Clipper

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES Lead men at each department at Bernhardt Ind.

PRIMARY FUNCTIONS:
To cut (block out) veneer to width desired

MACHINES, TOOLS, AND EQUIPMENT USED:

all adjustments and wheels are on the machine

Upon completion of each division the supervisor will initial and give the date of completion.

ACCOMPLISHED
SUPERVISOR'S
INITIALS
DATE

DIVISION AND JOBS

A. Safety
   1. Be sure safety light is on
   2. Dual button system prevents operation without pressing both buttons

DIVISION COMPLETED

B. Parts
   1. Bed
   2. Knife
   3. Pressure lever
   4. Pressure bar
   5. Pressure gauge Kp/Cm^2
   6. Release button (2 ea.)
   7. On - off switch
   8. Safety light and switch
   9. Motor 5 hp.
   10. Wheel for adjusting stop
   11. Guide - stop

DIVISION COMPLETED

60 719

ACCOMPLISHED SUPERVISOR'S INITIALS DATE

C. Set-up
   1. Check bill to find desired width to be cut
   2. Set guide to desired width
   3. Check guide location with pocket rule to double check rule on the guide

DIVISION COMPLETED

D. Operating Procedure
   1. Position loaded shop truck for easy loading
   2. Position empty shop truck for tailing
   3. Position trash bin
   4. Pick up handful of veneer
   5. Bump end to even length
   6. Push veneer against guide
   7. Move guide back to allow enough material to insure a smooth joint on both sides
   8. Lower pressure bar to 50 kp/cm^2
   9. Push both buttons - hold until machine completed cycle
   10. Remove scrap
   11. Release pressure bar
   12. Turn stack of veneer around
   13. Adjust guide to desired width
   14. Move stack against guide
   15. Apply pressure
   16. Push both knife actuating buttons
   17. Allow knife to complete its cycle
   18. Remove stock
   19. Stack stock neatly on stock truck

DIVISION COMPLETED

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Sheridan or Diamond Clipper - 36½"

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES: Lead men at each department at Bernhardt Ind.

PRIMARY FUNCTIONS: To clip edges to make a good joint for splicing and to size veneer for the specified part

MACHINES, TOOLS, AND EQUIPMENT USED:
lug wrench 5/4" cap screws, open end wrench 5/8" for adjustments, sharpening stone, pine stick (for removing feather edge after sharpening)

Upon completion of each division the supervisor will initial and give the date of completion.

ACCOMPLISHED
SUPERVISOR'S
INITIALS
DATE

DIVISION AND JOBS

A. Safety
1. Keep hands away from blade
2. Always use spring attachment to pressure bar lever
3. To aid in safe-handling of knife, screw one of the cap screws which secures knife to knife bar, into the second hole and one into the sixth hold of knife. Give each one of the cap screws a few turns. Using the capscrews as finger holds knife.
4. Adjusting the clutch - if clutch slips on a heavy cut, loosen lock-nut and turn friction roller stud close to shaft. Then tighten lock nut
5. Regulate brake Spring Tension - if knife fails to stop after completing cut, increase tension on brake spring by screwing down hexagon adjusting nuts on spring stud

DIVISION COMPLETED _____

B. Parts
1. Air cylinder
2. Air hose
3. Exhaust hose

ACCOMPLISHED
SUPERVISOR'S
INITIALS
DATE

CONT.

4. Pressure bar shaft
5. Pressure bar
6. Knife blade 42" wide
7. 3/4" cap screws
8. Tape measure
9. Tape wheel
10. Back gauge hand wheel
11. Brake shoe
12. Starting lever clutch block
13. Starting lever clutch
14. Back gauge chain
15. Split back gauge
16. Motor belt
17. Cutting stick
18. Tape magnifier
19. 15 watt light bulb
20. Back-gauge lock band lever
21. Table
22. Flywheel
23. Starting lever
24. Friction lever
25. Knife adjusting screws
26. Back gauge tape
27. Knife guard
28. Stop for cutting stick
29. Knife bar
30. Driving shaft
31. Friction disc stud
32. Throw off lever
33. Throw in stud
34. Starting lever spring

DIVISION COMPLETED

C. Set-up

1. Take knife out of machine and place edge up in front of good light on a special built knife holding block
2. With a flat sharpening stone bring it to a fine edge
3. Wipe off the feather edge with a pine stick and then put just a little on the flat side of the knife always keeping sharpening stone perfectly flat
4. Adjusting the clutch - if clutch slips on a heavy cut, loosen lock nut and turn friction roller stid closer to shaft. Then tighten locknut
5. Regulate brake-spring tension-if knife fails to stop after completing cut, increase tension on brake spring by screwing down nexagon adjusting nuts on spring stud

DIVISION COMPLETED

ACCOMPLISHED	SUPERVISOR'S INITIALS DATE

D. Operating Procedure
1. Push start button
2. Push light button
3. With air hose, clean off machine table
4. Take stock off truck and place in machine for first cut
5. Make sure stock is firmly against the guard
6. Next cut make sure stock is firmly placed against split back guage
7. Make sure the joints are smooth
8. Shift through the bumch for any defects
9. Remove stock from machine into another truck to be sprayed with glue

DIVISION COMPLETED

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Glue Joihter (VENEER)

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES: Lead men at each department at Bernhardt Ind.

PRIMARY FUNCTIONS: To joint veneer and make a smooth joint in preparation to splice

MACHINES, TOOLS, AND EQUIPMENT USED:
open end wrenches

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Safety 1. Keep hands away from jointer heads 2. Keep hands from under pressure guide 3. Wear safety glasses when sparpening heads DIVISION COMPLETED	
B. Parts 1. Track 2. 1 HP Motor 3. Air cylinder 4. Pressure bar 5. Air cylinder lever 6. Heads (2 ea.) 7. Head motors (2 ea.) 8. 2-way gears (forward and backward) 9. Head sharpener (Model 1-8259, Type SP 1/3 HP) 10. Grease fittings 11. Grease cuts DIVISION COMPLETED	

	ACCOMPL. SUPERVIS. INITIALS DATE
C. Set-up 1. Sharpen heads 2. Put heads back on machine 3. Raise pressure bar DIVISION COMPLETED	
D. Operating Procedure 1. Turn switches on 2. Slide veneer in against the guides 3. Turn air valve on and let pressure bar down 4. Push starting lever forward 5. After the veneer has gone through reverse starting lever 6. Turn air valve raising pressure bar 7. Take veneer out 8. Stack neatly on stock truck DIVISION COMPLETED	
E. Maintenance 1. Oil daily-cups on motors 2. Grease fittings as required by manufacturer 3. Watch metal to metal surfaces for wear DIVISION COMPLETED	

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Spray Gun

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES: Lead men at each department at Bernhardt Ind.

PRIMARY FUNCTIONS: To apply an even coat of glue on the edge of the veneer while it is champed in the press

MACHINES, TOOLS, AND EQUIPMENT USED:
spray gun, press, glue pot, spray tooth

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Safety 1. Keep arm and hand from under clamp 2. Wear protective muzzle 3. Wear eye protection 4. Keep area clean 5. Wipe up all spill immediately DIVISION COMPLETED	
B. Parts 1. Air adjustment 2. Glue adjustment 3. Air pressure valves 4. Sprayhead assembly 5. Sprayhead locking tube assembly 6. Air cap 7. Fluid needle 8. Cylinder assembly 9. Fluid adjusting screw 10. Trigger 11. Gun body 12. Air valve assembly 13. Tip and Needle assembly DIVISION COMPLETED	

67 726

ACCOMPLI...	
SUPERVISO...	
INITIAL	
DATE	

C. Operating Procedure
1. Position stock truck with material to be sprayed nearby
2. Position empty stock truck to receive finished stock
3. Pickup a handfull of veneer
4. Straighten veneer by tapping stock on table
5. Lay stock in clamp - be sure not to loosen your grip on stock thus allowing it to slip
6. Clamp veneer
7. Spray coat of glue on veneer
8. Release clamp
9. Remove stock
10. Stack stock neatly on stock truck

DIVISION COMPLETED

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Splicer

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES: Lead men at each department at Bernhardt Ind.

PRIMARY FUNCTIONS: To glue the edges of veneer together to make the width needed

MACHINES, TOOLS, AND EQUIPMENT USED:
allen wrenches, open end wrenches (3), oil can, grease gun, sheepskin oil applicator

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Safety 1. Stop machine to remove pieces of veneer that sometimes gets caught in chains 2. Keep hold down block on machine at all times 3. Be careful scraping dry glue from front of machine that it doesn't fly in eyes 4. Keep fingers away from feed rollers and chains 5. Stop machine anytime it is necessary 6. Keep drive chain guard on machine DIVISION COMPLETED	
B. Parts 1. Feed rollers and assembly 2. Table assembly 3. Pressure bar assembly 5. Pressure bar arms and brace 6. Guide 7. Hold down block and assembly 8. Feed, pressure, and roller chains 9. Thermostats	

ACCOMPLISHED
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DATE

Cont.

10. Hand wheel, front
11. Front end bell
12. Hand wheel, speed
13. Heater strip
14. Main drive unit
15. Float indicator
16. Gear and screw assembly
17. Pressure gauge
18. Hand wheel, rear
19. Rear end bell
20. Transfer gear box
21. Oil box assembly
22. Drive chain and guard
23. Side plates
24. Drive shafts

DIVISION COMPLETED

C. Set-up

1. Adjust hand wheel on front for thickness
2. Adjust hand wheel on rear for pressure
3. Adjust hand wheel on side to regulate speed
   Note: All of the above vary on different thicknesses or kinds of wood
4. The heat setting varies on different thicknesses of veneer, or when speed of machine is changed
5. Run a practice piece through the jointer
6. Check glued joint for loose ends (the joint should be a straight butt joint)

DIVISION COMPLETED

D. Operation

1. Position stock truck with material to be run near the feed end of the machine
2. Position an empty stock truck near the tail end of the machine
3. Pile a stack of veneer on the feed table
4. Turn machine on
5. Feed veneer into splicer
6. Tail person lifts spliced veneer out of machine and stacks it onto stock truck.

DIVISION COMPLETED

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Tape Machine

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES: Lead men at each Department at Bernhardt Ind.

PRIMARY FUNCTIONS: To tape ends and to make combination or v match faces

MACHINES, TOOLS, AND EQUIPMENT USED:

allen wrenches, screw driver, grease gun, oil can, feed roller wrench

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Safety 1. Keep drive chain guard in place 2. Keep fingers back from feed rollers while feeding machine 3. Stop machine to remove splinters that sometimes get caught between pressure wheel and disc DIVISION COMPLETED	
B. Parts 1. Frame 2. Main drive unit 3. Table 4. Guide 5. Feed rollers 6. Pressure foot 7. Pressure wheel 8. Drive shaft 9. Drive chain and guard 10. Water box and rollers 11. Two discs 12. 3 hand levers 13. Tape stand DIVISION COMPLETED	

71 730

ACCOMPLISHED SUPERVISOR'S INITIALS DATE

C. Set-up
1. Use upper hand lever to set pressure wheel for thickness
2. Front hand lever to lower or raise top assembly
3. Lower hand lever sets pressure on disc
4. Adjust pressure foot with samll knob at top of pressure foot
5. Adjust feed rollers so they roll only as the veneer passes under them
6. Check water in water box
7. Thread tape through water box, pressure foot, and under pressure wheel.

DIVISION COMPLETED

D. Operating Procedure
1. Push green button to start
2. Push red button to stop
3. Veneer must be fed into machine with ends even
4. Veneer is matched as it is fed into machine
5. Keep close watch for open or pinched joints
6. This machine must have someone to tail it
7. Tail person stacks stock neatly on stock truck

DIVISION COMPLETED

E. Maintenance
1. Oil and grease according to manufacturers recommendations.

DIVISION COMPLETED

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Inspection and Repair

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES Lead men at each department at Bernhardt Ind.

PRIMARY FUNCTIONS:

To grade out veneers that don't meet quality standards and to patch cracks in veneer that do meet standards

MACHINES, TOOLS, AND EQUIPMENT USED:

Tape machine, putty knife, table (work surface)

Upon completion of each division the supervisor will initial and give the date of completion.

ACCOMPLISHED
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DATE

DIVISION AND JOBS

A. Safety
   1. Keep area clean to insure good footing

DIVISION COMPLETED

B. Parts of the tape machine
   1. Frame
   2. Main drive unit
   3. Table
   4. Guide
   5. Feed rollers
   6. Pressure foot
   7. Pressure wheel
   8. Drive shaft
   9. Drive chain and guard
   10. Water box and rollers
   11. Two discs
   12. Hand levers (3 ea.)
   13. Tape stand

DIVISION COMPLETED

ACCOMPLI... SUPERVISOR INITIALS DATE

C. Operating Procedure
1. Position veneer on shop truck near work area
2. Position empty shop truck in a conveneint place for stacking inspacted and repaired veneer
3. Pull one piece of veneer onto table
4. Inspect piece for defects
5. Make repairs if necessary
6. Court pieces as you work
7. Report shortages
8. Add to order so that bill will be complete
9. Stack veneer neatly on shop truck

DIVISION COMPLETED

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Router (for fancy face veneers)

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES: Lead men at each department at Bernhardt Ind.

PRIMARY FUNCTIONS: To shape the veneer for fancy faces

MACHINES, TOOLS, AND EQUIPMENT USED:
Sharp cutter head, very accurate forms, strong clamps, good air pressure,

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Safety 1. Keep hands away from knives 2. Wear dust mask and eye protection DIVISION COMPLETED	
B. Parts 1. Flat table 2. Guide 3. Cutting head 4. Air hose DIVISION COMPLETED	
C. Set-up 1. Loosen shaft 2. Place cutter in shaft 3. Tighten shaft 4. Position guide and cutting head in line with each other 5. Turn on air 6. Push router along desired line 7. Amount of pressure to push depends on wood being cut 8. Check set-up DIVISION COMPLETED	

ACCOMPLISHMENT SUPERVISOR'S INITIALS DATE

D. Operation
1. Place veneer in form
2. Clamp down veneer
3. Turn on air
4. Start cutter
5. Run the cutter by the form just close enough to cut it off cleanly
6. Remove worked veneer
7. Stack neatly on stock truck

DIVISION COMPLETED

Finish Machine Department

The finish machine room is the area of the furniture plant that makes the wood into the required shapes that go together to product the actual piece of furniture. The stock that is cut in the rough end is sent to the finish machine room to be turned, shaped, and bored as well as many other operations. When the stock arrives at the finish machine room it is blocks of wood that are long rectangles, squares and many other shapes depending on what part of the piece of furniture the wood will be made in to. Some of the blocks will be turned into round legs for chairs. Others will be sawed into side panels for chairs and sides for cases or beds. Since wood cannot be worked as close as metal, it is usually machined to a tolerance not closer than 1/32nd of an inch. The finish machine department has the responsibility of machining the material so that all of the pieces will fit together.

Many operations are required to insure that when the pieces are assembled the finished product will be the exact height, width, square, and level. The wood has to have joints cut into it so that the pieces can be fastened together. The oldest type of joint used in furniture construction is the dovetail joint. This joint is still used in the finest pieces of furniture made today. The dovetail joint is thought to be the strongest of the wood joints. The mortise and tenon is a very popular joint and is probably the most widely used. In the finish machine room, the dovetail machine cuts dovetail

while the mortise and tenon can be cut on several different machines. For instance, the mortise can be cut on the mortise or the router. The tenon is usually cut in very rapid production on the double end tenoner.

The sawing operations are very important in producing furniture parts. The variety saw is used to cut straight pieces of all kinds. The name "variety saw" comes from the many different or variety of cuts that can be made on the saw. The bandsaw is the other very important saw in the finish machine room. The bandsaw is used to cut curved parts that go into the making of various furniture pieces. For instance, chair backs and overlays are cut on the handsaw.

Many furniture parts need their edges shaped or a decorative groove cut in them. The shapers and routers in the finish machine room are responsible for much of this special shaping.

The parts that require boring or holes drilled in them, for one of many reasons, are sent to the horizontal or vertical boring machines.

One of the most important operations that is done in the finish machine room is the turning or lathe operation. The square pieces of stock that are turned into round, octagonal, or any of the many other shapes that are used for chairs, bed, and case legs of all types. The lathe operation requires skilled operators and a highly skilled person to make the knives and set up the lathe heads. The machinist, "craftsman", that makes the knives and sets up the lathe heads is a vital person in the chair and case good manufacturing process. Legs are required for many pieces of furniture, and they have to be

produced accurately, efficiently, and in large quantities. This task is the responsibility of the lathe operators and the set-up man.

Some of the machines in the finish machine room are very simple and some are very complicated. The following is a list of the machines in the finish room, and a brief description of their functions:

Double End Tenoner - the double end tenoner can tenon, size, trim, shape, dado, groove, clip tenon, scratch line, cope tenon and miter. While we may not do all these operations to a piece on this machine, we may do as many as three or four of them at one time.

Panel Sizer (With cope heads) - The panel sizer can size, trim, shape, dado, scratch line, miter, and clamp nail.

Hand Jointer - The hand jointer is a head type machine. It's purpose is to cut a straight line to work from, but it can also clip tenon, taper and level.

Router - The router is used to cut lines, straigh or curved, cut designs, mortise, bore, and shape.

Variety saw - The variety saw can trim, size, rip grooves, dado, notch and miter.

Bell 24 - The Bell 24 can miter or compount miter and bore in the same operation.

Slat Bed - The slat bed can rip, groove, shape, notch, in multiples

Bandsaw - The bandsaw trims, rips, but is used mainly for cutting curved lines.

Back Post Trim & Bore Machine - The back post trim and bore machine is used to work chair back posts, it can trim miter and do several multiple bore operations at one time.

Dovetail (Male and Female) - The dovetailer cuts the mortises for drawer sides, backs and drawer fronts.

Mortiser - The mortiser cuts square holes for the rail tenon and can also be used as a boring machine.

Horizontal Boring Machine - The horizontal boring machine is used to bore table tops for rims and to bore rails in the ends for dowels.

Vertical Boring Machine - The vertical boring machine is used to bore any flat surface.

Hand Shaper - The hand shaper cuts most any shape, but all work is done manually.

Turn Table Shaper - The turn table shaper cuts its shapes mechanically, and has a form to shape to. All stock is usually bandsawed before shaping. This machine can shape three sides in one operation.

Profile Shaper - The profile shaper is a shaper that uses a form. Stock does not have to be cut to a pattern before shaping.

Nash Sander - The nash sander is used to sand round turnings of various sizes.

Triple Drum Sander - The triple drum is a three drum sanding machine and is used in rough sanding. It's purpose is to equalize the thickness of stock.

Lago Embosser - The embosser is a machine that uses a metal die with heat and pressure to stamp patterns in flat wood.

Spindle hand Carver - The spindle hand carver can be a single or multiple carving machine. The machine is operated by hands. The operation follows a pattern with a hand held stylus and the machine follows along and carves the wood.

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Double-end Tenoner Operator

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES Lead men at Bernhardt Ind. plant #1

PRIMARY FUNCTIONS: To cut tenons on stock to fit into mortises in case construction, to shape edges, to trim and to cope

MACHINES, TOOLS, AND EQUIPMENT USED: 13" screwdriver 1 1/2 blade 1/2, 9/16, 3/4 and 7/8" boxed end wrench. 3/4 boxed end wrench for cope motor, 1/4" allen wrench, standard saw changing wrench 1/2" drive for cope motor screws, hammer, 1 7/16 key for cope motor shaft'

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Safety 1. Wear eye and ear protection at all times 2. Cut off motors before cleaning cutting tools 3. Be sure sufficient pressure is supplied 4. Keep cutting heads of saws clean 5. Operate at safe and reasonable speed 6. Keep safety switch in proper order DIVISION COMPLETED	
B. Parts of Couble-End Tenoner 1. Feed chain 2. Pressure bars 3. Feed chain lugs 4. Tenon motors 5. Score saw motors 6. Cut-off saw motors 7. Feed motor 8. Traverse motor 9. Cope motor 10. Carriage DIVISION COMPLETED	

ACCOMPLISHMENT SUPERVISOR'S INITIALS DATE

C. Set-up (Typical for 3/4 dust rail)
   1. Set pressure on 3/4" by using hand wheel (both sides)
   2. Set cut off saws on 1" (both sides)
   3. Set lower tenon head on 1/4"
   4. Set upper tenon head on 1/2"
   5. Set carriage (length)
   6. Start feed chain by pushing on button
   7. Run a test piece of stock
   8. Check material for proper size
   9. Readjust saws, pressure, heads as necessary

DIVISION COMPLETED

D. Operation
   1. Position stock truck near loading end of machine
   2. Push start buttons for saws, tenon heads and feed chain
   3. Load chain
   4. Tailboy unloads chain
   5. Tailboy stacks stock on truck

DIVISION COMPLETED

E. Maintenance (Preventive)
   1. Oil all cups daily
   2. Grease all fittings as necessary

DIVISION COMPLETED

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Panel Sizer Operator

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES _____

PRIMARY FUNCTIONS: To rip to trim, and to roll edges of flat stock

MACHINES, TOOLS, AND EQUIPMENT USED: 1/2" & 9/16 box end wrenches, 1 3/4" open end wrench for cope motors, 1 3/6' socket for cope motor, standard set of saw wrenches, 1 1/16" box end wrench for cope heads, crank, screwdriver 13", hammer

Upon completion of each division the supervisor will initial and give the date of completion.

ACCOMPLISHED
SUPERVISOR'S
INITIALS
DATE

DIVISION AND JOBS

A. Safety
   1. Wear safety glasses & ear plugs at all times when around machines
   2. Keep saws and cope heads clean at all times
   3. Keep floors around machine clean at all times for good footing
   4. Keep safety switch in proper order
   5. Keep all cutting tools hooded

DIVISION COMPLETED

B. Parts of the Panel Sizer
   1. Cut-off saws
   2. Pressure bars
   3. Cope motors
   4. Feed chain
   5. Feed motor
   6. Guide

DIVISION COMPLETED

ACCOMPLISHED SUPERVISOR'S INITIALS DATE

C. Set-up
   1. Set saws
   2. Set Pressure
   3. Set traverse for length
   4. Start saw motor
   5. Start feed motor
   6. Run a piece of test stock
   7. Check stock for desired dimensions
   8. Adjust as necessary

DIVISION COMPLETED

D. Operation
   1. Position stock truck near feed end of machine
   2. Start saw motor
   3. Start feed motor
   4. Load material onto chain dogs
   5. Tailboy unloads chain
   6. Tailboy stacks material on stock truck neatly

DIVISION COMPLETED

E. Preventive Maintenance
   1. Oil cups daily
   2. Grease fittings as necessary
   3. Observe machine in operation for worn spots, squeaks, any metal on metal that needs oiling.

DIVISION COMPLETED

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Slat Bed Operator

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES Lead men in Bernhardt Ind. plant #1

PRIMARY FUNCTIONS: To rip material into various widths and to turn material much like a lathe turns shapes on wood

MACHINES, TOOLS, AND EQUIPMENT USED:
saws, guides, 12" c-clamps, 3/4 & 7/8" boxed end wrenches, 3/16 & 1/4" allen wrench, standard saw changing wrenches, hammer

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Safety 1. Wear eye and ear protection at all times 2. Keep fingers from between slats 3. Apply sufficient pressure to keep stock from slipping 4. Keep hoods down and in place when saws are in operation DIVISION COMPLETED	
B. Parts of the Slat Bed 1. Front arbor motor 2. Rear arbor motor 3. Arobr motor up and down switch 4. Pressure bars (front and rear) 5. Slat bed 6. Feed motor 7. Suction Hood (front and rear)	

	ACCOMPLISH. SUPERVISOR INITIALS DATE
8. Start and stop button 9. Rear arbor brake 10. jogswitch-used for short movements of the bed DIVISION COMPLETED	
C. Set-up 1. Set saws on proper width 2. Set pressure bars 3. Run saw mantle down to point it reaches through the material 4. Run a sample piece 5. Check material for proper width or length DIVISION COMPLETED	
D. Operation 1. Start saw motor 2. Positions stock truck near feed end of machine 3. Lay material on slat bed 4. Run material under pressure bar 5. Check pressure, reset if necessary 6. Tailboy unloads slat bed 7. Stack material on stock truck neatly DIVISION COMPLETED	
E. Maintenance (Preventive) 1. Oil all cups daily 2. Grease all fittings as necessary DIVISION COMPLETED	

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Jointer Operator

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES Lead men in Bernhardt Ind. platn #1

PRIMARY FUNCTIONS: To make a straight edge on one side of a pice of wood

MACHINES, TOOLS, AND EQUIPMENT USED:
7/16" open end wrench, hammer, 13" c-clamps push block

Upon completion of each division the supervisor will initial and give the date of completion.

ACCOMPLISHED
SUPERVISOR'S
INITIALS
DATE

DIVISION AND JOBS

A. Safety
   1. Wear eye and ear protection at all times while around machine
   2. Leave jointer head guard on at all times
   3. Keep floor clean to insure good footing
   4. Use a push block when ever possible
   5. Keep hands securely on material
   6. Make reasonable cuts

DIVISION COMPLETED

B. Parts of the Jointer
   1. Feed Bed
   2. Receiving bed
   3. Motor
   4. Jointer head
   5. Knives
   6. Jointer guide
   7. Jointer head guard
   8. On-off switch
   9. Fuse box

DIVISION COMPLETED

ACCOMPLI... SUPERVIS... INITIALS DATE

C. Set-up
1. Set feed bed at desired height
2. Be sure safety guard is in place
3. Start jointer motor
4. Run material through cutter from feed bed to to receiving bed
5. Check stock for straight edge
6. Readjust the feed bed if necessary to obtain more or less material taken on each cut.

DIVISION COMPLETED

D. Operation
1. Position stock truck with stock to be run near the feed bed end of the jointer
2. Position an empty stock truck near the receiving end of the jointer
3. Push the start button to start the motor
4. By using a push block, move the stock across the jointer head to the receiving bed.
5. Stack the completed pieces neatly on the stock truck.

DIVISION COMPLETED

E. Preventive Maintenance
1. Oil all cups daily
2. Grease all fittings as required
3. Keep push block in good condition
4. Observe machine in operation for dull knives that could cause excessive wear

DIVISION COMPLETED

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Variety Saw

D.O.T. CODE NUMBER 667.782

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES Lead men in each department at Bernhardt Ind.

PRIMARY FUNCTIONS: To tip, trim, dado, groove and mitre. Rip-cut flat stock into several pieces or strips. eg. table rims. Trim - panels, moulding. Dado - shelves, chair arms (notched pieces), any piece inside the case (saw on each side). Groove - drawer front, drawer rails, table rims. Mitre - angle cuts eg. on moulding.

MACHINES, TOOLS, AND EQUIPMENT USED:

Variety saw, open end or box end wrench, square. Attachments; Holtzer E-Z feed, Dado head, varied width saws 1'8" - 3'8" for grooves, varied diameter saws 8"-18", guard (when able to use), hand guide, side bar (set for width of cut).

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Safety 1. Wear eye and ear protection at all times when operating 2. Keep hands away from blade 3. Use guard when ripping by hand (prevents binding and kick back) 4. Keep your mind on your work DIVISION COMPLETED	
B. Parts 1. Saw (blade) 2. Dado Head 3. Hand guide 4. Direct drive motor of shaft 5. E-Z feed 6. Off-on switch 7. Bed DIVISION COMPLETED	

	ACCOMPL... SUPERVISO... INITIALS DATE
C. Set-up 1. Select saw for cut (blade or dado) 2. Put saw on spindle 3. Adjust height of blade or dado 4. Set side bar required distance (width or length) from saw 5. Turn on saw 6. Run a piece to check for correct cut (all operations) 7. Make necessary adjustments if needed DIVISION COMPLETED	
D. Operation 1. Position stock to be run near the feed side of the machine. 2. Position empty stock truck near the tail side of the machine. 3. Operator of tail person get in position to operate 4. Turn saw motor on 5. Operator feed material into saw 6. Tail person pull material out of saw and stack neatly on stock truck DIVISION COMPLETED	
E. Preventive Maintenance 1. Oiling a. Oil all cups on motors and shafts daily 2. Greasing a. grease all fittings on shaft motors and other motoring parts as required by manufacturers handbook DIVISION COMPLETED	

BEST COPY AVAILABLE

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Router-Automatic/Pedal type

D.O.T. CODE NUMBER 665.782

LENGTH OF ACCREDITED TRAINING (1) (2) years

REFERENCES Lead men in each department at Bernhardt Ind.

PRIMARY FUNCTIONS: Grove, shape, mortice, route

MACHINES, TOOLS, AND EQUIPMENT USED: A. Automatic Router - floating head moves down on work. B. Pedal Type - Bed moves work up to the cutting head. Tools: Chuck, chuck key, allen wrench, cutter (¼"-3/8" - ½" shaft), bushings, guard (guard assembly fastens to bed), guide (c-clamps fasten guide to bed), stop, give the date of completion

Upon completion of each division the supervisor will initial and give the date of completion.

ACCOMPLISHED
SUPERVISOR'S INITIALS
DATE

DIVISION AND JOBS

A. Safety
1. Wear eye and ear protection at all times
2. Put guard on machine wher possible for close cuts
3. Keep fingers and hands away from cutter
4. Keep your mind on your work

DIVISION COMPLETED

B. Parts of router
1. Bed
2. Foot pedal (pedal-type)
3. Chuck
4. Jam nut (for depth)
5. Hand wheel (for Depth)
6. Big pin 3/4"
7. Pins ½" shank, 1/16", 1¼"
8. Aid pedal (automatic router)
9. Busines
10. Cutter
11. Guard
12. Guide
13. Motor
14. Belts
15. Head

DIVISION COMPLETED

	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
C. Set-up and operation for form 1. Check bill for type of cut, depth, etc. 2. Make form from blueprint a. Use 15/16" piece of flat stock for form b. Measure drawing (cut to edge of post) c. Lay out on board (true size) d. Nail strips (veneer) on according to drawing (from cut to edge of post) e. Cut out on router by following strips f. Cut out for high turning on post or piece being set up g. Draw center-line on form h. Center-line the post. i. Match center-line on form with post j. Nail stops on form 3. Select pin that will allow correct margin 4. Place pin in large pin if 3/4" pin is not required 5. Select or make cutter as drawing requires 6. Adjust machine for correct depth. 7. Position stock truck on feed and finish side of machine 8. Run stock 9. Stick finished pieces neatly on stock truck DIVISION COMPLETED	
D. Free hand operation 1. Check bill 2. Select pin and cutter 3. Adjust depth 4. Put guard on machine 5. Put on guide and stop if required 6. Position stock trucks on finish and feed side of machine 7. Run stock 8. Stack finished pieces neatly on stock truck DIVISION COMPLETED	

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Automatic Router with Automatic Feed

D.O.T. CODE NUMBER 665.782

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES Lead men in each department at Bernhardt Ind.

PRIMARY FUNCTIONS: Cane lining

MACHINES, TOOLS, AND EQUIPMENT USED: Automatic router with automatic feed, form.

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Safety 1. Wear eye and ear protection at all times 2. Keep hands on form and away from cutter 3. Keep your mind on your work DIVISION COMPLETED	
B. Parts 1. Floating head 2. Bed 3. Wheel (for bed adjustment) Note: Run bed as low as possible and still make the cut (this will reduce excess pressure on floating head) 4. Air Pedal a. Bottom-starts auto feed and lowers head b. Top-release auto feed and head 5. Depth guard 6. Chuck 7. Cutter DIVISION COMPLETED	

ACCOMPL SUPERVISOR'S INITIALS DATE

C. Set-up (with form)
1. Check bill for type of cut and depth
2. Select cutter
3. Place cutter in chuck
4. Adjust depth by measuring from guard to end of cutter
5. Tighten cutter
6. Select form
7. Place form on bed
8. Place stock in form
9. Start machine
10. Run stock
11. Stop and check depth
12. Adjust cutter as required - either shallower or deeper

DIVISION COMPLETED

D. Operation
1. Position stock truck near feed side of router
2. Place stock in form and run across cutter
3. Stack finished pieces neatly on finished stock truck

DIVISION COMPLETED

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Bandsaw

D.O.T. CODE NUMBER 667.782

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES Lead men in each department at Bernhardt Ind.

PRIMARY FUNCTIONS: To cut stock by following a line, usually a curved line drawn by using a pattern. Cut flat stock - chair top backs. Cut arms - chairs. Cut stub - below arm chair. Cut front rail - chair Cut panel - back of chair. Cut case overlays - drawer front. Door ¼"-3/8" decorative piece. Cut table tops. Cut stretches. Cut table legs.

MACHINES, TOOLS, AND EQUIPMENT USED:

Bandsaw, form - two pieces, one piece clamps to the bed of the saw. One piece holds top and rotates - groove follows rollers or pin. Guide - for cutting length pattern from drawing, stops dowel for alignment.

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Safety 1. Wear eye and ear protection at all times 2. Keep hands away from blade 3. Keep your mind on your work DIVISION COMPLETED	
B. Parts 1. Blade 2. Bed 3. Ziz wheel - blade runs against 4. Jaws - blade runs between 5. Adjustment (ziz wheel and jaws) 6. Top wheel 7. Bottom wheel 8. Hand crank (raise top wheel to tighten blade, lower top wheel to remove blade) 9. Motor 10. Brake pedal 11. Bandsaw throat DIVISION COMPLETED	

	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
C. Set-up 1. Choose saw for job depending on how crooked the line is to be cut a. thin blade - crooked line - thin stock b. Thick blade - straight line - thick stock 2. Choose pattern a. pattern is made directly from drawing DIVISION COMPLETED	
D. Operation 1. Mark out stock using pattern 2. Adjust height of ziz wheel and jaw assembly 3. Saw line DIVISION COMPLETED	
E. Operation with Guide 1. Choose saw 2. Adjust height of ziz wheel and jaw assembly 3. Set guide 4. Run trial piece 5. Check for correctness 6. Adjust as necessary 7. Run stock DIVISION COMPLETED	

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Automatic Bandsaw

D.O.T. CODE NUMBER 667.782

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES Lead men in each department at Bernhardt Ind.

PRIMARY FUNCTIONS: To cut quickly using the bandsaw and automatic attachments.

MACHINES, TOOLS, AND EQUIPMENT USED: Automatic bandsaw, carriage (auto attachment), feed, form (band iron guides), rollers, spocket, chain, fluid adjusting valve - increase fluid = faster, decrease fluid = slower

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Safety 1. Wear eye and ear protection at all times. 2. Keep hands away from blade 3. Keep hands away from morning carriage 4. Keep your mind on your work DIVISION COMPLETED	
B. Set-up 1. Adjust on hydraulic feed - tighten nut to make shorter stroke - loosen to make long stroke (hydraulic cylinder) 2. Adjust stops below bed - stops for both directions 3. Fluid adjustment below bed - increase fluid - faster - decrease fluid = slower DIVISION COMPLETED	
C. Operation 1. Push start button 2. Place stock in carriage (1½" stock cut 3 ea. at once - 1" or loss cut 5 ea. at once)	

97 756

ACCOMPL... SUPERVIS... INITIALS DATE

3. Push lever that fastens air clamp
4. Remove stock as it is cut

DIVISION COMPLETED

D. Form making

1. Cut pattern out by hand from drawing - 3/4" plywood
2. Get form board 1½"
3. Nail pattern to bottom of form board
4. Route form board by using pattern as a guide 3/8"
5. Put strap metal in routed groove
6. Using front of pattern (3/4" plywood) scribe 2" in front of metal
7. Nail chain to front of pattern on bottom of form
8. Leveling board on opposite side of form from chain

DIVISION COMPLETED

BEST COPY AVAILABLE

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Trim and Bore (Backpost) Machine

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES Lead men at each department at Bernhardt Ind.

PRIMARY FUNCTIONS: To trim length of bore dowel holes in chair backposts in one operation

MACHINES, TOOLS, AND EQUIPMENT USED:
allen wrenches, open end wrenches, guides, squares, bandsaw

Upon completion of each division the supervisor will initial and give the date of completion.

ACCOMPLISHED
SUPERVISOR'S
INITIALS
DATE

DIVISION AND JOBS

A. Safety
   1. Wear ear and eye protection
   2. Keep hands back when pushing pedal down

DIVISION COMPLETED _____

B. Parts
   1. Clamps(5 ea.)
   2. Motors (6 ea.)
   3. Stops (4 ea.)
   4. Belts
   5. Bits
   6. Saws

DIVISION COMPLETED _____

	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
C. Set-up 1. Adjust stop and guide 2. Adjust motors to drill side rail, back rail, and bottom back rail holes 3. Adjust clamps 4. Adjust saws for length 5. Place practice piece in machine 6. Start machine 7. Run stock 8. Check practice piece for exact requirements 9. Adjust machine if necessary DIVISION COMPLETED	
D. Operating Procedure 1. Position loaded stock truck for easy loading 2. Position empty stock truck for easy tailing 3. Place stock in machine 4. Run machine through its cycle 5. Life stock out of machine 6. Stack neatly on shop truck DIVISION COMPLETED	
E. Maintenance 1. Oil cups on motors daily 2. Grease fittings as the manufacturers recommendations DIVISION COMPLETED	

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Dove Tailer - Male & Female

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES: Lead men at each department at Bernhardt Ind.

PRIMARY FUNCTIONS: To cut the dove tail on drawer fronts, sides and backs

MACHINES, TOOLS, AND EQUIPMENT USED:

adjustable wrench, 1 3/8" allen wrench, 1 7/16" open end wrench

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Safety 1. Wear safety glasses 2. Wear ear protection 3. Keep fingers clear of clamps 4. Stop machine before adjusting 5. Keep your mind on your work DIVISION COMPLETED	
B. Parts (Male) & (Female) 1. Frame 2. Motor 3. Slide 4. Table 5. Threadle 6. Clutch 7. Clutch trip lever 8. Spindle frame 9. Crankshaft	

ACCOMPLI... SUPERVISO... INITIALS DATE

Cont.
10. Pulleys
11. Clamping lever
12. Clamp

DIVISION COMPLETED

C. Set-up
1. Be sure switch is off
2. Place drawer front under clamp
3. Place drawer front under clamp
4. Line the groove with the center of the bit
5. Adjust stop so the stock will be square with the dove tail bit
6. Run a piece of stock to check out set-up
7. Adjust set-up if necessary

DIVISION COMPLETED

D. Operation
1. Position loaded stock truck with material to be run near loading area
2. Position empty stock truck near unloading side of machine
3. Push start button
4. Place stock under clamp and against front and back stop
5. Dove tail both ends
6. Remove stock
7. Stack neatly on stock truck

DIVISION COMPLETED

E. Maintenance
1. Oil all cups daily
2. Grease all fittings as manufacturers recommends

DIVISION COMPLETED

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Mortiser

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES: Lead men at each department at Bernhardt Ind.

PRIMARY FUNCTIONS: To cut square holes for tenon to fit into

MACHINES, TOOLS, AND EQUIPMENT USED:

adjustable wrench, hammer, 1 3/8 allen wrench, 1 1/8 allen wrench
1¼ open end wrench

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Safety 1. Safety glasses and ear plugs should be worn 2. Keep guards over chisels 3. Keep hands from under chisels 4. Be alert at all times	
B. Parts 1. Frame 2. Table 3. Eight motors 4. Cut switch 5. Hand operated switch 6. Automatic run switch 7. Run switch 8. Set up switch 9. Start switch 10. Stop switch 11. Air valve cut off gauge 12. Set up air valve 13. Adjustment for cutting 14. Adjustment for height	

DIVISION COMPLETED

ACCOMPLISHED
SUPERVISOR'S
INITIALS
DATE

Cont.

15. Fast pedal for starting table in motion
16. Air cylinder
17. Air line to cylinder
18. Emergency stop switch
19. Back nut for height of table
20. Electrical switch panel
21. Air line to clamp
22. Air clamp
23. Alemite fitting
24. Sear track
25. Gear Shaft
26. Air valve cut off
27. Air guage
28. Oiler
29. Air filter bowel
30. Clamp screw
31. Pressure air filter regulator
32. Air filter bowel colleclor for water in air
33. Excurst valve
34. Oiler setting for oil machine
35. Hold down clamp
36. Chisel
37. Chisel bits
38. Set screw for holding chisels in place
39. Set screw to hold bits in place
40. Lock nut for depth of bit
41. Lock nut for motor
42. Lock nut for motor adjustment
43. Set screw for motor in and out adjustment
44. Guard for chisel
45. Lock nut for setting of motor, up and down
46. Channel bar for motor setting
47. Turning switch for speed of table up and down

DIVISION COMPLETED

C. Set-up

1. Mark stock the way it is to be cut
2. Adjust motors to fit stock
3. Loosen nut on top of motor to adjust for the correct cutting depth
4. Tighten nut on top and bottom of motor
5. Place stop at top end of stock
6. Nail down
7. Turn on air
8. Turn switch on
9. Mash pedals on floor
10. Run a set-up piece
11. Check piece and adjust as required

DIVISION COMPLETED

ACCOMPLISHED SUPERVISOR'S INITIALS DATE

D. Operation
1. Position stock truck with material to be run near machine
2. Position empty stock truck near unloading area
3. Push start button for the number of motors
4. Turn on air
5. Place stock that is marked on table
6. Mash start pedal on floor
7. Table will rise up to the chisels
8. Mortiser cuts 3/4" x 5/6" holes
9. Unload machine
10. Stack stock neatly on stock truck

DIVISION COMPLETED

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Turning Lathe

D.O.T. CODE NUMBER 664.782

LENGTH OF ACCREDITED TRAINING (1) (2) years

REFERENCES Lead men in each department at Bernhardt Ind.

PRIMARY FUNCTIONS: to make round, square, octagonal, hexagonal and oval turnings from square stock.

MACHINES, TOOLS, AND EQUIPMENT USED: Turning Lathe; open-end wrench, boxed end wrench adjustable jaw wrench, scribe, outside calipers chucks (¼" -2") allen wrench (T-Wrench)

Upon completion of each division the supervisor will initial and give the date of completion.

ACCOMPLISHED
SUPERVISOR'S
INITIALS
DATE

DIVISION AND JOBS

A. Safety
1. Wear eye and ear protection at all times
2. Always keep hood down
3. When chucking stock, hold stock with left hand and chuck down with right hand
4. When turning, keep left hand on chuck handle
5. When unchucking stock hold stock with left hand
6. Keep hands away from turning head
7. Keep your mind on your work

DIVISION COMPLETED

B. Parts of the Lathe
1. On-off switch
2. Center chuck right and left
3. Adjusting arms
4. Cam
5. Cam lever arm
6. Chucking lever
7. Chucking base (adjustable right side)

ACCOMPLI...
SUPERVISOR'S
INITIALS
DATE

8. Main drive and clutch
9. Motor and drive belts
10. Feed bed
11. Hood
12. Hood safety switch
13. Feed lever
14. Mantel bearing (main tap and 2 foot taps)
15. Arbor shaft
16. Main gearbox and lever (lower off)
17. Steady rest (spring loaded)
18. Steady rest release
19. Brake lever
20. Adjusting head stop
21. Adjusting pin
22. Clutch adjustment

DIVISION COMPLETED

C. Setup

1.. Raise hood
2. Take off head (tear down)
   a. Unlock several Allen Screws
   b. Loosen nuts and remove mantel bearing
   c. Slide head off (right facing machine) of arbor shaft
3. Put on head (build up)
   a. Slide head on arbor shaft from right to left
   b. Swing bearing into position and lock
   c. Center up squares to set head by using
   d. Adjust mantel bearing to fit length of stock and tighten securely
   e. Place head in position to run stock and lock down allen screws on head.
4. Cam
   a. For round turning a round cam is used
   b. For square turning a square cam is used
   c. Note: octagonal, hexagonal and other shapes are also used on the turning lathe. The cam determines the shape of the turning.
   d. Cam has one large center hole that chuck slides through and two small mounting bolt holes.
   e. Bolt cam to main chucking gearbox
5. Steady-rest: When turning long posts position steady rest in the center of the stock. The steady-rest helps support post to eliminate vibration.

DIVISION COMPLETED

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Copy Lathe Operator

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES Lead men in Bernhardt Ind. Plant #1

PRIMARY FUNCTIONS: To turn chair front posts, table posts, case posts and rope turnings

MACHINES, TOOLS, AND EQUIPMENT USED: Adjustable wrench, 3/4 open end wrench, 7/16 and 9/16 box end wrench, Pattern wrench 2"-2 1/6"

Upon completion of each division the supervisor will initial and give the date of completion.

ACCOMPLISHED
SUPERVISOR'S INITIALS
DATE

DIVISION AND JOBS

A. Safety
   1. Wear eye glasses and ear plugs at all times
   2. Place guard around cutters
   3. Keep hands away from moving parts including running heads, saws, gears

DIVISION COMPLETED

B. Parts of the Copy Lathe
   1. Forward feed motors
   2. Reverse Feed motors
   3. Forward and Reverse clutches
   4. Head lever and handle
   5. 4" round cutting heads
   6. Cup-cutter

DIVISION COMPLETED

	ACCOMPLI- SUPERVISOR'S INITIALS DATE
Cont. 7. Adjusting feet 8. Adjusting size screw (up or down) 9. Chuck handles, 4 ea. 10. Carriage bed 11. Front and back switches 12. Head cut-off switch 13. Grease and hinges 14. Oil cups 15. Main drive crank handle 16. Hood cover DIVISION COMPLETED	
C. Set-up 1. Put pattern in lathe 2. Square pattern and bed 3. Chuck all stock in machine 4. Set adjusting stands 5. Set cam screw 6. Set back checking stop 7. Put machine in gear DIVISION COMPLETED	
D. Operation 1. Check up stock 2. Pull clutch lever back in gear 3. Let cutting head down 4. Start curring head (on switch) 5. Start bed (feed switch on) DIVISION COMPLETED	

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Shaper

D.O.T. CODE NUMBER 665.782

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES Lead men in each department at Bernhardt Ind.

PRIMARY FUNCTIONS: To cut shapes on posts, cut grooves, shape table tops or any form that needs to be cut on edge of flat stock

MACHINES, TOOLS, AND EQUIPMENT USED: Hand shaper, open end wrench, guard, guide, c-clamps, ring (underhead, over-head, or center ring), E-Z feed, collar, pressure bar, head adjusting wheel.

Upon completion of each division the supervisor will initial and give the date of completion.

ACCOMPLISHED
SUPERVISOR'S INITIALS
DATE

DIVISION AND JOBS

A. Safety
   1. Wear eye and ear protection when around machine
   2. Always keep fingers and hands away from head danger areas
   3. Always have guard in place.
   4. Keep your mind on your work.
   5. Watch feed directions and kick-back.

DIVISION COMPLETED

B. Parts of shaper
   1. Guard
   2. Guide
   3. C-clamps
   4. Ring
   5. Knives
   6. Bed
   7. E-Z feed

DIVISION COMPLETED

	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
C. Set-up with guide 1. Put saw on spindle 2. Adjust head up or down (measure from bed to bottom of saw) 3. Place guide on bed by using two C-Clamps 4. Burn saw into guide the specified depth eg. 9/16" 5. Put guard on guide 6. Run trial piece to check set-up 7. Adjust as necessary DIVISION COMPLETED	
D. Operation with guide 1. Position truck with material to be run near the feed side of the machine 2. Position empty truck near the unloading side of the machine. 3. Push start button 4. Run stock across cutter 5. Stack finished stock neatly on truck DIVISION COMPLETED	
E. Set-up with ring 1. Put ring on shaper bed 2. Put collar on that holds knives 3. Set knives (Bring shortest cutting point out flush with ring) 4. Put pressure bar on (bolt on bed - headbolts thread into bed). DIVISION COMPLETED	
F. Operation with ring 1. Position truck with material to be run near the feed side of the machine 2. Position empty truck near the unloading side of the machine 3. Push start button 4. Run stock across cutter 5. Stack finished stock neatly on truck DIVISION COMPLETED	
G. Preventive Maintenance 1. Oiling a. Oil all cups on motor and shaft daily 2. Greasing a. grease all fittings of shafts, motor, and other moving parts as required by manufacturers handbook. DIVISION COMPLETED	

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Profile Shaper

D.O.T. CODE NUMBER 665.782

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES Lead men at each department at Bernhardt Ind.

PRIMARY FUNCTIONS: To cut large shapes (forms) at high speed. The cut is usually heavy.

MACHINES, TOOLS, AND EQUIPMENT USED: Profile shaper, collar, knives form.

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Safety 1. Wear eye and ear protection at all times 2. Always keep hands and fingers away from knives. 3. Keep fingers out from under clamps. 4. Keep your mind on your work. DIVISION COMPLETED	
B. Parts of the Profile Shaper 1. Stop button 2. Clamps 3. Slow-down switch 4. Stroke adjustment (back) 5. Valves - control pressure of head against form 6. Valve - bed pressure (hydraulic) 7. Moveable bed 8. Spindle and knives DIVISION COMPLETED	

	ACCOMPLISHMENT SUPERVISOR'S INITIALS DATE
C. Set-up 1. Bolt form to bed 2. Put collar on 3. Set knives 4. Adjust head up or down to pattern 5. Set clamps to hold shock on bed 6. Set stroke adjustment to length of stock 7. Check air pressure on head 8. Start machine 9. Run test piece of stock 10. Adjust as necessary DIVISION COMPLETED	
D. Operation 1. Position truck with material to be run near feed side of machine 2. Position empty truck near the unloading side of the machine 3. Push short button 4. Put stock in machine 5. Step on pedal to start bed 6. Remove stock when machine completes stroke 7. Stack stock neatly on stock truck DIVISION COMPLETED	
E. Preventive Maintenance 1. Oiling a. Oil all cups on motor, pulleys, and shafts daily 2. Greasing a. grease all fittings as per manufacturers requirements 3. Check and fill hydraulic system as needed DIVISION COMPLETED	

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Boring Machine - Horizontal

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES: Lead men at each department at Bernhardt Ind.

PRIMARY FUNCTIONS: To bore holes in table tops for dowel pins

MACHINES TOOLS, AND EQUIPMENT USED:

adjustable wrench (3/4), one boxed in wrench, one open wrench, allen wrench

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Safety 1. Wear ear and eye protection 2. Keep hands clear of clamps 3. Do not touch bits while motor is running	
DIVISION COMPLETED	
B. Parts 1. Frame 2. Clamp bar 3. Motors (7 ea.) 4. Switch Panel 5. Stop button 6. Start button 7. Table 8. Air gauge 9. Pump motor 10. Air saver valve 11. Lock nut for clamp bar 12. Air cut off valve 13. Forward stroke adjuster	

ACCOMPLISHED SUPERVISOR'S INITIALS DATE

Cont.

14. Pump
15. Motor stop
16. Table adjustment up and down
17. Motor bar slide
18. Clamp adjustment
19. Set screw for motor adjustment
20. Adjustment bolt for leveling table up
21. Motor bar
22. Air cylinder
23. Stop on table
24. Speed setting lever
25. Lock bolt for table
26. Air line for table
27. Air line
28. Oil cup
29. Motor connection
30. Slide bar for clamp bar adjustment
31. Clamp
32. Boring heads
33. Hudraulic fluid tank
34. Automatic stroke adjustment
35. Start foot pedal
36. Stop foot pedal
37. In and out pedal
38. Electrical connection panel
39. Alimite fittings

DIVISION COMPLETED

C. Set-up

1. Mark off stock in proper place to be bored
2. Put correct number of bits in machine
3. Set motors to match marks on stock
4. Tighten motors
5. Adjust clamps to desired height
6. Check to see that all bolts are tight
7. Push start button
8. Mask start pedal
9. Bore one piece of stock
10. Check for perfect alignment of holes as compared to pattern
11. Make any necessary adjustments

DIVISION COMPLETED

ACCOMPLIS[illegible]
SUPERVISOR'S
INITIALS
DATE

D. Operation
1. Position loaded and empty stock trucks in the feed and tail positions (feed from left)
2. This machine will operate automatically or by using the foot pedal
3. Push start button
4. Place stock under clamp and against metal stop
5. Mash starting pedal on floor
6. Machine will complete its cycle and bore holes
7. Remove stock from under clamp
8. Stack stock neatly on stock truck

DIVISION COMPLETED

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Boring Machine - Vertical Hydraulic

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES: Lead men at each department in Bernhardt Ind.

PRIMARY FUNCTIONS: To bore screw holes to screw the furniture together

MACHINES, TOOLS, AND EQUIPMENT USED:
7/8 open and boxed end, combination wrench, hammer, 1/8 allen wrench 3/32 allen wrench, ¼" wrench, one adjustable wrench, 1 9/16 -½ open end wrench, one oil can, one grease gun

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Safety	
1. Wear ear and eye protection	
2. Stop all motors before starting set up	
3. Keep hands clear of bits	
4. Keep hair and clothes away from bits	
5. Check and double check before starting machine	
B. Parts	
1. Frame	
2. Motor	
3. Pump motor	
4. Hydraulic system	
5. Time delay limit switch	
6. Limit switch	
7. Motor start switch	
8. Motor stop switch	
9. Emergency stop switch	
10. Run-set up	
11. Hand-automatic	
12. Drive shaft	
13. Drive gear	
14. Spindle	

ACCOMPLISHED
SUPERVISOR'S
INITIALS
DATE

Cont.

15. Spindle nose
16. Universal joints
17. Chuck
18. 5 gal. hydraulic fluid
19. Fluid tank
20. Bits
21. Table
22. Speed gauge
23. unloading valve
24. Counter Balance valve
25. Control valve
26. Throttle valve
27. Pressure gauge
28. Gauge shut-off valve
29. Relief valve
30. Strianer
31. Spindle
32. Depth adjustment screw

DIVISION COMPLETED

C. Set-up

1. Check bill to see what size bits to use and how many
2. Put bits in chucks
3. Mark stock in proper location for boring
4. Nail stop on table
5. Place stock against stop on table
6. Start pump motor
7. Raise table close to bits
8. Position bit over mark
9. Run machine through boring cycle
10. Check stack for accuracy
11. Adjust as necessary

DIVISION COMPLETED

D. Operation

1. Position stock truck with material to be run near loading side of machine
2. Position empty stock truck near tail area
3. Push start button on drill motors (bits)
4. Push start button on hudraulic pump motor
5. Raise table to bits
7. Bore material
8. Remove material from table
9. Stack material neatly on stock truck

DIVISION COMPLETED

E. Maintenance

1. Oil all cups on motors and machine
2. Grease according to manufacturers recommendations

DIVISION COMPLETED

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Turn Table

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES Lead men at each department at Bernhardt Ind.

PRIMARY FUNCTIONS: To cut decorative shapes on table tops, back posts, top-molds

MACHINES, TOOLS, AND EQUIPMENT USED:
clamps, forms, cutter heads, adjustable wrench, box end wrench

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Safety 1. Wear safety glasses 2. Keep hands away from head and cutter DIVISION COMPLETED	
B. Parts 1. Cutting head motors (2 ea.) 2. Clamps (8 ea.) 3. Adjusting lever slide on head 4. Start lever 5. Spindle 6. Bed DIVISION COMPLETED	

ACCOMPLISHED SUPERVISOR'S INITIALS DATE

C. Set-up
   1. Put chucks on machine spindle
   2. Put bits in chuck
   3. Righten all shaper bits
   4. Set guide
   5. Adjust head

DIVISION COMPLETED

D. Operating Procedure
   1. Position loaded stock truck with stock to be run near loading side of machine
   2. Position empty stock truck near unloading side of machine.
   3. Place stock on machine
   4. Lower clamps on stock
   5. Push start button
   6. Allow machine to complete cycle
   7. Release clamps
   8. Life stock off of machine
   9. Stock should be stacked neatly on shop truck

DIVISION COMPLETED

E. Maintenance
   1. Oil and grease as manufacturers recommend

DIVISION COMPLETED

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Double End Trim Saw

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES Lead men at each department at Bernhardt Ind.

PRIMARY FUNCTIONS: To trim both ends of stock at same time and get all of them the same length, also used to groove bottoms for end panels

MACHINES, TOOLS, AND EQUIPMENT USED:
open end and boxed end wrenches, ruler, clamps, guides

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Safety 1. Make sure there is room to cut motors off and on 2. Be sure saw guards are secured 3. Make sure nothing is under your feet 4. Wear safety glasses 5. Wear ear protection DIVISION COMPLETED	
B. Parts 1. Frame 2. Bed which moves back and forth 3. Saws 4. Saw guards 5. Suction pipes which have to move for long or short pieces of stock DIVISION COMPLETED	

ACCOMPLISHMENT SUPERVISOR'S INITIALS DATE

C. Set-up
   1. Adjust saws
   2. Adjust bars and trim
   3. Adjust length
   4. Set holding bars
   5. Start motor
   6. Run practice piece
   7. Adjust as necessary

DIVISION COMPLETED

D. Operating Procedure
   1. Position loaded stock truck
   2. Position empty stock truck near tail of machine
   3. Start motors
   4. Run stock
   5. Tail machine
   6. Stack stock neatly on shop truck to prevent spills

DIVISION COMPLETED

E. Maintenance
   1. Oil cups on motors daily
   2. Grease according to manufacturers recommendations

DIVISION COMPLETED

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Embossing Machine

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES: Lead men at each department at Bernhardt Ind.

PRIMARY FUNCTIONS: To burn designs into wood

MACHINES, TOOLS, AND EQUIPMENT USED:
allen wrench, c-clamp, guides (metal), stops, dye

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Safety 1. Wear earplugs 2. Safety glasses 3. Keep hands away from the bed and hot plate DIVISION COMPLETED	
B. Parts 1. Dye 2. Timer 3. Pressure (hydraulic) 4. Motor 5. Hot plate-which dye mounts to 6. Stops 7. Gauges DIVISION COMPLETED	

ACCOMPLISHED	SUPERVISOR'S INITIALS	DATE

C. Set-up
1. Adquire pattern desired
2. Center all patterns to stop
3. Make sure the crest is deep enough
4. Make sure pressure and heat is together (settings)
5. Set timing to keep from burning
6. Run practice piece
7. Make any necessary adjustments

DIVISION COMPLETED

D. Operation
1. Position loaded stock truck with material to be run near machine
2. Position empty stock truck near unloading side of machine
3. Place stock in machine
4. Push both switches (this double switch set up is for safety reasons)
5. When machine finishes cycle-remove stock from machine
6. Stack finished stock on stock truck neatly

DIVISION COMPLETED

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Nash Sander Operator

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES Lead men in Bernhardt Ind. Plant #1

PRIMARY FUNCTIONS: To sand round octagonal & hexagonal shapes. Some of these furniture parts are bed posts, bed spindles, stretchers splindles, and front chair posts.

MACHINES, TOOLS, AND EQUIPMENT USED:
T-wrench 3/8", adjustable wrench 1 1/4", screwdriver, brush sand paper (all grits) polishing paper

Upon completion of each division the supervisor will initial and give the date of completion.

ACCOMPLISHED
SUPERVISOR'S
INITIALS
DATE

DIVISION AND JOBS

A. Safety
   1. Wear eye glasses and earplugs at all times
   1. Tighten all moving parts before starting machine
   3. Watch all moving parts during operation to be sure none come loose
   4. Keep hands away from moving parts while operating

DIVISION COMPLETED _____

B. Parts of the Nash Sander
   1. Stop and start switch
   2. Motor
   3. Belt
   4. Chuck-pulls
   5. Cup-chuck
   6. Adjusting spring
   7. Hood
   8. Guard Shield
   9. Adjusting screw

DIVISION COMPLETED _____

Cont.

10. Carriages
11. Length adjusting wheel
    (Clockwise...shortens)
    (Counterclockwise...Lengthens)
    (Minimum length 6"...Maximum length 55")

DIVISION COMPLETED

C Set-up

1. Put sand paper on
2. Put brushes on head rod
3. Adjust back screw to hold brushes on brusher and sand paper
4. Used sand paper is used to polish
5. Sand paper grits used are 60-% 80-%-100%-120% and 150%
6. Adjust stock holder for automatic chucking

DIVISION COMPLETED

D. Operation

1. The stock is picked up inspected for defects (chip-outs cracks, open knots), placed into the machine for changing with the right hand
2. The stock is removed from the bottom of the machine, inspected for (chip-outs, cracks scratches, burns, unsanded spots) and placed on the shop truck with the left hand.

DIVISION COMPLETED

ACCOMPLISHED SUPERVISOR'S INITIALS DATE

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Bell 24

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES Lead men at each department at Bernhardt Ind.

PRIMARY FUNCTIONS: To trim, miter and bore chair posts in one operation

MACHINES, TOOLS, AND EQUIPMENT USED:
socket wrenches, adjustable wrench, allen wrench, stops

Upon completion of each division the supervisor will initial and give the date of completion.

ACCOMPLISHED
SUPERVISOR'S
INITIALS
DATE

DIVISION AND JOBS

A. Safety
   1. Wear ear and eye protection
   2. Remove hands before depressing pedal
   3. Keep hands clear of saws and belts when putting in stock

DIVISION COMPLETED _____

B. Parts
   1. Frame
   2. Motors (4)
   3. Saws
   4. Clamps
   5. Stops
   6. Bits

DIVISION COMPLETED _____

ACCOMPLISHED	SUPERVISOR INITIALS	DATE

D. Operating Procedure
1. Position loaded stock truck for easy loading
2. Position empty stock truck of easy tailing
3. Start motor
4. Put stock in machine
5. Position clamps and clamp stock
6. Depress pedal
7. Hold stock in middle
8. Remove stock
9. Stack neatly on shop truck

DIVISION COMPLETED

E. Maintenance
1. Oil cups on motors daily
2. Grease according to manufacturers specifications

DIVISION COMPLETED

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Dowel Driver

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES Lead men at each department at Bernhardt Ind.

PRIMARY FUNCTIONS: To drive dowels in the chair side rails and bottom back rail for assembly purposes

MACHINES, TOOLS, AND EQUIPMENT USED:
hammer, adjustable wrench, stops

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Safety 1. Wear eye and ear protection 2. Keep hands away from drill bit DIVISION COMPLETED	
B. Parts 1. Motors 2. Beds 3. Belts 4. Stops 5. Dowel pin holder DIVISION COMPLETED	

ACCOMPLISHED SUPERVISOR'S INITIALS DATE

C. Set-up
1. Set stops for length and width
2. Place practice piece in machine
3. Start machine
4. Run machine through its cycle
5. Check stock to be sure dowels are going in straight and not breaking out holes
6. Adjust as necessary

DIVISION COMPLETED

D. Operating Procedure
1. Position loaded shop truck for easy handling
2. Position empty stock for easy tailing
3. Put stock against stops
4. Turn on machine
5. Step on pedal
6. Remove stock
7. Stack neatly on shop truck

DIVISION COMPLETED

E. Maintenance
1. Oil and grease according to manufacturers recommendations

DIVISION COMPLETED

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Guillotine mold cutter

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES Lead men at each department at Bernhardt Ind.

PRIMARY FUNCTIONS: To cut little mold for drawer and door fronts on a 45 degree angle

MACHINES, TOOLS, AND EQUIPMENT USED:
clamps, stops, rule, hammer, square

Upon completion of each division the supervisor will initial and give the date of completion.

ACCOMPLISHED
SUPERVISOR'S
INITIALS
DATE

DIVISION AND JOBS

A. Safety
   1. Wear eye and ear protection
   2. Keep fingers away from knife

DIVISION COMPLETED

B. Parts
   1. motor
   2. Switches
   3. Knives
   4. Bed

DIVISION COMPLETED

C. Set-up
   1. Put stop on
   2. Put clamp on stop
   3. Run practice piece in machine
   4. Check out for correct angle and sharpness of knife
   5. Adjust as necessary, change knife if necessary

DIVISION COMPLETED

ACCOMPL...
SUPERVIS...
INITIALS
DATE

D. Operating Procedure
   1. Position loaded shop truck for easy loading
   2. Position empty shop truck for easy tailing
   3. Place stock in machine
   4. Push start switch
   5. Cut end off
   6. Push stock up to stop
   7. Make cut
   8. Stack stock neatly on shop truck

DIVISION COMPLETED

E. Maintenance
   1. Grease in accordance with manufacturers recommendations.

DIVISION COMPLETED

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Triple Drum Sander

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES Lead men at each department at Bernhardt Ind.

PRIMARY FUNCTIONS: To smooth rough places on flat stock at high speed

MACHINES, TOOLS, AND EQUIPMENT USED:
grease gun, air hose, pliers, knife, scissors, screwdrivers, boxed end wrenches

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Safety 1. Wear safety glasses 2. Stop machine while working on it 3. Keep hands off bed 4. Stop machine while working on drums - bed DIVISION COMPLETED	
B. Parts 1. frame 2. drums 3. Sandpaper 4. Motors 5. Rubber mats on bed 6. Grease fittings 7. Height adjusting buttons DIVISION COMPLETED	

ACCOMPLI[illegible] SUPERVISO[illegible] INITIALS DATE

C. Set-up
   1. Adjust desired thickness
   2. Tighten or loosen drums
   3. Start bed
   4. Start drum
   5. Run practice piece
   6. Check for desired sanding
   7. Adjust drums if necessary

DIVISION COMPLETED

D. Operating Procedure
   1. Position loaded shop truck near feed end
   2. Position empty shop truck at tailing end
      (The triple drum requires one person to feed and one person to tail)

DIVISION COMPLETED

E. Maintenance
   1. Oil cups on motors daily
   2. Grease according to manufacturers recommendations

DIVISION COMPLETED

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: ~~Boring Machine Single Verticle~~

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES Lead men at each department at Bernhardt Ind.

PRIMARY FUNCTIONS: To bore holes in chair stock for dowel pins

MACHINES, TOOLS, AND EQUIPMENT USED:
allen wrench, adjustable wrench, stops (cut to fit) hammer bandsaw, form

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Safety 1. Wear eye and ear protection 2. Keep hands away from bits and motors	
DIVISION COMPLETED	
B. Parts 1. Frame 2. Table 3. Motor 4. Bits 5. Belts	
DIVISION COMPLETED	

ACCOMPLI... SUPERVISO... INITIALS DATE

C. Set-up
1. Set stops
2. Adjust height
3. Adjust depth by moving table
4. Place practice piece in machine
5. Run stock
6. Check all adjustments
7. Adjust as necessary

DIVISION COMPLETED

D. Operating Procedure
1. Position loaded stock truck for easy loading
2. Position empty stock truck for easy tailing
3. Push start button
4. Place stock in form
5. Hold stock securely
6. Depress pedal
7. Allow machine to complete its cycle
8. Remove stock
9. Stack stock neatly on stock truck

DIVISION COMPLETED

E. Maintenance
1. Oil and grease according to manufacturers recommendations

DIVISION COMPLETED

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Boring Machine Single Horizontal

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES Lead men at each department at Bernhardt Ind.

PRIMARY FUNCTIONS: To bore holes in chair stock to receive dowel pins which hold the piece together

MACHINES, TOOLS, AND EQUIPMENT USED:

allen wrenches, adjustable wrenches, stops, bandsaw, hammer

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Safety 1. Wear eye and ear protection 2. Hold stock carefully DIVISION COMPLETED	
B. Parts 1. Motors 2. Frame 3. Bed 4. Clamps 5. Chuck 6. Bits DIVISION COMPLETED	

ACCOMPLI... SUPERVISOR INITIALS DATE

C. Set-up
   1. Set steps
   2. Adjust depth
   3. Set air clamps
   4. Set guide
   5. Start machine
   6. Put practice piece in machine
   7. Check piece for accurate drilling
   8. Adjust as necessary

DIVISION COMPLETED

D. Operating Procedure
   1. Position loaded stock truck near loading area
   2. Position empty stock truck for easy unloading
   3. Start machine
   4. Place stock in machine
   5. Run machine through drilling cycle
   6. Remove stock
   7. Stack stock neatly on shop truck

DIVISION COMPLETED

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Double end Miter

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES (Lead men at each department at Bernhardt Ind.)

PRIMARY FUNCTIONS: To cut top front and end mold, bottom front and end mold drawer and door mold, end rims and side rims (or tables to length)

MACHINES, TOOLS, AND EQUIPMENT USED:

open end wrench, box end wrench, adjustable wrench, little 8" square 45' miter square, hammer, stops, rule 24" square

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Safety 1. Wear safety glasses 2. Wear ear protection 3. Guards on saws 4. Be sure saws are on 5. Know where hands and fingers are DIVISION COMPLETED	_____
B. Parts 1. Motors (2 ea.) 2. Saws (2 ea.) 3. Bed 4. Cylinders (2 ea.) 5. Automatic stop 6. Front pedal 7. Guards (2 ea.) DIVISION COMPLETED	_____

ACCOMPLISHED
SUPERVISOR'S
INITIALS
DATE

C. Set-up
1. Put form on machine
2. Set saws to angle desired
3. Adjust saws for desired length
4. Adjust bed stops for height
5. Adjust suction pipes behind saws
6. Place practice piece in machine
7. Run practice piece
8. Check stock for exact dimensions
9. Adjust if necessary

DIVISION COMPLETED

D. Operating Procedure
1. Position loaded stock truck for easy loading
2. Position empty shop truck for easy tailing
3. Push start button
4. Put stock against stops
5. Press foot pedal
6. Allow machine to complete cycle
7. Remove stock
8. Stack neatly on shop truck

DIVISION COMPLETED

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Buck Shaper

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES Lead men at each department at Bernhardt Ind.

PRIMARY FUNCTIONS: To cut all little light shaping jobs, like round beads and routing square mortises

MACHINES, TOOLS, AND EQUIPMENT USED:
chucks, router bits, shaper knives, adjustable wrench, allen wrench, socket wrenches, chuck head wrenches, guides (left & right)

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Safety 1. Wear eye and ear protection 2. Keep hands away from cutters 3. Be careful when removing stock from cutting head DIVISION COMPLETED	
B. Parts 1. chuck 2. Bits 3. Guides 4. Cutters - knives 5. Motor 6. Belt 7. Brake lever DIVISION COMPLETED	

	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
C. Set-up 1. Put on form 1. Put on head 3. Righten head 4. Adjust clamp to hold stock 5. Set head 6. Tighten form to round table 7. Start machine 8. Run practice piece 9. Adjust form and head as necessary	
DIVISION COMPLETED	
D. Operating Procedure 1. Position loaded stock truck with stock to be run near loading area 2. Position empty stock truck to receive finished material near unloading side 3. Place stock in machine 4. Run stock 5. Stack neatly on stock truck	
DIVISION COMPLETED	
E. Maintenance 1. Oil and grease as manufacturers recommendations	
DIVISION COMPLETED	

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Single Spindle Carver Operator

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES Lead men in Bernhardt Ind. Plant #1

PRIMARY FUNCTIONS: To outline special shapes, touches up close places that are hard to get to.

MACHINES, TOOLS, AND EQUIPMENT USED: Half bead cutter, square cutter, small grihding stones, clamp lever to remove cutter from spindle, small and large inside and out calipers

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Safety 1. Wear eye glasses and ear plugs at all times 2. Keep hands away from cutter 3. Put guard and shied on if possible DIVISION COMPLETED	
B. Parts of the Single Spindle Carver 1. Base-foot stand 2. Motor 3. Pulleys 4. Belt 5. Spindle 6. Cutter DIVISION COMPLETED	
C. Set-up 1. Put inside collar on 2. Put cutter on (many kinds-shapes of cutters are used) 3. Put outside collar on DIVISION COMPLETED	

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DATE

D. Operation
1. Push start button to start spindle
2. Hold stock in hand tightly
3. Follow shape line

DIVISION COMPLETED

803

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Multiple Spindle Carver Operator

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING ~~(1) (2) Years~~

REFERENCES ~~Lead men at Bernhardt Plant #1~~

PRIMARY FUNCTIONS:

to cut from 20-40 posts at one time. It also cuts all kinds of flat wood carvings.

MACHINES, TOOLS, AND EQUIPMENT USED:

Clamps to hold stock, adjusting pin for high or low cut box and opens end wrenches botton forms to place stock on, wing cutter, lining cutter, cove cutter

Upon completion of each division the supervisor will initial and give the date of completion.

ACCOMPLISHED
SUPERVISOR'S
INITIALS
DATE

DIVISION AND JOBS

A. Safety
   1. Wear eye and ear protection at all times
   2. Keep hands away from belt, cutter and bit

DIVISION COMPLETED

B. Parts of the Multiple Spindle Carver
   1. motors
   2. pulley
   3. belt
   4. spindle
   5. chuck head
   6. Bite
   7. carriage feed
   8. post chuck head
   9. guide
   10. handle rest
   11. on-off switch
   12. feed switch

DIVISION COMPLETED

ACCOMPLISHMENT
SUPERVISOR'S
INITIALS
DATE

C. Set-up
   1. Pull safety switch before starting set up procedure
   2. Set cutter head
   3. Place stock in machine
   4. Tighten clamp securely
   5. Check all hold down clamps

DIVISION COMPLETED

D. Operation
   1. Check clamp head bits for tightness
   2. Load machine
   3. Start machine
   4. Stop machine when cut is complete
   5. Be sure cutter head is stopped before removing stock
   6. Refill machine and run another load

DIVISION COMPLETED

Sanding Department

When quality furniture is talked about, one of the first things that comes to mind is sanding and the subsequent finish. If sanding is done properly, it adds to the finished beauty of the wood. To get the proper polish, it must be cut down before being polished.

The sanding room takes the parts after they have been cut to size and prepares them for assembly. Some pieces are sanded as many as four different times before they are assembled. In sanding, it is vital that the part not be sanded out of shape, but rather sanded the proper amount to obtain a smooth finish while insuring proper fit when assembled. Some parts such as mouldings and ornamental pieces that miter are sanded before the miter is cut. Therefore the sanding room and the finish machine room have to work closely, sometimes even transferring materials back and forth several times.

Wood that is polished with too coarse a sandpaper grit will have smudges that will cause dark areas in the finish. If it is cut down and polished properly, it will look clear and the finish will appear to have depth.

The machines used in the sanding room include:

1. Wide belt sander
2. Sherrill wide belt
3. Side stroke
4. Flat belt - band
5. Flat belt - lever
6. Hyde stroke - belt sander

7. Pump sander
8. Whip sander
9. Horizontal spool
10. Vertical spool
11. Horizontal string
12. Vertical string
13. Bicycle string
14. Open drum
15. String sander

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Open Drum Sander

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES: Lead men in each department in Bernhardt Ind.

PRIMARY FUNCTIONS: To sand curved parts such as chair back posts

MACHINES, TOOLS, AND EQUIPMENT USED:
No special tools required-all adjusters are wing nuts, which are part of the machine

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Safety 1. Wear safety glasses and ear protection at all times 2. Keep fingers and hands away from turning drum 3. Don't let stock rum past the center line of the drum (kick back will result) DIVISION COMPLETED	
B. Parts 1. Drum 2. Sandpaper 3. Motor 4. Wing tap (nuts 5 ea.) 5. Bars (2 ea.) 6. Felt pad 7. On-off switch DIVISION COMPLETED	

	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
C. Set-up 1. Choose paper grit required for job 2. Install paper using wing taps to tighten and secure DIVISION COMPLETED	
D. Operation 1. Turn machine on 2. Hold stock on drum and move back and forth to achieve sanded area 3. Position stock trucks on either side of machine for feeding machine 4. Stack stock neatly to eliminate spills DIVISION COMPLETED	

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Wide Belt Sander

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES: Lead men in each department at Bernhardt Ind.

PRIMARY FUNCTIONS: To sand flat wooden panels

MACHINES, TOOLS, AND EQUIPMENT USED:
sandpaper, open end wrenches, box end wrenches

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Safety 1. Wear safety glasses 2. When starting up the machine, make sure door is closed DIVISION COMPLETED	
B. Parts 1. Motor 2. Rollers 3. Pressure bars 4. Conveyor DIVISION COMPLETED	

ACCOMPLISHED SUPERVISOR INITIALS DATE

C. Set-up
1. Put sandpaper on the two rollers
2. Push in belt tension (tension raises to roller)
3. Place practice piece on conveyor belt
4. Raise or lower conveyor belt to approximate height
5. To check set-up watch first pressure bar for contact with the panel
6. Mark the piece of wood
7. Run stock through operating machine
8. Inspect for no marks

DIVISION COMPLETED

D. Operation
1. The wide belt sander requires a feeder and a tail person
2. Position truck with stock to be run on feed side of machine
3. Position empty truck on tail side
4. Turn machine on
5. Place panel on conveyor belt
6. Machine will feed stock through sander automatically
7. Tail person lifts stock off of conveyor and stacks it neatly on stock truck

DIVISION COMPLETED

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Edger Sander

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES Lead men at each department at Bernhardt Ind.

PRIMARY FUNCTIONS: To sand edges of tops that have curved shapes

MACHINES, TOOLS, AND EQUIPMENT USED:
sand belts, sanding forms, guides (wood or metal), hammer, nails, graphite

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Safety 1. Wear safety glasses 2. Keep hand and fingers away from belt 3. Keep cover lids over pulleys DIVISION COMPLETED	
B. Parts 1. Frame 2. Motor 3. Sandbelt pulleys 4. Motor feed 5. Adjustable table 6. Sanding head (holds forms and spring adjustable) 7. Suction pipes DIVISION COMPLETED	

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DATE

C. Set-up
1. Have form to fit shape sanding
2. Set form into head to fit shape
3. Place guide (usually wooden) against stock with right pressure
4. Tear and roll belt same as shape
5. Set motor feed rollers on stock to pull by head
6. Start belt motor and feed motor
7. Put graphite on sand belt to lesson friction and wear
8. Start machine
9. Run practice piece
10. Make necessary adjustments

DIVISION COMPLETED

D. Operating Procedure
1. Position loaded truck for feeding
   position empty truck for tailing
2. Push start button
3. Pick stock up and feed through sander
4. Check often to see if sanded properly
5. Tail person catches stock and packs on trucks
   (He also looks over stock for proper sanding)

DIVISION COMPLETED

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Side Stroke Sander

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES Lead men at each department at Bernhardt Ind.

PRIMARY FUNCTIONS: To sand edges (flat) on chair posts, arms, etc.

MACHINES, TOOLS, AND EQUIPMENT USED:
12" adjustable wrench, square, hand clamps (2 ea.)

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Safety 1. Wear safety glasses 2. Keep hands free from belt 3. Check stock for bursted material 4. Stop machine before adjusting table up of down DIVISION COMPLETED	
B. Parts 1. Motor 2. Pulley 3. Front dead head 4. Switch 5. Sand belt or different grits (from one "o" to four "o") 6. Sides (2 ea.) 7. Front (twenty different forms or more) DIVISION COMPLETED	

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C. Set-up
1. Put form on to fit the pieces being sanded
2. Put on belt
3. Start machine
4. Run practice piece
5. Check piece to see that form is doing what it should
6. Adjust table or form as necessary

DIVISION COMPLETED

D. Operating Procedure
1. Position loaded shop truck for easy feeding
2. Position empty shop truck for easy tailing
3. Push start button
4. Push stock across the belt at the same speed for each piece in the lot
5. Using idfferent speeds of feed will result in dips in the wood
6. Stack stock on truck neatly to prevent spills

DIVISION COMPLETED

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Polish Sander

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES: Lead men at each department at Bernhardt Ind.

PRIMARY FUNCTIONS: To polish flat stock after the cut down machine has sanded it.

MACHINES, TOOLS, AND EQUIPMENT USED:
clamps, pieces of wood for straight edges, hand block

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Safety 1. Keep trash off the floor 2. Wear safety glasses and ear protection 3. Keep fingers off the belt 4. Don't wear loose clothing DIVISION COMPLETED	
B. Parts 1. Block 2. Belt 3. Belt dressing 4. Table 5. Naild 6. Hammer DIVISION COMPLETED	

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INITIALS
DATE

C. Set-up
1. Loosen tension on belt with wheel
2. Remove old belt
3. Install new belt
4. Tighten belt tension with wheel

DIVISION COMPLETED

D. Operation
1. Position stock truck with material to be run near machine
2. Position empty stock truck near machine to receive finished material
3. Place stock on table
4. Start machine
5. Run stock under belt
6. Apply sufficient pressure to belt with block to remove desired material and achieve polished surface
7. Lift block off of paper
8. Inspect stock for good polished surface
9. Remove stock from table
10. Stack stock neatly on stock truck

DIVISION COMPLETED

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Pump Sander

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES: Lead men at each department at Bernhardt Idn.

PRIMARY FUNCTIONS: To break and round off edges

MACHINES, TOOLS, AND EQUIPMENT USED:
paper, air hose

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Safety 1. Safety glasses are required 2. Be alert and keep as far away from the machine as possible during operation 3. Don't wear loose clothing 4. Wear gloves if running small stock DIVISION COMPLETED	
B. Parts 1. Stand 2. Motor 3. Shaft 4. Pump 5. Belt (connects motor to the shaft) DIVISION COMPLETED	
C. Set-up 1. Loosen valve to deflate pump 2. Remove old paper 3. Put on new paper 4. Fill pump with air pressure from shop air hose (air check is required) DIVISION COMPLETED	

ACCOMPLI... SUPERVISOR INITIALS DATE

D. Operation
1. Position stock truck with material to be run near machine
2. Position empty stock truck in convenient place near machine
3. Machine will run in forward or reverse direction
4. Small pieces are usually run under or in reverse direction
5. Large pieces may be run over or forward
6. Edges are broken on stock by passing stock over pump one time
7. Turn machine on
8. Run stock

DIVISION COMPLETED

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: String Sander (Horizontal)

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES Lead men at each department at Bernhardt Ind.

PRIMARY FUNCTIONS: To sand molding and different shapes such as door, molds, base mold, and top mold

MACHINES, TOOLS, AND EQUIPMENT USED:

sand belts, sanding forms, guides (wood or metal),hammer, nails, graphite

Upon completion of each division the supervisor will initial and give the date of completion.

ACCOMPLISHED
SUPERVISOR'S
INITIALS
DATE

DIVISION AND JOBS

A. Safety
   1. Wear safety glasses
   2. Keep hand and fingers away from belt
   3. Keep cover lids over pulleys

DIVISION COMPLETED

B. Parts
   1. Frame
   2. Motor
   3. Sandbelt pulleys
   4. Motor feed
   5. Adjustable table
   6. Sanding head (holds form and spring adjustable)
   7. Suction pipes

DIVISION COMPLETED

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DATE

C. Set-up
1. Have form to fit shape sanding
2. Set form into head to fit shape
3. Place guide (usually wooden) against stock with right pressure
4. Tear and roll belt same as shape
5. Set motor feed rollers on stock to pull by head
6. Start belt motor and feed motor
7. Put graphite on sandbelt to lesson friction and wear

DIVISION COMPLETED

D. Operating Procedure
1. Position loaded shop truck for feeding position empty truck for tailing
2. Start machine
3. Pick stock up and feed through sander
4. Check often to see if sanded properly
5. Tail person catches stock and packs on trucks neatly (he also looks over stock for proper sanding)

DIVISION COMPLETED

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Spool Sander

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES: Lead men at each department at Bernhardt Ind.

PRIMARY FUNCTIONS: To sand curves, bends and other irregular shapes by using especially made forms and sandpaper

MACHINES, TOOLS, AND EQUIPMENT USED:

open end wrenches, lathe, files

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Safety 1. Wear safety glasses 2. Wear ear protection 3. Keep floor and area clean DIVISION COMPLETED	
B. Parts 1. Motor 2. Spindle 3. Spool 4. Sandpaper 5. Form 6. Table 7. Table adapters (for working) 8. Height adjustment DIVISION COMPLETED	

ACCOMPLI... SUPERVISOR'S INITIALS DATE

C. Set-up
1. Select form that fits contour or shap being sanded
2. Install form
3. Tighten spindle nuts
4. Set on desired table adapter
5. Select a piece of set-up stock
6. Place stock up to spool
7. Adjust height to fit piece
8. Run stock
9. Adjust machine if necessary

DIVISION COMPLETED

D. Operating Procedure
1. Position loaded stock truck for easy feeding
2. Position empty stock truck for easy tailing
3. Run stock
4. Stack neatly on stock truck to prevent spills

DIVISION COMPLETED

E. Maintenance
1. Oil motor cups daily
2. Grease machine according to manufacturers specifications

DIVISION COMPLETED

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Upright String

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES: Lead men in each department at Bernhardts Ind.

PRIMARY FUNCTIONS: To sand chair parts such as: top backs, center backs, back posts, front posts, galleries, and baseboard molding.

MACHINES, TOOLS, AND EQUIPMENT USED:

Different kinds of forms, different grades of sandpaper, pliers, adjustable wrench, hammer

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Safety 1. Wear safety glasses 2. Wear gloves to protect hands 3. Stay alert 4. Keep fingers from between stock and string sander DIVISION COMPLETED	
B. Parts 1. Upright table 2. Wheel pulley 3. Motor wheel 4. Sandpaper belt 5. Form for different designs 6. Motor 7. Start and stop switch 8. Suction pipe DIVISION COMPLETED	
C. Set-up 1. Place forms on 2. Break belt to fit grooves 3. Select the right grade of sandpaper for wood 4. Install belt DIVISION COMPLETED	

ACCOMPLI[illegible] SUPERVISOR'S INITIALS DATE

D. Operation
   1. First put on glasses and gloves
   2. Get stock in position
   3. Check oil in machine and check sand belts
   4. Check off on switch and check motor belt
   5. Check pattern for set-up
   6. Push start button and proceed to sand
   7. Pack to another and push to be counted

DIVISION COMPLETED

E. Maintenance
   1. Oil all cups daily
   2. Grease according to manufacturers specifications

DIVISION COMPLETED

F. Bicycle Sander
   Special Note: The bicycle sander is very much like the upright string sander. Both machines have a belt that moves around a system of pulleys. The upright string sander has a form that the belt moves across and the bicycle does not. The bicycle sander uses a broken belt (a belt that has a sharp bend in it) to sand in tight corners.

DIVISION COMPLETED

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Panel Sander

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES: Lead men in each department at Bernhardt Ind.

PRIMARY FUNCTIONS: To sand the holes in the chair back panels

MACHINES, TOOLS, AND EQUIPMENT USED:
adjustable wrench, form

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Safety 1. Wear safety glasses 2. Keep hands away from sandpaper DIVISION COMPLETED	
B. Parts 1. Motor 2. Pulleys 3. Idler pulley 4. Paper 5. Form DIVISION COMPLETED	
C. Set-up 1. Put form on to fit holes you are working on 2. Tear sand paper to fit the form 3. Put sand paper on form and pulleys DIVISION COMPLETED	

	ACCOMPLI[illegible] SUPERVISOR[illegible] INITIALS DATE
D. Operating Procedure 1. Position loaded stock truck on feed side of machine 2. Position empty truck on unloading side of machine 3. Push start button 4. Run stock 5. Stack neatly, prevent spills DIVISION COMPLETED	
E. Maintenance 1. Oil cups daily 2. Grease fittings daily DIVISION COMPLETED	

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Auto Stroke Sander

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES: Lead men at each department at Bernhardt Ind.

PRIMARY FUNCTIONS: To sand all flat stock (table tops, fillers, etc.)

MACHINES, TOOLS, AND EQUIPMENT USED:
hammer, nails, straight edge stick

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Safety 1. Wear safety glasses at all times 2. Never work on machine while its running 3. Do not lay loose objects on machine 4. Keep hands from pulley and belt 5. Keep working area clean 6. Keep safety guards on machine 7. Never let inexperienced people run machine unless experienced people are supervising DIVISION COMPLETED	
B. Parts 1. Table 2. Belt 3. Stroke 4. Airpressure 5. Sand pad 6. Start and Stop switch	

ACCOMPLISHED	SUPERVISOR'S INITIALS	DATE

Cont.

7. Table up & down switch
8. Stroke start & stop switch
9. Pressure bar handle
10. Belt start switch & stop
11. Wheel on end to put on and take off belt

DIVISION COMPLETED

C. Operating Procedure

1. Loosen pulley to put belt on, tighten belt
2. Lay stock in center of table
3. Bring stock against stock and tighten
4. Set air pressure on Sanding bar; 10-12lbs.
5. Set stroke by turning wheels in or out
6. Push in air pressure button
7. Run table up until it hits stock you are sanding
8. Set speed fast or slow
9. Run table slowly back and forth until stock is sanded

DIVISION COMPLETED

D. Maintenance

1. Blow out motors every week
2. Blow machine off, keep clean as possible
3. Grease motors, cable pulleys, table wheels, and all other grease fittings at least every 4 weeks
4. Keep oil in reservoir to level mark
5. Blow sanding pad cover out frequently to keep dust from under pad (prevents stock from streaking)

DIVISION COMPLETED

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Flat Belt Lever

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES Lead men at each department at Bernhardt Ind.

PRIMARY FUNCTIONS: To cut down and polish flat surfaces

MACHINES, TOOLS, AND EQUIPMENT USED:
hammer, wood stop, forms for sanding, stock, block

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Safety 1. Wear safety glasses 2. Watch the belt and keep your hands clean 3. Keep area around machine clean DIVISION COMPLETED	
B. Parts 1. Table 2. Belt 3. Suction pipes 4. Belt pulleys 5. Table adjustment 6. wheel 7. Belt adjustment 8. Motor 9. Lever DIVISION COMPLETED	

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INITIALS
DATE

C. Set-up
1. Obtain the right grit belt
2. Let down the dust cover
3. Loosen the belt pulleys
4. Put belt on
5. Put wood stop on table
6. Put correct form on table
7. Tighten belt
8. Close dust cover
9. Run practice piece
10. Check for perfect sanding

DIVISION COMPLETED

D. Operating Procedure
1. Position loaded stock truck for easy loading
2. Position empty stock truck for easy tailing
3. Push the start button
4. Put stock on table
5. Pull down on lever and move it from left to right
6. Watch stock to adequate sanding
7. Release lever
8. Remove stock
9. Stack stock neatly on shop truck

DIVISION COMPLETED

E. Maintenance
1. Oil motor daily
2. Grease according to manufacturers recommendations

DIVISION COMPLETED

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Flutter Sander

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES: Lead men in each department at Bernhardt Ind.

PRIMARY FUNCTIONS: To sand grooves in overlays and carvings

MACHINES, TOOLS, AND EQUIPMENT USED:

wrench (to take tap off to build flutter on shaft)

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Safety 1. Wear safety glasses 2. Do not wear loose fitting clothes-they may get caught in the shaft 3. Keep hands off the sand paper 4. Stop machine as quickly as possible in case of an accident DIVISION COMPLETED	
B. Parts 1. Frame 2. Motor 3. Belts 4. Shaft 5. Sand paper DIVISION COMPLETED	

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INITIALS
DATE

C. Set-up
   1. Remove nut on shaft
   2. Remove old flutter
   3. Build new flutter by cutting circular sandpaper and the shreading from outside toward center
   4. Put new flutter on shaft
   5. Tighten nut on shaft

DIVISION COMPLETED

D. Operating Procedure
   1. Position truck with material to be run and empty truck near machine
   2. Start machine
   3. Move stock under flutter with desired pressure to sand grooves and carvings smooth

DIVISION COMPLETED

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Sherrill

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES: Lead man at each department at Bernhardt Ind.

PRIMARY FUNCTIONS: To sand curved pieces with coarse paper (cut down)

MACHINES, TOOLS, AND EQUIPMENT USED:
Feed table, wrench for replacing sandpaper

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Safety 1. Wear safety glasses 2. Keep floor around machine clean 3. Do not get hands caught in machine 4. Use sure handed person to catch stock DIVISION COMPLETED	
B. Parts 1. Frame 2. Feed roller 3. Sanding head 4. Motor 5. Pully for running sandpaper 6. Sandpaper 7. On and Off switch 8. Brake pedal DIVISION COMPLETED	

ACCOMPL.	SUPERVISOR INITIALS	DATE

C. Set-up
   1. Place piece of stock between pressure roller and sanding head.
   2. Adjust pressure roller until the piece of stock is snug
   3. Start machine, ready to operate

DIVISION COMPLETED

D. Operating Procedure
   1. Position loaded stock truck on the feed side of the machine.
   2. Position empty stock truck to receive finished stock
   3. Feed stock between roller and sanding head at an even flow
   4. Stack finished stock neatly on stock truck

DIVISION COMPLETED

E. Maintenance
   1. Oil all cups daily
   2. Grease fittings as to manufacturers recommendations

DIVISION COMPLETED

Cabinet Room

The purpose of the cabinet room is to take the parts after they are machined and sanded and assemble them into a case, table, or chair. All parts are machined to as close a tolerance as possible. With all the machining some parts have to be hand fitted such as door and drawer fronts with mouldings. After the item has been assembled it is cleaned up, joints puttied, dents and scratches sanded out, edges broken and inspected.

The machines in the cabinet room are:

Auto-nailer (under and overhead) - The auto-nailer is used to attach mouldings to doors, drawers, galleries and posts.

Hinge Seat Machine - The hinge seat machine cuts a seat for hinges and pre bores for hinge screws.

Auto Screwdriver - The auto screwdriver is used to attach hinges to doors.

Hand Screwdriver - The hand screwdriver is an electric or air powered hand held tool that can be used at the operators convenience to installing screws anywhere in the case.

Staple and Nail gun - The staplers and nail guns are air powered and are used to either nail or staple parts together.

Case Clamps - The case clamp is an air powered machine used to clamp all jointed cases together so that they can be securely fastened while in the clamp.

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Pre-Assembler (Apply Molding make-up sections of cases)

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES: Lead men in each department at Bernhardt Ind.

PRIMARY FUNCTIONS: To place all molding and catches on parts of cases before assembling

MACHINES, TOOLS, AND EQUIPMENT USED:
auto-nailer, hammer, drill (air or electric), glue, nail set, screwdriver (air or electric)

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Safety 1. Be careful with electric tools 2. Wear eye and ear protection DIVISION COMPLETED	
B. Set-up 1. Position all moldings, catches, and tools in convenient locations around work station DIVISION COMPLETED	
C. Operating Procedure 1. Fit molding on doors 2. Glue and nail all molding 3. Put catches on all rails that take catches 4. Fasten catches with screwdriver 5. Nail molding with auto-nailer DIVISION COMPLETED	

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Hand Drill

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES: Lead men at each plant at Bernhardt Ind.

PRIMARY FUNCTIONS: To patch chairs
To put arms on

MACHINES, TOOLS, AND EQUIPMENT USED: chuck key, adapter

Upon completion of each division the supervisor will initial and give the date of completion.

ACCOMPLISHED
SUPERVISOR'S
INITIALS
DATE

DIVISION AND JOBS

A. Safety
1. Never touch drill bits while turned on
2. Wear eye protection
3. Keep your mind on your work

DIVISION COMPLETED _____

B. Parts
1. Housing (aluminum)
2. Motor
3. Bearings
4. Chuck
5. Chuck Key
6. Drill bits
7. Switch (on-off)

DIVISION COMPLETED _____

ACCOMPLISHED SUPERVISOR'S INITIALS DATE

C. Set-up
   1. Open chuck with chuck key
   2. Select required bit
   3. Place bit in chuck
   4. Tighten bit in chuck with chuck key

DIVISION COMPLETED

D. Operation
   1. Grip drill in hand and place forefinger on trigger
   2. Put drill tip in desired position to drill desired hole
   3. Pull trigger "on"
   4. Apply sufficient pressure to drill hole
   5. Back drill straight out

E. Maintenance
   1. A few drops of light oil daily

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Case Fitter

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES: Lead men at each department in Bernhardt Ind.

PRIMARY FUNCTIONS: To fit drawers in, hang door cases

MACHINES, TOOLS, AND EQUIPMENT USED: Hammer, rubber maul, drawer pull, hand plane, air drill, air driver, thumb tacks, door catches

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Safety 1. Be careful with air drill 2. Wear eye protection DIVISION COMPLETED	
B. Parts 1. Air driver 2. Air drill 3. Jointer 4. Side strode 5. Hinge seat machine DIVISION COMPLETED	
C. Set-up 1. When fitting cases, be sure drawer guide is in proper place 2. Position required tools and equipment nearby DIVISION COMPLETED	

ACCOMPLI[illegible] SUPERVISO[illegible] INITIALS DATE

D. Operating Procedure
1. Fit drawers to cases
2. Hang doors
3. Use tools and machines to achieve desires fit and squareness
4. Much practice is needed to be able to make production and quality control standards

DIVISION COMPLETED

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Case Clamp

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES Lead men at each department at Bernhardt Ind.

PRIMARY FUNCTIONS: To clamp up case and nail case while in clamp

MACHINES, TOOLS, AND EQUIPMENT USED:
hammer, electric screwdriver, auto-nailer, glue pot, glue, rubber maul, rule or tape, square

Upon completion of each division the supervisor will initial and give the date of completion.

ACCOMPLISHED
SUPERVISOR'S
INITIALS
DATE

DIVISION AND JOBS

A. Safety
   1. Keep fingers away from end of cases while clamping
   2. Keep your mind on your work
   3. Keep area around clamp clear

DIVISION COMPLETED

B. Parts
   1. Steel frame
   2. Air cylinder
   3. Air gauge
   4. Foot air pedal

DIVISION COMPLETED

C. Set-up
   1. Place case in clamp
   2. Adjust air pressure
   3. Check hand wheel to be sure wheel clamps up case perfectly
   4. Run practice case

DIVISION COMPLETED

D. Operating Procedure
   1. Set case in clamp
   2. Press foot pedal (75 - 90 pst air pressure)
   3. Nail or screw all attaching points
   4. Release air pressure
   5. Remove case from clamp

DIVISION COMPLETED

E. Maintenance
   1. Grease and oil according to manufacturers recommendations

DIVISION COMPLETED

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAM

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: End clamp

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES Lead men at each department at Bernhardt Ind.

PRIMARY FUNCTIONS: To clamp the posts to the end panel and nail while in clamp

MACHINES, TOOLS, AND EQUIPMENT USED:
auto-nailer, rubber maul, glue and glue pot, hammer, adjustable wrench

Upon completion of each division the supervisor will initial and give the date of completion.

ACCOMPLISHED
SUPERVISOR'S
INITIALS
DATE

DIVISION AND JOBS

A. Safety
   1. Keep fingers from between posts and frame
   2. Never point auto-nailer fellow workers
   3. Keep fingers clear when nailing

DIVISION COMPLETED _____

B. Parts
   1. Steel frame
   2. Air cylinder
   3. Air gauge
   4. Foot pedal
   5. Hand wheel (adjustment for width)

DIVISION COMPLETED _____

ACCOMPLISHED BY SUPERVISOR INITIALS DATE

C. Set-up
   1. Place form in clamp
   2. Square the clamp
   3. Make sure end is clamped square

DIVISION COMPLETED

D. Operating Procedure
   1. Place posts on bench
   2. Apply glue to groove in posts
   3. Place end panel in post grove
   4. Put end in clamp
   5. Apply air pressure
   6. Apply nail to ends
   7. Release pressure, take out of clamps
   8. Move case down line as required

DIVISION COMPLETED

E. Maintenance
   1. Grease and oil according to manufacturers recommendations

DIVISION COMPLETED

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Hinge Seat Machine

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES Lead men at each department at Bernhardt Ind.

PRIMARY FUNCTIONS: To cut seats for hinges and bores for screws

MACHINES, TOOLS, AND EQUIPMENT USED:
several different wrenches -open end and box end
hinge, ruler

Upon completion of each division the supervisor will initial and give the date of completion.

ACCOMPLISHED
SUPERVISOR'S
INITIALS
DATE

DIVISION AND JOBS

A. Safety
   1. Have hands clear of all knives before you push starter switch
   2. Do not have hands under air cylinder heads
   3. Do not try to adjust while motors running

DIVISION COMPLETED

B. Parts
   1. Heavy steel frame
   2. Flat steel bed
   3. Air hose
   4. Electrical wiring
   5. Electric Motors (3 ea.)
   6. Air cylinders (6 ea.)
   7. Small bits (9 ea.)
   8. Cutting knives (6 ea.)
   9. On/off switches (3 ea.)
   10. Automatic switch (1 ea.)
   11. Set up switch for knives (1 ea.)
   12. Set-up switch for bits (1 ea.)
   13. Foot switch for cutting and boring (1 ea.)

DIVISION COMPLETED

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C. Set-up
   1. Set knives for cutting depth
   2. Set bits for hinge you wish to use
   3. Place stops for doors where heads will not hit
   4. Set pressure cylinder (clamp feet) where they will press door on bed

DIVISION COMPLETED

D. Operating Procedure
   1. Place door on flat bed
   2. Push motor or head switch for each motor you wish to use
   3. Mash foot paddle for cutting, boring stroke
   4. When air cylinders release, take door off bed

DIVISION COMPLETED

E. Maintenance
   1. Oil cups daily
   2. Grease according to manufacuturers recommendations

DIVISION COMPLETED

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Hand Jointer

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES: Lead men at each department at Bernhardt Ind.

PRIMARY FUNCTIONS: To joint down doors when they are too big to fit case.

MACHINES, TOOLS, AND EQUIPMENT USED: End wrench, allen wrench, grease gun

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Safety 1. Be sure guard is working properly 2. Do not have hands close to knives while in operation 3. Do not operate machine without guards 4. Wear eye, ear, and hand protection 5. Use push block when possible DIVISION COMPLETED	
B. Parts 1. Motor (electric) 2. Belt 3. Belt Guard 4. Back & Front Bed 5. Metal Stand 6. Jointer knives 7. Knife guard 8. Bed adjustment 9. Switch (on-off) DIVISION COMPLETED	

ACCOMPLISHED
SUPERVISOR
INITIALS
DATE

C. Set-up
   1. Raise front bed up or down to right cutting depth
   2. Run practice piece to check cutting depth
   3. Adjust bed as necessary

DIVISION COMPLETED

D. Operating Procedure
   1. Position stock truck of material to be run near front bed
   2. Push start button
   3. Place door on front bed, push toward knives
   4. When passed by knives on back bed, remove article
   5. Stack stock on empty truck near back bed or fit door into case if nearby

DIVISION COMPLETED

E. Maintenance
   1. Keep greased
   2. Keep sharp knives in jointer

DIVISION COMPLETED

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Edge Jointer

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES ~~Lead men in each department at Bernhardt Ind.~~

PRIMARY FUNCTIONS: To smooth all edges by cutting one straight smooth edge with a high speed cutter

MACHINES, TOOLS, AND EQUIPMENT USED:
grease gun
end wrench
allen wrench

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR INITIALS DATE
A. Safety 1. Make sure guard is right before operation 2. Wear eye and ear protection 3. Keep your mind on your work DIVISION COMPLETED	
B. Parts 1. Bed (front & back) 2. Knives 3. Guard's for belt 4. Hand guards 5. Adjustment (for front and back bed) 6. Switch (off & on) DIVISION COMPLETED	

	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
C. Set-up 1. Level back bed with knives 2. Place front bed at desired cutting depth 3. Push start button 4. Run test piece across knives from back bed to front bed. 5. Check piece for smooth straight edge 6. Adjust beds as necessary. DIVISION COMPLETED	
D. Operating Procedure 1. Position stock truck with material to be run nearby. 2. Position empty finished stock 3. Start the machine 4. Place material on bed (front) slide gently across knives and both beds 5. Remove the material 6. Stack neatly on stock truck. DIVISION COMPLETED	
E. Maintenance 1. Keep machine greased 2. Always place sharp knives on machine (eliminates excessive drag on motor and is much safer) DIVISION COMPLETED	

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Side Stroke

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES: Lead men at each department at Bernhardt Ind.

PRIMARY FUNCTIONS: To sand all edges, especially doors, in the case fitting operation

MACHINES, TOOLS, AND EQUIPMENT USED: grease gun, wax

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Safety 1. Do not put hands on sand-belt while in operation 2. Be sure belt has right adjustment 3. Wear eye and ear protection DIVISION COMPLETED	
B. Parts 1. Frame 2. Beds 3. Electric motor 4. Suction heads 5. Pulley for belts 6. Switch (on-off) DIVISION COMPLETED	

ACCOMPLISHED SUPERVISOR'S INITIALS DATE

C. Set-up
   1. Place belt on pulley's and use adjustment wheel to tighten belt
   2. Use small adjustment wheel to adjust belt up or down
   3. Run practice piece to check how much material is removed while applying light pressure

DIVISION COMPLETED

D. Operating Procedure
   1. Place sand belt on machine
   2. Hit start button
   3. Place article on bed and press lightly against belt
   4. Pressure against belt can be learned by practicing

DIVISION COMPLETED

E. Maintenance
   1. Keep machine greased.

DIVISION COMPLETED

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Hanger Bolt Machine

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES: Lead men in each department at Bernhardt Ind.

PRIMARY FUNCTIONS: To put hanger bolts in table posts

MACHINES, TOOLS, AND EQUIPMENT USED: Spanner wrenches, hammer

Upon completion of each division the supervisor will initial and give the date of completion.

ACCOMPLISHED
SUPERVISOR'S INITIALS
DATE

DIVISION AND JOBS

A. Safety
   1. Use safety precautions as with all electrical and power tools.
   2. Hanger bolts sometimes have slivers, be careful to avoid being cut by them

DIVISION COMPLETED _____

B. Parts
   1. Frame
   2. Motor
   3. Belt
   4. Pulleys (2)
   5. Shaft
   6. Bearings
   7. Stud driver
   8. Control switch
   9. Thermal switches
   10. Threaded sleeve

DIVISION COMPLETED _____

ACCOMPLISHED	SUPERVISOR'S INITIALS	DATE

C. Set-up
1. Adjust threaded sleeve which fits over the stud driver.
2. Sleeve is locked by a ring which must be released before adjustment can be made.
3. To adjust, release lock ring and turn threaded sleeve in desired direction (in for shorter, out for longer)

DIVISION COMPLETED

D. Operation
1. Switch machine "on"
2. Hold post in one hand with bored hole toward the stud driver.
3. Place end of hanger bolt with five threads in the stud driver while placing the opposite end (coarse threads) in the post hole.
4. Push the post until the stud driver releases the bolt.
5. Bolt is then fastened in the post.

DIVISION COMPLETED

E. Maintenance
1. Grease fittings weekly or as needed
2. Watch machine for dry joints

DIVISION COMPLETED

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Air Powered Stapler

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES Leading men at each department at Bernhardt Ind.

PRIMARY FUNCTIONS: To staple backs on cases and top panels on china decks and light molding

MACHINES, TOOLS, AND EQUIPMENT USED:

Allen wrench

Upon completion of each division the supervisor will initial and give the date of completion.

ACCOMPLISHED
SUPERVISOR'S
INITIALS
DATE

DIVISION AND JOBS

A. Safety
   1. Always load the stapler point away from you.
   2. Wear safety glasses.
   3. Keep your mind on your work.

DIVISION COMPLETED _____

B. Parts
   1. Safety Mechanism
   2. Safety Trip
   3. Trigger
   4. Staple Track
   5. Stapler body

DIVISION COMPLETED _____

C. Set-up
   1. Set the stapler up
   2. Depress the magazine cover lock on the end of a magazine
   3. Put the magazine cover out
   4. Two strips of staples can be loaded onto the staple track.

DIVISION COMPLETED _____

ACCOMPLISHED	SUPERVISOR INITIALS	DATE

D. Operating Procedure
1. Put the stapler on the back panel, pull the trigger
2. Shoot a staple about every 4 or 5 inches apart.
3. Make sure that you square the back panel on the case
4. This stapler can be used on different jobs

DIVISION COMPLETED

E. Maintenance
1. Keep this staple track free of dust and lint that may cling to it. (Dirt in the nost slot could cause jamming)
2. Use only Non-Detergent Oil Sae No. 5 to 10

DIVISION COMPLETED

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Auto Nailer (Jupiter 5)

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES Lead men in each department at Bernhardt Ind.

PRIMARY FUNCTIONS:
To nail wood and plastic molding to doors, drawers, and gallery rails

MACHINES, TOOLS, AND EQUIPMENT USED:
crescent wrench, allen wrenches, screwdriver, clamps

Upon completion of each division the supervisor will initial and give the date of completion.

ACCOMPLISHED
SUPERVISOR'S
INITIALS
DATE

DIVISION AND JOBS

A. Safety
   1. When threading this machine, make sure the switch is off.
   2. Be sure to keep your hands out from under head of the machine
   3. Keep your mind on your work

DIVISION COMPLETED

B. Parts
   1. Needle-Point knives
   2. Countersink arm
   3. Countersink dial shaft
   4. Feeder block
   5. Wire reel
   6. Driver
   7. Nail direction adjuster
   8. short driving belt
   9. clutch housing
   10. Switch Complete
   11. Hold back block

ACCOMPLISHED
SUPERVISOR'S
INITIALS
DATE

Parts Cont.

12. Cylinder Column Assembly
13. Wire guidepost
14. Lubricator
15. Motor mounting plate
16. Nail length dial
17. Bound Anvil
18. Air exhaust elbow
19. knife trip lever
20. Motor (220 volt, 60 cycle, 3 phase)

DIVISION COMPLETED

C. Set-up
1. Be sure the machine is turned off
2. Make sure of nail length
3. Check and adjust air pressure

DIVISION COMPLETED

E. Maintenance
1. Blow the machine out everytime you rethread
2. One drop of oil daily at oiling points
3. Keep air lubricator 3/4 full of a good grade of oil.

DIVISION COMPLETED

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Molding clamps

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES: Lead men in each department at Bernhardt Ind.

PRIMARY FUNCTIONS: To put moulding on drawer fronts and doors that cannot be put on by auto nailer

MACHINES, TOOLS, AND EQUIPMENT USED: screw driver

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Safety 1. Be sure your hands are out from under the clamp when you mash the pedal 2. Keep your mind on your work 3. Wear eye and ear protection DIVISION COMPLETED	
B. Parts 1. Clamp Bed 2. Air Cylinder 3. Air Gauge 4. Clamp frame DIVISION COMPLETED	

ACCOMPLISHED	SUPERVISOR INITIALS DATE

C. Set-up
1. Make a frame to stack your drawers or doors in
2. Set desired air pressure on your cylinders

DIVISION COMPLETED

D. Operating Procedure
1. Glue molding that is to be put on the drawers or doors.
2. Stack about 10 high
3. Put in clamp
4. Let dry under pressure about 10 minutes
5. Take doors or drawers out, then they are ready for the next operation.
6. Use Casin Waterproof Glue.

DIVISION COMPLETED

E. Maintenance
1. Check oil level in the oil cup
2. The air pushes the oil into the cylinders when they are in operation.

DIVISION COMPLETED

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Clean-up cases

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES: Lead men at each department at Bernhardt Ind.

PRIMARY FUNCTIONS: To remove all excess glue and dents or scratches from case

MACHINES, TOOLS, AND EQUIPMENT USED: sand-paper, putty, sandblock putty knife, chisel, jitterbug, scraper

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Safety 1. Be careful with chisel - never bring it toward you while chiseling 2. Wear eye and hand protection DIVISION COMPLETED	
B. Operating Procedure 1. Cut all excess glue off with chisel and sand it 2. Break all edges with sandpaper or jitterbug 3. Sand all dents or scratches out 4. Fill dents, cracks with putty and sand smooth DIVISION COMPLETED	
C. Maintenance 1. Keep lid on putty to keep it from drying out DIVISION COMPLETED	

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Drawer Clamp

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES Lead men in Bernhardt Ind.

PRIMARY FUNCTIONS: To make drawers that go into cases such as Buffets or Chinas.

MACHINES, TOOLS, AND EQUIPMENT USED:
chisel, pliers, rubber maul, crank

Upon completion of each division the supervisor will initial and give the date of completion.

ACCOMPLISHED
SUPERVISOR'S INITIALS
DATE

DIVISION AND JOBS

A. Safety
1. In operating this machine, make sure your hands are out of the way when the clamp side presses in.
2. Keep your mind on your work

DIVISION COMPLETED

B. Parts of the machine
1. Air cylinder
2. Drawer Clamp Sides

DIVISION COMPLETED

C. Set-up
1. Stack required length drawer bottoms, sides, back and front near drawer clamp.
2. Place drawer back in clamp
3. Place drawer sides in clamp
4. Run clamp side up to the back
5. Make sure back is tight in clamp
6. After clamping back of sides up check assembly for square.
7. Check to see that botton and front fit into sides and back

DIVISION COMPLETED

ACCOMPLISHMENT	SUPERVISOR'S INITIALS	DATE

D. Operation
1. Put drawer back in clamp
2. Glue sides
3. Clamp sides to back
4. Put bottom in
5. Glue dovetails
6. Put front dovetails into side dovetails
7. Check for square
8. Stack and pass on to next operation

DIVISION COMPLETED

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAM

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Drawer Sander

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES Lead men at each department at Bernhardt Ind.

PRIMARY FUNCTIONS: TO sand the glue off the drawer sides

MACHINES, TOOLS, AND EQUIPMENT USED:
c - clamps

Upon completion of each division the supervisor will initial and give the date of completion.

ACCOMPLISHED
SUPERVISOR'S
INITIALS
DATE

DIVISION AND JOBS

A. Safety
1. Make sure you keep your hands away from the sand belt
2. Wear safety glasses if the job requires it
3. Keep your mind on your work

DIVISION COMPLETED

B. Parts
1. Motor
2. Adjustable screw to keep sandpaper in middle of bed
3. Sandpaper pad
4. Sand paper
5. Springs for sanding door lip
6. Belt brake
7. Safety cover
8. Belt wheel
9. Work bed
10. Start-stop switch

DIVISION COMPLETED

ACCOMPLI... SUPERVISOR INITIALS DATE

C. Set-up
1. Put drawer on the sander
2. Turn the springs back until you have the right set-up
3. Make sure you check paper is in center before you operate this machine (If you don't you could sand the front and ruin the drawer)
4. Be sure the machine is turned off when adjusting or putting paper on
5. Keep the sand belt in the middle of the bed by adjusting the screws & springs

DIVISION COMPLETED

D. Operating Procedure
1. Take the drawer from the person that puts the guide in
2. Put the drawer on sander
3. Press down on the drawer (the sander will sand the glue off of the sides)
4. Stack drawers on truck
5. Move drawers to next operation

DIVISION COMPLETED

E. Maintenance
1. Oil motor daily
2. Grease according to manufacturers recommendations

DIVISION COMPLETED

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: ~~Chair Front Clamp~~

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES Lead men in Bernhardt Ind. Plant #9

PRIMARY FUNCTIONS: The front clamp presses the two front posts on the ends of the front rail

MACHINES, TOOLS, AND EQUIPMENT USED:
Two forms, guide or stop, hammer, nails, glue pot, glue

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Safety 1. Keep fingers away from clamp 2. Keep your mind on your work 3. Keep floor clean to provide good footing DIVISION COMPLETED	
B. Parts 1. Clamp table 2. Air piston 3. Adjustable stop 4. Start pedal or button 5. Form 6. Guide DIVISION COMPLETED	
C. Set-up 1. Put one post form on the piston 2. Put one post form on the adjustable stop 3. Place the rail guide on stop on the back side to guide the post into the forms DIVISION COMPLETED	
D. Operation 1. Position truck of front posts of rails nearby 2. Put glue in front post dowel holes on opposite sides	

ACCOMPLI... SUPERVISO... INITIALS DATE

Operation cont.

3. Drive posts on both ends of a front rail
4. Place knocked up assembly in clamp
5. Push pedal which will activate clamp and press assembly together
6. Release clamp
7. Remove assembly and stack neatly on stock truck.

DIVISION COMPLETED

E. Maintenance
1. Keep forms and clamp tight
2. Lubricate clamp of piston as necessary

DIVISION COMPLETED

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Chair Clamp

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES Lead men in Bernhardt Ind. Plant #9

PRIMARY FUNCTIONS:

The chair clamp presses the chair front and back on the side rails

MACHINES, TOOLS, AND EQUIPMENT USED:

Two front post forms, two back post forms, one side rail form, one stop, hammer,nails, glue pot, glue, air powered screwdriver

Upon completion of each division the supervisor will initial and give the date of completion.

ACCOMPLISHED
SUPERVISOR'S INITIALS
DATE

DIVISION AND JOBS

A. Safety
   1. Keep fingers away from clamp
   2. Keep mind on your work

DIVISION COMPLETED

B. Parts
   1. Clamp frame
   2. Air piston
   3. Adjustable stop
   4. Start pedal or button
   5. Forms

DIVISION COMPLETED

C. Set-up
   1. Place two front post forms on the piston
   2. Place two back post forms on adjustable stops
   3. Place one side rail form on stop on the side of the clamp frame. (This form is used to square the chair so that the seat will fit)

DIVISION COMPLETED

ACCOMPLISHED	SUPERVISOR INITIALS	DATE

D. Operation
1. Glue the dowel holes in the front and back of the chair (all posts)
2. Drive side rails onto the front posts
3. Turn assembly over and drive over end of side rails onto the back post
4. Place chair in clamp
5. Push piston pedal
6. Place corner block in each corner
7. Start screws by tapping with hammer
8. Use air powered screwdriver to tighten screws
9. Remove the chair from the clamp

DIVISION COMPLETED

E. Maintenance
1. Keep forms and clamp tight
2. Lubricate clamp and piston moving parts when necessary

DIVISION COMPLETED

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Screw Driver

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES: Lead men at each plant at Bernhardt Ind.

PRIMARY FUNCTIONS:
Drives screws and removes them fron wood stock

MACHINES, TOOLS, AND EQUIPMENT USED:
None

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Safety 1. Be sure screwdriver (electrical) is free of short circuit 2. Keep hands and fingers away from point of bit 3. Don't play with power tools DIVISION COMPLETED	
B. Parts 1. Housing (aluminum) 2. Motor 3. Bearings 2 4. Clutch 5. Clutch spring 6. Bit holder 7. Bit 8. Switch (trigger) on-off DIVISION COMPLETED	

ACCOMPLISHED SUPERVISOR'S INITIALS DATE

C. Operating Procedure
   1. Grip screwdriver in hand and place forefingers on trigger
   2. Place point of bit in screw slot and pull trigger, while exerting a slight push against the screw (Clutch will chatter when screw bottoms).
   3. Release trigger
   4. Pressure required to bottom screw will vary and learning to "feel" how much requires practice.

DIVISION COMPLETED

D. Maintenance
   1. A few drops of light weight oil daily

DIVISION COMPLETED

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Boring Machine

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES: Lead men at each plant at Bernhardt Ind.

PRIMARY FUNCTIONS: To bore holes in reinforcing blocks for screws

MACHINES, TOOLS, AND EQUIPMENT USED: Spanner wrenches adjustable wrench, chuck wrench

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Safety 1. Use safety procedure for electrical equipment 2. Wear safety glasses 3. Be alert, keep hands and fingers away from moving parts DIVISION COMPLETED	
B. Parts 1. Frame 2. Motor 3. Chuck 4. Bit 5. Pedal 6. Connecting linkage 7. Return spring 8. Table 9. Guide 10. Control switch 11. Height adjustment 12. chuck key 13. on-off switch DIVISION COMPLETED	

	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
C. Set-up 1. Place bit of desired size in chuck 2. Adjust height of table (work bench to give desired depth of hole) 3. Place guide in position when used DIVISION COMPLETED	
D. Operating Procedure 1. Turn on control switch 2. Place piece to be bored against guide (when used hold piece in position) 3. Step on operating pedal and depress until pedal stops 4. Hold in this position until bit "bottoms" 5. Release pedal 6. Repeat as necessary 7. Turn switch to off position when finished DIVISION COMPLETED	
E. Maintenance 1. Oil motor cups daily 2. Use sharp bits DIVISION COMPLETED	

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Chair Block Machine

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES: Lead men at each department at Bernhardt Ind.

PRIMARY FUNCTIONS: To miter, groove, and bore chair blocks

MACHINES, TOOLS, AND EQUIPMENT USED: Allen wrenches, adjustable wrench wrenches (various sizes) hammer, screwdriver

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Safety 1. Use safety precautions as with all electrical and power machinery 2. Keep hands and fingers clear of moving parts 3. Be alert. 4. Use ear plugs and safety glasses. DIVISION COMPLETED	
B. Parts 1. Frame 2. Motors (5) 3. Pulleys (6) 4. Gear box 5. Boring machine 6. Miter saw 7. Groove heads (2) 8. Guides (3) 9. Slide (2 part) 10. Pressure Bar Assembly 11. Cams (2) 12. Belts (3) 13. Idlers (2) 14. Switches (2) 15. Protective Relay Box 16. Thermal Switches DIVISION COMPLETED	

ACCOMPLI... SUPERVISO... INITIALS DATE

C. Set-up
1. Set miter saws at desired angle
2. Place guides (control length of black)
3. Adjust pressure bar assembly
4. Adjust cams to control depth of groove
5. Adjust boring machine to obtain desired depth of screw hole
6. All adjustment have ahdnles, cranks,or wheels no additional tools required.

D. Operation
1. Position stock truck with load to be run
2. Position empty stock truck for finisned material.
3. Turn "on" cutter control switch
4. Turn "on" feed control switch (after checking to be sure all cutters are running.)
5. Place end of a piece of 1½" x 1" stock between the upper slide and miter saw when slide is in rear position. (as slide moves forward, it will push the stock into the miter saw which will cut off a small piece of the end at desired angle)
6. With slide again in rear position, turn the piece of stock over and push it between slide and saw until it is stopped by guide.
7. Forward movement of slide will again push stock into miter saw cutting a block of desired length and angle.
8. Repeat procedure turning stock over each time and pushing until stopped by guide.
9. As blocks are mitered they fall to the carrier slide where they are pushed forward by its movement.
10. They are held in place by a spring loaded pressure blade which is part of the pressure bar assembly
11. The forward movement forces the blocks between two grooving heads which consist of three saws and spacers each.
12. The grooved heads are pushed apart by two cam surfaces which are attached to the slide and are adjustable to control the depth of grooves.
13. Springs return the heads to the inner position where carrier slide is again in rear position.
14. After passing through grooved heads, the block is pushed on to a holding mechanism which is part of the pressure bar assembly.
15. As the slide moves to the rear the block is released and left in the holding mechanism.
16. A boring machine located beneath the holder moves upward and bores a hole in the block.

ACCOMPLISHED	SUPERVISOR'S INITIALS	DATE

Cont.

17. This screw hole is used to secure the seat to the chair.

DIVISION COMPLETED

E. Maintenance
   1. Oil cups daily
   2. Grease fittings daily

DIVISION COMPLETED

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Gluing blocks

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES: Lead men at Bernhardt Ind.

PRIMARY FUNCTIONS:
To glue blocks to reinforce joints and mating surfaces

MACHINES, TOOLS, AND EQUIPMENT USED: glue, glue block, glue pot, brush

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Safety 1. Avoid getting splinters in hands 2. Wear eye protection 3. Wear hand protection DIVISION COMPLETED	
B. Operating Procedure 1. Dip brush in glue 2. Wipe excess from brush 3. Push brush against joint where glue block is to be placed using a slight sideways motion. 4. Grasp glur block between thumb and forefinger and place block at this spot rubbing from side to side 5. Release block after a few side to side movements DIVISION COMPLETED	

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Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Setting Screws

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES: Lead men at each department at Bernhardt Ind.

PRIMARY FUNCTIONS:
To prepare blocks or parts for assembly

MACHINES, TOOLS, AND EQUIPMENT USED:
Screws, work bench, box for screws, box for blocks
truck for parts if bigger than box

Upon completion of each division the supervisor will initial and give the date of completion.

ACCOMPLISHED
SUPERVISOR'S INITIALS
DATE

DIVISION AND JOBS

A. Safety
1. Screws sometimes have slivers. Use caution to avoid being cut or scratched by them.

DIVISION COMPLETED _____

B. Operating Procedure
1. Turn the stock upside down so that screw holes are on the bottom
2. Bump the stock up and down on a fairly smooth surface to remove chips and dust from holes.
3. Turn stock over and place screws in holes.
4. Screws can usually be shaken down in the holes by bumping stack.
5. Stack blocks neatly so that screws won't fall out.

DIVISION COMPLETED _____

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Clean-up chairs

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) years

REFERENCES: Lead men in each department at Bernhardt Ind.

PRIMARY FUNCTIONS: To get chairs ready to put the finish on

MACHINES, TOOLS, AND EQUIPMENT USED:
Chisel, scraper, putty, sand paper, putty knives

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Safety 1. When working with a chisel and scraper, always keep your free hand behind the tool 2. Never cut towards your body 3. Wear eye and hand protection DIVISION COMPLETED	
B. Job 1. Clean off all glue on the outside of the chair 2. Putty all small joints, cracks, and holes 3. Sand smooth all repairs 4. Sand chair with sandpaper DIVISION COMPLETED	

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Jitter Bug Sander

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES: Lead men at each plant at Bernhardt Ind.

PRIMARY FUNCTIONS: To polish wood and other surgaces in preparation

MACHINES, TOOLS, AND EQUIPMENT USED:
None

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Safety 1. Check for short circuit (if electrical) 2. Keep hands and fingers clear of moving parts 3. Be alert operating all power tools and machines DIVISION COMPLETED	
B. Parts 1. Housing 2. Motor 3. Eccentric can 4. Pad 5. Spring clamps (2) 6. Switch (on-off) 7. Dust Cover DIVISION COMPLETED	

	ACCOMPLI... SUPERVISOR'S INITIALS DATE
C. Set-up 1. Select desired sandpaper grit 2. Cut paper to fit sander 3. Remove old paper 4. Install new paper, tighten all securing clamps DIVISION COMPLETED	
D. Operating Procedure 1. Grasp "jitter bug" in hand with top in palm 2. Depress top (which is the switch trigger mechanism 3. Move sander either back and forth or with side to side motion over surface to be polished using overlapping strokes 4. Release hand pressure to stop DIVISION COMPLETED	
E. Maintenance 1. A few drops of oil daily 2. For peak performance, tool occassionally requires blowing out with compressed air. DIVISION COMPLETED	

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Whip Sander

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES Lead men at each department at Bernhardt Ind.

PRIMARY FUNCTIONS: To sand all carvings on chair backs or posts

MACHINES, TOOLS, AND EQUIPMENT USED:

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Safety 1. Never touch the spindle or sand paper while it's running 2. Wear eye, ear, and hand protection DIVISION COMPLETED	
B. Parts 1. Air driven spindle and hex nuts 2. Sandpaper 3. Taigger 4. Air hose adapter 5. Exhaust hole DIVISION COMPLETED	

ACCOMPLISHED	SUPERVISOR'S INITIALS	DATE

C. Set-up
1. Cut sandpaper in circles aprox. 6" in diameter
2. Cut hole in center to fit spindle
3. Cut pie shape from outside to within one inch of center hole
4. Fold one corner of each piece to the center hole
5. Place on spindle
6. Use two or more pieces of paper to make up desired thickness of whip.

DIVISION COMPLETED

D. Operating Procedure
1. Grasp sander in hand
2. Run whip over area to be sanded
3. Apply enough pressure to take off desired amount of wood
4. Pressure is learned with practice

DIVISION COMPLETED

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Assembly of Tables

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES: Lead men at each department at Bernhardt Ind.

PRIMARY FUNCTIONS: To gather, fit, position all parts required to build a solid table

MACHINES, TOOLS, AND EQUIPMENT USED:
screwdrivers, hammers, table rim form, screws, table eveners, table slides, corner blocks, glue blacks, table dowels (pins) slide guides

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Safety 1. Be alert, numerous tools are used in table assembly. Safety procedures should be followed for each individually. DIVISION COMPLETED	
B. Set-up 1. Set up a work bench (table) on which is placed a rim form (when a rim is required for assembly) 2. Build a "track" which consists of a long work bench with two rails covered with a smooth surface (felt, etc.) DIVISION COMPLETED	
C. Operation 1. Assembly of rims a. Rims are assembled on a work bench on which a rim is placed. b. Rims are assembled in two ways c. The corner block method and screws and the clamp and nail method d. Clamp nails are a special type of nail which	

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DATE

will hold joints together when driven into slots cut in each of the mating surfaces.

2. Clamp nail rim assembly
   a. Drive nails into the slots using a hammer
   b. These rims are used on tables with a pedestal type base.
3. Corner block rim assembly
   a. Rims for tables using corner posts are assembled with screwdrivers and require the use of corner blocks.
   b. Corner blocks join the corners of the rim
   c. Corner blocks contain screw holes for attaching them to the rim
   d. They also contain a larger hole for the installation of hanger bolts which are fastened to the table posts by screw threads.
   e. Place the rim parts (end rim and two side rims) in a form having the desired shape of the rim
   f. Attach the corner blocks using screws
   g. Rims are provided with screw holes for attac ing rim to the table top.
4. Top Assembly
   a. tops are placed on the track bottom side up after dowels have been placed in one of the two halves
   b. Check to be sure halves align properly
   c. Table eveners are placed at the center line where the halves join
   d. Fasten eveners with screws
   e. Drive screws with air powered screwdriver
   f. Use guages to mark the location of the rims and slides
   g. Rims and slides are attached to the top with screws
   h. Place glue blocks where they will strengthen joints (between top and rim)
   i. Filler leaves are placed in the table and the rims are attached
   j. The completed table top is moved along the track to the cleaning station
   k. Cleaning consists of removing excess glue, fingerprints, smudges, and polishing.

DIVISION COMPLETED

Finishing Room

The sophisticated finishing process and material that is used in modern furniture manufacutring has been developed through many years of experimentation and implementation. Numerous steps are required to "build" depth, smoothness, and color into the finish. The process starts with a smooth surface which is the responsibility of the sanding department. The actual finishing process starts with the application of shading stain which is sprayed on. The surface is then antiqued to give it an aged appearance. All edges are filled to insure a smooth finish on particle board cores that are used in many panels. The piece is then sprayed with stain followed by a wash coat. These two operations provide color and depth. The piece is then hand sanded smooth to eliminating any overspray. Wiping stain is sprayed on next which is wiped by hand to give the desired tone. Grain shading is then applied by a fine spray which accents the wood grain. Highlighters follow the shading spray with steel wool. This operation gives needed light and dark tones to cathedral grain patterns. A sealer spray is applied to seal the wiping stain so that it can be sanded without penetrating the stain. The piece is then hand sanded again before the blending stain is sprayed on. The blending stain provides character to the finish. The blending stain is padded, brushed out, and smudged by hand to give an antique look. The piece is inspected before the final sealer spray is applied. Following

the sealer spray is the cow tailing operation which is a process done by hand with a rag and stain to make the piece appear as though it has brush marks in it, this is also an antiquing effect. Then the piece is fly specked if so desired with a coarse spray which leaves spots on the finish, this is an antique accessory. The final shade spray is then applied before the first clear lacquer coat is sprayed on. The piece receives three clear lacquer coats which protect the finish and which are finally rubbed smooth in the rub room to an even sheen. The finishing process is complex and sophisticated even though many of the operations performed on the piece are short and simple. The end result however is far from simple looking. If the piece of furniture is to be a quality piece, it must be perfectly machined and hand crafted, followed by the above finishing process which is perhaps the most important process in it's development.

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Shading Stain

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES Lead men at each department at Bernhardt Ind.

PRIMARY FUNCTIONS: To spray stain on inside of cases, behind galleries on china deck, on table tops, and pedestals. Shading stain is the initial step in the coloring process

MACHINES, TOOLS, AND EQUIPMENT USED:
spray gun (DeVilbiss)

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Safety 1. Wear protective muzzle 2. Keep area clean 3. Wipe up all spills immediately DIVISION COMPLETED	
B. Parts 1. Sprayhead assembly 2. Air cap 3. Sprayhead locking tube assembly 4. Fluid needle 5. Cylinder assembly 6. Fluid adjusting screw 7. Gun body 8. Trigger 9. Air valve assembly 10. Tip and needle assembly DIVISION COMPLETED	

ACCOMPLI[illegible] SUPERVISOR'[illegible] INITIALS DATE

C. Set-up
   1. Adjust line pressure
   2. Adjust gun to desired pattern
   3. Mix stain
   4. Spray practice piece to check color of stain
   5. Adjust mixture and gun as necessary

DIVISION COMPLETED

D. Operating Procedure
   1. Spray inside case, behind galleries on cases and decks
   2. Spray table tops and pedestals
   3. Spray an even coat on all surfaces

DIVISION COMPLETED

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Antiqueing

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES Lead men at each department at Bernhardt Ind.

PRIMARY FUNCTIONS: To dent the piece of furniture to make it look odd or antiqued

MACHINES, TOOLS, AND EQUIPMENT USED:
lock washer chain - on handle

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Safety 1. Keep area clean 2. Keep hands out of the way of swinging chain DIVISION COMPLETED	
B. Operating Procedure 1. Move piece into working position 2. Strike the piece on all surfaces with equal pressure 3. Don't be excessive with dents DIVISION COMPLETED	

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Edge Filling

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES Lead men at each department at Bernhardt Ind.

PRIMARY FUNCTIONS: To spray a coat of filler on drawer and door edges to fill the chip core pores that are exposed

MACHINES, TOOLS, AND EQUIPMENT USED:

Spray gun (DeVilbiss)

Upon completion of each division the supervisor will initial and give the date of completion.

ACCOMPLISHED
SUPERVISOR'S INITIALS
DATE

DIVISION AND JOBS

A. Safety
   1. Wear protective muzzle
   2. Keep area clean
   3. Wipe up spills immediately

DIVISION COMPLETED

B. Parts
   1. Sprayhead assembly
   2. Air cap
   3. Sprayhead locking tube assembly
   4. Fluid needle
   5. Cylinder assembly
   6. Fluid adjusting screw
   7. Gun body
   8. Trigger
   9. Air valve assembly
   10. Tip and needle assembly

DIVISION COMPLETED

ACCOMPLISHED	SUPERVISOR'S INITIALS	DATE

C. Set-up
   1. The secret to success in edge filling is the sanding of the chip core
   2. Sanding is the responsibility of the sand room
   3. Mix filler
   4. Adjust gun to spray narrow fan

DIVISION COMPLETED

D. Operating Procedure
   1. Spray drawer edges
   2. Spray door edges
   3. Be careful not to get filler on front of case

DIVISION COMPLETED

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Load Chain and Wipe Edge Filling

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES: Lead men at each department at Bernhardt Ind.

PRIMARY FUNCTIONS: To load cases on conveyer after edge filler has been applied and wipe filler

MACHINES, TOOLS, AND EQUIPMENT USED:

Rags

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Safety 1. Lift with legs not back when lifting cases cases onto conveyor and sliding cases on skids 2. Wear protective gloves to protect skin from filler DIVISION COMPLETED	
B. Set-up 1. Obtain necessary rags for wiping filler DIVISION COMPLETED	
C. Operating Procedure 1. Wipe all edges that filler has been applied to 2. The trick is to wipe the filler in as well as wipe off the excess 3. Wipe all end grains such as on doors & drawers 4. Load case on conveyor DIVISION COMPLETED	

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Stain Spray

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES: Lead men at each department at Bernhardt Ind.

PRIMARY FUNCTIONS: To apply basic color coat in the finishing process

MACHINES, TOOLS, AND EQUIPMENT USED:
spray gun (DeVilbiss)

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Safety 1. Keep work area clean 2. Wipe up any spills immediately 3. Wear protective muzzle DIVISION COMPLETED	
B. Parts 1. Gun body 2. Spray head assembly 3. Air cap 4. Fluid tip 5. Sprayhead locking tube assembly 6. Fluid needle 7. Fluid adjusting screw 8. Cylinder assembly & adjustment 9. Air valve assembly 10. Trigger DIVISION COMPLETED	

ACCOMPLISHED SUPERVISOR'S INITIALS DATE

C. Set-up
   1. Each morning submerge spray gun in lacquir thinner to remove all exterior buildup of materials
   2. Oil lightly
   3. Then routine cleaning especially the aircap will assure smooth operation of spray gun the remainder of the working day.

DIVISION COMPLETED

D. Operating Procedure
   1. Spray case goods all over on the outside
   2. Open doors of case and spray inside leaving doors open in order that edge filler on doors will dry as furniture passes through the Hot Box

DIVISION COMPLETED

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Wash Coat

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES: Lead men at each department at Bernhardt Ind.

PRIMARY FUNCTIONS: To wash coat furniture which determines the bite of the wiping stain or filler which ever is used in the operation after sanding

MACHINES, TOOLS, AND EQUIPMENT USED:
Spray gun (DeVilbiss)

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Safety 1. Keep work area clean 2. Wipe up any spills immediately 3. Wear protective muzzle DIVISION COMPLETED	
B. Parts 1. Gun body 2. Sprayhead assembly 3. Air cap 4. Fluid tip 5. Spray head locking tube assembly 6. Fluid needle 7. Fluid adjusting screw 8. Cylinder assembly and adjustment 9. Air valve assembly 10. Trigger DIVISION COMPLETED	

ACCOMPLISHED SUPERVISOR'S INITIALS DATE

C. Set-up
   1. Submerge spray gun in lacquer thinner each morning to remove all exterior buildup of material
   2. Oil lightly each day
   3. Routine cleaning, especially the air cap This will assure smooth operations of spray the remainder of the working day

DIVISION COMPLETED

D. Operating Procedure
   1. Spray inside of case
   2. Spray outside of case
   3. Open doors for faster drying of inside in order that sanding process will go as it should

DIVISION COMPLETED

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Hand Sanding

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES: Lead men at each department at Bernhardt Ind.

PRIMARY FUNCTIONS: To provide a better surface for filler, and finally a smooth finish

MACHINES, TOOLS, AND EQUIPMENT USED:
sandpaper, (the most common grit used for sanding, after the wash out coat and the sealer spray is 6/0 (siz ott) or 220)

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Safety 1. Keep area clean 2. Wear gloves if skin is irritated by paper DIVISION COMPLETED	
B. Set-up 1. Obtain the required grit of sandpaper required for the job DIVISION COMPLETED	
C. Operating Procedure 1. Sand with the grain to keep from leaving scratches on the wood 2. Sand all drawer edges and door edges 3. Sand the inside. Tops, fronts, ends DIVISION COMPLETED	

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Wiping stain spray

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES Lead men at each department at Bernhardt Ind.

PRIMARY FUNCTIONS: To spray a coat of wiping stain (close grain woods) or filler spray (open grain woods) to build up finish before sealing

MACHINES, TOOLS, AND EQUIPMENT USED:

spray gun (DeVilbiss)

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Safety 1. Wear protective muzzle 2. Keep area clean 3. Wipe up spills immediately DIVISION COMPLETED	
B. Parts 1. Sprayhead assembly 2. Air cap 3. Sprayhead locking tube assembly 4. Fluid needle 5. Cylinder assembly 6. Fluid adjusting screw 7. Gun body 8. Trigger 9. Air valve assembly 10. Tip and needle assembly DIVISION COMPLETED	

ACCOMPLISHED SUPERVISOR'S INITIALS DATE

C. Set-up
   1. Adjust line pressure
   2. Adjust gun to fan pattern desires

DIVISION COMPLETED

D. Operating Procedure
   1. Spray top and end
   2. Spray insides
   3. Spray fronts
   4. Spray filler into all grooves and end grain that shows

DIVISION COMPLETED

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Filler Ruber

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES: Lead men at each department at Bernhardt Ind.

PRIMARY FUNCTIONS: To rub filler into grain and wipe off excess filler

MACHINES, TOOLS, AND EQUIPMENT USED:

Tobacco cloth

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Safety 1. Wear protective gloves 2. Keep area clean DIVISION COMPLETED	
B. Set-up 1. Obtain cloth required for rubbing DIVISION COMPLETED	
C. Operating Procedure 1. Rub tops in a circle 2. Rub ends 3. Rub fronts 4. Wipe out insides 5. Remove excess filler DIVISION COMPLETED	

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Filler Picker

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES: Lead men at each department at Bernhardt Ind.

PRIMARY FUNCTIONS:
To clean and brush filler from cainers

MACHINES, TOOLS, AND EQUIPMENT USED:
brush, rag

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Safety 1. Keep area clean 2. Wear protective gloves to protect skin from stain DIVISION COMPLETED	
B. Set-up 1. Obtain a show type pick brush for picking 2. Obtain rags for wiping DIVISION COMPLETED	
C. Operating Procedure 1. Wipe off tops and ends 2. Wipe fronts 3. Brush out corners 4. Wipe insides clean DIVISION COMPLETED	

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Grain shading

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES: Lead men at each department at Bernhardt Ind.

PRIMARY FUNCTIONS: To accent grain and give wood character and depth by spraying fine lines along grain pattern

MACHINES, TOOLS, AND EQUIPMENT USED:

shade gun (DeVilbiss)

Upon completion of each division the supervisor will initial and give the date of completion.

ACCOMPLISHED
SUPERVISOR'S
INITIALS
DATE

DIVISION AND JOBS

A. Safety
1. Wear protective muzzle
2. Keep area clean
3. Wipe up spills immediately

DIVISION COMPLETED

B. Parts
1. Sprayhead assembly
2. Air cap
3. Sprayhead locking tube assembly
4. Fluid needle
5. Cylinder assembly
6. Fluid adjusting screw
7. Gun body
8. Trigger
9. Air valve and assembly
10. Tip and needle assembly

DIVISION COMPLETED

ACCOMPLISHED SUPERVISOR'S INITIALS DATE

C. Set-up
   1. Adjust pressure in line
   2. Adjust gun to spray fine line

DIVISION COMPLETED

D. Operating Procedure
   1. Grain shade tops and ends
   2. Grain shade fronts
   3. Shade light wood

DIVISION COMPLETED

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Highlighters

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES: Lead man at each department at Bernhardt Ind.

PRIMARY FUNCTIONS: To give wood character and depth by rubbing along grain with steel wool

MACHINES, TOOLS, AND EQUIPMENT USED:

steel wool

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Safety 1. Wear gloves to protect skin from steel wool splinter 2. Keep area clean DIVISION COMPLETED	
B. Set-up 1. Obtain the steel wool required for the job DIVISION COMPLETED	
C. Operating Procedure 1. Highlight tops and ends 2. Highlight fronts 3. Highlight between grain shade DIVISION COMPLETED	

Effective Date_____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Sealer Spray

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES: Lead men at each department at Bernhardt Ind.

PRIMARY FUNCTIONS: To seal the wiping stain so that it can be sanded smooth without damaging (removing or marking) the wiping stain

MACHINES, TOOLS, AND EQUIPMENT USED:
spray gun (DeVilbiss)

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Safety 1. Keep work area clean 2. Clean up any spills immediately 3. Wear protective muzzle DIVISION COMPLETED	
B. Parts 1. Gun Body 2. Sprayhead assembly 3. Air cap 4. Fluid tip 5. Sprayhead locking tube assembly 6. Fluid needle 7. Fluid adjusting screw 8. Cylinder assembly and adjustment 9. Air valve assembly 10. Trigger DIVISION COMPLETED	

ACCOMPLISHED SUPERVISOR'S INITIALS DATE

C. Set-up
1. Submerge the spray gun in lacquer thinner each morning to remove all exterior buildup of material
2. Oil lightly each day
3. Routine cleaning, especially the air cap, will assure smooth operation of the spray gun the remainder of the working day

DIVISION COMPLETED

D. Operating Procedure
1. Spray inside of case
2. Spray outside of case
3. Open doors for faster drying of inside in order that sanding process will go as it should.

DIVISION COMPLETED

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Glaze (Padding Stain or Blending Stain) Spray

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES: Lead men at each department at Bernhardt Ind.

PRIMARY FUNCTIONS: To give the piece the color and shade that is desirable and matches the sample

MACHINES, TOOLS, AND EQUIPMENT USED:
DeVilbiss Spray Gun
Spray booth

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Safety 1. Keep area clean 2. Wipe up spills immediately 3. Wear protective muzzle DIVISION COMPLETED	
B. Parts 1. Spray head assembly 2. Air cap 3. Sprayhead locking tube assembly 4. Fluid needle 5. Cylinder Assembly 6. Fluid adjusting screw 7. Trigger 8. Gun body 9. Air valve assembly 10. Tip and needle assembly DIVISION COMPLETED	

ACCOMPLISHED SUPERVISOR'S INITIALS DATE

C. Operating Procedure
1. Spray left side with an even coat
2. Spray inside of case
3. Spray front of case
4. Spray top of case
5. Spray right side of case

DIVISION COMPLETED

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Glaze Buster

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES: Lead men at each department at Bernhardt Ind.

PRIMARY FUNCTIONS: To rub the stain of pad the padding stain to bring out highlights and burn edges, antique it puts life in dead looking furniture

MACHINES, TOOLS, AND EQUIPMENT USED:
cloth, stain and cans for stain, alcohol, gloves

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Safety 1. Wear gloves to protect skin 2. Keep area clean and free of spills 3. Never leave soiled rags arounds as they are highly flameable DIVISION COMPLETED	
B. Set-up 1. Put gloves on 2. Get two small rags 3. Get stain ready 4. Have alcohol ready to weaken stain and wash stain if it is too dark DIVISION COMPLETED	
C. Operating Procedure 1. Squeeze rag out in a dry rag 2. Cup rag in your palm with rumpled edge to the furniture 3. Give light pats and strokes to dark areas 4. Stroke grain to highlight it's affect DIVISION COMPLETED	

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Inspection

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES: Lead men at each department at Bernhardt Ind.

PRIMARY FUNCTIONS: To check that all runs and dark spots are brushed out before the case leaves the inspection station, also check that pieces look alike

MACHINES, TOOLS, AND EQUIPMENT USED:
Rule, guides, clamps, brush, steel wool

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Safety 1. Keep area clean DIVISION COMPLETED	
B. Operating Procedure 1. Push burron on switch to start the chain Chain moves about 9-10 ft. per minute 2. Workers have about 30-40 ft. to finish their job on the case 3. Look over case for runs 4. Look over case for light or dark spots 5. Rub out dark spots with steel wool 6. Dab on stain to darken light spots 7. Inspect highlights 8. Rub any irregularities in highlights with steel wool. DIVISION COMPLETED	

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Sealer Spray #2

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES: ~~Lead Men at each Department at Bornhardt Ind.~~

PRIMARY FUNCTIONS: To seal the blending stain or padding stain so the hand padding that follows won't affect the blending or padding stain. Note: the sealer sprays give a build up of finishing coat

MACHINES, TOOLS, AND EQUIPMENT USED:

Spray Gun (DeBilbiss)
Spray booth

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Safety 1. Keep area clean 2. Wipe up all spills immediately DIVISION COMPLETED	
B. Parts 1. Sprayhead Assembly 2. Air cap 3. Sprayhead locking tube assembly 4. Fluid needle 5. Cylinder Assembly 6. Fluid adjusting screw 7. Trigger 8. Gun body 9. Air valve assembly 10. Tip and Needle assembly DIVISION COMPLETED	

ACCOMPLISHED SUPERVISOR'S INITIALS DATE

C. Operating Procedure
1. Spray left side of case
2. Open doors and drawers
3. Spray inside of case
4. Close door and drawers
5. Spray front of case
6. Spray top of case
7. Spray right side of case

DIVISION COMPLETED

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Cow Tailing

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES: Lead men at each department at Bernhardt Ind.

PRIMARY FUNCTIONS: To give an ancient look to furniture, as well as padding it antique

MACHINES, TOOLS, AND EQUIPMENT USED:
Brush for cow tailing, a special cowtailing stain, gas (white gas) clean rag, a can for stain, a can for gas

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Safety 1. Wear gloves, protect your skin 2. Never spill on floors, they become slippery 3. Never leave rags lying arounds, they are highly combustable from gas and stain DIVISION COMPLETED	
B. Set-up 1. Put gloves on 2. Check number of furniture and get proper stain 3. Mix stain and gas to proper consisting 4. Use a clean rag to squeeze brush alomost dry DIVISION COMPLETED	
C. Operating Procedure 1. Pick up brush 2. Using a rythm, not a pattern to cowtail 3. Use a back & forth, in and out, up and down motion with the brush to get desired finish DIVISION COMPLETED	

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Fly Specking Spray

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES: Lead men at each department at Bernhardt Ind.

PRIMARY FUNCTIONS: To decorate the piece of furniture with small spots to give antique look

MACHINES, TOOLS, AND EQUIPMENT USED:

Spray gun (DeVilbiss)
tanks

Upon completion of each division the supervisor will initial and give the date of completion.

ACCOMPLISHED
SUPERVISOR'S INITIALS
DATE

DIVISION AND JOBS

A. Safety
1. Keep waste material off of floor
2. Keep lids on containers (tanks)
3. Don't leave oily rags around
4. Keep check on valves

DIVISION COMPLETED

B. Parts
1. Sprayhead assembly
2. Air cap
3. Sprayhead locking tube assembly
4. Fluid needle
5. Cylinder assembly
6. Fluid adjusting screw
7. Trigger
8. Gun body
9. Air valve assembly
10. Tip and needle assembly

DIVISION COMPLETED

ACCOMPLISHMENT	SUPERVISOR'S INITIALS DATE
C. Set-up 1. Check bill to be sure of stain required 2. Add lacque thinner to stain 3. Cut stain for different colors 10 to 1 for white 6 to 1 for brown shades 4. Some browns are cut 4 to 1 DIVISION COMPLETED	
D. Operating Procedure 1. Turn air pressure on 2. Set gun for size by adjusting screw on top of gun 3. Keep spray gun 12 to 15 inches from furniture DIVISION COMPLETED	

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Shade spray

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES: Lead men at each department at Bernhardt Ind.

PRIMARY FUNCTIONS: To match colors in case to color in door jambs, drawer edges, china doors

MACHINES, TOOLS, AND EQUIPMENT USED:

Spray gun (DeVilbiss)

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Safety 1. Keep waste material off of gloor 2. Keep containers (tanks) covered 3. Dispose of oily rags 4. Keep a close check on pressure valves DIVISION COMPLETED	
B. Parts 1. Sprayhead assembly 2. Air cap 3. Sprayhead locking tube assembly 4. Fluid needle 5. Cylinder assembly 6. Fluid adjusting screw 7. Trigger 8. Gun body 9. Air valve assembly 10. Tip and needle assembly DIVISION COMPLETED	

ACCOMPLI[illegible] SUPERVISO[illegible] INITIALS DATE

C. Set-up
   1. Check bill to be sure proper stain is used
   2. Mix stains
   3. Fill spray gun
   4. Turn pressure on
   5. Shoot sample piece
   6. Adjust gun as necessary

DIVISION COMPLETED

D. Operating Procedure
   1. Fill spray gun
   2. Turn pressure on
   3. Keep spray gun 12 to 15 inches from furniture

DIVISION COMPLETED

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Lacquer Spray

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES: Lead men at each department at Bernhardt Ind.

PRIMARY FUNCTIONS: To apply the clear, hard, workable, durable coats of laquer to the finish on the piece of furniture

MACHINES, TOOLS, AND EQUIPMENT USED:

spray gun (DeVilbiss or ARO)
tanks, wrenches (special)

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Safety 1. Keep waste material off of floor 2. Keep lids on tanks 3. Keep check on valves DIVISION COMPLETED	
B. Parts 1. Sprayhead assembly 2. Air cap 3. Sprayhead locking tube assembly 4. Fluid needle 5. Cylinder assembly 6. Fluid adjusting screw 7. Trigger 8. Gun Body 9. Air valve assembly 10. Tip and needle assembly DIVISION COMPLETED	

ACCOMPLISHED SUPERVISOR'S INITIALS DATE

C. Set-up
   1. Check bill to be sure of correct lacquer
   2. Thin lacquer according to the finish being "built"
   3. Adjust gun pressure
   4. Check gun to be sure it is clean
   5. Shoot spray through gun to check fan

DIVISION COMPLETED

D. Operating Procedure
   1. Hold gun approximately 12 to 15 inches from furniture
   2. Spray the left side of piece
   3. Spray front of piece
   4. Spray top of piece
   5. Spray right side of piece

DIVISION COMPLETED

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Hot Box

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES Lead men at each department at Bernhardt Ind.

PRIMARY FUNCTIONS: To apply heat to the finish to dry it. The chain moves the cases side ways to allow ample time for the drying process

MACHINES, TOOLS, AND EQUIPMENT USED:
conveyor trip, chain length required for time lapse, hot box room, heater, thermostat

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Safety 1. Don't expose body to heat for excessive periods of time. DIVISION COMPLETED	
B. Parts 1. Thermostat 2. Booth 3. Conveyor DIVISION COMPLETED	

	ACCOMPLI... SUPERVISO... INITIALS DATE
C. Set-up 1. Set speed of chain 2. Allow ample time and distance of drying finish being run DIVISION COMPLETED	
D. Operating Procedure 1. Start chain 2. Set speed and time 3. Run pieces DIVISION COMPLETED	

Rub Room

The purpose of the rub room is to smooth the lacquer finish to a satin sheen. The rub room people use rubbing machines equipped with soft pads to rub the compound which is liberally applied to the finish. The rubbing machines are air operated and move back and forth at a rapid rate. The operator moves the rubbing machine from side to side on the surface to insure an even smooth finish on the entire area. The rub room is part of the area in the plant known as the Rub, Pack, and Ship Department. The cases that are rubbed in the rub room move down the assembly line to the pack and ship area where they are packed and crated for shipping. The furniture manufacturing process is complete when the shipment reaches it's destination for the customers enjoyment.

Effective Date _____

INDUSTRIAL COOPERATIVE PROGRAMS

TRAINEE: _____ BIRTH DATE: _____

SCHOOL: _____ COORDINATOR: _____

TRAINING STATION: _____

ADDRESS: _____ TELEPHONE: _____

OCCUPATIONAL TRAINER: _____

EMPLOYMENT OBJECTIVE: Rub Room

D.O.T. CODE NUMBER _____

LENGTH OF ACCREDITED TRAINING (1) (2) Years

REFERENCES Lead men at each department at Bernhardt Ind.

PRIMARY FUNCTIONS: To produce a smooth even finish on the lacquer surface

MACHINES, TOOLS, AND EQUIPMENT USED:
air powered rubbing machine, scotch bright pad, rubbing compound, waste cloth

Upon completion of each division the supervisor will initial and give the date of completion.

DIVISION AND JOBS	ACCOMPLISHED SUPERVISOR'S INITIALS DATE
A. Safety 1. Wear safety glasses 2. Keep hands from under pad DIVISION COMPLETED	
B. Parts 1. Air connector 2. Body 3. Motor 4. Pad 5. Pad catches DIVISION COMPLETED	

ACCOMPLISHED SUPERVISOR'S INITIALS DATE

C. Set-up
   1. Obtain rubbing compound
   2. Obtain pad
   3. Place pad on machine

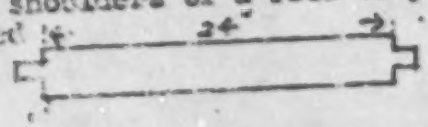
DIVISION COMPLETED

D. Operating Procedure
   1. Place table top on work table
   2. Apply rubbing compound
   3. Place machine on surface
   4. Start machine
   5. Move machine left to right until compound and pad have cut down the lacquer and a even finish is produced.

DIVISION COMPLETED

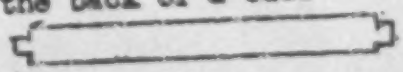
CONSTRUCTION TERMS & DEFINITIONS

B.S.....The distance between two shoulders of a rail or panel that is notched or tenoned

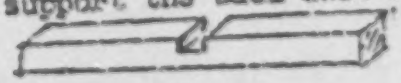


Back....The measurement of a tenoned panel or rail from the tenon to the back side or the surface not exposed to view as furniture is observed

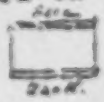
Back dust rails....A rail that fits between the End Panels or post in the back of a case



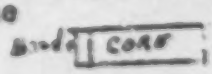
Back upright....A piece placed in the back of the case to position and support the back dust rail



Back veneer....The thin sheet of veneer that is placed on the surface of a plywood panel on the opposite side from the face

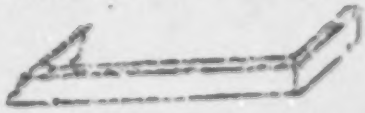


Band....A piece of wood or veneer placed on the edge of a core or panel so that when finished, the edge will resemble the other exposed parts of the case



Base....The lower section of a piece of furniture

Base rail....An exposed horizontal rail that fits at the bottom of a case



Block....To glue wood pieces to another to add to the size.

Bottom head rail....A rail that fits below the head panel, between the head post of a bed headboard

Brace blocks....Generally a triangular piece used to strengthen a piece of furniture

Cap Rail....A rail at the extreme top of a bed headboard, footboard or mirror frame

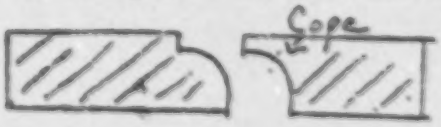
Case....A piece of furniture that has drawers and doors as opposed to chairs, tables, etc.

Center partition....A panel placed in a vertical position dividing the length of a case

Chip core....A wood substitute made of wood scraps and glue

Cleat....A strip of wood used to fasten two panels paralled to each other

Cope....To shape the ends of one piece to fit the shape of another piece



Core....The part that is the center of a plywood panel

Crossband....A thin sheet of veneer that is glued next to the core, in plywood panels, with the grain running in the opposite direction

Deck....The upper section of a piece of furniture

Drawer back....The panel that makes up the rear of the drawer

Drawer bottom....The panel that fits inside the drawer between the drawer front, sides and back

Drawer front....The front panel of a drawer

Drawer or door opening....The open space between the ends, uprights, and horizontal rails in a case in which the drawer must fit

Drawer partition....A panel that is placed front to back to divide the inside of a drawer

Drawer sides....The panel that encloses each end of the drawer

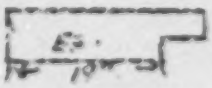
Dress....To cut to a desired thickness

Dust bottom....A thin plywood panel that fits in grooves between the parting rails, back dust rails and end dust rails

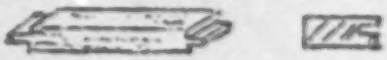
Dust frame....An assembly that fits lengthwise between the End Panels or post and under the drawers of a case, to support the drawers, and to prevent dust from getting into the drawers

Dust Rail....A piece that fits between the parting rail and back dust rail, separating the dust bottom

E.S.....The distance for the end of a rail or panel to the shoulder when the end is notched or tenoned



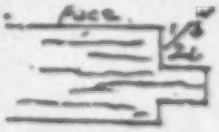
End dust rails....A piece that fits between the parting rails and back dust rails at each end of the dust frame



End panel....A vertical panel that encloses each end of a case or section of a case

End rails....Exposed rails that fit between the front and back post

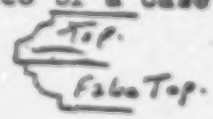
Face....The measurement of a tenoned panel or rail from the tenon to the face side. Also the side of a part that is exposed to view as you observe the furniture.



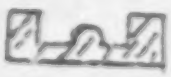
Face veneer....The thin veneer sheet that is placed on the exposed surfaces of a plywood panel

False bottom....An assembled frame that is fastened under the bottom of a case

False top....An assembled frame that is fastened under a top to add to the thickness or appearance of a case



Female drawer guide....A grooved piece of wood placed under the drawer bottom in a front and back direction that engages the male drawer guide

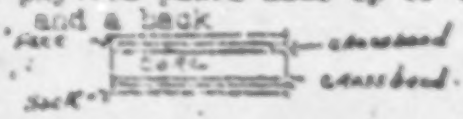


Finished length....The exact length necessary for assembly

Finished thickness....Thickness necessary for final assembly or veneering process

Finished width....The exact width of a part for final assembly unless allowance is made for shipping

5 Ply....The number of layers of a plywood panel made up of the core, two X bands, a face, and a back

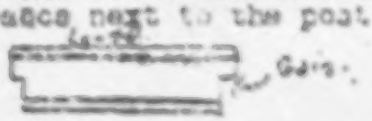


Front panel....A panel fit in the front of a piece of furniture

Front post....An upright piece at the front of each end of the case that extends to the floor

Front upright....A piece placed on the case in a vertical position between the drawers or doors

Gain of a drawer....A notched out section on the end of a drawer so that when dovetailed the drawer side will have clearance next to the post or end panel

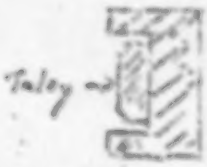


Grain....Direction in which the wood fiber is running

Head panel....A panel that fits between the post on a bed headboard

Head post....An upright piece at each end of a bed headboard that extends to the floor

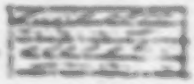
Inlay....An exposed piece of wood embedded in another exposed piece



Joint....To cut the edge of a wooden part for the purpose of smoothness or fitting

Laminate....To glue layers of wood together

Leg...A short post applied to the bottom of a case that extends to the floor



can be any ply.

Lock blocks....An upright piece fastened to a head or footboard tha is cut to accept the bed rail locks

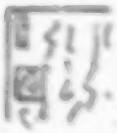
Male drawer guide....A square piece of wood that is placed on the dust frame in a front back direction that engages the female drawer guide

Master bill....A list, tag, or sheet, giving the specifications of a furniture part necessary for machining and processing

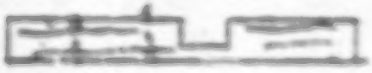
Miter....To cut a piece of wood on an angle

Molding....Decorative pieces of wood that are applied to exposed parts of furniture generally made with a molder or shaper

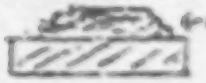
Mortise....A groove, round or square hole cut into a piece to receive a tenon



Notch....To cut out a section of one part to fit into another



Overlay....An exposed part fastened on the surface of another part



Parting rails....A rail that fits between the end panels or post in the front of a case

Pilaster....An upright strip placed on the end of front of a case

Plywood....A panel made up of various layers of wood glued together or laminated

Rabbet....A groove cut in the edge of a piece so that the edge of another may fit into it

Right or left side facing....A designation of the side as you stand in front of the furniture

Rip....To cut parts to a width lengthwise with the grain

Rough length....The length lumber is cut at the beginning of the machining process. Allowance is made in the rough length for final machining

Rough thickness....Thickness of lumber to be used to obtain desired finished thickness

Rough width....The width lumber is cut at the beginning of the machining process

Shelves....Horizontal panels placed within a cabinet for storage

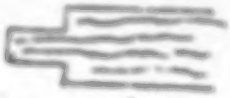
Shoulder....The section of a tenoned or notched cut that extends from the tenon or bottom of the notch, to the face or back side

Stile....The vertical part of a frame

Stop blocks....A small block placed in the back of a case on the dust frame to stop the drawer in the closed position

Stretcher....A rail that fits between the legs or post of a piece of furniture

Tenon....The distance from the shoulder or notch to the extreme end of a rail or panel. The part of a piece that fits into a groove or mortise



3 Ply....The number of layers in a plywood panel made up of a core and two face and back

Tilt rail....A rail placed above a drawer to prevent the front of the drawer from tilting when opened

To "take off" a case....The act of writing the master bill for the parts necessary to make a piece of furniture, as specified by the detail drawing.

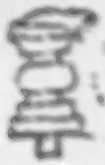
Top....The panel that is placed on the extreme upper part of a piece of furniture

Tray....A compartment placed inside a drawer for storage of small items

Tray drawer....A drawer that is fit into a case behind doors

Trim....To cut parts to a length across the grain

Turning...A round shaped piece of wood made on the lathe .



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Department of Industrial Engineering N.C.S.U.
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Raleigh, North Carolina

Furniture Construction by Rudolph Willard

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Raleigh, North Carolina

NORTH CAROLINA STATE UNIVERSITY | AT RALEIGH

SCHOOL OF ENGINEERING

DEPARTMENT OF INDUSTRIAL ENGINEERING
BOX 5511 ZIP 27607

April 11, 1975

Mr. William S. Stone
Caldwell County Schools
P. O. Box 309
Lenoir, North Carolina 28645

Dear Mr. Stone:

This is in reply to your letter of March 21 to Professor C. A. Anderson. It is agreeable to us for you to use excerpts from Production Woodworking Equipment and Furniture Construction in your furniture handbook for high school use.

If we can be of further help, please call on us.

Sincerely,

W. A. Smith, Jr.
Head

cc: Dr. A. L. Prak

/jj

APPENDIX N

Proposed Production Trainee Program

BERNHARDT INDUSTRIES

PLANT 1

PROPOSED PRODUCTION TRAINEE PROGRAM

Availability - The production Trainee will be recruited from Area Schools in conjunction with the principal and I.C.T. Coordinators in each school.

Purpose - The purpose of this program is to recruit young people with good potential, highly motivated, and a desire to succeed. These people should not be planning on a four year college program and should be available for work or study immediately

Goal - The ultimate goal of this program is to produce young qualified management level supervisors.

The Program - The program is the result of planning on the top management level, to cycle young people into the Bernhardt Organization to allow them to achieve the highest level they are capable of achieving. We are aware that too often young people just graduating from school seek employment elsewhere, feeling that we (the furniture industry) have little or nothing to offer. This program is designed to make available opportunities to young people and at the same time, supply our our organization with good skilled craftsmen and possibly potential Supervisors.

The trainee will be brought into our organization under the direct supervision of the Assistant Supervisor of a particular department. The department will be decided by the trainee's interest and ability, plus the need of the organization. The trainee will be the ultimate responsibility of the department supervisor with the Assistant doing the actual training with assistance from the lead men in that department. Training plans are complete and the program is structured with the eventual goal of starting the trainee upon completion of training, as an Assistant Supervisor. Other areas of responsibility are open such as Priority Scheduling Supervisor, Safety Director, etc.

Our Production Trainees will not be classified as management trainees because our program is flexible enough that if our trainees are not capable of achieving Supervisory level positions, we will have made of them well qualified lead men or operators with no stigma attached because of not reaching that ultimate level. Therefore, this program should not be mistaken by name as a Management Training Program.

Salary	- The trainee will be a non-exempt hourly paid employee with above average starting pay. He will be eligible under our Merit Review System ninety days after employment. He will again be reviewed in ninety days and every six months after the second ninety day period.
Benefits	- The trainee will be elig ble for our group insurance plan which provides Major Medical Coverage for himself and his dependents. We have three paid holidays with two weeks vacation and a bonus paid at each vacation period.
Educational Opportunity	- The trainee, upon graduation from high school, as part of his training program, will be enrolled at Caldwell Community College in the Furniture Production Curriculum. All fees, books, and tuition will also be paid at his regular rate of pay for time spent in school.

APPENDIX O

Drop-out Identification System
and results of 1976 Identification in Caldwell County.

Drop-Out Identification System

CRITERIA - GRADES 4-9

CATEGORY I - Academic Abilities and Achievement

1. History of academic failure and low scholastic achievement. Any student who has been retained and/or who has failed two or more courses and/or who has a D average or below should be flagged for further study.
2. Depressed reading scores. Any student who has an ID from criterion I_1, and has a standardized reading score more than 1.5 grade levels below norms should be given "tentative" identification.
3. Depressed IQ. Any student who exhibits criterion I_1 and I_2 and has a measured IQ from 0-16 percentile should be given "possible" identification.
4. Low academic motivation. By teacher observation, any student who exhibits criterion I_1 and I_2 and/or I_3 and is lax in completing assignments, forgetful of academic obligations, indifferent in doing in-class assignments, inattentive during class discussions, has low achievement scores and/or is unprepared consistently to do classwork, should be given a "probable" identification.

CATEGORY II - School Environment

1. High absentee rate. Any student who can be characterized by any three criteria in Category I and has an absentee rate more than five days per marking period should be given a "probable" identification. Each criterion less than three will reduce the classification one level.
2. Abrasive and self-denying behaviors. Any student who can be

characterized by any three criteria in Category I and consistency is rude, disruptive, clownish, self-deprecating, and/or hostile, should be given a "probable" identification. Any student who shows all characteristics listed so far is "most probable" and should receive immediate attention.

3. Frequent transferring of schools. Any student who can be characterized by any three of the existing six criterion and has a history of attending excessive numbers of different schools should be given a "possible" identification. For each additional criterion that can be applied, the identification classification should be raised one level.

CATEGORY III - Familial

1. Low parental education. Any student who has been classified by the above seven criterion and whose parent(s) have less than an eighth grade education should be reclassified one level higher.
2. Low support to achieve. Any student who has been classified by the seven criterion in categories I and II and whose parent(s) are indifferent to his/her school achievements should be reclassified one level higher. If both familial criterion apply, the reclassification should be two levels higher.

CATEGORY IV - Physical

1. Visual-Motor Problems. Any student who has been classified by the criterion given in Categories I-III and has observed problems in visual-motor coordination such as apparent dyslexia or lack of hand-eye coordination in physical education should be reclassified one level higher.

2. Untreated dental and medical problems. Any student who has been classified by the criterion in Categories I-II and who shows medical and/or dental symptoms that are untreated, including poor nutrition, should be reclassified one level higher. If both physical criterion apply, the reclassification should be two levels higher.

CATEGORY V - Social Relationships

1. Non-participant in school activities. Any student who has been classified by the criterion in Categories I-IV and who has little or no participative activity in the school's extra-curricular program should be reclassified one level higher.
2. Reported delinquent activity. Any student classified by the criterion in Categories I-III and who has been arraigned for delinquent activities such as running away, substance abuse (drugs, alchohol, etc.), assault, breaking and entering, and larceny should be reclassified one level higher. If both social relationship criterion apply, the reclassification should be two levels higher.

CATEGORY VI - Personality Characteristics

1. Low attitude toward school. Any student who has been classified by the criteria in Categories I-IV and who has a low attitude toward school should be reclassified one level higher.
2. Low need to achieve. Any student who has been classified by the criterion in Categories I-IV and who indicates a low need to achievement should be reclassified one level higher. If both personality criteria apply, the reclassification should be two levels higher.
3. Low desire for order and control. Any student who has been classified by the criterion in Categories I-V and who reveals a low desire

for control and orderliness should be reclassified one level higher. If one other personality criterion applies, the reclassification should be moved up two levels. If all three apply, the reclassification should go up three levels.

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Drop-Out Identification Teacher Worksheet

SUMMARY SHEET

Student's Name_____ School_____

Age_____ Grade_____ Sex_____ HR_____

Home Address_____

Parent(s) Name_____ Phone_____

Criteria

Category/Criterion	(✓)
I. Academic Abilities & Achievements	
1. Academic Failure/Low GPA - D Average or Below	
2. Low Reading Score - 1.5 Grade Level Below Norms	
3. Low I.Q. - Below 85 or the 16th Percentile	
4. Low Academic Motivation - Inattentive, poor work habits, low ACH scores	
II. School Environment	
1. High Absentee Rate - more than 5 days per marking period	
2. Abrasive Behavior - rude, disruptive, clownish, hostile	
3. Frequent Transfers - more than 4 schools attended	
III. Familial	
1. Low Parent Education - less than 8th grade	
2. Low Support to Achieve - lack of academic support	
IV. Physical	
1. Visual-Motor Problems - hand/eye coordination, dyslexia, etc.	
2. Untreated Medical/Dental - poor health, poor teeth, poor nutrition	
V. Social Relationship	
1. Non-Participant/Extra-Curr. - poor school participation	
2. Delinquent Behavior - arraignment, arrest, conviction	

DIRECTIONS: For each criterion that applies to a particular pupil, place a check (✓) in the appropriate space in the right hand column. The explanations are descriptive and not exclusive. Do not rate a student unless he/she displays at least two (2) of the criterion in Category I, Academic Abilities and Achievement. Return to your principal. Thank-you.

Pages 887 through 906 containing computer printout material for the Drop-Out Identification System was not reproducible and was removed from this document prior to its being submitted to the ERIC Document Reproduction Service.

Caldwell County Schools

Analysis of Drop-Out Identification Results

From

January, 1976 Survey

ANALYSIS OF RESULTS FROM THE

DROP-OUT IDENTIFICATION SYSTEM

1. As suspected, the academic area (I_1-I_4) turned out to be most predictive of drop-out potential. This finding is consistent with the literature and with our own hypothesis.

* 2. The single greatest contributor to drop-out potentiality is an inadequate reading ability. Since schooling is so highly verbal oriented, an inability to read will negatively influence many other manifestations of drop-out potentiality. An unsuccessful reader, by and large, is an inadequate and unsuccessful student.

3. Excessive absenteeism is not a major factor in drop-out potential in Caldwell County. The spread of students identified as excessive in absence increases with age, a factor consistent with the reality that ADA is higher in elementary schools than in secondary or middle schools.

4. As indicated by I_4 (Low Motivation to Achieve), III_2 (Low Home Support for Achievement) and V_1 (Non-participant in extra curriculars) much work needs to be done to strengthen the affective education of Caldwell students. For students who exhibit these characteristics, ways must be found to build their confidence and self-image.

5. Based on the finding in the third area dealing with parental influence, some rather intensive work in parent effectiveness is warranted, particularly for Special Education youngsters.

6. Lack of academic success (and hence drop-out potential) does not manifest itself in abrasive or abusive behavior in all

instances. In fact, less than half as many cases were categorized for abrasive behavior is a sympton, but not a cause of drop-out potential.

7. Physical status seems to be a minor factor in predicting drop-out potential. While the presence of untreated medical and/or dental problems, or the presence of visual-motor difficulties is real to those who possess them, they make up a small portion of the total number identified.

8. It would appear that while no single attendance area has a significatnly more pronounced problem than others, several schools seem to have a significantly higher proportion identified. The county average was 9 per cent. Eleven schools registered percentages above that figure; eight registered below. Five recorded a proportion at 12 per cent or above. I would suggest that if target schools are to be taken, they should be selected in decending order of percentage. This is not to pick on or shame a particular school; it is a recognition of the location of problem concentration.

9. The classification sub-system revealed that as the severity of the categories increased, so did the number of students so classified, ranging from one (flagged) to 442 (near certain). The whole matter of dropout prevention by curricular means needs severe attention.

10. No particular grade level stands out as needing more attention than others. The numbers are pretty consistent.

SUPERINTENDENT'S SUMMARY
Special Education

Criterion	Grade Level									
	2	3	4	5	6	7	8	9	T	%
Ia - Academic Failure	11	22	20	21	17	33	27	0	151	90.4
Ib - Low Reading	10	26	22	25	17	37	25	0	162	97.0
Ic - Low IQ	8	23	18	22	17	35	27	0	150	89.8
Id - Low motivation	12	21	18	17	11	26	23	0	128	76.6
IIa - Absenteeism	3	3	2	2	2	8	9	0	29	17.4
IIb - Abrasive Behavior	2	14	3	4	7	15	3	0	48	28.7
IIc - Transfers	0	1	3	2	0	0	1	0	7	4.2
IIIa - Low Home Education	3	12	10	10	10	26	14	0	85	50.9
IIIb - Low Home Support	8	10	16	15	9	23	14	0	95	56.9
IVa - Visual-Motor Prob.	5	13	7	4	1	6	2	0	38	22.8
IVb - Untreated Problems	4	4	10	6	4	9	4	0	41	24.6
Va - Non-Participant	7	6	9	9	10	23	17	0	78	46.7
Vb - Delinquency	0	0	0	1	0	3	1	0	5	3.0
TOTAL	12	26	22	25	17	37	28	0	167	

SUPERINTENDENT'S SUMMARY
Regular Education

Criterion	Grade Level									
	2	3	4	5	6	7	8	9	T	%
Ia - Academic Failure	88	103	83	119	122	138	125	0	778	79.4
Ib - Low Reading	84	140	102	152	140	133	131	0	882	90.
Ic - Low IQ	29	93	72	97	105	90	97	0	583	59.5
Id - Low Motivation	80	94	92	130	133	130	134	0	793	80.9
IIa - Absenteeism	14	15	16	18	30	40	48	0	181	18.5
IIb - Abrasive Behavior	32	44	43	56	56	45	45	0	321	32.8
IIc - Transfers	3	5	6	4	6	8	13	0	45	4.6
IIIa - Low Home Education	32	73	34	67	56	53	69	0	384	39.2
IIIb - Low Home Support	56	88	58	83	65	67	98	0	515	52.6
IVa - Visual-Motor Prob.	21	20	13	18	13	6	3	0	94	9.6
IVb - Untreated Problems	30	29	20	30	23	23	23	0	178	18.2
Va - Non-Participant	30	58	36	68	61	91	94	0	438	44.7
Vb - Delinquency	5	1	2	9	6	8	9	0	40	4.1
TOTAL	106	145	111	159	157	151	151	0	980	

954

REGULAR STUDENTS - 980 STUDENTS IDENTIFIED

Schools	Grade Level							
	2	3	4	5	6	7	8	TOTAL
Hudson Elementary	4	12	8	12	8	12	5	61
Baton Elementary	3	6	11	14	13	18	10	75
Saw Mills Elemen.	2	1	-	6	2	2	6	19
Whitnel Elementary	12	25	8	17	10	13	11	96
TOTAL ATTENDANCE AREA:				(Hudson)				251
Oak Hill Elemen.	1	1	5	3	2	-	2	14
Kings Creek Elem.	-	-	6	6	12	11	-	35
Valmead Elementary	21	13	11	21	22	-	-	88
Lower Creek Elem.	7	8	7	2	7	-	-	31
Happy Valley Elem.	22	19	9	4	12	9	15	90
TOTAL ATTENDANCE AREA:				(Hibriten)				258
Granite Falls El.	3	11	7	17	13	12	37	100
Dudley Shoals El.	2	2	-	8	8	14	9	43
Rhodhiss Elementary	2	3	2	6	1	-	10	24
TOTAL ATTENDANCE AREA:				(Granite Falls)				167
Lenoir Middle	-	-	-	-	-	20	16	36
West Lenoir Elem.	11	12	18	14	20	-	-	75
East Harper Elem.	1	8	-	-	-	-	-	9
Davenport	-	-	3	6	8	-	-	17
TOTAL ATTENDANCE AREA:				(Lenoir)				137
Gamewell Elementary	14	20	13	18	15	-	-	80
Collettsville Elem.	2	4	3	5	3	5	4	26
Gamewell Middle	-	-	-	-	-	35	26	61
TOTAL ATTENDANCE AREA:				(Gamewell Collettsville)				167
							TOTAL:	980

SCHOOL	MEMBERSHIP 5th School Month	NUMBER STUDENTS IDENTIFIED	PERCENT
Baton Elementary	739	75	10%
Collettsville Elem.	471	26	6%
Davenport Elem.	244	17	7%
Dudley Shoals Elem.	402	43	11%
East Harper Elem.	270	9	3%
Gamewell Elem.	834	80	10%
Gamewell Middle	310	61	20%
Granite Falls Elem.	929	100	11%
Happy Valley Elem.	542	90	17%
Hudson Elem.	1286	61	5%
Kings Creek Elem.	299	35	12%
Lenoir Middle	533	36	7%
Lower Creek Elem.	431	31	7%
Oak Hill Elem.	235	14	6%
Rhodhiss Elem.	233	24	10%
Saw Mills Elem.	589	19	3%
Valmead Elem.	331	58	27%
West Lenoir Elem.	392	75	19%
Whitnel Elem.	925	96	10%
TOTAL:	9995	980	9%

Drop-Out Reporting System

Developed by the

Guidance Oriented Alternative Work Experience Project

CALDWELL COUNTY SCHOOLS

Lenoir, N.C. 28645

REPORT OF DROP-OUTS

School: _____ Month: _____

Principal: _____ Date Submitted: _____

NAME-ADDRESS	Date Dropped	Birth Date	Age	Grade	Code	Comments
Name Address Phone						
Name Address Phone						
Name Address Phone						
Name Address Phone						
Name Address Phone						

CODE-DROPOUTS

W1 Pupil left school to help support family.
W2 Pupil has found a job opportunity and cannot turn it down.
W3 Pupil is married and needs to leave school to work.
W4 Pupil feels no success at school.
W5 Pupil is entering Armed Services.
W6 Pupil was withdrawn for non-attendance. Parents notified.
W7 Pupil was withdrawn for disciplinary reasons.
W8 Pupil was committed to correctional institution.
W9 Pupil was excused from school attendance because of physical or mental disability.
W10 Pupil is pregnant and wishes to drop-out.
W11 Pupil left school for a reason other than above (explained under comments)
W12 Pupil left school for reasons unknown.

White/Superintendent's Copy Blue/School Copy Green/Extended School Day Copy

APPENDIX P

Discipline Code of Conduct

APPENDIX Q

Third-Party Evaluation Contract

BEST COPY AVAILABLE

A PROPOSAL FOR EVALUATION OF THE GUIDANCE ORIENTED ALTERNATIVE WORK EXPERIENCE PROGRAM AND FOLLOW-UP STUDY

A PROPOSAL FOR EVALUATION OF THE GUIDANCE ORIENTED ALTERNATIVE WORK EXPERIENCE PROGRAM AND FOLLOW-UP STUDY

Submitted to:

Caldwell County Board of Education

by

Appalachian State University
Boone, North Carolina 28608

October 17, 1974

Dr. James W. Jackson, Dean
College of Continuing Education

Dr. Gerald M. Bolick, Director
Division of Community and
Regional Services

Mr. Richard Arnold, Associate
Vice Chancellor for Business Affairs

Dr. Roland L. Tuttle, Jr.,
Evaluator

North Carolina
Caldwell County

This contractual agreement, made and entered into this seventeenth day of October, 1974, and between Caldwell County Board of Education, Lenoir, North Carolina, hereafter referred to as Caldwell County Board and Appalachian State University hereafter referred to as the contracting agency.

Witnesseth:

I. The Caldwell County Board hereby agrees:

a. To provide financial assistance for the cost of performance of this Contractive Agreement not to exceed $4,335.00. The Caldwell County Board agrees to make payment on an actual cost reimbursement basis to the Contracting Agency upon submission of proper documentation of costs incurred in connection with the Evaluation of the Guidance Oriented Alternative Work Experience Project and Follow-Up Study funded under the U. S. Office of Education Grant No. OEG-0-74-8580.

b. To cooperate with Contracting Agency by providing necessary information, records, and coordination for the design development and initiation of the evaluation.

II. The Contracting Agency hereby agrees:

a. To design and conduct an evaluation of the Guidance Oriented Alternative Work Experience Project within the provisions set forth in the U. S. Office of Education Grant award document for Grant Number OEG-0-74-8580, Project number V0180VZ.

b. To evaluate the Guidance Oriented Alternative Work Experience Project utilizing the strategies and evaluation procedures presented on pages 2-8 of the attached proposal.

c. To provide continuous evaluative feedback to the Guidance Oriented Alternative Work Experience Project Staff throughout the period of this contractual agreement which will aid them in the improvement of the project.

d. Appalachian State University agrees to allow access to any books, documents, papers, and records concerning the contract which the Caldwell County Board of Education, the secretary of the U. S. Department of Health, Education, and Welfare, the Controller General of the United States, or any of their duly authorized representatives determines or is pertinent to the specific grant or contract for the purpose of making audit, examination, excerpts, and transcripts.

III. The Caldwell County Board and Contracting Agency hereby mutually agrees:

a. To work cooperatively in planning and conducting the aforesaid evaluation program.

b. That amendments may be made to this contractual agreement during the term of agreement and only by the approval of each and both parties to the Contractual Agreement.

IV. Terms of Agreement:

This Contractual Agreement is entered into the aforementioned date and is effective from the period October 21, 1974, through November 30, 1975.

In the event the Contractor fails or violates the contract terms all reimbursement after that date will end and this contract will become null and void.

In the event the Contractor documents to the satisfaction of the Caldwell County Board of Education that circumstances beyond their control have required them to terminate the contract, then the Caldwell County Board of Education will reimburse the Contractor for documented expenses incurred before the termination date.

Attest:

For the Caldwell County Board of Education:

Chairman Date

Secretary Date

PROPOSAL FOR RESEARCH AND/OR RELATED ACTIVITIES
SUBMITTED TO THE CALDWELL COUNTY BOARD OF EDUCATION

TITLE:	Evaluation of the Guidance Oriented Alternative Work Experience Program and Follow-Up Study
GRANT NUMBER:	OEG-0-74-8580
PROJECT NUMBER:	V0180VZ
GRANT AUTHORITY:	P. L. 90-576, Title I - Vocational Education, Part C, "Research and Training in Vocational Education," CFDA #13.498, APPRO: 7540273, CAN: 2001319, OBJ. CL.: 41.51

This contract shall be administered in accordance with 45CFR, Part 100, DHEW, Office of Education, General Provisions for programs, Administrative and Fiscal Requirements.

"A[illegible]inistrative responsibility for monitoring the performance of this contract will be retained by the Grantee."

"This contract is related to and in support of the basic Grant. No changes may be made in content of the scope of work without the approval of the office of Education Grants Officer."

APPLICANT ORGANIZATION:	Appalachian State University, Boone, NC
INITIATORS:	Dr. Roland L. Tuttle, Jr., Evaluator
TRANSMITTED BY:	Dr. Gerald M. Bolick, Director, Divisio of Community and Regional Services
CONTRACTING OFFICER:	Mr. Richard Arnold, Associate Vice Chancellor for Business Affairs
DURATION OF ACTIVITY:	Beginning October 21, 1974, and ending November 30, 1975.
TOTAL FUNDS REQUESTED:	$4,335.00
TYPE OF PROPOSAL:	New

A PROPOSAL FOR THE EVALUATION OF THE GUIDANCE ORIENTED ALTERNATIVE WORK EXPERIENCE PROJECT

I. Introduction

The proposal is a plan for the third-party evaluation of the Guidance Oriented Alternative Work Experience Project being conducted in the Caldwell County School System. This proposal represents a study of the work experience project as it attempts to find answers to some nation-wide problems in vocational education. The overall goal of the Alternative Program is to search for ways to provide realistic trade training experiences not now provided in public schools and to improve existing trade training programs. The evaluation proposal will measure the level of success achieved in Caldwell County.

II. Overview of Alternative Program

To further understanding of the relationship of this evaluation proposal to the overall project, it is important to note a few basic guidelines of the project.

The official title of the project is The Guidance Oriented Alternative Work Experience Program and Follow-Up Study. The primary purpose of the project is to research a program designed to alleviate and overcome:

(1) Lack of communication between industries, businesses, and the public schools concerning needed changes in vocational-occupational training.

(2) High percentage of students trained in our schools in traditional occupational programs who do not remain on those jobs after graduation.

(3) Lack of adequate placement programs for students.

(4) Lack of a training curriculum developed by industry and public schools in the area of textile and furniture manufacturing for industrial cooperative training programs.

These problems are common to many areas of the nation. The project expects to accomplish the following benefits to deal with the above problems:

(1) Development of comprehensive career guidance programs within the county high schools.

(2) Establish a model county-wide job placement program to serve high school students in Caldwell County.

(3) Development of work experience programs in the area of textile and furniture manufacturing that will reduce requirements for more and more expensive occupational laboratories within our schools.

(4) Development of an individualized curriculum for industrial cooperative training classes.

III. Evaluation Design

Goals and Procedures

The evaluation proposal establishes four objectives to be achieved by the Appalachian State University Third-Party Evaluation Team:

1. To determine the extent to which a comprehensive career guidance Program has been developed within Caldwell County high schools.

The project director will furnish the Appalachian State University Evaluation Team with a detailed summary of the career guidance activities that have occurred as a result of the project from each of the county high schools. A third-party evaluation team of three educators selected by the ASU evaluation team will review this guidance material and judge whether an adequate career guidance program has been implemented. Persons serving on this guidance committee will include the chief consultant of Pupil Personnel Services with the N. C. State Department of Public Instruction along with two persons from the Department of Guidance and Counseling from Appalachian State University.

2. To determine the extent to which a model job placement program has been implemented to serve all high school students within the Caldwell County School System.

The project director will provide the Appalachian State University evaluation team with a detailed log of the placement coordinator's daily activities, detailed list of the number of students served and placements made at each high school, and a detailed guide produced by the project staff covering the implementation of a unit-wide placement service.

The third party guidance team selected by ASU will review the above information and evaluate whether or not a model job placement program has been developed.

3. To determine the extent to which model work experience programs have been established in the areas of textile and furniture manufacturing that will provide both the skill, development, and job climate necessary to achieve and maintain meaningful employment in local industries.

The Appalachian State evaluation team will make a comparative analysis of two groups of students: 1) Regular cooperative and vocational students, and 2) Alternative Work Experience students. A random sample of the regular cooperative training students will be made by the project staff. The project staff will pre- and post-test, using instruments jointly decided on by the project director and the ASU evaluation team, the work experience students as well as the randomly sampled cooperative training students.

A model curriculum guide for Industrial Cooperative Training Programs in the areas of textile and furniture manufacturing will be developed by the project staff and copies given to the evaluation team by October, 1975.

An on-site visitation of the Work Experience Programs will be conducted by an evaluation team before the end of the 1974-75 school year.

The Appalachian State University evaluation team will select two members of the on-site visitation team as well as develop all necessary instruments for recording data. The Caldwell County Board of Education will select the third member of the on-site evaluation team.

4. To determine the extent to which a follow-up study of the work experience students, regular I. C. T. students who were randomly selected in the control groups, and all 1974-1975 high school graduates of Caldwell County Schools has been established in order to determine the success of these people in terms of salary, job mobility, etc.

The project director will make available to the Appalachian State University Evaluation Team before October, 1975, copies of all instruments used in the follow-up study, the number of people who received these instruments, and the results of the follow-up study along with the original instruments that were returned.

General Strategy

Due to limited funding of the project, it is understood that the gathering of survey and other instrumentation data for the evaluation will be the obligation of the local project director and staff unless otherwise stated in the proposal. Further, the Guidance Oriented Alternative Work Experience Project will provide funds for per diem and travel for the on-site evaluation team.

The evaluation instruments for student performance include the Minnesota Vocational Interest Inventory and the Tennessee Self-Concept Scale. The Minnesota Vocational Interest Inventory provides 21 scales for occupations. There are also nine area scales showing the examinee's liking for work activities common to several occupations, such as mechanical and electronics. The items are oriented toward vocational activities, and are presented in a forced-choice triad format.

The Tennessee Self-Concept Scale consists of 100 self-descriptive items to which the examinee responds as to how he sees himself. Fifteen scales will be used in the evaluation. They include: behavior, identity, self-satisfaction; physical, social, personal, family, moral-ethical self-concepts.

These instruments have been selected and approved by both parties. The project will purchase the instruments and assist in the development of new instruments which may be necessary.

The project director will be responsible for publication of copies of the final evaluation report. The Appalachian State University Evaluation team will furnish offset printing mats of the report and in turn be provided a minimum of five copies of the final report within one month after the mats have been provided.

Delineation of Responsibilities

The Guidance Oriented Alternative Work Experience Project director and the Appalachian State University evaluation team director will:

1. Develop a time schedule (for times not specified previously) agreeable to both parties by October 31, 1974.
2. Meet monthly for joint planning and evaluation of progress.
3. All communications related to the project shall be in writing including confirming memoranda of telephone calls.
4. Special meetings related to evaluation may be called by either party (both parties agreeing on need).

5. Establish an orientation for the evaluation process.

6. Select or develop all instruments used in the evaluation of student performance.

The Appalachian State University team will:

1. Assist the project staff in establishing proper experimental and control groups.

2. Compile and analyze data from survey instruments administered by the project staff.

3. Organize and conduct orientation session for the on-site evaluation team who will look at the work experience component of the project.

4. Propose an overall evaluation report based on an analysis of data from survey instruments, from the on-site evaluation team reports, from the project staff's daily logs, from all summaries of activities occurring, and from the curricula guides prepared by the project staff.

5. Furnish mats of the final report to the project staff.

6. Furnish the Caldwell County Board of Education a mid-term report on the evaluation process in the March board meeting.

7. Provide general secretarial assistance and key punch service.

The Project director will:

1. Administer all data collection instruments and deliver to the Appalachian State University Evaluation Team.

2. Make necessary arrangements for the on-site evaluation.

3. Provide the evaluation director with copies of all staff logs, quarterly reports, and curriculum materials produced.

4. Reproduce and distribute the final evaluation report.

IV. Personnel

Coordinator of Evaluation

The coordinator will serve as a consultant (under ASU policy) relating to the management/coordination functions pertaining to the evaluation of the program. He will assume his responsibilities October 21, 1974, and continue in this capacity until November 30, 1975. He will be directly responsible as a consultant to the project staff for research design, analysis of data, report writing, and the on-site evaluation. The coordinator will spend 15 consulting days in this position.

Dr. Roland L. Tuttle, Jr., currently a member of the faculty in Secondary Education at ASU, has agreed to serve in this capacity. Dr. Tuttle has an Ed.D. in curriculum, supervision, and instruction from the University of North Carolina at Chapel Hill. He has experience in research and evaluation, in addition to teaching research, measurement, and statistics. He is the coordinator for research in the College of Education, ASU.

Dr. Tuttle's vita is included as Exhibit A in this proposal.

Programming Consultants

Dr. Patricia E. Gaynor, faculty consultant in the use of the computer, ASU, will program the data for statistical analysis. Dr. Gaynor holds a Ph.D. in educational research from Miami.

Secretarial/Key Punch Assistance

Secretarial assistance and key punch services will be available from the appropriate ASU department as needed and at a cost reflected in the attached budget.

Administration and Coordination

The Division of Community and Regional Services, as a service vehicle of the College of Continuing Education, ASU, will provide administrative and coordinative assistance to the evaluation project. This Division is the liaison with the University and the region it serves.

V. Timetable for Implementation

Monthly meetings for joint planning and evaluation of progress will be held at a time mutually agreeable to all parties.

1974

October 17	Presentation of Evaluation Proposal to Caldwell County Board of Education
October 31	Development of a time schedule for the evaluation

1975

March	Progress report to school board
April	On-site visitation team
May 31	Evaluation Goal 1 Evaluation Goal 2

1975

August 31	Evaluation Goal 4
November 30	Evaluation Goal 3

VI. Budget

The total expenditures are based on a 14-month period at a total cost of $4,335.00, as reflected in the attached budget. Appalachian State University will submit on a periodic basis a statement to the Caldwell County Board of Education a statement of expenses incurred. The statement will indicate expenses as outlined in the attached budget. Justification of these expenses will be on file in the Division of Community and Regional Services, Appalachian State University.

BUDGET

Category	Project Cost By Line Item
Personnel Costs	
Evaluator (15 days, $100 per day)	$1,500.00
Third Party Evaluation Team (three, one day each at $100/day)	300.00
Programming Consultant (two days at $100/day)	200.00
Secretary/Key Punch Operator (100 hours at $3.00/hour)	300.00
Employee Service and Benefits (.16 x applicable personnel costs)	288.00
Travel	
Evaluator	50.00
Third Party Evaluation Team	50.00
Third Party Evaluation Team (Subsistence, one day each at $25/day)	75.00
Supplies and Materials	
General Office Supplies	100.00
Data Processing	
Computer (three hours at $200/hour)	600.00
Administration and Coordination	
Division of Community and Regional Services	872.00
Total	$4,335.00

Teaching Experience (cont.)

Teacher: 10, 11, 12th grade mathematics, Trinity School, New York, New York: 9/66-6/67

Teacher: mathematics, North Carolina Governor's School, Salem College, Winston-Salem, North Carolina: Summers of 1966 and 1967

Aupervizor of Associate Teachers: School of Education, Fifth Year Program in Teacher Education, University of North Carolina at Chapel Hill, North Carolina: 6/68-6/70

Assistant Professor: College of Education, Appalachian State University, Boone, North Carolina: 9/70-present

Consulting

1. Phi Delta Kappa Human Rights Commission (1972)

2. Buncombe County School System

3. Program Evaluator for Project Affect at Aynor High School, Aynor, South Carolina

4. Process Evaluation Committee for the Caldwell County Career Education Project, Lenoir, North Carolina

5. WXII-TV Television in Winston-Salem, North Carolina

6. Hendersonville City Schools

7. Erwin School System, Erwin, Tennessee

Articles

Tuttle, Ron, "Product Evaluation of Project Affect, 1972-73," June, 1973 (An unpublished study financed by the United States Office of Education, Project Number 50-71-72-0058).

Professional Organizations

American Educational Research Association
Phi Delta Kappa
North Carolina Association of Educators
North Carolina Association for Research in Education

State Committees

Member of the North Carolina State Superintendent's Task Force on Secondary Education

VITA

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Place of Birth: Winston-Salem, North Carolina
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Marital Status: Married, with one daughter

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Name of Institution	Dates	Degrees Received	Major
Mars Hill College Mars Hill, NC	9/59-6/60	--	Mathematics
University of North Carolina Chapel Hill, NC	9/60-6/63	AB	Mathematics
Columbia University New York, NY	9/65-6/67	MA	Mathematics Education
University of North Carolina Chapel Hill, NC	9/67-6/70	Ed. D.	Major: Curriculum, Supervision and Instruction Minor: Mathematics

Dissertation Title: The Effects of Video Tape Self Analysis on Teacher Self Concepts, Effectiveness, and Perceptions of Students

Teaching Experience

Teacher: 5, 6, 7 and 8th grade mathematics and science: St. Thomas School, New York: 9/63-6/65

Teacher: 8, 9th grade mathematics and science: St. David's School, New York, New York: 1/66-7/66

APPENDIX R

Schedule for on-site evaluation

GUIDANCE ORIENTED ALTERNATIVE WORK EXPERIENCE PROJECT

On-Site Evaluation

April 16, 1975

8:00 - 9:00 Orientation Caldwell County Administrative Offices
Welcome - Dr. Gerald D. James, Superintendent
Introduction of evaluation team - Dr. Ron Tuttle, Director Third Party Evaluation
Special Problems - Bill Stone, Project Director
Career Guidance Materials
Review of evaluation packets - Dr. Ron Tuttle
Team Assignments

Guidance Team - escort Martie Barnes

9:30	Lenoir High School
10:30	Gamewell-Collettsville
11:30	Hibriten High School
12:30	Granite Falls High School (LUNCH)
2:00	Hudson High School
2:45	Caldwell County Administrative Offices
2:45	Talk with project staff
3:30	Team time to complete evaluation forms

Furniture Team - escort Bill Stone

9:30 - 11:00	Lenoir High School
9:30	Talk with principal
10:00	Observe furnitrue program
10:30	Look at individualized materials produced by the project in library
11:00 - 12:00	Talk to Dan Wortman, Bernhardt Ind.
12:00 - 1:00	LUNCH
1:00 - 2:15	Plant tour of Bernhardt Plant #1
2:45	Caldwell County School Administrative Offices
2:45 - 3:30	Talk with project staff, secondary coordinator and occupational director
3:30 - 4:30	Team time to complete evaluation forms

Textile Team - escort Bruce Whitely

9:30 - 11:00	Granite Falls High School
9:30	Talk with Principal
10:00	Observe textile program
10:30	Look at individualized materials produced by project in library
11:00 - 12:00	Talk to Steve Bumgarner, Shuford Mills, Inc.
12:00 - 1:00	LUNCH
1:00 - 2:15	Plant tour
2:45 - 3:30	Talk with project staff, secondary coordinator, and occupational director
3:30 - 4:30	Team time to complete evaluation forms

APPENDIX S

Bibliography

LIST OF REFERENCES

McClure, W.W. and A.G. Bullard -- Demographic-Economic Manpower Education Data - Caldwell County. Raleigh, North Carolina: Division of Occupational Education, North Carolina Department of Public Instruction, 1972.

Task Force on Career Information, Placement, and Follow-up, North Carolina State Department of Public Instruction, 1972.

Waters, Charles D., Comprehensive Research Model in Career Quarterly Report, Lenoir, North Carolina: Caldwell Career Education Project, 1972.

White, E.M., A Proposal for a Guidance Oriented Alternative Work Experience Program and Follow-up Study. Lenoir, North Carolina: Caldwell County Schools, 1973

ACCESSION NUMBER: VT103370

PUBLICATION DATE: 75

TITLE: PROCEEDINGS OF THE NATIONAL COORDINATING CONFERENCE FOR ADMINISTRATORS OF PART D AND FY 1973 PART C PROJECTS AND PROGRAMS, FUNDED UNDER P.L. 90-576 (DALLAS, TEXAS, JANUARY 28-30, 1975).

PERSONAL AUTHOR: COOK, JOYCE; WILLIAMS, JEANNE

DESCRIPTOR: *CAREER EDUCATION; *CONFERENCE REPORTS; *ADMINISTRATIVE PERSONNEL; SPEECHES; NATIONAL PROGRAMS

EDRS PRICE: MF AND HC AVAILABILITY WILL BE ANNOUNCED IN VOL. 10, NO. 2.

DESCRIPTIVE NOTE: 201P.

ABSTRACT: THE MAJOR FOCUS OF THE CONFERENCE OF ADMINISTRATORS OF CAREER EDUCATION PROJECTS WAS ON DETERMINING AND DISCUSSING MAJOR ISSUES IN THE IMPLEMENTATION AND CONTINUATION OF CAREER EDUCATION AT THE LOCAL, STATE, REGIONAL, AND FEDERAL LEVELS. PARTICIPANTS INCLUDED STATE LEVEL ADMINISTRATORS, LOCAL PROJECT PERSONNEL, EVALUATORS, TEACHER EDUCATORS, AND U.S.O.E. REPRESENTATIVES. THE CONFERENCE REPORT CONTAINS THE PROCEEDINGS OF THE GENERAL SESSIONS, REPORTS FROM SPECIAL INTEREST GROUPS, AND REPORTS FROM WORK GROUPS. GENERAL SESSIONS CONSISTED OF THE KEYNOTE ADDRESS BY WILLIAM F. PIERCE, TWO PANEL PRESENTATIONS ON LEGISLATION AND EVALUATION, AND PRESENTATIONS ON PROGRAM PLANS FOR 1975 AND 1976. REPORTS FROM THE WORK GROUPS ARE ENTITLED: "DEFINING CAREER EDUCATION," "STRATEGIES FOR MOVING CAREER EDUCATION FROM A PROJECT STATUS TO AN EDUCATION PROGRAM STATUS," "PLANNING, COORDINATING, AND DISSEMINATING CAREER EDUCATION," "EVALUATING CAREER EDUCATION PROGRAMS," "IMPLEMENTING CAREER EDUCATION AT THE SECONDARY LEVEL," AND "PREPARING TEACHERS FOR CAREER EDUCATION." THE CONFERENCE AGENDA AND PARTICIPANT LIST ARE INCLUDED. (NJ)

SPONSORING AGENCY NAME: BUREAU OF OCCUPATIONAL AND ADULT EDUCATION (DHEW/OE), WASHINGTON, D.C. DIV. OF RESEARCH AND DEMONSTRATION.

VT 103 370

PROCEEDINGS

of the

National Coordinating Conference
for Administrators of Part D
and FY 1973 Part C Projects
and Programs, Funded Under P.L. 90-576

Royal Coach Motor Inn
Dallas, Texas

January 28-30, 1975

U. S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
David Mathews, Secretary
Virginia Y. Trotter, Assistant Secretary for Education

Office of Education
Terrel H. Bell, Commissioner of Education

Bureau of Occupational and Adult Education
William F. Pierce, Deputy Commissioner

Office of Adult, Vocational, Technical, and Manpower Education
Charles H. Buzzell, Associate Commissioner

Division of Research and Demonstration
Howard F. Hjelm, Director

VT 103 370

Civil Rights Compliance

Discrimination Prohibited - Title VI of the Civil Rights Act of 1964 states:

> "No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance."

Therefore, any program or activity receiving financial assistance from the Department of Health, Education, and Welfare must be operated in compliance with this law.

PROCEEDINGS

of the

National Coordinating Conference
for Administrators of Part D
and FY 1973 Part C Projects
and Programs, Funded Under P.L. 90-576

Royal Coach Motor Inn
Dallas, Texas

January 28-30, 1975

Persons making presentations and participants in this Conference were encouraged to express freely their professional judgment in the conduct of the conference. Points of view or opinions stated do not, therefore, necessarily represent official Office of Education position or policy.

CE 009 038

FOREWORD

Much of the impetus for a broad, locally-based developmental effort in career education has come through Part C, Part D, and Part I of the Vocational Education Amendments of 1968 (Public Law 90-576). Part C provides funds for research and development work in vocational education, including the conduct of experimental and pilot projects. Part D provides funds for the operation of three-year exemplary programs designed to familiarize elementary and secondary school students with the broad range of occupations for which special skills are required and to broaden and improve career preparation programs for students in grades 10 through 14, with attention given to occupational guidance, counseling, and placement. Part I provides funds for the development of curriculums for new and changing occupations, for the coordination of curriculum improvements, and for the dissemination of curriculum materials. These three parts of the Vocational Education Act provide very useful vehicles for the development, in accordance with the intent of Congress, of broadly-conceived career education programs. Although the emphasis under Parts C, D, and I has not been in higher education and adult education, participating school districts are able to articulate their K-14 career education activities with adult education and higher education programs supported from other sources.

In the six-year period which ended on June 30, 1975, $46.5 million from the U.S. Commissioner's discretionary Part D funding were made available to support at least two career education model projects in each State and Territory of the United States. In 1971 and 1972, the U.S. Commissioner of Education elected to turn over to the States an additional $18 million of discretionary Part C funding for the initiation of additional career education projects in each State and Territory. During the same period more than $9 million in Part I funds were used to support curriculum development efforts in the 15 occupational cluster areas suggested by U.S.O.E. as an appropriate organizational structure for the delivery of career education, particularly at the secondary level.

Both the Part C and the Part D career education projects have been viewed as joint local/State/Federal endeavors. Program officers from the Central and Regional Offices of the U.S. Office of Education work jointly with personnel from State Departments of Education in providing technical assistance to the local project staffs. In return, the State and Federal Program Officers are learning much from the practical experience being generated in the local school systems as career development theories are applied in actual classroom settings under a wide variety of environmental conditions. The first of the

cluster curriculum guides, namely, those begun in 1971, are completing their field testing and will become available for wide scale dissemination during the coming year. (Guides will first be available for the Public Service, Manufacturing, Transportation, Construction, and Agribusiness occupational areas.) Others will be disseminated as they are completed, with full dissemination of all 15 clusters anticipated by 1977.

Coordination across the many career education projects, and the interchange of the creative ideas and techniques which are emerging must be provided for, if we are to expedite the developmental process which is underway. The Division of Research and Demonstration now has locally-developed career education model projects in operation in well over 70 local school districts across the country. The problem of providing for cross-fertilization and exchange of ideas among all of these projects is a formidable one. Significant steps have been taken in this direction. The national conference, for which this publication will cover proceedings, is our most recent effort in coordination.

This report summarizes the proceedings of the "National Coordinating Conference for Administrators of Part D and FY 1973 Part C Programs and Projects, funded under P.L. 90-576," which was held at the Royal Coach Motor Inn in Dallas, Texas, on January 28-30, 1975.

The Conference was coordinated and the report prepared by Mrs. Joyce Cook and Miss Jeanne Williams of the Demonstration Branch, Division of Research and Demonstration.

Howard F. Hjelm
Director, Division of Research and Demonstration

October, 1975

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BACKGROUND AND INTRODUCTION

Prior to the Dallas Conference in January 1975, four previous national conferences had been held which concerned themselves with the role of the Vocational Exemplary Projects in the implementation of career education.

Before the initiation of career education activities under Part D of Public Law 90-576, a "National Conference on Exemplary Programs and Projects" was conducted in Atlanta, Georgia. The purpose of this conference, which was held in March of 1969, was to explore potential procedures for implementing Part D career education activities and to develop a conceptual framework for the exemplary projects which would be undertaken.

Shortly after the award of the initial grants under Part D of P.L. 90-576, a "National Institute on Exemplary Projects" was conducted in Squaw Valley, California. The purpose of this Institute, which was held in July of 1970, was to assist newly-appointed State and local directors of Vocational Exemplary Projects to formulate plans for initiating, operating, and evaluating their Part D projects.

The December 1971 coordinating conference, which was held in Columbus, Ohio, involved the local-level directors of Part D projects, the State-level program officers who were involved in the projects, personnel from Ohio State University's school-based model effort, and Federal program officers. It was designed to promote the exchange of information and the sharing of ideas emerging from the projects. The agenda for that conference was specified by Federal program officers and was set up by grade levels, with key project directors being tapped for informal presentations on the achievements of their project by grade-level and program emphasis. Each presentation was followed by a period of time for questions from the audience.

The 1972 conference at Airlie House in Warrenton, Virginia, involved the participation of: (a) State-level personnel who are responsible for the coordination of Part C and Part D career education projects; (b) local project directors of the career education projects supported under Section 142(c) of Part D and Section 131(a) of Part C; and (c) third-party evaluators who are under contract to conduct evaluations of Part C and Part D career education projects. One of the primary

objectives for this "Coordinating Conference" was the exchange of techniques and instructional materials which were showing promise in accomplishing the goals of the Part C and Part D career education projects. Exchange of evaluation techniques and approaches was also an objective. A series of significant events occurred within the Part C and Part D programs in the time between the December 1972 Airlie House Conference and the January 1975 Dallas Conference covered by these proceedings.

The first event was the decentralization of the Part D program in June of 1973 to the U.S. Office of Education Regional Offices in the 10 DHEW Regions. Although the program had always involved a high level of participation by the Regional Officers in technical assistance, in grant selection, and in monitoring the funded projects, they assumed full responsibility for these aspects during the Summer of 1973. Only the policy aspects of the program - namely, priority setting, development of selection criteria, and reporting to Congress on the effectiveness of the program - were retained as Headquarters activities.

The second, more a series of events than a single event, related to the burgeoning career education movement. There resulted, in 1973, a search for high quality curriculum materials that could be disseminated on a broad scale and, at the same time, a search for accountability data to show that the career education projects were achieving the goals they had set out to achieve for young people.

Almost simultaneously, the then Demonstration Branch staff in the Headquarters office in Washington found themselves involved in (1) a search for effective curriculum materials for career education, (2) a contract for the evaluation of the Part D program's first three years of operation, (3) a management audit by the Department of Health, Education, and Welfare, (4) an impact study designed to ferret out the relative effectiveness of U.S.O.E. "change agent" programs, and (5) a program audit by the Government Accounting Office designed to yield information for Congress on the whole career education movement and its implications for new legislation.

The fact became increasingly clear, as the staff officers related to the outside groups looking at the program, that inadequate attention had been paid to the design and content of the third-party evaluations. Very few of the curriculum materials (only two of the first-round Part D projects, in fact) had adequate student outcome data available to prove their effectiveness. Consequently, the vast majority of the materials presented

the reviewers failed to secure the approval of the U.S. Office of Education's Dissemination Review Panel for an intended broad-scale dissemination effort.

Similarly, initial draft reports presented by the evaluators contracted by U.S.O.E.'s Office of Planning Budgeting and Evaluation and by the Government Accounting Office auditors gave advanced warning that the fate of the program would likely be threatened when the final reports were submitted unless immediate action could be demonstrated that the evaluation design and content would be improved. Out of concern both for the Part D program and the implications that evaluation criticism would have for the overall career education movement, the Office of Career Education, under the leadership of Kenneth Hoyt, supported the development of the Handbook for the Evaluation of Career Education Programs. The Part D projects were asked to field-test the Handbook and to participate in its revision.

It was against this backdrop that the January 1975 National Coordinating Conference for Administrators of Part D and FY 1973 Part C Projects and Programs, funded under P.L. 90-576, was convened.

The objectives of the Conference, determined by a Conference Steering Committee together with staff of the U.S. Office of Education, were:

1. To identify and promote effective methods and techniques for moving career education from a project status into an ongoing educational program status.

2. To determine and discuss major issues in the implementation and continuation of career education at the local, State, Regional, and Federal levels.

3. To provide an opportunity for the sharing of methods, techniques, and materials being utilized in the various projects.

4. To promote the improvement of career education evaluation.

5. To share information about the implications of recent and pending legislation for career education and vocational education programs.

While general sessions were devoted to achieving some of the above objectives, the major focus of working groups within the Conference was on achieving the second objective. The issues that received major priority within conference working groups were identified in surveys by the ten U.S. Office of Education Regional Program Officers assigned to administer the program.

Efforts were made to minimize the "show-and-tell" atmosphere that had been characteristic of the prior national coordinating conferences. Participants were asked to register for the Conference with a commitment to the resolution of the issues and problems that surfaced in the survey as being of major importance to practitioners across the Nation in the career education movement, generally, and in the Part D program in Vocational Education, specifically.

Preference for Conference registrations and for hotel reservations was given to the following individuals:

1. State-level administrators of Part D programs under P.L. 90-576.

2. Local Project Directors of Federally-Administered Part D Projects funded under Section 142(c) Part D, P.L. 90-576.

3. Third-party evaluators of Part D, Section 142(c), Projects.

4. Project Directors of fiscal Year 1973 Part C Projects funded under Section 131(a), P.L. 90-576.

While priority was placed on the above individuals, it was possible to accommodate a limited number of other participants such as teacher educators, local school administrators, and members of local project staffs under Part D Projects. Because there were no central funds for underwriting travel, per diem, or stipends for the Conference, these proceedings may be said to reflect the high level of commitment to the career education movement that exists within what is largely a vocational education community.

Special appreciation is due the Conference Steering Committee:

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Participants at the Dallas Conference included approximately 46 State-level administrators, 124 local project personnel, 29 evaluators or teacher educators, 12 from other agencies or institutions, 11 U.S. Office of Education Regional Office representatives, and five U.S. Office of Education headquarters representatives.

Joyce Cook
Part D Program Coordinator

CAREER EDUCATION--PROJECTS TO PROGRAM

William F. Pierce

There is an old saying that one ought to believe only about 25 percent of what someone says in introducing a speaker. In dealing with the issue of moving career education from a project status into an ongoing educational program status you probably need a speaker who knows two kinds of things: (a) how to get resources and support for career education and (b) how to administer a program where you actually enroll students. While I have had considerable experience with the former, you have an obvious advantage over me in the area of actual program administration. We will talk about these two areas today, but I will also spend some time this morning sharing some of my perspectives from the national level and some of my opinions about the value of this conference.

I am told that a keynote speaker is charged with setting the theme of the conference, with putting things in their correct perspective, and bringing some balance into the conference program. And it is important that we not get carried away with the missionary zeal we all have for career education without first setting the stage concerning the issues.

Assuming the responbility of a keynote speaker is awesome to me and when I think "awesomeness," I am reminded of a joke about Texas. I believe that you will find it appropriate. Some of you -- particularly that group of you that stood up from the Dallas region -- have probably heard it already. Even I first heard it a long time ago.

It seems that a fellow came to Texas for the first time and went into a bar. Now everything in that bar was enormous. The owners of the bar had planned it that way in keeping with Texas and the bigness of Texas. As the guy walked into the place, he realized that the bar, rather than being at a normal level was very high. He had to look up to the very tall bartender and when he tried to put his foot on the rail he had to raise it way up high, too. He ordered a straight shot which they served him in a great big glass. The guy was terribly impressed with the size of everything. When he decided he would have to go to the men's room, he asked directions from the bartender. The bartender told him, "It's through that door, and to the left." He had no more than closed the door good when the bartender remembered that the light was not on and that he had forgotten to caution the guy about the swimming pool. He ran out, switched on the light, and found the visitor floundering around in the swimming pool. The visitor yelled, "Don't flush it! Don't flush it!"

This says something about the awesomeness of Texas and, at the same time, about how I feel about my responsibilities as your keynote speaker.

In preparing for this keynote address, I read a summary of the issues you raised with our staff in response to their pre-conference survey. Those issues--generally in the form of questions--were, in my opinion, outstanding, just excellent. After I read them I had three reactions.

First, I wish I knew someone, even a combination of people, who could answer all of those questions you raised about career education. If we could answer all those questions, the problems of career eudcation would be solved, and we could turn our attention to the energy crisis or whatever else we should be concerned about. We would have resolved all the things that bother you and that bother us. The concerns that we have for moving career education from a project to an accepted program extend past you to all the teachers who worry about providing appropriate educational experiences for every young person and every adult in our society.

My second reaction is that you must not look to us at the federal level or to any individual to answer those questions, but that you look to yourselves for the answers.

And third, after reading the questions, it seemed that perhaps one of the best ways in which to launch this conference would be to spend just a few minutes trying to put your projects and the career education movement in their proper historical perspective. It seemed to me that in that process some of the questions you raised might be answered.

I will try to show this morning that, many of the Office of Education's previous activities and previous efforts have been not only to help shape, form, and mold the evolving career education movement, but also to help move it from a project here and a project there over to all the kids and adults in all the 17 thousand school districts, in all the 12 hundred community colleges, and in all the universities in the country.

And, in winding up, I propose to stress some of those issues that we think are terribly important to the future of career education and to lay a base of inquiry for the remainder of the conference.

Let me spend some time putting career education, the Part D projects, and the Part C projects in an historical perspective that I think will be helpful to you.

On October 2, 1969, a policy paper was issued by the U. S. Office of Education that started the first cycle of Part D projects. That policy paper stressed five particular aspects which were required of

each project:

1. To provide broad occupational orientation at the elementary and secondary levels;

2. To provide for work experience and cooperative education programs;

3. To provide students not previously enrolled in vocational education some very quick and intensive skill training just as they left the system;

4. To provide for intensive occupational guidance and counseling during the last years of school and for initial placement; and

5. To provide for the grantee or contractor to carry out the program with support from regular funding sources after the termination of the federal assistance under Part D.

This was the U. S. Office of Education's first thrust under Part D. It was launched before Sidney Marland made his speech here in Texas that coined the term, "career education." So the movement toward accomplishing some of the goals of career education was begun under Part D before the career education movement that we talk about now was ever begun. Obviously, the fit between those first Part D projects and the career education movement as it has evolved was not perfect although, admittedly, some of the goals were and are the same.

Some months after the Sidney Marland speech, in Fiscal Year 1972, the decision was made to use all of the Commissioner's Part C research money for additional career education programs. At this point we see vocational education research money pulled in for accomplishing some specific purposes in guiding the direction of the career education movement.

In August of 1972 the second major policy paper was issued by the U. S. Office of Education for the Part D program. This was the statement of policy that brought most of you into the career education movement--the one that created your projects. This policy paper no longer talked about cooperative vocational education, work experience, and intensive vocational training. It listed emphases such as awareness at the elementary level, exploration at the junior high level, and preparation at the senior high level. Between the first policy paper for Part D in 1969 and the second policy paper in 1972 a major shift is obvious. There was a shift in commitment and a concern was expressed with how you carry out career education at the various levels. Your projects, then, moved closer into the mainstream of the career education movement. And, because of that shift, you have a different role and responsibility in career education than did the original project coordinators.

The Education Amendments of 1972 brought about changes in our structure that had a great deal of impact on what you are trying to do.

First of all there was a budget request for federal dollars for career education, not Part D vocational education money, but money specifically allocated for career education. Of course, money did not come through at that time but, at least, the movement had been recognized in a legislative and in a budgetary sense.

Second, the National Institute of Education was created with the passage of these Amendments and the four major career education models that the Office of Education had started were moved over as a responsibility of the newly-created education research agency.

Third, the Bureau of Occupational and Adult Education was created and I, personally, joined the Office of Education as the Deputy Commissioner called for in the 1972 Amendments. Prior to my arrival in the U. S. Office of Education Sidney Marland had, after careful deliberation, determined that the administrative responsibility for the fledgling career education program would be housed in the Bureau of Occupational and Adult Education. Not everyone agreed with the decision, of course. Many of us were afraid that this administrative location for the career education program would be confusing to the field and that many people would say "Ah Hah! It is just another name for vocational education." Why else would it be housed in the same Bureau, the Bureau of Occupational and Adult Education? For really good reasons, nonetheless, Sid Marland and others decided that the Bureau of Occupational and Adult Education was the right place for the career education program during its fledgling years of development.

When we put together the new Bureau of Occupational and Adult Education, we had the opportunity to take in the Education Professions Development Act programs. This made a lot of sense to me. Taking those programs that dealt with personnel development and assigning them to the office responsible for career education would permit, as far as legally possible, a shift of those programs over to the development of personnel for career education.

Kenneth Hoyt joined the Office of Education about a year ago while the career education program was still a part of the Bureau of Occupational and Adult Education. We went to Dr. Hoyt because we needed help in determining what was needed in the field and what the career education practitioners wanted. Also, we felt that we needed someone with a missionary zeal--someone who could go out and "turn on" the hardest-hearted administrator or the hardest-headed board of education member to career education.

Finally, in our historical sequence, we come to the Education Amendments of 1974 when the Hathaway Amendment determined the need for specific career education legislation.

That Amendment stipulated that the Director of Career Education would report directly to the Commissioner of Education. The result of that is that we are now in the process of moving the Division of Career Education and Ken Hoyt's staff from my administrative control in the Bureau of Occupational and Adult Education over to report directly to the Commissioner of Education.

Hathaway's reasoning was that if career education is, indeed, more than vocational education and if it does cut across all of education, then it should not be housed in the Bureau of Occupational and Adult Education. In a sense, then Hathaway reversed the decision that had been made by Commissioner Marland two years ago.

I think that a few words about this particular administrative change process are in order. The move of the Career Education Program out of the Bureau of Occupational and Adult Education is an administrative convenience to accomplish what the Act requires. What it does not do is diminish the commitment that both Ken Hoyt and I have to bringing about a career education program in this nation. It does not diminish my job as Deputy Commissioner of Occupational and Adult Education, it does not diminish my commitment to career education, and it does not diminish my feeling that there are times when it is quite appropriate to use vocational education funds to support the evolution of career education.

Someone raised this as an issue in the pre-conference survey. They were worried about whether it was appropriate to use vocational education money for career education. Frankly, if it had not been for the use of vocational education money, we would not be where we are today in career education. In the Vocational Education Act of 1963 and in the Amendments to that Act in 1968, Congress laid the foundation and the framework for career education. Those pieces of legislation were written by people who were beginning to worry about the delivery system of education. They were convinced that education was not really doing for young people what it should be doing. So they gave us legislative authority that was far broader than most vocational educators had ever perceived to be the responsibility of vocational education--legislative authority that was broad enough, in fact, to permit us to launch and to continue supporting career education kinds of activities.

The preceding chronology has brought us up to today in the history of the Part D program and its relationship to the career education movement. We have traced the movement from the Congressional commitment to improving education that was evidenced in the 1968 Amendments to the Vocational Education Act through the passage of the career education provisions in the Education Amendments of 1974 that created the Office of Career Education in the U. S. Office of Education.

And now, due to the federal and State emphasis on career education and due to the fantastic local response, we have federally-funded projects,

we have State-funded projects, and we have many locally funded projects. We have State-mandated career education legislation in a number of States and we have States that are providing career education money in their budgets. We have a State Coordinator of Career Education in every State in the Union, a special committee on career education with the Chief State School Officers, special federal funding for career education and, thanks to Kenneth Hoyt, we have an Office of Education policy paper that outlines and describes the concepts behind career education that you helped to put together. That is how we got from those initial Part D projects to where we are today.

Lets take a look now at some of the U. S. Office of Education's previous activities through which we have attempted to guide the career education movement and through which we have been and are attempting to move it over into an ongoing educational program for all the youths and adults of our society.

First of all, we can say that we have had some experience in attempting to secure resources and support for you and for ourselves in our career education efforts. As I mentioned previously, federal funds were first requested for career education (as a specific line item) through the Education Amendments of 1972. But money was not to be forthcoming for some time. In the intervening years between then and now we were concerned that the perception in the field might be that career education would be permitted to die, particularly after Dr. Marland, career education's greatest spokesman, at that time, left the U. S. Office of Education.

And so, we found what money we could from whatever source--from vocational education, from the Office of Planning, Budgeting, and Evaluation, and from our salary and expense money--to continue at least a minimum level of activity.

We continued to attempt to get a career education appropriation from the Congress and we testified mightily each time. We lost the funds twice. On the second time around the funds were actually there at one point, but we discovered that the Congress giveth and the Congress taketh away. Before we knew what was happening the funds had disappeared from the appropriations bill.

One group that we kept hearing from in the field, not from practitioners like yourselves who were involved in federal projects, but from other teachers was "How can we get involved?" We couldn't tell them to get involved by simply doing better the things a lot of teachers had done for a long time.

Secondly, one of the things that I thought was needed was to get an assessment of what existed in the field and then make available the best of the curriculum materials that had been developed to anybody in the country that wanted to use them. For this particular activity we found a little money in the vocational education budget and used it to

make an assessment of the materials that were available for career education. What we found was not really surprising. We found that there were very few good materials. Particularly scarce were materials for which positive evidence of effectiveness existed.

One of the outgrowths of this effort, however, was an assessment instrument which we will be able to make available to you very shortly within a booklet designed to help you judge your own curriculum products. Then if your curriculum products aren't scoring as high as you feel they should, you can go and hide them someplace and no one will know the difference. Sometimes we get enamored with things we do ourselves purely because we did them ourselves. But when we begin to lay them out against a set of criteria, it may appear evident that it just doesn't make any difference whether we use them or whether we use what we have used historically. And if it does not make a difference, then I submit that neither you nor we need to be in the career education business.

Back in 1973 the Office of Planning, Budgeting, and Evaluation made available about a quarter of a million dollars for the purpose of evaluating the first cycle of Part D projects. When they are available, the results of that evaluation study will help you and me to create a better career education program in the schools.

And one of the things that I want to stress with you today is that we cannot survive much longer purely on our personal zeal for career education. We must show that it makes a difference with kids because the dollars are getting harder to get and the administrators are worried about accountability. We are going to have to be concerned about accountability, as well, in career education.

One of the things that we did in an effort to improve our accountability and, therefore, our position in justifying funds for career education was to contract with Development Associates, Inc. for the Handbook for the Evaluation of Career Education Programs. This was accomplished through salary and expense money made available to us from other parts of the U. S. Office of Education by the new Commissioner of Education, Terrel Bell.

We have tried to look across your final reports and your third party evaluations so that we can share the results with you and with the Congress in our budget justifications. Your evaluations are too diverse to permit that. There is no systematic way of looking at results and we are convinced, after reading the reports and the evaluation results, that you have no systematic way of looking at your own results. We have a very hard time asking Congress for 20 million dollars or 50 million dollars for career education because they invariably ask, "What evidence do you have to show us that it really makes a difference?"

We have furnished you the first draft of that evaluation document and we want you to know that we are committed to using it. We are going

to ask you, the third-party evaluators, to use this document in evaluating the Part D projects. I don't believe that anyone is totally satisfied with the handbook. We are not satisfied with it. What we need is the benefit of your experience in using it so that it can be revised into the best possible document that gives you the kind of help you need.

Ladies and gentlemen, we have to get tough-minded about our evaluation of career education! Some people are saying that "if you leave career education alone, it will go away." But if you can show that career education makes a difference for students, there is no way that career education is going "to go away." There will be no way to stop the good things that are happening to young people in your projects.

But your ability and our ability to move career education into the mainstream as an ongoing educational program is going to depend on our ability to find systematic way of evaluating it and on our ability to show a positive difference for young people.

After Kenneth Hoyt joined our staff, he began his series of mini-conferences that were designed to do three things. First, we wanted input from the field into our third generation funding strategy. Our first two strategies hadn't worked too well and it was time to look at funding again. Secondly, we wanted to develop a concept paper which could ultimately result in a U.S.O.E. policy statement. And, finally, we wanted to begin to try to define career education.

Now that these activities have been accomplished, I am sure that Ken would suggest that there are things that ought to be happening in your projects that perhaps are not happening. But you have been, in some ways, limited by the scope of our imagination when we wrote that second policy paper back in 1972. We have represented, in this room, however, the principal career education projects in the nation. And the major issue is, how do they move from projects to programs? There are a couple of things that I think we ought to try to deal with.

Let's talk about money first. You will say that we have to have more money. Let me just give you a perception of what we are going to have and what we are not going to have. What we are not going to have is a lot of federal money for career education at least in the next few years. We are not going to have a lot of federal money for any kind of education in the next few years given the status of our economy. The economy is down, and career education is still evolving; therefore, people do not want the federal level to put much money into career education because they are really not sure what we mean by it. We do not have adequate evaluation. There is even the question of who will make the decisions about federal money. There are some basic questions about the appropriateness of a federal role in education. There is absolutely no constitutional necessity for the federal government to be involved at all in any kind of education. The constitutional responsibility for all education rests with the State constitution.

There are people at the federal level who are concerned about what the appropriate role of the federal government in education should be in the future. All of these things, in my mind, impinge upon our getting great amounts of money for career education.

All I am saying to you is that you ought not to expect large amounts of money. What we are going to have to do is continue as we are with small amounts of seed money. This will have to help you move from where you are to where you want to be in more locations around the country. You are going to have to continue to stress the need for local and State funds. You are going to have to take pages out of books of people from other States that have been successful in getting State money, so you can go back and try to find ways to get your own State legislators to make that kind of commitment. You are going to have to find ways to get local money allocated to career education. You are not going to get two billion dollars from federal money for career education in the forseeable future.

The second issue that I think we really ought to stress in this conference is the need for teachers, on every level, committed to education. Last night we were talking to some people about how hard it is to turn certain teachers on--how to get them to be aware that career education is around. And once they are aware, how hard it is to get them to make that personal commitment to get involved. I think in this conference, "How to get those teachers committed" should be a major stress. What are the strategies? What really works? What does not work? One of the things that should help is that we have tried to save and have been successful in saving the Education Professions Development Act. We are going to have monies available under that Act that we can use for career education personnel development. I thought the Act was going to be allowed to expire and we would not even have the opportunity to ask for additional resources. We will have the Act, but how much money we will get, I cannot say at this time.

If we do get money, I think we need to know from you, do we spend it for inservice training or preservice training? My feeling is that inservice is where it has to be. We have so many people in the schools who are going to continue to operate just as they have always operated if we do not work with them. The number of teachers coming out of preservice is really insignificant compared with the number already in the classroom. We must concern ourselves about quality preservice and inservice education.

We ought to concern ourselves about your responsibility to spread career education in your communities and in your States. How do we make you legitimate and logical arms of the Office of Education to help us to carry out our responsibilities at the federal level? We are going to need better dissemination strategies. You are doing a lot of things that you cannot share. There is no way that you can really share them with others the way you should. I think others in this room are doing

things that they would like to share with you and that you would like to have. Putting them out on the table once a year is not an adequate and appropriate dissemination strategy. We have to have a better way to get to you the materials, the techniques, the things that work, and the awareness of things that do not work.

I am about out of time, but let me very quickly tick through some of the things that you identified in your conference survey that we certainly concur with and that need to be stressed. The roles of the coordinator and the counselor are not well-defined. The counselor really does not know what his or her role is in career education. You must think this through, and if anybody can help you do that, it will be Ken Hoyt with his perspective of the counseling field and its relationship to career education.

We have to get involved in career education at the secondary level. It is very appropriate that one of your work groups is going to consider how to get career education installed at the secondary school level. We must consider, at the same time, our post-secondary programs. If career education really is what we say it is, if it really is part of the educational game, then we had better start worrying about the post-secondary level as well.

The federal level, with limited funds, can only provide funds that are catalytic. We can only provide them to you so that they grease the squeaky wheel. They should go to where the friction points are. They should begin to answer some of the questions that we do not have answers for now: Questions like, "Is there a difference between career education and career education for disadvantaged kids?" "Are there different things that you have to do to make career education programs work?" If that is the case, our role at the federal level is to provide resources to help you answer some of those questions.

We will soon break into work groups. If I am right about what I say, you are where it is going to happen and you are going to be the people that really make this conference go. You should be anxious to get started and go to work on the issues.

Let me share with you a thought you can take with you as you worry about career education. We ought to "worry about" it, because to many, career education is one of the things that is going to help salvage a lot of kids in this country who are not now being salvaged. I do not think we can let it die a natural death. I do not think we can continue to let people snipe at it. I do not think we can continue to go with unanswered questions; therefore, I think the use of the term "worry about" is an appropriate choice. Let me share with you the thoughts of Lewis Carroll, I have used it before, and some of you may have heard it. In a piece called the Hunting of the Snark he said, "The valley grew low and narrower still, and the evening grew darker and

colder, til out of nervousness and not from good will, they marched along shoulder to shoulder." I would rather we would march along, in the development of career education with the other teachers and the other people that you have to work with to move it from project to program, out of good will. But if we cannot have it that way, then let us make them nervous as hell so they march along with us as we take this thing from where it is to where it ought to be.

Implications of Recent and Pending
Legislation for Career Education

Presiding: Ellen Lyles
U.S. Office of Education
Region IV

Panel: Joan Duval
Womens' Program Staff Director
U.S. Office of Education

William F. Pierce
Deputy Commissioner of Occupational
and Adult Education
U.S. Office of Education

Victor Van Hook
Oklahoma State Department of Education
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Sidney C. High, Jr., Director
Division of Career Education Programs
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Title IX of the Education Amendments of 1972
and Title IV of the Education Amendments
of 1974, Section 406 and Section 408.

CAREER EDUCATION AND WOMEN

Joan Duval

Thanks for the introduction. I might say, you're a tremendous ego builder. Let's start with a little riddle. A father was driving his son to the airport and they had an automobile accident. The father was killed and the son was taken to the hospital. Upon seeing the patient the doctor said, "Oh my God, it's my son." Have you figured it out? Just a few facts.

According to the 1970 Department of Labor census, women comprise more than one-third of the national labor force. However, they're concentrated in a relatively small number of occupations. It's also projected that 90 percent of all women work at some time during their lifetime. Roughly, 40 percent of all married women work. We could go on and on, but that's not the point of this session. These facts should communicate to you the concerns that the Women's Program Staff in the Office of Education and women across the country have with the direction that career education takes as well as vocational education. Recent federal legislation that will impact on career education as it applies to women is contained in three specific laws or acts. These acts include Title IX of the Education Amendments of 1972; Title IV of the Education Amendments of 1974, Section 406, Career Education; and Section 408, Women's Education Equity Act.

I would like to spend a few minutes on each one. Title IX of the Education Amendments of 1972 is the prohibition of sex discrimination. And just a short quote in terms of the thrust, "No person in the United States shall on the basis of sex be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance." The law then proceeds to note several exemptions. These exemptions do not include Vocational Education, Professional Education, Graduate Higher Education, or Education in Public Undergraduate Schools. Provisional Regulations for Title IX were published in June of 1974, two years after the enactment of the legislation. The comment period was extended for many reasons and it closed on October 15, 1974. Seven hundred comments were received and reviewed by the Office of Civil

Rights and the Office of Education. The regulations have now been written in final form, and they will be sent to the President. When the President signs the regulations they will be published in the Federal Register and simultaneously sent to Congress for review. As you are aware, the Education Amendments of 1974 mandated that all regulations must be reviewed by Congress. Forty-five days after that, providing the Congress does not amend the law itself, the regulations will become law.

What are some of the implications of Title IX for career education? Career Education programs and career options cannot be limited to one sex, designed by one sex, or administered by one sex. That would be prohibited. The sex specific nature of most vocational education programs will require considerable changing as it is merged into career education. Changes in attitudes, sex-role expectations, staffing patterns, resource allocation, are just a few areas that will be subject to change. Affirmative efforts may have to be developed that permit the formally excluded sex, one or the other, to develop basic competencies and skills that are necessary to enter into programs. Positive steps will have to be initiated to gain parent and community understanding and support for eliminating career stereotypes. Education personnel will have to receive training in a wide variety of areas, not the least of which is training in terms of recognizing their own behavior patterns, their own perceptions, and their own projections as they influence the young child in terms of career options.

Hidden curriculum is as important a formative agent as the explicit curriculum. Curriculum and instructional materials should be examined for stereotyping by sex, and the developing of new materials should eliminate sex-role stereotyping. I took a moment after the morning session to look at some of the materials. Some that are on display obviously have been developed with a conscious attempt to eliminate stereotyping and to confront the issue of women in the world of work. I do ask you, as you develop new materials and programs in career education, to be extremely careful of the stereotyping nature of pictures, examples, phrases, etc. Guidance and counseling policies, practices, and the instruments that they utilize continue to reinforce the sex-roles socialization, and therefore, limit career options for both boys and girls. As Bill Pierce indicated in the key-note speech, career education must look at the role of the counselor and this is doubly true when we now add the male-female dimension.

Title IX is not a funded statute. Many people are under the impression that they can receive funds by applying to Title IX to help them change practices, procedures, staffing patterns in their school systems. There are no funds in Title IX. It is an anti-discrimination statute. This means that schools and post-secondary systems must carry the major responsibility in bringing about the changes needed for compliance.

Title IV of the Education Amendments of 1974 contain two sections that are relevant to education equity for women. Section 408, the Women's Educational Equity Act of 1974, is specifically designed to support programs that will open options for women and eventually bring about changes with equalized opportunities. The scope of the act is extremely broad, specifying research and development, evaluation, testing, educational program development, counseling, athletics, career education, vocational education, educational administration, and programs for unemployed and underemployed women. Eligible recipients of grants or contracts are equally as broad. Public agencies are

eligible and not limited to public educational agencies. It is highly conceivable that a public welfare agency would submit under WEEA a program designed or focusing upon underemployed women. Private nonprofit organizations and individuals are also eligible applicants. I believe, and we're trying to check this out, that this is the only piece of legislation issued by the Office of Education that includes individuals as recipients. In fact, there is a special provision for what we are calling mini-grants, grants not to exceed $15,000 for individuals. The act is also broad in terms of the educational levels. It can address issues in the area of women's equity ranging from preschool to adult. This act also mandates a Presidential Advisory Committee and specifies its functions. But we won't go into that except to say the committee has not been appointed at this time. To echo Bill Pierce's statement, relative to the economy and its effects on educational appropriations, it is highly unlikely that the authorized level, $30 million will be appropriated. In fact, I would bet anything on that. However, we are optimistic that there will be an FY'76 appropriation. Women's Educational Equity Act is the program support side of the equity coin and Title IX is the prohibition against inequity. WEEA itself is not sufficient. Equity must be mainstreamed. You know, we started a number of years ago mainstreaming special education in the regular curriculum. The States passed laws on mainstreaming. We have to mainstream this effort also. Every Office of Education supported project must assume leadership in this area.

Now I would like to turn to Section 406 which is of particular interest to you. The legislation is very specific in terms of the will of Congress, not its intent, on the issue of sex in career education. I would like to quote a few lines from your Act. Section 406, (a)(1): "Every child," and I'm omitting things here, "should be prepared for gainful or maximum employment according to his or her ability." Three under that same Section, "Each State and local education agency should carry out a program of career education which provides every child the widest variety of career education options which are designed to prepare each child," emphasis mine, "for maximum employment and participation in our society, according to his or her ability." The purposes in A above are to be achieve by, and this is (b)(3), assessing the status of career education programs and practices, including a reassessment on the stereotyping of career opportunities by race or by sex," and (6), "developing local plans for implementing career education programs designed to insure that every child," etc. "according to his or her ability."

There were a couple of provisions that I focused on that were in reference to not only employment but maximum employment. Women, traditionally, have been channeled, encouraged, unconsciously or consciously -- we are not pointing fingers here -- but the fact remains that they have been encouraged and identified with the lower paying positions in our society. Not only have they been encouraged to engage in the lower paying professions and occupations side-by-side with men, they had, until the equal pay act, received less pay for the same work. I think that it's quite significant that not only employment is referred to in this legislation, but maximum employment. The implications of 406 we really do not have to talk about, since the law is explicit and the program is still in its infancy. Faith in the commitment of Congress to career education has been affirmed in your minds when Dr. Pierce said this morning that his faith in it was confirmed by the creation of an Office of Career Education that reports directly to the Commissioner of Education. My faith in the commitment of

Congress to equal opportunity for all children irrespective of race or sex is confirmed by the explicitness of the career education section.

Finally, we have looked only at federal legislation. Education is constitutionally the business of the State. Each of you should be alert to State laws that decide to eliminate sex discrimination in education. The past two years have witnessed a growing trend for the passage of State laws covering school curriculum issues. These laws range from general comprehension laws prohibiting discrimination in education -- for example, Massachusetts and New Jersey -- to more specific laws requiring the inclusion of minority and women's history and contributions in the school curriculum, such as in California. The development of "survival courses" combining home economics and shop courses in Massachusetts is another example, the competitive basketball opportunities for girls in Kentucky -- I'm just naming a few. State laws are more readily enforceable and State enforcement agencies are more readily available for compliance. Schools and educational decisionmakers must take sex discrimination and sex stereotyping seriously.

PROPOSED LEGISLATION FOR VOCATIONAL EDUCATION AND THE EDUCATION PROFESSIONS DEVELOPMENT ACT

William F. Pierce

One thing that Joan Duval said, in terms of Career Education as it pertains to sex-role stereotyping, is that it must maximize the options of people. This is one of your responsibilities. Career education must let people determine what it is they can carry out--and want to carry out in society--and what they most appropriately can accomplish given their own abilities, their own attitudes, and their own aptitudes. You fail as career educators if you do not maximize those opportunities for young girls as you do for young men.

I think you have two responsibilities--one, to do that job as a part of your responsibility in career education and, two, to help vocational educators to understand that they are indeed guilty of continuing to perpetuate sex-role stereotyping in this country. This is sometimes inadvertent, and mostly unintentional. And historically women who were trained in particular occupations could not get employed if you wanted to get them employed. But the employment picture is changing now. You have a responsibility to help vocational educators to overcome this with fact. As you move to incorporate vocational education as an integral part of the total career education concept, I think you have a role to play with respect to opportunities for women. You must help vocational educators understand what it is they have to do for women in that part of the program which deals with preparation.

I have a daughter who is five years old. I get a little tired of her being inadvertently told that she cannot do certain things in our society. In specific kinds of ways it limits her perception of herself. Recently I was home talking to her and she said she wanted to be a nurse. I said why didn't she want to be a doctor. She said girls are nurses and boys are doctors. I came unglued and I ranted and raved and told her that she could be anything she wanted to be. As a matter of fact, I told her she could be a truck driver if she wanted to. For the next two or three weeks whenever we talked about what she wanted to do, she was always going to be a truck driver. One day she came to me and said, "Daddy, I'm sorry. I don't want to be a truck driver, I want to be a cowboy girl." That is appropriate. And I give her that she wants to be a girl and nobody wants to take away from females that fact that they are going to continue to be girls. I thought, "What do you call it if you do not call it a cowboy?" A cow-person does not sound very good. I want her to be a cowboy if that is what she wants to be, whatever her job. I think that is the rule and that you really have quite a responsibility achieving it.

Let me talk now about vocational education legislation. There are two pieces of proposed legislation that pertain to career education and we need to look at how they will include career education and what their impact might be. For the last two months we have been trying to develop an Administration bill that will be our version of what the new vocational education legislation ought to look like. The Vocational Education Amendments of 1968 will expire at the end of this year and we will, therefore, need new vocational education legislation. Now the legislation can take a number of forms. It can be a simple extension of what is already there, or it can take some minor adjustments of what's there. It can take the form of the bill that has been introduced by the American Personnel and Guidance Association, which has a heavy counseling and guidance influence and puts that into a new perspective in vocational education. It could take the form of the bill introduced by the American Association of Community and Junior Colleges which deals more specifically with greater impact and emphasis on post-secondary. Or it can take some other form. We have been developing an Administration position, a vocational education bill that will be our version of what that final legislation ought to look like.

What is going to happen in the practical realities of the Washington scene is that Congress and people who work for congressional leaders will take all of those inputs. They will take into consideration the good parts of all the bills and come up with a piece of legislation. The legislation will have in it certain parts of all the bills and I did not mention the other bill, which is the American Vocational Association's bill.

One of the things that we did in developing and preparing the Administration's vocational education legislation was to talk long and hard about what should be said in vocational education legislation about career education. Should we try to have a section or a title of the Act that dealt with career education? Should we continue some of the things that we are already doing? Should we continue to allow people on the State and local levels to use vocational education funds for prevocational kinds of activities?

We finally decided that because of the confusion, because people still don't understand the difference in vocational education and career education, because we already have legislation in Section 406 that provides for career education and that makes it clear and distinct from vocational education, we recommended in this legislation to the Congress that they not mix the two--that they not have vocational education funding and career education funding in the same piece of legislation. That is going to be the position that we will take forward to Congress. We will have included in that vocational education legislation those things that have always been permissible under the vocational education legislation and will continue to be permissible, such as using Part B programs and Part B funds for prevocational types of activities.

We will continue to strengthen the business of our industrial arts programs and in many ways those are the exploratory parts of career education. In themselves, they are not--but they certainly have contributed to it.

The vocational education research funds have been retained. The purposes for which the funds could be used in Part C, Part D, and Part I have been retained. Although we are doing away with Part C, Part D, and Part I as separate parts, the activities have been retained. We are saying "Hey, let's worry about what the needs are and let's not let the level of funding limit our activity in a particular area." We need more curriculum development and we do not need to be limited to the four million dollars Congress has given us annually for curriculum development. We can, under the proposed legislation, use as much as is made available of the total amount for research and demonstration and curriculum as we want to. All of those provisions have been retained.

The opportunity to have Part D demonstration programs that are indeed delivering career education activities has been retained. So the bill has not been changed in any significant way. And again, we have not said that vocational education ought to have a separate title for career education or recommended to Congress that they put five million dollars in it. We reached this decision together with Ken Hoyt who is working very closely with us, and our sense was that Congress could not deal with that. They could not deal with Section 406 and vocational education legislation that had money in it for career education as well. So we backed off.

The other piece of legislation that I think you need to be aware of, that has an implication for career education, is the Higher Education Act that also expires this year. It is being reviewed by Congress and will be either repassed as an extension or with certain kinds of revisions. Title Five of the Act represents the Education Professions Development Act portions. We have recommended, and HEW has accepted the recommendation, that the principal activities allowed under the legislation be retained. The exception was that we removed all those activities that simply provided more teachers of an unspecified kind that tends to perpetuate the problem of a teacher surplus. This was one of the things that Congress was worried about. We have an Act now that continues to crank out more teachers in areas like history and English where they cannot find employment. We removed that authorization but we have tried to retain in it activities that deal with quality and the improvement of teachers through inservice. Therefore, it will allow us to spend those monies, if you get beyond the authorization stage, for career education.

We will be working very closely with Ken Hoyt as he develops the whole career education thrust of the Office of Education. One of the reasons that he is going to work out of the Commissioner's Office is that he can go to all of the Deputy Commissioners and all of the other parts of the Office of Education and tap them to contribute to the whole career education effort. Certainly, I hope he does not have to tap us. I hope he does not feel he is tapping us, and that by the way we organize, he feels we are in the same program. It is really not a matter of tapping the EPDA program. In some of the others it is kind of a tap, like pulling some of the people kicking and screaming into the 20th century in our career education efforts. In our case, I do not think you're going to have to drag us, particularly if I continue to have a responsibility for the EPDA program.

Those are the two legislative packages that we have responsibility for. As indicated to you in your program, we are going to have an hour to talk specifically about the vocational education legislation and I will be happy to go into more detail about what it looks like at that time.

PROPOSED LEGISLATION FOR VOCATIONAL EDUCATION

Victor Van Hook

While listening to some of the remarks here, I was recalling that I have had a difficult problem over the past 24 hours. I was in Washington, my car was in Tulsa, my wife was in Stillwater, and this meeting was in Dallas. And through some hectic scrambling around, I picked the car up in Tulsa, went to Stillwater, said hello to my wife, changed the contents of the suitcase, and drove down this morning. You will have to excuse the informal attire since this is my traveling costume.

I live in an all-female household and I have for a considerable period of time. I am a strong supporter of this being a two-way street. When we built our home, we built three bathrooms. There are three females and I have a standard position at each one of the bathrooms. I am second in any one of the bathrooms that I care to use. When we get up in the mornings, I wait until one of them appears to be vacated and at that point in time, I can move in.

I am very much in sympathy with women. I am in the area of business in vocational education and that is predominantly a female field. They are a little suspicious of me at times. We have a mid-winter conference this Friday and Saturday -- if any of you would care to visit with our eight men and some 110 women. We men have our difficulties in getting activities passed in that particular group. It is an interesting group, though, and I would not trade places with anyone.

With reference to the legislation that is pending at this present point, I think we ought to give credit where credit is due. I think many of the results in these different pieces of legislation came about out of initial inputs from the Office of Education, and especially Dr. Pierce's office. He has been an extremely cooperative individual in working with all of the different groups that are interested in this particular piece of legislation. We in the American Vocational Association felt somewhat obligated to address ourselves to the question of the legislation since no panel of consultants was appointed -- as had been done in the two previous pieces of legislation.

As a result, AVA brought together a gentleman named Mal Barlow, with whom I am sure all of you are acquainted, and myself to try to get a feeling from the constituency in the field as to what should be incorporated into the legislation. One of the things that appeared to keep cropping up was this question, "Is the AVA going to be derelict in its duty if it does not address itself to the question of career education?" As a result we tried to identify ways in which this question might be addressed. I do not know how many of you might have seen copies of HR-17304 which was introduced during the last session. There was no guarantee that this would become a real piece of legislation for two reasons:

1. It was introduced late in the session.
2. The Congress was much more concerned with a number of other questions than they were with education legislation that still had several months to run.

We did introduce a piece of legislation that addressed itself to a number of different issues with the hope that interested persons would get copies of it, look at it, decide what needed to be done to improve it, and make recommendations for change. We had a meeting last Thursday, in Washington, at which time we had some inputs from a number of different groups. Hopefully there will be a new piece of legislation that will be introduced some time during the next two to four weeks.

I think the best way to acquaint you with what is covered in the section of that legislation that deals with the question that we have here, would be for me to read the statement of the purpose of Part B. This particular piece of legislation was divided into five parts: A, B, C, D, and E. "A" dealt with the question of national and State advisory councils and the necessity for a strong planning component; "B" dealt with something that had been called prevocational education; "C", the vocational programs as we have known them in operation over the last few years; "D" with what we might call support services, and "E" with the parts that are identified by Dr. Pierce as former Parts C, D, and I, and some elements of the personnel development program.

Part B, I think, is the one that has the greatest implication for this group. If I may, I will read the statement of purpose for a section coded career guidance and exploration. The term prevocational was taken out and the term career guidance and exploration has been substituted as a recommendation to the Congress.

> It is the purpose of this Part to implement an additional portion of the career education concept in which vocational education can play an important role. As a process, career education includes career awareness, career exploration, career decision-making, career planning, career preparation, career entry, and career progression. The prime interest of vocational education is career preparation and career progression. To carry out this mission vocational education needs a comprehensive career guidance and exploration effort. This Part is intended to provide support for those parts of career education, particularly crucial to the total mission of vocational education.

This is the statement of purpose as incompassed in the proposed legislation. The funding level is identified as $60,000,000. I think it is a few dollars less than $60,000,000 in the initial year of authorization. The legislation will increase in increments of $15,000,000 up to $120,000,000 in the fifth year of operation.

We feel that there is an important place for the career education concept in any legislation dealing with vocational education. We think that one of the difficulties that has been experienced by vocational educators in the past has been the inability to address this question. Sometimes we have not been able to work with the youngsters at a level in their educational program to insure that youngsters were making decisions from accurate information rather than from emotions or from efforts of a particular teacher or counselor.

I do not think that there is much more that I could add about the legislation at this particular time. I would be happy to entertain any suggestions that you care to make or any inputs that you would like to make. I will look forward to visiting with you later in the conference.

CAREER EDUCATION LEGISLATION
EDUCATION AMENDMENTS OF 1974, TITLE IV, SECTION 406

Sidney C. High, Jr.

The two preceding speakers, Dr. Pierce and Dr. Van Hook, have discussed pending legislation. I asked to follow Vic because the piece of legislation that I want to talk about is no longer pending, it has been enacted. I thought that it would fit a little better at the end of the program.

The last time I spoke in this room was last April, I believe. We had a career education meeting involving the State coordinators of career education from about 45 States that met in this very room. At that time, I talked on the subject of pending legislation. I am happy to report that in the intervening months the legislation has been enacted by the Congress and signed into law by the President. I am speaking basically of the Education Amendments of 1974, Public Law 93-380. The Congress passed the bill and on August 21, 1974, President Ford signed it. In the Education Amendments of 1974, there is a title called Title Four, and within that title there is something called the Special Projects Act which is a new approach that Congress has taken. The Special Projects Act provides the U.S. Commissioner of Education with funds to carry out exemplary and demonstration type projects in areas of concern to the Congress and to the Commissioner.

I think that it is important to note that this is not a research and development authority. This Special Projects Act does not authorize the Commissioner to do research and development. That, as you know, is a mission of the National Institute of Education. They were commissioned by Congress to be the research and development agency in education. So they will continue to perform the research and development function. Congress seemed to feel that the Commissioner needed some money that could be used for exemplary and demonstration functions. If you have some good research and development results on problems and you think that you know better ways to accomplish some other education goals as a result, then there is a need for the Commissioner of Education to be able to move out and work with State and local school districts and actually exemplify these better approaches. So that seems to be the general tenor of the Special Projects Act.

The law says that $200,000,000 is authorized each year for the Special Projects Act. It goes on to say that the $200,000,000--or whatever amount is appropriated--is to be divided in half. Half of the money, $100,000,000 in the ideal circumstance, would be retained by the U.S. Commissioner of Education and he could use this for exemplary projects in whatever areas that he felt needed special attention in the whole field of education. The other half, $100,000,000 on the other side of the column, must be used for priority areas that Congress itself has indicated. A number of those areas are metric

education, women's equity in education, and community schools. One of those special topics is career education. So I am trying to set the framework of the big Special Projects Act--half of the money the Commissioner can use for special projects in areas that he feels to be of high priority. The other half must be spent for certain priority areas that Congress has designated.

We are fortunate in career education that Congress has designated career education as one of the congressionally-mandated areas of concern. Each year whatever money is appropriated for the Special Projects Act will be divided and then subdivided and career education is one of the mandated problem areas that must receive some attention. So we look forward now to the next three years--as the authority is good until June 30, 1978. For the next three fiscal years, after this one, we can be assured of some sort of support for exemplary and demonstration type work in career education. Congress has given us three authorities in Section 406 which deals with career education. Congress has told us to do three things.

First, we are to conduct a national survey and assessment of the status of career education and report the findings back to Congress before November, 1975. So that is the first thing right off the top. Any monies that are received must in part be used to conduct a national survey and assessment of the programs, projects, materials, and curriculum in career education. We must assemble a report and submit it to the Congress by November, 1975, so that they will have a fixed baseline as to where we stand now in career education. It will be very useful to have this sort of baseline each year, as we can measure our progress each year against the previous baseline. A national survey and assessment is the first order of business.

The second thing that they have given us authority to do is to support some exemplary projects. They want some exemplary model projects in career education. They have spelled out in the law the sense of Congress as to what career education is to be. They have said that you can go out and use some of this money to develop some exemplary models that people and Congress can look at and see what a real ongoing project in career education would look like.

The third thing that they have authorized us to do, and we can only do that in the beginning of the second year of funding, is to provide grants to States that would like to develop a State plan for career education. A particular State can apply for and receive a grant in the second and third years of funding. With this money, the State is not to operate a career education program, but it can use the funds to develop a very thorough and systematic statewide plan; a plan to determine what the State would have to do to implement career education in all the districts of the State. This would obviously involve some in all the districts of the State. This would obviously involve some needs assessments--assessments of occupational status, present resources, and additional resources needed to implement career education through a very comprehensive State plan. So beginning in the second year, which would be fiscal year 1976, we will be authorized to award grants to States for that purpose.

Those are the three things that the law allows us to do and it is important to note the exclusions. We have no authority to do research and development work. We have no authority to do curriculum work. Those are two things that are not within the scope of Section 406. Hopefully, the National Institute of Education will be moving ahead with its research and developmental work in career education and we will have to relate very closely to them for those developmental aspects of the overall career education program.

I do not want to go into a lot of detail beyond this, because I understand that in the next hour we will break into small groups and people especially interested in more detail about the career education legislation will have a chance to meet in a smaller group and discuss the details. I think that gives you a broad framework. We do have the new piece of legislation. The funding is not fantastic. The law authorizes up to $15,000,000 per year. Actually the amount appropriated this year was $10,000,000. So we have $10,000,000 cash sitting in the Treasury, marked for career education, that we can draw on.

We have all of the problems associated with a new piece of legislation. We have to develop Federal Regulations and have these cleared by all 3,000 of the people that work for the Office of Education--I think, almost all of them. Then we have to have them signed by the Secretary of H.E.W. and published in the Federal Register. Only when regulations have been published officially in the Federal Register can we begin to receive applications, award grants, and get the program underway. There is a time clock ticking away. We have to have all this accomplished no later then June 30 when the fiscal year ends. We are deeply involved now in doing this with a lot of support from the Office of Education. We have had excellent support from the Office of General Counsel--the legal people. Dr. Pierce has been the leading champion in trying to hammer these draft regulations through the review process and get them out in print. We are very appreciative of the tremendous support that he has given us to keep the things moving. Hopefully, they will be out and we will have the program by June 30. Those of you who would like to discuss various implications of the legislation can get together in the small groups here in the next hour.

EVALUATION OF CAREER EDUCATION PROGRAMS

Presiding: Peter Davis
Vice President
Development Associates, Inc.
Washington, D.C.

Panel: Russell Schuh and Malcolm Young
Also of Development Associates, Inc.
Washington, D.C.

Reactors: Dale Holden
Local Project Director
Columbia, South Carolina

Janet Latham
State Department of
Vocational Education
Boise, Idaho

Ellen Lyles
U.S. Office of Education
Atlanta, Georgia

Robert Rochow
Local Project Director
Pontiac, Michigan

EVALUATION OF CAREER EDUCATION PROGRAMS

Peter Davis

I am very pleased to be here primarily because it is not very often that evaluators and researchers get an opportunity to share their own thoughts and observations with a group that is actually trying to do the work. We are very pleased to have this opportunity. It is rather a unique one for us. All too often we submit a report and then it takes a long time before it ever gets to the people who can use it. The results from the data can't really be presented but we can share what I can put under the category of helpful hints for you so that you can take them back home for use in your own project. This will enable you to operate a more effective and meaningful project. Some of the suggestions are not based on data, but on our experiences gained throughout the country by visiting projects. We feel these insights and observations could be useful to you.

Our purpose this morning is to focus on the things that might be helpful to you. Most projects here are at least 18 months old. It is not by accident that these projects are represented. The people on the panel are the ones who bridge the span from the first round of projects to the second round of projects and who still are experimenting. The basic format of this presentation is that we will have four topics that we will cover and spend about 10-15 minutes on each. The four topics that we will cover are: project planning, project management, project evaluation, and the role of the State. Every presentation will come to the other side of the table to see if there are any questions or any comments that they might want to add to the presentation. Then we will go on to the next topic. We will go back and forth in that fashion until all presentations are completed.

Russell Schuh

It is nice to be the first presenter on project planning. One of the first things in planning is the new activities which require preparation. Frequently projects seem to neglect this or seem to forget it when they are doing their planning. The planning period usually involves acquisition of materials, training staff, development of curriculum, development of procedures, and other planning efforts. The planning phase usually does not cost as much as the operational phase of the program. You should recognize that you are going to operate for a given period of time at reduced expenditures for planning so that you can plan high enough budgets for the operational phase. If that is not possible, the project should consider applying for a standard arrangement for the operational year while they are considering their final results.

Another thing we found that projects fail to consider when they're doing their planning is the continuation after federal funds. At the end of three years, Part D just stopped and the projects had not made adequate preparation for this. And as we know, many projects here have 18 months left in their operational programs. But in planning the continuation of activities, that 18 months may be a little bit deceiving. For example, it is not uncommon in our experience for the budget of a school system to require up to 12 months' notice in adding new expenditures or securing financial support. This means that a project manager looking at an 18 months' leadtime before he has to consider continuation from school district monies may only have, in reality, six months. Frequently the federal year does not go with primary financing of public schools so that, for many school systems, the year begins next month or with March or April for budget planning. This means that what looks like six months or 18 months in terms of continuation may, in fact, be only two months. I suspect that there are some project people here who may have literally only two months in which to plan continuation of their project using district monies even though they think they have half the project's operational time remaining.

One of the things we found that is very important in planning is to be able to identify the participant in the project. In making your financial design, your plan for operation, and your goals, you should be able to clearly identify what activities you expect, what staff people you are going to utilize, what participating teachers and counselors will be involved, and what student participation you expect. The nature of the project activities being stated clearly in the beginning is very important to the manager in terms of being able to deal with operational aspects of the programs throughout the year.

One of the things to watch for when determining priorities during your planning phase is whether job descriptions are specific to your project or generic to your school system. If your job descriptions are generic, and in many cases we found them to be so, we find them not being very clear in terms of what is expected of the staff and what they are to do during the term of the project.

Another thing that we noticed in planning is that frequently projects have planned joint efforts with other activities and other programs that were related. But the nature of the joint efforts was not formalized, nor written in advance. Therefore, during the project, directors were faced with an effort that was an independent activity. This made the project responsible for accomplishing project activities on other efforts that were independent of the project and could go off in another direction which did not really meet "mutual responsibility" of the project.

Frequently in the first round, the project quite legitimately tried to tie in the existing and ongoing kinds of activities. But they failed to plan clearly in advance what difference the project was going to make in those activities. As a result, project directors were faced in mid-

term with a great deal of confusion about knowing whether they were successful in accomplishing the ongoing activities. It was difficult to determine whether the effects that they were observing through the outcomes of students were from the projects or were from the effects of the ongoing activities.

Frequently we are faced, when doing an evaluation, with this kind of a reaction from a project: "What do you have to know that for?" or "We didn't do that." or "The things that you're telling us only half fit what we're about." My advice to project personnel to overcome these types of reactions is to do a sound, clear job of advanced planning. You should plan what you are going to do, how you are going to do it, and be able to clearly link your treatment activities to the objectives to be served, and to the outcomes that you expect. If you do this, you have helped establish your evaluation based on your program implementation, and this means that you have an excellent opportunity of success in your management because you built in your criteria for success from the first moment.

Frequently planning does not include a consideration for actual evaluation criteria. A manager is often faced with getting programs operational, then sitting down and establishing an evaluation plan. They often find that activities have to be adjusted in order to get to the actual criteria and they are six months into the operation. How are you going to measure it for a year's effect based on "six months" activities? It is very important before entering a project or a project year, to establish or plan in advance what it is that you are going to do.

Dale Holden

Let me give some response to the particular points previously brought out. In the whole realm of planning, or, advanced planning, we had to move real fast. We had to do it with just a handful of people, sometimes just one or two. As I think back, I get the feeling from a number of systems, that superintendents and principals need to be brought into the early phases of the planning. This is particularly true in the curriculum area. From the curriculum area, they begin to see what we are going to do for young people. "What will be the outcome of this?" is an important point to administrators. I urge that we bring in some of the key people throughout the school system in this advanced period of planning, particularly the curriculum people.

Robert Rochow

I recall beginning as a project director and, going back to those three years and recalling the experience of the first start, I

learned an awful lot from that beginning. And it seemed like all our efforts were devoted primarily to getting staff hired and getting activities going. We did not take a chance to sit down and look at our goals and objectives and how to meet the goals and objectives--which is really necessary. One of the important activities, and one that took an awful lot of effort and time last year, was how to get the project carried out by the local school district. As you pointed out, all of a sudden we had about three months to go in the school year and we had to decide on some way to get the project supported by local funds.

I believe if we had planned in the very beginning and really got ourselves together in terms of what are our goals, our objectives, our activities were to be and set up a plan to do this, during the first year, that the end results would have been a lot less hectic. Since that is one of the goals of any Part D project, I think that one of the requirements in the proposal or plan submitted to the Office of Education should include the processes that you want to use in effecting local support. So often it is a last minute effort. This is the experience of many projects. We were very fortunate that we were able to secure local support. I think that if we had begun sooner, it would have taken less effort and time to accomplish local support.

Mal Young

I just want to emphasize that even though some projects here may have 18 months left operationally, in terms of demonstrational effect on students, it could well be the last minute in terms of continuation. We have seen good projects that were terminating and it is very sad because they were caught off guard. They did not have enough time to secure local support. They had not considered the process fully or sufficiently in advance. Do you know what you have to do to continue? If you want to continue, you need to begin making plans now. You may find that you have pitifully short time remaining in order to continue your project.

Russell Schuh

The first hint that I would offer people in terms of managing a project, and this is kind of generic, is to manage for success. You should be going someplace. You should have goals and objectives. You should be doing something. Do not wait for a year in order to get into the next planning cycle. If you manage for success, you know where you are and what you need to do in order to do a better job. Project management gives you feeling for where you are all during the year. Management is a kind of dynamic that gives a project personality. Management is an exciting proposition and you can make it different. You know what the difference is and you have some feel for where you are going.

Some helpful things turn managing into success. You have to develop some very clear performance indicators. Indicators for managers are useful and meaningful and give them information concerning the project, where the activities are, and where they are going. For instance, it is not very meaningful for you to say that you have 500 student participants referred to jobs. It is more meaningful if you report that 500 kids were referred to jobs, 150 of these were actually placed, and 75 of those placements were training-related. Management in terms of data gives you comparison, gives you the level of effort that is required to get results, and gives the level of results.

Frequently we have people tell us that 50 inservice training sessions were conducted. Fifty inservice training sessions do not give precise information. Does the inservice mean that 2,000 teachers were instructed for 30 minutes once a year, or does it mean that 50 teachers were instructed for two hours, four sessions, every two months? It is not enough to report inservice training sessions. You must know who, what, when, where, and how.

It is important for the manager to realize that an indicator will tell a manager when something is wrong or that something is wrong. It will not tell a manager what is wrong. As a matter of fact, that is why we have managers. Managers need to look at the indicators and find out why something is wrong, what is wrong, and what to do about it. When selecting the indicators and things that you want to measure, it is important to plan to secure that kind of information. For instance, many of the projects that we visited indicated that they had school placement records and could tell us how many kids were placed on jobs and what kind of jobs. We made the mistake of asking, "Can we see those records? Can we look at the results?" Often we were led into an office where there could well be 25,000 student records in big file folders. We were told that "If you'll go through the files, avoiding those pages marked confidential, and look on page 31 you will find the placement information." The manager may well have the information on files, but it is not useful. The files do not give any indication of how the placements are made and during what period of time. Therefore, to use the files as useful information, it would be essential to ask for it from counselors and placement officers using formats that condenses it from the student records into manageable information.

In terms of affecting management, we know that two people hearing something from the manager will hear two different views. Even if they read it, there may be some slight differences in interpretations. If the manager expects things to be accomplished by staff people it is important that information be formal and that means in writing. If you have expectations, if you have agreements, tend towards the formal as opposed to the informal. Even though the projects may be small, put information in written form because that will give you a basis for communicating. If you have differences, you can overcome them by referring to the written communication.

In most projects that I visited, I found the project directors were not using fiscal records which are simple management tools. There are reasons for this (for example, they are difficult to get, the cost of computers is high, and often the fiscal sections are removed from project operations). I would like to suggest that from a project management point of view, fiscal records give an indication of where you are in terms of expenditures. This is a simple, fast method for securing management data and giving you an indication of where you are. If you are 50 percent into your operational year and you have only spent 25 percent of your funds, you have a good indication that something is wrong. It is also useful if project managers can identify expenses within an activity area. Most projects cannot do this. Most of the projects are lucky if they can identify expenses by line items that are required in the application sent to the Office of Education. It will help you as a manager in terms of making effectiveness kinds of decisions and evaluations of your own performance if you can relate expenditures to budget activity areas. It will also give you an insight to project management. If a manager has 50 percent of the students in one activity while devoting only ten percent of the resources, the manager needs to question whether they are going to get the outcome they want from the activity. It is a simple process but the results are useful.

Today it would be helpful if the managers of Part D projects would consider administrative cost as they look at activities. Do not put all your expenses into an activity area and leave your project manager not really dealing with an activity. Divide ten percent here, 15 percent there, of the administrative cost to the different activities. Do not be afraid to identify administrative kinds of activities.

One of the things that we found that will be very helpful to people here in terms of where they are now is management of budgets. Accountants talk in terms of six million, seven million, a hundred million dollars and you ask them about a $125,000 project and how to manage it. To a manager it is important. It may not be much, but it is important to the project. So it is important to the managers. What we found was communication between many of the fiscal offices and the projects were poor and many project directors do not know exactly at what level they expended funds last year compared to what they originally budgeted. I would not be surprised if some of you have money that you do not know that you have. On a computer someplace, some technician is thinking about erasing it and it is difficult to adjust. I would urge you to go home and find out how much you spent last year, and compare that with how much was in the budget. You might find that you have more money than you thought. You can still apply to fiscal offices for the use of this money.

Janet Latham

One of the things that we found successful was new projects working

with State staffs. State staffs can help new projects to avoid some of the pitfalls, because we have been exposed, as you are being here, to a number of management tools. I am very fortunate in that our State is small and I know the people well. So we have had communication. I understand that lots of things are happening in States where projects are submitted and the State staff does not know about the project. They receive a copy with a request to respond in 30 or 60 days. It is a little late to help in that role, so if projects that are being created would work with their State staff, then perhaps State staffs can be of service to projects.

Dale Holden

An important fact is that, as a project becomes more sophisticated, it requires more time and effort spent in the area of data management. This type of management requires documentation. It is important for project management to develop clear performance indicators, and I think we need to look beyond what I perceive to be our present status, and to begin looking at indicators that relate primarily to student kinds of outcomes. We need to broaden our perspective and look at outcomes that relate to staff, administrators within the school district, community, and other forces that influence projects. Only then are we going to get a clear picture of our success, or in some cases, our failures.

Ellen Lyles

A very important point was made concerning specific formal written information. The president of our Coca-Cola bottling company in Atlanta related some time ago that educators in the past have verbalized but never had anything specific to say. You do not give us information on which to make decisions. The president of the bottling company was pleased with evaluation and was 100 percent for it.

Mal Young

I would like to start our discussion with project staff in the first round. The first thing that we have to talk about in terms of evaluation is, what is it? What is it for? We need to consider it as a management tool. The purpose of evaluation is to help someone to make decisions--decisions to either keep on doing what you are doing now, or if you should change something. Evaluation in this perspective can produce nega-

tive results. If you get negative findings in the evaluation, that simply may mean that you were wrong. To guess wrong is human and it is not bad. It should be understood in that kind of a context. If evaluation is done properly, it is like planning for the program next year. Part D evaluation really has two sets of people that it is trying to help. It is trying to help in providing information to the people at the local level, and it is also trying to help people at the federal level.

In our judgment, the first round projects got the most for their money. They approached it with a spirit that they are going to get the most for their time and their effort out of their evaluation. They viewed the evaluator as working for them and helping them to get answers to questions. Many times they identified what they wanted answered or what they thought needed answer because somebody else was going to ask for it. Equally important, the project director who had this attitude about evaluation conveyed to project staff and other school personnel - most especially, teachers and counselors - the importance of evaluation. We all know that teachers and counselors, and some principals, resist evaluation. The problem that many of you face is how to get them to assist willingly in evaluation. One of the ways that works is to involve people early in the process of evaluation. Involve them in deciding what information will be collected, how it will be used, and how it will be recorded. A very common problem arises with teachers when they are not involved. They do not understand what kind of information an evaluation is trying to get nor for what purpose it is to be used. It may be that the teachers do not understand totally or it may be that you are trying to secure information in what they believe is a nonproject area.

It is advantageous to involve teachers, counselors, and administrators early. This kind of involvement can be done in a well-planned, or a well-structured afternoon session early in the project. If you will involve a little time and effort at the beginning of the process, it will save you a lot of time and a lot of grief at a later time. Trying to involve teachers and other staff is getting at some of the points that were made earlier. You must have a clear idea of what you want to know. You must know what information you want from students. You must develop some benchmarks and indications of whether you are proceeding along the plans developed by the project. In effect, it is a lengthy evaluation and an ongoing data gathering effort which is part of management planning. You must get information on some kind of a regular basis which ties in, again, to the use of financial records. In this way we can handle - easily and quickly, and, from your point of view, at no cost - fiscal information on a program kind of basis for evaluation and management.

Pragmatically, the experience of the first round projects suggests planning the evaluation as you plan the project and do it each year. It is perfectly reasonable, and to be expected, if your objectives for the second year are different from the first year. Make it clear in writing, and you can plan the evaluation in terms of the second year's objectives.

Do not try two or three years later to evaluate in terms of something you have previously changed. Be relatively specific and very realistic in deciding what you will do, what you have information about, and what you are not doing. For example, if you are in the second year now, and your planning is to affect senior high students next year, and you are not doing anything with them this year, do not try to create an evaluation because somebody comes along and says "Give me your evaluation of your twelfth grade efforts." An honest, complete, and whole evaluation of what you are doing with twelfth graders is nothing. Do not try to do some fancy measurement on twelfth graders when you are not doing anything. The fact that you are doing nothing is not a statement to be ashamed of. It is a statement of fact, and it is consistent with your plans.

On the other hand, relate all that you are doing, form some basic objectives, and get the best information that you can on it. Keep in mind that good information, even though small, is a lot more useful than a lot of random information with little meaning. Be specific about what you want and the information can be both more efficient and more useful to you. In a very real sense, it is important to plan your evaluation in phases and to tie that information back into your planning process. Get information that is useful to you as you go along. Generally, you can get some indications from this information for decision-making even though your formal evaluation, with the ribbon around it, does not come until after most of the basic decisions have been made. Get some indication of program success and use that information in planning for the next year.

Robert Rochow

There are many philosophies on external evaluators and evaluation. I am glad to hear what has been said about evaluation as a support to projects. And external evaluators are support people too. You should not really get as concerned about whether or not the particular form of evaluation that you are using passes or fails, but whether it give you the information to ask the right questions so that you can begin to plan the next step. You may ask the wrong kinds of questions in the beginning but your external evaluator has to give you the kind of support to get you to the information needed. I know when I first started my project, I did not know what an evaluator was. I thought he was some mystery coming in with all his statistical knowledge and it overwhelmed me at first. I finally realized I was responsible and assumed the responsibility for the project. Hopefully, you do have responsibility for the projects for which you are directors. Any kind of evaluation is to support you. If you do not take that as a beginning basis, you can create problems for yourself from the beginning. Sometimes it gets to a point where you are not sure whether the external evaluators or you are running the projects. You have the only responsibility so I think you need to establish this in the beginning.

The other important point is that most people do not understand evaluation. If you do not set up some kind of an evaluation plan in the beginning that will work with your administrators, your teachers, and others involved with your project, they will have the tendency to look at it as the pass-fail kind of evaluation. You really have to do an educational program, insuring that the people that you are going to be involved with in evaluation are fully knowledgeable. You have to explain to them that the project is to do certain activities and that the results have to be measured. If you do not secure some kind of resolutions then the evaluation may look at it in the pass-fail way. Those kinds of things are very important to a project.

Dale Holden

One of the ways to increase involvement in the project is evaluation and we must keep in mind that evaluation can be a very powerful management tool. We have to keep it in perspective. By that I essentially mean that if you are seeking the assistance of teachers, administrators, or whatever, within your district to provide input to help you decide on your evaluation, you have to listen very carefully to what these people are saying. Project directors are really in a tough spot. On one hand you want to find out the kinds of data that really can come out of an evaluation. But, on the other hand, you also have to live with the fact that, if you are in a particular school and your evaluators are testing for an extensive period of time, this in itself can destroy a lot of the good affects that you are trying to build up. You know, the closer we move to structurally analyzing each and every component of career education and, hopefully, deciding what kind of effect that has on the overall program, the more involved we are going to be with lengthy periods of testing. We have to weigh all these things carefully before we make such decisions.

Mal Young

In the first round, of Part D, the States were involved over a continuum from being heavily involved to little involvement. In general, though, States did make a contribution just to accept a first round project. The States were also helpful in regard to the continuation of the projects, the training and technical assistance, basic planning, the dissemination of information, and in the general area of evaluation. More specifically with regard to continuation, States played two kinds of roles. One was informal, in that a State person would go to a district as a sort of credible outsider. The State person would talk to school board members, superintendents, other key decision-makers, and soften up, pave the way, and sort of facilitate continuation efforts. The State person could talk in

a way that a local person with obvious interests could not do as easily. Secondly, a number of States were able to assist the local schools by using State funds to provide a transition from federal to local support.

The States were very valuable in the area of training and technical assistance, particularly in the area of providing needs assessment kinds of information, providing training material, linking groups together, and coordinating multidistrict training. They were also helpful in the area of management development. Some of the States have a lot of experience in preparing objectives, comparing plans, and developing the strategies for continuation. It may be useful to have State people and project people sit down together and make plans for getting the project continued.

With respect to dissemination, again, there was a passive and an active mode. The most useful approach is to visit projects regularly, to view materials, to stimulate other school districts to seek information from the projects, and to create a demand for the project. Overall, the States that seemed to be the most helpful had a basic overall strategy for Part D and for implementing the concepts associated with it. Because they had this kind of strategy they could adapt projects into the overall plans. With this overall strategy they were able to pinpoint the kinds of information they wanted to disseminate. These States were geared up for helping projects seek continuation. What, from some points of view, may be interesting is that helpfulness of States did not particularly seem to be related to the amount of money that the State had nor to be particularly related to the sort of structural position of the State person involved. It was associated with State people being committed to the idea and taking the time to give some systematic design to the effort, to visiting projects, and to listening as much as they offered help.

In summary, the conclusion from the first round is that States can be helpful. There is a real payoff to the States in taking the effort. You should try to develop more rapport between project staff and State staff, because there is mutual benefit on both sides.

Janet Latham

One of the things we found helpful is that our project personnel prepared a report for State staff. Sometimes a person is assigned to do something and, in the busy world in which we live, does not know what is taking place. The State staff does not really know what is going on from the State director up and down the organization. A number of you have newsletters and things of this nature for communication. These grew out of recommendations from the first project when they were doing great things, but no one knew anything about it. We can all help in the dissemination and I think that involvement of "everybody" is a key concept in this effort. We do need to communicate, not only with your project personnel, but with all staff within the school. We need to convince

people that we need their input and that we need to share information with all concerned when it comes to continuation.

Peter Davis

Very quickly, to sum up, I think that the message that we have tried to communicate is that, from our observation of the first round of funding, it is important that you consciously and aggressively manage and plan your project. There is a premium on this, if for no other reason than that you have very limited time and very limited resources. We urge you to go back and talk to your fiscal people and make sure there is not a little money left over from last year that you do not know about. Judging from what we heard from many of you throughout the three days, you are short of money this year, and this might be of some help to you. Evaluation is to help you manage your project better and to help you succeed. And you should, if at all possible, view it in that light and use it in that way. Finally, given limited time and resources, you should make maximum use of everything that is available to you. Many States have relatively untapped resources. And again we urge you to use the resources in the most effective way possible.

PROGRAM PLANS AND PROSPECTS IN 1975 AND 1976

Part D of the Vocational Education
Amendments of 1968
Joyce Cook
Part D Program Coordinator
Demonstration Branch, Division of
Research and Demonstration
U.S. Office of Education

Education Amendments of 1974,
Title IV, Section 406
Sidney C. High, Jr., Director
Division of Career Education
Office of Career Education
U.S. Office of Education

PROGRAM PLANS AND PROSPECTS FOR FISCAL YEAR 1975-76

Joyce Cook

We told you on the program that Dr. Sidney High and I would talk briefly about plans and prospects for the two programs with which we are associated. We will discuss both the coordination of the Part D Program in Vocational Education and the newly created career education program. Before we begin, I would like to make several announcements.

When you came to the conference a few days ago, you received a questionnaire prepared by Development Associates which was designed to provide them input into their revision of the Handbook for the Evaluation of Career Education Programs. The results of that survey for which you received the questionnnaire will be influential both in the revision of the handbook and in USOE policy regarding evaluation. Your response to the questionnaire is disappointingly low and we do not have adequate information from you that permits us to know your feelings concerning the items of the questionnaire. I urge you to complete it before you leave the conference and turn it in. If you lack the time, then we would very much appreciate your completing it and mailing it to us. I understand it was a lengthy thing and perhaps some of you felt you just did not have the time during the conference to complete it. It is an important input into our revision of the handbook, however.

Along with recognizing Dr. Billy Pope, who has worked so hard for us in this conference, there are some people on his staff and others behind the scene whom I would like to take an opportunity to acknowledge. Working very closely with him and with Bill Cummens of the U.S.O.E. Regional Office in Dallas, has been Dr. Pope's staff - Almarie Smith, Karen Cargile, and Bill Lovelace. If they are in the audience would they stand please. Also, there have been several EPDA fellows who worked hard for us in the last two days - Dean Perkins, J. E. Cogswell, Don Saunier, Angie Grace, and Kay Kienast. Although they have been very much behind the scenes, believe me they have been a great help to all of us in the Conference.

As you know, within the Part D Program we have focused, since we began the programs in 1970, primarily on a K through 12 operation, although in some instances we were able to work at the 13th and 14th grade levels also. Throughout the years, we have had concerns that we were not getting the impact we had hoped for at the secondary level. In our initial conceptualization of the career education programs, we talked about career clusters as an organizational structure for the delivery of career education at the secondary level. I believe I can say, with some degree of knowledge, that the career clusters have been used broadly in your own projects as a method for organizing instruction at the elementary and junior high levels and particularly in insuring the comprehensiveness of your programs. You have used them to be sure that youngsters were given a broad view of what the world of work is like.

Back in 1971 the U.S. Office of Education began to develop cluster curriculums for the secondary level. Not much has been released in the way of public information about the clusters because they were very much in the developmental process. About four of those clusters are now ready to be moved. They have been developed, they have been field-tested, and they are ready to move into demonstration programs. In addition, you are all aware that the Oregon State Department of Education has been operating in a cluster mode for the delivery of vocational education since the mid 60's. More recently, the Skyline Career Development Center here in Dallas has organized their program into clusters.

In fiscal year 1975, we had funds under Part D for the initiation of new projects in only seven States and two territories. We have taken this opportunity to attempt to work differently at the secondary level than we have in your projects in the past. We have asked that new demonstration projects in fiscal year 1975 demonstrate a minimum of five cluster areas at the secondary level. We have asked for a single site, although we do not mean a single site in that we want a single school. We mean that we want youngsters who participate in the project at the secondary level to have access to at least five clusters. This means that they could be in five different schools with transportation and open enrollment provided or whatever other arrangements can be made to give them access to all five clusters. The thing that is most important to us about these guidelines is that youngster's options at the secondary level be expanded.

The clusters have been designed, as in our initial conceptualization, to be as appropriate for the participation of academic youngsters as for vocational youngsters. It was in this way that we had hoped to reduce the dichotomy between academic and vocational education at the Senior High level and actually to begin academic youngsters on their career preparation. Although we have clusters ready in several areas, one of the most exciting of these is the public service area, which will begin youngsters to prepare in areas like education, the social services, and the judicial system.

We have also asked that projects in 1975, in the interest of delivering more specific skill training for those youngsters desiring to leave school and seek a job, support the cluster experience with cooperative education and work experience programs. Through these programs youngsters desiring to leave school and go to work can get the specific skills they need, or the more specific skills than they would through the cluster programs. We have not, in the guidelines, specified that people would use the 15 suggested USOE clusters, although four or five of those are now available for their consideration. We will give equal consideration to whatever cluster system the district has selected as being most appropriate for it.

We have asked the school districts accepting funds for the first time in 1975 to do more than they have done in the past in the way of articulation. We have a concern that elementary and junior high programs in those districts give youngsters adequate opportunities to be aware of and to explore their options before they actually become involved in cluster

preparation programs. We have asked that, within the articulation component, resources be used and that project staffs give attention to easing the transition with which youngsters go from one step in the career education program to another. We want to know that they will be provided information about training options at the post-secondary level and that they will not be required to repeat their learning experiences as they move through the system. Our desire is to facilitate the movement of that youngster whether the movement is from one cluster to another for exploration or from one training option to the other as job skills are developed.

Again, we have asked for a continued emphasis on guidance, counseling, and placement programs, also at the Senior High level. We have permitted, and it is a permissive aspect -- because what we are asking for costs quite a bit of money -- that districts that wish to may continue to work with academic teachers in terms of infusion of career information into the curriculum and districts who wish to may relate academic learning to the cluster being pursued by the youngster.

It will be obvious to you that, although we, in terms of the Part D guidelines in 1975, pulled away from our focus on the elementary and junior high career education program, we still are very much attempting to assist in the career education movement.

I can speak to you, much less specifically at this time, about the plans for 1976 although we are able to speak with a degree of certainty about the priority area. In 1976 we will be taking proposals which are initiating new projects in approximately 42 States. This will be a big year for the Part D program. Most of your projects began in 1973 and you will be phasing out with the funding in 1975. Therefore we are able to start what might be termed now "a third round of three-year projects." The States that we funded in 1975 are off-cycle in those terms.

In 1976 we expect to focus the part D program on experience-based career education programs. The National Institute of Education, though its experience-based career education model, has turned out highly promising products that have been field-tested, validated, and are now ready to move into demonstration programs.

Once again Part D will be in the forefront because these will be the first products the National Institute of Education has had ready. They are a very new agency and Part D will be the first OE program to attempt to assist them to move a program from their agency to the U.S. Office of Education and out to the people in the field. This was the initially conceived design for the National Institute of Education-that they would, in fact, operate in this manner. They have taken a while getting off the ground and have had some difficulties with funding. We believe that if we are able to cooperate with them in this way that it will be mutually supportive. We believe that we can demonstrate how a research and development organization, or a separate agency such as NIE, can work to produce materials and programs that the U.S. Office of Education can then move into broad usage across the country.

I am convinced also that there are materials and products from NIE that will help us improve our own programs in cooperative education and work experience that are in a vocational structure. If I am so permitted, I plan to write guidelines so that the experience-based career education model may be used in the programs we initiate in 1976 for the purposes of either exploration or preparation.

I believe this concludes what I have to offer you in the way of an insight into the direction we expect to be taking in Part D. I want Dr. High to talk with you about the career education program and then close out the conference for us. This relates to a previously established precedent. Dr. High has been involved in putting together, running, and closing out all of the Part D conferences we have had for the past five years. Although he has now left the Part D program to work with the new career education legislation, we wish to honor that precedent.

Sidney C. High, Jr.

Thank you, Joyce. It is with a good bit of nostalgia that I take this opportunity to close this meeting. As Joyce mentioned, this is the fifth meeting of the Part D project people.

There is often a lot of criticism that educational directions get started and pursued for one or two fiscal years and then dropped before anything happens. I think one strength of the Part D movement has been its continuity over a period of time. The program has moved in a consistent direction over a considerable number of years and for an unusual number of years for a federal education program.

The essence of the Part D program was recommended by the National Advisory Council in 1967, and the Congress wrote their recommendations into Part D of the Vocational Education Act of 1968, authorizing the program. The first money was appropriated in fiscal year 1970 to implement the program. Dr. Grant Venn, who was our Associate Commissioner back in those days, is to be credited with most of the leadership in working the Part D concept through the advisory council, into an act of Congress, and finally for bringing the program into actual being.

The Act was passed in 1968 calling for the Part D program. Dr. Venn decided that the first step should be to have a meeting, bringing together State and local people, to talk about the directions we ought to take to implement the new mandate of Congress. We convened such a meeting in Atlanta, Georgia in March of 1969. It was hosted by the Georgia State Department of Education. If I remember correctly, Dr. Robert Adkison was one of the participants in that conference in 1969 and he is still with us today. This is one illustration of the continuity of the program.

At the Atlanta meeting we discussed with State and local people what Congress had told us to do and we got the benefit of their thinking in terms of what steps would be necessary to implement the program. Out of the results of that conference we published a booklet called Guidelines to Implementing Exemplary Programs and Projects which I am sure many of you have seen. Also out of that Conference resulted the policy paper under which we launched the Part D program. We received applications, chose the best ones through a panel process, funded them, and got them started. Those people received their grants in May and June of 1970.

In July, 1970, we got all of the initial project directors together. We had a meeting in California to discuss the details of launching the Part D projects for the first time.

As the projects got under way and began to produce materials and develop techniques, we had all of the project directors assemble again in Columbus, Ohio in 1971. Quite a few of you in this room right now were there in Columbus, Ohio where we had a chance to share our techniques and ideas and materials.

As the first three-year round of Part D projects drew to a close, we had another meeting at Airlie House outside of Washington. By that time Dr. Marland had come on the scene and was pushing the broad concept of career education. He was then Assistant Secretary of Education. Dr. Marland himself came out and participated with us in the Airlie House conference. Again, a number of you were with us at that conference. The first three-year round actually ended and we undertook the second three-year round of the Part D projects in which all of you are participants.

During the first year of the second round of projects we felt it was premature to have a meeting. Projects were still developing and ironing out problems. They were producing first-draft materials and we just felt the national meeting would have been a little early that first year. Instead we had a series of regional meetings. I think practically every one of the ten regions had a regional meeting with Part D project directors during that first year. Joyce and I were able to attend many of those meetings to meet with second round Part D people.

During the second year of that second round, both the project people and the regional offices kept urging us to call another national meeting. They said, "It is the second year. We are far enough down the road that we think it would be fruitful and productive for everybody to get together on a national basis." Joyce agreed to undertake the responsibility for this Conference. Joyce, I think, did an excellent job in pulling together a planning committee that represented regional offices, State offices, and local project directors to define the topics to be covered on the agenda and the format of the conference. Also with the help of Bill Cummens and Billy Pope and other people here in Dallas, Joyce was able to set the conference up and bring it into being. I certainly have been very pleased with how the conference ran and I am so delighted to see the tradition of Part D going on in this manner.

We have had a continuous history, now since 1968, of moving in a specified direction. I think that the continuous effort in a given direction is responsible for a great deal of the progress that we have made. As I have looked around the room during our meetings this week I have seen Bob Adkison from the 1969 conference, but I have seen other people from that whole first three-year cycle of Part D. I have tried to jot their names down this morning. Virginia Bert was there, Clayton Carlson, Jim Crook, Pat Doherty, Clarence Dittenhafer, Bessie Etheridge, Dale Holden, John Jenkins, Grady Knight, Harold McMinn, Lee Olsen, George Pilant, Wilbur Rawson, and Robert Rochow. I am sure that there are others I have missed. All those people that participated in the first three-year round of projects have now moved over and are participating with us in the second three-year round.

I think this illustrates something. It illustrates the overlap and the continuity that has been possible. We were able, by that kind of overlap from the first round into the second round, to start the second round of the Part D project at a considerably higher level. We were able to stand on the shoulders of the first round and go on from there. This has enabled us to make considerable progress.

Now, what I am hoping for in my new role as director of the Division of the Career Education Programs, is that as the career education program gets under way we can stand on the shoulders of the second round of Part D and go on in an even more accelerated fashion.

Looking ahead, as Joyce has done, in fiscal year 1975-76, I think that note should be taken of the fact that during the next school year at least, the career education load is going to have to be carried by you Part D project directors. You are operating under Part D guidelines that look awfully like career education to me. You have operating programs in the country. We are going to have to depend on you this next school year, as Dr. Hoyt said last night, to be the exemplary operational programs of career education.

We will be, hopefully, taking in new career education applications this spring and awarding grants.

The grantees will have their money in hand in the summer of the next school year, 1975-76. You know what they will be going through during that first year of project activity and that there is not much to show. There is a lot of planning, a lot of developmental work, and many things come out in preliminary form, but there is not much to be shown. So we are going to have to depend on Part D to keep carrying the career education banner during the 1975-76 school year. In the meantime, I can assure you that during that year we will be working with the newly initiated career education projects and trying to bring them up to speed. So as this second part of Part D finishes up in June 1976 we hope to have the new round of career education projects up to speed. Then they can go ahead and begin to carry the load of exemplifying career education. But, it is important to note that you are going to be filling the gap during this next school year in terms of showing people what career education looks like in a real, live school district.

I said a little on the first day about the new career education legislation and from that sort of projected into some of our plans.

During this fiscal year, 1974-75, we hope to get the survey and assessment going. We hope to get a contract out this spring for the national survey and assessment that Congress wants. We will begin collecting information from all kinds of districts and State offices in terms of all sorts of career education implementation--not only under Part D, but any kind of career education activities, regardless of funding source. That will be a big undertaking this Spring--to get that survey and assessment under way and paid for out of this year's money so that by next November we can report to Congress.

Another thing that will happen this fiscal year will be the establishment of the National Advisory Council on Career Education. We had hoped that would be announced by the Secretary's office in time for us to announce it to you here but it has not happened yet. We expect that to happen any day. A panel of distinguished people will be appointed by the Secretary of HEW to constitute the National Advisory Council for Career

Education. They will advise our office and the Secretary, as well as the Congress on the further development of the national career education program. That is one of the things we expect to accomplish this fiscal year.

We intend to put most of our financial resources this year into exemplary projects of various types to try to create some additional exemplary models of career education that the Congress has called for. The bulk of the resources will go into some general career education projects that will deal with what we are beginning to call IQI, Incremental Quality Improvement. We have lot of career education kinds of things already in action, but we must build the quality up to the point that we can get the kind of output that will show the Congress, the State legislators, and local boards that these things really do work effectively with youngters. So there will be, I hope, quite a number of grants for the incremental quality improvement of the career education programs that are already underway.

Beyond that, we will be focusing some grants for a series of special projects. Like Joyce and Dr. Pierce and the people who handle the Part D program, we too are concerned about the slowness with which career education is developing in the senior high school. Part D will be focused, as Joyce said, on the senior high school in seven States this year. We hope, also, to use some of the career education money for a limited number of special projects to exemplify career education at the senior high level. We also hope to have a few special projects to illustrate how career education can work with handicapped youngsters, how it can work with minority youngsters, and other special populations like these. These new projects should really begin to bear fruit in their second year which would be the school year 1976-77.

Looking ahead into fiscal year 1976, first of all we hope to continue the exemplary projects. For us that will continue in keeping with our legislation, as the major portion of our efforts. So we will be continuing some exemplary projects, perhaps initiating some additional kinds of special projects, and we will take on a new responsibility--that of State plans development.

The law provides that our efforts in State plans development will begin in the second year of the program which will be fiscal year 1976. So we will go through the usual procedure of announcing this in the Federal Register. Those States that would like to receive a grant to help them develop a statewide plan for career education can apply for and hopefully receive such grants, not for operational purposes but for very careful and systematic development for State plans for career education. The law does not say that every State has to do that kind of thing--it is not mandatory--but it implies that those States that are interested can submit an application for such a grant. We, at this point, have no idea how many of the fifty States will be interested in making that kind of an application but the opportunity will come along in the second year of the program, fiscal year 1976.

Another thing that I should mention is the need that was identified by one of our working groups for a central point at which career education information and materials could be received and disseminated. We are concerned with that too. We are concerned with the whole problem of communication among the hundreds of people who are working in career education. We hope that, to some extent, we can get a communication effort started this year. We drafted up a rather elaborate plan to contract that function out and have a very large communication effort started this year. But legal interpretations have been rendered to the effect that we cannot award any contracts this year. Such contracts would be allowable under the law in the second year, so we may have to postpone the communications activity or that portion of it into the next fiscal year. The idea would be just as one of the working groups recommended here, to have some central point at which we could receive all sorts of career education materials as they are developed, categorize them, classify them, and have ways to get them out. We are hoping if we can swing it, not only to develop the capability to mail sample materials out to people, but to actually go in and provide inservice along with it. If someone were interested in introducing an exploratory program in the junior high school, then hopefully, from this communication center, a couple of people could go out bring them a lot of material and put on an inservice education program. I know that is an ambitious plan, but we have gone into the details enough to believe that we might be able to get that kind of thing going in the second year. The Congress, in the legislation, told us to do something about stimulating or continuing the national dialogue on career education. This would hopefully be a part of the whole communications effort.

We hope to continue to hold meetings of various sorts. We were very pleased last year with the results of our mini-conferences. We were able to bring people in from 275 local districts around the country, and sit down in a mini-conference format with 12 or 15 people at a time. We spent a couple of days in very detailed discussions during which time we learned from them and they learned from each other This seemed to be a very good way to bring about a dialogue. We also want to continue meeting with the State Coordinators of Career Education at frequent intervals and perhaps to have some very large national conferences involving literally hundreds of people--not only practitioners of career education but decision-making people from the State legislatures, the Governor's offices, and so forth.

There will be this whole effort to continue the national dialogue on career education, then, and to enhance communication, both by face-to-face meetings and by some way of disseminating information in written and published form, materials, information about techniques, and so forth. We made just a small start, during our mini-conferences. We took our policy paper on career education which outlines essential implementation tasks to get career education going and we asked the people who came into the mini-conferences to look at those implementation tasks. Where they identified a task that they have been successful in doing in their district, they wrote us a half-page "how to" statement. We put all of their suggestions together into a booklet called Career Education, How to Do it, Creative Approaches by Local Practitioners. If you have not seen it and will write to me, I'll be glad to mail you a copy.

This simply takes all of the implementation tasks, and lists the ways that people have accomplished it. I just threw open a page here, and someone in Decatur, Georgia, has a technique for carrying out a certain task. Someone in Camden, New Jersey; Omaha, Nebraska; and Highland Springs, Virginia also has a technique. So here are four ways to carry out a certain implementation task. These are ways that are practical and have worked for somebody. This booklet is one of our first attempts to pull a lot of information together, and get it in some sort of form that we can get back out to people.

None of the materials that we send out are copyrighted. We are often sorry we cannot print them in the vast quantities that are really needed, but we are certainly pleased when someone wants to reproduce them in any form and give them wider dissemination.

Another thing that we have accomplished in communications is the policy paper itself. We sent that to the Government Printing Office and it is going to have an initial printing of 25,000 copies. We will get some sample copies out through various other media that this is now available. It represents our official statement of the U.S.O.E. policy on career education as defined by Commissioner Bell.

We will be working in 1975 and 1976 to stimulate continuing communication among people working in career education and will basically continue in that mode up to June 30, 1978, when the current legislation expires.

In the meantime, the National Advisory Council is supposed to recommend to Congress, the further legislation that will be needed for the next steps in the development of career education. Hopefully, by 1978, there will be additional legislation enacted that will let us broaden the scope of the whole career education operation. In general, that summarizes our plans and prospects for the next few years in career education.

Work Group A made a statement about the nature of the Part D guidelines and their relationship to the OE policy paper on career education. Because the career education policy paper represents a somewhat greater program, I thought I would say something about that. Part D is a piece of legislation that has been enacted by Congress. Part D of the Vocational Act exists with certain specified purposes. The Part D money must be used for those purposes. So what is binding on Part D operations is the Part D portion of the Vocational Education Act. Those are the purposes that must be addressed; and those are the federal regulations that govern the kinds of Part D projects that you are operating. That is where the contractual and legal responsibilities lie in Part D--to carry our Part D of the Vocational Education Act as spelled out in the law. That mandate is different from the career education policy papers that may be issued.

The new legislation that deals with career education will provide some money and as that money goes out for grants and contracts, those things will be done in the framework of the new career education policy paper. As all of us in this room know, there is a tremendous overlap between the policy paper on career education and the legislative mandate under Part D. But legally and contractually the reference points for the Part D projects is the Part D legislation, not the OE policy paper on career education. We need to differentiate between those two things.

In fact, that moves us on into a broader area, where we need to differentiate across the board between the Part D operation which has its own structure. Dr. Bill Pierce is in charge of Part D of the Vocational Education Act. Each of the Regional Offices has a Part D officer who manages the Part D projects in that Region. Each State has a Part D person responsible for Part D administration at the State level, and then there are various local districts with their Part D grants. Now that is the structure from Bill Pierce down to the local districts. Part D operates through that structure. Dr. Hoyt and I are not in that line at all. So if there are any questions, and when any differences exist between what Part D is doing and what the office of career education is doing, the Part D structure is responsible for the Part D projects.

There has been some talk about this meeting and some people have wondered why the State Coordinator of career education from a certain State is not here. This was because this was not a career education meeting. If you look at the program, the cover does not say career education. It says The Coordinating Conference for Part D and Part C Programs and Projects. From each State, then, the person who manages Part D kinds of operations was invited to attend the meeting. In some States that is the career education coordinator and in other States the State career education coordinator is a different person. The purpose here was not to assemble the whole career education community, but to assemble those people who are specifically implementing Part D of the Vocational Education Act.

That sort of thing is liable to continue to be an ongoing problem unless we clearly differentiate Part D as a legislative program from career education. We are very anxious, that as we move career education out of vocational education into this new position in the Office of Education, that we do not move away from vocational education because just about all we have to go on in career education right now came out of Part C and Part D of the Vocational Education Act. We are not tooled-up yet to carry the load, and as I said, during the next school year it is going to be up to you to carry the load. Although we have moved out of the vocational arena, we certainly do not want to move away from the activities of the vocational program. We owe the present status of career education to the vocational program. It has been a tremendous pleasure to be here at this fifth national meeting of Part D people. I certainly hope that as you and Joyce set up the sixth meeting, you will find it possible to invite me to that one too.

REPORTS FROM SPECIAL INTEREST GROUPS

Group I: Local Project Personnel
Chairperson: Jane Robertson
Local Project Director
Allegheny Intermediate Unit
Pittsburgh, Pennsylvania

Group II: Third-Party Evaluators
Chairperson: Orville Nelson
Third Party Evaluator
Menomonie, Wisconsin

Group III: State Administrators of Part D Programs
Chairperson: Ray Barber
Texas Education Agency
Austin, Texas

Group IV: Teacher Educators
Chairperson: William Weisgerber
Michigan Department of Education
Lansing, Michigan

SPECIAL INTEREST GROUP I
LOCAL PROJECT PERSONNEL

Chairperson: Jane Robertson

Resource Person: Matthew Cardoza

Group I, Local Project Personnel, chose to share their ideas and concerns relating to techniques and methods for the most effective involvement of the administrative structure, for the use of community resources, for the structure and roles of Advisory Committees, and for the facilitation of counselor role change, infusion, and dissemination.

They separated the administrative structure into its components; i.e., the school board, local administrators, staff, the communications system, curriculum, evaluation. They indicated that school board commitment to career education is essential to the development of effective and ongoing career education in local school districts. Its strong support is needed early in the planning and development process. In order to get this support, one should learn the make-up of the Board of Education and know exactly what information the board has received.

Local administrators should have input and involvement in any decisions made concerning career education in their schools. The person promoting the career education concept should tie himself/herself to a local administrator who knows where to go for results, and has some influence. That person must be involved. As for staff, the group suggested that infusion takes place more readily when the career education staff is inconspicuous. The more integrated the career education staff is with the regular school personnel, the more people who support career education. They felt that when the process involves cause and effect, real infusion of career education into the curriculum takes place.

They suggested, too, that a communications system be developed and carefully maintained. It should involve board members and/or an advisory council, board member associations, administrators, and community representatives. Impact is gained through having administrators speak to Lions Clubs, Rotary Clubs, etc., and through having parents, business people, teachers, etc., speak for career education.

The successful infusion of career education into the curriculum depends very much on the impressions gained by teachers in the first inservice training sessions on career education. The local project personnel felt very strongly that administrative support for career education should be stressed verbally to the teachers, and preferably by the superintendent. It should <u>not</u> be too strongly stressed as vocational education. The group also suggested that there should be follow-up contacts with teachers made by the superintendent emphasizing the administration's continuing support for career education.

In the area of evaluation, they stressed that the person chosen to write the objectives should be one who is knowledgeable about how to write objectives and who understands career education concepts. In order for career education to succeed school philosophies will have to change or at least be adapted to career education. The group felt that project management should ease the evaluation, but indicated that evaluation is made difficult because acceptable instrucments are not readily available to measure affective or psycho-motor skills.

In terms of using community resources, one effective method is to form an advisory council. Such a council should be given an opportunity for input and its advice should be used whenever feasible. Exploration sites can be identified through the council. Other kinds of information about community resources can also be obtained through the council. And it can be an additional source of tangible support; i.e., services, donations, exhibits, work carrels, etc. Parents are, of course, another community resource that can be of assistance. They can be reached through public relations releases, polls and surveys, and the involvement of Chambers of Commerce, civic clubs such as Rotary, Lions, Kiwanis, etc. Other contacts can be established through the development of a Resource Guide with the help of business and industry, the Chamber of Commerce, Junior League of Women, civic clubs, etc.; through holding meetings such as this conference in Dallas and inviting personnel from other projects; and through setting up committees involving each of the institutions to work on and attempt to solve problems.

The Advisory Committee must be a highly representative group and have members who will have influence with other community people. It should have representation, for example, from the community, students, and teachers--all of whom can be effective for public relations purposes. Consideration should also be given to sex, ethnic, socio-economic, and geographical factors. The purposes of the Advisory Committee should be clearly established. Every meeting should have a purpose and committee staff should be responsible for organizing its meeting agenda. Committees could be organized for specific tasks and be dissolved upon completion of that task. Every committee should have a real function and not be a committee in name only.

This group felt that the role of the counselor should see greater stress on group work instead of one-to-one counseling and the use of a student development plan with the counselor defining the program. This will involve the counselors' meeting with parents. The role of the counselor should be moved from an administrative role to a career development role. This can be accomplished by the following:

1. Teacher training institutions, with local project people helping to design counselor training programs that support a change in the attitudes of counselors;
2. Inservice workshops for graduate credit;
3. Influencing the power structure - counselors themselves, directors of guidance, administration, school boards.

To establish the counselors' place in the placement process, the group suggested that the Placement Office to made a part of the Guidance Department.

In dealing with secondary infusion, the local school personnel identified several problems and then discussed possible solutions. The first problem was to provide a meaningful structure of the World of Work for student use of career information. Among the solutions suggested were the use of such categorizations as People, Data, Things; the employment of the OVIS (Ohio Vocational Interest Survey) and of the Career Development Assessment component of the ASVAB (Armed Services Vocational Aptitude Battery); and the arrangement of career information according to Holland's six systems of personality classification (this would let the student discover for himself).

A second problem was to identify ways to offer exploratory experiences for the junior high level. Among the solutions offered were:

1. Set up a work samples laboratory and route all 8th graders through - for a two-day visit.
2. Take the interdisciplinary team approach. It is difficult to initiate but self-propelling. This is a Team Wheel which involves clusters of students.
3. Use a Central District Team, which rotates from school to school in the district (four teachers on a wheel).
4. Organize visitations into the community.
5. Establish a wheel within the school with the students moving.
6. Integrate the experiences into required courses.

The problem of teacher attitude change was discussed with the suggestion that project personnel approach it carefully and slowly. One suggested solution involved a needs assessment. Teachers might submit instructional units for the identification of "Career Education" relationships already existent in them, reorganize them, and let these teachers share with others. Teachers cannot decide whether they want to do career education until they know what it is. A second suggestion was to design a course at a university for credit. Several places were identified which instituted activities or developed materials which could be useful in other locations. For instance, the State of Florida disseminated a State Position Paper on Career Education. In Florida, also, a programmed text was designed and used by staff for orientation to the concept of career education. In Montgomery County, Maryland, procedures for group orientation were designed and a handbook is available. And in Washington, teachers were involved in seven steps as part of staff development and used a workbook which might be useful.

In their discussion of secondary infusion the group pointed out that materials must be purchased as teachers' curriculum changes necessitate "support materials." They felt that teachers should recommend the purchases and that enthusiastic teachers should be used to provide inservice training for other teachers.

The final point made concerning infusion was a brief defense of the work sample approach. The group indicated that the work sample approach is one aspect of the junior high program, but not the only aspect. Other aspects include infusion activities, inservice training, counselor workshops, etc. Also, within a larger school system, they contended that a real exploratory program should allow students to explore a variety of skill areas and levels of complexity. One or two visits in the community is not an exploratory program. To provide each student with three experiences would involve 18,000 placements in a district having 6,000 junior high school students--with no control over the quality of the exploratory experience. And, finally, they stressed that their use of the work sample approach as a "solution" was submitted as an alternative to providing exploratory experiences, not as a total junior high school program.

Group dissemination was another subject touched on by the local school personnel. They felt that a problem exists when local projects are asked to supply large numbers of materials outside the local area. Local monies are not adequate. They suggested the possibility of seeking help from the State Department of Education or the U.S. Office of Education. They asked what their project dissemination obligations are--with the suggestion that perhaps a finite number of copies could be made available on a routine basis, with the Regional Offices of USOE going further if possible. They felt that their developmental status should be clarified or defined because requests come in during the start-up period when no materials are ready. Two suggestions for dissemination activities were to take the newsletter approach and to use the OE Regional Offices and State Departments of Education to distribute items and to cover the cost of duplication and postage. But this latter approach would complicate bookkeeping. Another problem identified was in the utilization of material from other projects. They suggested that teacher-editors should select exceptional ideas for adoption.

Finally, the group suggested that information is needed on the copyright provisions. They were concerned that materials in the developmental stage could be easily picked up by commercial producers and placed on the market before they are ready for general use.

SPECIAL INTEREST GROUP II
THIRD-PARTY EVALUATORS

Chairperson:	Resource Person:
Dr. Orville Nelson	Elmer L. Schick

Approximately twenty-four persons attended the session. Third-party evaluators, project directors, and EPDA Fellows were in attendance. The discussion focused on four major topics--third-party evaluation guidelines, the quality of third-party evaluations, and the role of the third-party evaluator.

The group identified several problems with respect to the evaluation guidelines. First, the guidelines came late and were difficult to implement in the current year's evaluation. U.S.O.E. staff members in attendance noted that the guidelines were not official yet, but third-party evaluators were encouraged to use them. In addition, instrumentation continues to be a problem. Many existing instruments are not valid for the objectives of the projects being evaluated. This is also true for those listed in the guidelines. Several of the recommended tests require too much time to administer. And, the volume of data collection suggested is not possible.

Another problem is that the objectives in many projects do not focus on student outcomes; however, the guidelines do not recognize this. Nor do the guidelines provide flexibility to allow for changes in project activities and guidelines. (It was noted that changes in project objectives and activities are commonplace as project directors acquire more insight into the needs of their projects.) It may not be possible to make Federal and local research and evaluation needs congruent.

Several benefits of the evaluation guidelines were also noted. For instance, project directors have become more concerned with their project objectives. More effort has been given to developing activities which are directly related to the objectives. In addition, more product evaluation involving students is being carried out. The systematic approach suggested in the guidelines is helpful. And the test reviews in the guidelines are helpful.

The group identified a number of problems having significant impact on the quality of third-party evaluations. In general there is a lack of money for carrying out third-party evaluations. And often the third-party evaluator is selling a service that the project director does not want. Usually the third-party evaluator enters the project scene too late to do a complete job of evaluating. Frequently teachers are anxious about evaluators. In addition, it is difficult to develop an evaluation that will be flexible enough to accommodate changes in project objectives which come about as the project matures. Student outcomes are not readily defined in many projects. And, in general, there is a lack of instruments for use in evaluations. They indicated that there is a need to assess whether the student outcomes achieved are really of value to the student. There is also a need to develop evaluation designs that do not require significant changes in educational programming but provide the contrasts needed to isolate impacts. Finally, evaluators need techniques to link process data with product data.

Several questions were raised in regard to the role of third-party evaluators. They were as follows:

1. To what degree should the third-party evaluator be involved in project planning?
2. Should the third-party evaluator suggest developmental activities?
3. To what extent should third-party evaluators provide data for the project director's decisionmaking and assist in its interpretation?
4. Should the third-party evaluators participate in the Federal project review meetings held with the project staff?

A number of suggestions and recommendations were made, with no attempt made to determine consensus. They simply reflect ideas brought out in the discussion. Among the points made is the need for more third-party evaluator interaction with USOE staff before guidelines are established. Third-party evaluators should also be brought into a project early enough so that they can initiate planning, select (design) instruments, and develop a data-gathering system prior to the initiation of the project activities they are to evaluate. Comments and suggestions on the guidelines should be sent to the U.S. Office of Education.

In addition, there is a need to recognize the developmental nature of most projects and the stress this places on flexible evaluation techniques and systems. And since third-party evaluation is not a well-defined science, there is a need for a mechanism to share ideas and techniques among evaluators. Finally, some participants suggested that if the U.S. Office of Education desires investigation of well-defined objectives and carefully managed projects, it should consider designing the projects, submitting them for bids, and then hiring a third-party evaluator to evaluate the successful bidders. The products of these projects would be made available to the States for their use and modifications.

SPECIAL INTEREST GROUP III
STATE ADMINISTRATORS OF PART D PROGRAMS

Chairperson:
Ray Barber

Resource Person:
Les Thompson

Special Interest Group III, State Administrators of Part D Programs, met on Wednesday, January 29, 1975 in Dunfey's Royal Coach Motor Inn, Dallas, Texas. Present were persons responsible for State administration and other individuals interested in Part D Programs. The session was opened by Chairman Ray Barber, Director, DORD, Texas Education Agency, Austin, Texas. The Chairman introduced Mr. Les Thompson, Senior Program Officer, U.S. Office of Education, Region VII, and Resource Person for the session; Ms. Joyce Cook, Part D Program Coordinator, Demonstration Branch, U.S. Office of Education; and State Part D representatives. Each State administrator was asked to then identify his area of responsibility to Part D projects and estimate the amount of time devoted to Part D activities.

The Chairman stated the objectives of the meeting as follows:

1. To review the summation of responses to the survey of techniques and methods used in career education (See attachment.)
2. To establish a dialogue between State Part D personnel and U.S. Office of Education staff.

The State personnel were asked to identify their concerns to U.S. Office of Education staff members both verbally and in written form.

Ms. Cook reviewed priorities for Part D projects for FY 1975 as they appear on pages 8-9 of Volume 40, Number 1 of the Congressional Federal Register issued on Thursday, January 2, 1975. They are as follows:

Priority of Awards. In the granting of awards from funds available for the program, the Commissioner has authority to give priority to applications which rank high on the basis of such criteria and which propose projects that involve, in one operational setting at the senior high school level, all of the following features:

1. A strong emphasis on guidance, counseling, placement, and continuing follow-up services.
2. A coordinated demonstration of the cluster concept for occupational preparation, utilizing at least five different occupational cluster programs which have been developed through previous local, State and/or federal research and

development efforts. (The selected cluster programs should range from those dealing with public service and human service occupations through those dealing with manufacturing and construction occupations. The selected cluster programs should be implemented and demonstrated in such a way as to include a high level of involvement of educational, business, industrial, labor, and professional organizations and institutions both in the classroom and in the provision of work experience and/or cooperative education opportunities.)

3. Articulation with occupational awareness and exploration programs in feeder schools at the elementary and junior high school levels and with occupational preparation program at both the secondary and the post-secondary levels.

In addition to the three program requirements stated above, applicants may choose to include strategies designed to familiarize secondary school students with the broad range of occupations for which special skills are required and the requisites for careers in such occupations.

Questions were received from the floor and after considerable discussion, the following concerns were identified and/or recommendations made.

(a) Most State Directors of Part D Projects do not consider the present evaluation guidelines appropriate for Part D projects as presently administered. They are, however, instruments more appropriately designed for evaluation of research projects. The guidelines are product-oriented rather than process-oriented. Process-oriented guidelines would be more beneficial in evaluating exemplary projects.

It is recognized that the U.S. Office of Education needs data for program planning and accountability, but this type of data could be obtained through instruments designed to utilize the most current evaluation techniques.

(b) The present guidelines without revisions should be used for evaluating exemplary projects for the next fiscal year (July 1, 1975 through June 30, 1976) unless revisions can be incorporated into the present evaluation document and the documents disseminated to State and local project directors prior to June 30, 1975.

(c) The consensus of the State Part D personnel was to recommend the planning of periodic regional and/or national meetings which would permit State personnel to review and submit recommendations on priorities for exemplary programs and projects. The purpose of this input to the priorities for exemplary programs and projects is to assist U.S. Office of Education personnel in developing and administering realistic and meaningful exemplary programs.

(d) Priorities for writing exemplary proposals for Commissioner's Discretionary Funds should be released by the U.S. Office of Education and announced in the Congressional Federal Register at least 90 days prior to due date of proposals.

(e) "Guidelines" for evaluating exemplary programs should not be published in the Congressional Federal Register until the Guidelines have been proven effective and appropriate. This is to ensure that use of the present Guidelines are permissive rather than mandatory.

Thus concluded the special interest group meeting of State administrators of Part D programs.

SUMMATION OF RESPONSES TO THE
"TECHNIQUES AND METHODS IN CAREER EDUCATION" SURVEY

Problems for which State Administrators would like to seek personal solutions:

A. The role of the State Department of Education in exemplary and research projects.

B. Realistic expectations for institutions of higher education in the preparation of teachers for career education.

C. Evaluation methods and instruments used to determine the impact of career education on students.

D. Successful strategies for the implementation of career education at the secondary level.

E. Problems encountered in staff development for career education.

F. Career education resource materials for post-secondary educators.

G. Problems encountered in the development of career education curriculum materials.

H. A realistic definition of career education.

I. Techniques for teaching specific occupational information rather than conceptualizing.

J. Competency-based instruction in career education.

K. Application of a management approach to career education in the classroom.

L. Administrative strategies for implementation of career education programs at the State Department level.

M. The role of guidance counselors in career education.

N. Delivery systems being used to provide career information and feedback to students in career exploration.

O. Strategies for getting State and/or federal funds for career education projects.

P. Production of a State career education newsletter -- personnel requirements, mechanics, and costs.

Q. Establishment of a State advisory group for career education.

R. Participation of secondary teachers in career education.

S. Approaches to career exploration other than hands-on experiences.

T. Comprehensive planning for career education at the district level.

SPECIAL INTEREST GROUP IV

Chairperson:	Resource Person:
William Weisgerber	Lorella McKinney

Group IV, Teacher Educators, convened at 9:45 a.m., Wednesday, January 29, 1975 in the Pellinore Room of the Royal Coach Motor Inn. Twenty-one were in attendance representing 12 States. Of the 21, 13 represented Teacher Education Institutions, 2 represented State Educational Agencies, and 6 represented regional or local educational agencies.

The group convened with a statement from their chairperson, William Weisgerber. The session was designed by the conference planning staff to be participatory and formal statements from either the resource person, Lorella McKinney, or the chairperson would be dependent on the group's perceived needs.

Specific concerns voiced by those in attendance were as follows:

1. Trust Relationship Between Teacher Educators and State and Local Educational Agencies. Lack of confidence between the users and producers of teachers was mentioned several times as a major contributor to inadequate in-service programs. The gap widens when State and local educational agencies initiate their own in-service programs. This isolates the preservice program from current needs.
2. Communication and Understanding Difficulties. Few if any teacher educators have a good communication link with the educational planners or the direct delivery system. If communication exists it tends to deal with one subject area and follow funding sources or purposes. This poor communication leads to misunderstanding which hinders program development by all.
3. Career Education Understanding. Some view career education as a program; thus greater emphasis is placed on a separate course rather than an integrated concept. Priority must be given which will allow teacher educators to participate in various experiences which will allow them to become aware of, to adopt, and to adapt the concept.
4. Nature of University/College Involvement. The incorporation of the career education concept within postsecondary programs should not be limited to the school of education. All aspects of the institutions should be involved. It was suggested that curriculum people and the superintendent should be involved early in university personnel development planning. The secret to success is to get willing involvement.

5. Career Education Label. Perhaps a strategy that should be used when implementing career education would be to deemphasize the name and encourage those who are examining it to consider student outcomes.
6. Needed Teacher Competencies. Until we can articulate the needed teacher competencies for career education, we are hard put to develop strategies which would affect our preservice and inservice program. It was strongly suggested that goals and objectives must be clearly identified at the very beginning of planning and that there is need to develop very clear performance criteria. We must look to outcomes that relate to students and staff.

Dr. McKinney, the program resource person, elaborated on item six, career education teacher competencies. Dr. McKinney is currently directing a project which will develop a listing of career education objectives as well as alternative strategies for meeting those objectives for planning and implementing career education personnel development at university level. University sites will be asked to describe how they would use the objectives and strategies to integrate career education in their training programs.

The scope of the project is nationwide with field observations in many different classroom settings. The project staff is currently analyzing teaching/learning behavior data collected in local school districts throughout the United States in preparation for data collection at university sites. The final report will be delivered to the U.S. Office of Education by June 30, 1975.

Members of the group were extremely interested in the project and will anticipate the resource materials.

Mr. Weisgerber reported on a Michigan effort designed to organize the teacher education agencies and State Department of Education efforts in the career education movement. This activity has promoted cooperation between several teacher educators and the State Department of Education. Inservice and preservice are the prime responsibility of teacher educators while the developmental aspects of career education are shared. Agreement on expected outcomes and delivery systems has taken place.

The exchange among those in attendance was lively, reenforcing the need for such a forum in future programs.

GROUP A

DEFINING CAREER EDUCATION

Chairperson: Kenneth Hoyt, Director
Office of Career Education
U.S. Office of Education

Group
Facilitator: Byron E. McKinnon
Coordinator of Guidance Services
Mesa, Arizona

Preconference Survey Results
Defining Career Education

The preconference survey designed to elicit participant input for the conference revealed that a good deal of concern still exists in the field on a number of issues related to the definition of career education. Generally, the issues fell into three broad categories: (1) a need to improve communication with respect to what career education is and is not, (2) whether the definitions that are emerging for career education are adequate, and (3) whether current programs being designated as career education programs do justice to the concept.

With respect to communicating what career education is and is not, respondents were still concerned about such things as:

a) continued use of the term "career education" synonymously with the term "vocational education,"

b) the continued use of vocational education funds for the purposes of career education as this contributes to difficulty in differentiating between the two,

c) the continued housing of career education programs within vocational education bureaus as this contributes to unclear definitions,

d) the need for strategies to insure that the career education concept will not be subverted to the purposes of vested interests groups in the society such as the manpower-economic segment or the "education for education's sake" segment, and

e) the limited success in some areas of the country at having faculty, administrators, and students accept the career education concept as a legitimate approach to student growth and development.

Respondents' concerns with the adequacy of definitions that are emerging for career education were centered on such questions as:

a) Is there still a need to concentrate attention on making people aware that a career is a life pattern and not just a job?

b) Could wider support be attained by focusing on the multiple dimensions of life development rather than on a limited dimension? Should career education have a self-concept and attitudinal focus as opposed to a skill development focus?

c) Could career education, by definition, create the same dichotomy between career education and vocational education as

was previously created between general and vocational education?

d) How can the confusion that exists between careers, occupations, vocations, and job areas be cleared up? In this respect, should the 15 "career clusters" be changed to 15 "occupational clusters?"

e) Is the goal of career education - or should it be - to help the participant become a self-manager of learning, social relationships, and economic considerations? Is what we need, ultimately, a do-it-yourself approach?

f) How should career education relate to the total instructional program? to the guidance program?

g) Should we go for an interdisciplinary program at the secondary level for the clusters or should we go for a separate program?

Respondents had the following kinds of concerns about the adequacy of current career education programs as they do justice to the overall concept of career education:

a) Are the current career education programs sufficient to meet the educational needs of <u>all</u> students, such as those in special education and those who are handicapped, gifted, or bilingual?

b) Are the current career education programs adequately sequentialized to provide for the needs of children as they mature and become more sophisticated in their relationships with their work environment?

c) Are the current career education programs adequate to pass muster with Title IX of the Education Amendments of 1972, having to do with the educational rights of women? Are women really receiving equal opportunities for development and preparation? What about the different ethnic groups and the disadvantaged in this regard?

WORK GROUP FACILITATOR REPORT

Byron E. McKinnon

First of all I would like to say that I am glad to be able to speak sitting down because I have never found a podium yet that I could see over. Concerning an overall definition of career education, our first decision was that you just cannot get there from here and so there was really not very much enthusiasm in the groups to grapple with the specifics of a definition. We decided that we really like the policy statement that came out of the U.S. Office of Education under Ken Hoyt. We felt that we would be reinventing the wheel to spend our time here trying to come up with another definition. We felt that the policy statement was sufficiently generic, and was global enough, so that each of us could go back to our particular areas and develop our own definition of career education that would fit our local situation.

It was the consensus of our group, however, that the policy statement needed some things it did not have and that there were some implications that grew out of the policy statement that simply must be dealt with. For example, the specific statement did not have a management system for simple notation or operation. It did not describe the kind of cat that was going to come out of the program after it was implemented.

Our first group worked on that event itself--on specific global definitions--not to come up with the definitions, but to come up with descriptions of the definitions with the pieces that should be there and with the issues that needed to be addressed by any group or constituency that intended to promote, implement, and have successful programs in career education. We also found that, growing out of the policy statement and our description of a definition, there were two kinds of things to be carried forth. The first of these was a comprehensive, adequate selling job and the second, the global model and its implications.

The second group which concentrated on selling really sat down to structure a comprehensive program to describe career education to the publics that need to be sold, the strategies for selling these publics, and various combinations of the two. They came up with a system they call "You can love 'em or force 'em" and then everything in between. Our suggestions as a writing group were that we may want to use different words to describe those same options, but we are going to leave it in our report the way it is. You can take whatever editorial liberties you want. The word love sounds good and we are all for it. I am not so sure about the force part.

The third part of our group took up future projections for career education. We felt there was a need for somebody to sit down and build

a set of scenarios that say "Five years from now this is the kind of world we are going to live in. These are the kinds of things that we need to do to prepare for that kind of world." I was particularly interested in this because, in the State Department of California, they have a group they call futurists that they brought in and these futurists built 32 possible scenarios up through the year 2000. They believe this will encompass the next three generations. I believe the U.S. Office of Education could build the scenarios, pick the most plausible probabilities, and make projections to anticipate this kind of world. I think it is terribly important when you look at the kinds of effects that we are having now, and project that we'll still be checking through the system ten or 15 years from now. This means that our future planning is going to be extremely important. This group makes specific suggestions about the federal level, State level, and the local level--all groups that are involved--about the levels of involvement and specific strategies to undertake. For example, one of their specific recommendations was on funding. From our own experiences ten million dollars is an inconsequential amount of money with which to fund an ambitious program. Something in the neighborhood of 150 million dollars in the next couple of years would be more in keeping with the need but would certainly not be sufficient. Ten million is totally inadequate and 150 would approach adequacy but not sufficiency. This group then continued to make other specific kinds of projections and recommendations.

The fourth group that we ended up with dealt with infusion and the evaluation policy as it was applied by the U.S. Office of Education. These persons were speaking in particular to the fact that Congress is requiring an assessment of the state of the art and that one aspect of this assessment should be on the art of infusion--what infusion really is, what it really means, and what part of our vocabulary has common meaning when we talk about infusion. Any attempt to assess career education should deal with that first and I certainly include that as part of it.

The position of this group was that we have a kind of a dichotomy with the Part D guidelines for evaluation and the policy statement with all of us kind of caught in the middle. This group felt strongly that there had to be some sort of reconciliation between the policy statement and the guidelines and that any modification of the guidelines certainly should include a much higher level of participation by those who are effected by it. We really feel that this kind of scrutiny is now in order.

I could not digest all the work that has been done by this group if I were given two hours and I am certainly not going to be given two hours. I personally want to say to them that I was terribly glad that I had the opportunity to spend that last several days with them. I was totally impressed with our capability to do whatever we needed to do. We came together from diverse quarters and disciplines and

geographical areas in this meeting and, in the short time that we have been here, have come up with what I think are substantive statements. I would like to encourage you to read these proceedings. They are accompanied with specific suggestions, graphs, clues to do what, when, and suggestions for how. I think that the group really has done a magnificent job. I particularly want to thank Ken Hoyt, on behalf of the group, for his participation. He spent a considerable amount of time with this group and I think it was most helpful.

WORK GROUP REPORT

Introduction

There were approximately thirty-five people who registered and attended this group.

The first meeting was a "get acquainted," processing session, primarily interacting very enthusiastically with Dr. Hoyt. The second session was used to structure subsequent activities.

The first point, very quickly established, was that there was very little interest in working on a definition for career education. The rationale being as follows:

1. The Policy Statement written by Hoyt and signed off by Bell was a generic statement from which any local agency or organization could build its "own" definitions.

2. This type group was not particularly well suited to attack such a substantive task because of inadequate preparations and very limited resources such as reference material, clerical assistance, and "other" human resources.

However, the group did feel that certain issues related to the Policy Statement and the Part "D" guidelines could be identified. The issues identified were:

1. Since the Policy Statement lacked any kind of management scheme for program development and also did not describe the characteristics of an individual who emerged from such a program, some basic global model was desirable. This group was chaired by Bill Smith and George Lulos.

2. If we accepted the Policy Statement or a generic definition, there needed to be a comprehensive "selling" program that would be directed at all levels and populations. This group was chaired by Orrin Laferte.

3. There ought to be some future projections made relating Career Education to scope, funding, State involvement, responsibility, and coordination with other resources. This group was chaired by Bert Nixon.

4. There were implications growing from the guidelines which were especially important for the areas of Evaluation, Infusion, and Guidance services. This group was chaired by Roy Bastian.

The body of this report then contains the results of these four separate work groups. The reports are essentially as submitted with only minor editing by the group facilitator.

SUBGROUP I

A GLOBAL MODEL AND ITS IMPLICATIONS

Byron McKinnon, Group Facilitator

A GLOBAL MODEL

In trying to develop a global model for career education, there seem to be two primary assumptions: (1) The Policy Paper of the USOE is sufficiently comprehensive and has achieved sufficient consensus to be the basis of such a global model, and (2) A global model should be suggestive rather than prescriptive; that is, it should include each generic component and aspect but not dictate the specific composition and implementation of any State or local career education effort.

Further, it seems generally agreed that one may look at a model in terms of both process and product. Process can include strategies, stages, ripple effects, implications, relationships, and so forth. Product includes constituencies, outcomes, results, and so on. Process centers around structural elements and how they intermesh and affect each other. Product centers on the learner and other constituencies like school, home and family, and the world of work. Process is what you do to the constituencies; product is what you expect of them. Process and product are closely related; they are interdependent; and they are equally important.

Finally, three steps relating to both process and product must be taken: planning, implementation, and evaluation. These steps are not completely distinct or actually exclusive (in terms of either conceptualization or timing). For example, monitoring evaluation should occur throughout implementation. Also, evaluation results should feed salt to the planning stage (recycle and reiterate).

However, while stressing the interdependence and overlap of all of these aspects of a general model, there is the practical need to break down a model in terms of manageable steps and stages; that is, to make it understandable to all constituencies, and to make it easily implementable programmatically. In short, one must show clearly the elements, steps, components, and stages which, taken together, represent career education as total concept, but which, taken separately, represent options for priorities for career education as programs.

To this end, we have developed this statement with attachment - not in opposition to the USOE policy paper, but rather in elaboration or interpretation of it. If the policy paper is the engineering text, then what we have put together here is a portion of the blueprint. Or, if the policy paper is a message on nutrition, then what we have assembled is a recipe for a smorgasbord.

As the learner is the target of our efforts ultimately, we have attempted to represent career education graphically in a learner-centered mode; we have tried to picture him/her in a developmental context (Chart I). In this chart, the dotted line represents the growth of the learner. At birth he/she is defined totally in terms of family; home and family are the only relevant dimensions, even though home and family exist in a context of community and the world of work. As he/she develops, school becomes increasingly central. As the student's interests broaden, they begin to include community (e.g. scouting, religion, neighborhood, etc.) and the world of work. While school is central, a good part of it overlaps with community (social studies, etc.) and with the world of work (cooperative education, etc.). Further along, the individual begins his/her own family (or circle of friends, commune, etc.) and work and community assume proportionally larger parts of his/her time and interest. School may or may not be part of the picture at any particular time. (It should be noted that this graph assumes a distinction between education and school, with school being formal mechanisms of growth, and education being both formal and informal mechanisms of growth.)

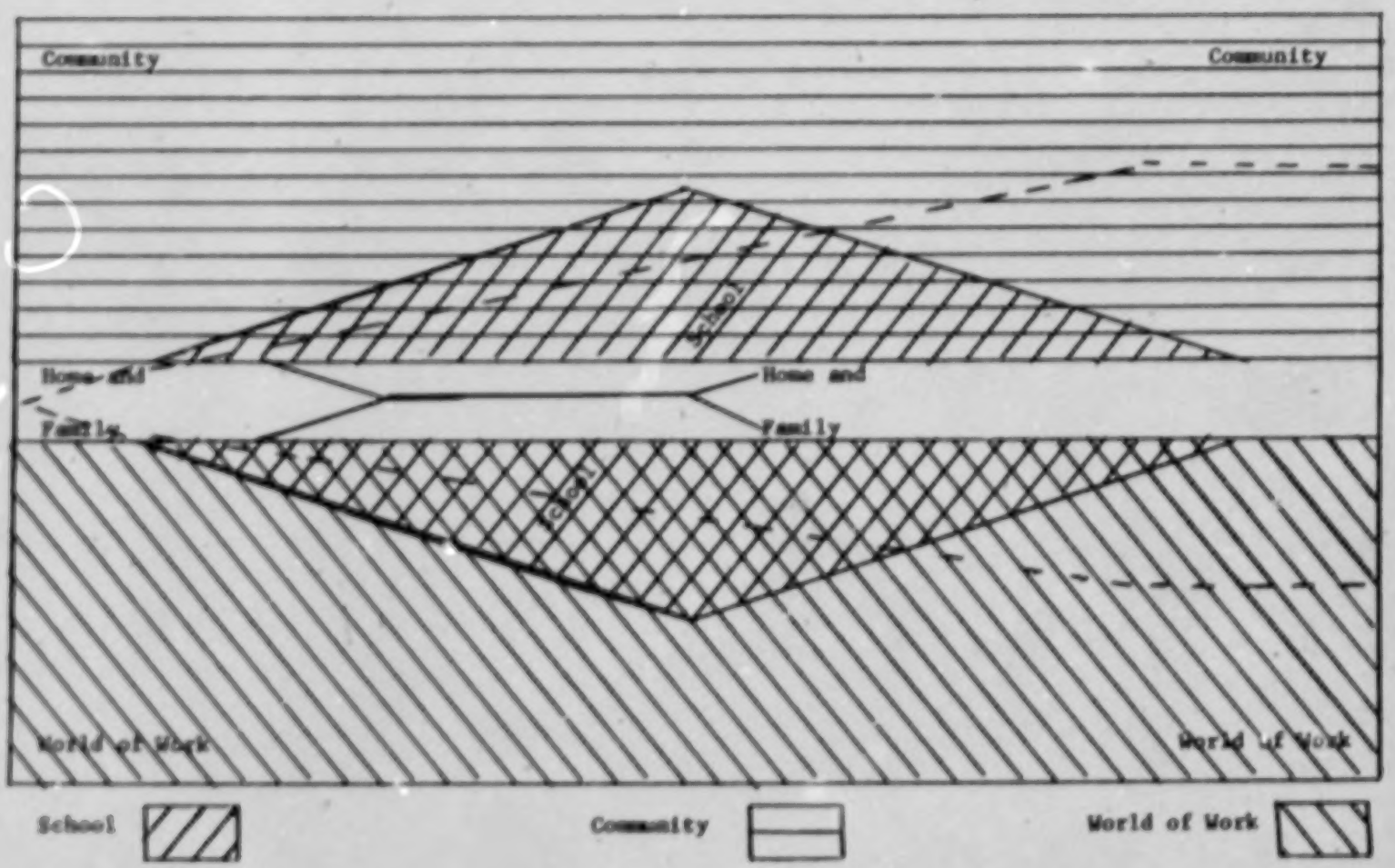
A couple of points are important here. First, only a fraction of school is separate from community and the world of work; there are larger areas of overlap, and , than there are of only school, . Second, the exact directions, angles, and lengths of each line of demarcation will depend on the local situation, as will the proportional sizes of each segment. They will also depend on each individual--in terms of how important to him/her the family is, in terms of when he/she enters the work world and when he/she leaves school and/or returns to it, in terms of how many community activities are involved, etc. For example, the dotted line for some individuals may not extend at all into the community rectangle. And for some school systems, the school portions (roughly diamond-shaped) may be flatter and not extend as far into the community and/or the world of work. However, this structure, and the partitions of experience that constitute it in general, can be considered to represent how an individual develops, chronologically speaking.

Career education then refers to how we--as teachers, counselors, administrators, parents, and as developing individuals ourselves--manipulate these shapes and guide the dotted line. Each State or LEA, using a graph such as this, can make its own decisions as to which shapes to manipulate or massage, as to what extent the overlap should be, etc. However, no matter what decisions such agencies make, they will have to recognize that, even if they decide to ignore certain blocks on the graph, the forces represented by these blocks will have an effect. And they will have to recognize that no matter what decisions they make, the dotted line (the individual) will always be a vector force in its own right.

Chart II shows this picture in a slightly different way. Here

CHART I

DEVELOPMENTAL CONTEXT FOR LEARNER-CENTERED CAREER EDUCATION



the squares of the matrix are left blank, signifying that the State or local agency will, in its own way, fill in the exact strategies and programs that belong there, if any. But no matter which ones they fill in or how they fill them in as programs, career education as concept involves all of them. If one is not filled in, then career education will occur informally and often haphazardly, but it will occur nonetheless.

Chart III is a beginning at demonstrating the stages, with respect to each group or constituency, that need to be taken in translating the model as a graph into action as programs. It is clear at this stage that "products" can be many things. They can be students as affected by us; they can be attitudes (ours, students', parents', etc.); they can be planning charts like these, filled in by a local committee; and so forth. They can be intermediate or final, tangible or intangible. Finally, it should also be clear that given all the things that products can be, and all the places where they can be found, they are inextricably intertwined with process, which is our next consideration.

CHART II*

AGENTS THAT AFFECT INDIVIDUALS (CHRONOLOGICAL)

	Pre-K	K/Elementary	Middle	Secondary	Post-Sec.	Adult
HOME AND FAMILY						
COMMUNITY						
SCHOOLING						
WORLD OF WORK						

*Each square on this chart as on Chart III can be developed into its own entire matrix suited to the unique goals and resources of each State or LEA.

CHART III

PROGRAM STAGES FOR EACH CONSTITUENCY

	PLANNING	IMPLEMENTATION	EVALUATION		
			What	Who	By Whom
HOME AND FAMILY	Parental Attitudes Parental Involvement	Family/Community Integration Community Education Articulation	Attitudes Life Style Values SES Educa. level Aspiration level	Mother Father Siblings	Selves Learner Externa Agent
			What*	Who	By Whom
SCHOOL	Resource Analysis Resource Use Strategies Budget	Professional Personnel Development Curriculum Infusion Scheduling Articulation	Commitment Involvement Support Systems	Teachers Counselors Administra-tors	Selves Learn Externa Agent
			What	Who	By Whom
LEARNER	Status Assessment Needs Assessment Learner Outcomes	Exposure Experience	Affective Cognitive Psychomotor	Learner	Self Teacher Counsel Parents Employe Administrator
			What	Who	By Whom
WORLD OF WORK	Establish Linkages Resource Inventory Resource Use Strategies	Work Experience (cooperative ed., work-study, etc.) Field Trips Speakers Multi-media (non-print) Articulation	Opportun-ities Resource	Employer Employee	Learner Selves School Perso Externa Agent

*Effectiveness seems to fit here but evaluation of thi is implicit in evaluation of learner outcomes.

IMPLICATIONS OF THE USOE POLICY PAPER: PROCESS TASKS

"American education cannot be said to have responded to the demands for educational reform by simply endorsing the career education concept. Only when action programs have been initiated can we truly say a response has been made."[1]

The following list of tasks implied in the USOE position paper for career education is not intended to be comprehensive; however, until and unless all of the process tasks specified below are underway the initial implementation of a K-12 career education program cannot be said to have taken place.

1. Develop a local definition of career education.
2. Develop roles and responsibilities of local personnel as they relate to the other processes identified.
3. Develop a process for local needs assessment to determine local needs in the other process areas listed.
4. Develop a plan for orienting local personnel to the concept of career education (inservice) to include practical inservice steps after the orientation phase leading to infusion of career education objectives into the existing instructional process.
5. Develop programmatic processes for educating parents to the need for career education.
6. Develop a process with which an LEA can identify learner outcomes (objective level) for career education and a process to insure that the total number of objectives are comprehensive for an individual and/or special groups of individuals.
7. Develop a process with which an LEA can sequence (grade level and subject area) identified learner outcomes (objectives) at as many points in grades K-12 as appropriate.
8. Identify a process by which LEA personnel, primarily teachers, can identify alternative methods of teaching for the achievement of the objectives identified and individualize the sequence of desired learner outcome.
9. Develop a process (total plan) for involving the community (persons outside the educational community). This plan should include processes for:

    1) Setting up functional community advisory committees.
    2) Establishing methodologies for use of and setting up management files for resource people in the classroom.
    3) Establishing field trip sites and procedures.

[1]USOE Policy Paper, p. 14

4) Establishing community co-op stations for activities such as shadowing experiences, etc.

10. Develop a plan or process which can be used to locate/circulate materials designed to be used in the classroom for career education.
11. Develop a plan or plans for organizing the management of academic classrooms compatible with management strategies of industry.
12. Develop a plan for ensuring that all students have the opportunity for a variety of work experiences outside the classroom to include student selection procedures.
13. Develop a plan for job placement and follow-up of high school graduates.
14. Develop a plan for evaluation, both process and product, to include the development of data collecting instruments for product or performance objectives.

RECOMMENDATIONS:

1) More detailed scrutiny should be given to the position paper to identify implied processes.
2) After the identification of implied processes, global models for each process should be developed.
3) The procedures resulting from global models should be aligned on a time spectrum.

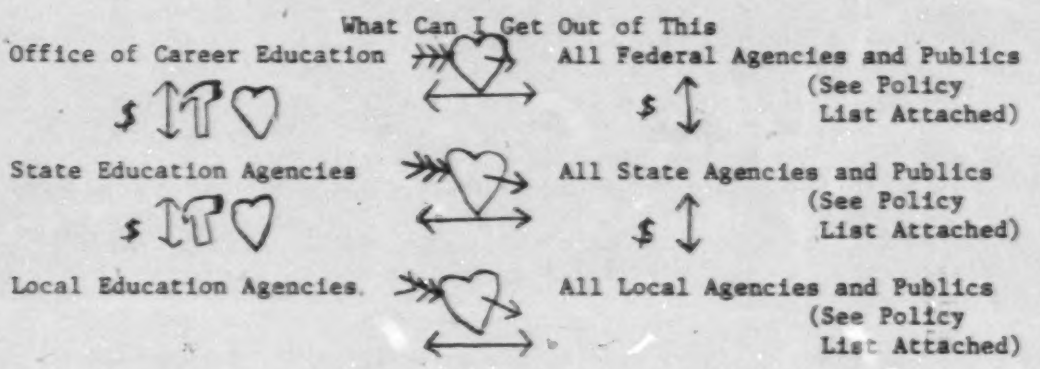
A COMPREHENSIVE CHANGE APPROACH

FOR

CAREER EDUCATION

The purpose of this paper is to describe a systematic and comprehensive approach for "selling," "marketing," diffusing career education at all levels in this country. It is our feeling that there are currently many gaps in this system as well as many misdirected techniques being utilized by members of the system at various levels. We must assume that there are currently at least two populations that are to be dealt with: (1) those who, because of position or conviction, are within career education, (2) those other publics concerned with education who are not currently publicly advocating the concept.

Using these two publics as the focus, the following diagram illustrates our conception of a systematic change agent procedure for all levels to be used with all populations.



We have used three symbols in the diagram which indicate three general techniques which can be used by various people with the publics with which they deal. These techniques are what we have called the "Lov 'em," the "Buy 'em," and the "Force 'em" techniques. The love 'em technique includes all those techniques which relate to the use of effective interpersonal skills and institutional change theory and hypothesize that the only way to get substantial lasting change is to get as many people (Publics, Agencies, etc.) as possible to feel that they have an investment in the concept and know what they can get out of embracing that concept. It includes an understanding of power sources and the ability to identify and utilize the formal and informal power sources in any environment.

The "buy 'em" technique is simply that you bring someone into camp by giving him the money to carry out the GOALS of the program.

The "force 'em" technique implies that you can make some people do some things to advance the cause of the program by applying sanctions. If they do not comply, cut off the funds. Usually this technique is in the form of a policy statement from above.

The diagram indicates that certain techniques are more suitable at some levels than at others. First the career educator must effectively identify the relationship between himself/herself and the public with which they are dealing. If the person being convinced is in the vertical line and below, the career educator may be able to use the buy 'em or force 'em techniques. But if the person being convinced is one of the horizontal groupings the career educator is most likely going to have to use the love 'em technique.

In effect what we are saying is that the Office of Career Education in U.S.O.E. can demand quality at the State level through the money and policy route; and, consequently, the State career education people can do the same thing with local programs (with a little bit of love.) At the same time the national office must use the love 'em techniques with all the publics in its environment (See attached list) to get each to make policy statements in their guidelines and funding policies that establish career education as a priority. This then will put buy 'em and force 'em techniques in process in these other agencies at the State level. At the same time that the buy 'em/force 'em pressures are impacting the other agencies, the State career education people should have been utilizing the love 'em technique with the other State people so that they feel an investment at that level. As the arrows indicate, this same procedure then moves from State to local level so that when the local project director tries to include the Chamber of Commerce, for example, that body will have national and State direction to get involved.

This has been a very quick description of a massive system. We hope that it communicates the need for a consistent effort at every level to sell the concept.

We have attached lists of some of the agencies and publics at each level which must be included in this program.

1. Congress
2. Rest of O.E.
   A. ESEA
   B. Voc Ed
   C. Higher Education Act
   D. Others - i.e. Handicapped, Women, Indian, Spec. Ed. etc.
3. Publishing Companies
4. NIE
5. DOL
6. Commerce
7. NEA - AFT
8. National AFL/CIO
9. National Chamber of Commerce
   Other National Business Men's Clubs (Rotary, etc.)
10. National Parent Teacher Association
11. National Student Group
12. National Higher Education Associations
13. National Mass Media
14. Others

STATE AGENCIES AND PUBLICS

1. Legislature
2. State Board of Regents/Education
3. Other Sections of State Departments of Education
   A. ESEA
   B. Voc Ed
   C. Higher Ed
4. Colleges and Universities
5. State Manpower and Labor People
6. State Teachers Unions
7. State Chamber of Commerce
8. Special Education
9. Department of Labor
10. State Mass Media
11. Others

LOCAL AGENCIES AND PUBLICS

1. City Council
2. Chamber of Commerce
3. School Board
4. Parents
5. Students
6. Teachers - Staff - Counselors - School Programs, etc.
7. Administrators
8. Welfare Agencies
9. Labor - skilled, office
10. Small Business - Big Business
11. CETA
12. Manpower
13. Penal Systems
14. Mass Media - Papers, TV, Radio, Magazines, etc.
15. Religious Bodies
16. Minority Agencies
17. Others

SUBGROUP 3

FUTURE PROJECTIONS FOR CAREER EDUCATION - FIVE YEARS

BY 1980 THE FOLLOWING CONDITIONS SHOULD EXIST

I. Federal Funding
   A. There should be significant ederal funding to assist (absolute minimum $150,000,000 per year) in the implementation of career education and this funding should be seed money.
   B. This would stimulate State and local funds for implementing career education in the 50 States and eight territories.

II. State
   A. Every State should have an annual State plan functioning for the directing, implementation, and evaluation of career education. The plan should include a State Office of Career Education with a full-time supervisor.
   B. Career education should be a part of teacher education preservice programs in each State.
   C. Competencies of the ongoing project personnel should be preserved. Every local educational agency will have a person with designated responsibility for promoting and implementing career education.

III. Local
   A. There should be a career education coordinator in each local school district or cooperative agency for districts.
   B. Teacher career education inservice programs should be a part of the program of each local school district to achieve identifiable competencies.

IV. Collaboration-Partnership Role
   A. Every local educational agency should have formed a collaboration - partnership role with parents, churches, service clubs, business, labor, and every part of the community for the formation of coordinated cooperative effort.

V. Change Process-Reform
   A. The policy paper (An Introduction to Career Education) clearly states the need for educational reform. We support the changes proposed by the policy paper to bring about these reforms and suggest that the National Advisory Council for Career Education address themselves specifically to the suggestion for education reform listed in pages 16-18 of the policy paper.

VI. Long-Range Responsibilities
   A. The long-range responsibilities of the Federal, State and local agencies are to help each student achieve that career which is most satisfying and rewarding.
   B. This responsibility can best be met by a coordinated effort of these three agencies.

For career education to mature and be fully implemented as a concept, the role of the counselor (and counselor education) must be expanded. Counselors must become as deeply involved with the other school personnel and the curriculum as they have been involved with individual students and testing in the past.

Career education calls for coordination, for instructional and developmental reasons, among the teachers, administrators, guidance services, and the community at large. To accomplish this, the duties and priorities of the counselors must be examined, evaluated, and through joint concern and cooperation, be defined to meet the needs of the students and the times.

SUBGROUP 4

INFUSION AND EVALUATION

INFUSION

1. Recognizing the broad range of activities that are called "infusion," we recommend that a definition be developed that includes and defines the various styles and modes of infusion. Further we recommend that the relative status and merits of each be determined. In other words, what types of infusion are people using? And is it working?

2. Recognizing that there are alternative delivery systems other than "infusion," we recommend that their nature and relative merits be specifically determined and disseminated.

3. Through comparison, it should be determined if, and under what conditions, "infusion" is a viable delivery system and should remain as a desirable national goal. One of our major concerns with problems of definition and the upcoming review of the state of the art requested by Congress revolve around the term "infusion." "Infusion" into existing curriculum has been a major emphasis and a national assessment should attempt to measure the degree of infusion. We feel that the definition of "infusion" will be a problem. Therefore, we would like to make the following recommendations to the national survey.

   a. That the survey determine local understanding or support as an indicator of degree of implementation (Financial, Products, Resources).

   b. That the survey look at other factors

EVALUATION

This group was assigned to discuss evaluation as it relates to a definition of career education. As the generic description of career education, the USOE policy paper was accepted by a majority of participants. The following observations concerning evaluation are made within that context.

(1) There exist both local and national needs for evaluative data which may not always be the same.
(2) That evaluation plans should be developed cooperatively between local agencies and evaluators.
(3) That the Draft Guidelines for the Evaluation of Career Education Programs appear impractical because
   a. the "state of the art" in evaluation indicates that appropriate instrumentation is not available to evaluate student performance in some major components;
   b. it decreases local efforts to adapt career education to local needs;
   c. testing time appears to be excessive in school situations;
   d. the statement of 33 specific objectives may create a "de facto" definition of career education.

GROUP B

STRATEGIES FOR MOVING CAREER EDUCATION FROM A PROJECT STATUS TO AN EDUCATIONAL PROGRAM STATUS

Chairperson: William Pierce
Deputy Commissioner of Occupational and Adult Education
U.S. Office of Education

Group Facilitator: Robert Rochow
Pontiac Public Schools
Pontiac, Michigan

Resource Person: Harvey Thiel
Senior Program Officer
U.S. Office of Education
Region X

Preconference Survey Results Relating to
"Career Education: Projects to Program Strategies"

Survey results relating to this area revealed that career education practitioners' concerns clustered into four main categories: 1) continued funding for career education, 2) securing the support of administrators and policymakers, 3) appropriate within-district strategies for continuation, and 4) appropriate State and national strategies that are needed to support the local districts in their efforts to embrace and continue career education programs.

With respect to the funding needed for career education, the following are some of the questions that were raised:

a) What are the best ways for working with legislative subcommittees on career education? What should be priority/meaningful topics for analysis/discussion? What should constitute career education legislation? How do you reach legislators before subcommittee recommendations come to the floor?

b) Where can additional funding be found to fund career education at all levels--not just the K-12 or K-14 levels?

c) What type of funding (federal) can we expect? Can we expect 15 to 20 percent of total federal education dollars to be allocated to career education?

d) Where, in the future, will our funding come from for placement and follow-up services?

e) Will there be funding for exploration/employability teachers? for materials and equipment? for career awareness coordinators?

f) What are the implications, for career education, of continuing to use federal Vocational Education funds for career education? for vocational education?

g) Why have not matching funds been used as a strategy for supporting the continuation of career education? Why not decrease federal funds on a sliding scale--100% first year; 75% second year; 50% third year; and 25% fourth year? Why not extend the funds in this way over a longer period of time, say five years instead of three years? Why not have a stiffer policy for local towns who commit themselves to picking up the program once the federal funds run out? Should Boards of Education and Finance be oriented to this philosophy (stiffer policy) prior to getting the grant award?

h) Should DHEW seek legislation which would provide tax relief for business, industry, and service organizations who choose to participate in local career education effort?

i) Address the need for added financial support to fill the gap left by vocational education. How can we provide for students not in vocational education and for the articulation of work-experience and cooperative education programs with the 15 cluster programs to give a program that would serve all career education clusters?

With respect to securing the support of administrators and policy-makers at the local level for the continuation of career education as an ongoing part of the overall educational program, survey respondents presented the following specific questions:

a) In what ways can the program continue to prosper purely through the leadership of administrators, principals, and teachers?

b) In what manner can career education be coordinated with other district programs; e.g. Special Services, Talented & Gifted, etc?

c) Can subordinates be expected to implement and continue career education unless they view it as something for which they will be rewarded?

d) What evidence other than verbal statements should be expected if people are really concerned about career education?

e) If career education is to be an ongoing educational program for all students, should it not also be implemented for special education students? If so, what are the best strategies/methods for special education?

f) How do you move persons making decisions about career education and local resources from the awareness stage to the acceptance stage?

Questions related specifically to the within-district strategies for phasing the project over into the ongoing educational program focussed both on management processes and on attitudes and activities of the project staff.

a) What specific steps are recommended in going from a project basis to an educational program basis? How do you identify target groups (administrators, policymakers, parents, and community groups) and analyze their needs for information? What steps (sequence) should be involved in phasing? What

other funds can be used for ongoing programs? How can projects be successfully continued if specialized staff is not retained? Should career education staff (project) involvement be phased out during or after the period of outside funding?

b) What are some changes that can happen or need to happen in the local educational system--such as assigning credit to career related activities or revisions in the Carnegie Unit system?

c) What revisions should be made in the financial structure that will reflect a collaborative effort?

d) How many students should be required to warrant a director or other support of career education activities?

e) Should evaluation (particularly process and input factors) provide needed directions for diffusion strategies?

f) Are existing instructional/administrative models realistically set up to carry out career education objectives?

g) How do local project directors diminish their perceptions of themselves as grant administrators and researchers only, of their activities as project-related, and augment the perception of career education as integrally related to all educational endeavors? How do you win a place in the hearts of institutional power agents? How do you develop strategies to work yourself out of a job?

The issues with respect to State and national strategies designed to assist local school districts in their phasing activities follow:

a) How can the States assist with some changes that can happen or need to happen in the educational system--such as assigning credit to career related activities or revisions in the Carnegie Unit system?

b) What revisions could be made in the financial structure to reflect a collaborative effort?

c) What is being done to inform teacher educators, school administrators, teachers, State and local school boards of education, and the general public about career education?

d) What type of firm commitments should exist between the State and local levels? (A need is felt for a team effort. Current effort is felt to be fragmented.)

e) What is the recommended place of career education in the organizational structure of the State Department of Education? at local levels?

f) What have State legislatures done in career education?

g) Could/Should U.S.O.E. package methods and help train top school administrators in the concepts of career education and, more importantly, in adopting such programs after funding is complete?

h) Could U.S.O.E. extend funding period for grants (successful ones) to continue demonstration/dissemination aspects past the three years?

WORK GROUP FACILITATOR REPORT

Robert Rochow

I would like to thank personally the members of my group and in particular, Dr. Pierce. It was my first experience in working with him and I gained an awful lot of knowledge from him. He is very aware of what is going on, not only in vocational education, but in career education. I would also like to thank Harvey for being a resource person in our group. We did appoint three group leaders within the group and without them we never would have gotten where we are today--in particular, Dale Holden from South Carolina, our energetic and enthusiastic Dr. Lew Abernathy from Texas, and Charles Henry, who is a finance advisor in Missouri from the State department. Our goal was to discuss strategies through which career education might be moved from a project status to an educational program status. I think in many cases we agreed to disagree on many kinds of terminology. It seems that each section of the country has its own vocabulary and it was somewhat difficult in trying to clarify these things.

What we wanted to do is to define what it is we are talking about. Obviously the Part D and C projects would be a project level because they are at a developmental or pilot stage. What we looked at was: what does it mean to go from the project stage to an educational program? Now that can mean many things, but what we tried to do is put it this way. To become an educational program there are significant people in a local school district, such as the administration, teachers, and the total human resources within that district, who have to accept it. They have to accept the goals and objectives, and make them a priority in the school system by supporting the delivery of the program to the students. Those are a lot of words; but until those kinds of things happen the project will not become an educational program.

In order for this to happen we feel that we have to develop a model for putting the project into a local educational program. Of course to make this happen a project has to be thoroughly planned out. The three things we came up with in terms of being a model were these. In order for a project to become a program, you have to go through what we call an exploration, understanding, and action phase. Let me explain this. I relate this to smoking. I can explore what it means for me not to smoke. I can understand why I should not smoke. But it does not make any difference until I act on it. I think we have to go through all three phases. The decisionmakers have to explore what it is we are doing in terms of student outcomes, they have to understand what it is we are trying to do, and then they have to act. Until those three things happen, it probably will not become

a program.

From that point we went into a lot of suggestions. Number one, we felt that you could help project directors who are in a project status, and make their job a little bit easier, by getting commitment from a local school district. In our system, it seems that if the local district puts some money into it there is more commitment and people are more willing to explore and to understand in order to act. It is nice to get 100 percent funding but that may mean that the project director or the project staff has to work twice as hard in order to set up that system for the transition into an ongoing educational program.

The other idea that we came up with was the evaluation of student outcomes. In terms of career education, if we begin to work within the existing school structure and within the curriculum where career education is already infused, we can look at the total human resources. I think Ken pointed it out pretty well last night, that the difference between what is happening now and what could happen is that we are asking for responsibility, not only in terms of the school district, but in terms of all the possible human resources that are available to us.

We also said that short-term evaluation and long-term evaluation should be built into projects in order for it to be an educational program. We need to pilot many programs right now. We need to find out what kinds of things will happen with students, but we need to be longitudinal over long periods of time to see if they really work. The whole idea of exploration, understanding, and action is that it repeats itself. It does develop a recycle system so that if I act on something, I can go back and explore it again and keep changing it to meet the changing needs of the community.

The next thing we did was to begin on the State level to see how the State level could help in terms of going from projects to educational program. But the States, in all cases, have the responsibility for setting the models for education within each State. Their main function after they set up the models is to provide support for local school districts to deliver the programs to the kids. That can come in many forms. They could provide support in terms of money, support in terms of legislation for career education, and support in terms of getting people to support the career movement within the State department. There are all kinds of ways in which support could be utilized. We talked about the human resources and the idea of bringing the total community with its organizations and agencies into it.

We need to work on the local level and also with the State level because we have a local labor relations board as well as a State level board. They can bear the responsibility together for securing resources. I think you can see how that is; they are pushing it right

up to federal level. Again the federal agency becomes a support agency to the State, in helping the local school districts meet the desired outcomes.

I think one of the things we have to begin to deal with is that we have to set goals in terms of competencies for kids. What is it we want our kids to have as a result of going through our school system? We know that career education has created some kind of metabolisms that help in reading and writing. The kids are also developing some other skills that they really need to function in society. When the State department begins to set competency standards that go across discipline lines and begins to develop persons who can work with all areas, we will achieve those competencies. It is interesting that at the federal level, the person in charge of career education works directly with the Commissioner of Education. I know on our level the same thing takes place since the person in charge of career education reports to our State Superintendent of Schools. He has the access to begin to bring together all the disciplines and to ask the disciplines to look at the total human resources. It has been quite an experience working with this group. I think the whole idea is that if we are really going to move from a project phase through into an education program, these kinds of things do have to happen. We have made a lot of suggestions and outlined a lot of other ideas in the report which you may find useful.

WORK GROUP REPORT

This work group began by listing a set of observations about the nature of career education and its implementation which formed the backdrop for the development of statements about its being phased into the ongoing educational program.

1) First of all most of our career education activities are being fused into the overall educational program. Consequently, specific support beyond the developmental stage is difficult to budget for. It must be correlated with other educational endeavors.

2) As a general rule, career education is easier to implement and defend in the elementary schools. Secondary and post-secondary programs are going to require more encouragement and forcefulness if they are to be implemented and continued.

3) Cooperation among agencies at the local level for the purpose of career education is almost totally dependent on the personalities involved within those agencies. For this reason, cooperation for the purpose of career education is almost a matter of agency by agency negotiation.

4) The future of career education, past the "project stage" is inextricably interwoven with the content of inservice and preservice teacher education. Past the project stage it will be essential that policymakers committed to career education be able to rely on the existence of educational personnel--teachers, counselors, administrators--who are competent in the area of career education. Funding for preservice and inservice preparation for career education should be sought at <u>any</u> level from <u>any</u> source.

5) State departments of education must, if career education is to continue, provide a leadership role both with respect to the preparation of teachers and with respect to the provision of a centralized information dissemination unit. Whether such a role is legislated, mandated, assigned, or assumed, this will be essential. Such a unit should be charged with the provision of effective leadership and assistance through the developmental and implemental stages to the extent of its resources and authority. Proposals from local education agencies to the U.S. Office of Education and the funds ultimately granted should be "funneled" through the State agency to guarantee State review and State coordination of all career education efforts.

The work group on strategies for moving career education to an ongoing educational program status identified the following broad conditions as being essential.

1) The project must move from its own separate identity into the mainstream of educational endeavor. Responsibility for insuring this lies in the curriculum design of the program and the people who implement it. Both should, from the beginning, be visible and receive the input of those who will make ultimate decisions about the program's fate. The project must operate within the existing program structures rather than create new ones. While this may take some time, the project personnel must work within the curriculum mainstream.

2) The project personnel must view evaluation as a basis for continuance. As the project moves more and more into a program status the responsibility for evaluation must shift from third-party to internal school district evaluation. The need for evaluation is not questioned but what may be important is whether the school district policymakers and decisionmakers become concerned about the status of their young people with respect to the desired outcomes of career education.

3) Specific goal oriented strategies should be developed early in the project that are designed to move the activities over into the educational mainstream. Participation in proposal development and in the specification of the above strategies should include administrators, teachers, and members of the community. Specific local monies should be used or phased in early in the project to cover those areas for which local funding will ultimately be essential.

4) Close ties should be established with State and national levels and a level of flexibility should be maintained that will permit the project to adapt to overall school district plans.

5) In a more generic sense, career education moves from project status to a program status when the necessary community resources are coordinated to meet total human resource developmental needs. (Note: community resources is a broader concept which includes human resources.)

Assuming that career education, in a generic sense, is a concept involving coordination of resources and not an end unto itself, local and State educational agencies must view themselves as just one of many community institutions involved in career education. Career education involves the development of human resources. Other agencies, institutions, and organizations, such as churches, parent groups, labor unions, business organizations, chambers of commerce, governmental

agencies, Jaycees, and public and private education at all levels must become involved cooperatively in the career education concept if it is to succeed. Certain elements of career education are already operational in our instructional institutions under the terms cooperative education, hands on work study, internships, and clinical experience. However, there exists very little coordination of these efforts, in general. The premise that career education involves the development of human resources is consistent with the U.S. Office of Education's decision to incorporate the Office of Career Education with the Commissioner's office and not to append it as an additional program bureau. In such a position, career education can and should coordinate the charge of those sections related to human resources that now exist in the constitutions, charters, bylaws, etc., of the myriad organizations in our society. Someone must take the initiative to insure that all our resources are involved to the limit of their capacities.

Because career education currently is funded through the U.S. Office of Education, it would seem reasonable to assume that in at least the initial stages, action to move out into the community be initiated by the local career education director. Eventually, the term career education probably will be phased out, as total coordination across all community resources is accomplished. Depending on local geography, business climate, and population, the ultimate responsibility for community human resource development, perhaps on the planning unit concept basis, should fall into other jurisdictions or perhaps be shared jointly by various organizations. For example, the mayor's office may be responsible in one locale; in another region the local superintendent of schools may be responsible; or perhaps the director of the local area vocational school may take that responsibility. In other locales various combinations may be arranged, to serve jointly, such as a labor union representative, a chamber of commerce representative and an educational representative. Whatever the case, the objective is a total coordination of the necessary community resources to make the best effort towards development of our human resources. (Editorial Comment: Item 5 has been added as the result of a minority viewpoint submitted after the conference by two participants, Dr. Lewis M. Abernathy and Dr. Edward H. Lareau. The editor finds that viewpoint worthy of inclusion in the proceedings.)

GROUP C

PLANNING, COORDINATING, AND DISSEMINATING
CAREER EDUCATION PROGRAMS AND PRACTICES

Chairperson:	Kenneth Densley Member, California Career Education Task Force Sacramento, California
Group Facilitator:	Wilbur Rawson State Director of Exemplary and Special Needs Programs Topeka, Kansas
Resource Person:	G. M. Stevens Senior Program Officer U.S. Office of Education Region IX

WORK GROUP FACILITATOR REPORT

Wilbur Rawson

I would like to thank the leaders of our group but I would not quite know where to start because we have managed to go through three this week so far. For various reasons we have lost leaders. Mr. Stephens, I do not know what we would have done without you. Our charge was to react to issues and problems in planning, coordinating, and disseminating career education programs and practices at local, State, and national levels. This was a "biggy." I could spend all morning telling you the things we did, how much writing, how much thinking, and how much planning went into this. We did break into groups and we will try to summarize what we have done. There were major concerns that we felt were really important to about three areas. I was looking at them after we decided on these and it is rather ironic that they really each one fall into each of the three areas that we discussed.

Our first major concern is more or less directed to Billy Pope's staff. If I were a member of his staff and were going to have to edit this, I think I would quit this afternoon.

When you get all these materials together you are going to have a mountain of information but editing it is going to be difficult. It was a major concern in our group that we know what happened and what went on here at this conference. This information, when it is edited and compiled, should not just be sent back to national or State agencies and lost. We want to see this information. We want to be able to show it to the people in our districts and say "This is what we did" in [illegible]e days we spent here in Dallas. These are the things we took into [illegible]sideration and the things that we tried to plan for career education. It is important that we see these things as soon as possible. We would like to have them within a few weeks. We surely do not want to wait until next year to see them. This was our first concern.

Our second concern is that we would like to see a set of guidelines for career education develop from what we have done here. This has been brought up before and it was still one of our concerns, especially for coordinating programs. If we could have a set of guidelines, the people who are starting new programs would not have to reinvent the wheel everytime. They can look at what has been done. They can see the things suggested by other programs. And if we get these guidelines we are concerned that they do not become static and stale. We want them to be continually updated and reevaluated by groups such as we have here.

Our third concern was the establishment of a central clearinghouse for the dissemination of ideas, activities, and materials. Different agencies and people that deal with career education feel pulled in about

three or four different directions. We felt if we had one central office where all career education information could be sent, then we might get all the information we need from one place. In addition, the information we received would be uniform. This is important, especially for a national look at career education.

The work group on Planning, Coordinating, and Disseminating Career Education Programs and Practices addressed individually the questions submitted by the survey respondents. The questions which were submitted and the work group response to each is included at the end of this report. The responses are arranged in four broad groups; namely, 1) General problem areas, 2) The role of the State Department of Education in career education, 3) The planning, development, and implementation of a K-Adult program, and 4) The development of a system of dissemination and diffusion of career education.

WORK GROUP REPORT

Career education is intended to produce clear and measurable effects on students. Consequently the planning of career education programs must be based on intended student outcomes. Therefore, it is critical from the very beginning to establish what the student outcomes are and gain commitment to them from students, parents, teachers, and the community at large.

Once the goals have been prepared they need to be translated into behavioral statements which are clearly measurable. This will allow for an assessment of present performance versus desired performance. The result of such an effort will be a statement of need.

Once needs have been determined, priorities can be established and program development can begin. It is important to remember that career education programs will need to operate under predetermined constraints and limitations existent in local schools. For example, career education proponents do not want programs outside of the ongoing educational programs. On the other hand, individuals in schools charged with providing education (teachers, counselors, etc.) already have specific content which they intend to cover. They feel that to add career education would necessitate the elimination of already established content. Consequently, career education planning must demonstrate how career education is identical with good teaching in various subject areas. In planning career education programs, it is necessary to work with local schools to demonstrate how career education goals and objectives can be incorporated into existing instructional and guidance programs. Furthermore, it must be shown how this can be done without doing violence to existing content and, in fact, that such inclusion strengthens what is already being taught.

SUMMARY OF GENERAL PROBLEM AREAS

AND POSSIBLE SOLUTIONS

Problem: To identify clearly the student outcomes intended to be reached through career education programs.

Solution: U.S.O.E. has produced, in the draft guidelines for evaluation, a suggested list of student outcomes. These should be used in planning career education programs. At the local level an effort should be made to demonstrate the relationship between career education goals and the existing goals of the district.

Problem: To identify clearly the priority needs in career education so as to be able to focus efforts when the need is the greatest and where the possibility for success is high.

Solution: A comprehensive needs assessment at all levels needs to be undertaken but particularly at the local level. This assessment should focus on the present level of attainment of student goals and on the priorities that should be attended to first. Groups to be assessed should include parents, students, teachers, and the community at large.

Problem: To develop programs to meet priority needs (achieve student goals) which will be operable in the local school setting.

Solution: Local schools must be involved in the program development process. The constraints and limits of the local school must be considered in program development. A systematic planning format should be provided to assist local schools in this effort. Additional various program alternatives should be provided which local school staffs can adopt or adapt. However, local schools should always be allowed to develop programs unique to their setting.

Problem: To install programs which have been developed.

Solution: Systematic planning should extend to the installation level. Care should be taken to determine the barriers to successful program installation and operation. Once these have been identified support effort can be planned; e.g. staff development, materials purchased, etc. Resources can then be allocated and specific staff responsibilities assigned. (See attached page entitled "Systematic Planning for the Installation of Career Education."

Problem: To evaluate progress and to modify programs based on evaluation information.

Solution: The program evaluation design should focus on all levels of program operation. Student goals and program goals should be evaluated. Process objectives should be stated and evaluated. Planning should be responsive to evaluation data and replanning should reflect efforts which will be made to correct errant situations.

Recommendations

1. All levels (local, State, national) should continue efforts to define clearly student outcomes and to objectify outcomes.

2. State and national efforts continue and increase to locate and develop instruments sensitive to the outcomes of career education which can be reasonably administered.

3. State and national efforts continue and increase in the area of program development based on the student goals of career education.

4. Regional offices consistently encourage projects to modify plans based on evaluation data whenever the data becomes available.

5. Consideration be given to five-year projects in career education to allow for more careful planning of program development and installation.

Resources

1. Simplified Process Model for Career Education Administration

   Career Education
   State Department of Education
   721 Capitol Mall
   Sacramento, CA 98514

2. Local School Planning Guide for Career Education Program

   Career Education Project
   Lincoln Public School
   720 South 22nd Street
   Lincoln, NE

Management or operational objectives are necessary to facilitate the installation of career education at the local level. These objectives are also essential to the kind of evaluation (covering the context, the input, and the processes) which is essential to effective management decisionmaking.

Although certainly not all encompassing, the work group felt that the following are a minimum of areas for which management or operational objectives should be developed and, ultimately, evaluated.

1. Context of the program. The local conditions should be described clearly and contingency objectives developed which anticipate the outside restrictions in which the program may have to operate. In addition, operational objectives should be developed which provide that program activities are reviewed periodically and adjusted as necessary to insure their congruency with the stated purposes of the program.

2. Program input. Objectives should be developed for the necessary or desired input of human, physical, and fiscal resources to the operational program.

With respect to human resources, specific objectives should be developed (1) for the administration covering who is to be involved, how many administrators are to be involved, and where each fits in the total line-staff of the system; (2) for the implementation personnel covering the teachers, counselors, specialists, etc. to be involved and how they will be brought into the program; and (3) for the external evaluators covering their identification, when they will become involved, and how they will be involved.

With respect to physical resources, objectives should be developed for the acquisition of the essential facilities, equipment, and instructional materials.

Objectives for the input of fiscal resources should be developed so that they support adequately the time frame of the intended ongoing program activities as well as the initial planning and implementation stages.

3. Program processes. Operational or management objectives should be developed (1) for legal facilitation such as school board approval; (2) for the inservice training of administrators and implementation personnel; (3) for client scheduling, including how many students, how they are to be selected, and how much exposure they will receive to program activities; and (4) for evaluation scheduling, including what data will be collected, when it will be collected, who will collect it, and how and when the results will be available to the program managers for their decisionmaking purposes.

4. Program products. Operational objectives should be developed for assessing the impact or the secondary effects of the program on the community as a whole in addition to whatever evaluation is effected of student outcome.

COORDINATION OF CAREER EDUCATION PROGRAMS

Work group participants outlined the following concerns to which coordination activities should be addressed at the local, State and national levels. Specific suggestions for dealing with the concerns were made by the group only for the local level.

Local

1. A system-wide commitment to career education concepts should be secured from the board, the administration, the faculty, the students, and the community. For this purpose a written plan of action should be prepared and implementation approval and authority secured from the administration.

2. System-wide professional staffing of all career education activities should be accomplished. This will require the identification of roles and responsibilities to be served and a knowledge of which staff members are best qualified to initiate the plan.

3. A system-wide professional development program should be conducted. The staff development program should be designed and conducted to meet the needs of the professionals that have been identified in an early assessment of staff needs.

4. System-wide consensus of a conceptual framework for career education should be sought. This will require the development of concept statements and objectives for career education; their dissemination to the professional staff and other concerned public; the entertainment of reactions to the concept statements and objectives; their possible revision based on public reactions; and their final broad-scale communication.

5. A level of funding should be secured that permits the accomplishment of local objectives. This will require the setting of priorities, the allocation of available funds against the priorities, and the maintenance of an acceptable budgetary record system.

6. The communication methods of the local education agency should be identified; a formal, written system of communication established; and a career education advisory council formed.

State

1. Commitments to career education concepts should be secured from the State staff, the State Board, and the State legislature.

2. Plans should be developed and activated for the coordination of activities across departments in the State education agency.

3. State-level objectives should be developed and adequate staff allocated for the accomplishment of those objectives.

4. State-level consensus should be sought for a conceptual framework for career education that is deemed desirable for that State.

5. State-level objectives should be prioritized and available funds allocated against those priorities.

6. The communication methods of the State education agency should be identified and a written plan developed for communicating information about career education.

7. The role of the State education agency in the career education movement should be defined and communicated clearly within the agency as well as to local districts and to the national level.

National

1. The U. S. Office of Education and the Congressional commitment to career education concepts should be secured.

2. National objectives for career education should be developed, prioritized, and staff should be allocated that will permit their accomplishment.

3. Available funding should be allocated against the national objectives which will permit their accomplishment.

4. The communication methods of the U. S. Office should be identified and a written plan developed for communicating information about career education.

5. Relationships of the national, regional, and State levels should be clarified within the career education movement and efforts made to maximize the use of all available resources.

DISSEMINATION

The work group raised the following concerns at the local, State, and federal levels for programs designed to disseminate career education methods, materials, and other products. The issues were raised against a backdrop of two basic assumptions; namely, that planning for dissemination occurs early and involves contributions from all levels of staff, and that evaluation of the processes and products to be disseminated has already occurred.

1. A strategy for the allocation of dissemination funds should be outlined prior to the development of a contract for dissemination.

2. Target groups should be identified carefully, recognizing the States' organizational differences.

3. Channels should be established for effective distribution.

4. The most effective possible facilitators should be identified and used.

5. Copyright procedures and restrictions should be clarified and stated clearly.

6. Programs and projects should arrange time and resources for visitations to projects outside the district or State.

7. Even though dissemination might be contracted out, transportability factors should remain a major consideration throughout all dissemination activities.

8. The dissemination efforts must address not only the merit of the product but also reasonable replication methodologies.

General Problem Areas

Q. Is there a program to advise textbook companies in the development of textbooks and related materials infused with the concepts of career education?

A. A definite concern about the type of career education information being used in textbooks is apparent. It is recommended that each textbook company include career education people on their staff. These people need to communicate conscientiously with educators to discover what their needs are. Companies are probably complying with standard guidelines because of the competitive nature of this industry. In the event that the individual companies are not meeting the standard expectations and needs of national, State, and local guidelines, the establishment of a commission to review these materials before publication may become practical.

Q. How do we secure the best information on supply and demand in employment and training?

A. In the career education area we need more concern with trends and directions rather than specific data. The vocational programs under the career education structure often need more specific data. This information should include all types of occupational opportunities information and should deal with these in terms of clusters. It is generally felt that the State plan which deals through advisory committees primarily with vocational information is not adequate and is too narrow. It is recommended that information be secured at local levels through advisory commissions. This information should be fed into some type of State coordinating board who, in turn, will supply the national office with relevant data to be compiled for dissemination to the local level. This would create a continuing chain of communication and information among local, State, and national agencies.

At present the Department of Labor is revising their coding methods. The DOT and SIC System will be replaced with a system that is congruent with vocational education programs. The Department of Labor is also about to fund Occupational Information Systems in ten States which will deliver current employment data to students and other clients. Educators need to make greater utilization of Department of Labor and State employment services.

Q. What are the priorities in terms of developing a manpower system?

A. Manpower systems should be developed at local, State, and national levels, respectively, through clustering.

Q. With the Office of Career Education now reporting to the U. S. Commissioner, how will it relate to Part D and to other career education programs? How do they relate to the Chief State School Officers?

A. At the present time this is a very informal relationship. Each group goes its own direction. Not all Part C and Part D monies are career education. In some States they are vocational. Our chief state school officers have a commission of 12 people under the direction of Dave Jesser to explore the problem. It is recommended that some type of committee be established within these groups in an effort to bring them together in a more coordinated fashion.

Q. What can be done to improve the communication between the State coordinators of career education and the Part C and Part D project officers?

A. Again there is a need for all career education people to combine their efforts. It is recommended that a State Deputy Commissioner for Career Education be appointed to facilitate lines of communication.

Q. Does O.E.'s direct funding to local education agencies help or hinder State effort? Does it disrupt statewide efforts of career education development?

A. This funding procedure could cause difficulties for States if local agencies do not use these monies to fulfill coordinated State guidelines. On the other hand, this procedure could generate more funds for projects. It is recommended that these monies flow through State agencies of education so that coordinated efforts can be maintained at that level.

Q. Have federal, regional, and State vocational educators recognized the role of vocational education in career education or do they desire to control it?

A. In the beginning, career education was treated as an entity, separate and apart from other forms of education. It is the consensus of this group that through definition and usage career education is now being accepted and recognized by educators as an all encompassing program.

Q. Should we not have better coordination between the groups working toward career education at the federal level when it comes to funding? Definitions? Implementation strategies? State program monitoring?

A. Yes, we should.

Q. How can we have better sharing of developed materials when small States do not have the funds to duplicate 250 copies for dissemination?

A. It is recommended that each State Career Education Coordinator be supplied with one copy of any materials developed at local levels. This means that any local program would need to produce approximately 50 extra copies of their work and mail one copy to each of the State Career Education Coordinators. The State agencies would disseminate copies to their respective programs as requested or as the need arose. This provides State agencies with the opportunity to review and evaluate newly created materials.

Q. How do we insure that coordination at the federal and State levels results in leadership which does not create conflicts at the local level?

A. It is recommended that the local programs develop a plan with their State agency and that the federal agency lend support to their plan of action in any way possible.

Q. How does a "right to read," "student loan program," "developing institutions," or "education for the handicapped" program support or enhance the career education philosophy?

A. These programs support and enhance the career education philosophy because career education is all encompassing and pulls all programs together. Career education is all education.

Q. How should materials be developed for career education--locally or commercially?

A. Materials should be developed at the local level when at all possible.

The Role of the State Department of Education in Career Education

Q. What should be the role of the State Department of Education in a career education program? What is its function in a Part D project? What steps have been taken to achieve a State Policy relating to career education?

A. 1. Leadership
   a. State goals and priorities
   b. Set guidelines
      1) Implementation
      2) Evaluation
      3) Staff Development
         a. preservice
         b. inservice
      4) Materials development
   c. Coordination of exchange of ideas and/or consultant services
   d. Coordination with other education programs
2. Legislation action, position papers, and State regulations are steps taken to achieve a State policy relating to career education.

Q. State-adopted textbooks, generally speaking, are not career oriented. What could State Departments of Education do to help with the situation? What can local units do? Is there a role for U.S.O.E.?

A. It is generally true that State-adopted textbooks are not career education oriented. State Departments of Education could establish a set of guidelines for future development for dissemination to textbook companies. Local units can provide feedback through evaluations and by purchasing texts that meet local needs. U.S.O.E. could establish resource centers, offer advisory help, and disseminate materials from a clearinghouse.

Q. When moving career education statewide, what approaches have been employed successfully with a limited State staff to provide local districts with indepth individual attention for planning? e.g. one State consultant and a secretary.

A. This cannot be done effectively. Providing individual attention for planning, coordinating, and disseminating is impossible with such a small staff.

Q. How does one coordinate career education within the entire State Department of Education? A central location or subcenters in each bureau? How do you establish linkages with local education agencies? How do you coordinate a dissemination system from the State level to the LEA's?

A. Career education must become the thrust or concern of all departments of education through the coordinating efforts of a Career Education Department. With respect to the location of a career education staff, the individual needs of each State must be met. Linkages with local education agencies must be established through local regions. A coordination dissemination system from the State level to the LEA's could be established by supporting demonstration sites through State staffing.

Q. What is the State's role/responsibility in the planning and operation of the Commissioner's half of Part D projects? What decision-making authority should the S.D.E. have? What technical assistance should the S.D.E. provide? What information should the S.D.E. provide? What input does the S.D.E. have in proposal development? Should proposals be congruent with the State's philosophy of career education?

A. States should have veto power over initial grants. They should provide technical assistance as feasibly possible. They should provide information as feasibly possible. State Department of Education input in proposal development, however, is by invitation from State or local LEA. Yes! Methods should be developed to insure that proposals are congruent with the State's philosophy of career education.

The Planning, Development, and Implementation of a K-Adult Career Education Program

Q. How do you or should you articulate between secondary and post-secondary programs? What approaches have been successful? What follow-up techniques have been used?

A. There has been little success in articulation between secondary and post-secondary programs because the national level ignores this issue. Governing boards for post-secondary vary significantly; therefore, it is difficult to make a singular recommendation. There is some funding K-14 but little success has been enjoyed in this area.

Q. How successfully has the U.S.O.E. requirement for secondary-post-secondary articulation been met? What are successful examples of coordination? Are they superficial or do they help to maintain the status of the career education program? Do they continue past the federal funding?

A. Generally "No!" on all sections of this question.

Q. What strategies or methods should be employed for designing and implementing a logical and sequential learning experience, K-14. What

role should an advisory council play in this process?

A. The strategies and methods employed for designing and implementing K-14 learning experiences should be a uniform, sequential (nonrepetitive) approach. Example: Elementary - Awareness
Middle School - Exploratory
High School - Preparatory
There should be a scope and sequence for and with the three above levels. A State level determination of the common idea of career education with objectives should be established from which local areas should select those objectives suited to their local needs and their local scope and sequence. The advisory council should provide review, assessment, and recommendation.

Q. Can the purposes of career education be achieved in the absence of scope and sequence by utilizing the so called "teachable moment" approach where teachers are encouraged to bring out career education concepts wherever and whenever they feel they can? How important is it to systematically expose students to a comprehensive array of career options and opportunities?

A. Strong "No!!!" The "teachable" moment is not enough. Comprehensiveness probably doesn't make much difference at the elementary level. It becomes important when students begin to make definitive decisions; therefore, it becomes increasingly more important. Note: structure should be in response to student's needs.

Q. Have we overplayed the notion of infusion to the point that some schools have been made to feel like failures if they hold a career day or teach a class in career orientation? Is infusion the only vehicle? Can we realistically infuse all of the goals and objectives of career education into the present curriculum?

A. No! We haven't given teachers a means or examples of how to infuse. Infusion is not the only vehicle but it is the most preferred in giving cues for further exploration in careers. Other successful examples include CIS Systems (which is a revision of the DOT Career information) and career education courses. Curriculum is only one delivery vehicle. Guidance and placement may also become infusion vehicles.

Q. What are the planning needs for career education? What should be the content of planning? Should it include facility needs at the various levels? Are there specific levels where special facilities are required? Do local, regional, and State agencies plan cooperatively? What

strategies have been used to initiate planning? What resources are required?

A. Planning needs for career education must include a goals-based design including: Needs Assessment, Objectives, Program Strategy, and Program Evaluation. It is desirable that local, regional, and State agencies plan cooperatively but this rarely happens except under crisis or forced decision making. Available funding and contingencies have been used to initiate planning. Required resources include funds, supportive staff, materials, supplies, and guidelines.

The Development of a System for the Dissemination and Diffusion of Career Education

Q. Should we or should we not develop a system of dissemination and diffusion for career education? Is a national network for dissemination viable? Which elements of curriculums are transportable across State, district, and school lines? Objectives? Learning experiences? Organization structures? Evaluation devices? How can unwarranted duplication be avoided?

A. Yes, a national network for dissemination is viable as long as such criteria as goals, objectives, and materials are established, tested, and met for maximum quality (educational content). Objectives and needs are unique from system to system; therefore, the transportability of materials may only be measured by their ability to meet objectives. ERIC and AIM/ARM should be used to avoid unwarranted duplication; however, these systems will require some sort of material information network.

Q. What is happening regionally and nationally on cross-fertilization of projects? What is the status of the assessment of developed products for national dissemination?

A. The timeline from receiving valid material to publication should be shortened. Channels for cross fertilization do not adequately exist, and the screening of developed materials is nonexistent.

GROUP D

EVALUATING CAREER EDUCATION PROGRAMS

Chairperson: Alice Scates
Senior Program Officer
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U.S. Office of Education

Group Facilitator: Elvie Arterbury, Director
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Dallas, Texas

Resource Person: Ellen Lyles
Senior Program Officer
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Region IV

Preconference Survey Results on Evaluation

Respondents to the preconference survey on current issues in career education were concerned about questions that fell into about four general categories with respect to evaluation. These were 1) the role of the U.S. Office of Education in the evaluation of Part C and Part D projects, 2) the content and design of career education evaluation, 3) the status of instrument development for the evaluation of career education programs, and 4) some general and philosophical questions with respect to the evaluation of career education programs.

Questions with respect to the role of the U.S. Office of Education in the evaluation of the federally-administered Part C and Part D projects focussed primarily on the publication, Handbook for the Evaluation of Career Education. Respondents wanted to know:

a) On what philosophical base the handbook was developed, how it was validated, and whether it was too restrictive,

b) Whether it was reasonable to assume that we could measure product in terms of student outcome at this point, and

c) What allowances were to be made for project variations that do not fit all of the elements of the handbook?

Those questions having to do with the content and design of career education evaluation were:

a) Should or should not the design include all of the elements of inputs, processes, and products?

b) Which of the many input factors are measurable and critical to an assessment of career education?

c) How can information about the processes of career education be collected to insure validity?

d) How are the interfaces of inputs, processes, and product measures to be dealt with?

e) What are the appropriate process factors in career education? Are they curriculum, evaluation, dissemination, diffusion? Or, are they student treatments as actually experienced by the child?

With respect to instrumentation for career education, participants wished to discuss:

a) What are the additional instruments that we need?

b) What instruments that now exist have been successful in measuring differences?

c) How does the career education practitioner establish criteria to be used in selecting instruments?

Some of the general and philosophical issues raised by respondents were:

a) Can product assessment be effective prior to the full development of an educational intervention?

b) How can long range impacts be isolated as attributable to an educational intervention? which impacts?

c) What evaluation approaches are recommended for projects operating independently of federal funds?

WORK GROUP FACILITATOR REPORT

Elvis Arterbury

There were a lot of good issues in our group. We probably spent a third of our time trying to decide what those issues were and how we might address them. It finally boiled down to three concerns: first, concerns of why evaluation; second, the concern of roles and responsibilities provided in career programs and experiments in career education; and a third related to the issue of instrumentation. Throughout the discussions I think that most of our energies and anxieties were centered around the guidelines provided to all of us for evaluating Part D projects. I still remain unclear as to whether we gathered here to praise them or bury them. We spent a good deal of time talking about them and I think the concern about those guidelines is reflected in at least a couple of the reports. We finally decided on our issues and then broke them into three separate groups. My participation was in but one of those groups. Each group prepared a brief, written position paper as to what they concluded. If you will forgive me I will read those papers. I cannot speak about the other two groups other than the paper they handed me. It is difficult to paraphrase them or embellish much. I guess the final qualification is that although I am the spokesperson or reporter for the group, that does not necessarily imply full acceptance of the three position papers. The evaluators, obviously, did not criticize themselves.

The first section of the report has to do with the instrumentation issue. This group consisted primarily of practicing evaluators and their concerns centered around the characteristics of sound instrumentation.

The second section of the report deals with the question of "why evaluation?" Our major point was that across the different types of decisions, levels of decisionmakers, and purposes to be served, there are a multitude of techniques and tools and arrangements by which evaluation occurs. Thus in addressing the why, this group concludes that the U.S.O.E. guidelines for evaluation serve essentially but one principal purpose at one level for mainly one type of decision; that is, the accountability purpose, the iterating decision at the federal level. We felt that addressing the question of "why evaluation", looking at levels, purposes, and types of decisions, and placing them in perspective with respect to where the guidelines fit was a helpful exercise.

Finally, a group spent some time worrying about federal, State, and local roles and what they chose to call career education experiments. They say this: federal, State, and local purposes in the frontiers of career education can be best accomplished through a pattern of dual responsibilities for experimentation. Our recommendations are intended to gude the establishment of that pattern, that

is, the pattern of dual responsibilities. The group structured their position paper into two levels of experiments--not surprisingly, the federal level being one and the local level being the other.

The group concluded with the comment that the present draft guidelines for the evaluation of career education programs from Development Associates, August, 1974, violate all the principles underlying their recommended experiments.

WORK GROUP REPORT

Instrumentation

The following presentation is intended to provide the practitioner with a guideline for deciding on instruments to measure elements of career education. The factors have not been given priorities, and it is the users prerogative to determine what trade-offs to make. Three major considerations are suggested--validity, reliability, and utility.

Validity

1. Content validity project.
   Which specific project outcomes does the instrument measure?
   How many and which test items are invalid because they include content not covered by the instruction?
2. Concurrent and predictive validity.
   Have these validities been established against criteria which are consistent with the project's objectives?
   What use can be made of these findings?

Reliability

For commercially available tests has the reliability been established against a population which is sufficiently similar to that of the project?

If not, a test of reliability should be considered.

If the test is locally developed, reliability should be established.

Utility

1. Ease of administration (clarity of administration instruction and equipment necessary.)
2. Time required to administer.
3. Quality of the description of what the instrument purports to measure.
4. Cost
   Can the test be reused?
   Can it be locally scored?
5. Norming
   Local
   National.

6. Level of reading ability required.
7. Are the results valuable to decisions for individual students or only for group norms.

A pilot test of chosen instruments is suggested to determine and eliminate possible testing pitfalls which have been overlooked.

WHY EVALUATION?

Evaluation provides information for decisions to improve and prove programs. These decisions have been categorized (paraphrased from the CIPP Model, Stufflebeam, et al.) as planning, designing, monitoring, and iterating. These four types of decisions relate to specifying intended ends, intended means, actual ends, and actual means. This relationship is depicted below.

PROGRAM DECISIONS

	ENDS	MEANS
INTENDED	Planning	Design
ACTUAL	Iterating	Monitoring

Basically these four decisions relate to the straightforward questions of: 1) where should a program go, 2) how should it get there, 3) is it following its plan, and 4) how well did it achieve its results?

Each of these decisions can be made at different levels (e.g., local, State, and federal) and for different purposes (i.e., improvement and accountability.)

Across these different types of decisions, levels of decisionmakers, and purposes to be served, there are a multitude of techniques, tools, and arrangements by which evaluation occurs. These range from intuitive guesses to empirical results.

Thus, in addressing the "why" question, our group concludes that the infamous Guidelines serve but one principal purpose, at one level, for one type of decision; those being the accountability purpose, the iteration decisions, at the Federal level.

FEDERAL, STATE, AND LOCAL ROLES IN CAREER EDUCATION EXPERIMENTS

Federal, State, and local purposes in advancing the frontiers of career education can be best accomplished through a pattern of dual responsibility for experimentation. Our recommendations are intended to guide the establishment of that pattern.

Federal Experiments

The Federal Government, exercising its research and development role through USOE or NIE, should sponsor and finance large-scale field experiments characterized by:

1. Federally - selected objectives
2. Federally - selected procedures
3. Federally - selected evaluation instruments
4. Federally - selected evaluation designs
5. Federally - selected evaluators
6. Participation by the evaluators from the very beginning of the experiments
7. Voluntary participation by State education departments and, with the approval of the State education departments, voluntary participation by local school districts
8. Ample advance notice and complete disclosure of the full federal plans for the experiments to the volunteering State education departments and local school districts before the experiments begin.

At the conclusion of each experiment the Federal Government should translate the findings into operational advice and transmit it to all State education departments for their own use and for forwarding to all local school districts.

Local Experiments

Simultaneously, the Federal Government should sponsor and finance experiments conducted by local school districts under plans developed by State education departments. The local experiments should be characterized by:

1. Locally - selected objectives
2. Locally - selected procedures
3. Locally - selected evaluation instruments
4. Locally - selected evaluation designs
5. Locally - selected evaluators

6. Participation by the evaluators from the very beginning of the experiments
7. Voluntary participation by local school districts
8. Ample advance notice and complete disclosure of the full State plans to the volunteering local school districts before the experiments begin.

At the conclusion of each experiment, the sponsoring State education department should translate the findings into operational advice and transmit it to the Federal Government for its own use and for forwarding to all other State Education Departments for their own use and for subsequent transmission to all local school districts.

The present Draft Guidelines For The Evaluation Of Career Education Programs (August 15, 1974) violates all the principles underlying these recommendations. The guidelines, in their present or modified form, should be used exclusively for federal experiments of the kind recommended above.

GROUP E

IMPLEMENTING CAREER EDUCATION AT THE SECONDARY LEVEL

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U.S. Office of Education

Group
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Ceres Unified School District
Ceres, California

Resource
Person: John Stahl
Senior Program Officer
U.S. Office of Education
Region II

WORK GROUP FACILITATOR REPORT

R. Robert Adkison

First, I have a message for Billy Pope. I would like to say to him that he can relax, that our material is neat, well organized, and loosely stated and will be transmitted in that order.

I would like to give special thanks to the subchairpersons in our group, Lee Thompson and Tom Schrodi, who handled the area of curriculum development, Matt Cardosa, who chaired the group on placement, and Jane Robertson, who handled the group that worked on guidance. We have some 20 pages of comments that I am going to turn in for a report. I have asked those groups to make a summary statement and that is what I am going to present to you.

Working with the area of curriculum in the implementation of career education at the secondary level can be kind of a traumatic process as there seems to be more resistance to implementing change at the secondary level than at the junior high level. A great deal of thought and foresight and planning needs to go into the implementation of career education or anything similar at the secondary--meaning both junior and senior high school--level.

Steps for implementing career education are listed by the subcommittee on curriculum as follows. First it was felt that one should coordinate the career education program with the superintendent and the school board. This has been stated berfore; but I think it should be stated in each case because, without that kind of commitment, success will be spotty and short-lived, in all probability. Second, organize an advisory council composed of citizens from the community including students, parents, and businessmen in industry. You should have them approved by or at least endorsed by the board of trustees or the board of education in the local school systems, so that there is an official liaison between the school system and community. Three, coordinate the career education program with the building principals. This is something that has in some cases been a difficult area. The district may be committed. The board may be committed. But if the building principal does not constantly supervise and promote the development of this curriculum, he is going to lose the ball game right there; the school district will lose also.

Coordinate the career education program with the department chairpersons and the curriculum specialists. These are the people on the front line and they are the ones who are going to be convincing, if that is an appropriate phrase. They must be convincing in order to influence the teachers who will be implementing the curriculum in the classroom.

We talked about change in our group and this is probably an area where change is most difficult. Secondary schools tend to be more traditional than elementary schools. Change of this type becomes a major undertaking to many of them. Providing inservice to meet the needs of teachers in all subject areas is one of our recommendations. Teachers should identify what they are presently teaching and, through inservice programs, integrate the career education concept into the curriculum. They must have both a base of curriculum and lesson plans developed around career education and there is a lot of assistance needed here. This is where your curriculum specialists are going to have close involvement. One should integrate the career education concept into the curriculum using a large variety of activities so that interest, motivation, and involvement are a major part of the activities planned. Use department chairpersons as lead teachers or have the department chairperson assign a lead teacher. This individual is specifically responsible for implementing the career education concept into the curriculum. You need to provide over-the-shoulder assistance to each teacher as needed so that they have the confidence and security necessary to move the change along. I think that as an overview, those are the detailed responses to the questions we had on implementing career education into the curriculum.

Another area that we dealt with was that of placement--the placement of students in the world of work. The committee reviewed the questions and made certain assumptions. First, they limited their reactions so that they related only to job placement and not educational placement. This was a constraint which they placed upon themselves. They then determined that the questions could be answered by assuming the existence of a clearinghouse to handle all placement activities. One specific suggestion is how that clearinghouse can be implemented. Since this data will be used on a national level, our recommendation must be suggestive and general in nature.

Another section dealt with was guidance. I have a rather comprehensive report there also but I am going to sum it up into one statement. No longer can a counselor operate only on a one-to-one basis. We wrestled with this problem rather extensively; and, because of the shortage of personnel and people who are trained in career guidance and counseling, there has to be new types of training for them. It was felt that most of our counselors or many of our counselors are not trained in the group processes of counseling. This is basic and fundamental if we are to succeed in guidance and counseling for career education.

Career education dictates that counselors develop the competencies of a resource person. Counselors must be involved in changing their own roles. That is a rather significant statement. It is felt that the job descriptions are too often dictated by people other than those in counseling. Maybe counselors' roles have developed historically and do not include the kind of tasks which are necessary for career education to be successful. Counselors must be involved in helping develop the guidance part of the instructional program. It was felt that whenever the cluster

teams, or whatever you wish to call them, come together to develop the instructional program for career education at the secondary level, counselors should be involved. The guidance personnel must literally be sitting in those groups as participating individuals on a continuous basis or the guidance components for career education will not be implemented. This is one of the reasons why it was stated that the guidance personnel must be instrumental in writing their own job descriptions and changing their own roles.

Secondary Curriculum

The work group on secondary curriculum for career education feels that the following steps are essential to successful development and implementation at this level:

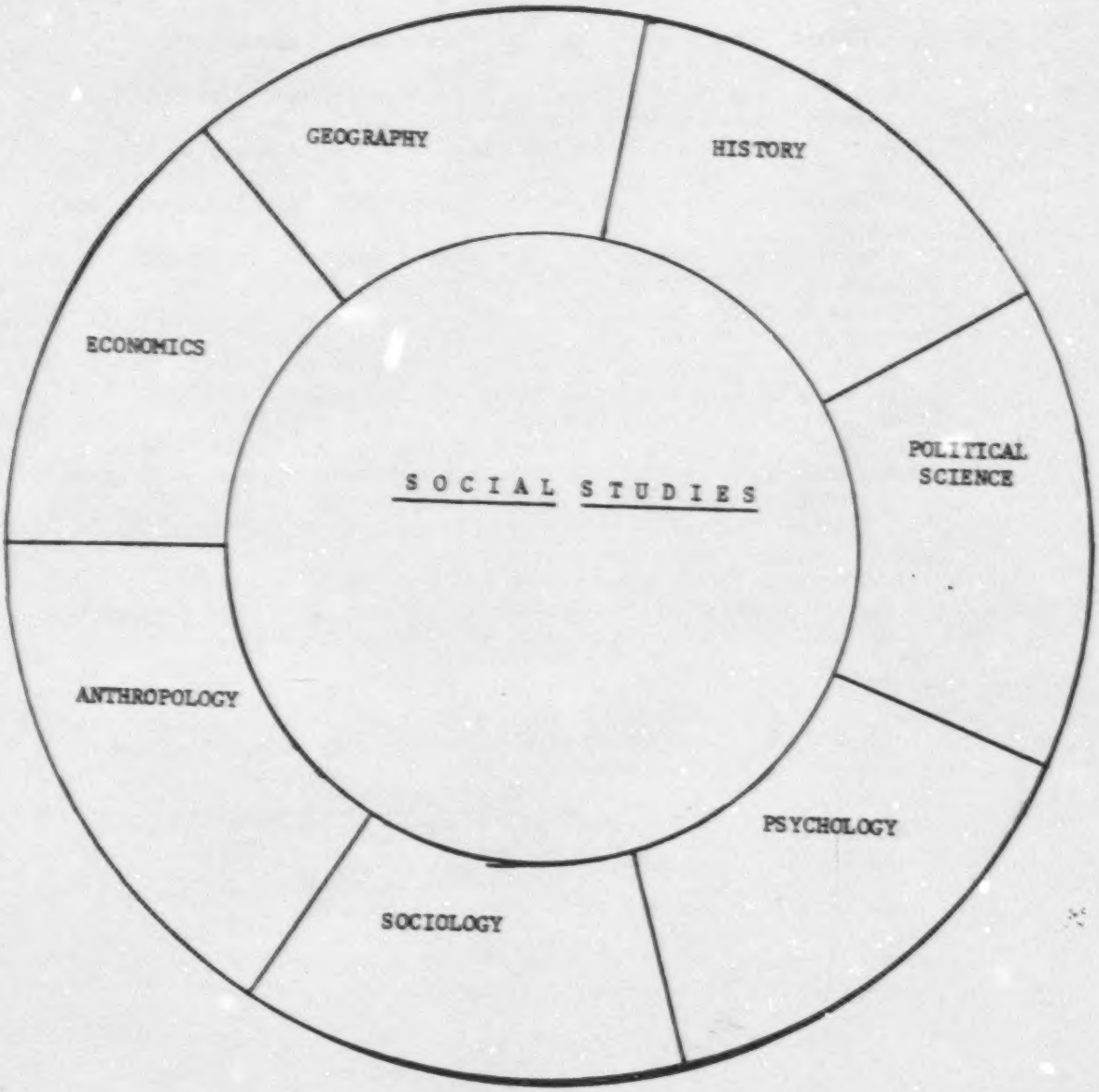
1. Coordinate the career education program with superintendent and the school board.
2. Organize an advisory council composed of citizens from the community including students, parents, businessmen, and industry representatives and have them approved by the Superintendent and Board of Education.
3. Coordinate the career education program with the building principals.
4. Coordinate the career education program with the department chairpersons and curriculum specialists.
5. Provide inservice to meet the needs of teachers in all subject areas.
6. Teachers identify what they are presently teaching and, through inservice programs, integrate the career education concepts into the curriculum.
   a. Teachers must have a base of curriculum and lesson plans.
   b. Staff analyzes the lesson plans to insure comprehensiveness. (Refer to Attachment A and Attachment B.)
   c. Teachers integrate the career education concept into the curriculum using activities.
7. Identify department chairpersons as lead teachers or have department chairperson or the principal assign a lead teacher.
8. Staff and lead teachers provide over-the-shoulder assistance to each teacher as needed.

The following section represents the work group's suggestions in response to questions raised in the preconference survey that were related to the secondary career education curriculum.

Q. How might teachers or counselors get students involved in planning career programs to meet their own need?

A. a) Needs assessment surveys or student interest survey.
   b) Advisory council members.
   c) Involve them in career education youth organizations.
   d) Allow students to do research into careers in academic and vocational subjects.
   e) Allow students to explore subjects in depth.

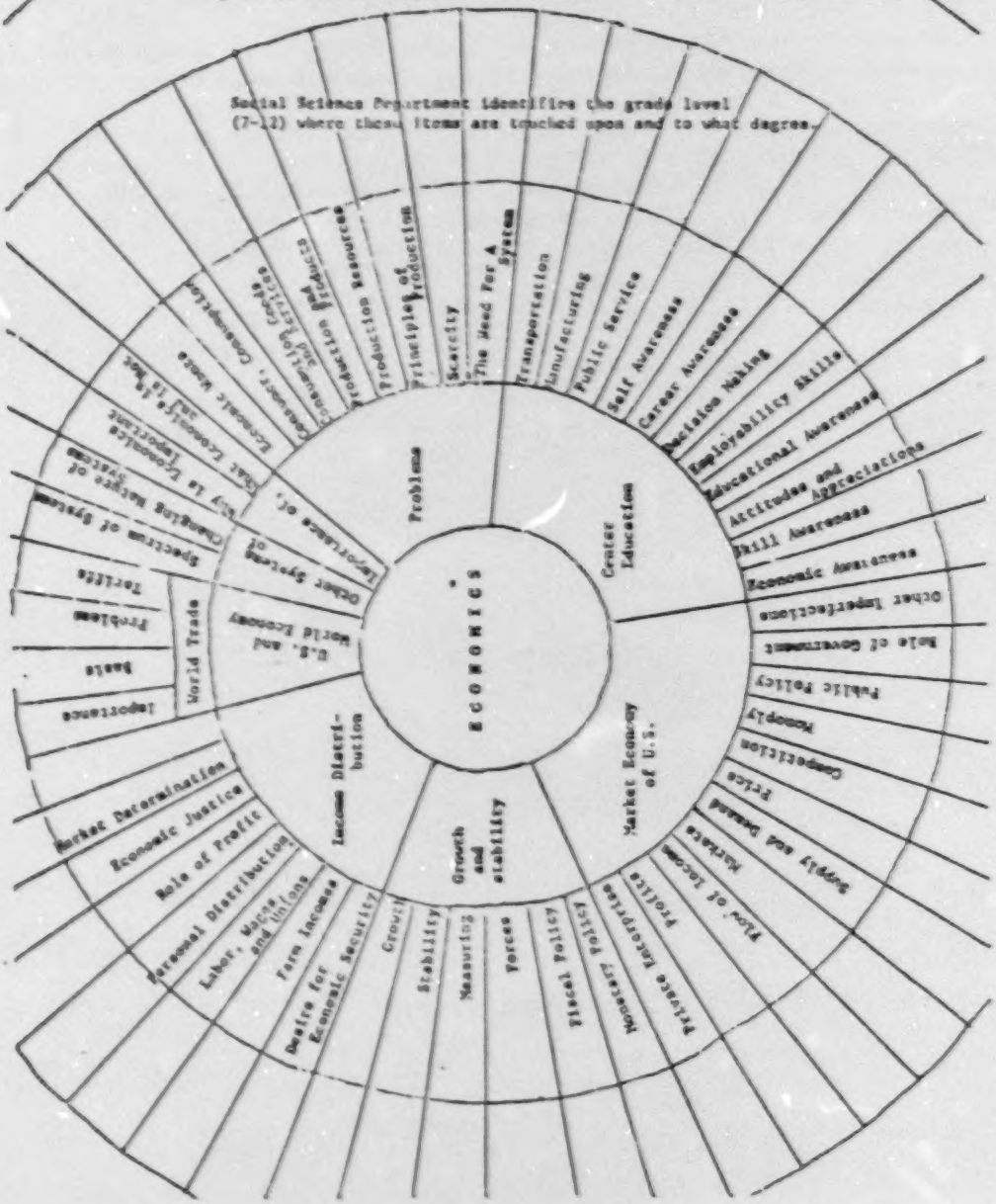
Attachment A



Career Education - John Geston
Central High School
Devil's Lake, ND 58301

Outer circle provides treatments for each segment. C.E. staff provides C.E. strategies - sequentially - so as to avoid duplication.

Social Science Department identifies the grade level (7-12) where these items are touched upon and to what degree.



f) Give students the opportunity to explore occupations with personnel from business and industry, fathers, mothers, and/or others.

Q. How does one implement effective career education inservice at the secondary level for all teachers?

A. a) Provide an opportunity through a summer inservice program for teachers to explore occupations in business and industry.
b) Allow teachers to shadow business and industry personnel.
c) Hold summer inservice to infuse the career concept into the present curriculum.
d) Provide release time for teachers during the school year with substitutes being paid by the project (to visit other teachers, schools and different levels of education, business and industry, etc.).
e) Arrange for credit on salary schedule or college credit.
f) Pay substitutes for teacher to assist in inservice program where that teacher is providing the training.
g) Conduct inservice training programs in conference rooms of business and industry.
h) Use teachers teaching teachers.
i) Use teachers to develop curriculum guides, list resource materials, etc.
j) Find the "teachable moment" in 8th grade science where key word such as "Neon" results in a technician using or working with neon signs being brought in.

Q. Should parent approval be secured for involvement in career education programs?

A. a) No--because the career education concept should be an integral part of the total curriculum.
b) One might have a program in the school to educate the parents to the concept, however.

Q. What methods have been successful for "infusing" career education elements into the secondary program?

A. a) Inservice.
b) Get students involved.
c) Involve the community personnel.
1) Use T.V. time to air films citing needs for career education.
2) Spot promotions on T.V. showing need for career education.

3) Provide programs for service clubs--slides, movies, students, etc.
4) Use success stories if available.

Q. Is the career education process scattered randomly or is it in all disciplines at the secondary level?

A. a) In most cases it is probably scattered because one generally starts with interested teachers.
b) With proper leadership all teachers should integrate the concept into their ongoing curriculum.

Q. Should curriculum changes towards career education be adopted only in pilot schools throughout a district?

A. Generally it is started only as a pilot in one school so it is manageable but the ultimate in career education would be to have it in all the curricula in every classroom in the district.

Q. How is current curriculum made relevant to future job placement?

A. a) Through surveys.
b) Placement and follow-up.
c) Needs assessment and long-range needs.
d) Involving community leadership especially those that will eventually hire the students.
e) Including values or human relations occupational survival skills in the curriculum.

Q. Can the career curriculum involve the cluster concept at the senior high level?

A. a) Definitely--it is being done in some regions at the present time.
b) Community involvement can easily come about through clusters. (For information about one, write to Richard Gabriel concerning the communication and media cluster in the Junior High School, Des Moines Independent School District, 1500 Grand Avenue, Des Moines, Iowa.)

Q. What other career education resources are available for teachers, aside from development of new curriculum guides?

A. a) Opportunities to attend inservice meetings with various university groups, private organizations, State level meetings, local level meetings, national meetings, and other career education projects.

b) Professional magazines, etc.
c) Private companies will furnish materials and consultants--such as Bell Telephone, Coca Cola, etc.

Q. How can we bridge the gap between vocational education and academic education?

A. a) Interdisciplinary planning.
b) Visits by students and teachers to a comprehensive vocational department.
c) Courses entitled "math in construction", etc.
d) Career math.
e) Peer teaching--demonstration by high school students to other high school students or to junior high or elementary students.
f) Contract instruction between students and teachers.
g) Teacher education programs--provide the opportunity for academic and vocational teacher courses in college to assist teachers in understanding that every occupation requires skill training.

Q. How is the guidance component involved in the total education process?

A. a) Follow-up and placement.
b) Any teacher who is producing or providing career education activities is performing a guidance function.
c) Faculty advisors--assign 15-20 students to each for career advice.
d) Giving students individual counseling on understanding themselves and their abilities and limitations.
e) Provide counselors the opportunity to work with business and industry during the summer as interns.
f) Have counselors give more guidance to teachers who can in turn pass it on to the students.

Q. What are the roles of the academic teacher in a career education program?

A. a) Increasing career awareness of young people.
b) Bringing out career implications in subject matter in order to motivate students.
c) Every academic classroom is a career education classroom.
d) Work attitudes should be taught by all teachers.
e) Human values should be taught by all teachers.
f) Teaching decision-making skills.

Q. How do you change the content orientation of teachers?

A. You don't change content; you integrate career education concepts into the curriculum. Some suggestions for doing this are as follows:

a) Show teachers how to integrate career education concepts into their subject-matter areas by utilizing:
   1) Practicing teachers,
   2) Ongoing programs and practices,
   3) Existing resource materials, including textbooks,
   4) Methods that will keep teachers informed about current career education classroom activities,
   5) Different approaches with sample materials for developing instructional units.

b) Involve teachers in interdisciplinary curriculum development.

c) Work with teacher-training institutions on preservice programs.

Q. How are the career education needs of the disadvantaged and handicapped being met?

A. a) Through sheltered workshops.

b) Teach teachers of handicapped and disadvantaged--use SRA kits effectively and appropriately.

c) By teaching these students the characteristics of a good work ethic in order that they may become productive, contributing members of society.

d) By establishing work-experience programs in order that they may develop a salable skill which will aid them after their formal educational experience is completed. Placement and follow-up are needed.

e) By informing the business community of the potential and capabilities of these students so that the business community is cognizant of their abilities in a work world and the possible contributions they can make.

f) By using role playing situations, students can visualize a number of possibilities in which they can be participating members of our work force.

g) Teaching the problem method of solving situations
h) Understanding competencies needed in order to handle career education in the classroom.
i) Planning and delivering related academic skills as they are needed in occupational or vocational preparation programs.

Q. How can career education be expected to serve all students, when preparation opportunities are available in only traditional vocational careers?

A. It is a matter of semantics and depends on what society classifies as a salable skill. (For example: the career education concept believes that proficiency in English is just as salable a skill as proficiency in welding.) The above mentioned statement reflects that career education permeates all disciplinary areas.

Q. What is career education like at the high school level?

A. Career education at the high school level is a concept or process infusing and transcending all disciplinary boundaries of the curriculum. It encompasses all career education elements common to the elementary and junior high school levels; e.g., self-awareness, decision making, career-awareness, appreciation and attitudes, educational awareness, exploratory activities, and economic awareness.

Emphasis at the high school level should be placed on career preparation, be it job-entry level, preparation for further skill training, or advanced education. Career preparation should include a variety of teaching and program strategies, providing students with career experiences in the classroom, in school laboratories, and in the community.

In order to assist the student in reaching his career objectives, placement activities--including career placement skills--are an integral part of the high school career education concept. Through career education activities, students can perceive their individual lifestyles and lifetime skills through a better understanding of their own personal and community needs.

Q. Who assumes leadership role of career education at the high school level?

A. As in all aspects of high school operation, the principal must be allowed to assume leadership of career education in order to avoid usurping his authority and so that all members of the faculty

know that he is in favor of the program. Depending on size, structure, and funding, a key individual such as the assistant principal, counselor, building coordinator, or lead teacher should assume planning leadership subject to the review of the principal before implementation.

Q. Who assumes leadership role in funding of career education at the high school level?

A. Depending upon the source of funding--federal, State, or local--the assigned career education coordinator at that level contacts the school superintendent, through whatever channels are required, and furnishes the superintendent with a proposal of sufficient depth to allow the superintendent to assume leadership in determining the funds that will be used.

Q. How does one go about obtaining space for career information centers?

A. a) Establish a need through meetings with:
   1) Administrative personnel,
   2) Building principal,
   3) Counselors,
   4) Librarians,
   5) Teachers.

   b) Suggested sites:
   1) Library,
   2) Guidance office,
   3) Separate room.

Q. What does career education hold for the individual student?

A. Career education holds for the individual student increased options through a program of academic and/or vocational training and skill development, in-school and out-of-school exploration and activities, increased self-awareness, and decision making abilities.

Q. What is the effect of open entry - open exit upon career education at the secondary level?

A. It requires a strictly individualized, competency-based curriculum. It is believed to work better in an area vocational school setting or in programs for out-of-school youth and/or adults in a community college setting as opposed to programs for in-school youth at the secondary level.

Placement at the Secondary Level

The following questions were raised in the preconference survey with respect to placement:

1. How is the total placement program coordinated when cooperative programs, work experience, and job entry are all involved?
2. What channels are used to notify interested persons (i.e., cooperative coordinators and/or students) of job openings?
3. What screening process is used to match student and job?
4. What system is used to prevent multiple contacts with potential employers?
5. What type of relationship does a secondary career education program have with employment agencies?
   a. For part-time work experience.
   b. For placement into full-time work.
6. What methods are being used to follow up on-the-job placement of students?

Work Group Response

Students not enrolled in a vocational education curriculum with cooperative work experience may also wish to work, and some provision should be made to accommodate them. Career education programs and guidance counselors are developing job interests and expanding the need for more detailed placement procedures. This increased responsibility for job placement requires either additional personnel or a reorganization of present staffing. While recognizing that educational placement and all future career plans are integral parts of the career education function, the committee directed itself to questions which more specifically related to work placement activities, both paid and unpaid.

In an effort to coordinate the various sources of job opportunities for students within the community, it is suggested that a clearinghouse concept be developed. The functions of the clearinghouse should be to:

1. Coordinate all placement--credit, noncredit, paid, unpaid, and volunteer--for all students including but not limited to cooperative, work experience, work study, and initial job entry.
2. Notify all interested parties of job openings (students, coordinators) by use of daily bulletin, public address system, bulletin boards, etc.
3. Screen to match students with jobs, by holding exit interviews with

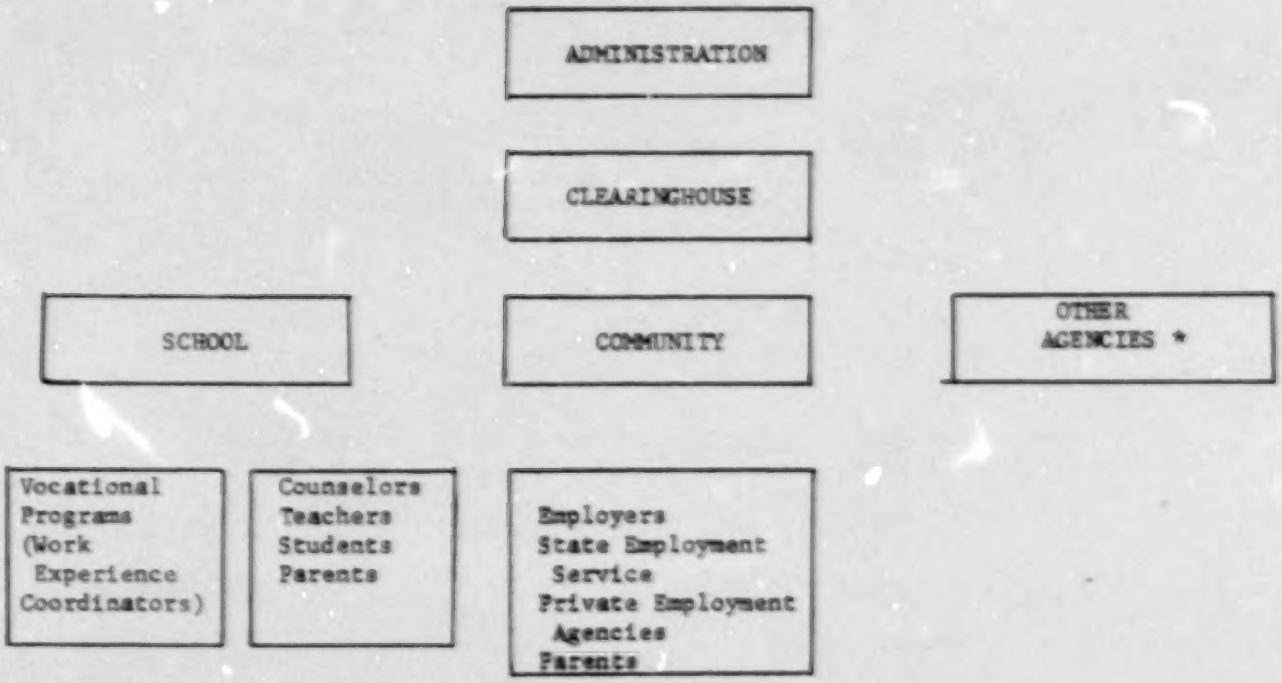
all seniors to determine their interests, likes, dislikes, career plans. Students might go through the process of applying to the employment security office if for nothing more than the experience of being interviewed.

4. Prevent multiple contacts with potential employers. Establish a public relations program that educates the employers to submit needs to the clearinghouse. All staff members involved in placement activities (co-op coordinators, distributive education teacher-coordinators) would still work with employers but on a planned basis so that two, three, or more would not "drop-in" on an employer at the same time.
5. Cooperate with employment agencies, public and private, for part-time as well as full-time referrals. Benefit from computer linkups, job bank data, local, regional, and national employment information.
6. Follow-up should be provided:
   a. By work experience coordinators for job performance, strengths, weaknesses, credit, attendance.
   b. By placement staff to verify: openings, acceptance of referees, projected needs, and new or developing opportunities.
   c. For periodic evaluation of former students--changes in curricula, growth on the job.

We recognize that no two school systems are identical. These are offered as ideas to be adopted as is, modified, or fashioned to fit local needs.

Regardless of what is done you must obtain administrative support and should conduct inservice programs for all who will be involved.

Suggested Structure for Clearinghouse
Concept in Placement



*CETA
Youth Services
Urban League
Service Clubs

Guidance and Career Education at the Secondary Level

The subgroup responsible for the guidance aspects at the secondary level elected to respond individually to each of the questions arising in the preconference survey. Their responses follow:

Q. How does one motivate the crucial personnel essential to the development of a comprehensive guidance and counseling program in career education?

A. There must be both verbal and financial support from the top administrative people in the school system, and there must be strong support of the building principal for career education.

Q. Should student organizations be used in the secondary career education program?

A. Students should have some input into career education activities, but consideration should be given to involving all ranges of organizations and not just organizations which are composed primarily of the college bound students (Student Council, and National Honor Society). A Career Education Planning Committee could be organized for the purpose of providing student input and should be composed of a cross-section of the student body.

Q. How are counselors actively involved in career education?

A. Counselors should be involved in visiting in the community and acquiring resource people for use in the classroom. Counselors should be involved in helping develop the guidance part of the instructional program at the time teachers are developing curriculum. Counselors should set up a job-audit program designed for the academic student who needs some experience supervised by a counselor. Counselors at the high school level should be more involved and knowledgeable about what is happening with students in career education at all levels so that the secondary level is closely tied together with previous experiences of those students. That coordination should also extend into the post-secondary period. Counselors should tie the career education program to agencies outside the school. This would be to the benefit of drop-outs as well as graduates. Realistic follow-up studies should be done by counselors of how many students actually finish colleges and other post-secondary schools and with what type

of degrees. Counselors should be involved with follow-up of students not in colleges to find out the effect of career education activities. Counselors should tie together guidance services to include placement and guidance. Counselors should be used as curriculum development consultants working with teachers and helping integrate career education into the various disciplines. Counselors should be used as personnel who demonstrate useful practical career guidance techniques in the classroom so that teachers could then use the techniques themselves. Counselors should become more involved in learning group guidance techniques. Counselors need the assistance of paraprofessionals to help operate career guidance centers. Counselors should rotate in their supervision of the career guidance center in order to become familiar with the materials. Counselors should participate on advisory committees.

Q. Are students made aware of educational possibilities in their field of interest at the post-secondary level? graduates? in junior colleges or universities?

A. There should be provisions made for people to reevaluate career alternatives after high school. It is desirable to have career guidance services available at the post-secondary level which best fits the local community.

1. Mobile career guidance center,
2. Junior College,
3. High School,
4. Department of Employment,
5. Or a combination of the above.

(Post-secondary includes those students in structured training programs as well as those changing careers.)

Q. Should counselors be used as in-house coordinators for the career education program?

A. This function should be given to a person designated for the specific purpose--perhaps the curriculum coordinator. Counselors should, however, be part of that function, but not necessarily in charge of it.

Q. Do counselors implement units of study in the classes or are they a planning resource for teachers?

A. Counselors should be primarily resource agents, but should be able to demonstrate group techniques for teachers.

Q. What steps can districts take to promote more group counseling and less administrative trivia and scheduling duties for counselors?

A. Counselors can schedule group activities periodically to maximize the unavailability for administrative responsibilities. Counselors should be encouraged to perform a task analysis in order better to define or redefine their activities.

Q. What are the characteristics of a good guidance program in career education?

A. The guidance program must be supported verbally and financially by the administration of the school district, including the Board of Trustees. The guidance program must have components to serve all students at all levels. The guidance program must be a coordinated articulated system at all levels. The guidance program must be tied into curriculum development and curriculum implementation. Inservice training must be a part of the guidance program. The guidance program must have clear-cut, realistic objectives and goals. Career education is a part of the guidance program, not separate services. The guidance program should have a career resource center as a part of its information center. Guidance must be tied closely with placement. Guidance programs should serve as a bridge between the vocational programs and the other instructional programs in the school. Guidance should use the Advisory Committee to strengthen the career education and the guidance program. Guidance needs a good dissemination program or a public relations effort. Guidance programs should use media presentations, etc., in their public relations efforts. Guidance programs must have a good evaluation system, based on the identified goals and objectives of the program. Guidance programs should maintain a strong contact with parents. Guidance programs should establish a better system of maintaining records for useful data collection.

Q. What parts do APGA, AVA, and NEA play in career education?

A. Professional organizations should support career education in written policy. State departments of education or U.S.O.E. could sponsor joint conferences between national professional organizations to coordinate career education.

Q. What are the objectives of vocational counseling?

A. Provide information, appraisal of interests and aptitudes, a referral

system, placement, follow-up. There must be strong ties between vocational counseling and placement. Vocational counseling should not be isolated to a vocational counselor because vocational or career guidance is a responsibility of all guidance and should be treated broadly.

Q. How do you get guidance counselors to see that guidance should be a developmental program and that placement is included in their role?

A. Counselors should be involved in establishing their own roles.

GROUP F

PREPARING TEACHERS FOR CAREER EDUCATION

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Region III

WORK GROUP FACILITATOR REPORT

Lloyd Briggs

I am representing Group F who wrestled with the topic of preparing teachers for career education. Our group facilitator had to leave yesterday afternoon so, as chairman, I am reporting for the group. We began Tuesday with 25 members and by yesterday afternoon we had lost three and gained one so we ended up with 22 members. I felt this was a pretty low rate of loss. We had a very good group and a very vocal group. I think that everyone in the group had something to say and with considerable conviction. We divided into three small groups and tried to think about some of the things that we should be considering. We started off by trying to identify some of the problems and issues in preparing teachers for career education and we discussed some of the problems in the institutions as they develop preservice and inservice programs.

I am pleased that each of the groups accepted a problem and really worked on it. One group took the area of preservice education and worked on strategies for infusing the career education concept into our preservice programs. They came up with several ideas. Then they looked at the area of curriculum and talked about some of the things that had to be done with the curriculum to get career education into the teacher education program. They looked at the area of personnel and what needed to be done with people in the teacher education programs. Do we need to throw them all out and start all over or do we need to have some kind of inservice training programs for them? How do we go about this and what do we do? They looked at resources, both human and material. They looked at activities which might be necessary to get the career education concept into the preservice teacher education program.

The next group looked at the inservice area. They covered some of the same things here, but they went beyond and looked at the ways in which the institution could better serve local schools and teachers at the local level through inservice programs. I am not going to go over the details of what they came up with, but essentially they came up with a procedure for developing interesting programs to meet local needs.

Then we decided that there is another area that we need to look at--the relationships between teacher education institutions, State departments, and local schools. We felt that in many cases we do not have the kind of working relationship needed for training career education personnel. This group worked on strategies for mutual support between teacher education and (1) State departments, (2) local schools, and (3) other types of agencies. They came up with some ideas that could be used to bring these groups together so we can have mutual cooperation and support among the

three areas. They came up with some very helpful recommendations, as you will see from their work group report.

WORK GROUP REPORT

Lloyd Briggs

The group began with an attempt to identify problems and issues in career education and then moved to suggested strategies for infusing the career education concept into the total teacher education program. It should be pointed out that the problems and issues identified and the strategies listed were intended not to be all-inclusive but rather to be suggestive as to ideas which might be considered by an institution as it moves to implement career education.

PROBLEMS AND ISSUES

The problems and issues were grouped into three categories: (1) those of a general nature, (2) those which are generally within the institution, and (3) those which generally relate to situations and conditions outside the institution per se.

Problems of a General Nature

One of the major problems was thought to be the prevailing negative attitudes and the general skepticism among teacher educators about the career education concept. This problem must be erased if the concept is to be accepted by college and university personnel and implemented into teacher education programs. This problem may be due to a lack of knowledge and understanding of career education on the part of teacher educators and it could be the result of a misunderstanding about the concept. The group felt that there still is some lack of a common definition of career education. There seems to be considerable variation in the perceptions of those who are actively promoting the concept relative to what it is and can do for American education. Another concern was the apparent lack of a knowledge base for career education. Is there some common base or foundation for career education or is it strictly a philosophical concept which permeates all aspects of education? It was felt that this issue and the definition problem may have a bearing on the attitudinal problem discussed previously.

In discussing the problems associated with implementing career education into teacher education, it was felt by the group that there may be some disagreement or lack of definition as to the nature of preservice and inservice education. This, of course, may be more a problem of semantics than anything else. There seems to still be a lack of information relative to teacher competencies for career education. What, specifically, does the teacher need to know for career

education which is substantially different? Are the teaching skills different, or is the approach or format for instruction different, or is it the curriculum content, or some of each plus other factors? Until this is determined with some degree of certainty, there is the problem of content for teacher education programs. There were other general types of problems identified but these listed were foremost in the minds of the group.

Problems Generally Within the Institution

There was considerable concern relative to an apparent lack of direction even in those institutions which are trying to implement the career education concept. There is interdepartmental jealousy in some institutions over who will have greater responsibility for moving career education within the institutions. Counseling and guidance personnel think it is a guidance responsibility and that they should have authority for its implementation and coordination in the teacher education programs. Curriculum and instruction personnel feel that they should have authority for its implementation. And vocational education personnel think they should have major authority because most of the financial support to date has come from vocational education. On the other hand there are some institutions in which each department is somewhat apathetic and maintains that it wants no part of the idea and if anyone does it, the other departments will.

There was considerable concern expressed over the apparent lack of a theoretical framework for career education and the resultant problem of how it fits into a teacher education program. Rigidity of existing curricula and courses was seen as another major problem. Many departments are reluctant to change or modify their curriculum because it might create problems in terms of restructuring and changing faculty assignments. Faculty members are reluctant to change or modify their courses because this would mean changing their course outline and materials and they would need to broaden or redirect some of their thinking and activities. It was felt that this problem will not be solved easily. Until some of the above problems are overcome, most teacher education institutions have a totally inadequate delivery system for career education.

In addition to the problems listed above, there is a serious lack of commercial materials for career education in the teacher education programs. There is a considerable amount of materials for use in the public schools at most levels but not for professional teacher education courses. The career education concept, it was felt, must be written into the textbooks which are used in the teacher education program.

Problems Outside the Institutions

One of the major and more serious problems is the lack of definition of the university role in teacher education for career education. There was feeling expressed by some that the teacher educators have not shown an interest in promoting career education so the State departments must maintain major responsibility for working with the local teachers to provide inservice training. Others felt that the teacher educators had not been given the opportunity to get involved but could make a considerable contribution if allowed to do so. The feeling was that in most cases teacher educators would be more than willing to work with both local and State department personnel in any way possible to improve the whole of education. There were others who expressed the opinion that the local schools probably could do more than any other group to provide leadership in promoting and implementing career education because they are where the action is. The feeling was that State departments could serve best by facilitating cooperative efforts between local schools and among local schools and teacher education institutions. This would be a coordinating role. Teacher education institutions should be encouraged to infuse career education into the preservice programs so that new teachers emerge from the programs with a thorough understanding of the concept and how to develop a career education orientation to their classroom instruction. State departments, through special funding arrangements, should attempt to facilitate cooperative efforts between teacher education and local schools for their inservice training. The end result would be a three-way partnership among local schools, State departments of education, and teacher education institutions in which each agency would have a significant responsibility for a mutually supportive effort rather than the three groups criticizing each other to the detriment of the children and youth to be served.

Other problems identified which are in the category of being outside the institution proper were the apparent lack of strategies for involving noneducational groups, organizations, and agencies. If career education is to prepare people for the "real world" why isn't the "real world" brought into the act? There are unlimited resources available in most local communities which are virtually untapped. There seem to be little if any efforts to acquire noneducational allies to help support and move ahead the career education effort. Few State and Federal legislators know what it is all about and what implications it has for education in their State. Little effort has been made to establish effective communication links to inform the general public. Educators have been talking to educators with almost no effort to inform parents and other community personnel.

Though it was agreed that many of the problems and issues relative to infusing career education into teacher education were only now beginning to surface, it was felt that those identified here were sufficient to work on for this conference.

STRATEGIES FOR IMPLEMENTING CAREER EDUCATION INTO TEACHER EDUCATION

As the group began to consider strategies for implementing career education into teacher education, it was agreed that there were three major areas of concern: (1) preservice teacher education, (2) inservice teacher education, and (3) strategies for mutual support between teacher education and (a) State departments of education, (b) local schools, and (c) other agencies and groups within the community and State. In the case of both preservice and inservice education, the strategies were grouped under four main categories: (1) curriculum, (2) personnel, (3) resources, and (4) activities.

Preservice

Though there is considerable overlap between preservice and inservice categories which follow, it was felt that each should be treated separately to prevent restricting the thinking of the group.

Curriculum: It was generally felt by the group that an institution implementing career education into its preservice programs should consider developing one or more courses specifically on career education for awareness and general understanding plus integrating the concept into all of the professional teacher education courses. Career education could be only one course of a general nature with the hope that specifics would be attained in the other professional courses. The other possibility would be a basic course of a general nature on career education to be followed by a second course for elementary majors and another second course for secondary majors. It should be noted, however, that the career education course(s) would not eliminate the necessity to infuse the concept into the professional courses as well. In addition, it probably would help if the teacher education program is developed with a competency-based approach.

Personnel: One of the obvious needs from the standpoint of personnel is to arrange for inservice education on career education for teacher educators. It also would be helpful to develop strategies for personnel exchanges between teacher education and State departments and between teacher education and local schools. This probably could be

accomplished more easily than some people imagine. It might be helpful also to arrange for mini-internships in business and industry for appropriate teacher educators.

Resources: Most communities have a wealth of resources which would be readily available. In addition to orienting teacher educators and helping them learn more about careers, business and industrial personnel as well as local educators and State department personnel generally are available to assist with classes for teacher education majors. Also, personnel from other professions and groups generally are agreeable to visiting a class to talk with students or to having the class visit them--or both. Retired persons are a tremendous resource and usually anxious to assist in such an effort.

It sometimes is necessary to secure additional funds to support the initial move into implementing career education. Frequently small sums for a worthwhile activity of this nature are available from State departments of education as well as from certain federal programs. Another source to investigate for possible financial assistance is private agencies and foundations. It is not uncommon for private companies within the community or State to agree to provide small amounts of funding if approached in the right manner.

Activities: Implementation of career education on a total teacher education basis requires the initiation of several special activities. It requires considerable departmental and institutional planning of both a short-term and long-range nature. It requires cooperative efforts between and among departments so that programs of each compliment those of the others. It requires a greater degree of interaction among teacher education faculty than has generally been done in the traditional programs. It will be necessary to involve local schools and State departments in different ways so that each agency is making input and providing leadership for areas in which they have expertise. University and college faculty in the disciplines outside of education must be involved in new and different ways. Effective implementation of the career education concept in the teacher education programs will require a total effort of all faculty and all resources available.

Inservice

For the purposes of this report on the discussions of the teacher education group, inservice education refers to instructional or training programs for educational personnel who are currently employed in an ongoing school situation. The philosophy and justification for inser-

vice education on career education are very well expressed by Dr. LeVene Olson of this group who made the following statement.

"Planning for the inservice of educators who are currently in service of the local education agency is based upon how the planner views those who are to be provided with inservice. If teachers, counselors, principals, and supervisors are viewed as incompetent, inservice efforts will be remedial in nature. When the above premise is used as the basis for inservice, the approach used is usually quite impersonal with very little involvement and commitment on the part of those receiving the inservice. On the other hand when educators are viewed as professionally competent individuals who can be assisted in their continuous intellectual growth, inservice will be oriented differently." The approach to inservice which is suggested in this publication is based on the following assumptions:

1. Educators are self-directing.
2. Educators are professionally competent.
3. Educators are intellectually curious.
4. Educators are interested in professional growth.

These assumptions dictate that inservice be planned and conducted in a climate which will support professional growth by providing educators with an opportunity for personal involvement, ego support, social mobility, introspective articulation, feedback, and professional dialogue. A method of providing the kinds of experiences which are based on the above assumptions requires that a dual focus be employed. The inservice should possess both process (human relations) and task (planning, development, implementation) functions.

Many worthwhile innovative programs fail because of inadequate attention to the human relations or process phase of the venture. Although technical and informational components are often highly functional and relevant, process problems may intervene to minimize the potential effectiveness of the effort. In order to avoid this barrier to program implementation, inservice with a dual emphasis designed to focus on both the process and task elements of program implementation and change is suggested. (Volumes I through IV of the Handbook of Structured Experiences for Human Relations Training is one of the best sources available for practical approaches to human relations.) When time permits, the first inservice session should open with the process focus and then move into the task component. The specific areas on which the first session should focus are staff and group development, team building, and the creation of a consultative helping relation-

ship between staff and teachers, counselors, and principals. Experiential situations may be created which allow participants to learn first-hand about effective communications, consulting problem solving, planning, feedback, group decisionmaking, and team work.

Data gained from verbal contact with educators indicate that the two-pronged (process and task) approach of the inservice results in the development of a cohesive, committed team of teachers, principals, and central staff personnel unified around the career education concept with skills in the technical or informational aspect, as well as competence in such process areas as communications, cooperation, and problem solving. This combination can be the key to a successful project which facilitates central staff and building staff integration and accelerates the development and maintenance of teamwork and consensual behavior.

The focus of much of the inservice is on the development and implementation of career education units which are supplementary to the existing curriculums. The units are an approach to systematically developing and inserting career education learning experiences into existing school subjects.

Educators must recognize that curriculums and curriculum units provide the climate in which teachers are able to function. The career education units may suggest learning experiences, which appear to be meaningful for students; yet the units in and of themselves will not guarantee relevant learning experiences for children and youth.

The teacher's role is of central importance in the education of children and youth. The teacher possesses the ability to take mundane learning experiences and transform them into meaningful learning experiences by being sensitive and responsive to the needs and concerns of children and youth.

One of the basic assumptions mentioned earlier is that educators are professionally competent individuals. Yet, because educators are sensitive to the needs and concerns of children and youth, they seek ways to grow professionally. Hopefully, effective inservice and the development of career education units will help create a climate in which educators can become more responsive to the needs and concerns of children and youth.

Educators possess a vast store of knowledge of course content and considerable expertise in teaching methodology. Because of this expertise and the evolving nature of career education, the climate for

inservice should be contemplative rather than authoritative. The structure of the experiences affords educators the opportunity to answer the questions: What? So What? and Now What? Briefly, these questions relate to:

1. WHAT is career education?
   - 1.1 How does it relate to my students?
   - 1.2 How does it relate to subject?
   - 1.3 How is it taught?
   - 1.4 How does it relate to the community?
   - 1.5 How will I find time to teach it?
   - 1.6 How does it relate to the changing career world?

2. SO WHAT difference will it make for the student?
   - 2.1 Does it make school more meaningful?
   - 2.2 Does it increase academic achievement?
   - 2.3 Does it increase the maturity of students?
   - 2.4 Does it decrease cultural shock?
   - 2.5 Does it promote self-understanding?
   - 2.6 Does it help students make decisions?

3. NOW WHAT can I do to implement career education?
   - 3.1 Will I receive assistance from supervisors?
   - 3.2 Will additional materials be made available?
   - 3.3 Will community personnel be involved?
   - 3.4 Will I be required to cover certain topics?
   - 3.5 Will I be able to alter curriculum materials?

The process in which educators are involved during the inservice requires that adequate information about career education and ample opportunity be provided to clarify the information through discussion and questions. Educators must interpret the information as it relates to the realities of the school and place a value judgment if they are asked to make a commitment to the development, implementation, and evaluation of career education.

Suggested Justification for Career Education:

Growing up has not been an easy process at any time in history. Growing up in today's exceedingly complex society has become a very difficult process. Children and youth are bombarded with information because of sophisticated communications technology. As a result, children and youth are rich with information. Children and youth have an abundance of books, pamphlets, etc. at their disposal. Paradoxically,

though, they are experience poor. Children and youth are often not involved in adult kinds of activities which help them understand themselves, education, or the world of work.

Because children and youth are educated within the confines of the four walls of the classroom in a traditional manner, many students do not know who they are, where they are going, or how to get there. Many students have not been provided with experiences which allow them to make and implement accurate choices about the present and future.

The public school plays a vital role in the development of the student. The student develops physically, mentally, and emotionally. These developments are related to the student's future role in society. If proper experience related to self-understanding, educational endeavors, and career potential is not provided to the student, career development does not keep pace with physical development. Students do develop attitudes toward self, education, and careers. Yet, many students are not provided with the experiences for proper development. As a result, few students understand themselves, or the relationship between education and work.

The costs to society of providing an education which is suited to neither the student needs nor societal needs are tremendously high. Society is drained of resources for every individual who cannot successfully cope with self, education, and/or employment. The unemployment lines, welfare roles, drug centers, and mental institutions are filled with individuals who have not been provided with the experiences which are necessary to successfully meet and overcome challenges and allow the individuals to become contributing members of society.

School systems utilize taxpayers money to educate children and youth. It is expected that youth leaving school will possess the necessary competencies (attitudes, skills, and knowledge) to effectively function in a work-oriented society. In the past, very few career or work-oriented courses were offered--and then to only a small percentage. of the students.

The paradox exists. On the one hand, too few courses have been career-oriented--and then only at the upper high school levels. While on the other hand, all students eventually enter the career world through paid or unpaid work. For most students, the effort has been too little, too late.

An innovative educational approach which possess the potential to

revitalize the formal educational system has developed recently. The high degree of receptivity by educators to the approach called career education is due to many forces in society. Parents, the business and industrial community, educators, and students are becoming increasingly concerned about the lack of relevance of education for children, and youth, and adults. These concerns stem from numerous experiences related to:

1. The absence of relevant experiences which provide for self-understanding and self-acceptance. Many children, youth, and adults in today's society lack a clear identity of themselves and fail to understand how or where they fit into the social, career, and educational structure.
2. The increased mobility of youth and adults has enhanced employability but has resulted in cultural and career shock for many. Students are not aware of the expectations of various social settings and of various careers. Through mobility, youth and adults are hurled into a society which contains many unknowns for them.
3. The increase in technology has affected the employability of youth and adults. On the one hand, a large number of youth are available for work, yet they do not possess the competencies to qualify for the technical occupations which often go unfilled.
4. The educational system has been oriented toward college entrance requirements. The system may meet the needs of the students who will enroll in college but, for the majority of students, the present system does not provide the competencies needed.
5. Dissatisfaction with work roles is prevalent. This has often resulted from a lack of experiences related to abilities, aptitudes, needs, likes, etc. and a lack of knowledge about the options available in the labor market. In some cases, the dissatisfaction by workers has resulted in sabotage.
6. A large number of youth who drop out of school lack entry level employment skills. Many of these students indicate that they will under no circumstances, reenter the educational system. Unemployment rates for those who leave the educational system early are usually quite high.
7. Dissatisfaction with the career opportunities available to women exists. Schools have systematically encouraged female students to enroll in certain courses only. This process has tended to channel female students into a limited number of careers.
8. Information and experience which provides a broad understanding

of the range of career options available to the students is not available to many students. The result, in many cases, has been that youth has had to explore careers through numerous jobs following high school graduation. For many this exploration comes at a time when the young adult is taking on new responsibilities. The end result, for many, is underemployment.

9. A reduction in family size and place of residence has resulted in fewer significant relationships for children, youth, and adults. In the past, awareness of self, education, and careers was a by-product of interaction among members of the family. Presently, teachers are becoming more significant to students.
10. Many children, youth, and adults lack an understanding of the relationship between education and work. Educators often assume that children and youth inherently understand the value of school subjects and their relationship to the world outside the classroom. The result has often been a lack of interest in school and a failure to recognize the value of education.

Due in large part to the above concerns, legislation was passed in the 1960's which provided legitimacy to a process of education which addresses itself to these concerns. Research and development is being encouraged so that more relevant methods can be found to educate the children, youth and adults.

The group suggests the following chronological outline of steps for developing a comprehensive inservice program on career education for local teachers. The faculty in preparing for the inservice program shall:

1. Develop a descriptive inventory of the school, its students, and its faculty. This would include such factors as the ethnic character of students, faculty, and community and the extent to which they are compatible. It would include a determination of their knowledge level of career education. Information relative to the urban or rural nature of the community as well as other such information would be necessary for planning the program.
2. Recognize the needs and wants of the people in the particular environment, then analyze and organize them (needs and wants will vary as to the social-economic status, the dogmas, the traditions, etc.).
3. Prepare treatments to meet the existing situation (environment). Think in "soft-sell" terms! Always be aware of the human relations aspect.

a. Be sincere and recognize the knowledge and competencies of the teachers.
b. Use indirect approach (interest civic groups, parents, school boards, power people).
c. Involve one or a few teachers before presentations to total group.
d. Use media of interest, which is appropriate to situation.

4. Introduce career education (establish time and place conducive to teacher alertness and desire).

   a. Keep "low key" and a positive attitude and a positive approach (show how they have been practicing career education already).
   b. Use the knowledge and abilities of the inservice personnel to present the program.
   c. Present a system which will help to ensure vertical and horizontal communications between the project administration and all faculty members. (It will also serve as a method for dissemination of career education inservice without turning out en masse.) The idea is to seek their involvement.

5. Integrate career education into courses.

   a. Illustrate (demonstrate, instruct) how to integrate career education into a few courses by the use of a curriculum matrix system. For example, a series of nine main goals could be used: self-awareness, career awareness, life style awareness, work values and habits, decisionmaking, academic/vocational skill competency, work seeking and getting skills, placement, continuing education. Each would be stated as an objective. Also on each matrix would be the student's unit objective, treatments, available resources, and evaluation procedures.
   b. Teachers would build a series of student units for each main objective for the subject or grade taught, develop resources and treatment for each unit, and an evaluation procedure.
   c. Area groups would compare and improve.
   d. In the upper grades crossdiscipline grouping could be attempted to broaden exploration.
   e. If desired, developmental ladders could be built.

6. Interest faculty in finding and using resources.

   a. Personnel from all occupations, both white and blue collar.
   b. Audio-visual materials.
   c. Printed materials.
   d. Financial aid from all sources.

7. Present methodologies for the teacher to use which match student age and environment.

   a. Simulation.
   b. Infusion.
   c. Role playing.
   d. Work experience.
   e. Field trips.
   f. Interviewing.
   g. Research.
   h. Discussions.

NOTE: Ensure that all positive results, instruments, methods, etc. are submitted to a data gathering center for dissemination.

Strategies for Mutual Support Between Teacher Education and other Agencies

The following material obviously is incomplete but is intended to present some ideas for developing a cooperative effort among the various agencies:

1. Determine strengths and capabilities of the various agencies, identify activities appropriate to each, and establish procedures which enable each to complement the strengths and efforts of the others.
2. Review the organizational structures of the agencies to determine appropriate lines of communication.
3. Identify agency leadership personnel and decisionmakers in order to initiate planning for mutual support and to establish a commitment for such support.
4. Design and implement a plan to meet the need.

As indicated in the beginning of this report, the intent of the discussion group was to brainstorm and raise some issues and ideas rather than to solve all the problems and offer a concrete plan for career education in the teacher education program. We hope that some of these ideas will at least provide food for thought.

Questions and Answers

Q. By what process do career education concepts and objectives become a part of the teacher training programs? By what processes do institutions change and upgrade the content of their programs?

A. 1) By orientation and motivation of teacher educator faculty and by encouragement from SEA and LEA personnel.
2) By selling faculty on the new ideas.

Q. What is being done at the State and national levels to assure the articulation of the career education philosophy in teacher training programs?

A. Almost nothing.

Q. Can massive teacher education be accomplished without the involvement of higher education?

A. It can be but would not be wise. Higher education has to be involved so it can move career education into preservice programs.

Q. Would an emphasis on career development for students in higher education have an influence on the need for career development in the public schools?

A. Probably, but because of the value for higher education, students would be recognized and this would be moved down into public schools.

Q. Would the involvement of higher education reduce the concept of "education for education's sake?"

A. Perhaps.

Q. Can career education realistically gain very much success before all educators are well informed?

A. Probably so, but the ultimate would be for all educators to be informed and involved.

Q. What can teacher education be expected to do in preparing teachers and counselors for career education?

A. Develop an understanding of the concept and include career education in professional education courses so that teacher education majors

internalize it and develop teacher competency in all segments of education.

Q. Can we realistically expect practical experience to count for certification purposes?

A. If it is organized experiences directed toward planned objectives of the teacher preparation program.

Q. How can better public relations be established between higher education institutions and the career education projects? 1) How do you get them into the field to see what career education is? 2) How do you get the staff together, with time for planning?

A. By bringing teacher educators into the projects and making teacher educators a part of them. This is a perfect way to sell teacher educators on the concept. 1) Invite them--give them a reason. 2) Sell deans and department heads, so they will provide time.

Q. Do teacher educators, in general, endorse the career education concept? What steps are recommended in this regard? By whom?

A. No--see response to question "A". Probably should be instigated or opportunities made possible by State departments.

Q. Would a strategy of moving on college faculties and local schools who have already established a history of working together be a more viable approach?

A. Obviously.

Q. How can trainers of teachers/counselors who, themselves, have traditionally been required to develop expertise in narrowly defined disciplines, be convinced and trained to use the career education model as the vehicle to apply and pass along their expertise? How will they best grasp the potential benefits of a K-Adult career education approach for instruction and guidance?

A. 1) We need massive inservice training for teacher educators. 2) Through continued inservice education.

Q. What are the legal implications of career education; e.g., Carnegie Units (New York State), teacher certification, etc.?

A. Most institutions can accommodate the concept through various procedures; i.e. competency exams, etc.

Q. Are there implications for physical-structural changes related to educational facilities and organizational structure that should be fed into teacher preparation programs?

A. Few if any.

Q. How can we insure that teachers/counselors are ultimately trained to use a career education approach to instruction and guidance, including the use of available career education resources and materials? (Address at all levels--post-secondary, adult, vocational/technical, as well as elementary and secondary.)

A. By the consumers of the teacher education product requiring specific types of competencies. This applies to all levels.

APPENDIX A

CONFERENCE AGENDA

National Coordinating Conference for Administrators

of Part D and FY 1973 Part C Programs

and Projects, Funded under P.L. 90-576

January 27-30, 1975

Dunfey's Royal Coach Motor Inn

Dallas, Texas

Conference Steering Committee

Bill Cummens, Dallas, Texas
Clarence A. Dittenhafer, Harrisburg, Pennsylvania
Judith Harlan, Columbia, South Carolina
Sidney C. High, Jr., Washington, D.C.
Robert Jervis, Anne Arundel County, Maryland
Ellen Lyles, Atlanta, Georgia
Ellen S. Poole, Petersburg, Virginia
Nancy Rhett, Washington, D.C.
Elmer Schick, Chicago, Illinois

National Coordinating Conference for Administrators
of Part D and FY 1973 Part C Programs
and Projects, Funded under P.L. 90-576

January 27-30, 1975

Dunfey's Royal Coach Motor Inn
Dallas, Texas

Monday, January 27, 1975

2:00 - 5:00 p.m.	Conference Steering Committee Group Chairpersons Group Facilitators U.S.O.E. Regional Officers Joyce Cook Part D Program Coordinator
5:00 - 8:00 p.m. Lower Lobby	Registration Dr. Billy Pope EPD Consortium D
	and
Ballroom Foyer	Get Acquainted Session

Tuesday, January 28, 1975

8:30 - 10:15 a.m. Ballroom I	Presiding Bill Cummens Senior Program Officer U.S. Office of Education Region VI
	"Welcome" Edward J. Baca Regional Commissioner U.S. Office of Education Region VI
	Conference Overview Joyce Cook Part D Program Coordinator Demonstration Branch U.S. Office of Education
	Keynote Address "Career Education -- Project to Program" William F. Pierce Deputy Commissioner of Occupational and Adult Education U.S. Office of Education

Tuesday, January 28, 1975

10:15 - 10:30 a.m. Ballroom Foyer	Coffee Break (Take coffee to meeting of work group to which assigned.)
10:30 - 11:30 a.m.	Work Group Meetings
Room 853/55	Group A "Defining Career Education" Chairperson: Kenneth Hoyt, Director Office of Career Education U.S. Office of Education Group Facilitator: Byron E. McKinnon Coordinator of Guidance Services Mesa, Arizona
Room 804/06	Group B "Strategies for Moving Career Education from a Project Status to an Educational Program Status" Chairperson: William F. Pierce Deputy Commissioner of Occupational and Adult Education U.S. Office of Education Group Facilitator: Robert Rochow Pontiac Public Schools Pontiac, Michigan Resource Person: Harvey Thiel Senior Program Officer U.S. Office of Education Region X

Tuesday, January 28, 1975

10:30 - 11:30 a.m.

Room 801

Group C

"Planning, Coordinating and Disseminating Career Education Programs and Practices"

Chairperson: Kenneth Densley
Member, California Career Education Task Force
Sacramento, California

Group Facilitator: Wilbur Rawson
State Director of Exemplary and Special Needs Programs
Topeka, Kansas

Resource Person: G. M. Stevens
Senior Program Officer
U.S. Office of Education
Region IX

Room 802

Group D

"Evaluating Career Education Programs"

Chairperson: Alice Scates
Senior Program Officer
and Evaluation Specialist
U.S. Office of Education

Group Facilitator: Elvis Arterbury
Director, Partners in Career Education
Dallas, Texas

Resource Person: Ellen Lyles
Senior Program Officer
U.S. Office of Education
Region IV

Room 803

Group E

"Implementing Career Education at the Secondary Level"

Tuesday, January 28, 1975

10:30 - 11:30 a.m.

Room 803

Group E

Chairperson: Sidney C. High, Jr.
Director, Division of
Career Education Programs
U.S. Office of Education

Group
Facilitator: R. Robert Adkison
Superintendent, Ceres Unified
School District
Ceres, California

Resource
Person: John Stahl
Senior Program Officer
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Region I

Sir Gawaine Room

Group F

"Preparing Teachers for Career Education"

Chairperson: Lloyd Briggs
Oklahoma State University
Stillwater, Oklahoma

Resource
Person: Earl Dodrill
Senior Program Officer
U.S. Office of Education
Region III

11:30 - 1:00 p.m.

Lunch
Individually arranged.

1:00 - 2:00 p.m.

Ballroom I

General Session

"Implications of Recent and Pending
Legislation for Career Education"

Presiding: Ellen Lyles
U.S. Office of Education
Region IV

Panel: Joan Duval
Womens' Program Staff Director
U.S. Office of Education

Tuesday, January 28, 1975

1:00 - 2:00 p.m.	General Session
	Panel: Sidney C. High, Jr. Director, Division of Career Education Programs U.S. Office of Education
	William F. Pierce Deputy Commissioner of Occupational and Adult Education U.S. Office of Education
	Victor Van Hook Oklahoma State Department of Education Representing the American Vocational Association
2:00 - 3:00 p.m.	Special Interest Groups
Room 804/06	Group I
	"Pending Vocational Education Legislation"
	William F. Pierce Victor Van Hook
Room 853/55	Group II
	"Implementing the Recent Career Education Legislation"
	Sidney C. High, Jr.
Ballroom I	Group III
	"Implementing Title IX of the Civil Rights Act and the Women's Equity Act"
	Joan Duval
3:00 - 3:15 p.m. Ballroom Foyer	Coffee (Take coffee to work group meeting to which assigned.)
3:15 - 5:00 p.m.	Work Groups
Room 853/55	Group A
Room 804	Group B

Tuesday, January 28, 1975

3:15 - 5:00 p.m.	Work Groups
Room 801	Group C
Room 802	Group D
Room 803	Group E
Sir Gawaine Room	Group F
7:00 - 9:00 p.m. Rooms 853/55, 804/06, and Sir Gawaine Room	"Career Education Film Festival and Materials Display" Dale Holden, Judith Harlan, and Staff Richland County School District #2 Columbia, South Carolina

Wednesday, January 29, 1975

8:30 - 9:30 a.m.	General Session
Ballroom I	Presiding: Elmer Schick Senior Program Officer U.S. Office of Education Region V Presentation: "The Evaluation of Career Education Programs" Peter Davis, President Development Associates, Inc. Washington, D.C.
9:30 - 9:45 Ballroom Foyer	Coffee
9:45 - 11:30	Special Interest Groups (Select from the following)
Ballroom I	Group I Local Project Personnel Chairperson: Jane Robertson Project Coordinator Pittsburgh, Pennsylvania Resource Person: Matthew Cardoza Senior Program Officer U.S. Office of Education Region II

Wednesday, January 29, 1975

9:45 - 11:30 a.m.	Special Interest Groups
Galahad Room	Group II Third-Party Evaluators
	Chairperson: Orville Nelson Co-Director, Center for Vocational, Technical, and Adult Education University of Wisconsin-Stout Menomonie, Wisconsin
	Resource Person: Elmer Schick Senior Program Officer U.S. Office of Education Region V
Bedivere Room	Group III State Administrators of Part D Programs
	Chairperson: Ray Barber, Director, DORD Texas Education Agency Austin, Texas
	Resource Person: Les Thompson Senior Program Officer U.S. Office of Education Region VII
Pellinore Room	Group IV Teacher Educators
	Chairperson: William Weisgerber Special Assistant to the Superintendent for Career Education Michigan State Department of Education
	Resource Person: Lorella McKinney Center for Vocational Education Ohio State University
11:30 - 1:00 p.m.	Lunch (Individually arranged)
1:00 - 5:00 p.m.	Work Groups
Ballroom I	Group A
Galahad Room	Group B

Wednesday, January 29, 1975

1:00 - 5:00 p.m.	**Work Group**
Bedivere Room	Group C
Pellinore Room	Group D
Lancelot Room	Group E
Room 804/806	Group F
6:00 - 7:00 p.m. Ballroom Foyer	**Attitude Adjustment Hour**
7:00 - 9:00 p.m.	**Dinner Meeting**
Ballrooms III & IV	Presiding: Walter Rambo Career Education Coordinator Texas Education Agency Austin, Texas
	Presentation: "The Office of Career Education Plans and Prospects Kenneth Hoyt, Director Office of Career Education U.S. Office of Education

Thursday, Janaury 30, 1975

8:30 - 9:30 a.m.	**Work Groups**
Room 804/06	Group A
Room 803	Group B
Lancelot Room	Group C
King Arthur Room I	Group D
King Arthur Room II	Group E
Ballroom I	Group F
9:30 - 9:45 a.m. Ballroom Foyer	Coffee
9:45 - 11:30 a.m.	**General Session**
Ballroom I	Presiding: Harvey Thiel Senior Program Officer U.S. Office of Education Region X

Thursday, January 30, 1975

9:45 - 11:30 a.m.	Group Session
Ballroom I	Reports: Work Group Facilitators "Program Plans and Prospects for Fiscal Year 1975 and 1976" Joyce Cook Sidney C. High, Jr.
11:30 a.m.	Optional Trip to Skyline Career Development Center
11:30 a.m.	Meeting of Conference Steering Committee, Group Facilitators, U.S.O.E. Regional Officers

APPENDIX B

CONFERENCE PARTICIPANTS

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ABSTRACT: THIS REPORT DESCRIBES AND INTERPRETS A RESEARCH PROJECT AT A NEW BRANCH PHARMACEUTICAL MANUFACTURING PLANT WHICH WAS DESIGNED TO ASSESS THE RELATIONSHIP BETWEEN QUALITY OF WORKLIFE (QWL), PRODUCTIVITY, AND JOB SATISFACTION. THE PRINCIPAL OBJECTIVE WAS TO DETERMINE WHETHER A QWL CONSULTATION TO A NEW PLANT DURING ITS INITIAL OPERATION WOULD IMPROVE JOB SATISFACTION AND PRODUCTIVITY AS COMPARED TO AN ESTABLISHED PARENT PLANT. INTERVENTION METHODS INCLUDED CONSULTATION WITH MANAGEMENT, INVOLVEMENT OF SMALL TEAMS OF WORKERS IN THE PROBLEMS OF THE PLANT, PSYCHOLOGICAL ASSESSMENT, TRAINING AND ORIENTATION, AND CONTRIBUTING TO CONFLICT RESOLUTION AND COMMUNICATIONS FACILITATION. IN SPITE OF PROBLEMS ARISING FROM START-UP DIFFICULTIES AND A CHANGE IN CORPORATE OWNERSHIP, THE OUTCOMES WERE POSITIVE. AMONG THE TOTAL WORK FORCE THERE WAS EVIDENCE OF A MORE WIDELY SHARED EGO-INVOLVEMENT WITH THE PLANT AND ITS PROBLEMS, THE RATE OF ABSENTEEISM WAS CONSIDERABLY LOWER, AND MAJOR INITIAL PROBLEMS WERE SUCCESSFULLY OVERCOME TO ENABLE SATISFACTORY FULFILLMENT OF PRODUCTION GOALS. THE REPORT DESCRIBES DEVELOPMENTAL EVENTS, PREVAILING CONDITIONS, CONSULTING INTERVENTIONS, AND OUTCOMES. AN ANALYSIS IS PRESENTED OF WHAT DID AND DID NOT WORK. LEARNINGS AND RECOMMENDATIONS ARE DRAWN FROM THE EXPERIENCE IN ORDER TO PROVIDE INDICATIONS FOR FUTURE EFFORTS TO ACHIEVE IMPROVED QWL AND ORGANIZATIONAL EFFECTIVENESS. (NJ)

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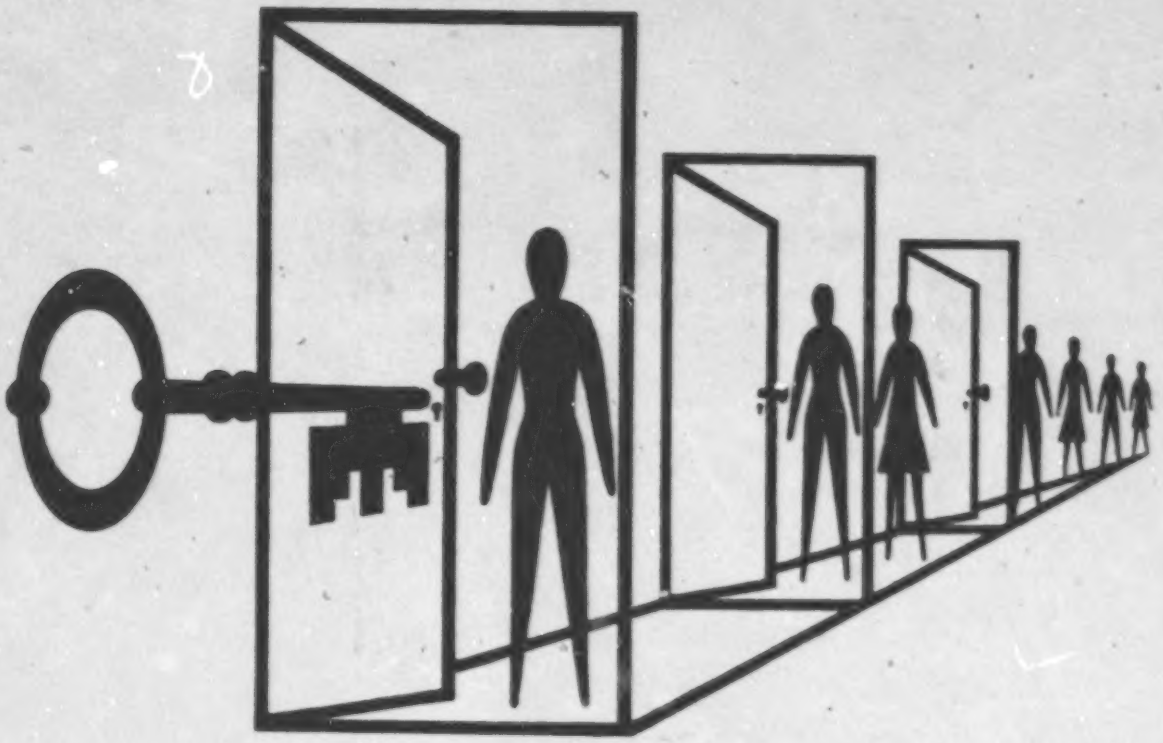
IMPROVEMENT IN QUALITY OF WORK LIFE AND PRODUCTIVITY:

A Joint Venture between Management and Employees



Human Interaction Research Institute

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IMPROVEMENT IN THE QUALITY OF WORKLIFE AND PRODUCTIVITY:

A Joint Venture Between Management and Employees

FINAL REPORT

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16. Abstracts

The report describes and interprets a research project conducted by the Human Interaction Research Institute at a new branch pharmaceutical manufacturing plant. The study, supported by a grant from the Department of Labor, was designed to assess the relationship between Quality of Worklife (QWL), productivity, and job satisfaction. The report describes developmental events, prevailing conditions, consulting interventions, and outcomes. An analysis is presented of what seems to have worked and what has not. At the time of the project, the corporate organization was beset by financial problems and those related to adjustment to new ownership; the branch plant was overwhelmed by start-up technical difficulties. Nevertheless, positive outcomes can be reported in terms of satisfactorily meeting production goals, ego-involvement of the workforce, comparatively low absenteeism rate, and the plant's survival of the eroding frustrations of start-up delays. Learnings and recommendations have been drawn from the experience in order to provide indications for future efforts to achieve enriched QWL and organizational effectiveness.

17. Key Words and Document Analysis. 17a. Descriptors

Adjustment	Industrial management	Orientation	Rural areas
Attitude survey	Job Analysis	Performance	Skilled workers
Attitudes	Job satisfaction	Personnel	Supervisors
Cost effectiveness	Leadership	Personnel development	Technicians
Economic conditions	Learning	Personnel management	Unskilled workers
Education	Man machine systems	Personnel selection	
Effectiveness	Management training	Placement	
Evaluation	Manpower utilization	Productivity	
Group dynamics	Manufacturing	Program instruction	
Human factors engineering	Motivation	Psychological guidance	
	Incentives	Reinforcement	

17b. Identifiers/Open-Ended Terms

Quality of Worklife (QWL)
Participative Management (PM)
Human Interaction Research Institute (HIRI)
Crown Centerton (C/C)
Consultation
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Dr. Robert J. Foster, Office of Research and Development, Employment and Training Administration, has been our Department of Labor project officer. In that role he has provided wise counsel, helpful support, and constructive critique.

Several HIRI colleagues, particularly Molly Lewin and Diana Marr, have read draft editions of this report and have offered valuable editorial suggestions. Patty Lee, project secretary, has done a painstaking, patient and skillful job in the production of the manuscript.

Mary Faeth Chenery
Edward M. Glaser
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LIST OF ABBREVIATIONS

It might be well at the outset to identify all abbreviations that will be used in this report.

BoB, FDA = Bureau of Biologics, Food and Drug Administration

C/C = Centerton plant of Crown Medical Specialties Company, where this experiment was conducted, located in the southeastern part of the U.S.

CMS = Crown Medical Specialties Company (a pseudonym used because the participant company prefers such anonymity in this report)

DOL = U.S. Department of Labor

E/M = Engineering and Maintenance

HIRI = Human Interaction Research Institute

ISR = Institute for Social Research, University of Michigan

QA = Quality Assurance

QWL = Quality of Worklife

PD = HIRI project director, Edward M. Glaser, PhD

PI = HIRI principal investigator, Carroll E. Izard, PhD

P-O = participant-observer, Mary Faeth Chenery, M.M.

PM = Participative Management

ABSTRACT

The report describes and interprets a research project conducted by the Human Interaction Research Institute at a new branch pharmaceutical manufacturing plant, located in a rural southeastern U.S. location. The study was designed to assess the relationship between Quality of Worklife (QWL), productivity and job satisfaction. It was supported by a grant from the Department of Labor (DOL). The project's goals were: (a) to determine if QWL consultation to a new plant would contribute to improved job satisfaction and productivity compared with an established plant of the parent company manufacturing the same products, but not participating in such consultation; (b) to describe developmental events, prevailing conditions, consulting interventions and their outcomes; and (c) to distill learnings from what seems to have worked well or what has not, in order to provide indications for future efforts to achieve enriched QWL and organizational effectiveness.

Thorough implementation of the project concepts was limited by a number of factors discussed in the report; e.g., pressures resulting from start-up of a new plant and associated technical problems; a change in corporate ownership resulting in changes in corporate priorities, especially in response to the economic recession and a period of corporate financial difficulty experienced during 1974-75.

Positive outcomes can be reported, however: the initial production runs were successful; there is evidence of widely shared ego-involvement among the total workforce with the plant and its problems; the absenteesim rate has been only 2.3% compared with a regional average of 4.5%; the plant has successfully weathered major problems, frustrations and pressures involved with start-up delays and simultaneous needs to "hurry into production." Although a diminution of overall enthusiasm and commitment to participative management has been noted, there is evidence that management feels the project has reinforced their efforts to create a good working environment. Learnings and recommendations have been drawn from the experiences, with a full chapter devoted to these findings.

A forthcoming companion report by the Institute of Social Research, University of Michigan (ISR), due approximately in December 1976 or early 1977, will present results of an independent evaluation of this project and its outcomes.

EXECUTIVE SUMMARY

Improvement in the Quality of Worklife and Productivity: A Joint Venture Between Management and Employees

This is a report about an action research project conducted at a new pharmaceutical manufacturing plant of Crown Medical Specialties Company (CMS), located in Centerton, Southeastern U.S., by the Human Interaction Research Institute (HIRI), funded by the U.S. Department of Labor (DOL).

Objectives

The principal objectives of this three-year study have been:

1. To determine whether a quality of worklife (QWL) consultation to a new plant during its planning, staffing, organizing, and initial operation would contribute to improved job satisfaction and improved productivity as compared with a long-established, more traditionally managed plant in the same company making the same products, but not receiving QWL consultation. HIRI's responsibility was to provide the QWL consultation.

2. To describe and document the noteworthy events in the development of this new plant, the nature of the consulting interventions, the prevailing conditions seemingly relevant to the consulting efforts, and the outcomes of those efforts.

3. To distill learnings from what has worked well, what has not, and what might work better in future efforts to achieve both enriched quality of worklife and improved business effectiveness/efficiency. This largely clinical evaluation is to be supplemented by an independent, more quantitative analysis conducted by the Institute for Social Research (ISR), University of Michigan.

A fourth objective, not originally anticipated, has been added, namely, to analyze why one major segment of the Centerton plant (Quality Assurance) seemed better able to sustain the QWL effort than the other major segment (Production).

Method

The primary consultation tasks involved were:

1. Working out agreement with corporate top management on the West Coast and with local top management at the Centerton plant regarding the purposes and conditions of this experiment.

2. Consulting with the general manager, production manager and personnel manager regarding arrangements that would permit small teams of workers to handle significant segments of the manufacturing process, encourage employees to participate in planning the organization of their work, and permit cooperative problem solving by employees and their managers/supervisors.

3. Providing psychological assessment and screening inputs for consideration by the plant manager and personnel manager in the early selection of department managers and section supervisors, then subsequent assistance in selection of operators when they were hired in March 1975.

4. Serving as trainers to help the personnel manager present QWL and management training programs for the key personnel shortly after they were hired, and participating in subsequent orientation efforts with operators and new supervisory employees.

5. Being available as resource persons to help with various types of individual, group, and organizational problems; e.g., contributing to conflict resolution, communications facilitation, procedures for setting up goal attainment feedback mechanisms, and individual or group management development needs.

6. Maintaining a full-time participant-observer (P-O) at Centerton to observe the plant operations on a daily basis, with attention to the impact of stressful start-up conditions on QWL concerns. The P-O also served as a participant in problem identification, problem solving and feedback regarding the developing managerial styles and team functioning. Backup was provided through periodic visits to the plant by the project director (PD) and principal investigator (PI).

7. Documenting what each member of the HIRI project team observed, learned from others, and interpreted with regard to the development of events at Centerton, along with documentation of consulting intervention efforts and their impact.

Major Organization Developments to Date

Positive Developments:

1. The initial production runs were successful, which is an unusual achievement. The plant was licensed in November 1974 by the Bureau of Biologics (BoB) of the Food and Drug Administration (FDA), to ship its first product, with three other product licenses granted by July of 1975.

2. The plant performance has exceeded company expectations for quantity of production and yield of finished product from the raw material. Countless technical problems were overcome. Efforts to cope with these problems involved not only personnel at the plant, but experienced experts from the headquarters as well. Thus, achievements attained at the plant were affected not only from general management results, but also from highly complex technical resolutions to problems--resolutions that had to meet FDA and BoB requirements as well as the company's own high standards.

3. Based upon ISR surveys,* HIRI interviews and many non-solicited attestations, there is evidence of broadly-felt ego-involvement among the total workforce with the company, the plant and its problems. Workers are committed to the goal of high quality products. Personnel appreciate the unusual opportunity to have a "say" about their work. They feel that management usually is responsive to their ideas, and there is widespread concern about plant goals and problems. (The rate of absenteeism is sometimes used as an indication of alienation or involvement. In the Centerton plant the absenteeism rate has been 2.3%, which seems low in contrast to the regional average of 4.5%. The next lowest CMS plant rate is 9.3%.**)

4. The plant has weathered great frustrations, pressures and irritations in the start-up and "debugging" phase from May 1974 to about May 1975. After that time, the Centerton organization began to settle down and mature in a generally healthy, productive way.

5. Some of the focal points of the QWL improvement effort, such as the development of a responsive managerial climate that would pay heed to needs, suggestions or criticisms from any member of the workforce, have been internalized as the general style of work at Centerton, even though no longer a QWL thrust per se.

Dubious or Negative Developments

1. The early enthusiasm for creating an innovative QWL program has been blunted. While the management climate o

* Source: ISR Short-Form Feedback Report--a monthly survey.

**Source: Centerton Personnel Department. The plant, in keeping with the practice for that region and of the state, excludes from these absentee rates excused absences, paid vacations and holidays. Because of the number and diversity of CMS corporate locations, corporate figures include these absences as well. Thus, direct comparison with the regional average is valid, but comparison with the other plants in the company is contaminated by differences in the definition and thus the calculation of absenteeism.

the plant still is more responsive to employees' needs, suggestions and criticisms than in a traditionally managed manufacturing plant (according to Centerton workers' own reported experiences with other companies and the consultants' experience with Crown's headquarters plant as well as with numerous other companies), the many intervening factors and difficulties have led to a diminution of concern for QWL improvement considerations.

2. While some managers and supervisors have maintained a style that sincerely invites participation by the task teams in the design, structure and organization of their work, others have reverted to a more traditional authoritarian approach that is short on upward communication and defensive with regard to suggestion or criticism. The Centerton plant manager's initial support of participative management has shifted toward a philosophy of "manage in whatever way is comfortable for you so long as you get good results." Thus, those whose customary management style tends to be authoritarian are no longer unequivocally encouraged to learn new ways of stimulating ego-involvement on the part of the workforce by respectfully and appreciatively inviting their participation.

Some Conditions Affecting the Experiment

1. In February 1974, nearly 12 months after the experiment was initiated, CMS was sold to a foreign multinational company. The new owners installed a president and chief executive officer, and a vice president in charge of manufacturing at corporate headquarters. The former president was retained as board chairman. The new management was concerned primarily with solving the company's severe financial problems and was only marginally aware of the project in Centerton. In the Fall of 1974, the HIRI P-O learned that at least some influential members of the local management at Centerton had inferred (correctly or incorrectly) that the new corporate top management did not regard the QWL effort with favor, and this perception understandably affected commitment to that effort at Centerton.

2. The new plant had only a few people who were experienced and technically competent in the plant's primary production functions (extraction and processing of biological products). Thus managers and supervisors were occupied with learning to perform the complex technical activities of their jobs and had little time to develop new management styles or commit themselves to the QWL program.

3. Because of severe financial problems at the time the new management took over the company, there was great pressure for cost cutting and for getting the plant into

production as quickly as possible. Start-up was delayed for four months because of numerous problems. Frequent 12- to 16-hour workdays drained managers' and supervisors' energies.

4. The HIRI project was on a very tight budget, which sharply limited the amount of time the PD and PI could spend at the plant.

5. Prior to the beginning of the Centerton project the HIRI PI had accepted a scientific exchange fellowship in the U.S.S.R., scheduled to begin July 1, 1974. The date appeared compatible with the original plans for plant start-up in January 1974, allowing about six months of consultation during the start-up and the early phases of production. However, technical problems delayed start-up until June 1974, and it was not feasible to change the PI's fellowship arrangements made by agreement between the National Academy of Science and the Soviet Academy of Science. Although the PD tried to substitute for him during this period, he had not had time to establish close relationships with Centerton staff, and the budget would not support frequent travel between the PD's Los Angeles office and the Centerton plant.

Synopsis of What Has Been Learned

Regarding Effects of a QWL Program:

1. Participation by employees in certain types of policy making, such as "rules of conduct" for operation of the plant, seems to enhance compliance with these policies, and to foster a positive attitude toward the company by conveying the idea that employees are trusted by management.

2. Good interpersonal relationships based on trust, mutual respect, and a consequent openness between supervisors and employees seem to foster a congenial tolerance for delay and for problems. Also, receptiveness to employees' suggestions and implementation of those considered by management as sound, encourages a generalized positive attitude toward the work and more creative thinking about it. Conversely, poor interpersonal relationships at any level seem to decrease the energy that individuals can make available for productive work.

3. There is a strong likelihood that overly high or idealistic expectations may be created at the outset of a QWL program. Failure to meet these expectations then creates disappointment in management.

Regarding Implementation of a QWL Program:

1. Company personnel should see the QWL program as "theirs," and not as something done for them by outsiders. To develop internal advocacy, it may be helpful to establish an in-house steering committee, composed of representatives from all departments and levels of the organization. This committee would review progress toward QWL objectives, examine difficulties in program implementation, and perhaps suggest appropriate program modifications. In addition, the committee would attempt to facilitate company-wide understanding of the QWL program and consulting interventions.

2. A specific, understandable, and clearly communicated program is essential. Delineation of responsibilities among consultants and management should be arranged at the outset. If there are expectations for the commitment of managers and supervisors to certain aspects of a particular managerial style, such expectations should be made explicit--and degrees of freedom for individual managers and supervisors to deviate from any such expectations if deemed appropriate under certain conditions likewise should be made explicit.

3. If a consultative or participative management style is to accompany a QWL improvement effort, all concerned should understand that technical problems may be handled differently from matters of general management, personnel relationships, and provision of a good working environment. Experience suggests that a significant line of demarcation exists between these two areas; technical problems that are encountered normally require a highly specialized and disciplined approach taht involves particular expertise and experience. Thus it may not always be realistic to involve groups of people or invite extensive participation by those who cannot contribute significantly to the resolution.

4. Ambiguity about corporate support is an inhospitable condition for the establishment of a QWL program. Other adverse conditions include times of crisis (such as may be occasioned by certain start-up situations), and low levels of technical or managerial skills among persons in key managerial roles.

5. Managerial modeling is likely to be one of the most important factors for successful program implementation.

6. Training programs should give strong emphasis to teaching skills for effective leadership in meetings. Teams, ad hoc committees, or task force groups are frequently used in the various aspects of a QWL program; well-managed

meetings are critical to sustaining enthusiasm for group efforts.

7. Some personnel may perceive a conflict between QWL goals (e.g., about motivation and meaningful work) and production goals (e.g., about rates of product output, or procedures). It is important to discuss these perceptions and clarify the complementary relationship between QWL pursuits and satisfactory production results.

8. Contingency plans are needed for the QWL program as well as for other business functions.

9. Frequent review and rethinking of the QWL program and its effects are essential. When outside consultants and internal staff of an organization are engaged in a joint venture for improvement in QWL and productivity, periodic formative evaluation (such as every 3-4 months) should be undertaken regarding progress toward the agree-upon goals of the program. This should be followed by feedback to all concerned plus an understanding that there will be prompt follow-up review coupled with any "course corrections" that may seem needed. If an independent summative evaluation is planned, that should not replace or get in the way of periodic formative evaluation efforts by the company and consultants.

10. The financial reward system should be used to support the implementation of the QWL program.

11. A feedback system needs to be established to provide information about positive and negative outcomes. In an open climate where people are free to voice their suggestions and/or dissatisfactions, negative or problem feedback is in great supply; evidence of positive gain--even when it clearly is being made--is harder to come by. Special efforts should be made to find and report positive feedback so that the group can more accurately assess its programs.

12. Continuity in consulting interventions appears to be an important factor in program success. Since there is always a possibility that consulting personnel may change midstream, the following provisions should be made for role interchangeability between consultants:

    a. Extensive/intensive communication between consultants, to develop consensus on consulting philosophy, goals, and intervention strategies. Such communication would include discussion of proposed and completed interventions in terms of rationale, expected/actual outcomes, and ways in which interventions might be improved.

b. Development of team relationships with key personnel at the intervention site. This may include efforts to assure that all consultants are drawn into agreements with company staff, and that interventions are viewed as group, rather than individual efforts. Where frequent face-to-face communication is not possible (because of such factors as geographic distance from site), relationships may be maintained by telephone and written communication.

I. OVERVIEW: CONCEPT OF THE QUALITY OF WORKLIFE PROJECT AND THE VIEWPOINT OF THIS REPORT

Introduction

Crown Medical Specialties Company, a medium-sized multi-plant pharmaceutical firm headquartered on the West Coast, has been involved since late 1972 in the planning and start-up of a new and technically complex production facility in Centerton, a town in the Southeastern U.S. During this time the corporation experienced severe financial problems, and in February 1974 was bought by a foreign multinational company.

There have been more technical troubles in getting the new plant started than would usually be anticipated. Centerton (C/C) was designed to improve and further refine an already sophisticated technology. The company's financial difficulties have affected the decisiveness and clarity of planning. Despite these handicaps, this new plant of 130 employees during the period covered in this report (1973-1975) has--to the credit of all who have been involved:

(1) exceeded corporate projections for productivity;

(2) achieved an absentee rate approximately half of the regional average;

(3) met federal standards to qualify for the production of difficult-to-control biological products within less than five months after start-up; and

(4) developed (for the most part) a labor force manifesting high employee morale and satisfaction, with commitment to company goals.

The expression "quality of worklife" is a generic term for efforts that address improved work experience for the individual employee. QWL interventions also are expected to contribute positively to organizational effectiveness and productivity. Methods for effecting desired changes include systematic analysis and design of the work itself, of the work environment, and of the administrative or managerial style. Broadly speaking, the QWL concept acknowledges the complex interactions between social and technical systems in the workplace, moderated by individual differences in terms of needs, desires, or readiness for larger job responsibilities.

Glaser (1974) explains the basis of a QWL program as follows:

> The absolutely essential component of any QWL program is real and ever-present opportunity for individuals or task groups at any level to influence their working environments; to have some "say" over what goes on in connection with their work. This, in turn, requires an organizational climate and structure that really encourages, facilitates, and rewards questions, challenges, or suggestions related to improving the existing modus operandi in any way. It also requires expeditious, respectful, appropriate response to such inputs.
>
> Thus, a style of management that invites participation or consultation from members of the workforce on matters which affect them and with regard to which they might have some pertinent ideas is an essential condition for a QWL program. It is this style that tends to increase the psychological meaningfulness of work. At the same time it provides the climate and springboard from which a large variety of other improvements in the design, conditions, and performance of work can be developed (p.3).

Crown Medical Specialties Company and QWL Interest

During the early planning stages for expansion of production facilities, recommendations from Edward M. Glaser, long a consultant to the firm, led CMS's management to become aware of non-traditional ways of organizing work, and to investigate certain other companies' experiences with QWL programs. Through this exploration, CMS's manufacturing executives became convinced that the management style which would be developed in a QWL program, and the job arrangements and work environment which would be created, constituted sound business practices. Such a program was perceived as a promising way of managing that could be expected to lead to an effective operation, freer than alternative ways from dysfunctional adversary relationships, and supportive of high-quality output of the organization's products or services.

At the time of these early planning stages, manufacture of disposable hospital equipment as well as biological products was contemplated for the proposed new plant that was ultimately destined to serve as the site of this project. The production of this type of equipment is largely an assembly line operation involving considerable task repetition, and even menial manual activities. In operations of this nature it traditionally has been difficult to maintain high levels of employee productivity, job satisfaction and morale. However, this type of work environment also has proved to be susceptible to successful application of

QWL principles. In fact, CMS management had instituted on a more informal basis many of these same QWL principles in a separate and temporary facility for disposable equipment production at one of its manufacturing locations. The operation seemed to respond quickly and positively to this approach, and management viewed QWL as worthy of expanded application.

A corporate decision finally was made that the new plant facility would be limited initially to production of biological products used in human care. Contrasted with disposable hospital equipment, biologicals represent a totally different type of product, requiring meticulous control at all levels and stages of production. In addition, governmental controls and regulations enforced by the Food and Drug Administration and Bureau of Biologics dictate in great detail what must, and what must not, occur during the production cycle. These factors were perceived by company management to be a potential barrier to total QWL implementation. But with a good, if limited, experience behind them, and the assurance of continued expert support from the consultant team, the company agreed to proceed with a QWL program at the new plant.

The QWL Research Project

After the corporation had decided to expand with a new plant rather than add on to one of the company's existing facilities, and to manage it in accordance with a QWL philosophy, to the extent appropriate and feasible in relation to explicit FDA-BoB production, processing and quality assurance requirements, Dr. Glaser proposed to the U.S. Department of Labor (DOL) that they consider using C/C as a research site to test the presumed relationship between QWL and productivity. DOL offered to support this project through a research grant to the Human Interaction Research Institute (HIRI). When funded, C/C's QWL activities became identified as "the QWL project." This term was used to encompass the company's QWL efforts and the consultants'* interventions, as well as the research and evaluation components of the grant.

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*The consultants referred to here are Edward M. Glaser, PhD, Project Director (PD); Carroll E. Izard, PhD, Principal Investigator (PI); and Mary Faeth Chenery, M.M., Participant-Observer (P-O). Drs. Glaser and Izard are by profession clinical and organization development psychologists. Dr. Izard, an associate of Edward Glaser & Associates, previously had consulted with one of the company's other plants, also located in the Southeast. Ms. Chenery holds a Master's degree in Management. Vitae and a brief statement about each of the consultant's orientation toward an effort of this type may be found in Appendix G.

The hypothesis of the study can be stated as follows: If an organization operates according to QWL guidelines (as described herein), productivity and job satisfaction are likely to reach and be sustained at a higher level than would be achieved under traditional operating arrangements. Specifically, HIRI's aims from the QWL project were:

1. To intervene through training, modeling and consulting to create a QWL program affecting all personnel in the C/C plant.

2. To ascertain the impact of a certain type of organizational development (OD) consultation offered to the management and employees of a new plant; further, to compare the new plant with another plant in the same company manufacturing similar products, which was not explicitly organized on QWL principles. The measures would be those of plant performance (productivity) and of job satisfaction (morale).

3. To observe and document the process of a new plant's getting into operation, meeting problems and learning to function effectively as it matured; and especially to demonstrate what happened as a consequence of particular consulting interventions made under given conditions.

4. To draw whatever generalizations or hypotheses for further study may seem warranted.

Explicit Theory for the HIRI Intervention at C/C

The basic principle for the design of the C/C QWL program was the link between participation and motivation. Inviting and obtaining participation from people on matters that affect them and to which they have the ability to contribute was expected to increase the psychological meaningfulness of the work, elicit ego-involvement, and so make them "industrially active" rather than "reactive" (Allport, 1945).

With the construction of a new plant, Crown had the opportunity to design the jobs with consideration for a theory of job enrichment. The primary job design guidelines as adapted for the Centerton project were as follows:

(1) a job should include production of a whole or substantial part of a product if feasible;

(2) where appropriate, jobs should be grouped into teams;

(3) jobs should (insofar as practicable) be designed to have a high degree of variety and challenge; and

(4) where possible, doing the job itself should provide feedback to the employee about his or her performance.

The work of Hackman, et al. (1974) presents a model which describes the relationship of these guidelines to motivation theory. The

underlying condition, however, was that the plant be operated and structured in ways which would permit cooperative problem solving by the participants.

The development of further aspects of the C/C intervention proceeded from logical extensions of the principle of participation. For example, in order to attain participation from employees, there must be adequate communication up, down and laterally about matters that affect the workforce. Suggestions for improvement of any kind need to be rewarded through thoughtful, prompt review leading to adoption, modification, or rejection with reasons explained.

Success for the QWL program would be heavily dependent on the actions of managers and supervisors; they would have to provide the opportunities and conditions for employees' participation. It was for this reason that most consulting activity at Centerton was directed toward managerial and supervisory behavior.

At C/C, initial approval and support for the project came from top managers, i.e., the vice-president for manufacturing and a few other key persons at corporate headquarters. The plant manager, the production manager and the personnel manager at Centerton, who were selected in 1973 before the plant opened, and who participated actively in the design of the work planned for Centerton, were highly supportive of the QWL project. We felt that support from the new C/C supervisors and managers would be generated by involving them in the further design and extension of the program.

Another aspect of implementation was to encourage formative evaluation by the C/C staff themselves through having each functional department and the top management group as a whole pause for frequent review of operations in relation to goals and ask themselves, "How are we doing, and what is called for in order to do better?" The philosophy behind this was that excellence in performance of almost any kind can be facilitated by a nondefensive, constructively self-critical style that would implement the slogan reputedly posted in Thomas Edison's laboratory: THERE IS A BETTER WAY--FIND IT! At C/C, the consultants introduced the words kiem tau to connote a meeting aimed at assessing "where we are" in relation to agreed-upon goals, and what might be needed either in terms of goal revision or program/procedure change in order to function ever-better. The kiem tau came from a research effort during the Vietnam war to interview Vietcong prisoners by having them recount what they had been doing in the hours and days immediately preceding capture. Frequently they would report, "And then had kiem tau..." meaning that upon completion of a given mission, those involved would get together at a pre-arranged place to do a "post-mortem" on their performance in the spirit of trying to learn how to do even better next time.

HIRI's involvement in implementing change at C/C took place through periodic consultation and through participant-observation.

"Participant-Observers study a process or environment by observing and experiencing it in depth" (Glaser & Backer, 1973, p. 46). The P-O may produce change by being on the spot as events unfold and by questioning, offering feedback, suggesting alternative solutions, and, at times, by formal instruction. Glaser and Backer point out that the method of participant-observation is appropriate where provision of constructive feedback is a foremost concern; it is also helpful in evaluation research where a rich and comprehensive view of a program or project is needed. Frequent contact and the development of trustful relationships with the P-O may provide more thorough data--and data otherwise unavailable--about the change process. On the other hand, such engagement with the environment threatens the researcher's objectivity. Analysis of data generated by a P-O presents difficulties, especially because of the personal nature of perceptions and observation (Glaser & Backer, 1973). The consultants who worked with C/C on a periodic basis and who were less engaged in the ongoing process could provide a balance to the inevitable subjectivity of the P-O.

ISR Involvement

At the request of DOL, an independent evaluation of the HIRI intervention and the C/C experience and outcomes was assigned to the Institute for Social Research (ISR) at the University of Michigan. The comparison data-gathering became part of the ISR research requirement. "Hard" data to substantiate or disprove the hypotheses will thus be a part of the ISR report. Among the performance factors to be measured by ISR are: productivity, quality, absenteeism, labor turnover, labor grievances, amount of down-time (after initial "debugging" of new equipment) due to theoretically avoidable mechanical difficulties, and employee job satisfaction. HIRI has worked cooperatively with ISR by advising ISR in advance of every visit by the consultants, inviting ISR representatives to sit in on key HIRI interventions, training workshops, and on meetings with individuals when this seemed appropriate and satisfactory to the client.

ISR has used pre-employment questionnaires, monthly surveys, a long questionnaire administered annually, termination forms, on-site observations every two weeks, and interviews to gather information for its evaluations. The Michigan researchers have tried to avoid intervention, but of course their presence has had an effect in the plant. One effect was to make visible the departments where job satisfactions seemed to be relatively high or low. With questionnaires to everyone and subsequent monthly feedback to each department, ISR has at times been more visible and more widely known than the HIRI P-O, which may have served to attenuate her influence to some degree.

HIRI's record will be descriptive and clinical rather than statistically evaluative with regard to the interventions and the plant's development and outcomes, except for one invited quantitative rating of the impact of the HIRI intervention on the

stated QWL objectives. This rating--by the plant's managers and supervisors--was completed approximately six months after termination of the intervention.

Comparison Study

An important part of the research design was the opportunity for a comparison study with CMS's headquarters plant. Measurements on the same dimensions in two plants producing some of the same products, one operating in a traditional management style (headquarters plant), the other operating according to relevant QWL improvement principles (Centerton), were expected to provide data bearing upon the project objectives.

It should be noted that there are differences between the two plants. For example, the headquarters plant is located in a large metropolitan area on the West Coast; the Centerton plant is located in a rural area of the South. The company's headquarters operation is large--several hundred different products are manufactured there. The Centerton plant is much smaller by comparison--as of July 1975, only a group of four biological products have been approved by the Bureau of Biologics for manufacture there. The equipment at Centerton is more modern, although not necessarily better. Certain parts of the manufacturing process at Centerton have been modified and are experimental in some respects, representing design engineering efforts to improve upon certain aspects of the headquarters plant's process. The headquarters plant is unionized; Centerton is not.

These factors were anticipated to have some bearing upon operational performance, "climate," and job satisfaction comparisons between the two plants as related to their traditional versus QWL work structure setups. Nevertheless, the QWL project has provided an opportunity to study the nature of an evolving new work organization and to learn more about QWL interventions.

A development unforeseen at the time the project was planned has been that some of the QWL concerns seemed to have taken firmer root in the quality assurance group than in the production group. Perhaps a more meaningful comparison of differences in sustained attention to QWL concerns can be made between these two groups in the same plant than between the Centerton and headquarters plants. More on this later.

With regard to the union aspect, it proved quite possible for Edward Glaser & Associates to develop a small QWL consulting project with one department in the headquarters plant in 1965-66. The particular union there is a strong and secure one, and felt no threat in management's dealing directly with the workers on QWL improvement questions. In another of the company's plants, however, with a different, smaller and weaker union, a new union regional representative invalidated an agreement made with her predecessor in that role to work with management on QWL efforts. She

threatened the company with an unfair labor practice suit unless the company stopped the program, stating that many of the ideas brought up for discussion had to be channeled through the collective bargaining machinery.

Thus, whether the presence of a union in a situation where a QWL program is being considered can be assessed as a help, a hindrance, or neutral would seem to depend on the union, the particular individuals involved, and the way the situation is handled by both the company and the union.

Viewpoint of This Report

This report is derived primarily from the diary, observations, and records of the participant-observer, the activity reports of the consultants, from the C/C staff's comments and perceptions in review of this report, and from company documentation. In light of the objectives of the research, the narrative will emphasize HIRI's inverventions, C/C's reactions to them, and the resultant outcomes.

Writing about history is a difficult, selective task. As in world history much is written about wars, so in organizational history much is written about problems. In this paper, we shall try to keep the successes and achievements in mind. The latter are harder to find out about than problems, so the imbalance portrayed may exaggerate reality.* As well, much of the richness and complexity of the vital experience of birth and growth of a new plant has not been captured, but we hope to suggest some of the depth and intricacy of the three years' experience.

*The Centerton personnel manager commented as follows at this place in his editing: "But the report overall tends to be far too negative, whereas we had and still have many successes! Some of these are now dissipating due to lack of emphasis and attention needed to keep them 'alive and well'."

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II. SELECTED LITERATURE REVIEW

> Few themes recur more frequently in management literature, few problems face the practicing manager more persistently, few topics generate more debate, and few areas of management more urgently require a unified treatment than the related issues of job satisfaction, productivity, and organization design (Cummings, Molloy, & Glen, 1975, p.52).

The National Science Foundation, in agreement with the observation cited above, recently funded studies by three independent interdisciplinary teams of behavioral scientists (Cummings, Molloy, & Glen; Brower & Associates; Katzell & Yankelovich) to study the relationship between work, productivity, and job satisfaction. A question posed by NSF was: How do we increase both productivity and job satisfaction? Essentially, all three NSF-funded studies consisted of research on research--careful, comprehensive literature review and interpretations thereof; they did not undertake experimental or action research of their own. Glaser (1974) in a study funded by the Office of Manpower Research and Development, U.S. Department of Labor, addressed essentially the same set of questions from a case study approach of reported successes and failures in public and private sector organization efforts to improve the quality of worklife, and in the process to improve productivity. (The 1974 Glaser report has since been revised considerably and is scheduled to appear as a book in the Spring of 1976.) Other researchers--e.g., Blumberg (1968), Davis (1972), Hackman (1975), Herzberg (1966), Vroom (1969), Walton (1974), Work in America Task Force (1972)--also have delved into these questions.

It would appear that all of these investigators would tend to agree with Mitchell Fein (1974) that "The most effective productivity results will be obtained when management creates conditions which workers perceive as beneficial to them."

A responsive work climate which demonstrates openness to suggestions and to considering alternative ways of doing a task tends to encourage people to think creatively about the work, to become involved or "industrially active," in McGregor's terminology. Richard Cornuelle (1975) makes a useful distinction between managing with such openness and without:

> Management which manages by specifying behavior is dehumanizing and inefficient. Management which manages by specifying results is emancipating. It opens to all the possibility of inventiveness and resourcefulness...It is highly productive, because it tends to release the full potential of people, rather than some predetermined and necessarily deformed fraction of that potential (p. 50).

Katzell and Yankelovich report that "Giving workers more 'say' ...usually has favorable effects...on productivity...when the scope of influence includes goal setting, work methods, and compensation methods."

Glaser (in press) indicates that:

> Five of the most important conditions for the sustained success of Quality of Worklife (QWL) improvement programs from which there is likelihood that productivity gains also may emerge are: (1) giving all employees in a given organization or whole segment thereof an opportunity to have a meaningful voice in decisions about the design and structure of their work; (2) providing sustained support of the QWL efforts by the organization's leaders; (3) involving the line organization in designing and then assuming responsibility for the program as theirs (rather than the staff's or consultant's) so that they perceive it essentially as just a better modus operandi for human resource management which in turn is likely to result in better mission performance; (4) working out specific, difficult, but definitely attainable goals with task groups or individuals wherever this is feasible, plus a system of rewards for goal attainment, plus an adequate training program--then providing structure and frequent timely feedback to let all concerned know about progress and problems; (5) monitoring or auditing in helpful rather than "snoopervisory" ways to assist in problem solving and to assure high standards of performance.

A supporting rationale for the present study has been offered by Gordon Allport (1945), who suggested a foundation in psychological theory for pursuing the relationship between "quality of worklife" and the general quality of life in our society:

> When the work situation in which the individual finds himself realistically engages the status-seeking motive--when the individual is busily engaged in using his talents, understanding his work, and having pleasant social relations with foreman and fellow worker--then he is, as the saying goes, "identified" with his job. He likes his work; he is absorbed in it; he is productive. In McGregor's term, he is industrially active. That is to say, he is a participant.
>
> When, on the other hand, the situation is such that the status-motive has no chance of gearing itself into the external cycles of events, when the individual goes through motions that he does not find meaningful, when he does not really participate--then comes rebellion against authority, complaints, griping, gossip, rumor, scapegoating and disaffection of all sorts. The job satisfaction is low. In McGregor's term, under such circumstances the individual is not active; he is industrially reactive.

> ...The problem before us is whether the immense amount of reactivity shown in business offices and factories, in federal bureaus and schools, can be reduced... We are learning some of the conditions in which reactivity does decline... Patronizing handouts and wage-incentive systems alone do not succeed. Opportunities for consultation on personal problems are... found to be important; and group decision, open discussion, and the retraining of leaders in accordance with democratic standards yield remarkable results... In other words, a person ceases to be reactive and contrary in respect to a desirable course of conduct only when he himself has had a hand in declaring that course of conduct to be desirable. Such findings add up to the simple proposition that people must have a hand in saving themselves; they cannot and will not be saved from the outside.(pp. 18-19)

The question is how to translate Allport's insights into common management practice. How, in other words, can we arrange work situations in ways that will motivate individuals and task groups to become ego-involved in caring about relevant goal attainment and effective organizational performance?

Managements seeking improved organization performance through job enrichment, human resource development and "humanizing of work" have generated a varied range of innovative programs for improving QWL. When such programs are applied planfully and skillfully under certain favorable conditions which have been identified by Brower (1974), Glaser (1974), Walton (1974), Hackman (1975), Katzell and Yankelovich (1975), and Srivastva et al. (1975), both job satisfaction and productivity are likely to be enhanced.

Problems and Opportunities in Implementation

Where QWL improvement efforts have failed, the failures of intervention seem to be related more to the implementation of the program than to its conception. The planned change may not in fact be effected (Frank & Hackman, 1975), or perhaps the change is not supported by key personnel, and thus falters (Glaser 1974; Hackman 1974b). Generally, offering employees a meaningful say in their work seems to increase motivation to do the work and commitment to doing it well (Katzell and Yankelovich, 1975). Increased motivation and commitment, in turn, contribute to reductions in employee turnover, absenteeism and grievances, and tend to facilitate creative problem solving and improved organizational efficiency (Glaser in press).

Concomitant personal gains from QWL programs have been reported in case studies--gains such as greater job satisfaction, greater autonomy, freer expression, increased feelings of self-worth, reduction in mental and physical illness and more opportunity to broaden skills. Provision for direct sharing in cost-savings

benefits obviously offers additional incentive for sustained worker interest in such programs (Glaser, in press; Rosow, 1974; HEW Task Force Work in America, 1972).

On the other hand, not everyone responds favorably to QWL improvement efforts (Hackman, 1975; Glaser, in press). Expectations may outstrip performance, leading to disappointment. Individual differences with regard to one's desire for greater group and personal responsibility may lessen the apparent job satisfaction of some. As Michael Brower (1974) expresses this experience:

> Efforts to improve the quality of working life, especially those relying heavily on employee participation, are likely but of course not certain, to lead to increases in productivity and to cost savings. But they may not lead to increases in "job satisfaction" narrowly defined, since aspirations of workers may be raised more rapidly than fulfillment, with a resulting decline in some measures of satisfaction (p. 25).

Research studies by Oldham, Hackman and Pearce (1975), Brief and Aldag (1975), Hackman and Lawler (1971), Hackman and Oldham (in press), suggest that individuals who feel a high need for personal growth and development at work tend to respond more positively to enriched jobs than people with low growth needs--apparently because high growth need individuals more strongly value the internal rewards that can be obtained from good performance on a challenging task. Another contextual factor that may moderate the effect of enriched work "is the degree to which the immediate work environment is satisfying to employees. Specifically, when employees are not satisfied with their pay, job security, co-workers and/or supervisors, their ability to respond positively to a job high in objective motivating potential may be severely diminished" (Oldham, Hackman & Pearce, 1975). Thus, there appears to be a threshold which needs to be achieved to satisfy what Herzberg (1966) would call the "hygiene" factors before the intrinsic-to-the-job "motivators" such as opportunity for achievement, recognition for that achievement, responsibility, advancement, etc., can take effect in the sense of enhancing ego-involvement in one's work.

III. CORPORATE STRUCTURE AND THE PLANT

The Corporation and Its Products

CMS was a long established family-controlled firm until February 1974 when it was acquired by a foreign corporation. The company's main product lines are pharmaceuticals, disposable medical equipment, biomedical materials, veterinary products and consumer items. The company is now a world leader in the production of certain biological products.

The Centerton plant was built to increase biological processing capability, although expansion into other product lines was expected. There are other plants in the corporate system. Of these plants, only the ones at headquarters and Centerton produce biological products. Numerous other products are manufactured at the headquarters plant, where the corporate home office also is located. The branch plant managers report to the vice-president of manufacturing, although in the Centerton plant's early stages the plant manager reported to the chief engineer.

The Plant - Production Setting

Plant layout includes four separate buildings (Administration/Warehouse, Quality Assurance (QA) laboratory, Engineering and Maintenance (E/M), and the Production facility), joined by long corridors. It is an exceptionally large plant, and the distances make rapid communication difficult. There is limited access to most areas in the production building because of sterility requirements and contamination dangers. Production supervisors' offices are in a restricted area, and their department managers' offices are in the unrestricted section. Physical and procedural barriers hinder their frequent face-to-face communication.

Some sources of work pressure are that certain of the work rooms are very cold; that employees are acutely aware of their responsibility to maintain sterility of the product; that employees are aware of the potentially disastrous consequences of mistakes. They are working with very expensive raw material which is at the same time very delicate; a slight temperature change can destroy thousands of dollars of product in a very short time.

Extraction

The extraction process separates the raw material into its many components in order to use the scarce source material more efficiently. The production technology itself is complex and proprietary. Substantial on-the-job training is required for supervisors as well as for technicians and operators.

A minimum of three months of processing and testing is required before the finished product is ready for sale. Raw material arrives at the plant frozen, and the production process begins under carefully controlled conditions. A team of five members handles this portion of the process. Their work is supervised by the extraction supervisors on a rotating basis.

The extraction teams process the liquified material to the various powdered components. Their work involves the complicated tasks of production, equipment maintenance, and record keeping. Each team, consisting of six persons and a supervisor, works 12-hour shifts (four days one week, three days the next) and alternates monthly between day and night shifts.

The dry powder is delivered to the Filtration and Filling department, where it is dissolved and treated, then sterile-filled into bottles, pasteurized, and incubated. Each team handling this part of the process consists of four members, plus a supervisor, working three shifts, five days a week.

After incubation, each product lot is "finished"--that is, inspected, labeled and boxed, then placed in a holding area for final release. The day shift packing operation is the job of an "extended" team: a group of five full-time finishing operators helped by 13 part-time operators. Once released (approved by QA and the FDA's Bureau of Biologics), the product is moved to the shipping area of the warehouse for distribution.

Effect of QWL Considerations on Layout for the Plant

A question has been raised about whether the original planning for Centerton to facilitate the organization of work by use of small task teams and job enrichment concepts actually resulted in any differences in designing the plant, compared with the way it would have been designed if there had been no plan for a special QWL project.

As already stated, the projection for this new plant was that it would manufacture disposable equipment (DE) and biological products. The engineering layout for the DE portion of the plant definitely was influenced by the concept of avoiding the long, continuously moving conveyor belt with a line of workers standing alongside, each doing his/her small assembly task, while the product moved automatically to the next person in line to do his/her thing. Instead, influenced by Volvo, Saab-Scania, Procter and Gamble, Donnelly Mirrors, and other firms whose QWL efforts have been reported, the DE portion of the plant had rooms on the drawing boards to accommodate only a limited number of people (15-25) who would form identifiable task teams responsible for producing or assembling an entire product or related line of products. Or, if the product they were working on needed to be broken down into sub-assemblies, Group A would deliver their

sub-assembly to Group B, who would add their segment, deliver what they now had to Group C, etc., until there was a finished product ready for final inspection and shipment. The parent group would purchase sub-assemblies from sub-assembly groups.

When it was decided later that Centerton would not make disposable equipment, at least upon plant start-up, but would concentrate only on an expanding line of biological products, the DE segment of the plant was held in abeyance, and the drawing-board plans for DE were not implemented.

The extraction and filtration technology in biological production is not an assembly line operation, and those procedures are tightly controlled by BoB requirements. Thus the QWL/job enrichment concepts had little or no influence on engineering design per se for that portion of the plant. The QWL concepts influenced the way people were organized, and the manner in which they would be consulted or invited to have a "say" in the division of labor to get the necessary work done.

The filling operation (including labeling, etc.), for reasons of efficiency as well as sterility, needs to be a repetitive machine operation tended by people. Thus, the engineering layout for this operation was not materially affected by the QWL planning. However, the staffing of the task, such as the use of 13 part-time operators who performed other tasks with the remainder of their time, was influenced by QWL concepts.

Overall Organization Structure at the Plant

The original design for the plant's management structure was created in the headquarters under the assumption that rapid growth in the number of different product lines would soon occur at the plant. In light of this assumption a relatively large plant management group was employed: plant manager, production manager, extraction manager, filtration manager, quality assurance manager, accounting manager, personnel manager, a management-level specialist in good manufacturing practices, and an engineering and maintenance manager. (See Figure 1)

The QA department comprises about 25% of the plant population and one-third of the managerial and supervisory personnel. Its biology laboratory is responsible for environmental monitoring (e.g., water, air, facilities cleanliness) and for product testing for sterility, potency and pyrogenicity. The biology assistants go into production and other plant areas to do sampling and may frequently have contact with production technicians. The chemistry section tests raw material, in-process, and final product samples in the laboratory. The QA analyst and his assistant function as inspectors during the final packaging operation and sample and test raw materials. The release coordinator oversees the gathering of supporting documents about the processing and testing of every product lot, assuring that all regulations are met before allowing shipment of the product. In addition, an independent auditor works to insure compliance with good manufacturing practices (federal standards).

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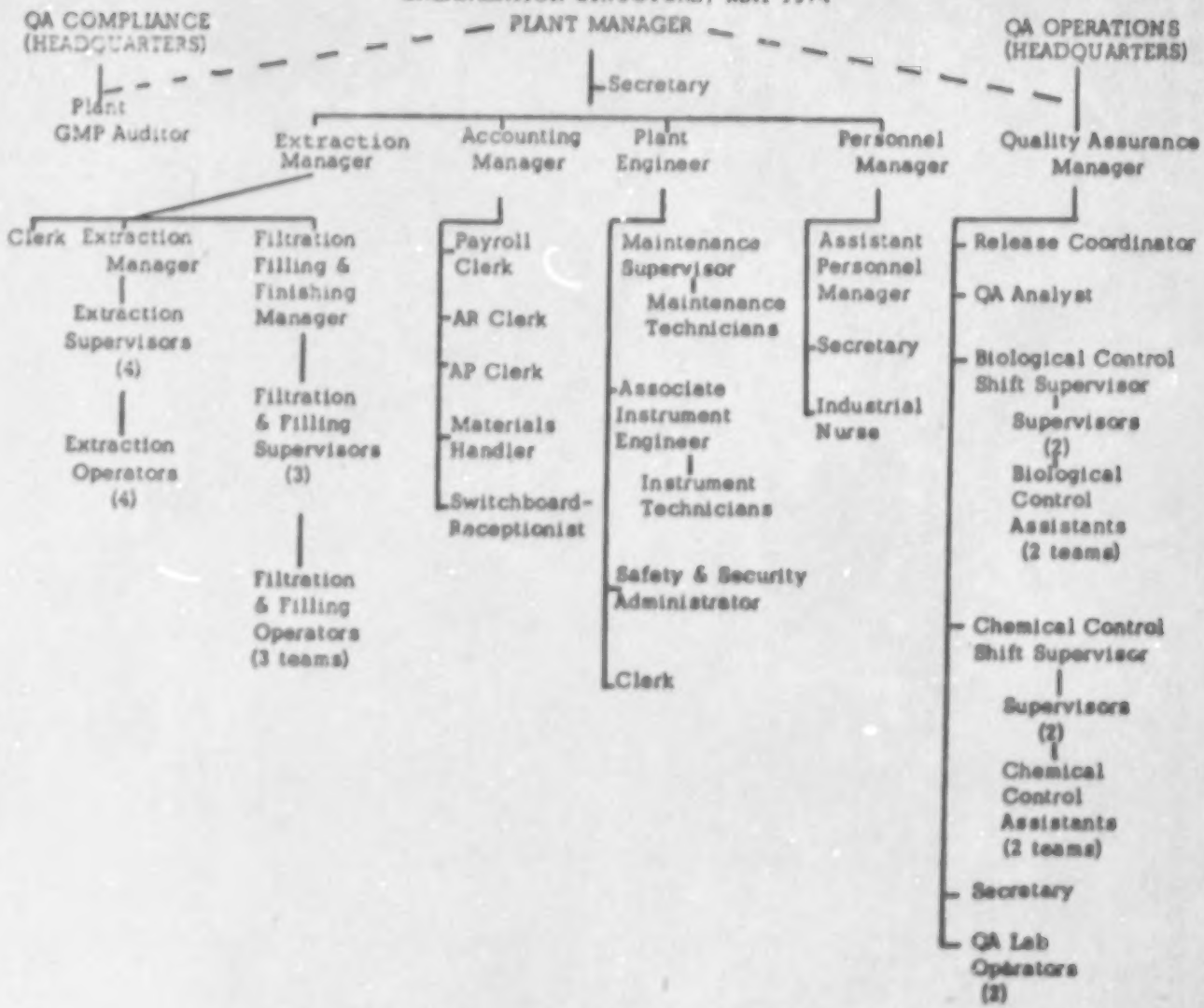
FIGURE 1

ORGANIZATION STRUCTURE, MAY 1974



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The QA managers and supervisors frequently function as consultants to the production and E/M departments as problems arise or changes are considered. There is a natural tension between these latter departments and the QA department in part because the QA manager has the power to stop production and in part because the QA personnel are perceived as having "the easy life": a one-shift operation with sufficient staff, properly functioning equipment, and without the kind of pressure or urgency felt in production or maintenance.

The E/M department is responsible for buildings, grounds, utilities, and equipment maintenance. Complex refrigeration, steam, and sterile water and air systems must be kept functioning at all times. A number of the maintenance and instrument technicians have specialized training. This department has been overwhelmed with work orders since first moving to the plant site. Even basic construction remained to be done after the move in some plant areas. When coupled with machinery check-out, repair, and, occasionally, redesign, the burden on the manpower and the administration of this department became quite a difficult problem.

The accounting department, personnel department, and the plant manager's secretary complete the company staff. This group of 11 works during the day shift in the Administration Building and is generally thought of as the people "up front." Many members, though, do get out in the plant--sometimes to get information needed for their work, other times to help in the finishing operation or just to learn about the rest of the plant.

The entire plant was conceived of as one team with common goals. Each department also consisted of one or more teams, with the exception of engineering. The nature of engineering and maintenance work generally required the technicians to work individually or in pairs. Thus, team organization was not emphasized in that area of work.

A number of changes in organization structure came about during the project's course. They will be described in later sections of this report.

Geographic and Personnel Characteristics

The Centerton plant is located in a rural area in the southeastern U. S. It is approximately 20 miles from the nearest large city, which has a population of 150,000. Centerton's population is a little over 3,000. Many of the managers and supervisors have moved to the area from out of the state, generally from a more urban setting.

Most of the plant production jobs require completion of high school, while management or supervisory positions require substantial biochemical training. The production process is very capital-intensive: the plant, in spite of its size and complexity, can be operated by about 130 people (29 of whom are managerial or supervisory personnel). The following table provides descriptive data regarding Centerton personnel.

C/C Employee Breakdown

As of 10/28/75

(some employed only part of 10/75)

CLASSIFICATION	N	%
Hourly Production Employees:	65	47.8
Management (Supervisors/Managers):	28	20.6
Administrative (or Other):	43	31.6
TOTAL:	136	
Age Ranges:		
18-20	4	2.9
21-25	50	36.8
26-30	38	27.9
31-35	18	13.2
36-40	8	5.9
40+	18	13.2
TOTAL:	136	
Sex:		
Total Male:	86	63.2
Total Female:	50	36.8
TOTAL:	136	
Education Level:		
Non-H.S. Grad	5	3.7
H.S. Grad	53	39.0
1 Year College	9	6.6
2-3 Years College	28	20.6
4-Year College Degree	33	24.3
Post-Graduate	8	5.9
TOTAL:	136	
Ethnic Composition:		
Overall Caucasian	116	88.5
Overall Minority	15	11.5
TOTAL:	131	
Non-Exempt Caucasian*	30	75.0
Non-Exempt Non-Caucasian*	10	25.0
TOTAL:	40	

* Excluding non-exempt office/clerical employees.

IV. QWL EFFORTS AND OUTCOMES

Project Planning and QWL Goals

Initial planning for the plant was handled with the Centerton management group on the West Coast in 1972-1973. A memorandum of understanding in February 1973 established basic agreements between CMS, HIRI, DOL, and IIR about the project. The memorandum states CMS's decision to use a team structure and provide opportunities for job enrichment at the Centerton plant. It confirms plans to use HIRI's assistance in training and HIRI's consultation with the plant manager and personnel manager. In connection with plans to provide technical training for all new employees, the memo adds that two-way communication was to be encouraged and that all employees should be invited to raise questions or offer ideas (see Appendix A).

The C/C project concepts as established with plant management before plant start-up were that:

1. People should have some influence over decisions in the workplace that will affect them. They should have opportunity to participate in constructive problem-solving on matters of legitimate concern. (Or stated another way, the organizational climate should be respectfully responsive to almost anything that employees may suggest for improvement of the work arrangements: then, from such a responsive climate, employee desires for involvement in decisions that affect them, job enrichment if wanted, etc., can emerge and receive serious attention.)*

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*The primary emphasis on creating a "responsive work climate" where desires for job enrichment, small task teams, or other progressive developments can arise and perhaps be fulfilled along the way, rather than attempting more advanced QWL start-up techniques (such as used at the General Foods pet food plant at Topeka or at the Mead Corporation's paper mill at Stevenson, Alabama) has been deliberate. The reasons for this were: (1) a belief by the HIRI consultants that Centerton management was not psychologically or educationally ready for anything more than the three goals stated here; (2) the company's and HIRI's shared perception that the delicate, super-sterile, precise temperature and other controls necessary for the manufacture of these biological products required technically trained supervisors (as contrasted with autonomous work groups without clearly designated "supervisors" used in the Mead Corporation QWL project); (3) whatever more systematic QWL approaches might be desirable and appropriate could better evolve over time from the original primary goals, and if they did (or did not) evolve, the "learning readiness" question thereby would be met.

2. As far as possible, the company should provide jobs which will be experienced as meaningful: jobs which have substantial variety, challenge, task identity, task significance, and opportunity for learning.

3. The work force should be well-informed about company events and decisions, and should give and receive frequent specific feedback about job performance and about problems experienced.

In short, the key concepts could be labeled participation, communication, and meaningful jobs. In light of these concepts, the supervisory style which we aimed for in the new plant was that of team leader rather than "boss."

General Consulting Strategy

Following the West Coast basic CMS-HIRI-DOL-ISR agreement about the project, the PI, aided somewhat by the PD, consulted intensively with the Centerton plant manager and the plant personnel manager in planning, selection, and training. The PI visited the plant 15 times between March 1973 and June 1974, the visits lasting between two and three days. The PD visited the plant six times for about two days each time between July 1974 and July 1975, with the March and June 1975 visits made in conjunction with the PI. The P-O joined the HIRI group in October 1973, starting full time at the plant in May 1974.

When the PD visited, he usually flew in on a Sunday, would meet with the P-O (and PI when available) for a planning session that evening. Work at the plant site usually began at 8:15 a.m. the following day, and would continue until about 6:00 p.m., or into the evening on several occasions. The last consulting visit occurred in June 1975, just before the P-O discontinued full-time presence at the plant.

A subsequent visit by the PD, PI and P-O in October 1975 was made to discuss the C/C staff's review of a draft of this report. Another visit was made by the PD and P-O to the corporate office on February 2, 1976, for a meeting with company top management to review and discuss a draft of the final report. A copy had been submitted for this review purpose to appropriate persons at both headquarters and Centerton. The corporate president, vice president for manufacturing, corporate industrial relations manager, and three other persons on the headquarters staff, along with the Centerton plant manager and personnel manager were present. At the conclusion of this meeting, the CMS people were invited by the PD to submit for consideration by HIRI any editing of the report they might deem desirable to improve its accuracy or to give a more rounded description of what took place with reference to the project. This invitation was accepted, and

responded to in a comprehensive, constructive fashion. Many of their suggested changes have been incorporated in this final version.

Four major strategies were used to try to attain the QWL goals: (1) training of management and employees; (2) modeling of autocritical, nondefensive, openly communicative behavior by the HIRI consultant team; (3) observation and feedback; and (4) consulting with individuals and functional groups in pursuit of the QWL goals. The HIRI team was linked to Centerton primarily through the personnel manager in the early months of the project. It was expected that he would nurture the project, particularly through his training responsibilities and by active personal interaction with the people in the plant.

During the training period, HIRI taught and used problem-solving methods for dealing with communications and human relationship problems through nondefensive confrontation of differences or of things that were not working well. The HIRI team supported C/C's efforts by: (1) providing a participative model when at the plant; (2) suggesting alternative ideas and solutions (when we had any to suggest) consistent with QWL concepts; (3) offering observations of group process at various types of meetings; (4) offering observations of a given individual's managerial style; (5) serving as a sounding board and resource for problems that individuals or groups might present to them in their role as consulting psychologists; and (6) counseling personally with the plant manager, the personnel manager, and other key personnel.

Observations and feedback were offered, but it was a deliberate, if tacit, strategy after the training period (usually) to let C/C request consultant and P-O resources rather than to present uninvited proposals for change or development. In this way, whatever was done would legitimately be seen as C/C efforts. Solutions would be attuned to real needs in the situation, and self-reliance would be promoted in the organization as preparation for the eventual withdrawal of consulting resources.

Selection, Training and Initial Effects February 1973 through mid-May 1974

A timeline of major plant production and consulting intervention events during this period is presented in Figure 2.

Plant Goals

The objective during these months was for C/C managers and supervisors to hire a workforce, complete training and facility preparation, and begin production.

Intervention Focal Points

HIRI's interventions were focused on organization development guided by QWL concepts. This included training in personnel

Figure 2

Timeline of Major Production and Intervention Events, 1973 through May 1974

	1973												1974				
	J	F	M	A	M	J	Ju	A	S	O	N	D	J	F	M	A	M
Basic agreements made between HIRI, CMS, DOL, ISR		x															
HIRI consultation in selection, organization structuring, preparation for training		xxxxxxxxxxxxxxxx															
Managers' and Supervisors' Training Program: HIRI Workshops staffed by PD, PI, P-O										xx		x					
Consultation on interviewing and selection													x				
Foreign multinational company acquires CMS														x			
Production employees first hired														x			
Orientation and Training for New Employees--Team Training Workshops															x		
Expected production start-up delayed															x		
Consultant visit by HIRI PD and PI																x	
P-O begins full-time work in Centerton plant																	x
February 1973 to May 1974 QWL Progress Report prepared																	x
HIRI PI's last consulting visit (with PD) before leave of absence to go to Russia																	x

selection and assistance in working out productive interpersonal relations.

The HIRI group felt that the QWL goals could be achieved only when managers and supervisors were effective in central managerial tasks (e.g., planning, coordinating, basic supervision). During the training period for new supervisors and managers, both HIRI and Centerton top management assumed that all participants had a reasonable managerial competence. The Crown corporate management then provided technical and some supervisory training, while HIRI provided training and assistance in those areas and skills specifically related to the QWL program (description of training workshops follows).

Consulting Styles and Tasks

The QWL project was closely identified through this period with the HIRI PI's consultation. He developed a close rapport and working relationship with the plant manager, the personnel manager, and other key members of the management group. Much of his consulting centered on assisting managers and supervisors in solving problems involving interpersonal relationships (frequently manager-supervisor relationships). Modeling, or the way he consulted, was often as important as the content of his help. This consultant endeavored to demonstrate listening skills, was very open to change, was able to get normally reticent people to make contributions in meetings, and could readily draw and teach principles about behavior from everyday events and problems. He facilitated the resolution of interpersonal differences through modeling non-defensive confrontation.

The P-O, having joined the project during the second training workshop in October 1973, initially served in the role of assistant to the consultants, gradually becoming more of a direct participant and resource to the workgroup.

Consulting Interventions, Outcomes, and the Organization's Development

Selection and training of supervisory personnel. HIRI provided input into the selection and QWL education of managers, and the design of jobs for the Centerton plant while planning still was in progress at corporate headquarters in 1972 and 1973.

When a personnel manager was hired for C/C, the HIRI PI began to work with him in Centerton. Together, they drew up a list of attributes which they felt would help select employees (managerial and non-managerial) who could function effectively and comfortably in a participative management (PM) atmosphere (see Appendix B). Selection of supervisors was also contingent on a requisite technical background. The pool of candidates who were technically prepared for the complex jobs being filled was limited, thus restricting selection options. Only one supervisor out of seven hired had had experience with the specific types of biological products to be produced at Centerton. Two new

managers had had little or no managerial experience, but they did have some requisite technical experience. When completed, the selection process for managers and supervisors seemed to have favored people who were attracted to the concepts of QWL, who were intelligent, ambitious, idealistic, and who seemed to have good development potential, over those chosen primarily because of extensive managerial or supervisory experience.

Three workshops for managers and supervisors were presented jointly by the HIRI consultants and the personnel manager during the pre-start-up training period. Their dates and relevant topics are outlines below:

October 1-3, 1973	Participative Management-Principles and Techniques for Motivation Principles and Techniques of Communication Leadership Styles Interpersonal Feedback
October 24-26, 1973	The Quality of Worklife and Productivity Job Enrichment Principles, Job Design, and Case Problems Team Approach to QWL Improvement
December 18-21, 1973	Individual Interviewing in Employee Selection Techniques, and Skill Practice.

The training workshops provided practice in the concepts of QWL, job enrichment and exposure to an open, informal style of leadership. Workshop members became accustomed to hold critiques after a task, share perceptions of the outcomes, and plan for improvement "next time" based upon learning from the critiques. The workshops focused on the aspects of QWL improvement that were different from the more authoritarian, less participative management style that the managers and supervisors previously had been accustomed to, whether at Crown or in other companies for which they had worked. The HIRI consultation did not attempt, however, to provide "standard" management or supervisory skills, which it was assumed (incorrectly in some cases, as later events proved) that managers and supervisors already had. And certainly HIRI presumed no competence or responsibility for technical training, which was supplied by corporate headquarters, equipment manufacturers, and university courses.

HIRI concentrated in the workshops on concepts and techniques of nondefensive communication and problem-solving. The process of the workshops and concurrent experiences in technical training offered some tangible discussion and practice opportunities. However, the trainees (managers and supervisors) were not yet engaged in the bread-and-butter process of production and quality control, and hence there was a degree of unreality to the problems faced.

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Job design. Job enrichment ideas stimulated by the consultants were further developed by a visit to another company successfully using advanced QWL principles (which was suggested by the HIRI PD), and by a symposium on worklife improvement held on the West Coast. These ideas were considered by CMS engineers in the design, layout, and staffing planning for the Centerton operation. For example, one production team was responsible for the process from receipt of raw material through roughly half of the production procedure, involving a substantial variety of tasks, high responsibility for product quality, and probably an even balance of individual and group efforts. A sense of closure was felt at the end of this team's work with one batch of the material, since the product could be followed as a discrete lot through further stages and final sale. As well, some of the material was sold as final product from this intermediate point.

The job design components of providing meaningful work were implemented during the plant start-up (after March 1974). Job boundaries were large, with much task variety in them. Most people had the opportunity for some autonomy in their tasks. The major factor working against sustained good morale at this time was a lack of sufficient work for production operators (about 30 people) as a consequence of the start-up problems experienced in getting equipment delivered and put into operating order. Sustained difficulties in overcoming process problems also were a source of frustration.

Job design was learned in the workshops, but there was less opportunity during the training for each member to practice leadership/managerial skills and truly to clarify and refine for himself a concept and style of PM; thus at the end of the training period a number of unanswered questions about PM remained. For example, supervisors wondered about how assertive to be and how much authority they had to make decisions, or whether their subordinates should participate in all decisions. Their uncertainty about exercising leadership, facilitating and making decisions, was exacerbated by their inexperience in leadership roles and their lack of technical expertise. Insufficient workshop time and not having ongoing team situations to which to relate anticipated problems tended to limit discussion and resolution of these concerns.

Selection and training of nonsupervisory personnel. During January 1974, the supervisors with HIRI assistance were engaged in the interviewing and selection of production operators. The employees selected in February and March 1974 tended to be young people with little production experience. Many had quite idealistic expectations for the Centerton plant and its implementation of the QWL program (expectations presumably generated by contact with the supervisors). Candidates with relevant technical experience were not readily available in the area. Consequently, managers and supervisors tried to select employees who would fit well in the new organization atmosphere. According to the ISR analysis of the selection procedure, a foremost factor for selection was a high rating on "ability to listen understandingly." In the training of interviewers, the PI tried to emphasize the complement of this--"ability to communicate clearly."

In May 1974, when repeated delays in the anticipated start-up date caused many difficulties, several managers questioned whether it was wise to have allowed the inexperienced supervisors to guide the selection process as much as they did. Some managers, in retrospect, felt that a better balance of age/maturity and production experience among the new employees might have helped avoid some of the problems and forestalled some of the frustration and disappointment encountered as start-up was postponed.

Quality Assurance (QA) employees were interviewed and hired by the QA manager and the lab supervisors; HIRI's influence here was only indirect (through training and communications about the QWL program). Maintenance technicians were hired by the plant engineer. Prior technical training (a minimum two years of college for the QA department) or experience was required for these positions. The selection process here seemed to have more easily assessed variables (such as relevant college coursework) than that for production employees (who were assessed by subjective judgments about personal attributes).

In March 1974, a three-day Orientation and Training for New Employees program was presented, coordinated by the personnel manager. The training group consisted primarily of the new production operators, clerical personnel, and supervisors. Four new supervisors from the QA department also attended these sessions, as they had not taken part in the initial supervisory training. This orientation was their primary introduction to the QWL program and management style. (The QA lab assistants whom they would supervise had not yet reported to work.) Although maintenance technicians had been hired, few attemded because of the heavy workload and their manager's priorities.

The participants responded very enthusiastically to the Orientation Program overall, and to the Team Training Workshops. Much interaction was generated in the group tasks. Later, in their task teams, employees continued to contribute ideas and suggestions about the work. The HIRI P-O learned from some individuals that there were occasional misunderstandings and fears about giving feedback--fears that in trying to tell superiors what appeared wrong or in need of review, there sometimes might be defensiveness leading to retribution. Reactions such as these are normal within the context of QWL efforts. All in all, however, there was a significant degree of openness and trust in the early stages, with the result that many people experienced C/C as a superior and unique place to work.

Managers' and supervisors' group development. The production supervisors and the two production department managers formed a highly cohesive, enthusiastic group during the early training period. In the development and training of the entire group there had been much emphasis on an openness to change, on flexibility, and on challenge of ideas, decisions, and standard operating procedures. The openness and initial trust fostered

by consultant modeling were supported by the willingness of the top managers (the plant manager, the production manager, and the personnel manager) to accept and take part in this style. It is important to note, though, that this behavior and the cohesive group developed during training had not yet been exposed to the stresses of the real work situation.

As time went on, small misunderstandings combined to weaken the group's cohesion, openness and enthusiasm. When possible, the consultant tried to create a learning experience out of the misunderstandings, particularly by demonstrating the serious interference with effective work that can be caused by unspoken angry or hurt feelings and by pointing out the role that innocent misperceptions frequently played in communication difficulties. The stress caused by these misunderstandings between supervisors and a few managers seemed to test each person's faith in the participative method; their idealism received its first tarnish. They had to be helped to recognize that such problems probably would be more likely to occur under a traditional style of management, wherein there would be less opportunity for constructive resolution.

In the first eight months, frequent 12 to 16-hour workdays drained people's energy. Production and maintenance managers and supervisors tended to become absorbed in technical and mechanical problems and to defer anything that was perceived as unrelated or nonessential. "Sharing the problem with the people who are involved in it" was viewed as a time-consuming burden by some, and because "the people" were new, it was felt that few of them would have appropriate contributions to make to many of the problems. Nonetheless, in a number of cases the relationships between supervisors and teams were sufficiently good and close that people felt involved and "participant" without any extra or formal efforts.

One or two key managers seemed unable to meet commitments they had made to other departments, and this exacerbated the tension already generated by many production delays. Discouragements and resentments were expressed by the workforce to their supervisors and by the supervisors to their managers. Although openness of constructively intended complaints had been encouraged and was now practiced, actual support of that practice was not adequately forthcoming. Self-confidence and the enthusiastic aspect of morale were thus partially eroded. In exercising their somewhat unusual freedom to identify problems, people sometimes forgot to take stock of and to mention the positive accomplishments.

Despite this voicing of complaints, which may have served as a helpful safety valve, the experience of most employees during this time was reported on the ISR surveys and to the P-O as quite good. Employees expressed surprise and pleasure at their relationships with supervisors and the friendliness of managers, and attributed much of this to the QWL project. Objections were made about the delays and the amount of housekeeping the job required, but there was a surprising tolerance for the problems. It

is possible, of course, that the unemployment rate at the time may have tended to make job holders more willing to endure the unpleasant aspects of their work situation.

Decision making without participation. On occasion a manager may need to make a decision without others' involvement (particularly in connection with technical problems), or contrary to what his subordinates would advise. (This point should have been emphasized more by HIRI in the training.) The first time one of these instances arose at Centerton, when the plant manager made a certain policy decision without inviting consultation, voices were raised against the method and the decision. (The decision had to do with requiring overtime work for all plant personnel on a weekend, and on very short notice.) This experience caught the plant manager a bit off-guard, and tended to make him suspect the loyalty or managerial maturity of his people. He did not recognize that he had failed to communicate his need to make the decision alone this time. On the other hand, he clearly needed the flexibility to make such a decision, and could legitimately expect support for it, though it would be more consistent with QWL principles if he had previously informed key people of his reasons for making the decision. The outcome of this experience was wariness on both sides: The plant manager became wary that the participative style might not give him the flexibility in decision making that he needed, and the managers and supervisors became wary of both the plant manager's commitment to PM and his sincerity about their freedom to challenge. The P-O and consultants made observations along these lines to the plant manager and his key staff.

Observations on effects of delay in getting into production. By May 1974, the Centerton plant had not yet begun production for a number of reasons. Some of the problems were within the Centerton management's control, while others required engineers from headquarters or equipment manufacturers' representatives to help solve. The production delays meant that the production employees who were hired in February-March 1974 often were idle. Without real work for them there was little incentive and, it seemed, few opportunities to solve work-related problems or participate in decisions about work arrangements. Supervisors preferred not to hold regular team meetings for lack of an agenda, and the habit of periodic communication about unresolved problems did not become established. Because the production teams were small, informality was usually an adequate style, and systematic review of progress on problem-solving efforts was not institutionalized. As a consequence, the groundwork for future adherence to that kind of method of operating was not laid.

Characteristic personnel problems. In each of their visits during this period the HIRI consultant and the P-O were asked for assistance in dealing with personnel problems. Two particularly sensitive problems were addressed. One concerned a young extraction supervisor who was having difficulty mastering the technical material required for the job and in providing leadership to a team. In spite of much concentrated help from colleagues and consultants, the outcome was his resignation.

Although their efforts failed, the process of group members all cooperating to try to help their teammate "make it" probably served to strengthen group morale.

This was the first loss to the original team of managers and supervisors, and it was disappointing. The supervisor hired to replace this man would not have the same training and team development experience.

The procedure used to orient and train the replacement supervisor reflected the increasing pressure of little time and great need to produce quickly. Under these circumstances the personnel manager held an orientation discussion with the supervisor on the first day of employment. Technical and supervisory training was left up to the department manager until enough new supervisors were on board to justify holding a formal supervisory training program (several months after the supervisor joined). At this later time it often was difficult for production supervisors to attend.

A second sensitive problem receiving much consulting input was the need to develop better working relationships among the production manager and his two department managers. Tension among the three men became apparent during the Spring of 1974 as major and minor problems remained unresolved. The consultant tried to improve their ability to work together by helping them to communicate and to confront differences in perception, values and style.

The consultation seemed to increase communication and understanding among them during, and for a short while after, the consulting visits. Many of the differences between the three managers concerned issues on which none was inclined to compromise. For instance, one department manager insisted that all production equipment and set-up be nearly perfect before any actual production began, whereas the production manager felt that with some less-than-perfect equipment, operating problems could be worked out better in the process of carrying out the first trials. The consultants felt it might be possible for the men to work effectively in spite of their differences. Little gain in working relationships was seen, however, during the early Spring of 1974. Eventually, one department manager was terminated and was not replaced. The role of the consultant during subsequent meetings with the plant manager about this problem was to help clarify his own appraisal and feelings about the persons involved, the situational requirements as he saw them, his alternatives for dealing with the matter, and the probable short- and long-range consequences or outcomes of the several alternatives.

There were some other personnel problems involving performance deficits on the part of certain individuals where the consultants were able to help the concerned superior identify and better utilize the individual's strengths rather than harp on limitations which were not importantly relevant to job performance.

Discussion

Leadership and autonomy. The appropriate role and style of leadership, particularly in connection with implementation of the participative method, had been an early concern. Supervisors had been given much freedom and responsibility to manage their teams and had been promised the opportunity to participate in management decisions and problem solving to the extent that this would be pertinent and appropriate. In attempting to carry out this philosophy, some supervisors were worried about stifling participation if they were to give orders or firm directions to their teams. Supervisors also were concerned with receiving too much direction from their superiors. Autonomy within their team and with their production responsibilities became a well-defended goal --to the point that supervisors and department managers seemed respectively possessive or "territorial."* Part of this behavior probably can be explained by the background of these supervisors as high individual achievers (i.e., their previous progress and promotions had been primarily dependent on individual efforts, rather than team efforts). In the C/C environment, which tended to encourage group achievement, individual achievement did not seem to be rewarded as it had been in the past, yet this behavior was natural and had been successful for them. To some extent, C/C sent paradoxical messages about its team structure: People were expected to perform as a team but their performance was evaluated on an individual basis. Perhaps not enough was taught in training about cooperative behavior and individual/team issues; and managers had perhaps not given enough thought to the motivating factors for the supervisors. In any case, territoriality or resentment by subordinates of involvement by superiors often was dysfunctional to the solution of difficult and persistent problems. The consulting strategy was to try to mitigate these feelings by offering possibilities for solving problems as they arose, rather than to try to eliminate the struggles for autonomy. As the supervisors gained experience in their new roles, their concerns about autonomy seemed to subside.

Leadership and participative management related to the conduct of meetings. It became apparent during this period that there was insufficient skill among managers and supervisors with regard to (a) the kinds of subjects which warranted meetings, and (b) ways to conduct meetings effectively and efficiently. Many meetings were held, a number of them concerned with very basic or routine problems--problems which the plant manager felt should have been dealt with immediately by a supervisor without need for a meeting. The plant manager further felt that these meetings for solving such basic, routine problems during a start-up phase were

*Editorial input from CMS suggests inserting the following two sentences at this point: "Behavior might also have been influenced by their training which gave the impression that under PM, each manager and supervisor would have absolute responsibility and jurisdiction in his area. Little consideration was given to the fact that the production manager and plant manager also had stakes involved and were ultimately responsible to get the plant into production."

impractical and too cumbersome to be effective and successful. Viewing this as a major factor inhibiting expeditious start-up of the plant, he chose to put his faith in one-to-one relationships, working directly with individual department heads to solve specific problems that had to be overcome before the plant could get into production. Some meetings thus suffered from different individuals' perceptions about the need for them and some poor quality of certain meetings was attributed to the (probably) excessive number of them.

Informality and abstractness of leadership in conducting meetings often meant that some of them did not end in closure or agreement. Thus, tasks were not accomplished. Frustrations arose when decisions were not reached, and managers, in particular the plant manager, began to prefer individual to team efforts. Meetings were not given up but, as stated above, the plant manager began to put his faith in one-to-one relationships. These difficulties caused frustrations with the QWL method (which was perceived incorrectly by some as emphasizing that meetings be held on all sorts of problems, whereas the intent was to hold them only when valuable and appropriate for optimally effective operation). Managers and supervisors began to question whether a QWL program could constitute an effective and efficient managerial method. From the consultants' point of view, difficulties in the management of meetings resulted from deficits in the leaders' organizational skills, rather than problems inherent in the QWL method.

Testing the QWL Concepts under Stressful Start-up Conditions: Mid-May 1974 through Mid-February 1975

Major production and intervention events of this period and the next are summarized in a timeline in Figure 3.

Plant Goals

The goal for the plant during this period was to achieve qualification--that is, licensing for the production and sale of certain pharmaceutical products. Financial pressure on the corporation required that this be done as quickly and as inexpensively as possible. Although production employees were hired in February 1974, it was not until June 1974 that the first batch of raw materials was committed to the production system. The initial biological extraction product was first filled into final containers in September 1974, with a first shipment released for sale in December 1974. Licensing procedures for the second product were completed in February 1975.

Intervention Focal Points

The HIRI project team became more informed about and available to the C/C organization in mid-May 1974, when the P-O began working at the plant on a full-time basis. (See Appendix C for the Memo of Introduction of P-O to the Plant and List of P-O Activities.)

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Figure 3.

Timeline of Major Production and Intervention Events, June 1974 through December 1975

	1974							1975											
	J	Ju	A	S	O	N	D	J	F	M	A	M	J	Ju	A	S	O	N	D
First pool--production begins	x																		
Consultant visit by HIRI PD		x																	
Teams interview for new members		x																	
First product fill				x															
Site visit by DOL and HIRI PD				x															
ISR feedback poster displays in each department					x														
Supervisory training program sessions					x														
"Kiem tau" or management critique						x													
First product licensed						x													
P-O, Ss work on advancement system design in production departments						x													
First sale of product							x												
Organization structure changes							x												
June '74 through Dec. '74 Progress Report for QWL prepared							x												
ISR long form questionnaire feedback explained by P-O								x											
Qualification—product licensing—achieved fully									x										
QWL goals restated by P-O									x										
Dec.'74 through Feb. '75 QWL Progress Report prepared									x										
Consultants visit by HIRI PD-communications meetings										x									
QWL Report to Ms, Ss from P-O											x								
Feb. '75 to April '75 Progress Report on QWL prepared											x								

Figure 3. (cont.)

	1974							1975											
	J	Ju	A	S	O	N	D	J	F	M	A	M	J	Ju	A	S	O	N	D
Good progress made in production—favorable yields												x							
Consultants visit (PD and re-entry of PI)--meetings held for project evaluation													x						
P-O leaves plant site full-time													x						
April '75 to June '75 QWL Progress Report prepared													x						
Company-wide layoff, two weeks														x					
C/C management terminations after layoff														x					
Consultant (PD and PI) meeting with top corporate Ms														x					
June '75 to August '75 QWL Progress Report prepared															x				
Plant M statement of QWL expectations during supervisory training																x			
Consultants, P-O meet with C/C Ms, Ss to review project report draft																	x		

HIRI's goals for this period were to help where help seemed most needed--in trying to facilitate effective management through improved communication, listening, responsive feedback and problem-solving skills of managers and supervisors. The particular focal points during this time centered on efforts to help C/C managers and supervisors progress toward the following objectives:

(1) provision of increased communication and feedback about events and problems, particularly more specific feedback about performance, formulated in statements about behavior so that a person would know specifically what to change;

(2) direct and more immediate confrontation of problems that needed resolution;

(3) explicit statement and communication of goals, especially about the QWL program, and also about production;

(4) increased participation with managers by supervisors and employees in matters concerning their work;

(5) sensitivity to the personal development and progress of individuals; and

(6) development of better defined structures, arrangements or systems (such as career advancement systems) to support QWL and production goals.

The Participant-Observer's Method

The P-O used a HIRI format to record interventions, outcomes, and assessments of the transactions. An excerpt from the intervention about periodic reviews of the organization is presented as Figure 4. More detailed daily activity records were kept.

The P-O's style of intervention was to work with individual managers and supervisors, and occasionally with a departmental supervisory group, making observations, giving feedback to them, suggesting alternative ways of doing things, and offering resource help for system development. The choice of a less outspoken, individual-centered style resulted from personal preference, an awareness of her "guest" status in the organization, and a sensitivity to the substantial pressure managers and supervisors were experiencing from the time delays in getting into production, with resulting exacerbation of corporate financial dilemmas.

This one-to-one intervention style is illustrated in the following exchange (quoted from an activity record): "Observations of a QA meeting on seniority policy. Supervisor commented once, 'Let's take a vote.' Intervention: as an aside to him, P-O said that voting sometimes results in an unhappy minority. Outcome: he later commented that that was a good observation. Since then, he has facilitated decision by consensus."

Figure 4

INTERVENTION FOCAL POINT	INTERVENTION	ACTUAL OUTCOME
Periodic Review of the Organization 10-20-74	10-7-74 Suggested to plant manager to have kiem tau: "step back and look"	10-7-74 Reply: plant manager, "we need to step in & look." 10-18-74 Plant manager mentioned to me that he wants to get together to talk about a number of items, including kiem tau.
DESIRED OUTCOME	10-22-74 Suggested to production manager a need for kiem tau	10-22-74 An angry response from prod. mgr." wants no kiem tau with rest of plant managers and supervisors until his own house (production) is in order. "What good does it do to share our specific problems with other depts?" "Some people think they can solve any problem with a meeting."
On a regularly scheduled basis management will plan and hold a review of the whole organization, its social and technical systems. The critique will be positive, not blaming; with the intention of learning from past experience and changing where needed to better deal with the future. The review will involve all personnel, though not necessarily at one time.	11-4-74 In discussion with plant manager I included "have a review" as one of several things I would do differently here.	11-4-74 Reply: "I can't get excited about it now" until licensing is done.
VALUE OF OUTCOME Ref: Theoretical Framework		11-14-74 In meeting with plant manager, personnel manager, and his assistant, time for review with managers and supervisors set for Thurs. a.m. 11-21-74.
To enhance growth & development and to be responsive to changing situations, it is important to monitor the organization's status. The review provides an opportunity for management to plan change* and for all members to offer suggestions in a non-threatening environment.	11-18-74 Asked for suggestions for structure of the meeting from several managers. 11-19-74 Asked production dept. manager for input to review. 11-19-74 Prepared notes for a review giving suggested outline and comments for review structure, gave to plant manager.	11-18-74 Plant manager sent memo out to all managers and supervisors announcing kiem tau or review.
*To proact	11-20-74 Prepared Statement of Objectives, Oct. 73 & Feb. 74 for handout and on flipchart.	11-20-74 Planning meeting-personnel and plant managers and P-O-using notes as basis. Plant manager rehearsed some of his ideas for presentation to the group.

A weekly overview of problems or areas of concern and planned follow-up by the P-O was provided to the consultants and given verbally to the plant manager (with some amendment for confidentiality). An example of this report, from two dates, follows as figure 5.

To some extent the P-O's effectiveness was limited by her having to "replace" the PI--a friend and valued expert viewed by C/C as irreplaceable--as the HIRI representative.*

Consulting Interventions, Outcomes, and the Organization's Development

Most of the P-O's interventions consisted of day-to-day reinforcement of certain principles. For example, as problems or events were discussed she would ask whether those problems or events had been shared or discussed with the people concerned. Or, when anticipated job changes were described, she inquired whether those who would be affected had been consulted.

Most of these discussions occurred with managers, some with supervisors, and some with non-supervisory employees. Work with employees usually consisted of encouraging them to inquire of their supervisor about things that bothered them, to offer suggestions, and to voice concerns.

The P-O's style of informal one-to-one interventions makes assessment of outcomes difficult. Specific results may have occurred, but it is unclear in most cases that an outcome was causally related to the intervention. In addition, the P-O often was limited in her ability to follow up the development of a problem solution, since much of what was told her was communicated on a confidential basis. Therefore, most of the outcomes and events of this and later periods will be presented as occurrences in the organization's development, not necessarily tied to a specific intervention but relevant to the course of the QWL program.

One very valuable organizational development initiated by the plant manager was formation of a Plant Manager's Communication Group, consisting of one representative from each of seven teams in production; from two QA teams (bio control and chem control); from administrative employees (personnel, accounting, QA secretaries); and from Engineering/Maintenance. All of these persons were from the non-exempt or hourly workforce; none were supervisors

*The Centerton personnel manager, in his editing, remarked: "This is a critical point--the P-O was very willing and tried hard, but lacked the experience. Thus, sufficient consultant help was not available just when production started and the 'classroom training' was being put to the test."

Figure 5

OVERVIEW AS OF 5-23-74

Problems/Areas of Concern	Planned Followup
1. Stress caused by start-up delay (a) Complicates people's jobs with boredom, makework, discouragement, long hours.	1. Get more information directly from supervisory and non-supervisory personnel.
2. Need to assess extent of morale problems which may be emerging or present.	2. Get more information directly from supervisory and non-supervisory personnel.
3. Feedback and communication (a) Need to encourage the frequent giving of feedback about process and events to people directly involved in a situation.	3. P-O modeling and direct suggestion to individuals to give feedback.
4. Problems procedure (a) Need to develop a procedure to provide an outlet for employees' concerns, i.e., a problems procedure.	4. Collect ideas from supervisors--consider whether this should be an employee-developed procedure.

OVERVIEW AS OF 7-5-74

1. Managers/supervisors autonomy--major question among managers and supervisors now is autonomy. (a) This desire for autonomy is perceived by superiors as possessiveness or territoriality on the part of their subordinates. (b) Involvement of superiors is perceived by subordinates as lack of trust in subordinates.	1. Feedback observations to those involved. Encourage direct and frequent communication, if necessary by recommending regularly scheduled meetings until it (the communication) occurs naturally as needed.

or managers. They met at monthly intervals to discuss anything of concern to them, and to provide a face-to-face opportunity for the plant manager to communicate any information he might have to offer.

Consulting visits. A difficulty similar to that found in P-O intervention exists when trying to assign outcomes to interventions that occurred during consultant visits. An outline of visits and their major concerns will be presented, with outcomes interwoven in the material following this section.

In July 1974, the HIRI PD came to Centerton for a consulting visit. His time was divided equally between (1) individual developmental counseling interviews with certain managers and supervisors where request had been made for counseling, and (2) work with the plant manager, production manager, plant engineer, and the extraction department manager. The consultant tried to stimulate this "cast of characters" to diagnose some of the road blocks to more effective project implementation, adding his own observations. In the ensuing discussions, efforts were made to develop change plans with each person.

Two additional consulting visits were made to Centerton by the HIRI PD during this period. In September 1974, the consultant joined Drs. Howard Rosen and Robert Foster of DOL for a site visit review of the project. During that visit the DOL representatives toured the plant, talked with some persons at all levels, and attended a regular meeting between the plant manager and his staff. During the meeting, Dr. Rosen asked the plant manager whether he would still choose this participative style of management as worthwhile in relation to achieving organizational effectiveness. The plant manager replied that he would--despite some frustrating aspects such as a tendency toward slowdown of decision making and extra time spent in team meetings. The beneficial results, he indicated, seemed to be more open communication, more comprehensive input to the decision-making process, and greater ego-involvement in the job and in trying to overcome the plant's problems.

The HIRI PD presented a December 1974 training session (on improving organization effectiveness) to new supervisors. The visit also involved the consultant in discussions with the plant manager and personnel manager regarding a management critique held in November 1974 and some organization staffing changes made in early December 1974. Both of these latter two events are discussed on pp. 51-54. As opportunities arose, the consultant discussed with various groups clarification of the concept of PM.

Project documentation and feedback. In order to communicate about the project and to disseminate available feedback to the plant, the P-O wrote and distributed several documents: (1)August 1974--factsheet about the QWL project, intended for inclusion

in new employees' information packages (Appendix D); (2) October 1974--poster displays of the ISR feedback for each department; (3) January 1975--written explanation and interpretation of the ISR long-form questionnaire feedback; and (4) February 1975--restatement of the QWL goals with more specific definitions and indications of means to achieve the goals (Appendix E).

The ISR long-form feedback was used for discussion in each department. However, little activity was generated from this or other documents probably because the organization was not ready to initiate any activity around the QWL program until the production process was under control. Too, once production had begun, time away from production work for review and discussion with the teams seemed difficult to set aside.

Training. Training interventions included P-O help to the personnel manager in arranging and implementing a supervisory training program for newly-hired managers. Orientation to the C/C QWL program and to QWL theory and background was handled by providing them with reports, with Glaser's manuscript on QWL and productivity, and by having discussions of the material with them.*

In October 1974 a training program was offered for new supervisors. Attendees were primarily QA department supervisors. They seemed to accept and use the QWL concepts in the management of their teams. The transition to practice may have been made easier for these supervisors since they had the training at a time when they also had an ongoing team setting in which they could apply and test what they were learning.

Attention to growing concerns about advancement opportunities. In November 1974 the extraction supervisors and the P-O developed a proposal for an advancement system for the extraction teams. Initial discussions were held with filtration supervisors for a similar purpose, and the plant manager was kept informed of these efforts. The plan was to have the proposal submitted to the relevant employees for their suggestions and critique as soon as it had general feasibility approval from management, but consideration and implementation of these proposals were delayed because of production priorities. That is, while attention to job satisfaction goals of this kind was indeed intrinsic to the QWL objectives, the survival objective of getting the time/energy-absorbing plant operational problems straightened out preempted almost everything else during that period. The climate was something like "When you find yourself up to your armpits in alligators, you tend to forget that your mission includes finding a way to drain the swamp."

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* The P-O (with consultant editing) wrote Progress Reports every six months through December 1974, then every two months through the project's end. While the reports were a grant requirement for DOL, they were also provided to the plant manager for his concurrence about problem analyses cited therein. He was free to distribute the report to managers and supervisors, but usually limited his distribution of it to the personnel manager.

Employee team experiences. In many teams, especially small ones, close cohesive relationships prevailed. The operators, probably because of their closeness and because they were kept informed of circumstances and reasons for events, continued to show much tolerance for frequent delays and changes. Supervisors had been given only minimal guidelines about team management in training sessions, and each developed his own style of operation with the group. The basic idea conveyed by the consultants was that where possible people should be given a choice or at least a voice in the various daily work decisions, and where that was not feasible (because of time, for example, or because of FDA-BoB regulations), people should be well-informed about the decisions and their rationales.

In some production teams and in some QA teams, group members volunteered for work assignments rather than having them assigned by the supervisor. Group problem solving was used in some teams to resolve matters such as responsibility for housekeeping. Which teams chose to assume responsibility for a particular function seemed to depend on a combination of supervisors' and employees' preference. In one QA team the supervisor felt it was the team's responsibility to assign their own work. He conveyed this to them positively and the group took on the task quite willingly. A production team asked the supervisor to assume the task of work assignment after a period of trial of team members choosing their day's work in the order that each member arrived. It happened that one member would come quite early and "cream off" the good tasks. The team felt a fairer distribution of the work would be given by the supervisor. (Of course, other alternative solutions were possible, but the supervisor accepted the job.) That production team reacted favorably to the supervisor's making the decisions about work distribution.

In July 1974 several production groups became involved in interviewing candidates for new team members. This participation in hiring developed from the discussion in the March 1974 team training workshops about pros and cons of such involvement. Supervisors still made the decision to hire, but weighted heavily the team members' recommendations. While team members in general responded favorably to this participation, employee participation in hiring did not continue after a trial of several months for three reasons: (a) as production increased, time for such activity became scarce; (b) team members found that their choice and the supervisor's choice of employees were often quite similar, so that even without interviewing they could count on a satisfactory outcome; (c) some candidates were inconvenienced and disturbed by the multiple interviews (an interview with the supervisor and a second interview with the team).

Job design. Training in job enrichment had been a significant part of the QWL intervention. During this period a job design change with problematic consequences occurred in the extraction department. A new team was created by the department manager

to handle the receipt and storage of the raw material and its pooling. Although the change was initiated through involvement of the deaprtment supervisors and with some consultation of team members, some observers in the plant felt that this change was a step backward for the QWL concept of job enrichment--the job is less varied and is only a small part of the extraction process. Too, that team was staffed by the most junior members of the other teams, and received only indirect or rotating supervision from the day shift supervisors and the department manager. At issue here was the question of whether a department manager should consult with the managerial staff before making a change that negatively affected job design and the QWL improvement concept. Consultation with other department managers was not held prior to implementation, and a precedent for independent departmental decisions in relation to use of QWL principles was set.*

Shift in QWL Presentation

Based on his own observations, plus inputs from others that QWL concepts might be responsible for some of the organization's confusion and ineffectiveness, the plant manager publicly announced that the QWL concepts were recommended and encouraged, but if not found effective for the individual they were optional. For some people toward the end of this period, the QWL method was "on trial." Some held the view that the method should be resisted until proven effective. The HIRI team felt that judgment should be deferred until the method had been thoroughly implemented. But at times C/C's urgency to produce and the handicaps they had to overcome to achieve production interfered with their commitment to give QWL efforts a thorough trial.

The plant manager believes this confusion and ineffectiveness was due in part to the initial training which gave the impression that within the family circle there would be no conflict. Openly dealing with such issues could be seen as an admission of problems within the family. This resulted in a situation where some individuals tended to wait for the organization to remove that which caused a conflict as opposed to approaching it one-on-one in frank and open discussion.

*Editorial comment from C/C is as follows: "This seems to us to be a significant overstating of the effect of this event. First, there was in fact consultation and involvement with supervisors and team members, the question being how much further consultation must be secured for establishment of a new team within a single department. Granted that there can always be a divergence of opinion as to whether or not action involving a single department should or should not necessarily involve plant-wide consultation, it is difficult to conclude that this was the precedent-setting factor claimed. This is especially true considering the fact that 'some observers' really consisted of the QA manager, whereas others felt it was rightfully the department manager's decision, recognizing the reality that each department has different functions, problems and expertise that will permit a certain amount of decision making without plant-wide consultation. In sum, the matter did not have the overall impact that is implied."

As pressures of production increased and differences of opinion became more evident, the openness and trust that had existed between managers, supervisors, and non-supervisory personnel began to diminish. The P-O and consultants spent much time modeling and encouraging the giving of feedback and pointing out in staff meetings the dysfunctional nature of withholding information or strong feelings. They also tried to get the C/C managers and supervisors to think about what needed to be done in order to increase safety and trust, and under what conditions one can responsibly choose not to communicate at times. Nevertheless, it appeared that the group was stubbornly resistant to change--or that when people did give feedback after such intervention, the consultants and P-O were often unaware of the outcome. (In most interpersonal relationships, the tendency to withhold frank expression of what bothers an individual constitutes rather customary practice, except when there is an angry confrontation or blowup. Yet this behavior was particularly maladaptive in the C/C situation because it exacerbated certain relationships already burdened with tension and conflict. Openness of expression would at least have brought out serious irritations and might have led to constructive change in a number of cases.)

Key managers' relationships and some important personnel changes. Antagonistic interaction between the production manager and his two department managers continued. The major differences were between just two of the three, but the third member suffered because his manager had limited time to help him. The P-O encouraged the plant manager to help resolve the problems, particularly by providing specific feedback about performance deficits to the managers, reaching agreement with them on a plan for change, and by following up progress on a periodic basis. In the Fall of 1974 this process was begun with one department manager, and some improvement in performance was noted. The plan was discontinued when the plant manager fired one of the managers. He felt that there was little hope of the major behavior changes that would have been necessary to improve this manager's performance within a short time.

During the last months of 1974, plant managers were required by corporate headquarters to review and justify every salaried and hourly position in the plant, and many positions were eliminated. In the process of this review, the extraction manager (as noted above) was terminated, and the former production manager filled that job. The position of production manager was at least temporarily eliminated so that the plant manager could be closer to the production operation and thereby achieve better control. The Filtration/Filling/Finishing department manager, an engineer by profession, chose at this time to move to the position of process engineer, and a new manager was brought in to direct the department. The position of assistant personnel manager was eliminated and the individual who had held the job became the finishing supervisor in production. One consequence of this particular cutback was to curtail the available support for the QWL project by personnel staff. (The position of assistant personnel manager was eliminated for reasons of cost savings. The others

were for reasons of organization strengthening.) The new structure is given in Figure 6.

After the personnel changes were made, some divisiveness among managers and supervisors (who had differing opinions of the responsibilities for the plant's performance problems) was apparent. This caused a further decline in the openness of communications and the willingness of people to speak out, to question, or to challenge the top managers on matters they disagreed with or felt concerned about.

November 1974 "kiem tau" or management critique. For several months prior to November 1974, the P-O and PD had suggested that the plant manager hold a "kiem tau" or managerial critique to review plant management and QWL goals, and the progress being made toward them. It was expected that problems could be discussed in the spirit of constructive inquiry, and action plans developed (or reaffirmed) for dealing with them.

Instead of this suggested critique, the plant manager decided in November 1974 to hold a meeting with a very specific and limited purpose as his agenda: to determine why so many intelligent people spending so much time in the plant could get so little done toward successful start-up. Small group discussions were scheduled, to be followed by a report back to the entire group of managers and supervisors.

The P-O felt that little systematic planning had taken place for the meeting. The precise nature of the small-group tasks had not been adequately defined, and the necessary leadership for the sessions was not provided. No sense of unified purpose emerged. Indeed, there was a disorganized feeling to the initial meetings, with the P-O pulling one way, the plant manager another, and the small groups attacking a random assortment of subjects. Despite this confusion, however, several factors were identified as possible reasons for ineffectiveness, frustrations, and disappointment within the organization:

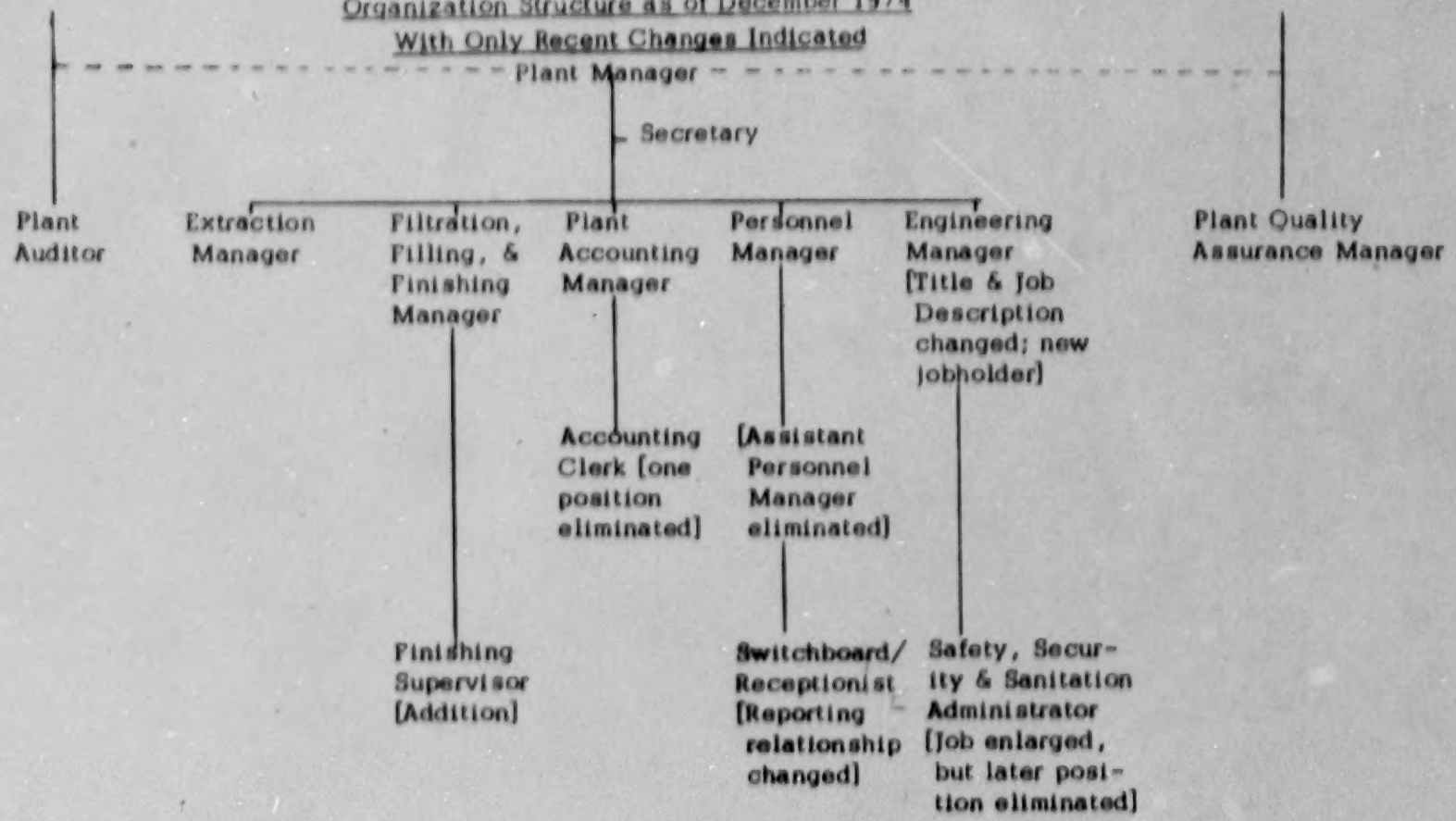
(1) There was widespread confusion about authority of supervisors and when/how the leadership role should be asserted.

(2) The plant needed greater authority or influence to insure that corporate engineering consultants and other experts from headquarters stayed at C/C long enough--until key problems were solved.

(3) Many employees had unrealistic expectations for a start-up situation and, for the most part, managers and supervisors were too idealistic about what might be expected and needed for start-up purposes.

Following the first day's activities the P-O, along with at least one manager, offered feedback to the plant manager about the confusion being felt throughout the meeting. In response

FIGURE 6
Organization Structure as of December 1974
With Only Recent Changes Indicated



Total Population, December 1974: 98

Managers and Supervisors: 24

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to this feedback, he redefined the task the second day: to identify any blocks to progress toward production goals.

Many managers and supervisors felt that start-up problems were due primarily to technical difficulties, particularly in the Maintenance and Engineering departments. Much of the second day, therefore, was spent in detailed discussions of these difficulties. Many problems were identified and the plant manager committed himself to investigating some of them. However, he was disheartened because he felt that a number of the problems discussed could have been solved by managers and supervisors, whereas the managers and supervisors felt that major engineering and equipment changes must be made before production could begin. They implied that until these problems were solved, the plant manager had no right to expect the plant to be started. The plant manager, on the other hand, felt that many of the problems were attitudinal--a "can't do" spirit that resulted from a general feeling of discouragement over the heavy start-up difficulties.

The meeting was an unfortunate event in several ways. The plant manager had asked that a consultant not be present (although the P-O was) because he didn't want to convey the idea that "nothing happens unless someone from HIRI comes." The meeting was not well managed in terms of specific problem identification, clarity of tasks, or follow-up, and since critiques were originally associated with the QWL project, the connection was made in some minds that this conduct and outcomes (all general talk, no action) were necessarily typical of QWL programs.

Discussion

Results of confusion about the meaning of participative management. PM seemed to be used occasionally as a scapegoat when people were assessing blame for numerous problems in the plant. One manager called it "management by disorganization." Some efforts were frustrated for other reasons: critiques were not held, according to one manager, because there was no point in asking for ideas when you would not be able to implement them because of money and manpower shortages.

The QA department management group did not experience the same problems or confusion about the role of leadership as did other managers and supervisors. While they had some questions about team leadership and how to manage teams effectively, they thought that what was intended in training was that PM be adapted to one's own style. These supervisors benefited from a modification of the supervisory training program which portrayed management style as a continuum from McGregor's Theory X (an authoritarian style of management) to Theory Y (a participative style of management) and which suggested that supervisors find for themselves an appropriate and effective place along the continuum.

The consultants and P-O offered resources and opportunities for clarification regarding PM as a means of improving leadership, problem solving and general organizational effectiveness through training,

discussion, goal setting, and critiques. However, the plant manager and others felt that psychologically, physically and emotionally, people were drained from dealing with start-up problems and that it would be unfair and unrealistic to demand their additional energies and capacity to have the meetings and discussions for the specific purpose of QWL. From the HIRI team's viewpoint, any discussion of QWL would not be an end in itself, but rather a means for improving decision making, morale, and thus organizational effectiveness in ways that would facilitate dealing with the start-up problems, thus probably reducing the drain to which the plant manager referred.

Continued difficulty with problem solving. As already indicated, in the start-up period there were serious and difficult technical problems, the solutions to which were not readily forthcoming. Some persons seemed uncaring or overwhelmed in the face of these difficulties. Frequently, a general impression of inaction prevailed, often resulting from a failure to communicate about actions which in fact had been taken. Some supervisors felt that they did not have sufficient authority to solve problems, while some managers did not structure the problem-solving process enough to insure that a solution resulted. Persistent follow-up often did not occur. Some managers seemed unable to meet commitments, and no personal consequences ensued for such failure. Thus, the behavior seemed to have no short-term costs and was not changed. That is, a person could continue to make commitments but not follow through on them for months at a time with no adverse reactions except loss of credibility and loss of some support. (However, the plant manager pointed out in response to this description of lack of consequences that in his judgment the organization would not have benefited from additional stress that might have been caused by a strong "consequences" penalty system.)

In a number of situations, the plant manager was led by his feeling of reality-based urgency to intervene directly to reach a solution. By his modeling of expeditious problem solving that gave recognition to the fact that within technical areas especially, decisions cannot always be participative, he hoped to teach more successful methods to the managers who reported to him and to the supervisors who reported to them. Many of the managers, however, resented his interventions, which were informal and relied upon personal relationships and influence to get action. It seemed to some that he was subverting the group process to which the plant was supposedly committed.* One or two observers felt that the plant manager was able to solve problems by the use of his personal power, but this was not tantamount to using leadership skills. From that viewpoint they felt

*A very few people seemed to feel that the use of power or personal persuasion was not legitimate in a PM framework; most others felt that use of authority was justified, if deemed necessary, to carry out responsibilities.

they could not learn problem solving from him since they did not have such power to use. The plant manager probably did have a method (other than power) to his problem solving, but with a small group of managers, with so many vexing difficulties, and with rapidly shifting priorities, it seemed to him impossible to write down commitments, formalize, and tighten-up to attend in more detail to what seemed to him to be routine matters of people carrying through on their commitments and responsibilities with dispatch. The consultants suggested to the plant manager that he make his perceptions, values and reasoning explicitly clear to all concerned.

Comment on problem solving. Because of the abstractness in the problem-solving method, the blocks to problem solution could not be accurately delineated until so much history had accumulated that they were obvious. For example, it was not uncommon during meetings for the discussion leader to invite questions, ask for agreement on a matter, and receive no response--just complete silence. In many cases the leader took silence to mean agreement, support, or commitment--when, in fact, not even a consensual understanding of the particular matter was reached. As the plan or proposed solution was never reduced to written form, the apparent consensus of silence could mask unrecognized disagreements.

Inaction on problems was attributed more often to "people failure" than to other more specific possibilities, such as differently perceived agreements, inadequate manpower or resources, changing priorities, or underestimated time requirements. In those cases where a person seemed incapable of dealing effectively with the kinds of problems encountered in a given job, it was rare that either his job was changed or his skills improved. The plant manager saw no way to upgrade skills in simple, basic problem solving in a situation where the plant population was approaching start-up. The need for such skill training was perceived and appreciated by the plant manager, but he felt it had to be deferred to a later time and under different circumstances. The absence of sufficient feedback to responsible individuals and task teams about the perceived performance problems may have contributed to many failures.

Progress toward QWL Goals

Some QWL gains were made during this period. Communication was improved throughout the plant, primarily through the establishment of regular staff meetings in the departments. Participation in decisions about hiring, and policy development about seniority and layoffs, increased the employees' voice in work-related matters. (Teams reviewed preliminary and final drafts of these policies, often requesting and obtaining substantial changes. Input from all teams was synthesized by the personnel manager.) Jobs for the most part remained varied and challenging. The new pooling team did have a less desirable job, but

the job change was handled with consultation and consideration of employees.

Managers and supervisors became aware of some difficulties caused by the amount of variety or the breadth of the jobs in filtration teams. The original plan called for a filtration operator to be able to do all the jobs in filtration and filling; but a particular task might occur once a week, and if the teams rotated or were scheduled so that each team got to do that task, then one team did the task only once every three weeks. Such lack of opportunity to practice the task led to an inordinately long period before a group was thoroughly trained in any one task. The department dealt with this problem by making each team "temporary specialists" in one part of the process until they were thoroughly trained in it, then rotating to continue cross-training and to reach the goal of task variety.

The QA department held team meetings and critiques when needed during this period, and the teams functioned well, taking responsibility to solve problems and contribute ideas for improvement. Some personnel problems were experienced, but supervisors confronted them or sought help to do so.

February 1975 Project Status

By February 1975, the personnel manager described the QWL project as being "in limbo." Attention to QWL concerns had been constantly put off because of production priorities. Some supervisors remarked that the managers were "fair weather friends" to participative management; they felt that when problems arose the managers intervened without enough regard for the supervisors' or employees' participation. Finally, after the license for the second product was received, the managers met to consider the project's future and HIRI's role. The outcome of this meeting was agreement to narrow their objective to two points: increased involvement in relevant decision making with supervisors and operators, and the development of a feedback system to measure and communicate progress toward production goals (particularly at the operator level). Since, in February 1975, the PI had returned from his scientific exchange visit to Russia, it was HIRI's plan and the desire of C/C management ot have him reestablish a consulting role in the project.

Discussion of managerial progress. It is difficult to judge the swiftness or slowness of C/C's managerial progress. With an inexperienced staff, managerial development in relation to QWL concepts must move through three phases: (a) becoming a supervisor or manager, i.e., forming one's own style, learning supervisory skills, and adjusting to the new role; (b) developing a milieu in which one's subordinates can adjust/respond to the style; (c) expanding the scope of one's QWL concerns, as into the development of advancement systems in support of the QWL concepts. In light of C/C start-up conditions, it probably was not realistic to

expect much concern about QWL-centered systems or about the development of individuals during this period. Thus, some of the HIRI interventions may have been out of phase with managerial and operational needs at this time, including the company's reality-required pressure for very speedy profitable results. Concentration in helping supervisors develop better administrative skills might have been more appropriate.

Needed structure. The events of this period demonstrate how necessary it is to have concurrence of policy, method and structure. People were encouraged to talk out their problems, but the time and concrete organizational arrangements were not provided for them to do so. The value of regular team meetings was never demonstrated. A formal schedule and an understanding of a useful agenda for regular staff and team meetings might have spotlighted the effectiveness of the suggested procedures.

Participative or permissive management? At C/C, "PM" was often treated as if it stood for permissive management, and the plant manager felt that management disunity was in part a result of this perception. He felt what was taught about PM to inexperienced managers and supervisors "undid the normal expectations of managers." According to him, supervisors did not learn to support management once a decision was made. New managers who gave their supervisors much freedom heard a tremendous number of problems, concerns, complaints, and suggestions aired, but did not know how to achieve constructive closure. There seemed to be no time to stop and train managers and supervisors in the basic leadership skills, and their learning and development process was, therefore, slowed.

Focusing on Production Performance: Mid-February 1975 through June 1975

Plant Goals

Once product qualification had been achieved, managers could and did shift their attention to improving process reliability, increasing volume, and reducing expenditures. The plant manager's goal was to concentrate on building effective working relationships, including the development of problem-solving skills within the managerial staff (which he termed "building the organization").

Intervention Focal Points, Including an Interview Survey

The HIRI team centered efforts on finding a way to measure C/C's QWL status as perceived by managers, supervisors, and employees. That assessment would then be used as a basis for setting up new QWL goals, identifying specific objectives, and making plans for their future achievement (plans that would be implemented after HIRI consultation ended). The P-O's efforts also focused on integrating QWL concepts into managers' and supervisors' styles

and on increasing managers' and supervisors' attention to and awareness of differing individual needs for job satisfaction and growth.

In accordance with the plant manager's preference, the P-O worked toward these goals primarily through individual consultation and through interviews with a stratified sample of 45 members of the C/C organization. These interviews asked about members' perceptions of QWL goals and the extent to which they felt the goals were being achieved. The interview study results were expected to be the vehicle for the goal setting and future planning process.

Relevant Plant and Corporate Conditions

During this period, when the company was feeling the effects of the economic recession, managers and supervisors worked under strong corporate pressure to reduce costs. Plant managers had been informed that economy measures must continue until a satisfactory profit status was achieved. With the buildup of fatigue and frustrations and the voluntary resignation of a valued extraction supervisor, the new Vice President for Manufacturing came to the plant to assess the situation and determine what was needed to solve the problems. Constructive outcomes resulted from the visit; e.g., a task force of corporate executives was sent to study the situation, and help if possible. It was reported to the P-O, however, that some key persons in corporate management questioned whether what they perceived to be poor morale in the Centerton plant at that time might in part be an outcome of the managerial style encouraged by the QWL project. The avowed purpose of the task force was to address unresolved technical problems in the plant, and in principle QWL was not really a factor one way or the other. In any case, further events, such as the announcement in May of a two-week company-wide layoff due to occur in July 1975 as a result of excessive inventory resulting from the economic recession, continued to present challenges to the morale of the plant population.

The plant manager expressed the feeling that he wanted to make no new demands on the managers and supervisors; that they needed their time to address their job functions rather than evaluate changes or work on new ways of managing. Events up to this point of time were perceived by a number of persons at Centerton to reflect questions on the part of the new corporate management as to whether a participative style was entirely appropriate to the Centerton plant's operation because of FDA, BoB, and Good Manufacturing Practice requirements.*

*The new corporate management has frequently referred to FDA/BoB controls and Good Manufacturing Practice requirements as substantive reasons for their questioning the appropriateness of a QWL program and participative management concepts for application to the new plant. The consultants have felt that this

In April 1975, a tentative understanding was reached between the plant manager and the personnel manager, acknowledging that the latter's major strengths were in the traditional personnel functions of recruitment, employment, training, etc. He was not as strong in "sparking" the QWL program or getting out into the plant to resolve conflicts, counsel with individuals, or provide another channel of communication to the managerial staff. They agreed that his expectations in connection with these latter functions would be reduced, and that there was plenty of need at Centerton for the utilization of his many areas of strength. It should be recalled in this context that the personnel department had suffered cutbacks in authorized strength, thus placing greater time burdens on the personnel manager to attend to the more traditional but essential functions.

Consulting Intervention Outcomes: Spring 1975

A March 1975 consulting visit brought the HIRI PI back to the plant (joined by the PD and P-O) for the first time in months. The consultants found serious interpersonal tension, divisiveness, and frustration within the management group. It appeared that some reduction in these feelings must be achieved before effective plant operation was to be possible and before the QWL goals could be attained. The HIRI team felt that the problems had the best chance of being resolved if they were brought to the surface and frankly discussed by the managers. A series of communication meetings was held involving the Centerton top management group, with consultants in the role of discussion facilitator, catalyst, group process observer, resource person, and advisor if needed. The meetings consisted of giving invited feedback to each member in turn from all other members regarding what (if anything) each was doing or failing to do that interfered with the plant's optimal performance. The consultants encouraged acceptance of honest differences of opinion, immediate nondefensive confrontation of differences, and the provision of structured opportunities to maintain communication. The results

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indicated a lack of understanding of QWL and PM, or an over-readiness to blame outside forces for the new corporate management's own misgivings about the suitability of PM, at least in connection with a start-up situation. The true intent of PM is to invite relevant suggestions or questions from any or all concerned on unresolved problems or on any matters regarding which employees feel they have worthwhile thoughts. In a responsive managerial climate, employees are motivated to care--to feel creative concern--and many of their inputs are valuable for identifying problems or contributing to their resolution. Decision making thus is likely to become both more intelligent and better understood/supported by those required to implement the decisions. Thus, in sum total, a PM style can take account of reality constraints such as BoB regulations, and be worth the time required to listen responsively, and in net balance, serve to enhance operational effectiveness.

were constructive in the sense of identifying and reducing very serious interpersonal conflicts that had virtually shut off effective communication between two members of top management.

To turn the managers' attention to stock-taking or formative evaluation of the QWL project, the P-O offered to do an interview study assessing employees' views of QWL goal achievement in the plant. The staff agreed to the study, which turned into a month-long project of 45 interviews, followed by a qualitative analysis of responses gathered. All managers and supervisors were interviewed, plus one or two operators from each team selected by the supervisor (at the P-O's request) who seemed to be especially objective about the company. When two operators were selected from a team, the request was for one relatively high and one relatively low performer. The P-O's planned follow-up included meetings with department staffs at which findings would be reviewed and plans made for further QWL development. This expected use of the QWL report (regrettably) was not explicitly negotiated with the managers prior to conducting the study.

The report on general organization findings and a specific department analysis, which was given only to the department manager involved, was distributed in mid-April 1975. The reports were considered confidential, but each manager was encouraged by the P-O to share the report with his supervisors (all did so) and with his peers. The General Findings section of the report is reproduced on pp. 63 to 65. A discussion of managers' and supervisors' use of the report will follow. Sections presenting comments from interviewees about how C/C differs from other workplaces, comments from interviewees about the organization in general or its management, and the P-O's recommendations regarding the QWL and organization effectiveness may be found in Appendix F.

Feedback to each group included findings from the interviews and short- and long-run recommendations from the P-O about improving QWL and effective management. In each department, the overall experience of those interviewed was reported as good. Where the job itself was challenging and varied (as occurred to the greatest extent in Engineering and Maintenance), people seemed to be most satisfied. The extent of employee participation, communication, and meaningful work varied in each department. Specific feedback from the interviews about the degree of attainment of these goals was presented in the department reports. The information was qualitative and from a fairly small sample within each area, but it provided a place to begin assessment and discussion within each group.

The P-O had great expectations of using the report as a basis for future QWL planning in the plant and the departments. The new QWL goals statement recently written by the P-O had been included to stimulate discussion and facilitate goal setting. But no prior agreements had been made by the P-O with the managers about the use of the report, and this oversight turned out to be an

error. Circulation of the report from manager to supervisors took as long as a month in several cases. Discussions were held between the P-O and each manager, but only one or two expressed any plans for intervention based on the information (except where action was already underway such as in designing personnel advancement systems). The plant manager felt that department managers should have a right to do nothing with the findings, if that were their preference, once they had discussed them with the P-O. The report was accepted as another small increment of information the department had about performance, but not something that required action.

APRIL 1975 STATUS OF THE QWL PROJECT AT CENTERTON AS DETERMINED BY HIRI P-O INTERVIEWS WITH 45 EMPLOYEES

General Findings

1. General Atmosphere and Participation

   There is high concern about and interest in plantwide success. Crown has an enviable set of relationships that require protecting. "Crown still cares about people"--this care requires renewed attention because from other cues, it sounds as if the organization may be at a turning point.

   "For success you must have a close knit family--we're all here for the same thing...and I think Centerton is doing this pretty well."

2. Quality of Worklife Project

   There is a lack of clear understanding of the Quality of Worklife Project, but most people could state positive differences between C/C and other places they'd worked.

   Some question was expressed about who "owns" the project--top managers or supervisors or the whole group (reflecting to some extent the division experienced among management). There was also some concern about who shall have a say in what that management style shall be.

3. Meaningful Jobs

   Most jobs--production, maintenance, QA and other service functions--have fair variety, the challenge of learning, some autonomy, and low feedback. There is generally unclear information about the possibility and procedures for advancement.

4. Communication

There is a general openness to criticism, a willingness to listen and to consider change (although it is perceived that there is less openness and more defensiveness among managers than elsewhere). People feel fairly free to give direct feedback though few do it except in some teams at the peer level.

At the supervisor-operator level, information exchange is generally informal (rather than in team meetings) and preferred so. (In fact, a remark was made that what is needed among managers is relationships, not meetings.)

There is a low level of positive feedback and to some extent, low performance feedback of any kind. Also, feedback is not often expressed in specific behavioral statements such that a person would know what to change upon hearing them.

There is some conflict or at least confusion about the role of the service departments. An attitude is communicated by some that if a person or department is not part of the direct production process, he or she or the department is not worthwhile or is at least of very low consequence.

Managers and supervisors select out the information they will pass on to team members, perhaps with a finer filter than is appropriate. Team members cannot participate if they don't have enough information. In addition, a plant-wide concern for success has been generated, yet plant-wide information is not available to each department to keep people apprised of progress.

5. Managerial Skills

There have been few negative consequences or even follow-up when commitments are not kept. While managers have a long time perspective, supervisors and operators who perform specific tasks have a somewhat shorter perspective; and to the latter, the delay in commitment-keeping or problem-solving has reflected poorly on managerial competence.

There has been a lack of methodical or systematic approach to problem-solving and to building interpersonal relationships, perhaps also insufficient communication about the problem-solving efforts which are in fact made (and may have been successful).

Skills in efficient meeting leadership are low; perhaps more preparation is needed, perhaps more training.

From the sample of 45 interviewees, the general impression given is that notwithstanding some criticisms or some things

that could be improved, relatively, in comparison with other companies that also have their problems, Centerton is seen as an exceptionally desirable place to work. On the whole, Centerton has particularly good interpersonal relationships and closeness between employees and management, and offers challenging, meaningful work.

Thus, despite many pressures and certainly a great amount of hard work, from the viewpoint of this third of the entire number of individuals in the workforce, the plant emerges as a well-regarded, progressive setup. The QWL program is given some credit for contributing to this favorable view, but the major credit for it belongs to the plant's management--with or without benefit of QWL concepts.

Comment on the QWL report use. Although the failure in most cases to use the QWL report as more than interesting information was disappointing, in retrospect there was no reason to expect that the report would generate action unless either (or both) of two things had occurred: (a) plans for support and follow-through had been clearly agreed upon by managers before the study was undertaken, and/or (b) the plant manager had used and asked his managers to use the report in the suggested way. There was no norm or model in C/C to indicate the need to do such future planning. The consultants themselves had not demonstrated or emphasized the goal-setting process in the early stages of the project, although as we look back this should have been done. To some extent the P-O was afraid that if she pushed early for commitments to active use of the report, the managers would veto the study altogether. It seemed more important to carry out the assessment at that time, even without such commitments. If we were doing the project again, regular review points and procedures plus standards for goal progress measurement would be recommended to management at the outset. A procedure such as the QWL interview study should not be taken until enough that a memo of understanding, in effect constituting an informal "contract," can be agreed to by all concerned.

One block that had inhibited goal setting and QWL progress review was revealed at the end of the project in the plant manager's responses to this report. According to him, he had perceived no need for (and no existence of) goals other than the one plant-wide goal: i.e., to get production successfully underway. The HIRI group recognized and fully appreciated the production goal, but perceived that there could be--and needed to be, if a commitment to the QWL method was made--a subset of objectives about how the main goal was to be achieved. It may be that this hitherto undiscovered difference in perception could well have been a key obstacle in many intervention efforts.

Managers and supervisors at this time did not recognize the need to deal with small problems of communication or participation

early, before they became significant sources of discontent. It apparently was difficult for the managers and supervisors to grant the same degree of importance (a degree that calls for action) to a personnel problem as to a process or equipment problem.

Final Phases of Consultation

In order to build a base of support and responsibility for the QWL project within the organization, the P-O suggested to the plant manager the creation of a committee with representatives from all organization levels to function as a QWL development group. It would seek new knowledge about QWL programs that might help C/C improve, would recommend goals and objectives to the managerial group, and would monitor QWL progress in the plant. The plant manager's response was that until greater production stability was achieved, C/C could not afford the time and energy required for such an effort. He felt too that the plant personnel needed more experience in the current arrangements before a structure was set up that might review progress and consider changes.

The concept of a QWL development group was a good, if late, idea. However, by the time the P-O recognized and pointed out to the consultants the HIRI team's failure to provide originally for an in-house steering committee, the plant was bedeviled with continuing technical start-up difficulties and the plant manager was under great pressure to get them straightened out. If the HIRI team had proposed this idea earlier, they might have helped the plant manager see that such an arrangement had real likelihood of strengthening his ability to cope with many of the problems he wrestled with each long day. In contrast, however, most managers commented in the October 1975 draft review that such a committee probably would not have altered project outcomes.

During this period, technicians and operators were becoming more experienced in their jobs and some of them had come to react to portions of the tasks with discontent, finding them boring and routine. Many wanted to hear more about advancement opportunities, preferably some in the near future. However, managers, and through them supervisors, became more concerned with cost savings and efficiency. In some jobs rotation was minimized for the sake of presumed efficiency, with preferences of operators overridden. Too, managers who were more accustomed to long-range goals than were first line employees found it hard to accept that employees, after less than a year of experience, were champing at the bit for new challenges and advancement. The P-O's interventions about job rotation and task variety wherever practicable did not seem to have much impact on managers and supervisors. There was clear acknowledgement by the personnel manager, though, of his responsibility to prevent insofar as practicable the design of jobs with little motivating potential. In the case of the P-O's relay of concerns about advancement opportunities, the managers, while not uniformly ready to act on this matter imme-

diately, nevertheless seemed to accept the legitimacy if not the urgency of employees' desires for advancement. In several departments, collaborative design of advancement systems by managers, supervisors and employees was in fact begun.

Some managers and supervisors began to "push down" tasks to their subordinates. For some this effort was perceived as developmental training; for others, a response to employees' needs for more challenging work. Interventions that encouraged regularly scheduled opportunities for communication seemed to pay off during this time. Each department by now was holding regular staff meetings between managers and supervisors, and several established or reestablished regular meetings with teams. For example, the Engineering and Maintenance department started holding a weekly communications meeting on Friday afternoons. Meetings between shifts in one department were held to deal with existing problems and increase communications so as to anticipate and avoid problems. Another channel of communication was opened when the plant manager began holding monthly meetings with representatives of each team in the plant. The purpose of the meetings was not only to share information and respond to questions or problems, but also to promote understanding among departments and between teams.

Efforts were made to meet the managers' objective to provide performance data. Comparative data about the plant's performance in two areas were provided to all employees, allowing them to see some of the outcomes of their efforts. Data from the corporate personnel department showed that the Centerton plant had an employee absence rate of 2.3 percent, the lowest among the company plants. Production yield data comparing Centerton with the West Coast operation also were provided.

Articles about QWL programs and specific components (e.g., safety programs) were distributed to the personnel manager and other staff members. These articles were intended to stimulate alternative ideas or solutions to certain types of problems when only traditional or standard responses were being offered to questions or concerns. When training plans were being made, the P-O recommended that present supervisors and managers become involved in supervisory training and in new employee orientation to share with new supervisors and employees their ideas and experiences with QWL concepts as applied in actual work situations. This was not done, however, because of (a) the need for the supervisors and managers to spend time in training in basic supervisory skills, and (b) a preference by the plant manager that each supervisor be encouraged to develop his own individual leadership style.

The managerial group appeared to feel that the series of communication meetings facilitated by the consultants in March had constructive and lasting effects. The plant manager reported a month later that some favorable change in interpersonal relation-

ships had occurred (he did not detail the nature of the change). During the April 1975 consulting visit by the HIRI PD, however, the plant manager expressed the feeling that less direct attention should be given now to attitudes and feelings; that the focus now should be on task performance effectiveness, and if attitudes/feelings or interpersonal problems appeared relevant to that objective, they then could be attended to ("People are tired of working on relationships instead of working on the job"). The consultant commented that attitudes, feelings, and interpersonal relations could be expected to significantly affect task performance, as already had been clearly demonstrated. If managers acknowledged the possible relevance of these factors, there might then be greater "readiness" to deal with them.

In the April 1975 visit, the PD followed up, through discussion with the managers and supervisors, on two points noted in the P-O's status report based on her interviews with 45 employees, namely, clarification of the meaning of PM, and a question that had come up about who "owns" the QWL project. While at the plant, he was asked to consult with a manager who was having some difficulty handling his job responsibilities. This involved personal interviews by the consultant with the manager and each of the supervisors who reported to him. Tension reduction and a more open work climate seemed to follow from this open discussion. Further, during observation of the weekly staff meeting which the plant manager held with all department heads, the consultant tried to facilitate more effective meeting leadership.

Another factor, in addition to the consultants' March 1975 intervention, may have influenced the increased degree of willingness in the Spring and Summer of 1975 to identify and confront problems openly. A new department manager had joined the company in January, and it was his style to address quite directly problems that bothered him (but not necessarily those that bothered others). He observed to the managers that the C/C staff avoided conflict and said that was not his way of doing business. This manager's behavior not only demonstrated the method and often good results from confronting problems, but also forced people to respond to him in such a manner, perhaps thereby learning to become proactive in facing up to problems. On the other hand, his style tended to be autocratic, and to de-emphasize employee participation in decisions affecting the organization and structure of the work. This led to resistance and tension in his group.

The final consulting visit by both consultants came in June 1975 when several meetings were arranged for evaluation of the QWL program. The consultants were asked to and did present their perception/evaluation to the managerial group about where C/C stood in the consultants' opinion with reference to the QWL project. The HIRI group then invited feedback from all managers and supervisors about their perceptions. (The evaluations follow in a subsequent section of this chapter.) Several developmental counseling interviews were held during the visit, and arrangements for future HIRI involvement at C/C were made.

After the June 1975 meetings, the P-O left the plant site except for brief weekly visits. Her help was available upon request, but it was little used. It seemed that C/C wanted to deal with its QWL program at its own speed and with its own resources. To a certain extent such independence is a desirable condition for withdrawal of a consulting intervention.

Progress toward Plant Goals

Strong production progress was being made during this time period, some of it a consequence of re-invigorated group problem solving, perhaps more of it from specific technical contributions made by the task force created to do this, and from specific qualified individuals from the plant and headquarters. Few major technical roadblocks existed now, none of which stopped the production process as had happened in even the recent past. The plant was licensed in May 1975 to sell an additional new product, and proved itself able to operate near full capacity. Data on product yield continued to improve--exceeding corporate projections and nearing the long experience record of the comparable West Coast operation. Concentration on problems in processing techniques among the four supervisors and the extraction manager led to a 33 percent improvement in one product's yield over a period of three weeks. A core of well-trained technicians was able to operate without much direct supervision. Promotions were made, including the promotion of a maintenance technician to a newly created supervisory role.

Managers' and Supervisors' Evaluations of the QWL Project (June 18-19, 1975)

Four meetings for QWL project evaluation were held during the last visit of the consultants in June 1975. Two of them involved the HIRI project team, the plant manager and the personnel manager, and two larger group meetings included (separately) the other managers and the supervisors. At the group meetings the HIRI team provided feedback to the group about their perception of its QWL progress, and solicited feedback from C/C about any aspect of the project.

In the opening meeting (with consultants, P-O, plant manager, and personnel manager), the plant manager explained some of the factors that had been involved in the recent decline of at least some managers' enthusiasm for QWL efforts: (a) based on their experience with, observations of and inferences they made regarding the new owners, local managers questioned whether the new owners valued or supported the QWL project at Centerton; (b) the plant manager didn't want his own Centerton managers to get any misimpression (and thus tell headquarters) that he felt having good interpersonal relationships took precedence over getting the plant into production; (c) the plant manager felt that the vice president for manufacturing might be wondering whether the previous management divisiveness at Centerton was in part due to

what might have been perceived as the permissive aspects of the project--the tendency to take pains to hear people out and understand their views--when at times firm decisiveness and demand for organizational discipline "or else" might very well seem to be more appropriate.

The evaluation meeting with managers was informal and unstructured. Following HIRI's feedback to the group (which included some of what is presented in this report), each member of the group contributed comments. The following points were brought out by various persons, including the HIRI team, with regard to how the project implementation might, in hindsight, have been improved:

1. HIRI should have been more assertive (for some managers), but was constrained by plant conditions;

2. ISR survey feedback was ambiguous--and so was its usefulness, especially as "one more thing to do" for managers already under stress;

3. there were weak spots in the content of training--insufficient attention was given to development of basic supervisory skills and to clarification of responsibility, authority, and the process of decision making in the context of "organizational discipline"--that is, support for decisions made until/unless those decisions were changed; also, not enough problem-solving training;

4. goals and standards for the QWL project should have been established and communicated more clearly to all concerned, perhaps with the addition of a "contract" or agreement signed by all concerned to signify understanding and acceptance;

5. conflict resolution seemed to have been avoided under C/C version of PM, in favor of maintaining superficial harmony, whereas more direct confrontation of issues on a face-to-face basis probably would have been better.

Some other observations were:

- Group problem solving and PM concepts had been responsible for significant achievements in at least one production department, and QA felt that the QWL style had been productive for their department.

- HIRI's availability for personal counseling had been of value.

- PM was just another name for good management and supervision; having another name created misunderstandings.

- PM made it more difficult to hire or fire.

- PM was a much more difficult managerial style than traditional styles, and there was a question as to whether it was appropriate to the start-up situation--although the organization should be using PM within six months to two years after start-up.

Because of the key role the plant manager played in the outcomes of the QWL project, his evaluative comments to the group are presented in full on page 71.

Supervisors met with the HIRI team on the day following the managers' meeting. The feedback presented here is from a rather limited sample of supervisors: no maintenance and no filtration or extraction supervisors were present (except a brand new extraction supervisor and one on temporary assignment to Centerton from the headquarters plant. Nearly all of the contributions were from the QA department. While the QA people felt very favorable to the QWL concept and practice, the spirit of the meeting was to inquire how the project or implementation might have been improved. In that spirit, they observed:

1. extensive emphasis on team meetings during training conveyed the (mistaken) impression that that was all there was to PM;

2. such emphasis tended to subdue <u>individual</u> initiative to solve problems;

3. more discussion and training with regard to the key ingredients contributing to effective supervisory style would have helped them develop more flexible ways of managing;

4. the (incorrect) impression was conveyed in training (both for supervisors and employees) that almost every decision would receive input from the group;

5. more help was needed in understanding and implementing job enrichment concepts;

6. the QWL project itself was unclear to some, despite the (admittedly) many written and verbal attempts to make it clear;

7. the company had unrealistic expectations about young and inexperienced supervisors' ability to manage;

8. provision should be made to orient new managers and supervisors to the Centerton management style after the formal project ends;

9. an in-house QWL development person, plus a responsible steering committee or QWL improvement committee probably would have provided needed support to the project.

During the final discussion with the HIRI group, the plant manager commented that he had not been able to devote the time he had expected to commit to the project because of the extensive and engrossing technical problems that had been experienced in the start-up situation.

Discussion

The greatest need throughout the plant's history has been perceived by the C/C staff as the solution of technical difficulties. Some expected the QWL program to solve their problems, then were disappointed when they felt it was not doing so. The plant manager felt, in reviewing the history, that "we taught QWL before we taught supervisors and managers how to do the job; but if you can't do the basic job, then you're not going to invite the P-O in to help with QWL." As a production supervisor put it, "We took what we could at the moment. Now (a year after start-up) would be the time to start a QWL intervention."

The need for strong managerial skills has obviously been a recurrent theme. At least one manager felt in his review that "If you have to be very basic (with the managerial-supervisory group in a given organization) about problem identification and problem solving, then you probably have no business (or there is not adequate readiness for) trying QWL." From the point of view of many employees, however, the QWL project has affected the work experience at C/C in a significantly positive direction.

Plant Manager's Quality of Worklife Feedback--6/18/75

The plant manager offered the following observations:

1. Key production people were selected more on the basis of potential than experience with process, manufacturing or supervision. Less than 50 percent had any experience in manufacturing or supervision. Less than 20 percent had start-up experience. Anticipation of problems and planning for them, and in some cases around them, was therefore very minimal. The net result was a lot of frustration for everyone involved. A very difficult job was made even more difficult due to lack of experience and mismatch between expectations and actual demands of plant start-up.

2. Initial training had certain deficits:

   - It gave major emphasis to a particular style of management but provided little training in basic supervisory skills. Authority of the supervisor as well as responsibilities seemingly was not adequately understood, and perhaps the training program should have anticipated this need and covered it.

- It set up ideal expectations without proper preparation as to what should be expected from a start-up situation, i.e., equipment problems, demands on personal time, etc.

- It did not provide sufficient training in problem-solving techniques nor define responsibilities and authority on the part of managers and supervisors to resolve problems.

3. Structure during start-up was too loose. Boundaries were very wide but lacked definition and understanding. It perhaps would have been better to start with well-defined and understood structure, then loosened after start-up and after major process and equipment problems were resolved.

4. Most training had to do with operating in a democratic way. The organization had very little flexibility for operating in an authoritarian mode when occasionally necessary; thus, there was not much commitment to those decisions for which people had no involvement. This lack of understanding and lack of flexibility presented major problems under the stress and pressure that the plant was subjected to because of financial difficulties. The organization was unable to accommodate honest differences in opinion about the nature of the problems that existed and the proposed solutions to them.

5. Because of many circumstances in preparation for and during start-up, there was little opportunity to develop meaningful relationships of mutual trust and confidence among the key members of the organization. Such relationships provide the glue necessary to hold an organization together under stress. This we did not have, and under stress the organization became very shaky and ineffective.

Crown/Centerton: July-October 1975

Intervention Status

Active HIRI involvement with the C/C staff ended as of June 1975. Since then, the P-O spent some time with the plant manager and personnel manager prior to a training session for new supervisors on the subject of management style. The aim of these discussions was not so much to influence the content as to assure that the plant manager clearly stated a management philosophy to the supervisors and his recommendations for supervisory style. The content of the training program was changed by the personnel manager to reflect some of the needs experienced earlier.

After the last consulting visit in June, the PD tried to facilitate corporate support or at least better understanding of the Centerton project through a meeting on the West Coast on

July 28, 1975, with the corporation's president, board chairman, and vice president for manufacturing. The meeting cleared up some misunderstandings and gained verbal concurrence about the merit of the QWL ideas in general. The corporate management agreed to allow the project to be completed as intended. (Their objection had only been to the completion of the comparison study with headquarters by ISR.) The meeting did not result, however, in communication of active support from the corporate to the plant level.

Centerton Personnel Changes

The months of July and August 1975 were marked by an unusual amount of change. There remained a restlessness among some employees, particularly managers and supervisors, about their jobs. Upon reutrn from the two-week layoff in July, a number of resignations were submitted in the management/supervisory level, although only one of these was unanticipated. The major determinants in the terminations seemed to be related primarily to the job content and expected lack of future promotion opportunities. Long periods of frustration and inability to solve certain problems because of financial strains contributed to the departures. Further, three supervisors were actively recruited by an employment agency for positions in another company. Changes occurred in the engineering manager, accounting manager, good manufacturing practices auditor (who left for a promotion to headquarters and an assignment out of the U.S.) and extraction supervisor positions.

QWL Expectations as of August 1975

A new supervisory training program was conducted in August by the personnel manager. It included substantial presentation of motivation and job enrichment concepts. The plant manager was ambivalent at this time about how much, if any, information should be presented to the newcomers about Quality of Worklife efforts and the concomitant managerial style.

In his presentation to the supervisors, the plant manager said that at C/C "We tried to create a different work situation for ourselves...[based on] some experience and evidence that people are more productive and more satisfied if they are involved."

The plant manager commented that he had learned (and it was known from the research literature) that different people have different capacities for using a participative style. Thus he urged the supervisors to respect their own feelings of readiness to use participative methods. "We approve of and encourage your experimenting with this kind of management--and there is no penalty if you don't succeed with this style...Find some style of supervision that works for you." He encouraged the supervisors to do two things: first, to invite suggestions and ideas about matters that affect their people; and second, to communicate thoroughly

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about such matters. He pointed out that he felt that the management style did not need (and probably did better without) a "handle" like job enrichment or participative management; rather, the supervisors could better communicate their concern through their behavior. He brought out some of the advantages of group input to problem solving and recommended that they take care to design challenging and varied jobs with some closure (completion of a whole or substantial part of a product) to them. In this manner, he continued to support some of the key concepts underlying QWL improvement.

Organization Performance, September 1975

In mid-September 1975, the plant manager reported that production and other problems were gradually being solved and managerial performance improving. For example, critiques were being held by a multi-level, interdepartmental group after each product fill. With somewhat more time and a few new members of the managerial staff, the plant manager felt he now had the opportunity and the appropriate group with which to do some organization building. He had more time to go out into the plant and work with managers and supervisors on creating an effective supervisory style. Some of the training offered to new supervisors was being presented to the managers by creating time for it through extension of the weekly staff meeting.

V. EVALUATION, LEARNINGS AND RECOMMENDATIONS: WHAT SEEMS TO HAVE WORKED WELL... WHAT HAS NOT... AND WHAT MIGHT WORK BETTER IN THE FUTURE

In the complex experience of working out the relationship of the C/C organization developments to its QWL program, a tremendous number of trial-and-error adjustments have occurred. Much can be learned from this about how better to implement a QWL program and how to avoid certain kinds of pitfalls.

Conditions of the Intervention

The C/C intervention took place in a new plant, small in number of personnel, without a union, and in a rural setting. CMS had had positive experiences with the consultants in the past, and had tried some aspects of QWL experimentation on a small scale in another plant, with considerable success.

There were some significant adverse conditions which affected the project experience, as listed below:

1. The corporation experienced serious financial difficulties during 1972-75, thus the plant opened and operated at a time of severe financial stress. As a result of overall economic conditions and the tight money situation, the plant was on a very stringent budget during construction and start-up. This, together with the corporate drive to attain profitability, served to magnify problems that arose at the new plant site.

2. Unexpectedly, ownership of the corporation changed during the project. The new management had not been a party to the CMS-DOL-HIRI-ISR arrangement, and for a long period was not aware of its existence.* Thus, they had no personal

*When a draft of this report was submitted to CMS top management for their review, they commented as follows with reference to this point: "The new owners were not parties to this experiment and, when they learned about it in the course of time, demonstrated a generally neutral attitude. The project continued without interference and the contractual agreement to carry out the consultation was not abrogated. However, some individuals at the plant misinterpreted the lack of any particular involvement in QWL by the new corporate top management and considered it to mean disfavor. This understanding affected their commitment to that effort at the plant."

It may be that the intent of the new owners toward the QWL experiment at C/C was to manifest neutrality. However, the HIRI consultants found clear evidence among some key personnel in the plant that they were significantly affected by what they per-

investment in this arrangement and did not meet with the HIRI consultants and ISR for a discussion of the project until July 28, 1975.

3. Manufacture of the biological products produced at the plant was tightly controlled by the government through FDA and the Bureau of Biologic Regulations and Good Manufacturing Practices. Procedural regulations sometimes inhibited independence of action with regard to the manner of task performance.

4. Distance from corporate headquarters and from engineering and technical assistance was substantial, and inhibited rapid and frequent help on-site.

5. Only a few people in the C/C workgroup had significant managerial and production experience, and even fewer were knowledgeable about the special difficulties of start-up situations.

6. There was no influential CMS person at either the corporate or the plant level who was particularly knowledgeable about and competent in the practice of QWL interventions. The HIRI research project was on a tight budget, which sharply limited the amount of time the PD and PI could spend at the plant. One consequence of this was that the Centerton plant personnel manager, who was the primary plant staff coordinator and internal "champion" for the project, and who lost his own assistant personnel manager in the company's staff reduction to achieve cost savings, felt that he did not have sufficient time/support from the consultants (despite the full-time presence of the HIRI P-O) to continue his heretofore active role in the project. He was now too "snowed" by the bread-and-butter requirements for personnel recruitment, selection, etc.

7. The anxiety of inexperience, the strong corporate pressure to provide income by successful production, and the number and magnitude of problems with equipment and processes created an extremely high level of stress among managers and supervisors. This resulted in a widespread feeling that there was "no time" to do anything other than wrestle directly (literally day and night) with "debugging" the problems that were preventing the plant from getting into productive operation.

8. The plant had been scheduled to begin operation in January or February, 1974. With that in mind, the HIRI PI felt

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ceived (or perhaps misperceived) as the new top management's probably unintended, but nevertheless, in effect, subtle sabotage of the program by means of withheld enthusiasm.

there would be no problem in continuing plans for a scientific exchange fellowship in Russia, which had been scheduled to begin July 1, 1974, about 4-5 months after projected start-up. As construction, equipment delivery and technical delays mounted, the plant was not able to begin operation until June, 1974. Thus the PI was absent during the problem-laden start-up period, with the PD and P-O covering his role as best they could within a budget that did not permit many visits by the PD who was located in Los Angeles*

What Worked Well

In spite of the difficulties described above, having the consultants and P-O in the plant stimulated new thinking, increased the range of considered alternatives in problem solving, and probably helped some people deal more effectively with an extremely stressful situation. As one supervisor stated privately to the HIRI PD at the conclusion of the October 1975 meeting held to review the first draft of this report:

> I'd like you to know that the opportunity to be here and participate in this QWL thinking about how to manage an organization has been a priceless and gratifying experience for me. I'm young, and this is my first supervisory job. Without the experience, training, reading and thinking about the concepts I've been exposed to here, I might have fallen into the mold of a traditional, authoritarian management style. What we've been talking about here and at least some of us have been trying to practice--usually with gratifying results--fits my values and personality. I will carry what I have learned here with me for the rest of my life, and for that I am grateful to you.

Or, as another supervisor commented privately after the review meeting:

> QWL concepts are continuing to be used in the production deaprtments. One should not expect the QWL concepts to solve the company's technical or financial problems (as some people seem to be expecting). The

*If the principles of QWL improvement efforts and PM had become a systemic part of C/C's philosophy and style of operating, the impact of a particular consultant's departure would not be severe. In this case, if that departure seriously attenuated the thrust of the consulting intervention, a major shortcoming pointed up thereby is that the QWL project was perceived by the C/C people more in terms of personalities than in terms of guiding principles, or not as basically a C/C project, with HIRI only in a resource role to help C/C implement it.

> QWL project did and does this: It makes operators and supervisors closer, more tolerant [of the jobs and of problems], and more willing to work...PM means that you respect the people who work for you. How you involve them (one-to-one or in a group) is less important.

Probably one of the most effective parts of C/C's QWL program was the design of jobs with large boundaries (despite some BoB limitations) and flexibility for individual task variety within teams, allowing for substantial motivating potential in the jobs themselves. Where there were generally undesirable tasks (such as cleanup) which nevertheless had to be performed, those tasks usually were alternated with other, more desirable ones.

Employee teams seemed to recognize the advantage of cooperation and moved to give help to other members and even other teams where needed. In many teams there was appreciable openness, with numerous suggestions from employees for work improvement and a willingness from most to question management if they felt it necessary.

The managers, supervisors, and original production technicians (those hired in February-March 1974) took part in writing personnel policies and procedures by which they would be governed. As the necessity for a new policy would arise, a draft of the policy was reviewed by the teams. Suggested changes were incorporated where possible, and the revised policy then issued. As a result of these procedures, there were few difficulties or complaints about the policies, and there has been good compliance with them.

Within departments where changes in the work arrangements or policies were planned, these changes were usually discussed with employees before implementation. Where shift schedules had some flexibility (as in maintenance), the technicians had some say about the final arrangements. Where systems (such as advancement systems) were as yet incomplete, supervisors and employees usually took part in their design. Such regular participation in design and in planning seemed to make for smoother implementation of the change.

Managers and supervisors were for the most part sensitive to employees' communication needs. Substantial efforts were made to pass on information about plant and corporate events. Improvement in information flow was made over a period of months, particularly when regularly scheduled staff meetings were established. Even when the staff was under stress, unhealthy rumors contributing to contagious anxiety were minimal.

One department in particular assimilated and applied the concepts of the QWL project quite thoroughly. The QA department seemed to use participative methods of decision making, had several teams that took on responsibility for self-direction (using the super-

visor as a resource person), and held critiques after major task efforts. Some special conditions distinguished this department from most of the rest of the plant. Its employees were semi-professional people (mostly with training in biochemistry or microbiology) who had at least two years of college. Further, the entire department worked on one shift (and thus could get together more easily), and the group had a reasonable workload without the equipment or process problems that beset the production group. Of greatest significance to the implementation of project goals was the department manager's outspoken and public commitment to a participative style of management.* He conveyed his expectations to his lab managers and supervisors, encouraged them to attend training sessions and use consulting resources, and modeled the expected behavior himself. He was very specific and persistent in his task demands--to the point of appearing autocratic at times--and fought forcefully even to the corporate level to get policy or procedural changes he felt were needed. His supportive behavior was responsible for the integration of the project concepts into the day-to-day operational style of the QA department. That is, for the QA department, participation was the work-style, not the idealized goal of a research project.

The concept of participation (if sincerely applied) suggests to employees that management recognizes and respects them as individuals, not just as contributors of needed labor or skill. In the Centerton plant this philosophy of respectful regard for individuals was generally practiced and had several beneficial effects for the corporation. The new plant and the expectations for a better worklife seemed to give managers, supervisors, and employees greater psychological and physical energy and stamina to commit to the demands of start-up. Too, it seemed that employees had greater tolerance for the frustrations of delay than they might have had in a traditional setting. The ISR survey data tend to confirm these P-O observations.

What Did Not Work Well Enough... And from Which There Are Lessons to Be Learned

There were some issues and areas that created confusion and problems and some things which just didn't work out well. It should be kept in mind that the Centerton plant is still young and developing, and that projects of this type often require a longer period than more traditional interventions before the desired outcomes can be achieved.

*It is worth noting that he felt from the outset that his performance as a manager would be judged not only by whether the QA department could do its professional job, but also by how well he implemented the QWL concepts in his department.

In pointing up problems that prevented consistently effective implementation of QWL concepts, we will be basing our comments primarily on data from the production department. The quality assurance department understood, adopted, and implemented QWL principles effectively, beginning immediately after the initial QWL training workshops. The other departments were somewhere between these two extremes, but for the most part the critical difficulties in implementing the QWL project occurred in the production department.

Relationship between C/C QWL Project and Corporate Headquarters

The corporate headquarters had reason to feel supportive of the consultants and of the QWL project at its inception. The subsequent change of management and the financial difficulties preceding that shift lessened attention to the project. The consultants had no direct relationship with the new corporate heads. Making contact, setting up a relationship of trust, clarifying the QWL philosophy, and reconciling it with the new management's aims could not be achieved in time to muster support for the program. Yet, in carrying out an innovative program it is essential that contact be maintained with the influential members of the hierarchical ladder. Where an innovative program may run counter to existing policies or philosophies, it becomes particularly important that constant clarification of the goals and feedback as to the progress of the program be offered those whose support is necessary. Otherwise the effectiveness of the program can be jeopardized.

It is important to add that most of the perceptions that Centerton plant members (and, through them, HIRI) had about the new management's philosophies came from inference. No direct statement about philosophy or about convergence with or divergence from QWL concepts was ever made. Early clarification of corporate position should have been elicited as the management change was made. This was not done because HIRI's points of contact with corporate headquarters advised against making a special point of the C/C project when the new management's attention was focused on major problems of turning the company around from a position of serious financial loss to a position of profitability.

The authors have no estimate on how rapidly new management could have been rallied to the support of the QWL program. That it would have been essential to full program success cannot be doubted.

Staffing Problems

In the original selection of managers and supervisors, C/C may have built in some handicaps for itself by at times emphasizing technical background (even if narrow and not directly related to production of biological products) over demonstrated managerial

ability. In other cases individuals were selected on the basis of their developmental possibilities and "potential comfort with QWL concepts," rather than on the basis of combining such comfort with either a record of technical experience in extraction (which was hard to find), or at least with a record of effective managerial performance in a manufacturing plant. Such a combination --if persons with all these qualities could have been found-- would indeed have been desirable.

The time demands of the start-up situation did not allow C/C to capitalize on the supervisors' and managers' developmental possibilities. In addition, the Centerton plant was handicapped by the selection of two managers with a long background of interpersonal friction between them at the home office plant where both had worked. Their transfer to Centerton was made as a calculated risk, with knowledge of their previous history. They both had extensive, valuable experience in handling a group of biological products that were very sensitive and difficult to produce on a regularly repeatable basis. There were few persons with such experience who could be spared from the home office plant, and in fact relatively few in the country (or even in the world) with this sort of specialized know-how. Both wanted to move together into this new situation where they could "start afresh," and the risk seemed worthwhile.

The plant manager, while a graduate engineer experienced in production and plant management, was not expert in or experienced with the technology of producing the kind of sensitive biologicals which the Centerton plant was designed to turn out. Thus, he had to depend on his production managers and on the quality assurance department for the carry-through of the plant's intricate technology.

The choice of an individual to be personnel manager, who also would have prime responsibility for support of the QWL program, is quite important for the success of the intervention. While the personnel manager in Centerton had a substantial background in traditional personnel work, had good administrative skills, had fine conceptual knowledge of the QWL ideas, and was a gentleman with personal integrity, he did not provide a particularly dynamic model in training or in shop floor counseling. He did not offer a high degree of public advocacy of QWL concepts. His sometimes hesitant responses to initiatives for change or exceptions to rules may have stifled willingness on the part of others to bring suggestions or requests to him. In all fairness, however, he was hindered by having a limited staff and by having to devote so much time and effort to trying to get the corporate personnel department to make certain exceptions to corporate policies and procedures necessary for the QWL project. This was misunderstood by some managers and supervisors as reluctance on his part to make changes. The fact that so much of the responsibility for providing internal C/C staff championship and monitoring of the QWL project was given to the personnel manager

rather than having this function performed by a steering committee from all levels of the plant was an error in intervention planning.

Turnover of Non-Supervisory Personnel

In the long run, less turnover occurred among QA and E/M personnel than among production employees. Some managers suggest that the QA and E/M employees had more realistic expectations about work because they were hired by experienced managers rather than inexperienced supervisors, and because they had less exposure to the QWL orientation training which some managers came to feel may have stimulated over-idealistic expectations regarding what they would have to do on the job. Of great importance, though, may be the fact that these employees (QA, E/M) always had enough work and usually challenging work to do. In contrast, there were many long periods during the first four to six months of start-up when production employees felt semi-idle, working primarily at housekeeping tasks rather than being directly involved with production tasks. The resultant disappointment, boredom and frustration of production employees may have influenced the greater turnover in these departments.

Problems in Training and Transition to Practice

In his critique of the QWL program, the plant manager suggested that the QWL program did not meet the need for basic supervisory training, but the HIRI team never saw this as one of its responsibilities. In discussing this difference with the plant manager (1/30/75), he agreed that this may not have been part of the HIRI responsibility. He thought that the HIRI role in this regard was never explicitly stated. Whatever the cause, it became clear to the plant manager and to HIRI consultants that most of the production management group at C/C did not have the essential managerial and supervisory skills. This deficit alone was sufficient to account for many of the problems that arose, not only in the implementation of the QWL program but in all facets of plant life. Without adequate managerial and supervisory skills, the HIRI workshops on group leadership, decision making, and individual leadership responsibility were not sufficiently attuned to the "learning readiness" of the managers and supervisors.

In effect, HIRI consultants attempted to train C/C managers and supervisors in participative management principles and techniques before these individuals had sufficiently developed the essential management and leadership skills. The HIRI consultants' failure in this regard was in not recognizing the deficiency in basic supervisory skills in time to recommend ways of remedying it before proceeding with further training in participative management techniques.

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To put this problem in another way, the content of the training program did not adequately meet the need for basic supervisory training or for establishing goal-setting, planning, or problem-solving skills. The program design was based on over-optimistic assumptions about the skill levels of incoming managers and supervisors, and the nature of what they would be called upon to do in order to create and sustain a successful QWL program. The self-modifying checks which would have allowed the training program to be altered when this became apparent had not been included. The C/C design, we discovered, needed to be modified to clarify or elaborate the following points:

1. Decision making: Who makes the final decision and how binding is the decision when there is disagreement in the group.

2. Responsibility: The prime responsibility of the manager or supervisor to get results, but without pre-empting the sense of responsibility necessary to each team member.

3. Appropriate organizational discipline in a QWL environment: In an environment where good, close interpersonal relationships are sought between supervisors and employees or managers and supervisors, it seems to be difficult to correct subordinates or apply sanctions if and when problems arise. It seems to be difficult to be a friend and to be firm. Exploration of the difficulties and help in achieving a good balance needs to be provided to the managers and supervisors.

4. Leadership responsibilities: The program did not include sufficient focus on group leadership skills, such as how to elicit effective participation, how to achieve closure with or without consensus, and how to develop common understanding of how a decision was reached and who would be responsible for implementing it. The PI did model this and did explicitly discuss the relevant principles, but apparently more time, repetition and emphasis on this subject was needed with this group.

5. Contraindications to the use of QWL concepts.

Although time was spent both in the training programs and in personal consultation on interpersonal feedback processes and on cultivating nondefensiveness, conflict at C/C was not faced openly and with goodwill. Because frank feedback involved risk--real or merely perceived--for the individual, the problem-solving

process was slowed down significantly by the withholding of open communication.*

To facilitate the transition from training to operational practice, HIRI had counted on managerial models and on strong assistance from the P-O. Those models and that assistance did not suffice. Some confusion developed among managers and supervisors about the kind of leadership image to present. Some managers and supervisors felt that there was no place for strong (assertive) leadership in a participative environment. Varieties of leadership designed to meet different circumstances were not adequately demonstrated. The inhibition of leadership in the sense of close monitoring for excellent performance was perceived by some supervisors as contributing to overly long tolerance of employee performance inadequacies. This, in turn, created some misunderstandings and less than optimal results.

Difficulties in Implementation of QWL Objectives

Several managers questioned whether the start-up period was an appropriate time to begin the QWL intervention, i.e., whether there was "organizational readiness" for the program. Given what was learned about the basic skills of the participants, perhaps the project should have been implemented in stages, beginning with a few concepts, clear translation to practice, and good modeling. The consulting resource help that was available then might have been used more effectively.

In the implementation plan, there was no specific internal group or influential individual with clear responsibility to advocate the project. The personnel manager functioned as a liaison and trainer for the project. The plant manager's staff seemed to be the relevant decision-making group, but the plant manager never really gave them (or some subset of them) responsibility for implementing and monitoring progress of the QWL efforts.

The plant manager initially spoke of assuming this responsibility himself. However, as production pressures on him grew to an almost overwhelming degree, and as he encountered confusion about

*In contrast, however, the plant manager commented in his review that he felt too much attention was devoted to trying to facilitate good interpersonal relationships and that this left the impression that if they were not good the organization could not operate effectively. He pointed out that many organizations do operate successfully without special concern about the character of interpersonal relationships. He felt that we should have concentrated more on how, in terms of managerial and supervisory skills, to get the job done, with consideration of interpersonal relations as relevant primarily to that context--thus as a means to the end of operational effectiveness and not (as he perceived it) as an end in itself.

and misinterpretation of QWL concepts, his own commitment seemed to weaken. This inadvertently encouraged those managers and supervisors who were not strong supporters of QWL to begin with, to revert to a more traditional managerial style, and aroused doubts even among the enthusiastic advocates.

A written set of mutually agreed-upon QWL objectives with specific implementation plans was not established, nor did the plant manager have the overt public commitment of the staff to the QWL goals and how they would be implemented. When the agreement in principle to the QWL project was made during the plant design stage in 1972, it was apparently assumed that no explicit administrative, job design, or implementation guidelines needed to be spelled out by the management group. The C/C managers and supervisors expected that implementation would be achieved through training and consultant visits, as well as through basic support from the plant manager. They did not recognize the need for (or have time for) more detailed planning than this. The consulting team should have provided more guidance and should have anticipated these potnetial problems from the outset.*

Another planning deficiency was the absence of contingency plans to deal with unexpected situations. During the long start-up delays, advance planning would have helped find work or training for idle operators, minimizing the toll in disappointment and cynical attitudes. The inexperience of Centerton managers and supervisors was a handicap in this regard; few knew that they would need such plans. To be sure, some problems could not have been anticipated, but the practices of planning might have helped managers deal with surprises.

As new managers and supervisors were selected in 1974 after start-up, they were encouraged by the plant manager to get the job done with whatever was their natural style. They did not have to make a commitment to PM, although they were encouraged to consider that method to attain ego-involvement of their workforce and thereby achieve the necessary productive results. New managers did not attend the training program for new supervisors. This treatment of new managers and supervisors reflected the fact that QWL efforts were still considered a peripheral project rather than a basic philosophy and management orientation to which the Centerton plant was committed.**

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*As well, it would have helped if C/C had been more willing and more able to respond to the feedback and guidance that were given during the course of the project.

**As Rush (1969) points out, companies that are satisfied with behavioral science programs usually do not view them as programs but rather as "a completely different way of improving and managing the enterprise."

The problem-solving system and performance evaluation in the plant needed to be supported by a reward system; as it was, anticipated consequences did not spur people to keep time commitments or project completion target dates. Here again, the lack of feedback of positive results undermined the potentially self-rewarding aspects that should be inherent in a QWL program.

The development of some individuals outpaced the opportunities made available by the corporation's standard staffing patterns. The creation of a new or modified job was believed by the plant personnel manager to be a difficult and lengthy process requiring much corporate review. The anticipated delays inhibited active initiatives by Centerton managers or supervisors. Perhaps a mechanism at the plant level could have been established so that the creation of new jobs or new positions could have occurred when needed, so long as this could be accomplished within given budget boundaries.

Effects of Optional Use of QWL Management Style

Because adherence to QWL principles of job design and management style was recommended but definitely optional, the managers and supervisors at C/C who tended to use the concepts were those individuals for whom the QWL philosophy was congruent with their values and beliefs. This suggests that sincere belief in the indicated style of management and a strongly felt concern about QWL on the part of managers and supervisors are important factors for the success of such a program. Where the individuals' values and concerns do not happen to support the QWL efforts, it is probable that organizational systems must require application of at least the basic concepts if the program is to succeed.

Limitations in Consultation and Participant-Observation

During the training period, the consultants and P-O possibly could have been more effective had they created more situations in which to demonstrate workable strategies for effective problem solving and exercising leadership. With sufficient practice in managerial skills of this kind, some of the time later lost by means of trial and error might have been saved.

Budget limitations affected the intervention achievements in several ways. It was not feasible to have a widely experienced, full-time professional at Centerton acting as P-O. Instead, a very bright, personable, but relatively inexperienced doctoral student in organizational psychology was recruited. It is unclear whether the management and workers in the small southern plant at Centerton could be as accepting of a P-O who was a young woman as they might have been of an older man, even though he might not have been as capable. The complexities of the task proved difficult for her to handle. She was in need of much assistance from the consultants; but the physical distance between

the P-O in Centerton, the PD in Los Angeles, and the PI in Nashville served to limit communications to mail and telephone, whereas frequent face-to-face project review meetings (not permitted by the project budget) would have been much more helpful.

Consulting visits were relatively infrequent; follow-up initiatives begun during a visit could not be carried through (by the consultants themselves) until considerable time had passed. More importantly, the principal investigator (chief consultant during the first year of the project) went to the USSR on a scientific exchange before the plant was able to get into production, although start-up was originally scheduled 4-5 months before the PI's departure. Whether due to the PI's absence or not, several of the production teams abandoned team meetings after start-up. Thus, there were fewer opportunities to practice what had been learned in the earlier workshops. It was during the PI's absence that the plant manager and his staff felt great pressure to get licensed quickly and into production, and also during this period that the plant manager (presumably in tune with corporate management) moved further away from whole-hearted support of the QWL project. Upon his reutrn, the PI was informed by the P-O that the QWL project thrust had been seriously attenuated, at least in the production departments. His visit in March 1975 tended to confirm in his own mind the correctness of the P-O's assessment. He never became substantially reinvolved in the project for three reasons: (1) he felt that he probably could not salvage the QWL project for the production department within the time and resources available (including limitations of the PI's own available time); (2) he felt that the project director was now more in the thick of things and better able to attempt salvaging it than anyone else; and (3) his close personal relationship with the manager had suffered because of his absence and the events that occurred during that period. It is understandable how the plant manager, from his perspective, felt that the PI had abandoned him when things were at their worst.

Certain unique developments in the plant may have limited the impact of the consultants as well as of the P-O. For example, one of the difficult consultant-organization issues was the perception by the plant manager that at times the consultants were used by other managers and supervisors as a "court of appeals" in the sense that the consultants would listen to any gripes someone might choose to bring up with them, and that this action delayed acceptance of the plant manager's authority. (This "court of appeals" rubric, it should be noted, also applied to interventions by the vice president for manufacturing.)

Corporate Perception of
Major Program Limitations (February 1976)

At the February 2, 1976 meeting between the HIRI PD and P-O, and CMS corporate top management people for the purpose of reviewing

this report, the president of CMS stated*:

> The new management at corporate headquarters believes in participative management. But when the house is burning you can't have a 'palaver brigade'. When things are settled down, then you can have a participative approach, but not in a brand new factory with brand new people. Thus, perhaps start-up was not a good time or setting in which to undertake such a study.

The manufacturing vice president added:

> The experiment probably should not have been tried until people had learned their professional jobs. People at Centerton may have misunderstood the project or weren't ready for it. If they were, we'd be for it. Some people used this project to cause problems and troubles--or as an excuse for not getting their essential jobs done (resourcefully, effectively, and with dispatch). You get unhappy when you don't know how to do your daily job--thus you look for excuses. Under such conditions, personnel get frustrated with themselves, and talk their frustrations over among themselves, thereby enlarging them.

The Centerton plant manager summarized as follows:

> During several months (November 1974 to about April 1975) this was the worst situation I've ever lived through, but I still subscribe to the QWL principles. People (supervisors and managers) tended to discontinue team meetings because they had lists of things calling for attention a mile long, and didn't see any need to add to them. We selected people who were compatible with this type of management, but unfortunately not qualified as results-oriented managers, plus not having had relevant production experience.
>
> Some people thought they were being judged on relationships rather than results; they were confused about the leadership role (to see to it that results were achieved expeditiously). Too many people seemed to have the mistaken idea that everyone needed to be involved in almost all decisions, and didn't seem to realize that some decisions could and should be made without meetings. But all this (errors by some in interpreting the intent of the QWL program as originally planned by HIRI with the

*These quotations are not precisely verbatim, because the meeting was not recorded; they are derived from notes taken at the meeting.

Centerton plant manager) doesn't change my basic beliefs in the QWL concept, properly applied.

We seemed to have created the idea that there would be no conflict at C/C, and they were not prepared to deal effectively with conflict through open confrontation when it occurred.

The section of the report I'd differ with most was the writeup of the November 1974 "kiem tau" meeting. That was not held, from my intent, to review QWL goals and progress. Rather, the objective was to find out why so many intelligent people whom we had brought together in Centerton could be so ineffective in this time period as an organization.

The people felt that participative management was something they should feel (and thus automatically implement) and not just talk about.

Some key people have felt that I, as plant manager, should not think of starting the plant until all major equipment that was giving us problems should be ripped out and replaced. Thus, I felt (in November, 1974) that the ship was lost unless X, who was the vocal leader of this viewpoint, was replaced. It was at this time and under those circumstances that I felt I had to change my managerial approach to one-to-one relationships in order to get into major unresolved problems and try personally to help break the bottlenecks and "can't-do" attitudes that were preventing us from getting things done and achieving some success. This approach of getting into problems myself, on a one-to-one basis, was regarded by some as an unwarranted intrusion, which in turn was a terrible disappointment to me, because as plant manager I felt it clearly was my responsibility, for the benefit of all concerned, to do whatever it took to get the plant's problems overcome and functioning well.

Some aspects of the QWL projects tended to set up divisiveness, such as when I felt a need to function nonparticipatively to solve what I thought were some crisis situations, many of my decisions were viewed as out of bounds and not supported. We had an attitude of "the Centerton plant constitutes a family circle." When that was broken by my firing X under the stress of what seemed to me necessity, it disrupted the plant and the divisiveness occurred between those who perceived and concurred with the necessity for what I did, and those who thought it unfair or unwarranted.

In conclusion, I guess I now question whether in a highly technical plant start-up situation a QWL approach is a

good fit, or whether it would be a better fit following the shakedown cruise, making obviously needed repairs, and getting into seaworthy condition.

The HIRI team can appreciate these feelings, but believes that through learning what we hope and believe can be gained from this experience, certain major pitfalls can be avoided and the QWL effort thus can be successful, beginning with initial planning and working through the problems of start-up.

HIRI Post-Intervention Evaluation

Another kind of evaluation was attempted in February 1976, seven months after sustained active intervention by HIRI. The following memorandum addressed to the plant manager, production manager, and personnel manager at C/C (Figure 7) is self-explanatory. The questionnaire was distributed to 19 managers and supervisors: eight in production, eight in QA, and three in administration. In response, the personnel manager wrote:

> Your evaluation request triggered one of my own. Since our meeting on the West Coast (February 2), I had been considering a questionnaire to get input from others at C/C as a check against my own perceptions and evaluation of the QWL program--specifically an evaluation of HIRI's role. I felt this would be of value for you as well as for us. So, I "piggy-backed" on your questionnaire.

The "piggy-back" questions added by the personnel manager specify the areas where he felt the HIRI effort was weak.

Responses to the HIRI questionnaire have been received from 18 individuals, 17 of whom also responded to the personnel manager's questionnaire addition. Their ratings (and all write-in comments received) are presented in Figures 8 and 9. The net balance of the responses clearly is on the positive side, but perceived weaknesses stand out sharply.

One important lesson from this is that consultants should not give up their own vital interest in carrying out periodic formative evaluation--for their own and the client organization's information needs--just because they have been relieved of the evaluation responsibility by the grant agency. In the original project plan, HIRI would have carried out this kind of simple (but relevant and meaningful) evaluation about every three months. With ISR receiving a grant for evaluation half again larger than HIRI's grant for intervention, and with HIRI feeling constricted for funds, we "let ISR do it."

Had ISR not been in the picture, HIRI would have had to take periodic soundings and bearings of this sort. In that process, we would have received written feedback of perceived weaknesses in the intervention sooner than we did and, together with the client in our joint venture, promptly would have worked on remedial procedures.

BEST COPY AVAILABLE

Figure 1

HUMAN INTERACTION RESEARCH INSTITUTE

February 10, 1976

To : Plant Manager, Extraction Manager, Personnel Manager

From: Ed Glaser

Re : C/C evaluation of impact of the HIRI-DOL QWL project

While I expect all of us--and certainly EG, CI and MFC--would agree that in several respects our project could have been handled better than was done at some points in terms of planning, implementing and following through, that is not necessarily to say that it has been a "failure." To judge failure-success, the fair and reasonable procedure would be to rate it in terms of the criteria (the objectives) that were set forth at the beginning of the project. Then we can ask ourselves what have been the results or impact after a reasonable time (such as now), rather than at some particular crisis period (such as between November 1974-April 1975). Or, to what degree has each objective or hoped-for outcome been achieved?

In this spirit, we would very much appreciate your distributing this letter and the accompanying questionnaire to all managers and supervisors, in production and QA, who have been in the plant long enough to be able to respond to the 11 questions with a fair basis for their judgment. The questions were taken from the section of my book which attempted to describe/define what we meant by a QWL program.

Since we are under a great deal of time pressure to complete our revised report, and this questionnaire should not require more than 5-10 minutes to answer, we hope all concerned will mail it back to me promptly. (Signature is optional, but preferable.)

The address is as follows: E. M. Glaser, PhD
Human Interaction Research Institute
10889 Wilshire Boulevard, Suite 1120
Los Angeles, CA 90024

EMG/kng

cc: Mary Faeth Chenery
Bob Foster
Cal Izard
Ed Lawler
X (Former QA Manager at C/C, now located at West Coast Headquarters)
Y (former Good Manufacturing Practices auditor, now at West Coast Headquarters)

Figure 8

C/C Rating of HIRI-DOL QWL Effort, 1973-75

Directions: Each of the eleven items below concerns an element of the climate and modus operandi at C/C that might or might not have been influenced by the HIRI project's efforts. We'd like you to tell us whether there have been any such influences by marking an "X" at the appropriate point on each rating scale.

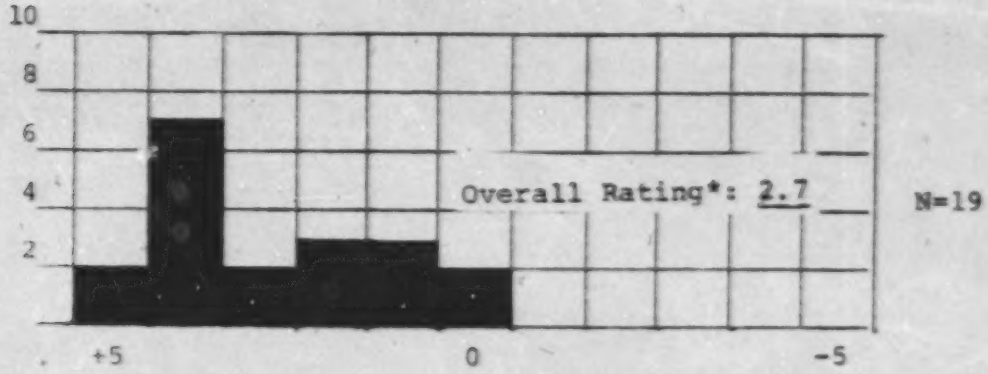
Rating Scale:

+5	0	-5
Appreciably greater degree now than probably would have been the case if we hadn't had this QWL project	About the same as would have been the case if we hadn't had the project	Appreciably less now than probably would be the case if we'd never had the project

(Continued)

Figure 8 (Continued)

1. An ever-present opportunity for individuals or task groups at any level to influence their working environment; to have some "say" over what goes on in connection with their work.

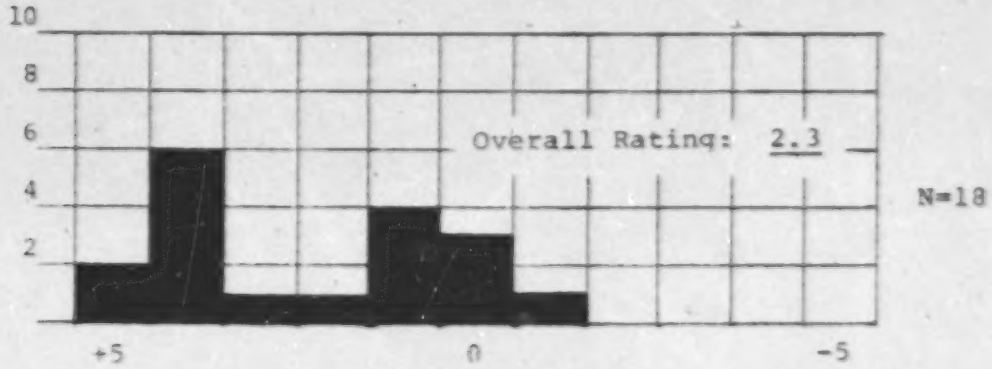


Write-in Comments:

- In my estimation, this resulted primarily due to the efforts of the QA Manager, not HIRI.

. . . . . .

2. An organizational climate and structure that really encourages, facilitates, and is respectfully responsive to questions or suggestions related to improving the existing modus operandi in any way.



Write-in Comments:

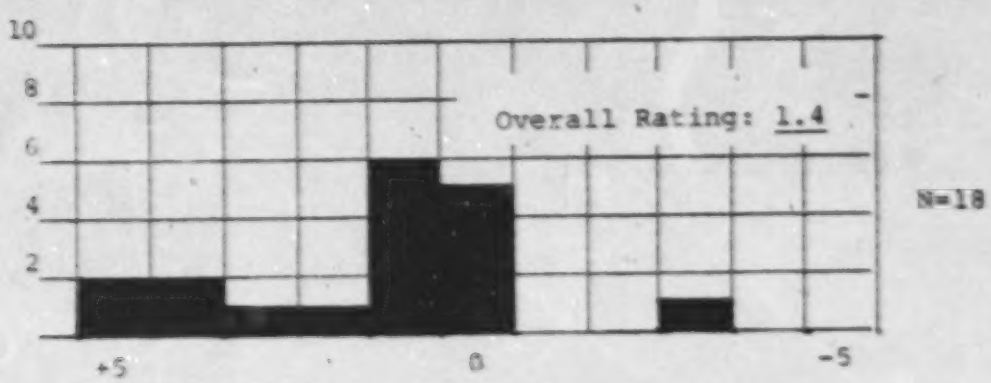
- HIRI definitely influenced the structure and proposed an atmosphere designed to encourage employees to participate, but provided only minimal personal counseling in order to aid implementation. Further management interaction sessions would have been valuable.

- After a relatively short period of time, a feeling of resentment regarding the project seemed to be evident in upper management.

*Overall Rating = Sum of all responses, divided by number of responses. Note--total N will vary from item to item, since not all respondents answered all questions.

Figure 8 (Continued)

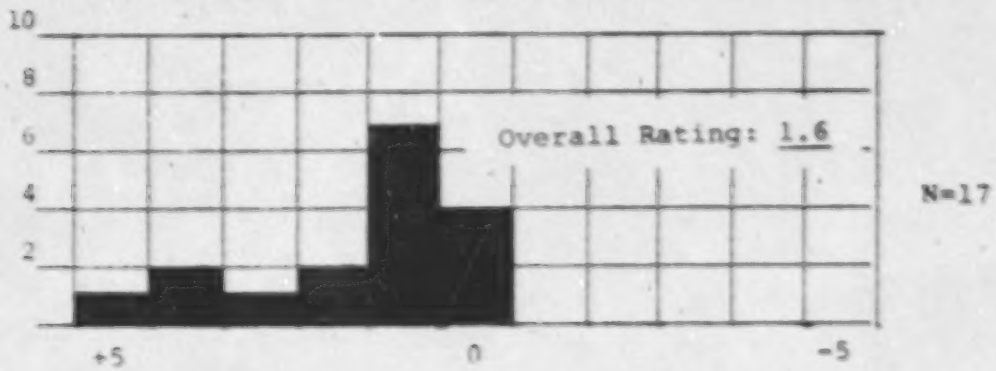
3. Making the job itself more challenging by structuring it so that an individual or small work team can perform, "self-manage," and feel responsible for a significant, identifiable output if that kind of responsibility is desired.



Write-in Comments:

- As with other aspects of the QWL program, this should be an ongoing and refresher type of training.

4. An environment that encourages continuous learning, training, and active interest regarding the job, and the product or service to which the job contributes. A setup that enables an employee to use and develop his personal skills and knowledge, which in turn affects his involvement and self-esteem obtained from the work itself.

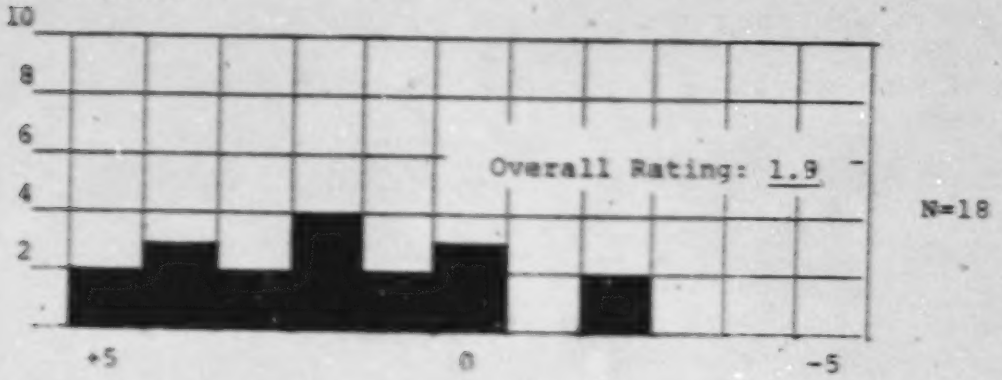


Write-in Comments:

- Impossible to evaluate because of start-up, ownership change, etc.

Figure 8 (Continued)

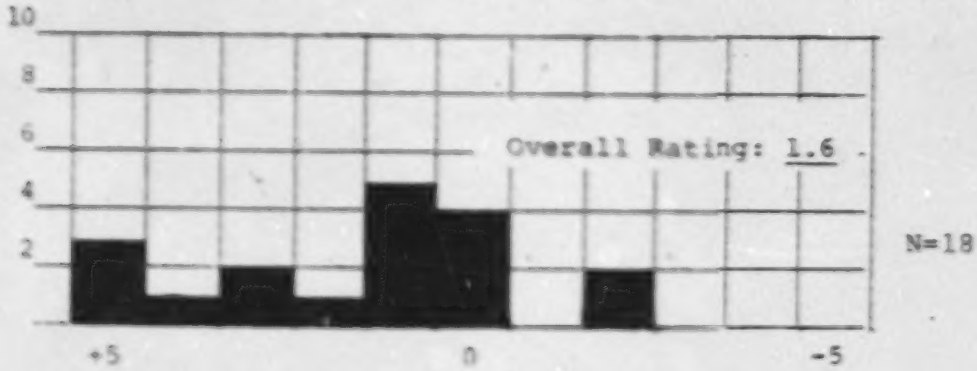
5. An organizational setup that breaks down the traditional status barriers between management and production or support personnel--achieving an atmosphere of open communication and trust between management and the workforce.



Write-in Comments:

- Seemed to have a communication breach between upper and lower management. Increased the already apparent tensions.
- This segment of the QWL program needs to be reemphasized. On several occasions the attitudes of upper management have been dictatorial rather than following a course of affirmative action. This leads to a closing of communication channels, rather than creating an open atmosphere.

6. Provision of training for supervisors to equip them to function effectively in this less directive, more collaborative style.



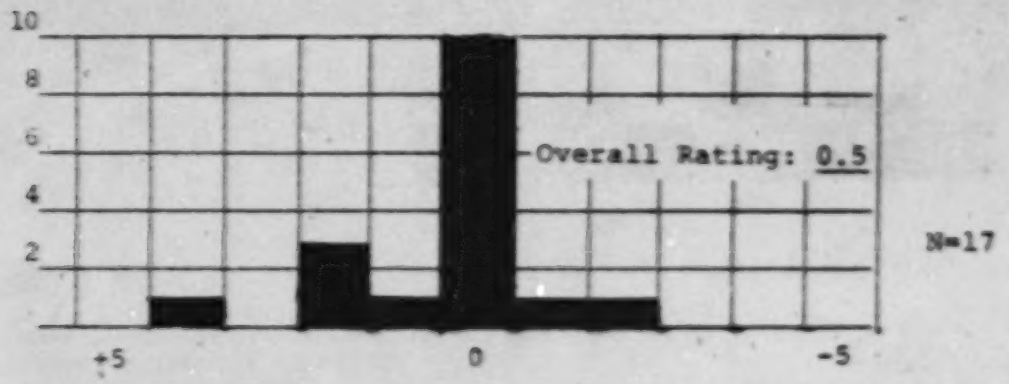
Write-in Comments:

- This particular industry seems to lend itself to this form of management naturally.
- Supervisor training was sparse during the HIRI involvement but has presently reached a state of total stagnation.

Figure 8 (Continued)

. . . . . .

7. Provision of opportunities for continued growth; opportunities to advance in organizational or career terms. *



Write-in Comments:

- The absence of career counseling at C/C severely retards the growth of those individuals who must serve as a pool for future managers. It also does not permit an individual to direct his/her attention to those areas of personal weakness, unless aid is given in the recognition of these areas.
- Some members of lower management were hampered by their support of project.
- We have set up some provisions for hourly employees, but not any for exempt--still have the "traditional."
- No basis for judgment--there is none.

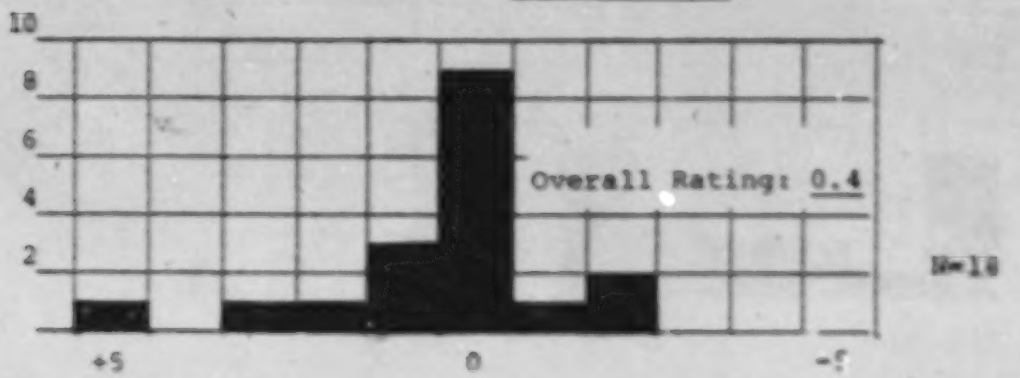
---

* This was a long-range project goal to be worked out with corporate top management. As of December 1975, two managers from Centerton have left to accept major promotions within the corporation, and several persons at Centerton were upgraded. When new product lines are added at Centerton, advancement opportunities there will be greater for more personnel than has in fact been the case up to this time (2/76).

Figure 8 (Continued)

. . . . . .

8. Provision not only of feedback with regard to results achieved, and recognition for good results, but also financial incentives such as cost-savings-sharing as a tangible form of recognition where feasible. *



Write-in Comments:

- Most feedback received is of a negative nature. Without a cost-savings-sharing program, a corporation can not expect its employees to continue their efforts without some form of recognition. Also, why is C/C the only sister plant without a cost-savings-sharing program?

- Some limited provisions for feedback--we should have had much more--nothing unique or innovative in compensation provisions.

- Plenty of feedback re performance (or lack of it), but not much help achieving goals.

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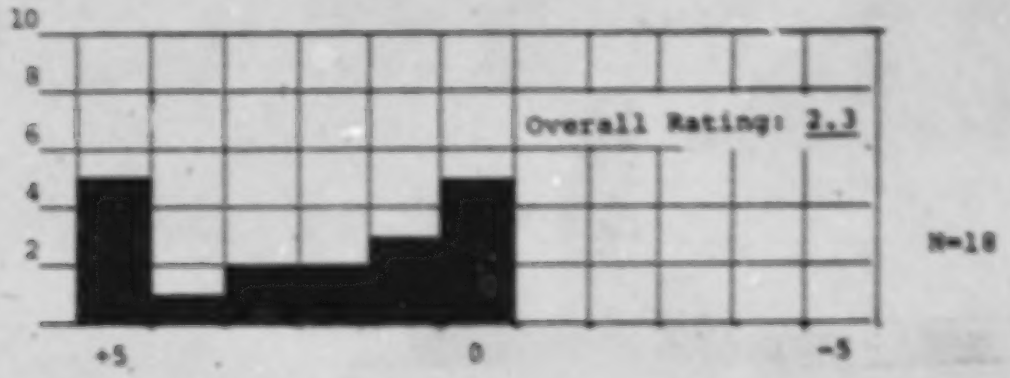
* Provision of a cost-savings-sharing plan is considered very desirable by the consultants, thus included here as a long-range goal. It was recognized from the beginning of the project, however, that Crown top management did not feel ready to move in this direction. Systematic feedback of results achieved and recognition for good results should have been better attended to, and not lost sight of in focusing on problems.

Figure 8 (Continued)

. . . . . .

9. Selection of personnel who can be motivated, under appropriate conditions, to "give a damn" about striving for excellence in task performance.



Write-in Comments:

- An excellent job of hiring was done at C/C

. . . . . .

10. Evaluation and analysis of results, including failures, leading to revised efforts toward continual improvement.

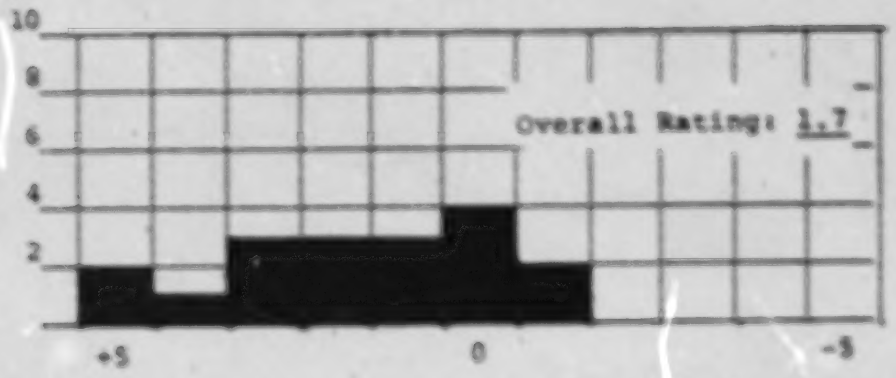
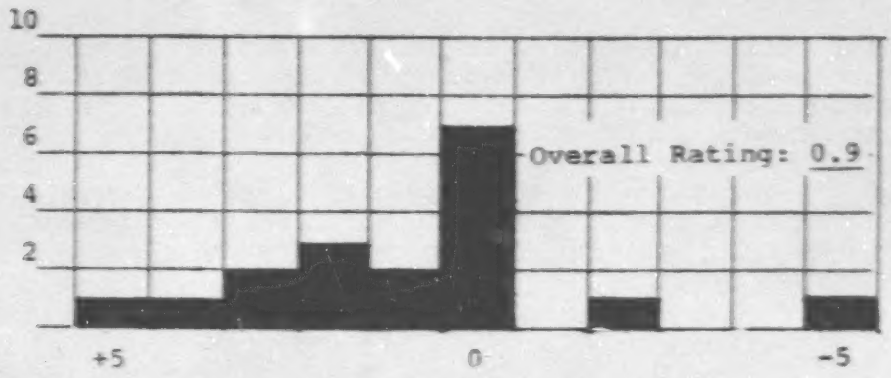


Figure 8 (Continued)

11. Achievement of better-than-average performance results; that is, getting qualified (licensed) by BQB to ship products in reasonably good time, getting good yields, high quality, few bad batches; in short, superior productivity or superior cost-effectiveness in plant operation.



Write-in Comments:

- Too much time wasted in theoretical discussions on how to solve problems and relate to others, instead of learning by working together to solve real, actual problems.

- The QWL program probably hindered this effort because of the large amounts of time spent analyzing problems (rather than solving) and numerous training sessions for employees in P.M. (rather than practical work training).

- The overall goals and methods are excellent, but the project should not have been implemented during an inadequately funded start-up, aggravated by poorly trained operators and a high degree of urgency needed to make plant qualification. The project could have been more effectively implemented in a young, but stable, plant.

- This area is "clouded" by all of the technical and equipment problems/delays we experienced. If these had not occurred, I think we would have had a really exceptional plant qualification and superior productivity, if it had not been for these factors which were not caused by our QWL efforts but which impeded them.

Figure 9

C/C ATTACHMENT TO HIRI QUESTIONNAIRE

In your evaluation of HIRI's QWL project for our Centerton plant, we would appreciate your opinion of the assistance which HIRI offered. Did they adequately assist you in the following?

1. Planning the project and communicating the objectives so you had a clear understanding? Yes 7 No 10

   Comments:

   - I think that I understood the HIRI objectives, but was confused by the different interpretations of C/C management as to the objectives and how to achieve them and the change of viewpoints with time.
   - I had a clear understanding. However, the evidence indicates that others did not. I believe that closer follow-up and commitment of upper management would have helped greatly.
   - I never understood the objectives. They were idealistic and unrealistic.
   - I still do not believe I have a complete understanding of the project.
   - Planning was adequate, but apparently adequate communication was lacking. As late as November '74 we were getting questions from supervisors re "What is participative management?," "What is a supervisor's authority?"
   - It is my impression that there was a great deal of confusion about what QWL was and what its goals were, so it seems there must have been failure somewhere to communicate objectives, etc.
   - This only came in the last six months of the project.
   - The objectives seemed to change through the year.
   - Objectives were always somewhat vague, up until the end of the project.

2. In anticipating QWL project problems and assisting in avoiding or solving them? Yes 6 No 10

   Comments:

   - HIRI had better assistance than CMS for non-QWL problems.
   - I received excellent service because I aggressively sought it.

Figure 9 (Continued)

- I think this is the part of the project which was most neglected. We should have had a detailed listing of problems to be expected and actions which would have avoided problems or helped us to quickly resolve them.

- We created problems by getting data that we couldn't understand or know what to do with it.

- I believe that there was a lack of direct experience with the work situation on the part of HIRI people, which was compounded by the lack of experience of CMS personnel hired to start up the plant. I believe that a prior study of the West Coast operation regarding working conditions, dissatisfiers, pressures, organization interactions, etc., would have been of great benefit prior to starting the project.

- Solution for wrong problems.

- Have already cleared up most problem areas.

- This would have been possible only if HIRI was present on a more routine basis and MFC had not been shackled by the plant manager.

3. Providing adequate/competent on-site support and consultative resources for you? Yes 8 No 8

Comments:

- Most excellent in this regard. I wish I had taken more advantage of this resource during the time.

- The resources were there (perhaps a little too late), but few took advantage of them (including me).

- Resources frequently weren't used because QWL had lower priority than pressing production problems.

- I feel that MFC could have been more aggressive.

- The support was overwhelming before the action started, but as the action increased the support decreased.

- Emphasis seems to have been in QA which generally operates (in my experience) along participative lines.

- The counseling of myself with regard to the psychology test we asked to take was useless. It appeared that Dr. Glaser was more intent upon evaluating his test than the person. I had expected to get a profile of myself, my weaknesses and strengths, and how to deal with each. This particular effort in my opinion was a total waste.

Figure 9 (Continued)

- This aspect of the HIRI effort was clearly deficient. Even before CI went to Russia, we needed more day-to-day help. After he left, the QWL program really suffered. MFC tried hard, but it was not enough. At about the same time, Crown's financial situation caused a cutback in CMS personnel time and resources, which compounded the deficiency.

- MFC was idealistic, inexperienced, and a waste of time and money. She was personally involved with some employees and could not make objective evaluations.

4. Provide you with the mechanics to enable you to give/get feedback on and to evaluate the QWL project? Yes 10 No 6

Comments:

- Feedback could have been more detailed and presented in a much better fashion.

- More discussion of how to develop trust in your employees and promote feedback would have been helpful. Although HIRI worked hard on this problem, even more time involvement was necessary.

- Evaluation techniques are often boring and time-consuming and on-the-job problems always take precedence over such evaluation, so I'm sure HIRI's efforts went unnoticed and were, therefore, less valuable. Perhaps different (more interesting, such as C/C actual case studies) evaluative aids would have been more pertinent and successful.

- Too much. Time should have been spent on solving plant problems, not feelings, moods, etc.

- I was always unsure of the HIRI opinion of how the project was working.

- HIRI feedback should have been more specific and set up to enable routine/periodic feedback on a scheduled basis (not just when problems occurred). Possibly the ISR feedback took the place of a HIRI feedback system, but it was not the same as we should have had from HIRI.

- ISR did provide some feedback, however.

- ISR was a separate concern. I feel the program would have been greatly improved with better feedback. But was this one of the QWL's objectives?

Figure 9 (Continued)

5. Was there a major problem which you experienced with the QWL program which you feel could have been avoided with help from HIRI? Yes 7 No 8

Comments:

- In terms of setting objectives at the first of the program.
- The lack of adequate on-site, day-to-day consultative assistance caused many problems which could have been and should have been avoided. The lack of HIRI support for the Personnel Manager's role in coordinating the program hurt. This could have been avoided by HIRI including the Personnel Manager in all aspects rather than mostly excluding him during HIRI plant visits.
- MFC created problems for me by getting involved when she was not wanted or needed.

6. In your opinion, has the QWL program been successful (helpful)? Yes 13 No 4

Comments:

- It gave us some initial direction for our management development.
- I do not believe that we would enjoy the successes we have without the QWL project.
- Very much so in QA. I don't feel the same about manufacturing.
- Training provided was helpful and valuable. The timing of the project with start-up probably caused slightly negative effect overall.
- Most certainly. Now let us have a program on Theory X management so when we fail with the QWL suggestions we will have somewhere to turn.
- I feel it has been successful to a limited degree and I am hopeful that we can retain and build on the successful aspects.
- Yes, because at least everyone is aware that such programs and organizational structures as QWL do exist, and has been indoctrinated that this type of work structure is preferable to more traditional management styles. It, therefore, seems more likely that supervisors and managers will be more critical and evalua-

tive of their own management styles in terms of QWL, which should lead to implementation of at least some QWL goals.

- Somewhat helpful in providing an awareness of QWL ingredients.

- Why don't we call the God-damned thing like it is and forget about it and get on with the business of making a profit for our company.

7. Should we have undertaken it?

Yes 16 No 1

Comments:

- I think the timing was poor.

- I do feel that having accepted the program, we should have committed ourselves to achieving success.

- This is the type of program that all industry must conform to. People will no longer work unless they have a "say" in their working environment.

- Yes, but with qualified, experienced people in all areas.

- I feel I have learned much from the program, and feel C/C has benefited in many other areas as well.

- Yes, but not until two years after plant start-up. We should have had it planned, let everyone know that we wanted to evolve into it and implemented it in scheduled stages--but starting out with the traditional, less demanding/time consuming managerial style.

- One year later.

- Even this much change from traditional management is worth the effort invested.

- Yes, but the project and its goals must continue to be developed and communicated to new employees. Our present training program and orientation needs to be extended and expanded. The time must be made available.

8. If we had an opportunity to "do it over again," what changes would you recommend?

Comments Offered 14
Comments Not Offered 3

Comments:

- Relate the program to the actual problems of the plant

Figure 9 (Continued)

in operation. Develop a confidence that each person's problems and viewpoints would not be discussed with the others and subject to misinterpretation, etc. Establish a more definite commitment from CMS management toward the program.

- (1) Decide on success; (2) have a periodic evaluation of people and group status; (3) get rid of people that can't get it done; (4) achieve your goals.

- (1) More direct feedback more frequently from the HIRI group. They are the experts who were qualified to judge the progress of the project. I wish that they would have spoken out more directly.
  (2) Hire a more experienced group in extraction.

- I would suggest that the supervisors and managers be taught about open communications but to keep a firm hold on their own responsibilities to the company and not go through all this training of employees in QWL which seemed to leave them with wrong impressions.

- More support from upper and middle management.

- Undertake such a program after plant qualified, operating, systems in place, management time available.

- Better presentation of the project. More "on-site" consultation by the "higher-ups" in the HIRI project. Better commitment by department managers and the general manager.

- Get experienced consultants who would not have let inexperienced people be hired to start up a new plant. Concentrate on the results and work on improving the methods, instead of having good methods with no results. Spend as much time in technical training of supervisors as was spent on the personnel relations training.

- (1) HIRI on-site intervention earlier
  (2) Aggressive HIRI intervention
  (3) Group problem-solving sessions (dealing in specifics at C/C)
  (4) Routine critiques (like the session on the first draft for final report) so we could find out how everyone "saw" QWL efforts and his own performance.

- (1) A far more extensive overall view of QWL and its principles, as projected for C/C.
  (2) An encounter session for all management to reduce inhibitions between management levels.

Figure 9 (Continued)

(3) Approval of upper management to permit persons to experiment with QWL. (This was almost impossible under the pressures of start-up.)
(4) Begin QWL program after qualification by BoB.

- An unwavering commitment must be obtained from top management to undertake this program and to allow the plant the time and the financial support required for such a program to be successfully initiated.

- (1) Have Theory Y personnel manager to provide in-house coordination.
  (2) Use program to achieve top quarter of learning curve, not bottom half. Use program to achieve that added measure of efficiency of an outstanding plant.

- Keep Izard in the U.S. Russian trip broke communication, MFC couldn't fill his shoes. I think project began to suffer in his absence.

- This question would take about three days to answer. I feel the recommendations I made during the program still hold true.

9. Do you have any other comments about the QWL program?

Comments Offered 7
Comments Not Offered 10

Comments:

- I believe that QWL is determined basically by the nature of the individuals involved with amplification dependent on the authority level of the individuals. The makeup of a person is pretty much determined before he becomes an employee. Modification must take place to adjust and relate to the people and facility environment. The success of the adjustment and relation and hence the QWL is largely determined by the matching of personal makeups (assuming the facility environment is acceptable) rather than by training.

- I think that many of the problems were encountered because employees expected and some still expect to get anything they ask for.

- It is a good idea--needs more emphasis in realistic situations--needs total involvement, not opposition.

- The name of the project should have been, "Improving Productivity, and in the Process, Improving the Quality of Work Life."

Figure 9 (Continued)

- I feel it was a great idea for this plant, and feel others could benefit with it.

- It is very worthwhile and, frankly, almost essential to do this if we are to increase employee work satisfactions and productivity/quality. If companies continue in the traditional mode, I do not think the free enterprise system in America can survive.

- My comments would be more than I am willing to spend time writing down. If anyone would like to discuss the matter, I would be willing to do so. Only one general comment: A poor workman always blames his tools! Don't blame the program for the problems we have had. If blame is necessary, then blame the people that implemented it!

It may be of interest here to include a graph (Figure 10) from ISR's data, which plots the plant average figures as of January 1975, in response to 16 questions on their Monthly Short Form Feedback Report, compared with the average figures for the department with the lowest morale figures. This department was headed by a new manager brought in from another of the company's plants who had extensive mass production manufacturing experience, little or no knowledge of biological technology, and a hard-nosed, authoritarian "let's get moving without delay" approach to the production obstacles. Concerted resistance from his supervisors and workforce soon developed, and led to a difficult impasse which required considerable attention, confrontation, and "ironing out."

PAGE 118 CONTAINING FIGURE 10 "RESPONSES TO JANUARY 1975 ISR MONTHLY SHORT FORM FEEDBACK" WAS NOT REPRODUCIBLE AND WAS REMOVED FROM THIS DOCUMENT PRIOR TO ITS BEING SUBMITTED TO THE ERIC DOCUMENT REPRODUCTION SERVICE.

An Evaluation in Light of the Glaser and the Hackman Key Conditions for QWL Success

A final evaluation of the C/C QWL intervention may be made here with regard to what Glaser (in press) and Hackman (1975) consider to be key conditions for sustained success of QWL projects.* These conditions and their application to the C/C situation are listed below:

Glaser	Comment
1. Creating a work climate that would offer attentive, respectful, constructive response to employee desires for such things as having a meaningful voice in decisions about their work, job enrichment, feedback on progress toward attainment of agreed-upon goals, etc.	1. Explicitly planned for at C/C; largely, but not optimally implemented
2. Providing sustained support of the QWL effort by the organization's leaders.	2. Provided initially and explicitly in planning with CMS top management and local Centerton management; not sustained adequately after company was sold in February 1974 and new top management, which had not been a party to DOL-CMS-HIRI-ISR agreement, was installed.
3. Involving the line organization in designing and then assuming responsibility for the program as theirs.	3. Efforts were made by consultants in this direction, but under the stresses previously described, the line organization was not able to sustain their responsibility for the program.

*Both sets of conditions should be viewed as pre-conditions, criteria that should be attended to and implemented from the beginning.

Glaser	Comment
4. Working out specific attainable goals with task groups or individuals... plus a system of rewards for goal attainment, and an adequate training program --then providing structure and frequent timely feedback to let all concerned know about progress or problems.	4. C/C local managment did not do this systematically. There was training, of course, but experience revealed some gaps in needed types of coverage. Some key goals, such as to get the equipment and processes "debugged" so that products could be produced and sold, were obvious, all-consuming, and were achieved remarkably well under the circumstances. Specific goals, for departments or for task groups were not spelled out in sufficient detail or monitored closely for performance progress.
5. Monitoring or auditing in helpful ways to assist in problem solving and to assure high standards of performance.	5. There was relatively little of this until November 1974, when bottlenecks and delays became so serious that the plant manager personally stepped into certain departments to study and solve some too long-standing problems. Procedures for initiating such actions are still not worked out well.

Thus, on all five of these important conditions, the consultants would rate C/C with less than an "A", and would rate their own effectiveness as less than "A" in helping C/C to achieve those conditions. We might add that no major change (such as introducing a QWL project) should be initiated unless or until certain organizational conditions regarded as essential to support the change are present. This is not to say that QWL should not be attempted in organizations that are experiencing adversity. Many organizations will be more receptive to change when they encounter seriously threatening problems. But the QWL effort must become a better way of focusing on and coping with or overcoming those problems, aside from other "dividends."

Hackman	Comment
1. Key individuals responsible for the work redesign project should attack the especially difficult problems right from the start.	1. All of the issues Hackman lists as related to this ingredient were attended to by both C/C management and the consultants from the start. Certain other kinds of issues, however, such as the need for in-depth training in supervisory practices, for problem solving, for goal setting, and for unobtrusive monitoring of timely progress toward goal attainment, were not adequately foreseen by either C/C management or by the consultants. The consultants assumed that the C/C managers and supervisors would be ready and able to meet these needs. As it turned out, if they were potentially able to do so they didn't, in the press of trying to cope with the urgent everyday problems involved in plant start-up. Further, the relationship between plant and corporation was not defined in a flexible way to specify areas of freedom from traditional policies.
2. Management should make sure that a diagnosis of the changes needed in the target jobs, based on some articulated theory of work redesign, is conducted before implementation.	2. Diagnostic efforts were made in early planning, and as a consequence the job design and staffing arrangements differed considerably from the way this work was structured at the parent plant which produced the same biological products. Whether the diagnosis was as accurate as might be desired remains to be seen; probably it (like anything) could have been better.

Hackman	Comment
3. Management should insure that specific changes are publicly discussed and based explicitly on the diagnosis.	3. Accomplished, but perhaps not as systematically and rigorously as Hackman suggests.
4. The people responsible for the work project should prepare contingency plans ahead of time to deal with both the problems and opportunities that emerge from work redesign activities.	4. This was not done adequately. It is very doubtful that all of the key contingencies were "foreseeable," but some were. Better simulation planning by C/C management together with strong assistance from the consultants should have been provided.
5. Those responsible for the work redesign project should be prepared to evaluate the project continuously throughout its life.	5. This was considered explicitly and carefully in the initial planning. Plans for frequent plant-level review and "taking stock" were made but were not carried out thoroughly. Corporate management, for various reasons, has been reluctant to allow evaluation of home office plant performance for comparison with Centerton. On some important considerations, the corporate management information system does not appear set up for or currently capable of providing the desired evaluative data. Whether survey-type evaluation will be continued at C/C after ISR leaves is quite doubtful.

Thus, in relation to Hackman's key ingredients, all were considered, some attended to very well in the initial planning, and one of them--contingency planning--not done astutely or foresightedly enough.

As Wood and Rasmussen (1975) have noted, the quality of worklife is affected by (1) organizational factors, such as responsiveness of the work culture to employee and customer needs; character of communication up, down, and laterally; personal development opportunities, work structure; (2) physical conditions at work, such

as space, light, heat, noise, toxic agents, esthetics; (3) social factors, such as leadership style, interaction opportunity, work team membership; (4) job characteristics, such as autonomy, skill variety or challenge, pace, task identity or closure, work schedules, task significance, feedback, effort requirements; and (5) economic considerations, such as pay, benefits, security: reward amount and perceived reward equity. When these factors are perceived by the workforce to be favorable, then ego-involvement, QWL, and productivity are likely to be greater than in work environments that are perceived by the workforce as poor or relatively unfavorable. Presumably the ISR final evaluation will include survey data to measure those perceptions at C/C.

What Might Work Better in the Future: Considerations and Recommendations for Other QWL Interventions

In the conduct of QWL interventions, we recommend consideration of the following points, some of which were fully recognized in this intervention, some of which became clearer as the project evolved, and some of which, although recognized, were not carried out as skillfully as might--in retrospect--have been possible.

1. Preliminary planning for implementation of a QWL program in a start-up situation involves:

   a. Clarifying the relationship of corporate management to

      (1) the project;
      (2) the plant in which the project is undertaken.

      Such clarification must include the creation of adequate channels of communication among plant, corporate headquarters, and consultants (if any).

   b. Creating a plant committee with specific QWL implementation and monitoring responsibility.

   c. Collaboratively (with above group) establishing agreed-upon goals and procedures for goal attainment, codifying same; e.g.,

      (1) devising systems to support goals;
      (2) creating written material about goals and measurements of progress toward them;
      (3) establishing review mechanisms;
      (4) assigning responsibility for follow-up.

   d. Anticipating problems.

      (1) reviewing sources of previous experience (including literature pertaining to QWL experiments) to anticipate problems;

(2) making contingency plans where problems can be anticipated;
(3) providing flexible adaptation mechanisms;
(4) assuring that there is enough technical competence present on-site or readily available for consultation to deal with the difficult, extraordinary process and equipment problems that experience shows are likely to occur from time to time.

e. Designing training programs based on a realistic assessment of the needs of the specific individuals in the participating group; planning recurring training programs to meet newly identified needs. The design should include consideration of successful transition from training to actual implementation in an operational situation.

f. Structuring opportunities for three-way communication flow; working constantly to structure all parts of the QWL program--management, trainers, workforce--into an integrated, mutually supportive, complementary system.

g. Planning for orientation and instruction of new managers and supervisors.

2. Managers should set up the expectation that problems will arise and should be regarded merely as items needing attention, not as signs of crisis or failure. Modification of procedures or plans should be expected as legitimate outcomes of learning and experience; the group should expect and look forward to change.

3. QWL concepts should be quite clear, understood, and accepted or argued out by all concerned. After agreement on the program, adherence to whatever may be agreed to as essential should be required from those involved. Evaluation-of-progress measures that are taken should be described in the normal everyday terminology in current use in the company, and should relate to the never-ending quest for competent, reliable organizational performance under working conditions that, at least insofar as practicable, take account of people's needs.

4. When an organization feels harried by many serious problems clamoring urgently for attention, QWL consideration or participative styles of decision making need to be perceived as appropriate and relevant to improved problem solving and mission performance or organizational effectiveness. In order for this to occur, people must believe this <u>before</u> the clamoring of problems arises. Results of QWL interventions should be made phenomenologically evident.

5. Persons working in an organization that is concerned with QWL improvement need to be clear about the need for productive task performance, and also need to be clear about the nature of decision-making processes in matters that affect them. The purpose, role, and outcome expectations from meetings must be clarified, and feedback on proposals made at such meetings should be unfailingly disseminated.

6. QWL consultants should work for top management and for an internal group that has responsibility for organization development in the QWL area. (This should include representatives of the union in situations where the employees are members of a labor union.) When outside consultants are invited by an organization to help develop and implement a QWL or an organizational development (OD) program, their most desirable strategy would be to have management create within the organization a well-respected, influential internal consulting group that will serve as consultants to the organization. The outside consultant becomes the consultant for the internal group, aside from consultation with individuals, work teams, and departmental groups. Then not only does the outside consultant help them identify problems, but in the process works with them to develop a methodology for solving problems and assessing outcomes of such efforts. The consultant contributes to immediate solutions and also to the ability of the organization to respond effectively to future problems. However, the consultant must avoid becoming seen as subverting or interfering with the acceptance of managerial authority.

   As an overall objective, the consultant's role should be to help the client organization develop a sustained problem-solving orientation and the organizational and managerial capacity to make it work. A way of providing that help, as suggested by the Group on School Capacity for Problem Solving, National Institute of Education (1975), is to encourage the organization "to make provisions for appropriate people coming together to share perceptions; define problems; generate or search out a range of possible solutions; select and plan to implement a solution; carry it out; and assess the impact of their actions from all their points of view."

7. The outside consulting team should have its own contingency plans and standards for the possibility that it might need to leave before the expected end of assistance. The group might need to leave because of policy shifts in the company; or some key member of the gorup might leave because of some private contingency. In either case, the possibility should be anticipated and planned for so that the organization can be helped to adapt to the loss and provide its own continuity of effort.

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8. The consultants should measure their own progress as a check on their productivity as consultants and to see whether the outcomes match their investment. The project goals may be met early, or the probability of accomplishing them within the allotted time may be low. In either event, the consultants should be monitoring their own progress through periodic formative evaluations, regardless of whether some independent evaluation group is charged with responsibility for a summative evaluation.

9. The selection of key personnel should be handled carefully to avoid building in handicaps to success. Administrative ability, technical competence, good leadership skills and openness to new ideas figure significantly in success. Of great importance is a person's ability to get serious interpersonal conflicts out in the open before they fester, and to do so in a problem-solving spirit. An amazing amount of psychological energy that could be applied in productive ways too frequently is used to store and guard anger, distress, embarrassment, and other similar feelings.

10. In-house models (company employees) of the desired behavior must be provided. Such models are very credible to other organization members. The modeling employees can interact with others in terms of real and important problems. (This effect was apparent in C/C where a department manager's behavior increased the open confrontation of conflict, and where an extraction supervisor established the practice of routine, constructive, nonpunitive critiques with his team and caused this procedure to spread.)

11. Participative managerial behavior and QWL support by all members of the team must be tied to a reward system if the behavior is to flourish. For instance, managers' and supervisors' performance evaluations might include consideration of how well they implemented QWL concepts.

Areas for Further Research

Several areas or issues merit further investigation in the interest of determining more effective methods of intervention and gaining a better understanding of the problems involved in trying to develop effective QWL programs. A few of these topics are posed as questions below.

1. General

   a. What kind and level of top management support is required for success of a QWL project?

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b. What are the most effective ways of assessing organization readiness for QWL intervention?

c. What sorts of goal setting, reward system and progress feedback/monitoring will best facilitate progress toward goal attainment over the long run?

d. What attributes and experience seem to predict success for a manager or supervisor in a QWL environment?

e. What intervention methods seem to have the most positive impact on QWL development; e.g., training, leadership modeling by a manager or a consultant, apprenticeships, visits to other companies having successful QWL programs, provision of information about QWL programs to the entire workforce, then seeing if requests for such a program arise from the grass roots?

f. What are some of the better ways of continuing a strong commitment to QWL improvement in an organization when there are persistent reality needs and pressures for devoting almost all available time and energy to meeting what seem to be "survival" problems of mission performance?

2. Organizational Structure

How can an organization's readiness for QWL intervention best be measured? This question involves considering how best to measure the support of top management, the existence of adequate communication skills in the organization, and the definition of what QWL readiness might mean.*

a. Measuring the support of top management may be a "subjective" interview task. If senior corporate officials were willing to submit to formal measures of attitude, their responses to such scales as Hackman's and Oldham's Job Diagnostic Scale would define the degree of their readiness to accept PM concepts. To study the procedure of introducing QWL where there is a high or low readiness in the corporate structure, to study the effects of trying to change readiness conditions through education, and particularly to study the effects on corporate readiness of using QWL principles with the managers, suggest a number of lines of further investigation.

*A promising procedure for assessing any organization's readiness for change or innovation adoption might be borrowed from the A-VICTORY Model proposed by Howard Davis and Susan Salasin. (See Appendix I).

b. The organization can be defined in terms of the fluidity of communication in it. Is it an organization in which rumors fly and ignorance can be demonstrated? Does top management know the contents and discontents of those below; do those below understand the aims, plans, and policies of top management? Simple questionnaire methods can be devised or random samples of personnel can be interviewed for discovering the concordance of perceptions throughout an organization which define the situation of fluid communication and those of unidirectional communication or of noncommunication. To study the process of introducing QWL into organizations of different communicational complexities and to study the differential effects of such introduction on the different kinds of communication patterns is feasible research.

c. What is the irreducible minimum of QWL concepts and practices which can be expected to influence the function of an organization? What is the relationship, for instance, between the development of a small degree of PM and absenteeism? What is the relationship between fluctuations in absenteeism and fluctuations in the quality of production? What is the relationship between the development of a small degree of PM and the quality of production? Longitudinal investigations could study the gradual introduction of QWL concepts and practices to an organization, and compare the success of such a method with attempting a massive program de novo.

3. Personnel Selection Methods

In studying the readiness of any given person to enhance or resist QWL innovations, selection questions further to be studied would include personal variables and the question of "organizational fit."

a. Can we assume that such personal characteristics as flexibility (versus rigidity), people orientation (versus task orientation or thing orientation), high education level (versus low educational level), technical competence (versus relative technical ignorance), managerial experience (versus managerial naivete) are relevant to variations in how QWL will be received? If we hire people who are secure in their technical skills, are they more trainable in human relations skills, or is the introduction of QWL enhanced where people are selected for human relations skills and trained in technical skills? What differences in methods of introducing QWL are determined by the criteria of personnel selection?

If QWL concepts and practices can be introduced gradually, it seems feasible to make comparative studies of these questions.

b. The organizational fit or person and milieu is clearly important. It probably is unwise to ask someone who speaks only Greek to manage a plant in Patagonia. At the same time, is a person more ready to adapt to QWL where the QWL improvement objectives are completely compatible with his milieu, or where the person is aware of discordances? What amount of doubt, of questioning of things as they are, makes for most receptivity to the new project?

4. Training and Planning Considerations

Useful comparative studies could involve different "mixes" of educational efforts. On the one hand, are those efforts designed to clarify philosophy, values, and commitment to procedures of change or of tradition? These efforts would be concerned with understanding the relevance of behavior to the expression of attitude. They would relate to the willingness of management, for instance, to alter behavior, rather than to how they would choose to alter it.

On the other hand, educational efforts may be principally designed to provide skill training in techniques of problem solving, of opening communication, of doing something. What mix of clarification of attitude and training of skills seems best to enhance the introduction of innovations in an organization? Again, easily investigated small situations could be created to provide some answers to this question.

5. Monitoring Systems

The monitoring of results and procedures can be done unobtrusively or bluntly, by an outside person or by the performer himself, in terms of clear criteria or in terms of hazy judgments. Each choice among these possibilities may influence the acceptance of innovation.

The tying of reward to performance, the nature of the reward (positive or negative, clearly a consequence of behavior or arbitrarily attached), and the clarity of the rewarding effort are variables which can be manipulated. Where variables can be manipulated, differences in their effects on innovation can be measured.

In considering areas for further research, it is clear that the complex interactions of many factors make it unlikely that clear do's and don'ts of completely general applicability can be un-

covered. Rather, a "cookbook" of effective procedures would include alternatives keyed to different milieus (perhaps including different technologies), objectives, personalities, and histories. Because of this, procedures for introducing significant and complex innovations into an organization must first of all allow for adaptability to contingencies, whatever the ultimate aim.

APPENDIX A

HIRI-CMS-DOL-ISR QWL Project Agreements

HUMAN INTERACTION RESEARCH INSTITUTE
KIRKEBY CENTER, SUITE 1120 · 10889 WILSHIRE BOULEVARD
LOS ANGELES, CALIFORNIA 90024
(213) 879-1373

February 21, 1973

To: (Eight persons from Crown Medical Specialties management), R. Foster (DOL), G. Gibb (HIRI), C. Izard (HIRI), E. Lawler (ISR)

From: Ed Glaser

Re: Draft summary of Crown-DOL-HIRI-ISR agreement at meeting on February 9, 1973

Would you please review the following material carefully, and either advise that it seems OK, or return with your editing or questions.

Centerton Planning, Meshed with HIRI Technical Assistance Consultation

1. Crown management decision to design the new Centerton plant in anticipation of staffing with relatively small (10-25) person work teams and a task structure consistent with job enrichment principles.

2. Designation of Mr.____ as Centerton Plant Manager, and Mr.____ as Production Manager; employment of Mr. ____(January 1973) as Personnel Manager, with these three constituting the nucleus crew.

3. Provision by Ed Glaser and Cal Izard of reading material pertaining to job enrichment, and of entrée, if possible, to other companies which have had successful experience in structuring work along those lines: e.g., Procter & Gamble, AT&T, Donnelly Mirrors, Cryovac Division of W. R. Grace & Co., Motorola, General Foods.

4. Exposure of Centerton Personnel Manager to opportunities and experiences that will best enable him to assume--with full support from top line management--the guidance role in working out plans for staffing and organizing the Centerton plant: e.g.,

   a. Reading, attending seminars, and visiting other companies that successfully have worked out job enrichment programs

   b. Planning and implementing (with HIRI consultation available) detailed selection and training procedures for new categories and groups of personnel as they join the company.

   c. Developing compensation policies and procedures suitable

to the increased responsibilities involved in the job enrichment approach.

d. Establishing baseline performance data that can be compared with data from other Crown plants.

5. Discussion of detailed plans, when formulated at Centerton, in conference with appropriate persons at headquarters and HIRI technical assistance team.

6. Tryout of first job enrichment training program with an initial group of Centerton employees (shift supervisors and department managers). This training program to be developed by the consultants, checked out with the Plant Manager, Production Manager, Personnel Manager, and the corporate IR Manager, and presented jointly by the Personnel Manager and the consultants.

7. Selection (with assistance available from Cal Izard) and training of Centerton production employees.

8. Indoctrination of all employees regarding the fixed technical requirements for the preliminary design plan to produce the biological products, and invitation to raise questions or offer ideas.

9. Arrangements to send key Centerton personnel to the West Coast headquarters for training and experience in actual production of the biological products, and arrangements to train other personnel at a local Vocational Training Center.

10. Start-up of operation and production at Centerton.

The guiding principle regarding costs that should be borne by Crown and those that properly can be charged to the HIRI research grant is that Crown will pay for all activities that the company normally would undertake in order to implement the management decision to structure the work along job enrichment lines. HIRI will pay (from its Department of Labor research grant) any extra costs growing out of HIRI's research that Crown would not otherwise need to undertake. Thus, Dr. Izard's time and travel for sustained consultation to Centerton will be paid from the HIRI grant, but the Personnel Manager's travel to other companies (arranged by HIRI) to observe the implementation of job enrichment principles in production plants will be paid by Crown as normal training which the Personnel Manager would find very valuable if there were no research involvement. Re time, the assumption (or hope) is that this will be a three-year study, or that HIRI will be available for three years to work with Centerton and evaluate the impact and results.

The Department of Labor has offered to fund an independent evaluation, carried out by the Institute for Social Research, University of Michigan, of the Centerton-HIRI relationship. The guidelines for that relationship are presented below (drafted by Ed Lawler, edited by Ed Glaser).

PROPOSED RESEARCH AGREEMENT INVOLVING ISR

1. The Institute for Social Research (University of Michigan) researchers expect to conduct the study over a three-year time period. During this time period two kinds of data will be collected and analyzed.

   a. Data that normally is collected by companies as part of the personnel, cost accounting, and production management information systems. Such things as absenteeism records, grievance records and turnover records fall into this category. These data will be collected continuously by Crown and given to the researchers.

   b. Data that are collected by the researchers on a periodic basis. This would include attitude surveys and some direct observation of Centerton employees. At the present time the expectation is that employees will be surveyed when they first join Crown , 6 months after they join, 18 months after they join, and 30 months after they join.

2. The researchers agree to provide management with feedback about all data collected. The researchers also agree to help management interpret the data and give feedback of the results to the rest of the organization if this help is desired.

3. Crown will provide access to relevant company records so that the research can collect production, cost, and personnel data--unless the company wishes to supply these data to the researchers. Any such data collected will be treated confidentially by the researchers, and no company data collected of this sort will be made public in any form (e.g., publication of a research report in a scientific journal) without explicit permission and approval from Crown.

4. Crown agrees to allow the researchers access to its plants and offices so that they can observe employee behavior and working conditions.

5. The consultants (HIRI) will allow the researchers to observe and study their interactions with Centerton. And of course HIRI is free to gather whatever data they may wish and work out with Centerton in connection with their own consultation and and evaluation grant.

6. Crown will allow publication of the scientific reports of the results of the study, but Crown will have the right to veto any publication of production and cost information which might endanger their competitive position.

7. A tentative schedule for the research activity is as follows:

   a. The project would be initiated about three months before plant opening. At this time observations of consultant-

Centerton interactions would begin. This would continue for the duration of the study. All employees would be asked to complete a short questionnaire soon after they are hired. At that time the researchers and management will collaborate in designing an information system for the collection of cost, production, and personnel information.

b. Starting with the plant opening, personnel and financial data would be collected and this would continue for the duration of the study.

c. Six months after opening, an initial survey would be done and some observations of the work would take place.

d. Eighteen months after plant opening, a second survey would be made and additional observations completed.

e. Thirty months after plant opening, a third and final survey would be made and additional observations made.

Cost of ISR Research

1. All researcher time will be paid for by a grant from the Department of Labor to the Institute for Social Research.

2. Crown will not be compensated by the grant for any time its employees spend supporting the data gathering aspects of the research, but that kind of time investment will not be great. By far the major time investment in connection with gathering and interpreting data for the research will be borne by the ISR research staff.

3. All data analysis costs will be paid for by the grant.

4. The researchers will provide no direct consulting help as a part of the grant, although they will be responsible for data feedback and interpretation.

EMG

cc: Mr. Seymour Brandwein
Mr. Judah Drob

CROWN MEDICAL SPECIALTIES COMPANY

WEST COAST

September 25, 1973

Dr. Edward M. Glaser
Human Interaction Research Institute
10889 Wilshire Blvd., Suite 1120
Los Angeles, California 90024

Dear Dr. Glaser:

This letter is to confirm that Crown Medical Specialties Company approves the accuracy of content and spirit contained in your memorandum dated February 21, 1973, on the subject of "Draft Summary of Crown-DOL-HIRI-ISR agreement at meeting on February 9, 1973."

We appreciate Department of Labor funding of support for organizational development consultation and evaluation of our joint effort to arrange the organization and structure of work at our new Centerton plant in accordance with what might be termed "job enrichment" or quality of worklife improvement concepts, with the expectation that this will result in both greater job satisfaction for all concerned, greater productivity, and better product quality than normally is achieved through traditional work arrangements.

Sincerely,

_____PhD
Vice President for Operations

cc: Dr. Robert Foster
Mr._____, Chairman of the Board,
Crown Medical Specialties Company

RESEARCH AGREEMENT

1. The researchers expect to conduct the study over a three-year time period. During this time period two kinds of data will be collected and analyzed.

   A. Data that normally is collected by companies as part of the personnel cost and production management information systems. Such things as absenteeism records, grievance records and turnover records fall into this category. These data will be collected continuously by Crown and given to the researchers.

   B. Data that is collected by the researchers on a periodic basis. This would include attitude surveys and some direct observation of Crown employees. At the present time the expectation is that employees will be surveyed when they first join Crown, 6 months after they join, 18 months after they join, and 30 months after they join.

2. The researchers agree to provide management with feedback about all data collected. The researchers also agree to help management interpret the data and feedback the results to the rest of the organization if this help is desired.

3. Crown will provide access to company records so that the researchers can collect production, cost, and personnel data.

4. Crown agrees to allow the researchers access to its plants and offices so they can observe employee behavior and working conditions.

5. The consultants (HIRI) will allow the researchers to observe and study their interactions with Crown.

6. Crown will allow publication of the scientific reports of the results of the study. Crown will have the right to veto any publication of production and cost information which might endanger their competitive position.

7. A tentative schedule for the research activity is as follows:

   A. The project would be initiated about three months before plant opening. At this time observations of consultant-Crown interactions would begin. This would continue for the duration of the study. All employees would be asked to complete a short questionnaire soon after they are hired. At this time the researchers and management will collabo-

rate in designing an information system for the collection of cost, production, and personnel information.

B. Starting with the plant opening, personnel and financial data would be collected and this would continue for the duration of the study.

C. Six months after opening, an initial survey would be done and some observations of the work would take place.

D. Eighteen months after plant opening, a second survey would be made and additional observations completed.

E. Thirty months after plant opening, a third survey would be made and additional observations made.

APPENDIX B

Guidelines for the Selection of Personnel for a Participative Management Environment

Participative Management Attributes

These lists of attributes are not all inclusive. They have been detailed to assist us in our efforts to obtain employees who can function effectively and comfortably in a participative management type of organization structure.

Attributes for Managerial/Supervisory Employees

Personality Characteristics

1. Maturity

   Manages own emotions and feelings effectively and is aware of and responsive to those of others.

2. Responsibility/Dependability

   Strong sense of loyalty and desire to identify with Crown and the people in its enterprises.

3. Interest in Others

   A genuine interest and respect for the ideas and feelings of others.

4. Open and Supportive

   An ability to create and to work comfortably in an "open" and supportive atmosphere with others which fosters honesty and cooperation.

5. Coach or Coordinator

   The ability to relinquish the traditional "supervisory authority" (boss/director) and assume the role of coach or coordinator, while still retaining the responsibility and authority for effective decision making processes.

Communication Abilities

Above average abilities and skill in communication:

6. Listening

   Attentively and focus attention on others using all input sources--both auditory and visual.

7. Expressive

Active and accurate expression of himself and his ideas as well as those of others.

8. Sensitivity

To the inadequacies of communications and consequent pitfalls.

9. Solicit and Evaluate

Ability to actively seek out the comments and ideas of others, evaluate them accurately and yet not make arbitrary judgments.

Supervisory Abilities

10. Focus

Ability to keep self and others focused on work-related problems.

11. Broad Knowledge and Understanding

One who has (or has the capacity for) an understanding of the various aspects and functions of other departments and how all work together and function as a team--the "what and why" of Quality Control, Quality Assurance, Personnel, Purchasing, Maintenance, etc.

12. Realism

Aware of and with ability to enable employee groups or teams to be aware of external requirements outside their group or team and the restrictions which this can cause. Also, able to help employees find ways to accomplish their goals and work effectively within these boundaries or restrictions.

13. Analytical/Persuasion

One who can effectively take the lead in assisting employees in deciding which course of action to pursue or not to pursue.

14. Action Oriented

Ability and strong desire to act on employee suggestions, help solve problems and facilitate accomplishment of the employees and department's goals.

Physical Characteristics

15. A balance of individuals in terms of age, sex and race.

16. Above average level of energy and physical vigor.

17. Strong--mentally and physically with no physical or emotional problems which would interfere with own or others' work.

18. And finally, a person who can admit mistakes, say "I don't know," but who will find out and try again.

Attributes for Non-Exempt and Production Employees

Personality Characteristics

1. Basic Friendliness--pleasant manner

2. Flexibility--Willingness and desire to learn and try new ways of doing things.

3. Maturity-- Manage own emotions and feelings effectively with awareness of those of others.

4. High Sociability--Enjoys working as a member of a team and via group accomplishment.

Physical Characteristics

5. A balance in terms of age, sex and race.

6. Health/Well Being--Good level of energy and vigor. No physical or emotional problems that would interfere with own or others' work.

Aptitudes and Abilities

7. Adequate intelligence, special aptitudes and skills required by work assignments.

8. Good social communications skills, both in self-expression and ability to focus attention (visual and auditory) on others.

Work Related Attributes

9. Desire to learn and progress.

10. Willingness and desire to assume responsibility. Realization that work is both give and take, not all "take."

11. Dependability--Can be counted on to carry out assigned tasks

12. Willingness and ability to work rotating shifts and exert extra effort when required.

APPENDIX C

Tasks, Projects for P-O's Involvement at C/C from 5/16/74

1. Participant-Observation of teams in Production, QA, Maintenance and other areas

   --Understanding of task requirements

   --Develop a description of communication, team style of operating, team leadership style

   --Provide feedback to team

   --Provide some information about team activity and general functioning to management

   --Develop a description of organization climate or worklife from perspective of the individual

2. Team training, participative management, job enrichment training in maintenance department

3. Assist development of new supervisors' training program

4. Preparation of the group record from first training sessions (3-4-74)

5. Third party role in problem-solving situations

6. Follow-up on individual development conferences

7. Team meetings without supervisors for feedback

8. Develop measures of team activity level and grievances or problems

9. Develop expectations or policy for frequency of team meetings (and records of them)

CROWN MEDICAL SPECIALTIES COMPANY

Memorandum

To: Managers and Supervisors cc: Plant Manager

From: Personnel Manager

Date: 5-22-74

Subject: Consultant Activity Related to our Centerton Plant "Quality of Life at Work" Program

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To update you on the above subject, Mary Faeth Chenery joined us on May 16 and plans to work with us full-time this summer, as a representative of our consultants (The Human Interaction Research Institute). She will work with Managers, Supervisors, and employees. Some of her specific assignments will be:

1. To work with and assist Managers, Supervisors, and employee teams in Production, QA, Maintenance and other areas.

2. To observe and learn what our various jobs are.

3. To assist in Team Training and development.

4. To assist in developing and conducting new supervisor's training programs and on-going training programs.

5. To develop measures of and recording of Team activity and employee problems, and to assist in problem solving.

Mary Faeth will be located in and will work out of Production, QA, etc., as her activities require. She is here to help us, so contact her as required.

Cal Izard will be here on Monday, May 27. His first two days will be pretty well taken up with conducting developmental counseling interviews with supervisors (see attached schedule). If any of you need to spend some time with Cal, please check with him.

Drs. Ed Glaser and Ed Lawler, and Gary Herline (ISR-University of Michigan) and a representative of the U.S. Department of Labor Office of Research and Development will be visiting the plant on Wednesday, May 29th for an on-site progress review and evaluation of our Centerton "Quality of Life at Work" program.

APPENDIX D

Summary Description of QWL Program
August 1974

(Distributed to C/C managers and supervisors in August 1974, and to all personnel hired thereafter.)

* *

HUMAN INTERACTION RESEARCH INSTITUTE
(HIRI)
Los Angeles, California 90024

Quality of Worklife Program -- Centerton Plant

WHAT DOES QUALITY OF WORKLIFE MEAN?

Quality of Worklife pertains to all aspects of life at work, including job content, working conditions, supervisory and management relationships, organization structure, and so forth.

More specifically for us, it means deliberate efforts which are made to try to create kinds of jobs and the kinds of working relationships which will be meaningful and which will result in high motivation and high productivity of all employees in an open and enjoyable work situation.

A high Quality of Worklife would probably mean:

: Open Communications
: Good interpersonal relationships between managers, supervisors, and employees
: Varied and challenging jobs
: Employee involvement in problem-solving and input into decisions which will affect them
: High individual and team responsibility
: Freedom for individual initiative and advancement
: A fair system of pay and benefits
: Openness to change and to new ideas

HOW DID CROWN GET INVOLVED IN THIS PROGRAM?

On the basis of a presentation by Edward Glaser & Associates to Crown management regarding successful experiences of other companies which have tried innovative Quality of Worklife programs, Crown decided to design the C/C plant to operate along these lines.

WHAT IS THE "PROJECT" PART OF THIS PROGRAM?	After Crown decided to structure the C/C plant according to Quality of Worklife ideas, the U.S. Department of Labor agreed to fund a research and demonstration project, to be carried out by the Human Interaction Research Institute (HIRI) of Los Angeles. HIRI's responsibility in the project is to provide consulting assistance to Centerton in its development of that type of work structure, and to investigate its relationship to productivity and job satisfaction. The project's present title is "Collaboration of Management and Employees in the Organization and Structure of the Work."
WHO IS INVOLVED?	Consulting assistance is provided to Centerton by the Human Interaction Research Institute (HIRI) of Los Angeles, through Drs. Ed Glaser and Cal Izard, and Mary Faeth Chenery. Independent evaluation of the process and outcomes of this research and development project is being carried out under another U.S. Department of Labor grant by the Institute for Social Research (ISR) of the University of Michigan through Ronie Nieva, Dennis Perkins, Ed Lawler, and others.
WHAT IS BEING DONE?	Consultants work with the plant manager, personnel manager, and other managers and supervisors on team training, supervisory training, development of organization and work structure, development of an open atmosphere and a participative management philosophy and style of operation. Managers and supervisors take this way of operation --openness to suggestion, group problem-solving, team participation in policies and other important concerns--to employees. Cal Izard, who started the program off, is currently on a Scientific Exchange visit to Russia until January 1975. Ed Glaser visits the plant periodically. Mary Faeth Chenery is here at the plant to provide on-going consultation and assistance with individuals and groups as requested and to keep a history of how we are developing.
WHY A RESEARCH PROJECT?	Through the formal study of a research project, Crown, HIRI, ISR, and the U.S. Department of Labor hope to gain a better understanding of how to improve the quality of life at work, how to make the time that people spend at work more than "just a job," to make worklife more meaningful and satisfy-

ing for employees, and how these aspects of work affect productivity. As more knowledge is gained, HIRI and the Department of Labor expect to make this information available publicly so that others may benefit from Crown's experience.

The Department of Labor is very interested in finding ways to improve the rate of productivity; and they believe that changing the quality of life at work may be one way to affect productivity. Improving productivity is one important way to try to stop the destructively high rate of inflation in our economy.

HOW LONG WILL THIS GO ON?

Centerton is committed to operate according to the principles of Quality of Worklife Improvement, changing as time and experience bring new needs and new ways to achieve better organizational effectiveness.

The consultants (HIRI) will be around to help probably for another year. Mary Faeth Chenery plans to be at Centerton for at least another five or six months and perhaps until June, 1975.

The Institute for Social Research will continue to gather data for another year, though perhaps less and less frequently.

MORE QUESTIONS?

If you have more questions about the research or the Quality of Worklife Program as we are trying to implement it at Centerton, please ask your supervisor, anyone in Personnel, or Mary Faeth Chenery.

APPENDIX E

Crown/Centerton Quality of Worklife Goals

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1. PARTICIPATIVE MANAGEMENT

"A style of management that invites participation or consultation from appropriate members of the workforce on matters which affect them and with regard to which they have some relevant input...It is this style that tends to increase the psychological meaningfulness of work."

a. Participation invited, encouraged, and rewarded in matters (such as policy formulation, staffing, work arrangements, problem-solving) that affect the employees.

b. Openness to consideration of change (i.e., honest listening)

c. Explanation given on reasons for requests or decisions (people are told "why")

d. Prompt and considered response given to each contribution (question, suggestion, problem)

e. Periodic reviews of organization and task performance effectiveness and progress toward goals are held.

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2. OPEN, THOROUGH, TIMELY TWO-WAY COMMUNICATION

a. Employees well-informed about company's products, events, policies, problems, achievements

b. Regular and frequent opportunities provided for information exchange, critique, and problem-solving (e.g., staff meetings, regular team meetings, shift change); continual openness to and invitation of criticism, question, challenge, and suggestion

c. Feedback given about an individual's or task-team's performance--informally: prompt, specific, and frequent; formally: by timely use of the performance review system

2. OPEN, THOROUGH, TIMELY TWO-WAY COMMUNICATION (continued)	d. Production feedback system developed and implemented (feedback from the job itself) e. Written documentation of goals, plans, agreements, etc., to facilitate clarity, a common understanding, and follow-up.
3. MEANINGFUL JOBS	a. Small work teams used when practicable; jobs involve production of whole or substantial part of product (not a tiny fragment) b. Challenge and a variety of skills called for c. Some autonomy and responsibility for individuals and teams d. Individuals receive feedback on their performance from the job itself e. Opportunity for advancement and learning f. Adequate technical training g. An appropriate amount of work h. Clean, safe environment with fair pay and benefits

APPENDIX F

Comments from P-O's Interviews with C/C Personnel (April 1975)

Comments About How Centerton Differs from Other Workplaces

--more freedom

--more people-oriented

--participation of managers and supervisors and sometimes employees in policy setting

--closer relationships, more friendly, we work together

--higher calibre people, more technically competent; relationships are built on the basis of competence rather than personality

--a physical facility well-thought-out and well cared-for

--the sense of urgency plus the freedom to express oneself (meaning you can walk into anyone's office anytime) makes the company very results-oriented. That's appealing.

--the fact that the Quality of Worklife project is here at all . . .

Comments about the Organization in General or Management (Direct quotations or paraphrases)

Centerton (C/C) is a very young organization (in management skills) but receptive.

The general atmosphere is not as open as had been expected.

There were confused expectations about one person making a decision--some complain that you have to call five people to make one decision, plus they feel that the plant manager makes decisions where others don't want him to . . .

In the past there has been a misunderstanding that people should participate in everything.

C/C is good at problem identification, not so at problem-solving or commitment to implement or followup; part of the problem here was overemphasis on individuality (therefore people didn't feel

they had to support solutions). There has been a lack of quick followup when a commitment was not kept.

I question what commitment C/C has to participative management (PM).

Listening skills are needed.

What is need among managers, super-technicians or basic administrators?

Roles and relationships between production and the service departments are clouded at times; we need relationships not meetings.

There are too many people at some meetings when they should be there for only part if at all.

Real communications just don't get to the right people.

The PM style and QWL efforts are seen as a hassle by some managers, but the people seem to respond to it.

"Distrust comes when a manager doesn't share his inner feelings. Then a change comes and you don't know why--whether it was something you did or what. There's a need to get close to people so you know."

They set the goals too high when they opened the plant . . .

Recommendations Regarding the Quality of Worklife (And Organization Effectiveness)

1. The quality of Worklife efforts at C/C need to lose their status as a project and become an integral part of the Centerton plant operation.

2. HIRI should collaborate with the personnel manager et al. to develop a method evaluating the QWL in the future (e.g., a semi-annual QWL Audit) and to develop a training program (managerial, supervisory, and employee) in light of the learning from this project.

3. In general, managers and supervisors need to be more methodical in what is done, to push beyond the problem to a plan and action steps.

   a. Beyond just eliciting participation from employees, such participation should be rewarded (in feedback and performance reviews), and a response to the participation (be it question, suggestion, or problem) should occur in a timely and thorough way.

b. Training, modeling, and practice in meeting leadership and problem-solving should be provided.

c. In information-sharing, accuracy needs to be emphasized, and perhaps some training about perception differences needs to be part of orientation. I have noticed a tendency among people to exaggerate and have found that this exacerbates inter-departmental difficulties.

4. More frequent, more specific, and more timely feedback about people's performance needs to be given. Supervisory training in evaluation, review, and feedback is recommended.

5. Openness to criticism is a matter of modeling on the part of managers and supervisors. The staff and supervisors need to work with employees to let go of the past and concentrate on new needs and new solutions. I would recommend that managers and supervisors make an effort to seek feedback from others, until it becomes a natural exchange.

6. More news of events in other areas of the plant and of corporate happenings is needed in each department. This should be provided through the representative meetings, supervisor reports, inter-departmental exchanges, or other channels devised.

   a. A sales representative should come to the plant to discuss with each group the use of the products and marketing affairs.

   b. Whenever possible, interdepartmental exchange of members should be encouraged, primarily for training purposes, but with the secondary intentions of enriching the variety, challenge, and breadth of the individuals' jobs and especially increasing the understanding between departments of the various functions and problems, as well as what help can be given to the other. (Discuss with QA the similar exchange already conducted between the bio and chem labs.)

7. Discuss, clarify, and agree upon the roles of the service departments (QA, Accounting, and Personnel, plus Maintenance) in relation to production.

8. Arrange supervisors' meetings across departments for exchange of perceptions and experience (to increase understanding), and later as a forum for training.

9. Effective use of good job design principles will do much for improving and maintaining a good quality of working life at Centerton. In the future, each manager should be responsible

for evaluating, creating, and maintaining meaningful jobs. Review of job content and design should be part of the QWL Audit. In the long run, new jobs created should perhaps be reviewed by the staff or another knowledgeable group for "motivating potential" or good design.

I believe that the Centerton management group should feel reinforced by this report in the job that is being done to create a good working environment. You should perhaps note as well, however, that you may be on the edge of becoming more concerned "about money and machines than people," and should support, encourage, and renew efforts to insure participation, communication, and meaningful work.

APPENDIX G

BIOGRAPHICAL RESUME OF CARROLL E. IZARD

Dr. Izard is a clinical psychologist and Professor of Psychology at Vanderbilt University. He has been involved in the area of human resources development since 1955.

In addition to his teaching responsibilities at Vanderbilt, Dr. Izard has been Director of the Psychological and Counseling Center (an inter-university center, with Peabody College) since 1968. He has been a member of the Vanderbilt University Afro-American Affairs Committee since 1969. He also has served as Director of the University Counseling Center, Director of the Clinical Training Program, and Chairman of the Race Relations Committee.

Dr. Izard received his Phd from Syracuse University in 1952. After completing his PhD studies, he worked for three years as a research associate, first at Tulane University and later at Research Associates, Inc. of Philadephia. From 1955-56 he was a Specialist in Individual Development and Human Relations with the General Electric Corporation.

He has published numerous professional articles and books, a selected sample of which is listed below. He holds a Diplomate in Clinical Psychology, ABEPP. He is a Fellow of the American Psychological Association, Editor of the Tennessee Psychologist, member of the Southeastern Psychological Association, past president of the Tennessee Psychological Association, past chairman of the Finance Committee and Tennessee Delegate for the AASPB, and past member of the Tennessee Board of Examiners in Psychology.

Selected Sample of Publications:

a. The face of emotion. New York: Appleton-Century-Crofts, 1971.

b. On understanding and promoting human effectiveness. ONR 2149 (03) NR 171-609 Technical Report No. 29, Vanderbilt University, 1966; also in The Human Context, in press.

c. Personality characteristics associated with resistance to change. Journal of Consulting Psychology, 1960, 24, 437-440.

d. Prediction of peer leadership ratings by forced-choice test under varied experimental conditions. Educational and Psychological Measurement, 1958, 18, 57-62 (with N. Rosenberg).

e. Personality characteristics (PPS), level of expectation, and performance. Journal of Consulting Psychology, 1962, 26, 394.

f. The emotions and emotion concepts in personality and culture research. In R.B. Cattell (Ed.) Handbook of modern personality theory. Chicago: Aldine, 1970.

g. A method for measuring interpersonal perceptions and feelings. ONR 2149 (03) NR 171-609 Technical Report No. 9, Vanderbilt University, 1962. American Psychologist, 1962, 17, 360 (abstract).

h. The effects of spontaneous and experimenter-induced affect on performance. ONR 2149 (03) NR 171-609 Technical Report No. 24, Vanderbilt University, 1965 (with M. Katahn, R. Murphey, and J. Fox).

i. Personality profile similarity as a function of group membership. Journal of Abnormal and Social Psychology, 1963, 67, 404-408.

j. Fundamental emotions involved in black-white encounters characterized by race prejudice. Proceedings of the American Psychological Association, 1970 (with J.E. Chappell and F. Weaver).

Consulting Orientation

My principal focus is on human emotions and their role in motivation, personality, and social interaction. In consultative work, I try to be especially sensitive to emotional barriers to interpersonal and group communication.

In attempting to develop the team concept as a means of implementing QWL principles, I concentrated on the development of an atmosphere in which honest, open communication could occur without penalty. I assumed problem- and task-centeredness on the part of technicians, supervisors, and managers, and dealt less with the technical elements of their interchanges and more with the "human" aspects of their participation. While stressing the positive values of wide participation in group problem solving and decision making, I attempted to recognize and facilitate the development and acceptance of adequate organization and leadership within the teams.

BIOGRAPHICAL RESUMÉ OF MARY FAETH CHENERY

Mary Faeth Chenery has been involved in the areas of management and organizational development since 1972.

From 1972-73, she served as a Graduate Teaching Assistant at the Babcock Graduate School of Management, where she taught courses in Creativity and Interpersonal Skills in Management. During this time period, she also worked as a management consultant for a summer camp. In 1974, she deisgned and with several colleagues taught a 5-month graduate seminar in Organizational Development at Vanderbilt University.

Ms. Chenery received the A.B. (cum laude) in General Studies from Harvard University in 1971; in 1973 she was awarded a Master's degree (with Distinction) from Babcock Graduate School of Management, Wake Forest University. She currently is a doctoral candidate at North Carolina State University, working toward a PhD in Human Resource Development.

Publications:

a. The self-start attitude: New attention to the goals of camping. Social Agency Management (in press).

b. A counselor's companion to the staff manual. Camping Magazine (in press).

Consulting Orientation

My actions as participant-observer were guided by the belief that organizational change depends upon the willingness of organization personnel to take risks--generally small risks in communicating and in trying out new behaviors. The consultant's role in facilitating change then is to model such risk-taking behaviors, help clarify the nature of the risks, suggest strategies to make the risks manageable, and point out the gains to be made from taking them. For continued development, organization members must begin to take risks publicly (that is, leadership must be expressed).

I believe it is of great importance in organization development for leaders to write down and clarify philosophies and goals. Structure must combine with good intentions and philosophies in order to achieve goals.

My actions are strongly grounded in a respect for individual choice, which meant in this experience a somewhat non-assertive role. My understanding of the participant-observer role also called for a fairly unobtrusive style, definitely not a leadership or advocate position. This emphasis was, of course, influenced by the lack of organizational power in support of the consulting intervention.

BIOGRAPHICAL RESUMÉ OF EDWARD M. GLASER

Dr. Glaser is a consulting psychologist and has been engaged in human resources development since 1946.

In 1952 he established his own national firm of psychological consultants to management--Edward Glaser & Associates. The firm's main office is located in Los Angeles. Dr. Glaser also is president of the Human Interaction Research Institute, a nonprofit, multi-disciplinary institute devoted to behavioral science research and the application of research findings to relevant societal problems. Dr. Glaser also is Adjunct Professor, Union Graduate School, Antioch College, Yellow Springs, Ohio.

Dr. Glaser received his PhD from Columbia University in 1940. While completing his graduate work, he taught psychology and served as Principal Investigator for the Committee on Medical Jurisprudence of the New York Academy of Medicine in their study of legal procedures and problems connected with assessment of the criminally insane in New York State.

During the war, Dr. Glaser served as a Classification and Selection Officer in the Navy (Lt. Cdr.). Prior to his naval service, he was a psychologist with the U.S. Public Health Service, doing research and psychotherapy with special problem cases at a federal reformatory.

He has published numerous professional articles, a selected sample of which is listed below. He holds a Diplomate in Industrial-Organizational Psychology, is a past president of the Southern California Psychological Association, past chairman of the APA Ethics Committee, has been chairman of the California State Psychology Examining Committee, and is a past president of the Division of Consulting Psychology, American Psychological Association. He is a Fellow of the American Association for the Advancement of Science and of the American Psychological Association. In March 1967, he was invited to testify on research utilization before the Senate Subcommittee on Government Research.

Selected Sample of Publications:

a. An experiment in the development of critical thinking. New York: Bureau of Publications, Teachers College, Columbia University, 1941; and Watson-Glaser Critical Thinking Appraisal, New York: Harcourt Brace, 1942 (plus subsequent revisions)

b. Organizational arteriosclerosis: Its diagnosis and treatment. Advanced Management Journal, Vol. 30, No. 1, January 1965.

c. Watson, G. and Glaser, E. What we have learned about planning for change. Management Review, Vol. 54, No. 11, November 1965.

d. Putting knowledge to use: A distillation of the literature regarding knowledge transfer and change. Washington, D.C.: National Institute of Mental Health, in press.

e. Glaser, E. et al. Utilization of applicable research and demonstration results. Final report on Project RD-1263-G, Social and Rehabilitation Service, Department of Health, Education and Welfare, Washington, D.C., March 1967.

f. A pilot study to determine the feasibility of promoting the use of a systematized care program for patients with chronic obstructive pulmonary disease. Final report on Project RD-2571-G, Social and Rehabilitation Service, Department of Health, Education and Welfare, Washington, D.C., July 1968.

g. Glaser, E. and Taylor, S. Factors influencing the success of applied research. American Psychologist, Vol. 28, No. 2, February 1973.

h. Productivity gains through worklife improvement. New York: The Psychological Corporation (Harcourt Brace Jovanovich, Inc.), 1976.

Consulting Orientation

My basic professional training was in clinical and social psychology. I have been functioning as a psychological consultant to organizations since 1946 (in addition to my research work).

In working with a client organization, I tend to focus first on learning who really is my client--who is seeking my consultation, for what and whose purposes, etc. Thus, I attempt to assess "learning readiness." If I have questions about whether the client is asking the "right" questions, we explore such considerations. While I try to work closely with the persons who have the power to decide what may or may not be attempted, my consultation often extends to individuals or groups at the lower levels of the organization. Usually, this can be carried on only through the consultant having good access to those above them in the organizational hierarchy.

What I do depends in large part on (a) the client's perception of needs, (b) my assessment of the client's needs, and (c) my own areas of consulting capability. From this "joint venture" exploration, we develop a consultation service plan. I try to get the client to look with me at questions of leadership, goals, decision making, motivation, communication and control as they affect organizational performance, goal attainment, job satisfaction, and QWL. Or to put this in another way, an objective of consultation is to help the client organization look diagnostically at itself and validate its state of being as OK, or identify areas in need of remedial action, then serve as a resource for planning and taking remedial action.

A key concept in my mind that bears on organizational effectiveness and QWL is the general desirability of creating a responsive work climate wherein suggestions from any level for improvement in the design, structure, organization or modus operandi of the work or work setting readily can arise and receive serious, non-defensive, respectful attention. From such a work culture, desires for greater participation in decision making, job enrichment or improved reward structure can emerge.

APPENDIX H

INTERVENTION FOCAL POINT	INTERVENTION	ACTUAL OUTCOME	ASSESSMENT
Meaningful jobs- rotation, challenge, some autonomy, responsibility, feedback, influence on job design. DESIRED OUTCOME	5-21-75 Suggested various alternatives to finishing supervisor, re: finishing jobs--e.g., team members assigning positions for finishing; using volunteers for the fill; informing members early so to involve in problem solving. Also feedback on lack of rotation in fill jobs.	5-21-75 Initial response was that he feels he has little choice (authority or ability to influence) in job design (dept. manager appears to be the decision-maker). 5-22-75 Some rotation occurred--dependent on supervisor's assignment.	5-25-75 Would be good if next fills could have rotation dependent on operator preference & negotiation.
	5-21-75 Asked dept. manager about job changes.	5-21-75 Dept. manager said some changes were only dependent on (awaiting) supervisors writing the job description.	
	5-27-75 Gave feedback to supervisors that dept. manager had differing perceptions of next step.		
VALUE OF OUTCOME Ref: Theoretical Framework	5-28-75 Gave feedback to plant manager that some operators want more opportunities to think; feedback resulting from comments such as, "they don't give us credit for having the intelligence to get from home to work;" or, "if they're so busy, why not let us do some of those jobs?"	5-28-75 Plant manager commented that he wants that feedback to come to him in the employee representative meetings, then he can use it with the managers. 5-26, 5-28-75 Both personnel manager and plant manager see it wa their responsibility to intervene and/or influence the way jobs are designed--that if a dept. tried to create an isolating or boring job they would question.	

APPENDIX H (Continued)

INTERVENTION FOCAL POINT	INTERVENTION	ACTUAL OUTCOME	ASSESSMENT
DESIRED OUTCOME	6-11-75 Referring to 5-21-75: went to finishing supervisor, asked what advantages of consulting people before restructuring jobs--suggested (1) new ideas, alternatives, (2) better acceptance.	6-11-75 Response was vague; saw disadvantage of getting people's hopes up then not being able to change. Then said no change was planned and that people had expected to fill when hired as finishing operators. Then couldn't remember if he'd told operators in hiring them . . .	6-11-75 Felt he was confused and changing his story.
		6-11-75 later: the supervisor called to tell me that he felt he'd "copped out" on me in our previous conversation--that I hadn't gotten his attention--and he apologized. Sorry he hadn't told me at the time.	6-11-75 Very frustrating --this supervisor is self-aware but doesn't operate in real time. Means too that he's not "with" his operators at times.
VALUE OF OUTCOME Ref: Theoretical Framework	6-11-75 I encouraged one team member to discuss this with supervisor and, with his agreement, to discuss with dept. manager.	6-11-75 Finishing dept. manager and supervisor agreed that the morning's task would be to work with dept. manager and QA to set a standard for glass rejects. What happened was that dept. manager sent QA away (to release needed stoppers), then dept. manager set standard with supervisor, not people (who do the inspecting). Then supervisor related standards to team--without explanation for why QA left or why plan was changed.	6-11-75 This situation is fairly typical, reflects managers' attitude that production must not stop and that chain of command is only vehicle needed. Won't take time to communicate.

APPENDIX I

OUTLINE OF AN EVALUATION PROCEDURE*

An organization about to embark upon a quality of work program that it hopes also would improve productivity in the process, needs to measure the results of its efforts. It also would be well to assess systematically the "readiness" of the organization to make such a change and carry it through successfully.

Dr. Howard R. Davis, Chief, Mental Health Services Development Branch, National Institute of Mental Health (NIMH), Rockville, Maryland, has developed a model for understanding what appear to be the principal factors underlying change in human systems, using the acronym A VICTORY. It is based on the principle of synergism--the force of relevant factors working together. Among the several uses to which the model may be put are determining: (1) the readiness of a given system or organization to adopt a specified change, and (2) the "weak links" among the eight factors that may need strengthening before launching into the change efforts *per se*.

The A VICTORY formulation evolved from a behavioral model of change adapted from learning theory embracing such considerations as drive or motivation, the ability or capacity of the learner, and circumstances or stimulus conditions. Results from a number of experiments on adoption of innovations, as well as from literature surveys, have been matched with the behavioral factors.

The factors, or elements, of this model are defined briefly as follows:

(a) Ability - required capability to adopt the innovation: sanctions; fiscal, manpower, physical resources; freedom from overweening competing demands.

(b) Values - the nature of the innovation: values implicit in its adoption, both typically, and from the standpoint of organizational attributes relevant to its success, such as compatibility with the value system of decision-makers in a given situation.

(c) Information - clarity and communication qualities of the innovation; information relevant to understanding how the innovation will help solve a problem.

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*Portions of this brief summary were excerpted from H. R. Davis & S. E. Salasin, "The Utilization of Evaluation." In B. Struening & M. Guttentag, Eds., Handbook of Evaluation Research, Vol. I (Beverly Hills, Calif.: Sage Publications, 1975).

(d) Circumstances - stimulus conditions or environmental features of events relevant to the success of the project; prevailing factors pressing for or detracting from certain actions.

(e) Timing - of critical phases or events relevant to the innovation; synchrony with other significant events.

(f) Obligation - awareness and felt need to do something about a problem that the innovation seems likely to solve.

(g) Resistances - inhibitors of the change, rational and irrational; perceived risks if the specific action is taken.

(h) Yield - the benefits or payoff from the innovation as perceived by potential adopters and by program participants.

The content under each of the factors appearing in the preceding outline and the profile rating to follow is based upon distillations of much of the literature on knowledge utilization and organizational change as deemed to pertain to human services. The generation of A VICTORY also has been dependent upon a series of conferences and experimental studies over the past ten years supported largely through NIMH in-house resources, contracts, and collaborative grants. Extensive help has been provided by consultants working in the field of change outside the topical area of mental health. The A VICTORY technique, in its several developing stages, has been applied in technical assistance and in research consultation and administration within the services program at NIMH. It also has had continual use as an internal management approach within that program.

Based on a series of collaborative studies underway and sponsored by NIMH, it seems fair to conclude at this point that the A VICTORY technique may at least offer a starting framework for planning the adoption of new policies or practices.

In order to focus attention on the A VICTORY factors and to make explicit in profile form the outcome of the judgments of interested persons, the following rating scheme may be useful:

A VICTORY Profile

	Factor	Rating of Factors*										
		0	1	2	3	4	5	6	7	8	9	10
Ability	Are staff skills and knowledge appropriate to accommodate the change?	.	.	.	.	.	.	.	.	.	.	.
	Are fiscal resources adequate for the desired change?	.	.	.	.	.	.	.	.	.	.	.
	Are physical resources appropriate and adequate for the change?	.	.	.	.	.	.	.	.	.	.	.
	Are the necessary managerial skills available to accomplish the change?	.	.	.	.	.	.	.	.	.	.	.
Values	Is the change consonant with relevant values of clients, such as perhaps social, religious, ethnic or political values?	.	.	.	.	.	.	.	.	.	.	.
	Is the change consonant with the philosophies and policies of program supporters?	.	.	.	.	.	.	.	.	.	.	.
	Is the change consonant with the personal and professional values of the staff?	.	.	.	.	.	.	.	.	.	.	.
	Is the change consonant with the personal and professional values of the top man?	.	.	.	.	.	.	.	.	.	.	.
	Are the characteristics of the organization such as to render change likely?	.	.	.	.	.	.	.	.	.	.	.

* Key to Rating

0 = complete absence, or poor fit, or deeply negative answer to the question raised under the particular factor

5 = a midpoint rating

10 = an exceedingly positive or "resounding yes" to the question raised under the particular factor

Ratings intermediate between the above points may be assigned according to the rater's judgment as to where the organization falls with respect to each factor.

	Factor	Rating of Factors										
		0	1	2	3	4	5	6	7	8	9	10
Information	Is information regarding the desired change adequate and clear?	.	.	.	.	.	.	.	.	.	.	.
	Does available information about the idea bear relevance to the seemingly needed improvement?	.	.	.	.	.	.	.	.	.	.	.
	Does available information indicate that the idea behind the desired change is "tryable;" can its alleged advantages be demonstrated and observed?	.	.	.	.	.	.	.	.	.	.	.
	Have the possible negative side effects been surfaced with appropriate conditions of optimal use specified?	.	.	.	.	.	.	.	.	.	.	.
Circumstances	Are conditions in the potential adopter's situation similar to those where the idea was demonstrated to be effective?	.	.	.	.	.	.	.	.	.	.	.
	Does the organization appear to be in a condition or mood of "readiness" for the given change?	.	.	.	.	.	.	.	.	.	.	.
	Is the organization located near facilities or community services that may be needed to help implement the change?	.	.	.	.	.	.	.	.	.	.	.
Timing	Should the change be implemented now or will the organization be in a better position to do this successfully sometime in the future?	.	.	.	.	.	.	.	.	.	.	.
	Is the suggested improvement likely to continue to be of value or might it become outdated in the near future?	.	.	.	.	.	.	.	.	.	.	.
	Are other events occurring at this time that could bear on the response to this change?											

	Factor	Rating of Factors										
		0	1	2	3	4	5	6	7	8	9	10
Obligations	Has the need for this change been ascertained through sound evaluation?	.	.	.	.	.	.	.	.	.	.	.
	Has the need for this change been compared with other needs in the program?	.	.	.	.	.	.	.	.	.	.	.
	Are there other strong reasons--political, administrative, fiscal or powerful/influential advocacy--pushing for the change?	.	.	.	.	.	.	.	.	.	.	.
Resistances	Have all the reasons for not adopting this change been considered at least by all key persons concerned?	.	.	.	.	.	.	.	.	.	.	.
	Has consideration been given to what may have to be abandoned if the plan is implemented?	.	.	.	.	.	.	.	.	.	.	.
	Has consideration been given to who will lose in this change?	.	.	.	.	.	.	.	.	.	.	.
	Has consideration been given to possible unrealistic staff resistances to the change; can these be overcome satisfactorily?	.	.	.	.	.	.	.	.	.	.	.
Yield	Has the soundness of evidence about the potential benefits of the plan in comparison with present or alternative plans been carefully assessed and made available to those concerned?	.	.	.	.	.	.	.	.	.	.	.
	Have possible indirect rewards for this change been examined and communicated appropriately?	.	.	.	.	.	.	.	.	.	.	.

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TITLE: LOCALLY BASED CAREER EDUCATION INFUSION MODEL.

PERSONAL AUTHOR: SANDERS, CAROL.; AND OTHERS

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DESCRIPTIVE NOTE: 35P.; PAGE 36 CONTAINING "JOB PLACEMENT PROGRAM OBJECTIVES" WAS NOT REPRODUCIBLE AND WAS REMOVED. IT IS NOT INCLUDED IN THE PAGINATION.

ABSTRACT: IN ORDER TO INTRODUCE CAREER GUIDANCE CONCEPTS INTO THE REGULAR SCHOOL PROGRAM, THIS PROJECT DEVELOPED A MODEL FOR LOCALLY-BASED CAREER EDUCATION INFUSION. A WEEK-LONG WORKSHOP WAS HELD AT THREE DIFFERENT SITES FOR REPRESENTATIVES FROM ELEMENTARY, MIDDLE SCHOOL, AND SECONDARY LEVELS, AND COUNSELORS AND ADMINISTRATORS. THE PURPOSE WAS TO CREATE A DISTRICT-WIDE AWARENESS FOR MORE EFFECTIVE INFUSION OF CAREER EDUCATION INTO THE REGULAR CURRICULUM. INCLUDED IN THIS REPORT IS THE MODEL, BRIEF NARRATIVE SUMMARY OF ACTIVITIES, WORKSHOP PLANNING PROCEDURES, SCHEDULES, WORKSHOP SITE SELECTION CRITERIA, PARTICIPANT INFORMATION SHEETS, LISTING OF MATERIALS AND BOOKS USED, EVALUATION AND FOLLOWUP FORMS, AND SOME OF THE MATERIALS DEVELOPED BY THE STAFF FOR PILOT TESTING. (NJ)

INSTITUTION NAME: EASTERN ILLINOIS UNIV., CHARLESTON.

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VT 103 375

LOCALLY BASED CAREER EDUCATION

INFUSION MODEL

by

Carol Sanders, Project Director
Diane Blair, Project Associate
Janet Meier, Technical Assistant
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Occupational Education
Booth House
Eastern Illinois University
Charleston, Illinois 61920

June 30, 1976

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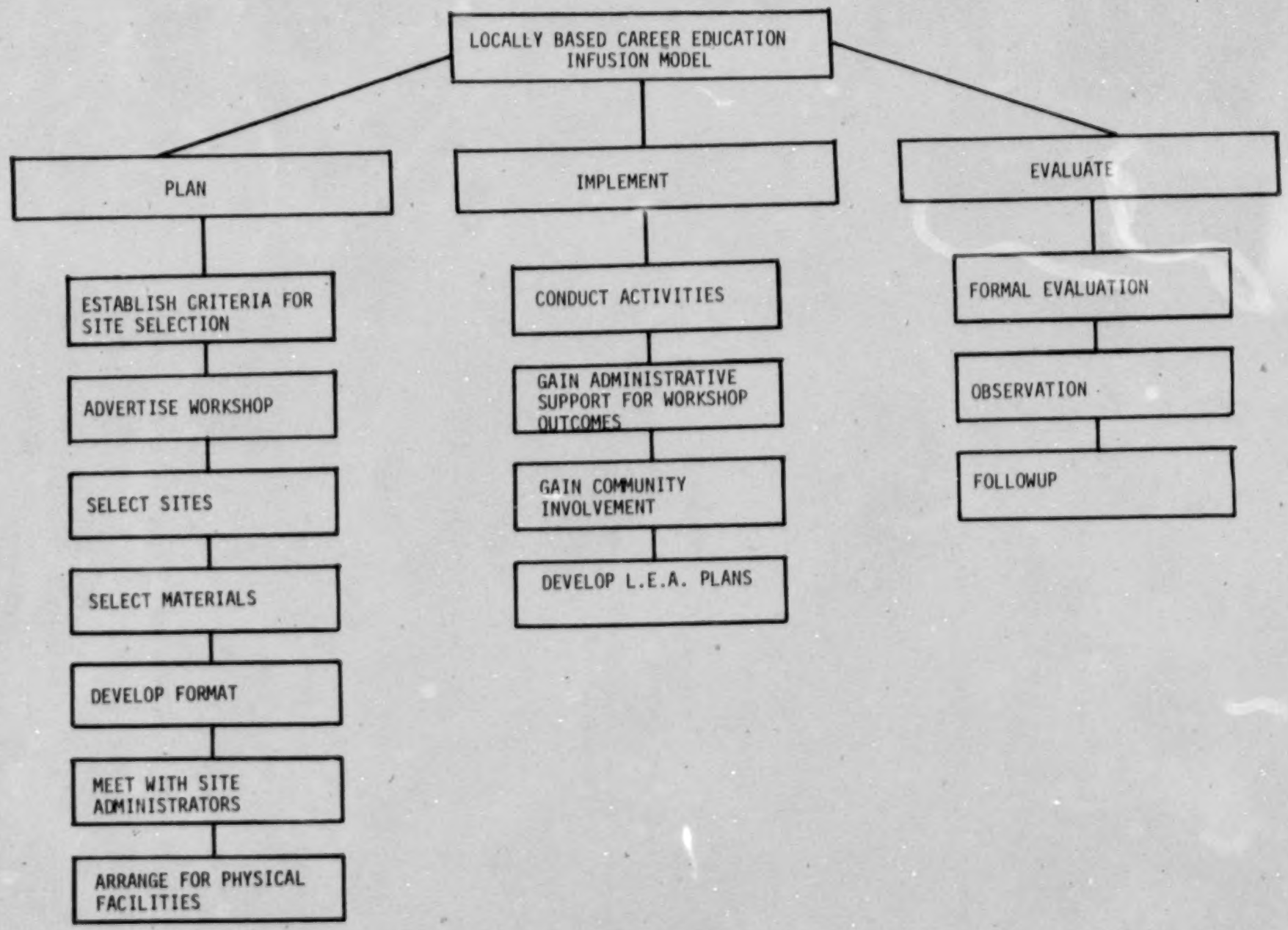
LOCALLY BASED CAREER EDUCATION INFUSION MODEL
PLAN
IMPLEMENT
EVALUATE
ESTABLISH CRITERIA FOR SITE SELECTION
ADVERTISE WORKSHOP
SELECT SITES
SELECT MATERIALS
DEVELOP FORMAT
MEET WITH SITE ADMINISTRATORS
ARRANGE FOR PHYSICAL FACILITIES
CONDUCT ACTIVITIES
GAIN ADMINISTRATIVE SUPPORT FOR WORKSHOP OUTCOMES
GAIN COMMUNITY INVOLVEMENT
DEVELOP L.E.A. PLANS
FORMAL EVALUATION
OBSERVATION
FOLLOWUP

Narrative Description of Activity

To achieve an infiltration of Career Guidance concepts into the regular school program, a series of activities needs to be presented to representative members from all levels in an educational system. One or two people cannot decide to make a change and have any assurance that that change will come about on a district-wide level. There must be total representation in order to facilitate change with continuity of purpose.

This project, known as the Locally Based Career Education Infusion Model for Inservice Education, attempted to create a district-wide awareness by seeking representatives from elementary, middle school, and secondary levels as well as counselors and administrators to attend a week-long workshop.

The activities listed on the Workshop Schedule were carried out at three different sites of varying sizes:

Forrest* - District population less than 1,000 students
Newton - District population between 1,000 and 2,500 students
Decatur - District population over 2,500 students

At the conclusion of each workshop various program plans had been formulated. There was a district plan, an attendance center plan, and often even individual plans had emerged.

* Fairbury-Cropsey School District was asked to join the small school site.

Workshop Planning Procedures

1. Announce workshop.

2. Begin communication with interested districts.

3. Arrange to offer university credit.

4. Review existing career guidance materials and collect possible materials to be included in workshop program.

5. Compose the following forms:
   --Workshop Application
   --Participant Information
   --Criteria for site selection

6. Select and notify workshop sites.

7. Select books and materials to be distributed at workshop sites.

8. Develop the following materials:
   --Workshop format and schedule
   --Workshop materials
   --Workshop evaluation
   --Follow-up evaluation

9. Duplicate materials in numbers needed.

10. Organize panel discussion format and contact local people at workshop site to arrange participation.

11. Visit the workshop sites to make initial preparations and to determine local needs of district.

12. Determine and arrange for physical facilities for operation of workshop.

13. Send news releases to schools for inclusion in local newspapers.

14. Determine the weekly format.

15. Provide material to news media describing week-long activities.

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Application Deadline - March 31, 1976

CERL'S MODEL FOR
PROGRAM DEVELOPMENT

Workshop Site Application

School District _____

Superintendent _____

Address _____ Phone _____

List the Names of Schools to be Involved in the Workshop — Grades

_____ _____

_____ _____

_____ _____

(Use reverse side for listing additional schools)

District Statistics

Total number of students in school district _____

Total number of teachers _____
- High School teachers _____
- Junior high teachers _____
- Elementary teachers _____

Total number of administrators _____
- Total number of district counselors _____
- Curriculum director /coordinators _____
- Vocational director /coordinators _____

Date school closes for summer vacation _____

Who was involved in the decision to apply for this on-site workshop? _____

_____

May we contact three of your staff members to determine staff interest for workshop? Yes__No__

To the best of your knowledge, how many participants will be involved in the workshop?

- Administrators _____
- Counselors _____
- Business & Industry Representatives _____
- Classroom Teachers _____
  - High School _____
  - Junior High School _____
  - Elementary _____

Is your school system currently operating under a One-and-Five-Year Plan? Yes ___ No___

Only partially ___ Explain _____

_____

List any district career education/career guidance workshops, inservice (short-time programs, after school, or inservice day) programs in which district personnel have been involved.

Topic Covered	Who Attended	Grade Level	Length of Time

Please state briefly and concisely what you expect your district to achieve if chosen to be a workshop site.

(Please continue on reverse side if additional room is needed).

(Signed) _____
(District Superintendent)

Please return before March 31, 1976 to:

Carol Sanders, Project Director
Career Education Resource Laboratory (CERL)
210 Buzzard Building
Eastern Illinois University
Charleston, Illinois 61920

Criteria for Choosing
Workshop Sites

School District _____ Site A Site B Site C

The following items will be considered carefully as each site is being considered as a location for the workshop.

	Strongly Agree	Agree	Do Not Agree
1. There is evidence that the decision to be a Workshop Site was decided by more than the administration. (Application).			
2. From information gleaned, this school district would benefit from such a workshop. (Regional Superintendent or Regional Vocational Director).			
3. Evidence has been shown that an effort is being made at this time in the district to develop a program infusing career concepts. (Regional Superintendent, Regional Vocational Director, Selected School Personnel).			
4. This school district is known for its willingness to make changes if it is for the good of the students. (Regional Superintendent, Regional Vocational Director).			
5. The school district has shown interest in involving the community in its plan for building its curriculum. (Application).			
6. A similar workshop has not been conducted at the school site before so that concern need not be made of duplication. (Application).			
7. The school district is within a reasonable distance for staff travel. (Map).	0-50	50-100	100+
8. The applicant meets the requirements for being a K-12 district or the district has made arrangements for including feeder schools so that it meets the K-12 requirements. (Application).			
9. There have been indications that participants will be administrators, counselors, high school teachers, junior high teachers, and elementary teachers. (Application).			
10. The contacts made with the prospective school district have been warm and show a vital interest and a spontaneous excitement for producing a workable K-12 career guidance program. (Correspondence and phone calls).			
11. A participant has been solicited from business and industry. (Application).			

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Deadline Date - April 30, 1976

CERL'S MODEL FOR
PROGRAM DEVELOPMENT

Information Sheet
Workshop Participants

Name _____ District _____

School _____ School Phone _____

School Address _____

Home Address _____

_____ Phone _____

Check One State Teaching Area and Specific Grade Level

____ Administrator _____

____ Counselor _____

____ Teacher _____

____ Business and Industry (Company) _____
Representative

List highest degree obtained _____

How many years of teaching experience do you have? _____

How many years have you been at your present school? _____

	Yes	No
Are field trips encouraged in your school?	____	____
Is the use of guest speakers encouraged in your school?	____	____
Do you have a list of community businesses and industries that are willing to provide speakers, accept field trip visitors, etc.?	____	____

How many clock hours have you participated in non-credit career education inservice and/or workshops? ____Hrs.

List any courses and/or workshops dealing with career education that you have previously taken for credit:

Course No.	Course Title	Institution	Hrs. Credit	Year Taken

(Use reverse side for additional courses)

List full-time jobs (7 hours a day, 5 days a week for at least one month) you have had other than teaching:

List all part-time jobs (those not listed as full-time above) you have held during your lifetime:

LOCAL ARRANGEMENTS

Physical Facilities

1. 2 rooms in close proximity (preferably air conditioned).
   - one room should be the main meeting room with chairs and tables for total number of participants.
   - one room with tables and chairs for at least half the total number of participants

2. A.V. Equipment
   - overhead projector
   - screen
   - extension cord with adapter (if needed)

3. Lecturn

4. Portable chalk board and eraser

5. Beverage station (preferably in main room)
   - coffee (might help to have an official "coffee maker")
   - soft drinks

Arrangements:

1. Lunch meeting for workshop staff and administrators on Wednesday to plan strategies for Thursday and Friday's planning sessions. Please invite these people even if they are not at workshop:
   Superintendent and/or
   Assistant Superintendent
   Principals
   Vocational Director(s)
   Counselor(s)
   We would encourage them to be present on Thursday and Friday if at all possible to be resource people during the planning phase.

2. Arrange with local newspaper to take picture of workshop participants on Monday morning at 9:00 a.m. and/or on Thursday at 9:30 A.M. when community panel is present. (A news release will be available from workshop staff).

Thank you so much!

WORKSHOP SCHEDULE

MONDAY	TUESDAY	WEDNESDAY	THURSDAY		FRIDAY
9:00-12:00	9:00-12:00	9:00-12:00	9:00-12:00		9:00-12:00
- Get Acquainted - Overview of Workshop - Planning a Career Guidance Program	- Needs Assessment: How well are goals being met? - Needs Assessment Model	- Evaluating Career Guidance Programs - Implementation Approaches for a Curriculum-Based Career Guidance Program	- Material Display All Day - Community Panel - District Planning and Development	- Establishing Objectives for a Comprehensive Job Placement Program - A Comprehensive view of a Job Placement Program	- Continual Material Display - Continue Planning and Development
1:00-3:00	1:00-3:00	1:00-3:00	1:00-3:00		1:00-3:00
Establishing Goals For a Comprehensive Career Guidance System	First Steps in Designing a Career Guidance Program	Applying Curriculum Based Career Guidance Approaches to a School Setting	Continue Planning and Developing	Determing a Job Placement Program Plan of Action	- Presentation of Program Overview and Plans for District Development and Implementation - Workshop Evaluation

The following Books and Materials were presented to each of the four participating school districts:

How to Plan a Community Resources Workshop

Career Education & The Curriculum, Monograph Series IX

Career Guidance Practices for Disadvantaged Youth

Bread & Butterflies (Teacher's Manual)

Career Education and the Elementary School Teacher

Career Education in the Middle/Junior High School

Career Education in the Academic Classroom

Career Education for Gifted and Talented Students

Career Education Survival Manual

Olympus Career Education Needs Assessment Instruments

Career Education Resource Guide

Career Survival Skills Teacher's Manual

Student Data Sheets (To accompany above manual)

Yellow Pages of Learning Resources

Values Clarification

Educator's Handbook for Secondary Career Guidance Programs

Career Education--What It Is and How To Do It

DAILY WORKSHOP SCHEDULE

Day 1 (Monday)

9:00 - 9:30 - Introduction of workshop leaders and participants and get-acquainted time.

9:30 - 12:00 - PLANNING A CAREER GUIDANCE PROGRAM

Goals:
1. To understand the importance of planning in Career Guidance program development.
2. To illustrate the importance of identifying and describing a task that is to be carried out by others.
3. To become aware of the trends in career guidance.
4. To provide participants with an overview of the purposes, processes and outcomes.

Participant Activities:
1. Do the Missing Square Puzzle. Two teams were formed. Team A was told to leave the room for 25 minutes while Team B received four envelopes which each contained four pieces of a puzzle. Team B members wrote a description of how Team A was to place the puzzle together. At the end of 25 minutes, Team A returned and following the direction, attempted to assemble the puzzle. The purpose of the activity was to illustrate the articulate cooperation needed among program planners (See Materials, H02)
2. Heard presentation, "What Is a Career Guidance Program?"

1:00 - 3:00 - ESTABLISHING GOALS FOR A COMPREHENSIVE CAREER GUIDANCE SYSTEM

Goals:
1. To make participants aware of the goals of a comprehensive career guidance system.
2. To identify individual priorities with regard to comprehensive career guidance goals.
3. To demonstrate an approach that can be used for arriving at group consensus on career guidance goals.

Activities:
1. Individuals took these 18 goals and placed them in priority order:
    1. Understand relationship of curriculum to career planning.
    2. Understand how economic conditions affect career plans
    3. Appreciate community role in career development
    4. Understand significance of social systems within work setting
    5. Acquire a sense of independence
    6. Develop decision-making skills
    7. Develop skills to cope with a changing work world
    8. Develop awareness of preferred lifestyles
    9. Acquire effective interpersonal skills
    10. Understand and appreciate the discipline of work

11. Develop career planning skills
12. Implement educational and job placement goals
13. Appreciate parental role in career development
14. Develop a positive self concept
15. Locate and use sources of occupational information
16. Develop positive attitudes toward work
17. Develop values clarification skills
18. Value human dignity (See Materials, HO 4)

2. Groups were formed and these small groups reached a consensus as to priority goals.
3. The small groups then came together into a large group and working with the small group consensus of priorities, decided on the three top priorities for the district.

Day 2 (Tuesday)

9:00 - 11:00 - NEEDS ASSESSMENT: HOW WELL ARE GOALS BEING MET?

Goals:
1. To show the relationship between program goals and assessing needs.
2. To acquaint the participants with one means of assessing needs.

Activities:
1. Individuals wrote a one-page report which identified the three areas (goal priorities) which need the most attention at their school.
2. In groups, a one-page report was written which identified the top three priorities and also provided rationale.
3. Marked rating chart as to how well their school met each of the 18 goals listed above.

11:00 - 12:00 - A NEEDS ASSESSMENT MODEL

Goals:
1. To help participants understand that needs assessment involves a variety of activities.
2. To give the participants a practical "how to do it" method for assessing present career guidance programs and their future direction.
3. To help the participants tailor a career guidance program to meet the needs of students.

Activities:
1. Heard a presentation, "A Needs Assessment Model."
2. Talked about what should go into a needs assessment instrument. Examples were given of needs assessment instruments (See Materials, HO 12).

1:00 - 3:00 - FIRST STEPS IN DESIGNING A CAREER GUIDANCE PROGRAM

Goals:
1. To help participants outline the program planning steps that are needed to implement procedures to reach program goals.
2. To help participants determine who will be responsible for each program planning step.
3. To help participants develop a schedule for completion of each program planning step.
4. To help particpants estimate the cost of each program planning step.

Activities:
1. Using the top 3 priorities as determined by the groups, and using Program Planning Sheets, participants began deciding:
   a. Steps to achieve goal
   b. Who is responsible
   c. Target Completion Date
   d. Cost
   e. Outcome

Day 3 (Wednesday)

9:00 - 10:00 - EVALUATING CAREER GUIDANCE PROGRAMS

Goals:
1. To help participants understand the career guidance program evaluation cycle.
2. To help participants understand that making judgments about career guidance programs requires the collection of data on all components of the career guidance program from a variety of individuals using a variety of data collection techniques.
3. To help participants plan how data is to be collected for the evaluation of a comprehensive career guidance program.

Activities:
1. Talked about methods of evaluating such as:
   - Interviews
   - Observations
   - Follow-up studies
   - Case studies
   - Trend analysis of class profile
   - Trend analysis of course selection and dropout rates
   - Standardized tests administered to students
2. Used the "Evaluation Matrix" and began to plan how the program would be evaluated. (See Materials, HO 15)

10:00 - 11:00 - IMPLEMENTATION APPROACHES FOR A CURRICULUM-BASED CAREER GUIDANCE PROGRAM - Basic Approaches

Goals:
1. To understand the importance of a team approach to a curriculum-based career guidance program.
2. To understand the characteristics of several curriculum-based career guidance implementation approaches.
3. To understand the elements (for example: physical facilities, available staff, etc.) that affect choice of approach to implemen-

tation curriculum-based career guidance programs.

Activities:

1. Listened to information presented as to the methods for implementing a curriculum-based guidance program.
2. Examined "Implementation Approaches" (See Materials, HO 16, 17, 18).

1:00 - 3:00 - APPLYING CURRICULUM BASED CAREER GUIDANCE APPROACHES TO A SCHOOL SETTING

Goals:

1. To learn how different curriculum-based career guidance approaches can be used in a specific school setting.
2. To be able to select and justify an appropriate curriculum-based career guidance approach for a specific school setting.

Activities:

1. Prepared and presented campaign speeches to support one of the implementation methods (See Materials, HO 19)
2. Voted as to which of these methods for implementation of a curriculum-based guidance program was best for Paige School:
   - separate class
   - infusion
   - career center
   - infusion and career center
   - separate class and career center
   - infusion and separate class
   - infusion, separate class, and career center

(OPTIONAL)

Day 4 (Thursday)

9:00 - 10:15 - ESTABLISHING OBJECTIVES FOR A COMPREHENSIVE JOB PLACEMENT PROGRAM

Goals:

1. To make participants aware of the objectives of a comprehensive job placement program.
2. To demonstrate an approach that can be used for identifying objectives and priorities for a school-based job placement program.

Activities:

1. Took these 18 job placement goals and organized them according to priorities:
   1. Assist in educational program evaluation
   2. Organize data bank for job placement applicants
   3. Determine type of job placement program needed
   4. Coordinate career planning and placement activities/services
   5. Assist students in career planning
   6. Persuade employers to hire school-age youth
   7. Evaluate and improve job placement program
   8. Obtain, post, and update job orders
   9. Establish job placement program policies and operating procedures

10. Provide consultant services for faculty
11. Teach job-seeking skills
12. Establish positive employer relationships
13. Implement accountability procedures
14. Screen and refer candidates for job interviews
15. Provide inservice training for job placement staff
16. Promote awareness of job placement program
17. Teach pre-employment skills
18. Persuade employers to tailor jobs to fit individuals

10:15 - 11:45 - A COMPREHENSIVE VIEW OF A JOB PLACEMENT PROGRAM

Goals:

1. To acquaint the participants with the scope and variety of services provided to students, teachers, counselors, supervisory staff, and employers by a school-based job placement program.
2. To acquaint the participants with the various organizational patterns that exist for the delivery of job placement services.
3. To acquaint the participants with some trends that are taking place with regard to job placement.
4. To help teams become aware of their orientation to job placement as reflected by their rating of the Job Placement Program Objectives.
5. To assess the extent to which the Placement Program Objectives are being met by present school efforts.

Activities:

1. Listened to presentation concerning job placement objectives.
2. Did the Job Placement Objectives Interpreted (See Materials, H021)
3. Rated job placement objectives.

1:00 - 3:00 - DETERMINING A JOB PLACEMENT PROGRAM PLAN OF ACTION

Goals:

1. To help participants establish job placement program priorities.
2. To help participants outline a plan of action for implementing job placement program priorities.
3. To help participants determine who will be responsible for each program planning step.
4. To cause participants to estimate the cost of activities included in their job placement action plan.

Activities:

1. In groups and using Planning Sheets, the top 3 placement priority goals were developed into procedures.

Day 4 & 5 (Thursday & Friday)

PLANNING AND DEVELOPING OF DISTRICT-WIDE PROGRAM

Goals:

1. To illustrate through a display, materials and resources that are available for career guidance programs.

2. Using local speakers, discover how the community views the school and what responsibilities are placed upon it.
3. To formulate a district-wide career guidance program plan.
4. Using a workshop evaluation instrument, determine the workshop strengths and weaknesses.

Activities:

1. Observed through display, materials and resources that are available for career guidance programs.
2. Discovered from a panel discussion how the community views the school and what responsibilities are placed upon it. Local people on panel included:
   --School Board Member
   --Manufacturing firm representative
   --Local business person
   --Local professional person
   --Local farmer or agriculture representative
   --Local Chamber of Commerce representative
   --Local clergyman

   The following questions were presented to the panel members before the panel and discussion centered around them:
   --Each panel participant will briefly describe various related jobs in that area.
   --What are the characteristics you see as important for workers in getting a job?
   --What are the characteristics you see as important for workers in keeping a job?
   --What kind of academic skills should be taught in schools that would benefit people going into jobs in your field?
   --What would you like to see schools stress as far as work training skills are concerned?
   --What is your philosophy of work? What is your philosophy of leisure time?
   --What is the occupational outlook for young people in your field of work in this area? In Illinois? In the U.S.?
   --What advice would you like to give schools as they go about planning a career guidance program?
   --In what ways can the community help the schools with career education programs?
   --What types of resources and services can the community offer the schools?

3. Formulated a district-wide career guidance program.
4. Evaluated the workshop's strengths and weaknesses. (See evaluation section)

Workshop Evaluation

(Used After Structured Activities)

We would like to determine if: (1) the workshop met your needs.
(2) the workshop design and activities were appropriate for achieving workshop objectives.

Directions: Please circle the number which best expresses your reaction to each of the items below. Space for your comments is provided on the bottom portion of the page.

1.	The objectives of the workshop were:	Clearly Evident	7	6	5	4	3	2	Vague 1
2.	The organization of the workshop was:	Excellent	7	6	5	4	3	2	Poor 1
3.	Workshop materials and activities were:	Interesting	7	6	5	4	3	2	Dull 1
4.	The scope of the coverage was:	Adequate	7	6	5	4	3	2	Inadequate 1
5.	My attendance at the workshop should prove:	Beneficial	7	6	5	4	3	2	Not Beneficial 1
6.	Overall, I thought this workshop was:	Excellent	7	6	5	4	3	2	Poor 1

The stronger workshop features were: _____

_____

_____

_____

The weaker workshop features were: _____

_____

_____

_____

Comments: _____

_____

_____

Workshop Evaluation

(Used After Unstructured Activities)

Keeping in mind the last two days only unless specified otherwise, complete the evaluation using the following scale:
(E) Excellent (G) Good (A) Average (F) Fair (P) Poor

E	G	A	F	P	
					1. How beneficial to your needs were the materials and resources that have been displayed? Comments:
					2. How would you rate the panel discussion in helping you understand what the community needs from the schools? Comments:
					3. How would you rate the district-wide plan which has been formulated these last two days? Comments:
					4. Rate the individual help you have received during this workshop? Comments:
					5. How well was the workshop organized? Comments:
					6. Was the amount of work appropriate for the length of time involved? Comments:
					7. How would you recommend the 5-day workshop to someone in another district? Comments:
					8. How would you recommend the first 3 days? Comments:
					9. How would you recommend the last 2 days? Comments:

List the strengths of the workshop.

1. _____

2. _____

3. _____

List the weaknesses of the workshop.

1. _____

2. _____

3. _____

Use the reverse side for any additional suggestions or comments. Thank you.

CAREER EDUCATION RESOURCE LABORATORY

Buzzard Education Building Eastern Illinois University

Charleston, Illinois 61920

(217) 581-5524

It has been five months since the beginning of the 1976-77 school year, and eight months since you participated in the K-12 Career Education Guidance Planning Workshop. As was mentioned during the workshop, we are interested in how well your district is meeting the career education/ guidance goals determined during the workshop. We are also interested in overall program acceptance, and changes you might have made. Thank you for your input.

Sincerely yours,

Carol Sanders

Carol Sanders

Diane Blair

Diane Blair

District _____
Position _____ K-6 teacher
_____ 7-9 teacher
_____ 10-12 teacher
_____ Other
_____ Counselor
_____ Administrator
_____ Vocational
_____ Director
_____ Other

FOLLOW UP

1. Is your district following the K-12 career education/guidance plans developed during the workshop?

Yes	No	
_____	_____	totally K-12 plan
_____	_____	mostly at K-6 level
_____	_____	mostly at 7-9 level
_____	_____	mostly at 10-12 level

2. Were the plans accepted by school personnel not attending the workshop?

Yes	No	Not presented
_____	_____	_____

3. Were role responsibilities accepted by school personnel not attending the workshop?

Yes	No	Not presented
_____	_____	_____

4. Is your district meeting target completion dates determined during the workshop?

Yes	No
_____	_____

5. Have you shared what you learned during the workshop with colleagues?

Yes	No
_____	_____

6. Were the plans developed during the workshop realistic?

Yes	No
_____	_____

If your answer is "no" to the above question, please indicate why and state alterations._____
_____
_____

7. Do you feel other districts would benefit in having a similar workshop?

Yes	No
_____	_____

8. What would you point out as being the most significant way the workshop influenced your teaching activities? _____

_____

_____

9. What changes, if any, in the workshop would you suggest? _____

_____

_____

10. Would you like to attend additional staff development activities?

Yes _____ No _____

Please indicate the area in which you would like assistance.

_____ a. actual participation in group guidance activities
_____ b. demonstration of group guidance activities
_____ c. participation in guided activities which will take you into the community to work with business and industrial resources.
_____ d. participation in guided activities which would give you the opportunity to work with an experienced placement director
_____ e. help in integrating career development concepts into: (check those that apply).

_____ science
_____ math
_____ language arts
_____ social studies
_____ physical education
_____ music
_____ home economics
_____ art
_____ business and Distributive Education
_____ trade and Industry
_____ health
_____ agriculture
_____ other _____

_____ f. other techniques or topics _____

Copy of Materials Developed

Materials labeled "For Field Testing Purposes Only" were materials developed by the PAGE 2 staff. We are unable to include copies of all materials used during the workshops as they will not be available for dissemination until after field testing has been completed and they have been submitted to the United States Office of Education for clearance. Materials should be available for distribution by March 1, 1977.

Other materials handed out to participants included:

--Related Occupations to Interest and Ability in Fourteen Subject Areas (Occupational Circles)

--"Parent Involvement"

--Field Trip Information

--Community Resource Information

--Components of Career Concepts

--Basic Career Development Concepts

--Materials Evaluation Form

--"Annotated Bibliography of CERL Materials"

HO 2

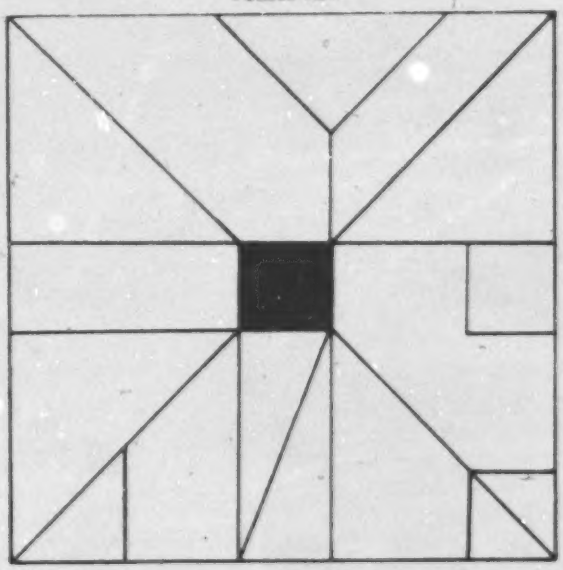
Team B Instructions

Your Task

Beginning now you have 25 minutes to write a set of instructions that Team A will use to assemble the Missing Square Puzzle. Team A must assemble the pieces in the same positions as they appear in the Puzzle Key. In the envelope containing the Missing Square Puzzle there are 4 smaller envelopes. Each of these envelopes contains 4 pieces of a 16-piece puzzle. When the 16 pieces are assembled properly, they will form a square, the center of which is missing. You must observe the rules that follow.

PUZZLE KEY

When assembled properly, the puzzle will look like this.



Rules

1. Distribute the 4 envelopes containing the puzzle pieces to 4 different members of Team B.

2. The 4 team members who hold the envelopes will open them, take out the 4 puzzle pieces, and keep the 4 pieces in front of themselves during the entire time Team B is working.

   a. Pieces cannot be traded.

   b. Team B at no time assembles the puzzle.

   c. The puzzle pieces and envelopes cannot be marked in any way.

   d. A puzzle piece can be touched *only* by the Team B member to whom it was originally given.

3. Using the paper provided, prepare a set of instructions which tell Team A members how to assemble properly the Missing Square Puzzle. Team B may not show the Puzzle Key to Team A members at any time. Team B may not draw the assembled puzzle or any part thereof for Team A.

4. At the end of the 25 minutes, Team A will assemble the puzzle even if the instructions have not been completed. *Time may not be extended.* You must use the 25 minutes efficiently.

5. When Team A begins assembling the puzzle, you may give no further instructions. You will observe Team A, but you may not give any verbal or non-verbal clues as to the proper assembly of the puzzle.

HO 4

Individual Goal Rating Sheet

Instructions: Look at your Planning Board. Record the number of points you gave to each of the Goal Statements in the blank space next to each of the Goal Statements on this page.

Goals	Column 1	Column 2
1. Understand relationship of curriculum to career planning	_____	_____
2. Understand how economic conditions affect career plans	_____	_____
3. Appreciate community role in career development	_____	_____
4. Understand significance of social systems within work settings	_____	_____
5. Acquire a sense of independence	_____	_____
6. Develop decision-making skills	_____	_____
7. Develop skills to cope with a changing work world	_____	_____
8. Develop awareness of preferred lifestyles	_____	_____
9. Acquire effective interpersonal skills	_____	_____
10. Understand and appreciate the discipline of work	_____	_____
11. Develop career planning skills	_____	_____
12. Implement educational and job placement goals	_____	_____
13. Appreciate parental role in career development	_____	_____
14. Develop a positive self concept	_____	_____
15. Locate and use sources of occupational information	_____	_____
16. Develop positive attitudes toward work	_____	_____
17. Develop values clarification skills	_____	_____
18. Value human dignity	_____	_____

Save this sheet. You will use it again.

HO 12

Guidance Services Survey

Student Questionnaire

The Page High School is in the process of reevaluating current career guidance services for students and making plans for improving these services. As part of the planning process, we are very interested in the ways we might serve you better. We would appreciate your cooperation in completing this questionnaire.

Thank you.

---

1. What grade are you in? (Circle appropriate number.) 7 8 9 10 11 12

2. Sex Male _____ Female _____

3. What academic program are you in?

   _____ College Preparatory _____ General Studies _____ Vocational

4. Parents' educational background (Check one of the following for *each* parent.)

Mother	Father	
_____	_____	*Not* a high school graduate
_____	_____	Graduated from high school
_____	_____	Business school or trade school
_____	_____	Some college
_____	_____	Graduated from college
_____	_____	Do not know how much education

5. What do you plan to do on a full-time basis during the first year after you finish high school?

   _____ Work

   _____ Get married

   _____ Enter military service

   _____ Work at home for parents

   _____ Attend college or university

   _____ Enroll in some type of educational training such as business, trade school, technical school, nurse training, etc.

   _____ Other (Please specify)

   _____

6. How do you think your parents feel about whether you attend college after high school?

_____ Insist or expect me to go
_____ Want me to go if I want to
_____ They do not care one way or the other
_____ Do not want me to go

7. What is the highest level of schooling you are now planning to complete?

_____ Graduate or professional school (medical, law, etc.)
_____ A technical, trade, business, or beautician school
_____ A four-year college or university
_____ High school, then to job of my choice
_____ Two years of college
_____ Junior high school

8. Do you or have you worked during the summer or after school hours?

_____ No
_____ Yes, during summer only
_____ Yes, after school only
_____ Yes, during summer and during school year
_____ Yes, weekends only
_____ Yes, after school and weekends

If yes, what type of work do you do?

_____

9. After you finish high school, do you

_____ Prefer to remain in the local area
_____ Want to move to another place in the state
_____ Want to leave the state
_____ Don't know

10. How much help have your parents given you in planning your future career?

_____ A great deal
_____ Very little
_____ Some
_____ None

11. Do you feel the need for more vocational information or counseling to help you make better vocational plans?

_____ Vocational information only
_____ Some other type of assistance
_____ Vocational information and counseling
_____ I do not need any assistance at present

12. How much help has your counselor given you in planning your future career?

_____ A great deal
_____ Very little
_____ Some
_____ None

13. Is there anyone in your school who is available to talk to you about occupations and to listen to your interests and help you evaluate your capabilities?

_____ Yes _____ No

If so, what area does he/she represent? (Examples: Math, Counseling, Science, Industrial Arts, etc.) _____

14. Is there a need for more specific programs in helping students to make career decisions in all academic areas?

_____ Yes _____ No

a. At what grade level? _____

b. In what specific areas? _____

c. Any specific programs? _____

15. Do you think an elective course designed to aid a student in post high school planning should be offered at the senior high school level?

_____ Yes _____ No _____ Don't know

If yes, what would like to have included in this course? Check as many as apply.

_____ Self knowledge _____ Knowledge of vocations

_____ Skill in decision making _____ Knowledge of educational opportunities

16. Please note your need at this time for help with educational and career planning.

_____ Need considerable help in figuring out what I am going to do.

_____ Have some things planned but I could use additional help.

_____ Plans are pretty clear and I do not need additional help at this time.

17. Do you feel your present school courses are adequate to meet your future educational and vocational needs?

_____ Yes _____ No _____ Uncertain

18. How often do you discuss your future career with your counselor?

_____ Very often _____ Seldom

_____ Some _____ Never

19. Which is the most pressing concern for you now?

_____ Using my spare time
_____ Taking care of my health
_____ Taking part in community affairs
_____ Marriage and family affairs
_____ Getting along with other people
_____ Getting a job

20. When would be the best time to present career development materials to high school students?

_____ Freshman year
_____ Sophomore year
_____ Junior year
_____ Senior year
_____ All four years

21. Has the exposure to career development materials motivated you to discuss your post-high school plans with friends, parents, teachers, counselors, etc.?

_____ Yes
_____ No
_____ Exposure not sufficient

22. Would you be interested in engaging in further exploration of careers?

_____ Yes
_____ No
_____ Undecided

23. When you visited a school counselor, was he

_____ Very helpful
_____ Helpful
_____ Not helpful

24. Have you made a plan for your life's work?

_____ I have a definite plan
_____ I have some ideas but no definite plan
_____ I have no ideas of what I want to do
_____ I have not yet given this serious thought

25. Do you feel you know your interests and abilities well enough to decide about your future career?

_____ Yes, very well
_____ Yes, to some extent
_____ No idea or confused
_____ Never thought about them

26. How often have you thought about your plans for after high school?

_____ Very much
_____ Somewhat
_____ Seldom
_____ Never

27. How often do you think about quitting school?

_____ Often _____ Sometimes _____ Never

28. How sure are you about your choice of a course of study?

_____ Very sure; it is exactly what I want.

_____ Doubtful; I am not too sure it is what I want.

_____ Somewhat sure; I think it is what I want.

_____ I realize now I am in the wrong course of study.

29. If you have visited one of the school counselors this year, please check one of the reasons for your visit.

_____ Schedule problems

_____ Other reasons

_____ Personal problems

_____ Never visited school counselor

_____ Both schedule and personal problems

30. Do you feel that more vocational information or counseling will enable you to make more adequate vocational plans?

_____ Vocational information only

_____ Some other type of assistance

_____ Vocational information and counseling

_____ I do not need any assistance at present

31. Please note your need at this time for help with educational and career planning.

_____ Need considerable help in figuring out what I am going to do

_____ Plans are pretty clear and I do not need additional help at this time

_____ Have some things planned but could use additional help

32. If you feel a need for counseling on some personal matter, to whom do you talk to about your need?

_____ Teacher

_____ All of the above

_____ Parents

_____ None of the above

_____ Counselor

_____ Other

_____ Friend

33. Do you feel your present school courses are adequate to meet your future educational and vocational goals?

_____ Yes _____ No _____ Uncertain

34. If you are not now in the high school curriculum of your choice, in which of the following would you prefer to be enrolled?

_____ College preparatory

_____ Business education

_____ General education

_____ Technical-vocational

_____ I am now in the curriculum of my choice.

HO 15

Evaluation Matrix

Program Components	Self	Peer	Supervisor	Regulatory Third-Party	Consumer
Student Objectives					
Personnel (teachers, counselors, administrators)	Career guidance staff written self-study of inservice needs	Career guidance staff from other schools brought in to make written report on staff effectiveness	Observation	None	Followup instrument sent to students, parents, and community members Instrument administered to random sample
Instructional Materials					
Facilities					
Public Relations					
Program Management and Organization					
Overall Program					

HO 16

Implementation Approach I: The Separate Class

Curricular Implications

1. Relationship of subject matter to career development less likely to occur.
2. Is an addition to the curriculum.
3. Separate subject gives prominence to career development.

Administration

1. Treated like every other course in the curriculum--language arts, social studies, mathematics, etc.
2. Administration is centralized and greater coordination of staff, facilities, and equipment can be maintained.
3. Requires adjustment of school schedule.

Personnel

1. Staff immersed deeply in career guidance and have greater expertise to bring to the task.
2. Staff assumes more administrative responsibilities than in other approaches.
3. Depends on talents of small number of staff.
4. May require the addition or reassignment of staff.

Facilities and Resources

1. Generally located in one or two specific rooms.
2. Fewer numbers of instructional resources can be used by greater numbers of students.
3. Lends itself to setting up a career center.

HO 17

Implementation Approach 2: Infusion

Curricular Implications

1. Career development concepts are "infused" with subject matter concepts in ongoing curriculum.
2. Requires planning to assure an articulated program of career development.
3. Career development concepts may take "back seat" to subject matter concepts.
4. Can make subject matter concepts more "exciting."

Administration

1. Coordination is complex because many staff members are involved.
2. Scheduling problems are minimal.
3. Quality and quantity of career development activities will vary because of the large number of staff involved.

Personnel

1. Requires a minimum of faculty adjustment.
2. Involves many staff members.
3. Commitment and support required from many staff members.

Facilities and Resources

1. Resources are diffused throughout the school building.
2. Lends itself to setting up a career center.

HO 18

Implementation Approach 3: The Career Center

Curricular Implications

1. May function in place of a classroom approach.
2. May function as a curriculum supplement to the "separate class" and "infusion" models.
3. Gives prominence to career development.

Administration

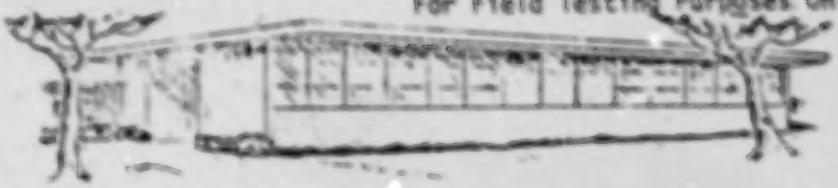
1. Administration is centralized and greater coordination of staff, facilities, and equipment can be maintained.
2. Not likely to involve major change in school schedule.

Personnel

1. Requires a coordinator who is a trained guidance and counseling professional.
2. May require support staff (paraprofessionals, clerical staff, etc.).

Facilities and Resources

1. Needs to be located so that it is easily accessible to students.
2. Requires an inviting, attractive place where materials and resources can be displayed and group guidance activities can be conducted.



HO 19

Page Middle School

Page Middle School is located in a midwestern town of 46,000 residents. It is one of three middle schools in the district and has an enrollment of 763 students. It serves students in grades 6-8 with departmentalized curricular offerings.

The 44 professional staff members include the following specialized staff:

1 full-time guidance counselor	1 half-time media specialist
1 half-time guidance counselor	1 quarter-time school psychologist
1 full-time librarian	1 principal

Last fall, Mr. Barry, chairman of the English department, reported to Mrs. Young, the principal, that he had just attended the International Reading Association Convention and that he had picked up some good ideas about starting a career education program. He expressed the opinion that the guidance counselors cannot be expected to carry the total responsibility for career guidance and that he thought there were many career guidance activities that English department members could perform.

Mr. Barry mentioned in the faculty lounge that he had talked with Mrs. Young about his idea of having the English department assist with some career guidance activities. Mr. Finch, the media specialist, happened to be in the lounge, and he remarked, "Well, you may be right on target because the new catalogues we are getting are filled with new career guidance materials." Mrs. Hartford, head of the social studies department, reacted by saying, "Well, you can just keep all those career guidance materials right there in your little corner of the library because the social studies teachers are going to have enough to do this year with implementing the new series we just adopted."

Mrs. Young, the principal, followed up on the conversation she had with Mr. Barry. In essence she found out that (1) the guidance counselors already felt overburdened, (2) the superintendent was favorable to a career guidance program if Mrs. Young could juggle internal staff and resources for the program, (3) the social studies teachers were only lukewarm to the idea, (4) the parents she had talked to were glad that something was going to be done to provide more career guidance for their children, and (5) the librarian and media specialist would cooperate but they felt the library was not the place to have career guidance activities.

Mrs. Young is very proud of her school and wants to do the right thing. For the past ten years students at Page Middle School have scored extremely high on the Iowa Test of Basic Skills. Mrs. Young does not want to do anything that might result in a lowering of these scores.

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ABSTRACT: THIS STUDY EXAMINES THE INTER-INDUSTRY SHIFTS OF THE U.S. LABOR FORCE DURING THE LAST CENTURY--THE MOVEMENT FROM AGRICULTURE TO SERVICES. A SIX-SECTOR SCHEME IS USED TO DIFFERENTIATE THE TERTIARY SECTOR: EXTRACTIVE, TRANSFORMATIVE, DISTRIBUTIVE SERVICES, PRODUCER SERVICES, SOCIAL SERVICES, AND PERSONAL SERVICES. THE MAIN DATA SOURCE IS THE BUREAU OF THE CENSUS ONE PERCENT PUBLIC USE SAMPLES FOR 1960 AND 1970. INDUSTRY STRUCTURE IS IDENTIFIED AND ITS TRANSFORMATION TRACED IN EXAMINING LONG-TERM TRENDS, WORK SCHEDULING AND STABILITY OF EMPLOYMENT, AGE STRUCTURE AND INDUSTRY CHANGE, AND THE INTERRELATION OF INDUSTRY AND OCCUPATION. THE QUESTION OF WHO IS EMPLOYED AND IN WHAT SECTORS AND INDUSTRIES ADDRESSES THE INDUSTRIAL POSITION OF FEMALES AND BLACKS AND MEXICAN AMERICANS. SOME IMPORTANT CONSEQUENCES OF THE SECTORAL TRANSFORMATION ARE PRESENTED IN THE DISCUSSION OF EARNINGS INEQUALITY AND THE RELATIVE MERITS OF THE SECTOR MODEL AND THE HUMAN CAPITAL MODEL IN EXPLAINING THE TRANSFORMATION. FINALLY, A NUMBER OF SOCIOLOGICAL IMPLICATIONS OF THE CHANGE ARE ADDRESSED: CONDITIONS OF WORK, WORK SATISFACTION, AND WORK ALIENATION AND ITS IMPACT ON THE CLASS STRUCTURE. (NJ)

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THE EMERGENCE OF A SERVICE SOCIETY: DEMOGRAPHIC AND SOCIOLOGICAL ASPECTS OF THE SECTORAL TRANSFORMATION OF THE LABOR FORCE IN THE U.S.A.

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16. Abstracts

This study examines the sectoral transformation by industry designation mainly for the 1960-1970 period, utilizing the 1/100 Public Use Samples. A new six-sector industry classification scheme is used that provides a greater differentiation of the tertiary sector: 1) Extractive, 2) Transformative, 3) Distributive services, 4) Producer services, 5) Social services, and 6) Personal services. Attention is centered on three distinct but interrelated questions: 1) How can the industry structure be identified and its transformation traced? 2) Who is employed in what sectors and industries? and 3) What are some of the important consequences of the sectoral transformation? The first question is addressed in the chapters on the long-term trends (1870-1970) of the sectoral transformation (II), work scheduling and stability of employment (III), age structure and industry change (IV), and the interrelation of industry and occupation (V). The second question takes up the industry position of females, particularly sex-typing of work (VI), ---CONTINUED---
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16. ABSTRACT, continued

and the position of the two largest minorities, Blacks and Mexican Americans, in the industry and occupational structures and how they compare with Anglos (VII). The third question is covered in the discussion of earnings inequality and the relative merits of the sector model and the human capital model in explaining 1959-1969 changes (VIII). The final chapter (IX) addresses a number of sociological implications of the movement to the service economy: conditions of work, work satisfaction, and work alienation and its impact on the class structure. Some of the policy implications of this research are set forth.

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HLB

JS

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SUMMARY OF REPORT

Chapter I: INTRODUCTION

Two great trends characterize the sectoral transformation (inter-industry shifts) of the U.S. labor force during the last century: the movement out of agriculture and the growth of services. While this report covers all inter-industry shifts, particular attention is given to the expansion of services, both because of the relative recency of this change and because the causes and consequences of the move have been relatively neglected and therefore are not well understood.

Generally, the sectoral transformation has been analyzed by using the famous Fisher-Clark tri-partite division: primary (agriculture, mining, fishing, and forestry); secondary (manufacturing, construction and utilities); and tertiary (transportation, communication, commerce and services). Clark saw economic development as involving the movement out of the primary sector into the secondary sector and then from the secondary to the tertiary sector. Essentially, the forces behind these shifts were productivity gains (movement from lower to higher productivity industries) and the rising per capita income that stimulated the demand for a variety of services.

Although the three-sector scheme continues to be used, its value has progressively become weakened because the tertiary sector, which includes services, has increased much in relative importance but has become at the same time, because of the heterogeneity of services, more and more a residual category. It is difficult to speak meaningfully of the tertiary, when it includes banking and barbering, domestic and medical service, accounting and postal services. To attack this problem, a new sectoral allocation scheme is presented in this report, one that breaks down the tertiary into more meaningful sectors. The six-sector scheme is as follows:

1. Extractive (identical with primary sector)

2. Transformative (identical with secondary sector)

3. Distributive Services (transportation, communication, wholesale and retail trade, excepting eating and drinking)

4. Producer Services (financial, insurance, engineering, law and business services)

5. Social Services (health, education, welfare and government)

6. Personal Services (domestic, lodging, repair and entertainment)

Distributive and Producer services are "goods-oriented" services, because they cater to goods or matters related to property. They are also intermediate between the first two "production" sectors and the last two "consumption" sectors. Social services are new to the extent that their mass consumption historically is relatively recent, and the funds for their operation are dependent to a considerable degree on government revenues. Personal services are more heterogeneous, but they have in common an orientation to the individual consumer and the size of establishment is relatively small.

The Browning-Singelmann classification scheme was developed heuristically, based on a dissatisfaction with the Fisher-Clark scheme. It therefore does not purport to be a theory of development nor even of sectoral transformation. There is a similarity of approach with two other sector allocation schemes (Katouzian and Singer) derived independently, suggesting a move in the same direction. In any event, recognizing that even the six-sector scheme has considerable within-sector variability, most of the tables in the report provide figures on 37 industries within the six sectors. The main source of data is the U.S. Bureau of the Census 1% Public Use Samples for the census years of 1960 and 1970. Taken at the national level, they provide the most flexible means of analysis.

Chapter II: THE HISTORICAL CONTEXT OF THE SECTORAL TRANSFORMATION, 1870-1970

Most of the report is devoted to the 1960-1970 decade, based upon the 1/100 sample of the 1960 and 1970 censuses. This decade should not be seen in isolation, however, but in the historical context of a century of change, even if the coverage cannot do justice to the complexity of earlier periods.

In 1870, 52.3% of the U.S. labor force was in the Extractive sector. Fifty years later in 1920 it had declined to 28.9% and by 1970 it had further declined to a mere 4.5%. The Transformative (secondary) sector for the same periods rose from nearly a quarter (23.5%) of the labor force to nearly a third (32.9), but then changed relatively little over the next fifty years, ending at 33.1% in 1970. Of course, output in agriculture and manufacturing, especially in the last fifty years, have had astounding gains, due to greatly increased productivity. Clearly, the number or proportion of persons employed in a sector does not necessarily reflect the magnitude of its output.

Turning to services, the importance of distinguishing among the sectors and even the industries becomes necessary, for although services as a whole increased for every decade, the gains were very uneven, and in one important industry exception, there was a large decline. Domestic service was 7.4% of the total labor force in 1870 (nearly a third of all services), but by 1970 it had dropped to 1.7%. Distributive services had its greatest relative gain during the period 1870-1920, with transportation experiencing a strong expansion. Since 1930, however, the system of transport has been able to move goods and people with proportionally fewer workers. Trade, on the other hand, has increased slowly but steadily through the century, doubling its' share of the labor force. Producer services were so small they were included with trade until 1910, but in the last half century they have had an impressive surge, going from 2.8% to 8.2% of the total labor force. While some industries in Personal services grew, the impact of the decline in domestic service has meant almost no change for the century (9.3% in 1870 to 10.0% in 1970).

The really impressive change among services occurred in Social services, for the sector increased in every decade from just 3.4% in 1870 to 21.9% in 1970, the gain being greatest during the last two decades. Within the sector, education jumped from 3.8% to 8.6% between 1950 and 1970, whereas government--often maligned for "bloated" growth--increased from 3.7% to 4.6%.

All the above-noted changes occurred in a country that witnessed many other basic structural transformations. The percent urban increased from about one-quarter to three-quarters of the population, the white-collar component of the occupational distribution grew from 18% in 1900 to 49% in 1970, and the female participation rate more than doubled during the latter period, from 20.4 to 43.4. These changes were closely related to the sectoral transformation. Although this sectoral transformation has had its greatest shift since 1940, the trend had begun much earlier in American history.

Chapter III: LABOR INPUT AND WORK CONTINUITY

The trend to the service sectors has been very pronounced in terms of employment but it is not necessarily true that there have been comparable changes in terms of labor input. That is, the distribution of workers among industries will not necessarily coincide with the distribution of labor as measured by the yearly hours worked. Attention has been called to the fact that services are characterized by a high proportion of part-time employment, so it may be that the shift to the services is a good deal less impressive if one uses input rather than employment as the standard.

Taking the 40-hour week as the standard for employment, Transformative and Social Services have the highest figures (each approximately one-half) with male and female showing little difference. Extractive and Personal services have the lowest proportions (about one-quarter), with Distributive and Producer services intermediate. With weeks worked, the sex difference widens considerably, with three-quarters of males working 50-52 weeks in 1969 compared to 54% for females. It is possible to combine hours per week and weeks per year into an overall index of yearly hours per worker. For the total male labor force it was 2002 hours, while the female labor force was three-fourths this total, at 1521 hours, and were lower in all six sectors.

In comparing the distributions by employment and hours, it is true that service sectors as a whole have less hourly than employment representation, but this difference is in large part due to the female distribution. Three industries account for the female pattern: retail, education, and domestic service; together they account for -4.5% in hours as compared to employment.

It is known that service sectors in total have expanded but it is not known how this shift has occurred. Was the expansion brought about mostly by people moving from Extractive and Transformative sectors into services, or did services grow largely because of new labor force entries? This question can only be answered wholly satisfactorily by detailed work histories, but this is not possible with census data. However, the 1970 census had a question that asked the industry a person was employed in 1965. Since the question was asked of all persons, it includes people who were not in the labor force in 1970, but did work in 1965, as well as those who were not in the labor force in 1965 but who were employed in 1970.

Generally, the data do not indicate that the sectoral transformation of the labor force has been the result of persons having left other industry sectors for employment in Social and Producer services. It can be concluded, therefore, that the growth is mainly due to persons not previously in the labor force who enter these particular services in disproportionately large numbers.

Chapter IV: AGE AND SECTORAL TRANSFORMATION

Age is a variable worthy of consideration in its own right, rather than simply as a control variable, as is so often done. In terms of the age distribution, the Distributive, Personal and Producer services are more likely to be entry sectors, while the Extractive sector has its strongest representation in the older age categories. The age-sex pyramids for sectors and industries reveal the considerable variation that exists. Only a few pyramids display similar configurations for the male and female sides; the sexual division of labor is strikingly apparent at a glance.

While a comparison of age-sex distributions for the 1960-1970 period is valuable, what is needed is a standard by which to evaluate the change during the decade. The familiar practice of formulating an expected change and then comparing it with the actual change is our point of departure (in this instance the "shift" technique is used). For five age categories the growth rate for the decade of the total employed population is taken as the standard or expected change. It can then be compared to the change for specific sectors and industries. The difference between the two sets of figures indicates the extent to which age categories for each sector and industry grew more or less rapidly than expected. The shift analysis separates the actual change into two components: the expected change and the net shift. The expected change (the growth rate of all persons in the age category) reflects such factors as changes in age and sex specific participation rates, changes in age of entry and of retirement, etc. The assumption is that all such factors affect the groups equally within each sector and each industry. The net shift component is assumed to pick up changes caused by intersectoral movements of members continuing in the labor force, as well as the differential patterns of the incorporation of entry cohorts into specific industries and sectors.

It is difficult to summarize the diversity of findings that the variable of age assumes, but it is very clear that there is nothing mechanical or indeed obvious about the ways through which age operates in the transformative process. One of the features of the net shift results is the pattern of sign consistency. With only a few exceptions, the signs for the five age groups within sectors and industries go in the same direction; they are either positive or negative. This pattern could have been anticipated for industries that grew much less than expected (e.g., agriculture) or much more (e.g., education) but its presence in other industries is rather a surprise. An additional generalizable feature is the relatively narrow range that the net shift displays as a percentage of the 1960 size. If one age group is growing much more rapidly than expected then the others will also, and vice versa. The proportion of the total positive and net shift accounted for by Social services is remarkable: 76.8% for total, 58.5% for male and 81.9% for female. The last figure is especially impressive, for the net shift technique controls for the increase in labor force participation of women during the 1960-1970 decade.

Chapter V: THE INTERRELATIONSHIP OF INDUSTRY AND OCCUPATION

Industry and occupation are interrelated. Specific enterprises are created within specific industries and then individuals are recruited to occupy specific occupational positions. A theory of work allocation has not been formulated that encompasses simultaneously these two dimensions; both economists and sociologists concentrate on occupational position.

In linking changes in occupational structure to changes in industry structure, particularly the sectoral transformation of the labor force, it is established that during the 1960-1970 decade four occupational categories expanded their shares of total employment: professionals, semi-professional, clerical workers, and service workers. Most impressive was the growth of professionals and clerical workers. The growth of these occupations during the 1960's resulted in two changes: 1) clerical workers replaced operatives as the largest single occupational category; and 2) white-collar workers now outnumber blue-collar workers. Such changes in the occupational structure merit analysis in their own right. For example, the growth of professionals can be seen as the diffusion of expertise and the growth of clerical workers as an indicator of the bureaucratization of the work force.

In this chapter, however, the focus is on the attempt to identify the sources of occupational changes by demonstrating how industries differ in their occupational distribution of employment. Farmers are found only in agriculture, but most other occupational categories are spread throughout the various industries. As the industry structure of the labor force changes one should also expect changes in the occupational structure. It is thus possible to identify two sources of changes in the occupational structure: 1) changes in the occupational distribution of employment within industries irrespective of changes in the industry structure; and 2) changes in the industry itself, as in the sectoral transformation of the labor force.

The findings show that two-thirds of the changes in the occupational structure between 1960 and 1970 resulted from the component of sectoral transformation. In particular, the case of professionals is interesting. Had total employment not shifted from industries with a low professional demand to industries with a high demand for professionals, there would have been proportionately fewer professionals in the labor force in 1970 than in 1960. In other words, the within-industry specific demand for professionals decreased during that period. Of course, this situation did not exist in all industries, but was found primarily in those Social services, such as medical services, that traditionally have employed a large proportion of professionals. This trend suggests that such industries have become more bureaucratized and their work more standardized. To continue with the example of medical services, more and more work is delegated from professional to service positions. In this instance the increase in service workers largely was due to changes in the occupational distribution within industries.

The identification of the sectoral transformation as a source for occupational changes has some important consequences for social mobility. As a result of the shift from goods-producing industries to services the proportion of higher-status occupations increased, thereby creating a favorable environment for upward mobility. As the pace of the sectoral transformation slows, this source of demand for higher-status occupations will decline. Unless this trend is offset by factors that foster

the "upgrading" of the occupational distribution within industries, the result will be a greater competition for higher status positions and lower upward social mobility.

Chapter VI: FEMALES IN THE LABOR FORCE

One of the more striking features of the sectoral transformation is the growing importance of females in the service sectors. In 1970 over 78 percent of all women were employed in services, as compared to 47 percent of all males. But not all services are equally female-oriented. Women are most concentrated in Personal services (save for repair services) and Social services, whereas they account for a relatively small share of employment in transportation and wholesale trade. Related to the concentration of women in service industries is their occupational distribution: in 1970 two-thirds of all employed women had professional, clerical, or service occupations. By contrast, males were relatively more concentrated in the blue-collar occupations of operatives and craftsmen, together accounting for two-fifths of total male employment in 1970.

In both 1960 and 1970 females were more likely to have a professional occupation than were males. This finding must be taken with caution, however, since women professionals in general occupy predominantly the lower-status positions of primary and secondary teachers and nurses. Nearly nine of every ten female professionals in 1970 were employed in education, medical services and hospitals.

While the sex-typing of occupations is well known, the sex-typing of industries is also apparent. Industry sex-typing occurs when one industry is dominated by either sex, independent of its occupational distribution. To analyze the amount of industry sex-typing it is assumed that the percent female in each occupational category is constant among industries. Thus, if a certain industry has a high demand for craftsmen, it can be expected that females are less represented in this industry than in the total labor force, for there are very few craftswomen. By comparing the number of females in a given industry that could be expected on the basis of the industry-specific occupational distribution with the actual number of females in that industry, the degree of industry sex-typing can be determined. If an absolute difference of 10 percentage points between the actual and the expected number is set as the criterion for sex-typing, the following industries were found to be female dominated in 1970 (in decreasing order): domestic service, textiles, laundry, hospitals, medical services and education. The following industries were male dominated in 1970: postal services, engineering, transportation, mining, utilities, wholesale trade, real estate, chemical, accounting and government. It should be noted that the listing of industries that were sex-typed in 1970 is very similar to those that were sex-typed in 1960.

In the past, the physical requirements of work has often been cited as contributing to the division of labor by sex. In a service-dominated labor force, however, work has lost most of its demands for heavy muscular effort, thus providing at least the opportunity for men and women to work in comparable positions.

Chapter VII: THE SECTOR AND INDUSTRY POSITION OF MINORITIES

In the first part of this chapter blacks and whites on the national level are compared. In the second part the analysis is extended to include Mexican Americans, but due to data limitations (the Bureau of the Census identifies Mexican Americans only for the five Southwestern states), this analysis can be carried out only at the regional level.

During the 1960's the industry structure of black employment changed more than did that of whites. Black males primarily left agriculture and Personal services. One of the most striking changes was the pronounced decreasing share of black female employment to be found in Personal services. In 1960 this one sector accounted for over one-half of all employed black females, but in 1970 the corresponding figure was only 29 percent. As a result of these changes, black and white workers of both sexes were more equally distributed than was true ten years earlier.

Despite the increasing similarity between blacks and whites with regard to industry structure, a substantial gap still remains in terms of occupational status and income. Two-thirds of black males in 1970 were employed as operatives, service workers, laborers, or farm workers, which is twice the share for white males. Black females also showed a higher concentration in these occupations than did white females, but the difference between black and white females was not as large as that between black and white males. In general black females compare more favorably with white females than do black males with white males, be it in terms of educational attainment, occupational status, or income. The data for income were particularly noteworthy, for in 1970 the median income of black females was higher than that of white females in 14 industries. All of these industries except one were services of one kind or another, with most of the ten belonging to the Social services sector. It should be noted, however, that black women on the average also worked more hours per year than did white women, particularly in Social and Personal services, which would increase their earnings relative to white women.

There are additional reasons why black females have a better relative position than black males. For one thing, females in general are in less favored positions than males. Thus, once the sex differential in terms of the labor situation is controlled for, not much additional discrimination exists. Moreover, black females have a higher labor force participation rate than white females. Since continuity of employment is positively associated with income, black females should be expected to do as well as, if not better than, white females.

In the second part of Chapter VII Mexican Americans are included in the analysis. Besides the interest in examining the labor force situation of the second largest minority group in the country (compared with blacks not much information exists about Mexican Americans), the inclusion of Mexican Americans permits the comparison of the work situation of the two minorities with each other. The findings show that although Mexican Americans had a lower educational attainment than blacks, they occupied higher-status positions. This finding casts serious doubt on the assumption traditionally held that the lower occupational status of blacks in comparison to whites is, by and large, a consequence of their lower educational attainment. Although the effects of education on occupational status cannot be

ignored, two different levels of analysis must be distinguished. While higher educational attainment benefits individual members of minority groups, a general increase in educational attainment among all blacks might not improve materially their aggregate labor force situation in relation to whites. The data thus suggest that the lower occupational status of blacks, while partly the result of their lower educational attainment, also results from discriminatory employment practices. The reason why this does not apply to Mexican Americans to the same extent is the fact that as a minority group they are less readily identified than blacks (the Bureau of the Census, while recently providing much more information on the Spanish origin population, still classifies Mexican Americans as white). As a group, Mexican Americans are less subject to discrimination than are blacks.

Chapter VIII: EARNINGS DISPERSION AND THE SECTORAL PATTERN OF EMPLOYMENT

In a very fundamental sense, earnings (and since we are dealing with the labor force it is earnings rather than income that concerns us) represent an extremely significant "outcome" of the various factors, as reviewed in prior chapters, that affect the sectoral and industry distribution. Given the macro orientation of this study, however, the concern is not with linking the earnings of individuals with other personal characteristics, but with the distribution or dispersion of earnings by sector and industry. Within this context, the sectoral approach to earnings distribution can be contrasted with the human capital approach. In essence, the former assumes that the distribution of earnings within each sector is regarded as an intrinsic, unchanging characteristic, with the pattern of final demand for goods and services determining the sectoral pattern of employment. In contrast, the latter is a supply-side theory of the earnings distribution, which is a reflection of the skill-mix of the labor force and the rates at which these skills are rewarded. Thus changes in the distribution of earnings are regarded principally as changes in the distribution of labor force skills. An evaluation of these two approaches is made empirically by comparing how well they predict the changes in the dispersion of earnings in the U.S.A. between 1959 and 1969. In addition, the sectoral and human capital approaches can be combined into a single model.

The data apply only to white and black males since the census data are poorly suited for an analysis of the earnings distribution among women in the human capital framework. Principally this is because of difficulties in measuring labor force experience for females because of their often intermittent pattern of labor force participation. The measure used to summarize the earnings distribution is the variance of the natural logarithm of earnings, chosen over other measures principally because it is a relative measure of dispersion. Proportional changes in earnings will have no effect on this statistic.

In predicting changes in the earnings dispersion in the U.S. between 1959 and 1969, it was found that the simple assumption that the variance in earnings within each sector was constant between 1959 and 1969 and the mean levels of earnings increased proportionally (the sector model) resulted in a rather good prediction. In contrast, the human capital model, which assumes that rewards to education and experience of the labor force remain fixed in relative terms over the decade leads

to poor predictions of the change in the earnings distributions of both white and nonwhite males. The combined model was outperformed by the sectoral model by a large margin. Further research is needed on how the parameters of the human capital model are likely to change over time, but it is fair to say that there is no macro theory of human capital and little is known about the determinants of the model's parameters.

Chapter IX: THE SECTORAL TRANSFORMATION AND THE NATURE OF WORK IN A SERVICE SOCIETY

Given the key role of the Extractive sector during the 1870-1970 period, it is unlikely that there will be comparable future shifts in the sectors, simply because no one sector can provide the source of change as did the Extractive Sector, when it dropped from 52% to 4% of the labor force. The social and economic consequences of the sectoral transformation are not easy to identify, partly because so much of the change has occurred within the last decades. But if it is probable that the greatest part of the sectoral transformation of the U.S.A. already is behind it, this does not mean, therefore, that we have experienced all the social and economic consequences of the transformation. Institutional adaptation is likely to develop more slowly than the labor force change. For example, the fact that with a few prominent exceptions, e.g. transportation, services are much less unionized than industries of the Transformative sector does not mean necessarily that this is an unchanging relationship. In future decades it is entirely possible that the difference will narrow considerably.

Sociologically, the sectoral transformation can be examined in terms of its effects on work. In general, the shift out of the Extractive sector and into the service sectors has meant a reduced reliance on physical strength to perform tasks. Compared to the Transformative sector, services do not command the advantages of scale, of continuous, routinized output, and they generally cannot be stored. This means that many services can have a greater flexibility in work scheduling than is the case in other industries. This may or may not result in greater work satisfaction, and the reason why this is so is by no means clear. Certainly, it warrants more attention than has been devoted to the problem. The notion of alienation, whether conceptualized in social psychological terms or along more structural and Marxian lines, is germane. The fact that most services do not produce a tangible product conceivably may create even more alienating conditions, for labor and product become one, as in the case of the salesperson.

The relationship of sectoral transformation to social stratification and to social classes and their dynamics still is obscure. The largest sector in services is Social services and here employment is largely concentrated in the public sector. The implications of this for, say, political action are problematical. Interest groups may be expected to emerge out of the configurations of occupation and industry, jointly considered. Because of the lack of agreement about the consequences of the sectoral transformation, or even as to what are the proper questions to be put to this problem, the authors of this report, as did Victor Fuchs in his earlier influential book, The Service Economy, are driven to conclude that much more research is needed on services and, indeed, on all industry sectors as they become transformed.

Chapter I

INTRODUCTION

It is inevitable that in the course of a country's growth and development the labor force must be transformed. There are many facets of this transformation. Moore (1966) has identified the following: 1) the "creation" of the labor force in the technical sense of the separation of work from other activities (still an important consideration for the activities of women); 2) the "upgrading" of the labor force as a consequence of higher skill demands and increased educational attainment, including intra- and intergenerational mobility; 3) the increasingly complex division of labor that calls forth much greater occupational specialization; and 4) the sectoral relocation of manpower from the standpoint of industry allocation. In this study our point of departure will be the sectoral allocation of the labor force and its transformation, but some attention will be given the other features.

First of all, however, an important distinction must be made. Because occupation and industry as labor force categories continue to be persistently confused in the literature, the difference between them should be made explicit. Most simply put, occupation is the kind of work one performs while industry is the kind of place where one works. To illustrate, one's occupation may be as a secretary, but the place of work may range from a gigantic steel mill to a small office of an insurance agent. The growing specialization in our society has made it impossible to deal directly with specific jobs or specific places of work, even though the U.S. Bureau of the Census identifies thousands of occupations and hundreds of industries. In this study relatively gross industry and occupational categories will be used, but we believe this practice will not seriously affect our findings.

Anyone who attempts to make sense of the sectoral transformation of the labor force in both developed and developing countries must be impressed by the two great master trends of the 20th century. The first and best known is the shift of manpower out of the "primary" sector (chiefly agriculture, but including mining, forestry, hunting and fishing). For many developed countries this movement has been going on virtually uninterrupted during the last 70 years or more. Indeed, it has gone much farther than most would have believed possible. In the United Kingdom and the U.S.A., for example, employment in agriculture has dropped below 5 percent of the total labor force, and the decline still continues. In nearly all developing countries a relative decline of employment in agriculture has been observable in the last 30 years, but only in a few countries has an absolute decline in agricultural employment been observed. The movement out of agriculture is assumed to be an integral part of the development process and generally it is agreed that the remarkable increases in productivity in the agrarian sector, when combined with a relatively low elasticity of demand for agricultural as compared to manufactured products, have permitted the decline in agricultural employment.

The second master trend is the shift into the tertiary or service sector. This has been a more recent phenomenon and has not had the impact, at least until now, of the shift out of the primary sector, but the trend is a strong one and appears to be irreversible and of truly universal dimensions. In a recent study of labor force changes in ten industrialized countries (Sorrentino, 1971), all have experienced increases in service employment since 1950, and in six countries the

service sector now accounts for over 50 percent of total employment. In the U.S.A., service industries accounted for 62 percent of the labor force in 1970, and by about 1980 we can expect two of every three persons to be employed in a service industry of one kind or another. In developing countries the trend to the service sector also is unmistakable, although it has not attained the same levels as in the developed countries.

The purpose of this study is to examine the sectoral transformation of the labor force of the U.S.A., with special attention given to the shift to service employment. Although a brief survey of the long-term trends from 1870 to 1970 is provided, the bulk of the analysis is devoted to the 1960-1970 period, drawing extensively upon the 1% Public Use Samples available from the 1960 and 1970 censuses.

Before we set forth the content of this monograph, however, it is necessary to place the matter of sectoral transformation in somewhat broader perspective, especially the growth of the services, and to justify why we believe this process to be an important aspect of socioeconomic change. Unlike the movement out of agriculture, there is no general consensus on the causes and consequences of this phenomenon, nor, for that matter, a clear understanding of how this process occurs. In part, this can be attributed to the relative recency of the growth of services. But this is inadequate to account for the relative neglect of industry structure and process as it is linked to economic growth.

Let us consider the situations in economics and sociology as a way of accounting for this neglect. Economics is probably the one discipline where we should expect to find most attention given to industry sectors and their transformation because of their close relationship to economic development. The record, however, is at best spotty. Among notable economists, perhaps it is Simon Kuznets in recent years who has stressed, within an international context, the importance of industry as an analytical variable. As he states in his Modern Economic Growth (1966:153):

> The industrial structure of national output and productive resources is a key aspect of an economy in the process of growth because it permits us to observe the impact of the advance in technological knowledge, the differential response of demand to increased productive capacity and rise in per capita income, and the shifts in the size and location of groups in society associated with different industries. Industries are distinguished from each other by the raw materials they use, by the productive process in which they engage (and hence by the technological constraint on size of plant), by the skill mix of the labor force, by the capital intensity, etc., imposed by the specific production processes employed, and by the finished product, and hence by the market that is being served. Indeed, an industry is defined by these characteristics of material, process, and product; and a marked change in one, often but not necessarily accompanied by changes in the others, is usually a basis for distinguishing and defining a new industry.

But Kuznets was interested in the broad characteristics of the sectoral transformation and he did not pay particular attention to the service sector. It was

Victor Fuchs, first in a number of articles and then in his monograph The Service Economy (1968) who provides what still remains as the best single discussion of the nature of services in the U.S.A. In his opening paragraph (1968:1) he put it as follows:

> The United States is now pioneering in a new stage of economic development. During the period following World War II this country became the world's first "service economy" -- that is, the first nation in which more than half of the employed population is not involved in the production of food, clothing, houses, automobiles, or other tangible goods.

In spite of the fact that services steadily has been becoming more important in the U.S.A., this sector still has not received from American economists much attention, especially in comparison to that lavished on agricultural and manufacturing changes. Fuchs (1968:16) explains this neglect as due to a number of factors:

> ...The greater attention that has been given by economists to the primary and secondary industries might be explained by many factors: (1) Tertiary employment becomes of major importance only when high levels of income per capita are reached. (2) Some early economists, notably Adam Smith, believed that only the primary and secondary sectors were "productive," and that the other industries were in some sense "parasitic." (3) It is usually much more difficult to obtain data for the service industries, many of which are characterized by small-scale operations. This is also true of agriculture but, in that case, at least the output tends to be standardized and thus more easily measured. (4) Much tertiary production is non-profit; economic analysis has concentrated on market activities.

If the above reasons suggest why the services have not received their due from the economists, the general neglect by sociologists of the dimension of industry position and of services must be sought on other grounds. In brief, the reasons appear to be that sociologists have been mesmerized by occupation, as witness the huge literature on social stratification and social mobility. The few studies of industry position (e.g., Duncan, 1959) have attracted little attention. It is true that Daniel Bell, in his The Coming of the Post-Industrial Society (1973), makes the movement into services one of his key indicators ("A post-industrial society is based on services."), but he largely ignores it as an analytical variable in his subsequent discussion.

We conclude that in both economics and sociology the relative lack of interest in industry sectoral transformation, while due to a variety of factors, has in common the absence of a clearly and compellingly formulated statement of the theoretical importance of this process. In the currently fashionable terminology of Kuhn, there is no "paradigm" for the sectoral transformation that serves to attract attention and to encourage and legitimize research on the subject.

But what is there that is significant about the sectoral transformation and especially the movement into services that merits our attention? Can it be said that we now are in or on the verge of being in a Service Revolution that

compares in importance to the Agricultural Revolution and the Industrial Revolution? Probably not. The latter two transformations brought about extensive and innovative changes in settlement patterns, in the spatial links between home and work, in the productivity of labor, in the emergence of identifiable social classes, and in the configuration of power relations related to access to technology and the accumulation of capital. As yet, we are unable to point to any distinctive way in which services have brought about changes in the dimensions mentioned above. Services, like manufacturing, are concentrated mainly but not exclusively in urban areas; most service employment involves the separation of home and workplace; services have not introduced any quantum leaps forward in the productivity of labor; services have not brought into being clearly identifiable social classes that are different from those of earlier societies (e.g., lords and peasants in the Agricultural Revolution and capitalists and proletariat in the Industrial Revolution); and services are not clearly identified with any new or old bases of technology or power.

But the emergence of services as the dominant form of employment does alter society in some important yet not well understood ways. Many of the current trends are contradictory, which makes it even more difficult to identify and to interpret concrete changes. For one thing, the majority of services are becoming increasingly capitalistic, i.e., capital spreads to more and more service industries and the work in services becomes increasingly that of wage labor. However, Social services are among the most rapidly growing of all service industries, and most of it belongs to the public sector. There is a theoretical difference between wage labor in a privately owned, profit-oriented industry and that in a government industry which is nonprofit.

A second major change takes place in the relationship between the worker and his or her labor. As we noted above, most services do not produce a tangible good. Associated with this situation is the continuous decrease of blue-collar work requiring much physical exertion. As we shall elaborate later on, the scheduling of work in many services is quite different from that in most manufacturing. Theoretically, at least, the nature of work in services can be tailored much more to the preferences and needs of the employees and workers than would be possible in goods-producing industries. It must be pointed out, however, that a substantial part of work in services is repetitive and of low status, and is far from being the creative work that some have envisioned as a characteristic of employment in a service-dominated future.

There are other, less concrete, changes associated with the growth of service employment. The close linkage between the production of a service and its consumption and the related contact between the producer and the consumer provides for a different work situation as compared to more isolated production settings. Many employees have to relate to their employers <u>and</u> to their customers. Indeed, many services (whether buying a dress, consulting a physician, or filling out a government form) require close cooperation between those who provide the service and those who consume it. This three-way relationship (employer-employee-customer) has the potential for various conflicts of interest.

Other problems arise when we examine the transformative process and the growth of services at the national level, particularly the relationship of the "tertiarization" process to economic development. Here we find that tertiarization

is appraised rather differently in developing countries and developed countries. Generally, in the latter the trend toward concentration of employment in tertiary activities has been viewed positively, as a concomitant of economic growth. Fuchs (1968) makes it quite clear that "The dramatic shift to services has occurred in employment--not in output." In other words, this is no zero-sum game, in which an increase in service or tertiary employment necessarily would bring about a reduction in output in the primary and secondary sectors. The technological advances in these sectors means that production increases more rapidly than employment. Rising per capita income creates a demand for a host of services and the economy can absorb an increasing share of the labor force in service employment. It should be noted, however, that with nearly two-thirds of the labor now in service employment, there now is some apprehension that productivity increases are more difficult to bring about, because of the concentration in this sector.

In contrast, the growth of the tertiary sector in developing countries has been evaluated negatively; indeed, "tertiarization" as it is sometimes called, is considered a sign of mal-development. It is argued that the relative growth of services is unhealthy because it reflects the lack of economic development, as population pressures induce people to leave the unproductive primary sector. They migrate to the cities but cannot be absorbed into the secondary or manufacturing sector. Consequently, they must become street peddlers, domestic servants or other jobs of low productivity characteristic of the tertiary sector. While the theoretical and empirical adequacy of this conception of tertiarization can be questioned (Browning, 1972), undoubtedly there are significant differences between developed and developing countries in the nature of the movement into the Service sector. We introduce this diversion from the discussion of the U.S.A. to show that there is no invariant "evolutionary" sequence for the development of services. Even though they are increasing as a proportion of the labor force in virtually all countries, there are important difference in how they develop.

What has been said in the last several pages should have made sufficiently clear the fact that our understanding of the nature of the transformative process and the emergence of services as the predominant form of employment is imperfect at best. We have only a general idea of the sources or causes of this transformation. Unfortunately, relatively few persons have elected to follow up the leads that Kuznets opened in his general comparative studies, and we lack detailed and rigorous analyses of the various facets of the process.

Even more, we are unclear as to what are the important consequences of the transformative process. Because of the recency of the emergence of the service economy and service society, it is not always easy to recognize and properly interpret the various consequences. One might expect a good deal of help from the futurist literature, but as a whole it has not been very illuminating, except in the most general way. We suspect there are important consequences that we still have not "seen" as yet, and when they are recognized the importance of services will be more fully appreciated.

In addition to the uncertainties about the causes and consequences, we still don't comprehend well the mechanics of the transformative process itself, how this happens and the forms it takes. The greater part of this report is taken up

with this problem. Little attention is given to the causes of the transformation or to its consequences, although in the final chapter we shall briefly review some of the effects of the process.

THE PROBLEM OF SECTORAL ALLOCATION OF INDUSTRIES

Before we proceed further, it is necessary to confront a perennial problem that bedevils all efforts to deal with sectoral transformation: the allocation of specific industries to specific sectors. Any classification scheme, to be sure, should not be considered as an end in and of itself, but rather as a means toward some goal. In this case, however, the sectoral allocation scheme is very important because of its effect upon subsequent analyses. This is particularly so because there exists no consensus, derivable from a theoretical base, on how industries should be allocated. Fuchs (1968:15) notes that "The two criteria most frequently mentioned are closeness to the consumer and the presence or absence of a tangible product," but he immediately comments on the difficulties of applying these criteria. Services ought to be closest to the consumer, yet many activities generally classified as services (e.g., advertising, wholesale trade, bulk transportation, and some government services) do not deal directly with the consumer. And not all forms of services (shoe repair or a dental brace) are intangible.

In order to conduct the analyses reported in subsequent chapters of this monograph, some sort of parsimonious industry classification scheme is required. Preferably, this scheme should be formulated so as to be consistent with interpretations of sectoral transformation and economic development. The most familiar of existing schemes is the Fisher-Clark three-sector model. While the idea of a tripartite division of industries can be traced back as far as the Swiss census of 1888 (Menz, 1965), it was the scheme advanced by A.G.B. Fisher (1935) and Colin Clark (1940) that became widely disseminated. The Fisher-Clark classification is made up of the following three sectors:

1. Primary industries (agriculture, mining, fishing and forestry).
2. Secondary industries (manufacturing, construction and utilities).
3. Tertiary industries (commerce, transport, communication and services).

The Fisher-Clark formulation is more than a classification scheme; it is also a model of development. In the words of Postan (1971:86), "In Clark's formulation the tripartite order of sectors was transformed from a mere classification into an itinerary of economic progress. The lesson he taught was that economic progress had been achieved in the past and was to be achieved in the future by transferring resources first from primary occupations to secondary ones and, finally, from secondary to tertiary ones." Fundamentally, the motor that drives the transformative process is productivity. Thus, the key feature is the transfer of employment from industries with low productivity to those with high productivity--namely, from the primary sector to the secondary sector, or mainly from agriculture to manufacturing. However, the movement from secondary to tertiary employment is not a consequence of the higher productivity of the latter. Rather, it is the high level of per capita income that manufacturing generates that makes possible the demand for a variety of services.

The Fisher-Clark thesis has been subjected to various criticisms; i.e., the primary sector is not always low in productivity, and the sequence of employment enlargement is not always from primary to secondary but may be from primary to tertiary (Bauer and Yamey, 1951 and 1954; Triantes, 1953). There is, however, one criticism that is central to the task of developing a classification scheme; the heterogeneity of activities carried on within the tertiary sector. As long as the tertiary sector was small in size this could be tolerated, but with one-half or more of the labor force in this one sector the inadequacies of the three-sector scheme have become more and more intolerable. Consider only the differences between banking and domestic service, between medical and health services, and barber and beauty shops, or between accounting and entertainment. What do these services have in common? These industries differ along many dimensions, be it capital requirements, size of establishment, educational attainment of those employed in them, etc. While some service industries are positively associated with rising per capita income, others show a negative association. Clearly, services has increasingly become only a residual category.

Despite the many criticisms the Fisher-Clark model has received, it continues to be much used, once again testifying to the adage that criticism in itself, however telling, does not bring about the replacement of one conceptual scheme by another. To cite only a few of the recent examples of the usage of the three-sector model: Kuznets (1971) and Fuchs (1968) in economics, Miller in demography (1972), and Bell (1973) in sociology.

The sectoral allocation scheme developed by Browning and Singelmann (n.d.) and used in this monograph is presented not as a solution to all of the theoretical problems inherent in such a task, but simply as an advance over the Fisher-Clark formulation. Therefore, it deliberately is a modification and refinement, rather than a completely new formulation. It has been developed with data of the U.S.A. and therefore may not be as universal as one made up for countries of markedly different development or of different political systems. It is a six-sector scheme, designed to preserve some of the advantages of dealing with a limited number of aggregate categories. (Surely the population of the old three-sector scheme was due in part to its simplicity.) However, in recognition of the importance of within-sector variation, particularly since this is a relatively untried scheme, most of the analyses to follow break the six sectors down into 37 more detailed industries that allow much greater homogeneity of category.

The primary intent of the six-sector scheme of Browning and Singelmann, as presented in Table I-1, is to differentiate the Tertiary sector into more homogeneous units. Consequently, the first two sectors, here called Extractive and Transformative, are the same as the Primary and Secondary sectors of the Fisher-Clark scheme, even though some changes could have been made. For example, it is arguable that mining should be shifted from the Extractive to the Transformative sector, for in many respects (size of enterprise, capital investment, unionization, etc.) mining enterprises more closely approximate the organizational features of productive units in the Transformative sector. And within the latter sector, construction presents difficulties, because its mode of organization differs from the factory form that is

Table I-1

ALLOCATION SCHEME FOR SECTORS AND INDUSTRIES

I. EXTRACTIVE
1) Agriculture, Fishing and Forestry
2) Mining

II. TRANSFORMATIVE
3) Construction
4) Food
5) Textile
6) Metal
7) Machinery
8) Chemical
9) Miscellaneous Manufacturing
10) Utilities

III. DISTRIBUTIVE SERVICES
11) Transportation and Storage
12) Communication
13) Wholesale Trade
14) Retail Trade (except Eating and Drinking Places)

IV. PRODUCER SERVICES
15) Banking, Credit, and Other Financial Services
16) Insurance
17) Real Estate
18) Engineering and Architectural Services
19) Accounting and Bookkeeping
20) Miscellaneous Business Services
21) Legal Services

V. SOCIAL SERVICES
22) Medical and Health Services
23) Hospitals
24) Education
25) Welfare and Religious Services
26) Nonprofit Organizations
27) Postal Services
28) Government
29) Miscellaneous Professional and Social Services

VI. PERSONAL SERVICES
30) Domestic Services
31) Hotels and Lodging Places
32) Eating and Drinking Places
33) Repair Services
34) Laundry and Dry Cleaning
35) Barber and Beauty Shops
36) Entertainment and Recreational Services
37) Miscellaneous Personal Services

NOTE: See Appendix B for the identification of the 37 industries from the 1/100 Public Use Samples of 1960 and 1970.

typical in the Transformative sector. Since it doesn't fit much better in any other sector it was left in the Transformative sector.

The first of the four sectors that make up the old Tertiary sector is called the Distributive sector. It is the last of a three-stage sequence (Extraction-Transformation-Distribution) that signals the processing of goods from their most undifferentiated "primary" form to their distribution to the ultimate consumer. (Characteristically, this sequence is not a completely tidy one, for communication rarely deals with a tangible product.) The remaining three sectors cannot be linked to the sequence of the first three sectors, for they offer generally intangible services either to productive organizations in all other sectors or to the general public and as they cannot be ordered to form a sequence in their own right.

The fourth sector, Producer services, is made up mainly, if not exclusively, of industries that provide services to producers of goods or to individuals concernd with various forms of property. Producer services has been growing very rapidly in recent decades, partly because it did so from an initially small base. As pointed out by Fuchs (1968), activities such as accounting and advertising once were performed within firms, most often those in manufacturing. The emergence of these activities as separate industries is a reflection of the increasing division of labor. It also is linked to economies of scale, external economies, and in general to the greater degree of interdependence characteristic of a metropolitan-dominated form of economy.

Both Distributive and Producer services can be characterized as "goods-oriented" services, because they cater largely to goods or property as such or to matters related to property. They also can be characterized as "intermediate" sectors, between the first two "production" sectors and the last two "consumer" sectors. The last two sectors, Social and Personal services, are very predominantly "consumption-oriented." As such, they cater principally to the individual in some fashion, but it is precisely the different forms through which these services are rendered that necessitates their differentiation into two sectors. The fifth sector, Social services, includes health and medical, education, and government as its principal components. These services are "new" to the extent that their mass consumption is a relatively recent phenomenon, and the funds for their operation are dependent to a considerable degree on government revenues. In one form or another countries throughout the world, whatever their level of development, have responded to the exigencies of the welfare state by increasing the range and depth of their Social services. As such, this sector has largely a collective focus.

The last sector, Personal services, is the most heterogeneous of all sectors and the most like a residual category, but the services in this sector have in common an orientation to the individual consumer, and they are more responsive to supply and demand factors than are Social services. Generally, the size of establishment is relatively small, much more so than for Social services.

The Browning-Singelmann classification scheme was developed heuristically, for it was not derived from some theory of development, but rather from a dissatisfaction with the Fisher-Clark scheme. It was generated the better to understand

the sectoral transformation of the labor force. Although worked out on the basis of data from the U.S.A., Singelmann (1974) has successfully applied it to six other developed countries (Canada, England and Wales, Germany, France, Italy and Japan) in a longitudinal study. It also has been used by Munoz (1975) and Oliveira (1975) in studies of the labor force of the largest metropolitan area (Mexico City) in a developing country, Mexico.

There is another basis to appraise the Browning-Singelmann scheme. Recently, and completely independently, two researchers in other parts of the world--Katouzian in England and Singer in Brazil--formulated sectoral allocation schemes. Katouzian (1970) entitled his article "The Development of the Service Sector: A New Approach," and he too was led to his categorization by his dissatisfaction with the Fisher-Clark scheme and its failure to differentiate the tertiary sector. But Katouzian maintains that the new classification can illuminate the developmental process. He divides the tertiary into three sectors: 1) complementary services; 2) new services, and 3) old services. The "complementary" services include banking, finance, transportation, wholesale and retail trade. Historically, Katouzian (1970:366-367) sees complementary services as closely linked to the rise in manufacturing following the Industrial Revolution:

> These services have been complementary to the growth of manufacturing production in two ways: as complementary factors to urbanization, and as necessary links to the process of round-about or capitalistic production. The growing demand for labour in industrial centres attracted migrants to urban areas, and factory production necessitated a high degree of urbanization. The growth of round-about production increased the range and complexity of intermediate goods and (with the underlying specialization process that was taking place) helped the conversion of local markets into a unified national market and expanded foreign trade--all demanding services included in this category. Therefore, as the rate of growth of industrial production increased, so did the rate of growth of these services, and vice versa.

The "new" services include education, health and entertainment. They are termed "new" because they reflect the mass consumption in industrial countries.

> The demand for these services is highly sensitive to the growth of per capita incomes, and it is also an increasing function of the amount of per capita leisure-time (especially if the community curve of the distribution of leisure time is not lopsided). (Katouzian, 1970:366).

Finally, the "old" services are those that "flourished before industrialization and whose importance and contribution has almost continuously declined since." Katouzian specifically includes domestic service but is quite vague on what other industries are to be included. It is likely that he has in mind what we call Personal services.

Paulo Singer, working within the context of a developing country, has provided a framework for sectoral analysis in his Forca de trabalho e emprego no Brasil 1920-1969 (1971). He stresses the need for a broad interpretative approach ("structuralist-historical" as it now is known in Latin America) to understand changes in

the labor force of Brazil for half a century. Also recognizing the need to deal with the heterogeneity of the tertiary sector, Singer divides it into three sectors:

(1) Production Services (commerce, transportation, communication, warehousing);
(2) Collective Consumption Services (government, health, education and other social services);
(3) Individual Consumption Services (liberal professions, domestic services, repairs and other personal services).

Singer shows in his longitudinal analysis of Brazil that each of these sectors had periods of relative strength and decline and like Katouzian he links these changes to those of the economic productive structure.

It strikes us that there are general similarities in the breakdown of the tertiary sector by Katouzian, Singer and Browning-Singelmann. The labels differ but the three classifications can be ranked as follows:

	Browning-Singelmann	Singer	Katouzian
1.	Distributive Producer Services	Producer Services	Complementary Services
2.	Social Services	Collective Consumption Services	New Services
3.	Personal Services	Individual Consumption Services	Old Services

Recalling that these allocations were made completely independently of one another, it is encouraging to find such a similarity in approach, even though there are differences in the allocation of specific industries to the sectors.

While it is encouraging to find others headed in the same direction, the best test of the utility of the Browning-Singelmann classification is how well it works when applied to actual data. In the pages that follow the reader will have ample opportunity to judge for himself how discriminating the scheme is when applied to the U.S. data, and how useful it is in permitting meaningful interpretations of the results.

THE ORGANIZATION OF THE STUDY

The perspective adopted in this analysis of the sectoral transformation of the labor force derives mainly from demographic and sociological origins and not from an economic one, except as it pertains to the analysis of the income distribution. Although it may be touched upon from time to time, particularly in Chapter II, the question of why the sectoral transformation occurred as it did--why some sectors and some industries grew while others declined--cannot be a central theme of this

investigation. To do so would take us more fully into the realm of economics and a consideration of such factors as private and public sector investment allocation, the role of technology, of productivity, of labor demand and supply, and so on.

These are very important matters, but not ones we are competent to deal with. Nor, for that matter, is the nature of our main source of data appropriate for such a task. We depend, to a very large extent, upon the U.S. Bureau of the Census 1% Public Use Samples for the census years of 1960 and 1970. They are population censuses and not censuses of industries. Therefore, we have no indicators of investment on output but only of the employed labor force.

But what can be done with the labor force? A great deal, as we hope to demonstrate. Fuchs has expressed it as follows (1968:183): "A million dollar's worth of capital input can be said to have as much economic significance as a million dollars' worth of labor input. But labor is human and physical capital is not; it is appropriate, therefore, to give labor primary attention in any broad study concerned with total social development."

This report is organized to consider a series of distinct but interrelated questions: 1) How is the sectoral allocation to be made? 2) How is the long-term (1870-1970) and short-term (1960-1970) sectoral transformation to be depicted? 3) What is the relationship between industries and occupations? 4) Which characteristics of the labor force (primarily age, sex and ethnic status) are associated with which sectors and industries and how have their patterns changed between 1960 and 1970? Finally, 5) what are some of the consequences of sectoral allocation and sectoral change, specifically, for income distribution on the one hand and the nature of work and its meaning on the other?

Perhaps the best way to expand on the points raised by these questions is to show how they will be treated in subsequent chapters of this report.

Chapter II briefly provides the historical context for the more detailed analysis of the 1960-1970 period. The more one goes back in time the more unsatisfactory the data become, but it is possible to approximate the distribution of the six sectors for one hundred years. With this record we can show the movement out of the primary sector (already underway by 1870) and to show when the growth of the service sectors really accelerated. We can also relate these trends to the relevant changes in urbanization, output and female employment. In this way some of the questions raised by Katouzian and Singer can be put to the U.S. experience.

Chapter III takes up the present-day situation as reflected in the 1960 and 1970 data. First, we must address an important question that relates to the sectoral transformation, especially, into that of services. It has often been noted that services are characterized generally by more part-time work than other sectors. Conceivably, therefore, the large shifts into the services could be misleading, for while there are important changes in <u>employment</u>, these changes may

greatly be reduced if the actual labor input is taken into account. This can be done by deriving the yearly hours per worker, a combination of hours per week and weeks per year. This is computed for the six sectors and for the 37 sub-industries.

The second part of Chapter III takes up a different topic but one, like the question of employment versus labor input, that is relevant to material in subsequent chapters. Is the sectoral transformation primarily a change whereby people move from one industry sector to another, or is it mainly the result of a larger proportion of new labor force entries going into some rather than other industries? Unfortunately, census data do not permit a full test of this matter, but the questions new to the 1970 census on what the individual was doing five years ago provide some findings that bear on the problem.

Chapter IV, like the preceding two, is concerned with a structural feature of the industry sectors and their transformation. The primary objective is to determine how the 1960-1970 change was achieved through specific age groups. Age distributions for the two periods are examined and age-sex pyramids graphically indicate the many forms the age distribution can take, but the major technique is net shift analysis, which permits comparison of expected versus actual age group changes. As with the inter-employment shifts we wish to know, once we control for the growth of the entire labor force in every one of the age categories, whether the proportionate growth of some of the service sectors is accomplished mainly through the young entrants or whether it is diffused throughout all age groups?

Chapter V is the final chapter in the structural section of the report. Here we take up the difficult problem of the interrelation of industry and occupation. It is strange that so little attention has been given to the problem, for it would appear obvious that changes in industry structures should be reflected in occupational structures and vice versa, but, exception for a few cases, the industry and occupational structures are considered separately rather than jointly. Following the lead of Palmer and Miller (1949) the change in the occupational composition from 1960 to 1970 is decomposed into three components: 1) that attributable to growth of the total labor force (were the 1960 occupational composition to hold for 1970); 2) that attributable to the industry shift effect (the differential demand for occupations by industries growing at different rates); and 3) the occupational shift effect (the changing occupational requirements within industries). This approach, which is a variation of the shift share approach used in Chapter IV, does not exhaust the subject, but it is believed to be a step in the right direction.

The first five chapters concern themselves to a large extent with the nature of the sectoral allocation and the "how" of its transformation. They are largely descriptive in nature but they are not "merely" descriptive, for it is essential that we know how a thing works if we are better to understand its interrelationships and its consequences. The next two chapters are concerned with the compositional features of sectors, the "who" aspect.

Chapter VI takes up the sexual division of labor by sexes, a topic of much contemporary concern and one especially important for the analysis of services. As will be shown, female employment is largely concentrated in services, particularly the Producer, Social and Personal sectors. Particular attention is devoted to the

question of whether the increasing concentration of women in service industries has provided greater opportunities for entry into higher-status occupations. The distinction between occupational and industry sex-typing is made and the consequences for women's work is drawn.

The following chapter on minorities (VII) continues the crucial matter addressed to females: to what extent does the sectoral transformation of the labor force improve the work status of minorities? The main analysis is carried out for black-white relationships by sex, but at the end of the chapter a comparison of two minorities who are of roughly comparable socioeconomic status, Blacks and Mexican Americans, is made. This last examination is limited to the five Southwestern states, because these are the states where Mexican Americans mainly are found and where data for them are available.

The eighth chapter addresses a most important problem: the extent to which the shift of employment towards Social and Personal services and its accompanying changes in terms of occupational structure and the position of females and minorities in the labor force are reflected in the distribution of earnings. First, the change in earnings inequality between 1959 and 1969 will be described. Second, the relative merits of the human capital and the sectoral approaches as competing explanations of the observed changes are assessed. Finally, we will analyze the differences in the returns on the variables in the human capital model as applied to industries by sex and race.

Like Chapter VIII, the final chapter of the report, IX, is concerned mainly with some of the consequences of the sectoral transformation. Rather than attempting a summary of what has gone before in the first part, we elect to reconsider some of the more important findings in terms of their implications for manpower policies.

A second section of Chapter IX is frankly speculative in nature, for it moves more completely into a sociological consideration of the sectoral transformation of the emergence of the service society, a consideration that necessarily goes beyond the data of the report. As such, it is intended to show the possibilities of relating industry sectors with social structure through such factors as the nature of social interaction when consumers must cooperate in the production of a service, the impact on the class structure when two-thirds of the labor force are in services, and the meaning of alienation within the context of a service society.

Chapter II

THE HISTORICAL CONTEXT OF THE SECTORAL TRANSFORMATION, 1870 to 1970

Social and economic changes are general phenomena of all countries and all times but they do not automatically occur within convenient time-spans such as census intervals. Thus, while it is useful to examine certain changes for a given time period, these changes often have started at an earlier time and do not always terminate at the end of the period that is under investigation. The purpose of this chapter is the discussion of the labor force changes during the last one hundred years in the context of which the 1960-1970 decade can be seen. This is not to say that every change that occurred in the structure of the labor force during the 1960's began toward the end of the last century. That certainly would be an erroneous assumption. The point here is that the ten-year period which we put under the magnifying glass of our investigation should not be seen in isolation but rather in its historical context. To this end, we shall sketch a general outline of the changes which the labor force has undergone, primarily in terms of its industry and occupational structure. In addition, other aspects related to these changes, such as urbanization and the increased labor force participation of women, will briefly be addressed. This is not the place, however, to account for the reasons for the way in which the structure of the labor force became transformed. This in itself would be an investigation in its own right, but more important, we do not think that our tools could satisfactorily accomplish that task. Instead, the reader is referred to studies that have addressed this subject (e.g. Kuznets, 1966; 1971; Abramovitz, 1956; Bain, 1966; Denison, 1967; Fabricant, 1942; and Kendrick, 1961).

Before turning to the analysis of the sectoral transformation of the labor force between 1870 and 1970, a word of caution must be said about the nature of the labor force data reported in Table 1. Census data for the industry allocation of the labor force prior to 1920 are very general and do not provide information on the level of detailed industries. The best time series for the distribution of the labor force by industry prior to 1920 has been reconstructed by Salomon Fabricant and it forms the basis of Table II-1. Even these data, however, are too crude to permit an exact differentiation of the labor force into the six industry sectors used throughout this study. But they at least indicate the magnitude of most industry sectors for the 1870-1920 period.

The sectoral transformation of the labor force. In just one hundred years the labor force of the United States changed from an agricultural basis to a service basis. In 1870 one-half of the labor force worked in agriculture, but a century later services together accounted for almost two-thirds of total employment. How did this transformation occur? The description of these changes is the subject matter of this section.

By 1870, stimulated by the Civil War, the industrialization of the U.S. economy was well under way. The expanding rail transportation network had opened up additional territories and facilitated exchanges between the states. A national banking system was created permitting a less restricted flow of capital. As Bagwell and Mingay (1970: 165) pointed out, however, it was most of all improved

technologies and their application to the vast natural resources of the nation that propelled the growth of the U.S. economy during the last third of the nineteenth century.

The move out of agriculture is one of the most striking features revealed in Tables II-1 and II-2. Once it began, it continued unabated throughout the century, and actually has accelerated since 1940. By 1970 only 3.7 percent of the nation's labor force was engaged in agriculture. Considering the fact that these 2.7 million people not only provide food for 205 million Americans, but also for persons living in many other countries, the decline in the need for agricultural labor must remain one of the greatest achievements in economic development. It demonstrates how mechanization, innovations in fertilizers and seeds, credit and concentration of land ownership have enabled continuous increases in productivity to take place.

In contrast to some other countries in Western Europe, such as Belgium or Germany, the labor force in the United States has never been dominated by the Transformative sector. At no time since 1870 did the Transformative sector account for more employment than the service industries taken together. In fact, the ratio of service employment to Transformative employment increased substantially, from 1.03 in 1870 to 1.56 in 1970.

In general, the share of total employment in manufacturing expanded during each census year since 1870, although the growth was not always substantial. During the 1960's, however, employment in manufacturing industries has increased less rapidly than the total labor force. Since this trend already started in Canada during the 1950's, there is reason to believe that around 1960 manufacturing reached its largest share of total employment. From now on manufacturing is likely to account for a slightly decreasing proportion of the labor force.

But the changes in the share of employment in the Transformative sector reveals only half of the story. The data in Table II-3 demonstrate that manufacturing production has increased much more remarkably since 1870 than manufacturing employment. Moreover, the rate of increase in manufacturing production during the 1960's exceeded that of the previous decade, despite the fact that the growth rate of manufacturing employment declined during that period. Although the emphasis of this project is on the changes in employment, the data for manufacturing production suggest that output and productivity trends of a particular industry are not always exactly reflected in employment trends. As was noted in the case of agriculture, the number of persons employed in a given industry does not always correspond to the magnitude of its outputs.

We now turn to the discussion of the growth of services and their differentiation during the last one hundred years. In 1870 domestic service was the largest single service industry; it employed twice as many persons as did all Social services together. Over the decades, however, the structure of service employment underwent fundamental changes.

We noted in the first chapter that Katouzian (1970) viewed Distributive and Producer services (the "complementary services" in his terminology) as being closely linked to the production industries of the Extractive and Transformative sectors. These services are, for the most part, of an intermediate nature

TABLE II-1

PERCENTAGE DISTRIBUTION OF GAINFUL WORKERS BY INDUSTRY SECTORS AND MAJOR INDUSTRY GROUPINGS: UNITED STATES, 1870-1920

Industry Sectors and Major Industry Groupings		1870	1880	1890	1900	1910	1920
I.	EXTRACTIVE	52.3	52.4	45.2	40.7	35.0	30.6
	Agriculture, Forestry & Fishery	50.8	50.6	43.2	38.1	32.1	27.6
	Mining	1.6	1.8	2.0	2.6	2.9	3.0
II.	TRANSFORMATIVE	23.5	23.3	26.3	27.9	29.1	31.7
	Construction	5.9	4.8	6.1	5.8	6.4	5.3
	Manufacturing	17.6	18.4	20.2	22.1	22.8	26.4
III.	DISTRIBUTIVE SERVICES	11.5	12.1	14.9	16.9	18.2	20.0
	Transportation & Public Utilities	5.0	5.0	6.5	7.3	8.8	10.2
	Trade	6.5	7.1	8.4	9.6	9.3	9.8
IV.	PRODUCER SERVICES	1)	1)	1)	1)	1.4	1.9
	Finance and Real Estate	1)	1)	1)	1)	1.4	1.9
V.	SOCIAL SERVICES	3.4	3.8	4.5	5.1	6.1	7.7
	Education	1.5	1.9	2.2	2.3	2.5	2.8
	Government	0.8	0.8	0.8	1.0	1.5	2.2
	Other Professional Services	1.1	1.1	1.5	1.7	2.1	2.6
VI.	PERSONAL SERVICES	9.3	8.4	9.2	9.4	10.2	8.1
	Domestic Service	7.4	6.3	6.5	6.1	6.0	4.1
	Personal Services	2.0	2.1	2.7	3.4	4.2	4.0
	TOTAL	100.0	100.0	100.0	100.0	100.0	100.0

1) The percentage for "finance and real estate" is included in "trade" for the period 1870-1900.

SOURCE: Adapted from U.S. Bureau of the Census, Historical Abstracts of the United States: From Colonial Times to 1957, Washington, D.C., 1960: Table D57-71.

TABLE II-2

PERCENTAGE DISTRIBUTION OF THE LABOR FORCE BY INDUSTRY SECTORS AND INTERMEDIATE INDUSTRY GROUPS, 1920 - 1970

Sectors and Industries	1920	1930	1940	1950	1960	1970
I. EXTRACTIVE	28.9	25.4	21.3	14.4	8.1	4.5
1) Agriculture	26.3	22.9	19.2	12.7	7.0	3.7
2) Mining	2.6	2.5	2.1	1.7	1.1	0.8
II. TRANSFORMATIVE	32.9	31.5	29.8	33.9	35.9	33.7
3) Construction		6.5	4.7	6.2	6.2	5.8
4) Food		2.3	2.7	2.7	3.1	2.0
5) Textile		4.2	2.6	2.2	3.3	3.0
6) Metal		7.7	2.9	3.6	3.9	3.3
7) Machinery	32.9		2.4	3.7	7.5	8.3
8) Chemical		1.3	1.5	1.7	1.8	1.6
9) Misc. manufacturing		9.0	11.8	12.3	8.7	7.7
10) Utilities		0.6	1.2	1.4	1.4	1.4
III. DISTRIBUTIVE SERVICES	18.7	19.6	20.4	22.4	21.9	22.3
11) Transportation	7.6	6.0	4.9	5.3	4.4	3.9
12) Communication		1.0	0.9	1.2	1.3	1.5
13) Wholesale	11.1	12.6	2.7	3.5	3.6	4.1
14) Retail			11.8	12.3	12.5	12.8
IV. PRODUCER SERVICES	2.8	3.2	4.6	4.8	6.6	8.2
15) Banking		1.3	1.1	1.1	1.6	2.6
16) Insurance		1.1	1.2	1.4	1.7	1.8
17) Real Estate		0.6	1.1	1.0	1.0	1.0
18) Engineering	2.8	---		0.2	0.3	0.4
19) Accounting		---	1.3	0.2	0.3	0.4
20) Misc. business serv.		0.1		0.6	1.2	1.8
21) Legal services		---		0.4	0.5	0.5
V. SOCIAL SERVICES	8.7	9.2	10.0	12.4	16.3	21.9
22) Medical services		---	2.3	1.1	1.4	2.2
23) Hospitals		---		1.8	2.7	3.7
24) Education		---	3.5	3.8	5.4	8.6
25) Welfare	8.7	---	0.9	0.7	1.0	1.2
26) Nonprofit		---		0.3	0.4	0.4
27) Postal services		0.6	0.7	0.8	0.9	1.0
28) Government		2.2	2.6	3.7	4.3	4.6
29) Misc. social serv.		6.3	---	0.1	0.2	0.3
VI. PERSONAL SERVICES	8.2	11.2	14.0	12.1	11.3	10.0
30) Domestic services		6.5	5.3	3.2	3.1	1.7
31) Hotels		2.9	1.3	1.0	1.0	1.0
32) Eating & drinking			2.5	3.0	2.9	3.3
33) Repair	8.2	---	1.5	1.7	1.4	1.3
34) Laundry		---	1.0	1.2	1.0	0.8
35) Barber & beauty shop		0.9	---	---	0.8	0.9
36) Entertainment		0.9	0.9	1.0	0.8	0.8
37) Misc. personal serv.		---	1.6	1.2	0.4	0.3
TOTAL LABOR FORCE	100.2	100.1	100.1	100.0	100.1	100.0

SOURCES:

1920: U.S. Department of Commerce, Bureau of the Census. 14th Census of the United States, 1920. Volume IV, Table 2.

1930: U.S. Department of Commerce. Bureau of the Census. U.S. Census of Population, 1930. Volume V - General Report on Occupations. U.S. Government Printing Office, Washington, D.C., 1933. Chapter 7, Table 1.

1940: U.S. Department of Commerce. Bureau of the Census. U.S. Census of Population, 1940. Volume III, Part 1, Table 74. Washington, D.C.: Government Printing Office, 1943.

1950: U.S. Department of Commerce. Bureau of the Census. U.S. Census of Population, 1950. Volume IV - Special Reports, Part 1, Chapter D: Industrial Characteristics. Table 1. U.S. Government Printing Office, Washington, D.C., 1955.

1960: U.S. Department of Commerce. Bureau of the Census. U.S. Census of Population, 1960. Subjects Reports: Industrial Characteristics. Final Report PC(2)-7F, Table 2. U.S. Government Printing Office, Washington, D.C., 1967.

1970: 1/100 Public Use Sample.

Table II - 3

INDEX OF MANUFACTURING PRODUCTION AND PER CAPITA NATIONAL INCOME,

1870 TO 1970

Year	Manufacturing Production (1947-49=100)	Income (1960 dollars)
1870	4	340
1880	7	499
1890	12	592
1900	17	757
1910	29	927
1920	39	1,050
1930	48	1,170
1940	66	1,364
1950	113	1,836
1960	163	2,132
1970	262	3,002

Sources: Manufacturing Production

1870-1950	U.S. Bureau of the Census. Historical Statistics of the United States - Colonial Times to 1957. Washington, D.C., 1960. Series P 11-13.
1960	U.S. Bureau of the Census. Historical Statistics of the United States. Continuation to 1962 and Revisions. Washington, D.C., 1965. Series P 11.
1970	Economic Report of the President, 1973. Table C-34 (adjusted to 1947-49 base years)

National Income

1870-1960	Fuchs, 1968: 30.
1970	Economic Report of the President, 1973. Table C-14 (adjusted to 1960 dollars).

(Greenfield, 1966; Machlup, 1962). They primarily cater to establishments of other industries and do not serve the individual consumer directly. It must be noted, however, that this characterization fits some Distributive and Producer services (such as transportation and advertising) better than others (e.g. retail trade).

With the expansion of the manufacturing sector, the demand for these services increased as well. Consider the example of transportation. A good transportation network has often been mentioned as a necessary condition for successful industrialization (e.g., Davis, et al., 1972; Easterbrook and Aitken, 1956; Dillard, 1957). But the increased demand of manufacturing industries for transportation to move their products was a strong impulse for expansion. To that extent, then, the growth of employment in transportation during the 1870-1920 period reflects the extension of the transportation network as well as the increase in the demand for transportation by the new and expanding industries primari within the manufacturing sector.

But, as Table II-2 shows, transportation did not continue its relative growth in employment during the 1920-1970 period. While the first fifty years (1870-1920) saw a doubling of transportation's share of the total labor force, the next fifty saw a large, if uneven, decline. Two reasons can be given for the decline. For one, the last fifty years brought with them a drastic change in the nature of transportation. It was during this time that the automobile became the favorite mode of getting from one place to another. As a result, the transportation of persons by public means became less important. Second, once a comprehensive transportation network is created -- this is particularly true for railroads -- it is capable of handling large increases in demand without corresponding increases in employment. This is to a large extent the result of technological advances, which permit various economies, thereby increasing productivity many times (see Cottrell's article (1951), "Death by Dieselization," as a good example for the influence of technology on transportation).

The relationship between the Transformative sector and the various Distributive and Producer services is quite complex and differs from one industry to the next, although in general their growth is linked to the development of Transformative industries. Communication industries, for example, have increased their proportion of the labor force continuously, but owing to their being a high capital-intensive industry, labor is relatively unimportant.

The growth of employment in trade, rising from about 6% in 1870 to 17% in 1970, is one of the more impressive changes in Tables II-1 and II-2. The reasons for this proportionate gain is not immediately obvious, since it could be assumed that trade would simply maintain its relative share of the labor force but would not nearly triple its share.

The century under consideration witnessed the full emergence of the U.S.A. as a mass consumer society and trade has been the means by which the enormous growth of production in both the Extractive and Transformative sector has been delivered to the consumer. This linkage between trade and the production of goods indicates that it must not necessarily be labor that is related but it often is output. As long as goods are produced, they need to be sold. In this sense, it matters relatively little how many persons the Transformative sector employs. As we pointed out above, the proportionate decline of employment

in the Transformative sector during the 1960's, for example, has not meant that output during that time declined.

Although the data for Producer services are very limited for the time prior to 1920, its development nevertheless is most interesting, for it points to an additional aspect of the sectoral transformation of the labor force: the division of labor. A great deal of work that now is performed by the various Producer services originally was carried out within goods-producing industries themselves. Advertisement is a good example. In the early part of the industrialization process, firms who wanted to advertise used their own employees to do so. As advertising became more important, both in terms of its impact on sales and as proportion of the firm's budget, it also had to become more specialized. Once the demand for this service could guarantee a certain volume, advertising was established as an independent industry. Other Producer services such as accounting and bookkeeping fit the example of advertising very well.

Most impressive, however, was the employment growth of Producer services during the 1950-70 period. In these two decades alone, they increased their share of the total labor force by over 80 percent. This impressive growth rate, in part, was due to the expansion of banking and insurance services and their aggressive attempts to gain as many customers as possible. Fifty years ago few people had personal checking accounts and the familiar "charge-it-on-your-credit-card" was not yet part of the American way of life. It therefore is not surprising that according to Greenfield's (1966) estimate, over-half of the employment in banking and insurance serves individual consumers, whereas the remaining employment caters to other establishments. Again, the continued expansion of <u>all</u> Producer services during the 1960's occurred while employment in the Transformative sector decreased in proportionate terms. The growth of employment in the Producer services sector is, as in the case of trade, not dependent on the share of employment in the Transformative sector. In effect, part of the proportionate decline of Transformative employment could be the result of the division of labor that has favored the expansion of Producer services.

Remarkable as was the growth of Producer services after 1950, it is surpassed by the expansion of Social services. The trends of these two service sectors are very similar: although they increased their share of total employment during each decade over the past one hundred years, their main growth came during the 1950-70 period. In 1970 Social services accounted for 22 percent of the total labor force and by 1980 one of every four employed persons can be expected to work in this sector.

The four largest industries in the Social services sector are medical and health services, hospitals, education, and government. It was pointed out in the introductory chapter that Social services correspond to Katouzian's (1970) "new services." These services are new in the sense that they have become available to most parts of the population. This does not mean, however, that all population groups have <u>equal</u> access to health services and education; socioeconomic differentials still prevail. But in earlier times these services were available only to the privileged classes, and the vast majority of the population was excluded. As Table II-2 shows, the big expansion of medical, health, and educational services is very recent; it was during the 1950's and 1960's that they became accessible to more and more people. Social welfare legislation growing out of the New Deal, the Great Society programs of the

Kennedy and Johnson Administrations, and the Civil Rights legislation, all have contributed to the expansion of employment in these services.

Besides these more centrally directed and planned influences on the growth of Social services, a very important factor has been the rising per capita income of the United States population (see Table II-3). As per capita increased, the disposable income of individuals became larger which enabled people to spend larger proportions of their budget on items such as health care and education. This situation is not specific to the United States, but exists in the industrialized countries in general. For example, it was found in a study of seven industrialized countries that the proportion of total employment in Social services is positively related to per capita income (Singelmann, 1974). As per capita income continues to grow, we can expect the demand for Social services to increase also, although it is not likely (if only because of technological advances in the Social services themselves) that the share of total employment in Social services will expand beyond thirty percent for some time.

Finally, Personal services, the "old services" in Katouzian's (1970) scheme, experienced very uneven growth rates during the last hundred years. But this situation primarily is the result of the decline of domestic service from 7.4 to 1.7 percent of the total labor force. In contrast, the remainder of the Personal services sector expanded in almost all decades of the 1870-1970 period. Thus, Katouzian's (1970) statement that in the course of economic growth the share of the labor force in old services declines, mainly pertains to domestic services (although some other personal service could be included). But two Personal services differ from this trend: hotels and lodging places, and eating and drinking places. Both service industries increased their share of total employment from 2.9 percent in 1930 to 4.3 percent in 1970. By 1970 they accounted for almost one-half of all employment in Personal services, excluding domestic service.

Hotels and eating places respond similarly to increases in per capita income as do Social services. Once the disposible income of individuals reaches a certain level, the service of preparing food, for example, can be afforded especially food sold through quick-order outlets. In that sense, the emergence of these Personal services reflects the continued division of labor whereby less and less work is performed in the household itself, and more labor is done within formal organizations.

The preceding discussion not only showed how the labor force during the past one hundred years have become overwhelmingly non-Extractive, but it was noted that among the non-Extractive industries, important changes took place. By far the most dynamic industries in that time period were the Social and Producer services. Since this trend is a relatively recent one, it can be expected that it will continue through 1980 at least, although the rate of expansion is likely to slow down as compared with the 1950-1970 period.

The occupational structure. The complex and sweeping changes in the industry structure of the labor force during the past one hundred years have brought with them fundamental changes in the type of work that people do. This is not the place to elaborate on the nature of the interdependence of the industry structure and the occupational structure (that discussion is the subject of Chapter V in this report). The following examples may therefore suffice for a

demonstration of how changes in the industry structure can be related to occupational changes. As a consequence of the continuous decline of agriculture, fewer and fewer farmers and farm laborers were needed in the labor force. Similarly, as Social and Producer services expanded in this century, professional, clerical, and service occupations also experienced a disproportionate rate of growth. This section examines the changes in the occupational structure of the labor force since 1900. The discussion should help to put the analysis of the relationship between industry and occupation within its historical context.

In 1900 farm workers made up almost two-fifths (37.9 percent) of the labor force (Table II-4). One-third (35.8 percent) of the labor force consisted of manual workers. White-collar occupations made up only 17.6 percent of total employment. Particularly noteworthy was the small share of employment (only 3.0 percent) in clerical occupations in 1900.

Within seventy years the character of the labor force changed from the domination of blue-collar and farm occupations to a concentration of employment in white-collar positions. Consider the following changes: farm workers as proportion of total employment decreased by about 90 percent; professionals almost quadrupled; and clerical occupations increased six times, to become the single largest occupational category. The only occupational category outside white-collar work that increased its share of total employment continuously during the past seventy years was service workers other than private household, and this category is found mostly in Personal and Social services. In 1970 white-collar occupations for the first time employed more persons than manual and service occupations combined; almost one-half of total employment was in professional, managerial, sales and clerical positions.

Manual occupations, in contrast, have been growing more slowly than total employment since 1950. The proportionate decline of laborers is the clearest; their share of total employment has decreased steadily since 1900; there were fewer laborers in 1970 than 70 years earlier. With the growth of employment in the Transformative sector until the sixties, craftsmen and operatives grew more rapidly than total employment.

Although the foregoing discussion clearly shows that the growth of services contributed significantly to the expansion of white-collar occupations, there are also occupational changes within industries that are reflected in the overall changes in the occupational structure. Certainly, the occupational requirements of a certain industry change over time, for example in response to technological advances.

Urbanization. One of the most pervasive consequences of the sectoral transformation from agricultural to service employment is urbanization. As agricultural work declined, people left the farms and migrated to the cities. This movement is clearly reflected by the data in Table II-5: the percent urban of the total population increased from about one-quarter to three-quarters of the population.

The subject of urbanization is too broad a topic to be discussed here in all its dimensions, and much valuable information about it is readily available (e.g., Taeuber and Taeuber, 1971). However, one aspect needs to be

TABLE II-4

PERCENTAGE DISTRIBUTION OF THE LABOR FORCE BY MAJOR OCCUPATIONAL GROUPS, 1900-1970

Occupational Groups	1900	1910	1920	1930	1940	1950	1960	1970
White Collar Workers	17.6	21.3	24.9	29.4	31.1	36.6	42.2	48.8
Professional, technical, and kindred workers	4.3	4.7	5.4	6.8	7.5	8.6	11.4	15.3
Managers, officials, and proprietors except farm and mine	5.8	6.6	6.6	7.4	7.3	8.7	8.5	8.5
Clerical and kindred workers	3.0	5.3	8.0	8.9	9.6	12.3	15.0	18.0
Sales workers	4.5	4.7	4.9	6.3	6.7	7.0	7.4	7.3
Manual and Service Workers	44.9	47.7	48.1	49.4	51.5	51.6	51.5	48.2
Manual	35.8	38.2	40.2	39.6	39.8	41.1	39.7	35.5
Craftsmen, foremen, and kindred workers	10.5	11.6	13.0	12.8	12.0	14.1	14.3	13.8
Operatives and kindred workers	12.8	14.6	15.6	15.8	18.4	20.4	19.9	17.3
Laborers, except farm and mine	12.5	12.0	11.6	11.0	9.4	6.6	5.5	4.4
Service	9.0	9.6	7.8	9.8	11.7	10.5	11.8	12.7
Private household workers	5.4	5.0	3.3	4.1	4.7	2.6	2.8	1.4
Other than private household	3.6	4.6	4.5	5.7	7.1	7.9	9.0	11.3
Farm Workers	37.9	30.9	27.0	21.2	17.4	11.8	6.3	3.1
Farmers and farm managers	19.9	16.5	15.3	12.4	10.4	7.4	3.9	1.8
Farm Laborers and foremen	17.7	14.4	11.7	8.8	7.0	4.4	2.4	1.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

SOURCES: 1900-1960 Taeuber and Taeuber, 1971;182.
1970 1/100 Public Use Sample.

Table II-5

URBAN POPULATION IN THE UNITED STATES: 1870-1970

Year	Percent Urban
1870	25.7
1880	28.2
1890	35.1
1900	39.7
1910	45.7
1920	51.2
1930	56.2
1940	56.5
1950	64.0
1960	69.9
1970	73.5

SOURCES: 1870-1920: Ward, 1971:6.
1930-1960: Taeuber and Taeuber, 1971:46.
1970: U.S. Bureau of the Census, 1973:Table 189.

Note: The definition of "urban" changed in 1950.

addressed here and that is the urban character of services. Services, even more than Transformative industries, are concentrated in urban areas. The urban character of services is, to a large extent, due to the fact that services generally cannot be stored and transported. Although manufacturing industries, too, prefer to be located so as to have access to consumer markets, the cost of transportation is only one factor among other considerations, such as availability of labor, resources, and tax laws. In the case of services, most of these considerations do not apply. Due to the intangible nature of most services, they must be consumed at the moment of production, as in the case of education or medical services. (There are certainly exceptions to this generalization, the case of insurance companies being one of them, but on the whole this characterization fits.) With an increasing population, many services become specialized. A city needs a certain population site before an airport becomes viable. While small communities at the most have a general hospital, larger urban centerscan support more specialized medical services such as a burn-treatment center. Education in general follows a similar rule. The main exception to this is the location of some state universities, which often are located in relatively small places, such as Bloomington, Indiana or Boulder, Colorado. But in many of these cases, the decision to locate a university in a certain community has been politically determined, and does not always reflect the interplay of supply and demand.

Women in the labor force. The last years have seen a tremendous increase in the number of studies on women in the labor force (see Chapter VI for a more detailed discussion of this subject). Many of these studies undoubtedly had been motivated by the fact that the percent female of total employment has increased very remarkably during the past fifty years (Table II-6). The fact of the increased labor force participation touches upon the sectoral transformation insofar as women are much more concentrated in services than in any other industries. It is not only in Personal services that the percent female of total employment exceeds that for the entire labor force; the same is true for Social and Personal services. Moreover, the concentration of women in services has increased rather than decreased over time. The reasons for this are not all that clear, particularly since this high concentration is not to be found in many other industrialized countries (Singelmann, 1975). As Fuchs (1968) noted, services are characterized by a higher degree of part-time work than Transformative industries. Since women account for a disproportionately high share of part-time work, they might prefer to work in services. On the other hand, following the reasoning of the dual labor market theory, one could argue that women are channelled into services owing to the perceptions employers have of women. Whatever the reasons, the concentration of women in service industries is impressive, and it will be discussed in detail in Chapter VI.

Before turning to the various aspects of the sectoral transformation of the labor force during the decade from 1960 to 1970, as outlined in the introduction, we need to address one additional question: To what extent were the 1960's an exceptional period? This has an important bearing on the extent to which the findings of this study can be generalized.

By and large, the economy fared well during the 1960-70 decade. The Consumer Price Index increased at an average rate of 3.1 percent during the 1960's as compared to 2.1 percent in the previous decade. Unemployment also was relatively low. The average unemployment rate between 1960 and 1970 was 4.8 percent, slightly up from 4.1 percent during the 1950's. As Table II-7 shows,

Table II-6

RATES OF FEMALE LABOR FORCE PARTICIPATION AND PERCENT FEMALE OF TOTAL LABOR FORCE, 1890-1970

Year	Participation Rate	Percent Female
1890	18.2	17.0
1900	20.4	18.1
1910	25.2	20.9
1920	23.3	20.4
1930	24.3	21.9
1940	25.4	24.4
1950	29.0	27.5
1960	34.5	32.5
1970	43.4	37.8

SOURCE: Participation Rates:
1890 Bancroft, 1958:Table D-1.
1900-1960 Oppenheimer, 1970:3.
1970 U.S. Bureau of the Census, 1971.

Percent Female:
1890-1900, 1920-1950 Bancroft, 1958:Table D-1.
1910 U.S. Bureau of the Census, 1943:Table 8.
1960 U.S. Bureau of the Census, 1967:Table 2.
1970 U.S. Bureau of the Census, 1973:Table 32.

Table II-7

UNEMPLOYMENT RATES AND CONSUMER PRICE INDEX, 1950-1970

Year	Unemployment Rates	Consumer Price Index (1967 = 100)
1950	5.3	72.1
1951	3.3	77.8
1952	3.0	79.5
1953	2.9	80.1
1954	5.5	80.5
1955	4.4	80.2
1956	4.1	81.4
1957	4.3	84.3
1958	6.8	86.6
1959	5.5	87.3
1960	5.5	88.7
1961	6.7	89.6
1962	5.5	90.6
1963	5.7	91.7
1964	5.2	92.9
1965	4.5	94.5
1966	3.8	97.2
1967	3.8	100.0
1968	3.6	104.2
1969	3.5	109.8
1970	4.9	116.3

SOURCE: 1973 Economic Report of the President. Tables C-26 (Unemployment) and C-44 (Price Index).

the unemployment rate went down from 6.7 percent in 1961 to 3.5 percent in 1969, which approximately corresponds with the build-up of the Vietnam War. By 1970 unemployment was up again to almost 5 percent. In sum, the data suggest that on the basis of the two economic indicators, unemployment and the Consumer Price Index, one can conclude that the economic trends during the 1960's were more or less a continuation of those of the 1950-60 decade.

More changes happened politically. Largely as a result of our involvement in Vietnam, the population became very divided in terms of political attitudes. Universities saw frequent demonstrations and various coalitions were formed to oppose the foreign policy of the Johnson Administration. At the same time, attention was called to the domestic problems of poverty and discrimination (Harrington, 1964). Several important social welfare programs were passed during the Kennedy-Johnson administrations (see Piven and Cloward, 1973). This legislation in conjunction with the various Civil Rights acts meant a significant progress in the situation of the nation's poor. It was also during the 1960's that the cities experienced tremendous unrest which made the need for social reforms all the more pressing.

These events are clearly unique to the 1960's. But in an sense, when is history not exceptional? Compared with many of the previous decades, however, the 1960's could be considered as relatively "normal." The 1920's were influenced by the consequences of World War I, the 1930's were the decade of the Great Depression; World War II dominated the 1940's, and its aftermath -- the Cold War -- the 1950's.

The sectoral transformation of the labor force during the 1960's represents, in its various manifestations, the continuation of a trend that had already started earlier. In that sense, then, we consider the decade from 1960 to 1970 as a useful time period for our purposes.

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Chapter III

LABOR INPUT AND WORK CONTINUITY

There are many different forms of employment. Some persons, for example, work full time throughout the year, whereas others work intermittently for only part of the year. A third group still may work part time but continuously and, finally, there are those who only work part time for a few weeks out of every year. Moreover, a full time worker who is employed during the entire year does not necessarily work in the same industry for that time period but could well be employed in a number of different industries.

While the decision to work a given amount of time often is made by the worker, there are also requirements on the part of the industry. It is the purpose of this chapter to examine the differences between sectors and industries in terms of labor input and continuity of employment. More specifically, the chapter is divided into two parts: Part 1 examines the nature of work scheduling and labor input, and Part 2 analyzes the movement of employment among industry sectors for the 1965-1970 period.

PART I: LABOR INPUT AND WORK SCHEDULING

The sectoral transformation of the labor force during the past one hundred years has meant a profound change in the kind of work that is required. Half of the labor force worked in agriculture one hundred years ago, but in 1970 this industry accounted for a mere 3.7 percent of total employment. In contrast, almost two of every three persons employed today work in a service industry of one kind or another. While this trend is very clear in terms of employment, there has been some implicit doubt about the magnitude of this change in terms of labor input. In other words, the distribution of workers among industries will not necessarily correspond with the distribution of labor as measured by the number of yearly hours worked. The reason for this lies in the fact that industries differ in their utilization of labor. Some industries such as domestic service are characterized by a large proportion of part-time workers, whereas other industries require mostly full-time employment, as do most durable goods industries.

In particular, attention has been called to the fact that services are characterized by a high proportion of part-time employment. For this reason it is assumed that there is less of a concentration of hours worked in services than is the case of employment. Adam Smith, for example, noted that employment in manufacturing was much more "industrious" than that in services, referring largely to the number of hours worked (Smith, 1937: 78). According to Fuchs, services differ from goods-producing industries in part by the higher incidence of persons working 35 hours or less per week (1968: 193). And throughout his book, The Peripheral Worker, Morse (1969) alludes to the "peripherality" in the service sector.

These findings imply that despite the shift of employment towards service industries the input of labor has not followed suit to the same extent. Since this consideration has been largely disregarded in most studies dealing

with long-term changes in the industry structure of the labor force, this chapter examines the following two aspects: (1) the different work scheduling among industries, and (2) the relationship between employment and input of labor.

Work Scheduling

Morse (1969) has noted that there are many kinds of employment other than full time. In particular, it is important to differentiate between hours worked per week and weeks worked per year.

Usually, reference is made only to hours. To that end, a certain number of hours worked per week (e.g., less than 35) are chosen to distinguish between part-time and full-time work. But full-time workers, i.e., those working at least 35 weekly hours, may not work the entire year. Therefore, one needs to make an additional distinction on the basis of weeks between "continuous" employment (50-52 weeks per year) and, to use Morse's (1969) term, "intermittent" employment (less than 50 weeks). On the basis of these two dimensions, one could argue that only persons who work 35 hours or more hours per week throughout the entire year qualify as full-time employment. Besides this group, then, there exist many other types of employment (see Table III-1 for some combinations of hours and weeks). Table III-1 certainly is not exhaustive, for more sub-categories could be formed by differentiating further the number of hours.

For the purposes of the first part of this chapter, however, we will treat separately hours and weeks worked. In the second part these two dimensions of work scheduling will be combined to arrive at the total labor input.

Part-Time vs. Full-Time Employment. The incidence of part-time employment can be viewed from two different perspectives. On the one hand, some people might prefer to work only part of the regular hours because of other commitments such as schooling. This consideration is most likely to account for the high proportion of part-time employment in retail trade, particularly food stores, and eating and drinking places.

It also has been frequently mentioned in the literature that many women prefer part-time work due to other demands (children and household) on their time. In the case of women, however, the voluntary nature of part-time employment is less clear. Given the strong existence of sex stereotyping in the labor force, the explanation of the higher incidence of women working part time may well be an *ex post facto* explanation. Since the decennial census data do not include any questions concerning voluntary and involuntary part-time employment, this aspect cannot properly be addressed here, despite its unquestioned importance. (The only way, at this point, to circumvent the inadequacy of the data would involve estimates from the Current Population Surveys.)

The other viewpoint concerns the scheduling requirements of production. Certain industries are less conducive to part-time employment than others. Production processes that require a high degree of formal organization would be less likely to employ persons on a part-time basis. One example of this is the assembly line. Particularly those industries that require a large amount of capital equipment and which operate on a two or three shift basis are most likely to favor full-time employment, as in petrochemicals. Most manufacturing industries fit this characterization.

Table III-1

TYPES OF PERIPHERALITY

Type	Civilian Labor Force in 1965 (in millions)
Slightly Peripheral	
40-49 weeks, over 35 hours	6.6
Moderately Peripheral	
27-39 weeks, over 35 hours	4.7
50-52 weeks, 35 hours or less	5.4
40-49 weeks, 35 hours or less	1.5
Severely Peripheral	
14-26 weeks, over 35 hours	4.3
27-39 weeks, 35 hours or less	1.8
Extremely Peripheral	
26 weeks or less, 35 hours or less	8.8
13 weeks or less, over 35 hours	4.8
Total	37.9

Adapted from Morse, 1969:43.

In contrast, many services permit a much higher degree of part-time work. The extreme example is domestic service. Most domestic servants are hired on a part-day basis and therefore they need more than one employer to come up with at least a moderate amount of total work. But many other services, although to a lesser extent, do not depend on full time work either. Retailing, for example, can efficiently use part-time help, especially during nights and weekends. The same situation exists for eating and drinking places.

To a large extent, part-time work is related to the absence of an even and continuous level of production. In the case of services,an even level often is difficult to maintain, for they cannot be stored. Thus, if demand is uneven during the course of the day, so is production. Consider the example of eating and drinking places. The demand for these services is much higher between 11:00 am to 2:00 pm and 5:00 pm to 8:00 pm than at any other time. Establishments therefore can be expected to hire additional part-time help during these peak hours of production. These considerations are much less relevant in manufacturing, because their goods can be stored and no direct link exists between production and consumption. On the other hand, there are many services that require a much higher proportion of full-time work. Examples of this include banking and government, both of which are formally organized bureaucracies.

In general, however, it can be expected that services are more flexible in their work schedules and therefore permit a higher degree of part-time work than the Transformative sector. Among services, Personal services and trade (mostly retail trade) are more likely to have part-time employment than Producer and Social services.

The question of flexibility in the schedule of work raises another aspect which as yet has been largely ignored. In addition to part- and full-time employment there are many persons who work more than full time. Although this is found in many Transformative industries, particularly in construction, the greater flexibility of many services make it easier for them to accommodate people who work more than full time. In particular, it is expected that industries with a high degree of self-employment also will have a substantial proportion of persons working more than a standard number of hours; primarily in retailing, personal services, and eating and drinking places. On the basis of the preceding discussion, three employment categories will be examined across industries: (1) persons working less than 30 hours per week, (2) those who work 40 hours, and (3) those working more than 48 hours.

For the first group, Tables III-2 and III-3 show that women are twice as likely to work less than 30 hours per week than are males. This situation exists in all 37 industries, although the differences are less pronounced in some industries than in others.

What is striking in these tables, however, is the fact that for the relative position of industry sectors in terms of part-time work, sex does not make much of a difference. For males as for females, the Personal services sector has the highest share of part-time employment. This is mostly due to domestic service, but all Personal services are characterized by a high proportion of part-time employment. As was expected, part-time employment is very pronounced in agriculture and retail trade. For retail trade, this reflects the fact that many of the young employees are still in school and that the demand for retailing peaks at certain hours.

Table III-2

NUMBER OF HOURS WORKED PER WEEK BY INDUSTRY SECTOR AND INTERMEDIATE INDUSTRIES, 1960-1970: MALES

(in percent)

Sectors and Industries	1-29		30-39		40		41-48		49 and over	
	1960	1970	1960	1970	1960	1970	1960	1970	1960	1970
I. EXTRACTIVE	15.5	14.3	8.6	7.6	17.6	22.7	12.6	13.0	45.6	42.5
1) Agriculture	16.6	16.6	8.5	8.1	13.5	17.4	11.8	11.0	49.6	47.0
2) Mining	8.5	4.4	9.6	5.0	44.1	46.4	17.7	21.6	20.1	22.6
II. TRANSFORMATIVE	6.4	6.0	8.1	10.2	54.8	53.4	18.8	17.7	11.9	12.7
3) Construction	11.4	9.8	10.7	12.2	47.2	51.4	18.0	14.8	12.7	11.9
4) Food	5.3	4.8	7.4	9.5	40.6	42.8	24.0	22.5	22.8	20.5
5) Textile	4.8	5.4	11.2	12.0	47.6	45.8	25.0	24.2	11.4	13.6
6) Metal	3.0	3.3	6.3	8.0	66.7	58.9	15.7	18.4	8.4	11.4
7) Machinery	2.4	3.2	4.7	9.9	63.7	57.2	18.2	17.5	11.0	12.2
8) Chemical	2.1	2.4	4.9	8.1	68.3	62.0	16.0	16.3	8.7	11.3
9) Misc. manufacturing	10.0	9.1	11.4	11.3	47.5	47.7	19.5	18.8	11.6	13.1
10) Utilities	3.3	3.2	3.0	5.0	69.2	66.0	16.0	15.3	8.5	10.6
III. DISTRIBUTIVE SERVICES	9.7	12.0	5.2	6.8	33.8	34.4	22.9	21.2	18.5	25.6
11) Transportation	6.8	7.8	5.3	6.6	49.2	44.7	18.9	18.3	19.8	22.6
12) Communication	2.9	3.4	9.1	8.9	61.3	48.8	17.2	22.0	9.5	17.0
13) Wholesale	5.5	5.6	6.2	7.0	36.3	40.0	27.8	24.4	24.2	23.2
14) Retail	13.2	17.4	4.4	6.7	22.9	26.1	23.7	21.1	35.8	28.8
IV. PRODUCER SERVICES	6.5	8.2	14.2	13.9	35.4	36.5	23.0	20.4	21.0	21.0
15) Banking	5.6	6.8	20.7	19.2	38.9	40.1	22.1	21.0	12.7	12.8
16) Insurance	4.3	5.1	16.9	18.7	31.6	32.6	24.2	20.9	23.0	22.7
17) Real Estate	10.0	12.8	9.0	9.0	33.5	35.8	22.7	18.4	24.9	24.1
18) Engineering	4.8	6.1	8.2	7.9	44.6	47.5	22.3	20.8	20.1	17.8
19) Accounting	5.0	6.4	12.5	9.2	24.4	25.8	20.2	18.0	38.0	40.6
20) Misc. business	8.9	11.4	11.3	11.7	42.1	40.4	21.3	19.0	16.4	17.6
21) Legal services	4.7	5.9	12.5	11.5	20.9	19.2	30.4	27.5	31.6	35.9
V. SOCIAL SERVICES	8.6	11.5	7.0	9.4	46.1	47.4	17.9	13.8	20.5	18.0
22) Medical services	7.0	9.6	4.7	11.8	21.9	26.3	21.7	16.9	40.7	35.5
23) Hospitals	6.5	9.7	3.8	6.6	55.1	55.8	17.3	11.6	17.4	16.2
24) Education	15.7	20.0	11.5	13.0	33.3	38.1	21.4	14.2	18.1	14.8
25) Welfare	15.2	14.3	5.6	8.4	17.8	25.8	14.5	12.5	46.9	39.1
26) Nonprofit	17.2	16.6	9.2	11.7	31.7	33.7	19.6	18.1	22.4	19.9
27) Postal services	4.4	7.6	4.7	7.1	61.3	59.3	15.7	14.7	13.9	11.3
28) Government	3.6	4.0	4.7	6.5	60.4	61.0	15.7	12.9	15.7	15.7
29) Misc. social serv.	6.6	9.4	10.6	11.8	44.8	46.7	18.8	14.9	19.2	17.2
VI. PERSONAL SERVICES	15.9	22.2	6.5	8.0	25.2	26.6	22.7	18.0	29.7	25.3
30) Domestic services	41.9	54.7	9.9	9.2	25.3	21.4	13.0	7.8	8.9	6.9
31) Hotels	12.3	17.9	6.9	7.9	29.9	32.5	24.4	18.0	26.7	23.7
32) Eating & drinking	15.5	31.4	5.9	9.2	22.6	18.7	19.4	13.4	36.5	27.4
33) Repair	10.0	11.6	5.0	6.4	26.7	33.2	27.5	23.7	30.8	25.1
34) Laundry	8.9	11.7	5.8	7.0	29.6	32.3	25.2	20.2	30.5	28.7
35) Barber & beauty	9.3	10.1	5.1	6.1	23.4	26.4	27.3	23.6	35.0	33.8
36) Entertainment	27.1	30.2	9.8	10.0	22.0	26.5	19.0	14.9	22.2	18.4
37) Misc. personal	11.2	13.4	6.2	8.4	23.4	24.8	22.7	20.5	36.5	32.9
TOTAL LABOR FORCE	9.7	10.1	7.6	9.2	41.7	42.9	19.5	17.8	22.2	20.0

Table III-3

NUMBER OF HOURS WORKED PER WEEK BY INDUSTRY SECTOR
AND INTERMEDIATE INDUSTRIES, 1960-1970: FEMALES
(in percent)

Sectors and Industries	1-29		30-39		40		41-48		49 and over	
	1960	1970	1960	1970	1960	1970	1960	1970	1960	1970
I. EXTRACTIVE	34.9	29.3	16.7	15.0	20.6	24.5	9.3	9.0	18.5	18.3
1) Agriculture	37.2	32.7	16.8	14.5	16.8	23.1	9.4	9.2	19.7	20.5
2) Mining	9.9	9.2	15.7	18.2	62.3	59.7	7.6	7.9	4.6	5.0
II. TRANSFORMATIVE	11.0	10.5	18.3	19.6	59.3	59.0	9.4	8.4	1.9	2.5
3) Construction	19.7	20.2	17.7	16.1	47.5	52.7	10.4	7.0	4.8	4.0
4) Food	19.0	14.6	19.8	22.3	46.5	49.8	10.9	10.2	3.8	3.1
5) Textile	11.5	11.7	25.5	25.6	51.0	51.8	10.8	9.1	1.3	1.9
6) Metal	7.9	7.9	12.2	15.6	69.9	65.0	8.7	8.8	1.4	2.7
7) Machinery	6.1	6.2	10.6	14.5	73.3	68.8	8.5	8.0	1.6	2.5
8) Chemical	6.4	6.2	17.0	19.8	67.9	66.0	7.0	5.8	1.8	2.2
9) Misc. manufacturing	12.0	12.0	19.3	20.0	58.0	57.2	8.9	8.4	1.9	2.5
10) Utilities	7.4	6.9	9.7	14.6	75.0	70.2	6.7	5.1	1.2	3.2
III. DISTRIBUTIVE SERVICES	23.4	28.6	15.2	19.2	41.4	39.6	13.6	8.0	6.5	4.7
11) Transportation	17.5	26.4	13.1	14.0	54.9	46.3	9.8	8.6	4.8	4.8
12) Communication	6.9	8.6	19.4	21.0	63.6	60.8	8.1	7.6	2.0	2.0
13) Wholesale	17.3	15.4	19.5	19.0	48.8	52.4	10.7	9.6	3.8	3.6
14) Retail	27.3	34.0	14.1	19.6	35.7	33.6	15.2	7.7	7.8	5.2
IV. PRODUCER SERVICES	14.7	16.8	32.4	30.9	41.8	42.5	8.1	6.6	3.1	3.2
15) Banking	8.1	10.8	33.5	31.6	48.8	49.8	8.2	6.6	1.5	1.2
16) Insurance	11.1	13.0	41.4	41.3	40.8	39.8	5.3	4.5	1.5	1.5
17) Real Estate	24.0	26.4	21.6	20.3	32.0	35.0	11.8	8.8	10.7	9.5
18) Engineering	17.3	16.8	18.5	22.0	55.2	51.9	7.6	5.3	1.5	4.0
19) Accounting	25.2	20.6	21.5	19.6	29.8	35.1	13.8	13.6	9.7	11.1
20) Misc. business serv.	24.9	25.4	24.4	23.6	39.3	40.6	8.4	6.8	3.0	3.6
21) Legal services	16.3	18.4	35.0	36.8	36.2	35.7	9.6	6.2	2.9	3.0
V. SOCIAL SERVICES	19.7	24.0	18.4	19.0	44.8	46.7	11.5	6.8	5.8	3.5
22) Medical services	19.2	24.2	14.9	17.0	37.8	44.1	17.6	10.0	10.5	4.8
23) Hospitals	14.7	17.5	7.4	10.2	60.2	62.8	13.4	6.9	4.3	2.7
24) Education	23.9	30.1	27.3	24.7	33.5	35.2	10.2	6.4	5.2	3.6
25) Welfare	33.6	30.6	16.2	21.4	27.1	36.6	11.1	5.9	12.0	5.6
26) Nonprofit	23.6	29.1	28.3	30.3	35.0	30.8	8.7	6.1	4.4	3.8
27) Postal services	32.5	27.4	10.7	13.8	33.0	45.3	17.1	9.6	6.7	3.9
28) Government	10.5	11.0	14.2	15.7	62.7	65.8	8.4	5.0	4.3	2.5
29) Misc. social serv.	28.8	30.2	18.0	20.7	42.4	38.7	6.6	6.4	4.2	4.0
VI. PERSONAL SERVICES	34.2	37.8	13.9	16.9	24.5	26.6	15.4	10.3	12.0	8.5
30) Domestic services	46.8	50.4	13.2	14.5	19.9	22.4	10.1	7.8	10.1	6.8
31) Hotels	20.6	25.2	13.0	16.0	27.7	32.3	19.8	13.8	18.9	12.8
32) Eating & drinking	25.7	37.9	13.8	16.9	23.9	23.2	21.0	12.2	15.7	9.9
33) Repair	27.1	25.0	15.0	19.3	39.0	37.8	11.7	8.7	7.2	9.3
34) Laundry	16.5	22.2	15.7	23.8	38.3	38.9	21.3	10.2	8.2	4.9
35) Barber & beauty shop	25.4	29.2	13.6	18.3	30.2	31.7	20.1	12.9	10.7	8.0
36) Entertainment	41.4	45.4	18.0	16.8	23.6	23.3	10.3	8.5	6.7	5.6
37) Misc. personal serv.	37.8	42.1	16.6	14.8	25.3	26.4	9.7	8.9	10.6	7.9
TOTAL LABOR FORCE	21.2	23.5	18.0	20.0	42.6	44.2	11.8	7.9	6.3	4.4

Manufacturing industries and utilities show the lowest proportion that works part time. The same situation exists for communication. Even for females, only 8.6% of total employment in communications worked less than 30 hours in 1970. Moreover, among manufacturing the three most modern and capital intensive industries (metal, machinery, and chemical) employed relatively fewer persons on a part-time basis than the remaining manufacturing industries. This supports our earlier statement that industries with a high degree of formal organization and a high capital-labor ratio are less likely to employ part-time workers than are the remaining industries.

The data in Tables III-2 and III-3 show, moreover, that by and large, part-time employment as proportion of total employment increased during the 1960's in most industries, more so for males than for females. But again, service industries were more likely to have higher proportions of part-time employment in 1970 in comparison with 1960 than were manufacturing industries.

Concerning the second group, we noted earlier that industries with a high capital-labor ratio and a high degree of formal organization tend to have more full-time employment than those industries the production of which is less structured and depends less on capital equipment. Using 40 hours per week as a standard for full-time work each day during the week, we can see in Table III-2 that the data are consistent with this postulated relationship. (The assumption made here is that persons who work 40 hours per week are employed throughout the week.) There is no way to confirm this assumption with available census data. It could be that some persons with 40 reported weekly hours work only three or four days, but they are not likely to be a significant share of the total.

For most industries, 40 hours per week is the modal category; this situation characterizes female employment slightly better than male employment. As expected, agriculture, retail trade, and Personal services have the lowest shares of employment working 40 hours per week. In addition, relatively few males work these hours in accounting and bookkeeping, legal services, and medical services. But in these cases of the latter three industries, the low proportion of males working 40 hours per week is due to the fact that more males worked over 48 hours.

The Transformative sector had the largest proportion of employment working 40 hours per week. But, again, it is primarily the capital-intensive industries that have the highest proportion of employment working 40 hours: metal, machinery, chemical, utilities, and communication. Only males in the last industry have become less likely to work 40 hours per week during the 1960's. Two other industries also tend to employ workers for 40 weekly hours: postal services (more for males than for females), and government. Work in both of these industries is highly bureaucratized, and "production" is separated largely from consumption. Moreover, in contrast to retailing establishments, for example, which cater to the demands of the consumer, most governmental agencies fix their own schedules and office hours to which the client has to adjust. Given this more regulated level of "production," the high proportion of employment working 40 hours per week in government is not expected.

Finally, the term full-time work commonly is used to distinguish this group from persons working only a small number of hours per week. But the concentration on the part-time/full-time dichotomy has ignored the fact that in

many industries a significant part of the work force are employed for substantially longer hours than the standard 40-hour week. This is important for an understanding of the work situation within services, since their generally greater flexibility in the organization of work might also permit them to employ more persons for a large number of hours per week than other industries. It thus could be hypothesized that among industries, the greater the proportion of employment working part time the higher the proportion of employed persons working more than a standard work week. To examine this relationship, we shall focus on those categories working less than 30 hour per week and more than 48 hours per week.

In 1970 the rank-order correlation coefficients for 37 industries between the percent employed less than 30 hours and the percent employed more than 40 hours are .380 (p. > .05) for males and .728 (p. > .001) for females. These results show that industries which are characterized by a large share of part-time employment also tend to have a large proportion of workers with more than 48 hours per week. This relationship is stronger for females than for males.

It was noted earlier that self-employed workers in general work more hours than persons who are employed (see Table III-4 for the variation of self-employment by industry). Thus, among industries, the higher the percent self-employed, the higher the percent working more than 48 hours. Again a rank-order correlation for these two variables was performed with the 37 industries, using the 1970 data. The coefficients are .748 (p. > .001) for males and .778 (p. > .001) for females. The results thus reveal that among industries a strong correlation exists between the percent self-employed and the proportion of employment working more than 48 hours.

These findings suggest that the previous focus on the high incidence of part-time work in services has been somewhat misleading. Although it is true that services are more likely to employ workers on a part-time basis, they also are more likely to employ persons for more than the average number of hours. It thus can be expected that the per capita total number of hours worked is not much lower in services than in goods-producing industries.

Continuous versus Intermittent Employment. In the previous section the focus of the analysis was on the number of hours worked per week in order to evaluate the employment pattern among industries along the part-time/full-time dimension. In this section we are concerned with the stability of employment over time, in this case for one year. The reader needs to be reminded, however, that the term continuous employment refers to his labor force status and not to job tenure. In other words, someone who is employed throughout the year may have changed jobs a number of times. Similarly, those working only one-half of the year are not very likely to be idle the other half; rather, they can be expected to have worked for a number of limited time periods during the entire year. In this sense, the following analysis is somewhat restricted, but the use of census data offers no other choice.

The data in Tables III-5 and III-6 show that for the total labor force, more persons worked during the entire year (50-52 weeks) in 1969 than in 1959. But as was the case with hours, males are much more likely to work 50-52 weeks per year than are females. In 1969, three-fourths of all males were continuously employed throughout the year as compared to only slightly one-half (54.4 percent)

Table III-4

PERCENT SELF-EMPLOYMENT BY INDUSTRY SECTOR, INTERMEDIATE INDUSTRY CATEGORY, AND SEX: 1970

Sectors and Industries	Male	Female
I. EXTRACTIVE	45.27	21.01
1) Agriculture	55.11	24.14
2) Mining	2.77	2.54
II. TRANSFORMATIVE	4.14	0.80
3) Construction	13.79	5.33
4) Food	1.40	0.63
5) Textile	1.50	0.45
6) Metal	0.70	0.21
7) Machinery	0.79	0.17
8) Chemical	0.48	0.44
9) Misc. manufacturing	3.16	1.20
10) Utilities	0.90	0.08
III. DISTRIBUTIVE SERVICES	9.22	4.53
11) Transportation	5.17	1.75
12) Communication	0.33	0.14
13) Wholesale	6.71	2.01
14) Retail	13.00	5.90
IV. PRODUCER SERVICES	15.33	3.24
15) Banking	2.90	0.27
16) Insurance	9.34	1.29
17) Real Estate	19.48	8.94
18) Engineering	13.33	2.40
19) Accounting	33.64	9.18
20) Misc. business serv.	11.78	6.48
21) Legal services	66.96	2.89
V. SOCIAL SERVICES	4.96	1.73
22) Medical services	53.77	4.46
23) Hospitals	1.28	.53
24) Education	0.79	1.83
25) Welfare	8.76	1.53
26) Nonprofit	----	----
27) Postal services	----	----
28) Government	----	----
29) Misc. social serv.	24.71	24.20
VI. PERSONAL SERVICES	20.34	9.43
30) Domestic services	2.63	0.99
31) Hotels	9.85	13.61
32) Eating & drinking	14.66	6.33
33) Repair	27.18	12.46
34) Laundry	21.22	4.76
35) Barber & beauty shop	52.99	33.81
36) Entertainment	[illegible].39	7.32
37) Misc. personal serv.	33.42	37.85
TOTAL LABOR FORCE	10.1	3.6

Table III - 5

WEEKS WORKED PER YEAR BY INDUSTRY SECTORS AND INTERMEDIATE INDUSTRIES, 1960-1970: MALES
(in percent)

Sectors and Industries	1-39		40-49		50-52	
	1960	1970	1960	1970	1960	1970
I. EXTRACTIVE	18.8	14.2	15.1	11.5	66.2	74.5
1) Agriculture	18.5	15.5	14.6	10.9	66.9	73.7
2) Mining	20.8	8.9	18.1	13.3	61.1	77.8
II. TRANSFORMATIVE	14.0	9.2	17.3	14.7	68.7	76.1
3) Construction	22.2	14.9	26.9	22.9	50.9	62.2
4) Food	9.6	8.8	12.1	11.6	78.4	79.7
5) Textile	12.2	9.8	16.0	13.2	71.8	77.0
6) Metal	21.3	7.0	16.0	13.2	62.7	79.8
7) Machinery	9.6	6.4	16.0	13.2	74.4	80.4
8) Chemical	5.7	5.1	8.7	9.6	85.7	85.4
9) Misc. manufacturing	13.0	9.9	16.4	12.7	70.7	77.5
10) Utilities	6.2	5.8	7.8	8.9	86.1	85.4
III. DISTRIBUTIVE SERVICES	13.0	12.7	12.4	12.0	74.6	75.4
11) Transportation	11.9	8.9	16.7	15.4	71.4	75.7
12) Communication	4.6	7.0	5.3	8.1	90.2	84.9
13) Wholesale	9.2	7.7	10.6	10.0	80.2	82.3
14) Retail	15.7	17.1	11.4	11.6	72.9	71.3
IV. PRODUCER SERVICES	9.5	9.3	10.4	10.7	80.2	80.0
15) Banking	7.9	8.1	8.5	9.0	83.7	82.9
16) Insurance	6.3	5.5	8.3	8.7	85.3	85.8
17) Real Estate	12.4	10.9	12.6	13.2	75.0	75.9
18) Engineering	11.7	9.6	10.5	8.8	77.9	81.6
19) Accounting	9.3	11.3	9.3	8.8	81.5	80.0
20) Misc. business serv.	13.4	13.4	12.9	13.2	73.6	73.4
21) Legal services	5.1	5.1	11.2	11.3	83.7	83.6
V. SOCIAL SERVICES	11.5	12.2	13.0	14.6	75.5	75.3
22) Medical services	6.2	7.9	20.6	21.1	73.3	71.1
23) Hospitals	13.6	13.3	11.2	12.3	75.3	74.5
24) Education	20.7	21.1	23.9	24.1	55.5	54.8
25) Welfare	12.4	11.4	9.0	9.1	78.6	79.5
26) Nonprofit	16.3	16.9	10.9	12.4	72.9	70.8
27) Postal services	5.7	4.3	7.5	9.3	86.9	86.4
28) Government	6.5	5.4	6.7	6.8	86.9	87.8
29) Misc. social serv.	10.3	11.1	12.6	11.4	77.2	77.6
VI. PERSONAL SERVICES	20.4	22.0	14.6	14.3	65.0	63.7
30) Domestic services	41.1	47.0	14.8	13.5	44.2	39.5
31) Hotels	22.0	21.8	15.6	16.8	62.5	61.4
32) Eating & drinking	21.1	30.7	14.7	15.2	64.2	54.2
33) Repair	15.2	13.7	14.0	13.5	70.7	72.8
34) Laundry	13.2	11.2	11.5	10.2	75.4	78.5
35) Barber & beauty shop	12.0	9.3	17.8	14.3	70.2	76.4
36) Entertainment	29.6	27.6	15.1	16.0	55.3	56.4
37) Misc. personal serv.	13.2	13.3	13.5	10.8	73.4	76.0
TOTAL LABOR FORCE	14.2	11.7	14.8	13.5	71.0	74.8

Table III-6

WEEKS WORKED PER YEAR BY INDUSTRY SECTOR AND INTERMEDIATE INDUSTRIES, 1960-1970: FEMALES
(in percent)

Sectors and Industries	1-39		40-49		50-52	
	1960	1970	1960	1970	1960	1970
I. EXTRACTIVE	34.4	30.6	12.5	11.7	53.1	57.6
1) Agriculture	35.8	33.2	12.7	11.9	51.5	54.9
2) Mining	18.9	16.2	10.4	11.0	70.1	72.9
II. TRANSFORMATIVE	23.9	19.6	19.1	17.9	57.0	62.5
3) Construction	26.6	18.4	13.1	14.6	60.3	67.1
4) Food	29.6	25.3	16.8	18.0	53.7	56.7
5) Textile	26.3	21.5	26.5	22.4	47.2	56.1
6) Metal	22.1	17.3	15.4	16.1	62.5	66.6
7) Machinery	21.4	17.4	17.2	17.1	61.4	65.5
8) Chemical	17.4	16.8	11.4	13.7	71.2	69.5
9) Misc. manufacturing	23.4	20.4	18.3	17.0	58.3	62.7
10) Utilities	13.3	11.5	7.7	8.0	79.0	80.5
III. DISTRIBUTIVE SERVICES	28.7	27.8	13.9	15.1	57.4	57.1
11) Transportation	23.0	25.3	14.5	15.8	62.6	59.9
12) Communication	16.9	19.8	11.4	13.6	71.8	66.6
13) Wholesale	25.2	21.9	12.5	14.9	62.3	63.2
14) Retail	31.5	30.4	14.5	15.2	54.0	54.3
IV. PRODUCER SERVICES	23.5	22.5	11.5	13.4	65.1	64.1
15) Banking	21.1	19.0	10.2	12.8	68.8	68.2
16) Insurance	21.0	20.4	9.8	11.9	69.2	67.7
17) Real Estate	22.8	22.6	13.8	15.3	63.4	62.2
18) Engineering	23.1	21.5	12.2	13.6	64.8	65.0
19) Accounting	28.8	29.7	14.4	12.8	56.9	57.5
20) Misc. business serv.	33.2	31.0	14.1	15.2	52.7	53.3
21) Legal services	21.1	18.4	13.5	14.0	65.4	67.4
V. SOCIAL SERVICES	33.8	31.8	19.1	20.1	47.1	48.2
22) Medical services	27.1	25.5	16.1	16.4	56.9	58.1
23) Hospitals	25.4	22.1	15.4	15.6	59.2	62.3
24) Education	47.8	44.3	26.9	27.5	25.3	28.2
25) Welfare	25.6	22.5	15.2	13.8	59.2	63.7
26) Nonprofit	26.5	27.3	12.1	15.2	61.4	57.6
27) Postal services	24.4	18.6	10.2	14.0	65.5	67.5
28) Government	19.2	17.7	9.1	10.3	71.8	72.0
29) Misc. social serv.	26.3	29.3	17.0	14.8	56.7	55.9
VI. PERSONAL SERVICES	37.9	35.6	17.3	17.9	44.8	46.4
30) Domestic services	43.5	39.4	17.1	18.6	39.4	42.0
31) Hotels	30.5	32.5	15.4	17.1	54.1	50.5
32) Eating & drinking	38.1	40.4	18.1	17.4	43.8	42.2
33) Repair	28.0	23.4	14.7	14.6	57.3	62.0
34) Laundry	26.6	24.4	15.9	17.0	57.5	58.7
35) Barber & beauty shop	28.6	25.3	21.0	20.3	50.4	54.4
36) Entertainment	42.0	39.4	15.9	17.4	42.1	43.2
37) Misc. personal serv.	35.4	32.4	17.8	18.4	46.8	49.3
TOTAL LABOR FORCE	30.4	28.8	16.9	17.6	52.8	54.4

of all females. Moreover, among females not working the entire year, the majority works under 40 weeks, whereas among males with less than 50-52 weeks, most work 40-49 hours.

Some of the inter-industry differences in the stability of employment are noteworthy (although the data for males show a remarkable similarity among industries). Tables III-5 and III-6 reveal, for example, that agriculture, in contrast to its high proportion of part-time employment, has a high share of employment working throughout the entire year. For both males and females, education, domestic service, eating and drinking places, and entertainment are characterized by a substantially lower proportion of employment with 50-52 weeks. We already have alluded to domestic service and eating and drinking places. The erratic nature of entertainment employment is obvious and the summer vacation schedules and substitute teachers in education account for the situation in that industry.

For Personal services, the high share of intermittent employment is due more to persons having either one job for a relative short time period or having several jobs during the year with significant amounts of unemployment between these jobs. It is interesting to note in this context that in all but one Personal service, relative more males worked less than 40 weeks in 1969 than they worked 40-49 weeks. The high prevalence of intermittent employment in Personal services is not very surprising, since these services include mostly low-skilled and low-wage occupations. Most positions in Personal services do not lead to a career, nor do they offer job security through seniority. Thus, many of the positions in Personal services are temporary and, moreover, they do not offer many incentives for the job holders to stay in them.

Finally, construction perhaps fits the example of a seasonal industry best, but it applies only to males, for female employment in construction usually is concentrated in clerical occupations, which are not exposed to the same conditions as on-site construction work. But the figures in Table III-5 show that construction increasingly becomes continuous employment. Similarly, in 1959, only one-half of employment in agriculture was at work for 50-52 weeks, but in 1969 this proportion had increased to 62.2 percent. As Morse (1969: 82) described this change:

> To the extent that in the past a large part of construction activity had to take place at the site itself and could not be carried on in unseasonable weather, the construction industry was also in the grip of the seasons. One of the major shifts in this industry has taken the form of the development of techniques which make it possible to employ a good part of the labor inputs which ultimately will go into the finished structure in offsite locations protected against inclement weather.

Thus, with more implementation of new technologies, construction work will more resemble work in other industries in terms of its work schedule throughout the year, although it is not likely to completely overcome the vagaries of weather and scheduling.

This part of the chapter has examined the nature of work scheduling in terms of two dimensions: full time vs. part time and continuous vs. intermittent employment. The first dimension was discussed by focusing on the number of hours worked per week, whereas the other dimension concerns the scheduling of work during the year in terms of weeks. Although some industries, such as domestic service, are characterized by equally high proportions of part time and intermittent work, this is not the case for many industries. Therefore, the two dimensions should be treated as analytically distinct ones, since the requirements for the scheduling of work during the day are not necessarily the same as those for the entire year.

Employment and the Input of Labor

The discussion in Chapter II demonstrated how the various service industries, in particular Social and Producer services, steadily increased their share of the total labor force during the past one hundred years. We noted before, however, that the sectoral transformation of the labor force towards service industries does not necessarily imply an equal shift of labor input towards services. If workers in services work substantially shorter hours and weeks than in goods-producing industries, for example, the distribution of total labor input among industries would be quite different from that of employment. Although the shifts of employment in themselves are significant, the growth of services becomes even more important if it includes actual labor as well. The following section thus examines the relationship between employment and labor input.

To address this relationship, data for the total number of hours per year were computed for each of the 37 industries. This was done by multiplying the number of hours per week with the number of weeks worked per year for each employed person in a given industry. (Since we are not dealing here with the scheduling of work, but rather with the total input of labor, the two dimensions can be linked in this case.)

Two methodological shortcomings must be mentioned, however. One concerns the assumption that the number of hours worked in a given week is the same for all weeks worked. This is not very likely to be the case, although it should hold better for industries in which the employment is fairly regulated. The other handicap is that the data for weeks are given for the years preceding the 1960 and 1970 censuses, 1959 and 1969 respectively. Thus, the number of weeks reported for 1969, for example, could have been for an industry other than the one reported in 1970. This is an inherent problem quite common with census data, and it will be encountered again in the discussion of earnings. It is not believed, however, that the two assumptions made here will involve a systematic bias, and the data therefore should be considered as fair approximations of the actual situation.

In Table III-7 we present the number of yearly hours per worker in 1969 for each of the 37 industries. These data show that on the average a person in the Extractive sector works the most hours, whereas the Personal service sector accounts for the smallest number of hours per worker. Workers in the Transformative sector are employed for the second largest number of yearly hours, followed by Distributive, Producer, and Social services.

Table III - 7

MEAN NUMBER OF TOTAL YEARLY HOURS PER WORKER BY INDUSTRY SECTOR, INTERMEDIATE INDUSTRIES, AND SEX: 1970

Sectors and Industries	MALES		FEMALES		TOTAL	
	Means	Rank	Means	Rank	Means	Rank
I. EXTRACTIVE	2173	1	1586	3	2117	1
1) Agriculture	2184	3	1548	24	2121	1
2) Mining	2124	9	1796	2	2098	2
II. TRANSFORMATIVE	1984	4	1696	1	1917	2
3) Construction	1872	32	1631	15	1858	19
4) Food	2091	13	1609	17	1967	13
5) Textile	2002	24	1649	10	1780	23
6) Metal	2026	21	1758	5	1989	8
7) Machinery	2031	20	1761	4	1972	12
8) Chemical	2060	16	1764	3	1998	6
9) Misc. manufacturing	1950	29	1678	9	1873	18
10) Utilities	2050	18	1838	1	2022	3
III. DISTRIBUTIVE SERVICES	2044	3	1486	4	1859	3
11) Transportation	2079	15	1574	21	2008	5
12) Communication	2093	11	1716	7	1913	16
13) Wholesale	2129	8	1647	11	2019	4
14) Retail	1988	26	1414	32	1756	27
IV. PRODUCER SERVICES	2048	2	1607	2	1857	4
15) Banking	1995	25	1679	8	1817	21
16) Insurance	2129	7	1631	14	1887	17
17) Real Estate	2014	23	1589	19	1855	20
18) Engineering	2052	17	1642	12	1987	9
19) Accounting	2246	2	1671	18	1993	7
20) Misc. business serv.	1942	30	1453	29	1750	28
21) Legal services	2259	1	1823	16	1965	14
V. SOCIAL SERVICES	1958	5	1479	5	1692	5
22) Medical services	2184	4	1541	26	1739	29
23) Hospitals	1952	28	1640	13	1713	31
24) Education	1733	34	1299	35	1464	36
25) Welfare	2154	5	1484	28	1804	22
26) Nonprofit	1895	31	1452	30	1692	33
27) Postal services	2018	22	1550	25	1926	15
28) Government	2092	12	1734	6	1978	11
29) Misc. social serv.	1983	27	1424	31	1773	25
VI. PERSONAL SERVICES	1851	6	1543	6	1570	6
30) Domestic services	1066	37	1132	37	1125	37
31) Hotels	1869	33	1547	23	1684	32
32) Eating & drinking	1712	35	1338	33	1494	34
33) Repair	2032	19	1575	20	1980	10
34) Laundry	2089	14	1566	22	1776	24
35) Barber & beauty shop	2142	6	1514	27	1723	30
36) Entertainment	1631	36	1212	36	1487	35
37) Misc. personal serv.	2108	10	1313	34	1772	26
TOTAL LABOR FORCE	2002		1581		1885	

But, again, the situation changes when we differentiate the labor force by sex. For the total labor force, the average woman works about three-fourths as many hours per year as the average man (1521 and 2002 hours per year, respectively). Another difference occurs in the relative positions of industry sectors between males and females. For males, the Extractive sector accounts for the highest number of yearly hours per worker, whereas females work the most hours in the Transformative sector. Both males and females work the second most hours in the Producer services sector, while Personal service account for the least number of hours per worker.

It can be noted from the data in Table III-7 that the differences between sectors are much smaller among males and among females than for the total labor force. For example, there is a difference of 447 yearly hours per worker between the highest and the lowest sectors, Extractive and Personal services, respectively. In contrast, the difference between the two extremes is only 322 hours for males and 353 hours for females. This situation is the result of the different industry structure of male and female employment and the fact that females work fewer hours than males. Since women are more concentrated in Producer, Social, and Personal services, their fewer yearly hours mean that the average number of yearly hours per worker is lower in these three sectors when compared to the others.

Although this discussion implies that the growth of service employment has been faster than the growth of service labor input, the difference does not appear to be very large. To assess the magnitude of this difference more exactly, the percentages of the total number of hours worked during 1969 were computed for the six industry sectors and for each of the 37 industries. These data (Table III-8) reveal that among industries the difference between the percent of total employment and the percent of total labor is minimal indeed. For the total labor force, Social and Personal services account for smaller proportions of total employment than of total labor, while the share of total labor exceeds that of total employment the most in the Transformative sector. A very similar situation exists for males and for females, although the differences between employment and labor among industries are more pronounced for females.

The most striking difference between males and females in terms of employment and labor involves the Transformative sector. For males, this sector accounts for a higher share of total employment than of total labor, whereas this difference is reversed for females. The proportion of total labor in the Transformative sector exceeds that of total female employment in this sector by two to six percentage points. This finding is significant for it suggests that the relatively higher proportion of part-time and intermittent work of females as compared with males is mostly concentrated in Social and Personal services. This result thus serves as further support of the assertion made earlier in this chapter that the process of production in Transformative industries is not very conducive to part-time and intermittent work.

The data for the 37 industries by and large show the same pattern as the sectors. Two industries stick out, however: education and domestic service. In both of these industries the share of total employment much exceeds the share of total labor. These two industries therefore are mainly responsible for the fact that the Social and Personal service sectors account for relatively more

Table III - 8

PERCENTAGE DISTRIBUTIONS OF TOTAL YEAR-HOURS AND OF TOTAL EMPLOYMENT, BY INDUSTRY SECTORS, INTERMEDIATE INDUSTRIES AND SEX: 1970

Sectors and Industries	Males			Females			Total		
	Employment	Hours	Difference	Employment	Hours	Difference	Employment	Hours	Difference
I. EXTRACTIVE	6.5	7.1	.6	1.2	1.2	---	4.5	5.3	.8
1) Agriculture	5.3	5.8	.5	1.0	1.0	--	3.7	4.3	.8
2) Mining	1.2	1.3	.1	.2	.2	--	.8	1.0	.2
II. TRANSFORMATIVE	40.5	40.2	-.3	20.9	23.5	2.6	33.1	35.1	2.0
3) Construction	8.7	8.1	-.6	.9	1.0	.1	5.8	5.9	.1
4) Food	2.4	2.5	.1	1.4	1.5	.1	2.0	2.2	.2
5) Textile	1.7	1.8	.1	5.1	5.6	.5	3.0	2.9	.1
6) Metal	4.5	[illegible]	.1	1.2	1.4	.2	3.3	3.6	.3
7) Machinery	10.4	[illegible].5	.1	5.0	5.8	.8	8.3	9.1	.8
8) Chemical	1.9	2.1	.2	.9	1.1	.2	1.6	1.8	.2
9) Misc. manufacturing	8.8	8.6	-.2	5.9	6.5	.6	7.7	8.0	.3
10) Utilities	1.9	2.0	.1	.5	.6	.1	1.4	1.6	.2
III. DISTRIBUTIVE SERVICES	23.6	24.1	.5	20.1	19.7	-.4	22.3	22.7	.4
11) Transportation	5.3	5.5	.2	1.5	1.6	.1	3.9	4.2	.3
12) Communication	1.2	1.3	.1	2.0	2.2	.2	1.5	1.5	--
13) Wholesale	5.0	5.4	.4	2.6	2.8	.2	4.1	4.6	.5
14) Retail	12.0	11.8	-.2	14.1	13.1	-1.0	12.8	12.2	-.6
IV. PRODUCER SERVICES	7.2	7.3	.1	9.9	10.6	.7	8.2	8.3	.1
15) Banking	1.5	1.5	--	3.2	3.7	.5	2.6	2.1	-.5
16) Insurance	1.5	1.6	.1	2.4	2.6	.2	1.8	1.9	.1
17) Real Estate	1.0	1.0	--	1.1	1.1	--	1.0	1.0	--
18) Engineering	.6	.6	--	.2	.2	--	.4	.4	--
19) Accounting	.4	.4	--	.4	.4	--	.4	.4	--
20) Misc. business serv.	1.7	1.6	-.1	1.9	1.8	.1	1.8	1.7	-.1
21) Legal services	.5	.5	--	.4	.7	.3	.5	.6	.1
V. SOCIAL SERVICES	15.2	14.9	-.3	32.9	31.9	-1.0	21.9	20.1	-1.8
22) Medical services	1.0	1.1	.1	4.0	4.0	--	2.2	2.0	-.2
23) Hospitals	1.3	1.3	--	7.6	8.2	.6	3.7	3.4	-.3
24) Education	5.1	4.3	-.8	14.3	12.0	-2.3	8.6	6.7	-1.9
25) Welfare	.9	1.0	.1	1.7	1.7	--	1.2	1.1	-.1
26) Nonprofit	.4	.3	.1	.5	.5	--	.4	.4	--
27) Postal services	1.3	1.2	-.1	.5	.5	--	1.0	1.0	--
28) Government	5.0	5.2	.2	4.0	4.6	.6	4.6	5.0	.4
29) Misc. social serv.	.3	.2	-.1	.3	.2	-.1	.3	.2	-.1
VI. PERSONAL SERVICES	7.0	6.3	-.7	15.0	12.8	-2.2	10.0	8.3	-1.7
30) Domestic services	.3	.1	-.2	4.0	2.8	-1.2	1.7	1.0	-.7
31) Hotels	.6	.5	-.1	1.5	1.4	-.1	1.0	1.0	--
32) Eating & drinking	2.1	1.8	-.3	5.2	4.3	-.9	3.3	2.6	-.7
33) Repair	1.8	1.8	--	.4	.4	--	1.3	1.4	.1
34) Laundry	.5	.4	-.1	1.2	1.2	--	.8	.7	-.1
35) Barber & beauty shop	.5	.5	--	1.6	1.6	--	.9	.8	-.1
36) Entertainment	.9	.6	-.3	.8	.6	-.2	.8	.6	-.2
37) Misc. personal serv.	.3	.2	-.1	.3	.2	-.1	.3	.2	-.1
TOTAL LABOR FORCE	100.0	99.9		100.0	99.7		100.0	99.8	

employment than labor. Aside from these two industries, however, the differences between employment and labor are negligible. In sum, the results demonstrate that the sectoral transformation of the labor force moving towards a concentration of employment in service industries has been accompanied by an equally impressive concentration of labor input in services.

PART II: INTER-INDUSTRY MOVEMENT OF EMPLOYMENT

Up to this point the analysis has been concerned with the changes in the industry structure of employment between 1960 and 1970. We have been able to show in Chapter II that the labor force in the United States increasingly has become concentrated in service industries. Not all service industries have expanded, however, and it is the growth of Social and Producer services in particular that is noteworthy. But the analysis did not show how this shift of employment--i.e., the sectoral transformation of the labor force--has occurred. Was the expansion of services due mostly to people moving from Extractive and Transformative industries into the various service industries, or did services grow largely because of new labor force entries? This is an important consideration, for it can shed light on the transferability of employment from one industry to another. If the employment in a given industry decreases, for example, what possibilities exist for people employed in that industry to move elsewhere? And where do they move? It is this set of questions that can now be addressed. (It must be kept in mind that this section does not deal with the reasons for the sectoral transformation of the labor force, but rather with the mechanism by which it occurs.)

Before entering the analysis, however, a few limitations must be discussed. Since this study concentrates on the sectoral transformation of the labor force between 1960 and 1970, the changes of employment from one industry to another should be examined for the same period. Unfortunately, the census questionnaire only permits an analysis for the 1965-70 period. As we noted in the preceding chapter, the 1960's were not an unusual decade in the sense that its labor force changes are the result of conditions and events specific to that period. The same is true of the 1965-70 period. We therefore believe that the inter-industry shifts of employment between 1965 and 1970 are representative of any five-year period during the past twenty years.

In the 1970 Census, a question was asked concerning the industry a person worked in back in 1965. It is the information from this question which forms the basis for the present analysis. It is important to note that the question concerning the 1965 industry was asked of all persons in the particular sample of the census, regardless of their work status in 1970. The sample thus includes people who were not in the labor force in 1970 but who did work in 1965, as well as those who were not in the labor force in 1965 but who were employed in 1970.

The second major limitation of this part of the analysis concerns the fact that we are dealing here exclusively with industries. In order to assess the meaning of the transfer of employment from one industry to the next, however, we would also want to know the kind of work--occupational structure--within a given industry. It is quite clear that different occupations have different degrees of transferability. Lawyers, for example, can be employed in a large

variety of different industries, whereas certain specialists, e.g., an aerospace engineer, cannot readily transfer their skills to other industries. On the other hand, this analysis of inter-industry shifts of employment is, to our knowledge, the first attempt to understand on the national level the changes of the labor force from one industry to another. It therefore must be regarded as largely preliminary; once we know more about how industries are related to each other in terms of exchange of employment, additional variables that are important, such as occupation and class of worker, need to be introduced.

Of particular interest is the examination of the three industry sectors whose share of employment decreased between 1960 and 1970: Extractive, Transformative, and Personal services. Three possibilities can be identified to account for the proportionate decline of employment in these sectors: (1) a shift of employment to the other industry sectors; (2) the exit of persons employed in these sectors from the labor force as such; and (3) a disproportionately small number of new labor force entries employed in the three sectors, such as to reduce the proportionate share.

To analyze these different possibilities, it should be noted at the outset that different population groups vary substantially in their labor force behavior. The most important difference in this respect is that between males and females, both in terms of their distributions among industries, and their patterns of labor force entry and exit. For these reasons, separate analyses will be carried out for males and females. Moreover, inter-industry movements of employment are likely to differ by age. A large proportion of persons over sixty years of age can be expected to leave the labor force, whereas this is less likely for persons under 30. Middle age workers should be expected to exhibit the highest propensity to remain in a given sector, as persons usually reach the zenith of their work careers between the ages of 35 to 45. Since the age structure of employment differs from one industry to another, the analysis in this section will be controlled for age, using the following age categories: under 30 years of age, 30 to 45, and over 45.

Because of the differentiation by sex and age, the sample size does not permit an examination of detailed industries. Many industries have a relatively small employment size to begin with, and once separate age groups, differentiated by sex, are distinguished, the frequencies become too small to permit a meaningful analysis. This problem is made more severe because we have to rely on the 1/1000 sample for this part of the analysis, in contrast to the use of the 1/100 sample tapes for the rest of the study. But even with the larger sample, it is doubtful that the analysis of inter-industry shifts of employment could have been carried out on the level of the 37 detailed industries. Therefore, the results will be presented for the six industry sectors.

Male labor force. The data in Table III-9 show that 60 to 80 percent of employment in a given sector in 1965 remained in that sector in 1970. Of the three sectors whose share of employment declined from 1960 to 1970, Extractive and Personal services show the least continuity of employment during the 1965-70 period. On the other hand, Social services and Transformative are characterized by the highest degree of employment stability: in the Social services four of

Table III - 9

PERCENT OF MALES EMPLOYED IN 1965 WHO REMAINED IN THE SAME INDUSTRY SECTOR IN 1970, BY AGE CATEGORIES OF 1970

Industry Sector	Under 30	30-45	Over 45	Total
Extractive	46.0	70.8	65.4	64.0
Transformative	68.2	83.8	75.9	76.2
Distributive Services	51.2	79.1	75.2	71.1
Producer Services	60.4	77.3	75.8	72.9
Social Services	52.8	85.2	80.0	79.2
Personal Services	36.2	67.6	66.7	60.4

every five males employed remained in that sector, as did three of every four males in the Transformative sector.

When a control is provided for age, however, the situation changes somewhat. Among males under 30 years of age, the Transformative sector reveals much the highest degree of continuity in its employment over the 1965-70 period. This shows that, regardless of age, once males enter the Transformative sector they are unlikely to leave it (at least in this five-year period). On the other hand, only slightly more than one-half of males under 30 years of age who worked in Social services in 1965 remained there until 1970. This proportion is substantially smaller than the degree of continuity for total male employment in the Social services sector. This is due largely to the low degree of continuity of employment in hospitals, welfare and religious services, and miscellaneous professional services. As males in medical services and education are much more likely to remain in a Social service industry, it is likely that these males who are leaving the Social services sector have occupations other than professional ones, since both education and medical services employ a large number of professionals. Any definite statements about this relationship, however, must await the inclusion of occupational data in a later analysis.

The low degree of employment continuity in the Extractive and Personal services sectors that was noted for total employment in these two sectors also exists for all three age groups when compared to the remaining industry sectors.

Regardless of the industry sector, the following pattern of stability of employment by age emerges: males between 30 and 45 years of age are the most stable, ranging from a low of 67.6 to a high of 85.2 percent. This finding thus is consistent with the expectation that males in the mid-range of their careers are most likely to remain in the same type of work. The second most stable figures are accounted for by males over 45 years. Males under 30 years were least likely to have continued in the same industry sector in 1970 in which they had been employed in 1965, but the range for this age category is quite broad, from a low of 36.2 percent in Personal services to a high of 68.2 percent in Transformative.

The foregoing discussion demonstrates that at least 60 percent of total employment in a given industry sector can be expected to remain there over a five-year period, although this proportion differs significantly by age group. On the other hand, a sizeable proportion of employment does leave each particular industry sector within that same relatively short time period. Where do these people go? To answer that question, we shall divide the group of males leaving their respective industry sector into two sub-groups: (1) those moving to a different industry sector, and (2) those leaving the labor force entirely. Since the age groups of 45 years and over includes many males near retirement age, this age group must be expected to have a larger proportion of people leaving the labor force than entering a different industry sector. Among the age groups of less than 30 years, most males leaving their industry sector can be expected to move to another sector. With respect to the age group in the middle, the proportion of persons moving to a different sector also should be higher than that leaving the labor force, but the difference should be smaller in comparison to the youngest age group.

The data in Table III-10 basically support these expectations. In all industry sectors, a larger proportion of males over 45 years left the labor force

Table III - 10

PERCENT OF MALES EMPLOYED IN 1965 WHO CHANGED SECTORS OR LEFT THE LABOR FORCE BETWEEN 1965 AND 1970, BY AGE CATEGORIES OF 1970

1965 Industry Sector	Changing Sectors 1965-1970			Leaving Labor Force 1965-1970		
	Under 30	30-45	Over 45	Under 30	30-45	Over 45
Extractive	35.8	23.3	13.0	18.2	5.9	21.9
Transformative	20.4	12.1	7.1	11.4	4.1	17.1
Distributive Services	33.5	17.1	9.2	15.3	3.8	15.6
Producer Services	32.2	20.1	11.0	7.3	2.6	12.8
Social Services	33.8	11.8	7.0	13.4	3.0	13.0
Personal Services	44.4	25.3	15.5	19.3	7.1	17.8

than moved to a different sector. For the other two age groups the reverse pattern held, as was expected. Some features of Table III-10, however, deserve special attention. For one thing, the proportions of males leaving the labor force do not differ all that much between the youngest and the oldest age groups, although it could have been expected that the older age group would have much higher labor force exits. Indeed, younger males left the labor force from Social and Personal services in larger numbers than older males. The only sectors where older males left the labor force in appreciably larger proportions than younger males are the Extractive, Transformative, and Producer services sectors.

Although the available census data do not offer much help in explaining this situation, one might want to speculate about possible reasons for the high proportion of young males leaving the labor force. Perhaps the most important reason is their decision to go back to school. Particularly in the case of industries in which the job structure does not offer many career possibilities, such as in retailing or in eating and drinking places, young males could be expected to obtain additional education in order to find better positions. Military services is another reason, since members of the armed forces are excluded from our sample.

Concerning the oldest age category, 45 and over, it does not appear that the reason for their leaving is not due to age alone. The two industry sectors with the highest proportion of males over 45 who left the labor force, the Extractive and Personal services sectors, also have the highest proportions of males over 65 that continue to be employed (see U.S. Bureau of the Census, 1973:Table 237). Similarly, we did not find that self-employment is related to the proportion of older males leaving the labor force. Other variables that might be considered in this context include unionization, new technologies, and the demand for labor in certain industries. Whatever the reasons may be, it is important to note that the proportion of males under 30 years of age who left the labor force between 1955 and 1970 comes close to that of the oldest age group and is up to four times the figure for males aged 30-45 who left the labor force during that same time period.

The data in Table III-10 show further that in all six industry sectors males under 30 years of age have the highest proportions of inter-sector changes, followed by males aged 30-45. By the time a male worker reaches the age of 45 and over, he is more likely to leave the labor force entirely rather than move to a different sector.

One of the most interesting findings is the extremely high proportion of males under the age of 30 who left the Personal services sector: more males left than remained in these industries. This indicates that Personal services are viewed by many young males as only a temporary work setting. Although the share of inter-sector shifts of employment for the Personal services sector is lower in the other two age groups, this sector nevertheless accounts for the highest proportions relative to the other industry sectors in all three age groups. The second largest shares are accounted for by the Extractive sector. It thus can be seen that the two sectors which were identified in Table III-9 as having the lowest proportions of employment remaining in the same sector also account for the highest proportions of employment moving to a different sector as well as leaving the labor force entirely.

The final question to be addressed in this part is, Where did the men go who changed industry sectors between 1965 and 1970? The answer is given in Table III-11. Of all sectors, Transformative industries received the majority of employment that came from other industry sectors. This pattern is particularly strong for males under 30 years of age, but it is also prevalent among males aged 30-45. Among the oldest of the three age groups, however, some other sectors received larger shares of employment than the Transformative sector. Six percent of total employment in Personal services in 1965, for example, went to the Distributive sector by 1970, compared to only 3.4 percent for the Transformative sector.

The second largest proportions of employment leaving other industry sectors are accounted for by the Distributive services sector. The flow of employment to the remaining sectors is relatively small, with only few exceptions. It is particularly noteworthy that very few males moved into either the Extractive or the Personal services sector. Obviously, these sectors are not very attractive to persons already employed and therefore depend for their employment almost exclusively on new labor force entries.

In Table III-12 the total share of employment that left each industry sector is proportionately divided among the receiving sectors. For example, 57.7 percent of all males who left the Extractive sector between 1965 and 1970 went to the Transformative sector. These data show that for all three age groups males who left the Extractive and Distributive services sectors were much more likely to go into Transformative industries than were males from the remaining service sectors. Moreover, males who left the Transformative sector entered Distributive services to a greater extent than males from other industry sectors (except in the case of the oldest age group in which the share was the second largest).

The data in Tables III-11 and III-12 do not suggest that the sectoral transformation of the labor force has been the result of persons having left other industry sectors for employment in Social and Producer services. It seems likely, therefore, that the growth of employment in these two industry sectors is mainly due to persons not previously in the labor force who enter these particular services in disproportionately large numbers.

Female labor force. Women in the labor force are much less likely to continue work in the same industry sector over a five-year period than are men (see Table III-13). The proportion of total female employment remaining in the same industry sector from 1965 to 1970 ranges from about two-fifths to two-thirds, compared with a range of about three-fifths to four-fifths for males. Despite the fact that women have lower levels of employment continuity in all industry sectors, the differences among the sectors in terms of employment continuity are very similar for males and females. As in the case of males, for example, females are most likely to continue work in the same industry sector in the Social services and Transformative sectors, with the Extractive and Personal services sectors being characterized by the lowest degree of employment stability. Among the six industry sectors, continuity of female employment appears to be positively associated with the 1960-1970 increase in employment as a proportion of the total female labor force.

Table III - 11

INTER-INDUSTRY EMPLOYMENT SHIFTS OF MALES BETWEEN
1965 AND 1970, BY AGE
(Percentages based on 1965 labor force)

1965 Industry Sector	1970 Industry Sector I	II	III	IV	V	VI	Intra-Sector Shift
Under 30 yrs. of age							
I. Extractive	—	20.3	8.3	1.0	3.2	3.0	0.5
II. Transformative	1.5	—	10.5	2.6	3.4	2.4	16.7
III. Distributive Services	1.2	19.3	—	4.5	5.9	2.6	6.5
IV. Producer Services	0.0	13.4	10.7	—	6.1	2.1	6.1
V. Social Services	1.0	16.5	5.7	8.0	—	2.6	4.3
VI. Personal Services	0.9	18.1	14.3	4.2	6.9	—	3.1
30-45 yrs. of age							
I. Extractive	—	14.1	5.1	0.6	2.4	1.1	0.7
II. Transformative	1.1	—	5.3	1.9	2.5	1.3	11.4
III. Distributive Services	0.9	10.6	—	2.1	2.1	1.4	5.4
IV. Producer Services	0.6	8.4	4.7	—	4.6	1.8	6.9
V. Social Services	0.8	4.8	3.7	1.5	—	1.0	5.5
VI. Personal Services	0.8	10.3	9.0	2.3	2.9	—	6.7
Over 45 yrs. of age							
I. Extractive	—	6.0	2.6	0.9	2.1	1.4	0.2
II. Transformative	0.6	—	2.4	1.0	1.9	1.2	5.2
III. Distributive Services	0.5	3.8	—	1.3	2.3	1.3	5.8
IV. Producer Services	0.6	3.4	2.4	—	3.5	1.1	3.0
V. Social Services	0.3	2.8	1.7	1.5	—	0.7	2.9
VI. Personal Services	0.8	3.4	6.0	1.7	3.6	—	2.3

Table III - 12

PERCENT OF TOTAL INTER-SECTOR SHIFTS OF MALE EMPLOYMENT
BETWEEN 1965 AND 1970, BY AGE

1965 Industry Sector		1970 Industry Sector I	II	III	IV	V	VI	Total
Under 30 years of age								
I.	Extractive	--	56.7	23.2	2.8	8.9	8.4	100.0
II.	Transformative	7.4	--	51.5	12.8	16.7	11.8	100.2
III.	Distributive services	3.8	57.6	--	13.4	17.6	7.8	100.2
IV.	Producer services	0.0	41.4	33.1	--	18.9	6.5	99.9
V.	Social services	3.0	48.8	16.9	23.7	--	7.7	100.1
VI.	Personal services	2.0	40.8	32.2	9.5	15.5	--	100.0
30-45 years of age								
I.	Extractive	--	60.5	21.9	2.6	10.3	4.7	100.0
II.	Transformative	9.1	--	43.8	15.7	20.7	10.7	100.0
III.	Distributive services	5.3	62.0	--	12.3	12.3	8.2	100.1
IV.	Producer services	3.0	41.8	23.4	--	22.9	9.0	100.1
V.	Social services	6.8	40.7	31.4	12.7	--	8.5	100.1
VI.	Personal services	3.2	40.7	35.6	9.1	11.5	--	100.1
Over 45 years of age								
I.	Extractive	--	46.2	20.0	6.9	16.2	10.8	100.1
II.	Transformative	8.4	--	33.8	14.1	26.8	16.9	100.0
III.	Distributive services	5.4	41.3	--	14.1	25.0	14.1	99.9
IV.	Producer services	5.4	30.9	21.8	--	31.8	10.0	99.9
V.	Social services	4.3	40.0	24.3	21.4	--	10.0	100.0
VI.	Personal services	5.2	21.9	38.7	11.0	23.2	--	100.0

Table III - 13

PERCENT OF FEMALES EMPLOYED IN 1965 REMAINING IN THE SAME INDUSTRY SECTOR IN 1970, BY AGE CATEGORIES OF 1970

Industry Sector	Under 30	30-45	Over 45	Total
Extractive	32.1	51.6	42.3	42.4
Transformative	43.2	64.0	69.9	66.1
Distributive Services	29.5	60.2	64.3	55.5
Producer Services	36.1	56.8	64.7	53.9
Social Services	47.1	71.4	72.6	67.6
Personal Services	29.8	54.8	58.9	52.3

The Extractive and Personal services sectors have the lowest degree of continuity of employment and they also experienced a decline in their proportion of total employment during the 1960-70 period. In the same vein, the two industry sectors with the largest increase in proportional employment between 1960 and 1970, Social and Producer services, also account for higher degrees of employment stability. The only exception to this relationship is the Transformative sector which had the second highest proportion of females continuing work in that sector, yet it lost 2.6 percentage points of its share of total female employment between 1960 and 1970.

The relative position of industry sectors in regard to employment stability does not change much when age is introduced as a control variable. Again, this finding is consistent with the situation of male employment. Social services and Transformative sectors, for example, are characterized by the highest shares of female employment continuing in the same sector in all three age groups. The only significant difference is the extremely low proportion of females under 30 years of age that remained in the Distributive sector between 1965 and 1970, as compared with the proportion of female employment in the other two age groups that continued work in Distributive services. Within the youngest age group, however, Distributive services are not that much different from Personal services and Extractive in regard to employment continuity: in all three sectors, less than one-third of female employment continued in its respective sector during 1965-70.

In contrast to males, however, who maintained the highest levels of employment stability in the age group 30-45 years, females are the more likely to continue in the same industry sector in the oldest age group (over 45 years). The only exception to this pattern is the Extractive sector.

Given the low proportion of females that remained in their respective industry sector between 1965-70, it is even more mandatory than in the case of males to ask: Where did those women go? Do women move to other industry sectors in greater proportions than men, or are they more likely to leave the labor force as such? Based on the findings from previous studies about female labor force participation (e.g., Bowen and Finegan, 1969; Oppenheimer, 1972; Youssef, 1974), it is expected that women will leave the labor force in larger numbers than males. This should hold for all age groups, although for different reasons. The youngest age group (under 30 years of age) includes the ages when women have the majority of their children. It therefore should be expected that this age group has the highest proportions of women leaving the labor force.

In a recent article Valerie Oppenheimer examined the "interaction of men's occupational and family life cycles" (1974). Her conclusions included the statement that "For many American families...increases in the husband's earnings over time that are typically associated with changes in his occupational life-cycle stage do not really seem to parallel increases in the cost of living associated with a more advanced stage of the family life cycle" (Oppenheimer, 1974:244). It is during the time when the wife is between 30-35 and 45-50 that the needs of additional income are the highest. Assuming a close relationship of the female labor force participation and the life cycle of the family (which has been demonstrated

in different contexts by Cain, 1966, and Sweet, 1973, among others), we can expect that women between the ages of 30 and 45 enter the labor force in relatively large numbers to provide the needed supplement to family income. Once this life-cycle squeeze is over, however, a large proportion of married women can be expected to leave the labor force again. For this reason, the proportion of women aged 30-45 that leave the labor force is expected to be very similar to that for women over 45 years of age.

An inspection of Table III-14 confirms these expectations. In all industry sectors for all three age groups females leave the labor force in much higher proportions than do males. Moreover, women under 30 years of age have the highest proportions of labor force exits. Finally, not much difference exists between the other two age groups, as was expected. In general, about one-fourth of those employed in a given industry sector in 1965 had left the labor force by 1970. This pattern is quite different from that observed for males who are very unlikely to leave the labor force during the ages of 30 to 45 years.

The other important difference between male and female employment is the fact that in all six industry sectors, regardless of age, the number of females changing industry sectors is much smaller than the number of females leaving the labor force. For males this pattern exists only for the age group over 45. Moreover, females also are less likely than males to change industry sectors. This finding is somewhat surprising, for very large proportions of females are to be found in clerical, service, and operative occupations. Many of these occupations, such as secretaries, involve skills that would seem to be easily transferable so it could have been expected that women would change industry sectors in <u>larger</u> proportions than males. In sum, the data in Table III-14 suggest that the smaller proportion of females remaining in the same industry sector is primarily the result of women leaving the labor force.

The final question to be addressed in this chapter is, Where do those women go who leave a given industry sector and remain in the labor force? In contrast to the male labor force, which is most likely to change to Transformative industries, Social services absorb the largest proportions of females changing industry sectors. Table III-15 shows further that hardly any women move into Extractive industries, the highest proportion being 0.3 percent of employment in any given industry sector.

In order to compare the relative proportions of inter-sector shifts of employment among industry sectors, Table III-16 shows the percentage distribution of all females in a given sector who had left that particular sector by 1970. Besides demonstrating even more clearly that Social services absorb the largest proportions of inter-industry shifts of employment, these data reveal some additional features. Consistent with the male pattern, females over 45 years of age are less likely to enter Transformative industries than younger females. But most interesting is the finding that women who left the Extractive sector are more likely to enter Transformative industries than Social services. This pattern is particularly striking for the age group 30-45 years, for which only 8.6 percent of all women who left the Extractive sector between 1965 and 1970 for another industry sector went to Social services by 1970. Furthermore, a disproportionately large number

Table III-14

PERCENT OF FEMALES EMPLOYED IN 1965 WHO CHANGED SECTORS
OR LEFT THE LABOR FORCE BETWEEN 1965 AND 1970,
BY AGE CATEGORIES OF 1970

1965 Industry Sector	Changing Sectors 1965-1970			Leaving Labor Force 1965-1970		
	Under 30	30-45	Over 45	Under 30	30-45	Over 45
Extractive	30.8	24.3	18.6	37.0	24.2	39.1
Transformative	14.8	11.1	5.9	41.8	24.9	24.2
Distributive Services	24.7	15.7	9.2	45.8	24.4	26.6
Producer Services	20.1	18.0	12.4	43.8	24.9	22.8
Social Services	11.5	7.1	4.4	41.4	21.9	23.0
Personal Services	27.6	17.9	10.7	42.4	27.3	30.4

Table III-15

INTER-INDUSTRY EMPLOYMENT SHIFTS OF FEMALES BETWEEN 1965 AND 1970, BY AGE
(PERCENTAGES BASED ON 1965 LABOR FORCE)

1965 Industry Sector	1970 Industry Sector I	II	III	IV	V	VI	Intra-Sector Shift
Under 30 yrs. of age							
I. Extractive	--	7.4	4.9	1.2	9.9	7.4	0.0
II. Transformative	0.2	--	4.4	4.5	3.5	2.2	8.3
III. Distributive	0.3	7.6	--	5.9	8.3	2.6	4.1
IV. Producer	0.2	6.1	5.1	--	7.0	1.7	6.1
V. Social	0.3	3.7	2.2	2.7	--	2.6	7.0
VI Personal	0.3	8.3	5.6	4.4	9.0	--	3.8
30 - 45 yrs. of age							
I. Extractive	--	9.5	3.2	1.1	2.1	8.4	0.0
II. Transformative	0.3	--	3.6	1.3	3.8	2.1	7.4
III. Distributive	0.0	4.4	--	3.2	5.1	3.0	3.1
IV. Producer	0.2	4.2	5.2	--	7.2	1.2	2.7
V. Social	0.1	2.8	1.8	1.2	--	1.2	7.4
VI. Personal	0.2	5.7	4.7	1.5	5.8	--	4.2
Over 45 yrs. of age							
I. Extractive	--	4.5	3.6	0.5	4.1	5.9	0.0
II. Transformative	0.1	--	2.0	0.8	2.0	1.0	5.3
III. Distributive	0.1	2.4	--	1.7	3.3	1.7	1.2
IV. Producer	0.0	2.5	2.9	--	5.4	1.6	2.5
V. Social	0.1	1.1	1.0	0.7	--	1.5	4.8
VI. Personal	0.2	2.0	2.7	1.1	4.7	--	2.9

Table III-16

PERCENT OF TOTAL INTER-SECTOR SHIFTS OF FEMALE EMPLOYMENT
BETWEEN 1965 and 1970, BY AGE

1965 Industry Sector	1970 Industry Sector I	II	III	IV	V	VI	Total
Under 30 Years of Age							
I. Extractive	--	24.0	15.9	3.9	32.0	24.0	99.8
II. Transformative	1.4	--	29.7	30.4	23.6	14.9	100.0
III. Distributive Svcs.	1.2	30.8	--	23.9	33.6	10.5	100.0
IV. Producer Services	1.0	30.3	25.4	--	34.8	8.5	100.0
V. Social Services	2.6	32.2	19.1	23.5	--	22.6	100.0
VI. Personal Services	1.2	30.1	20.3	15.9	32.6	--	100.1
30-45 Years of Age							
I. Extractive	--	39.1	13.2	4.5	8.6	34.6	100.0
II. Transformative	2.7	--	32.4	11.7	34.2	18.9	99.9
III. Distributive Svcs.	0.0	28.0	--	20.4	32.5	19.1	100.0
IV. Producer Services	1.1	23.3	28.9	--	40.0	6.7	100.0
V. Social Services	1.4	39.4	25.3	16.9	--	16.9	99.9
VI. Personal Services	1.1	31.8	26.3	8.4	32.4	--	100.0
Over 45 Years of Age							
I. Extractive	--	24.2	19.4	2.7	22.0	31.7	100.0
II. Transformative	1.7	--	33.9	13.6	33.9	17.0	100.0
III. Distributive Svcs.	1.1	26.1	--	18.5	35.9	18.5	100.1
IV. Producer Services	0.0	20.2	23.4	--	43.6	12.9	100.1
V. Social Services	2.3	25.0	22.7	15.9	--	34.1	100.0
VI. Personal Services	1.9	18.7	25.2	10.3	43.9	--	100.0

of females who had been in the Extractive sector moved into Personal services. Although at this point female employment in Extractive industries does not account for a sizeable proportion of total female employment, one could ask if this same pattern existed when women were more numerous in Extractive industries.

The foregoing analysis of inter-industry shifts of employment suggests, for males as well as females, that the sectoral transformation of the labor force towards Producer and Social services has not been mainly brought about by persons moving into these two sectors from other industries. It is true that females did move to Social services in larger numbers than to any other industry sector, but it also must be kept in mind that for females Social services are the most important source of employment. It therefore is expected that this sector receives the largest proportions of total inter-sector shifts.

How then did the growth of employment in services come about? The way by which the sectoral transformation of the labor force takes place is a complex process. Various movements occur simultaneously, some of which have been already discussed. Drawing in part upon the earlier discussion, we now can fully identify the various mechanisms of the sectoral transformation of the labor force. Changes in the number of persons employed in sector X during the time period T_0 - T_1 can be separated into the following components:

(1) the number of persons employed in sector X in T_0 who remained in sector X by T_1;

(2) the number of persons employed in sector X in T_0 who moved to a different sector by T_1;

(3) the number of persons employed in sector X in T_0 who left the labor force by T_1;

(4) the number of persons employed in different sectors in T_0 who entered sector X by T_1;

(5) the number of persons not in the labor force in T_0 who were employed in sector X by T_1.

This procedure demonstrates that we must examine the 1965 and 1970 labor force simultaneously to show how inter-industry shifts and the sectoral transformation of the labor force are related.

The main shortcoming of this approach is the fact that it is restricted to two points in time. It would be preferable, to be sure, to have annual data, since in a given time period changes take place that are reflected neither in the data at the beginning of the time interval, nor in the data at the end of the interval. For example, it is possible that a person who was employed in the Social services sector in 1965 and 1970 worked in the Transformative sector from 1966 to 1969. This problem, however, is a general one whenever census data are used. Richard Stone (1975: 253-300), for instance, noted that in dealing with the changes of a population

during a specific time interval census data yield no information about persons who are born after the initial date but who die before the closing of the interval, or about persons who enter and leave the country during this time period. On the other hand, the great amount of information contained in census data, and its large sample size, as in the case of the Public Use Sample tapes, have advantages that most surveys do not offer.

The identification of the different components by which an industry sector changes its employment during a given time period permits us to examine the extent to which inter-sector shifts of employment contributed to the changes in the distribution of the labor force by industry sectors. For each sector we know the number of persons employed in 1965 and 1970. The difference between the two numbers is the result of: (a) persons moving from one industry sector to another; and (b) persons entering and leaving the labor force. For example, some persons who were employed in a certain industry sector in 1965 leave this sector by 1970. During the same time this sector receives persons by 1970 who had been employed elsewhere in 1965. The same situation exists for labor force entries and exits. Some persons who were employed in an industry sector in 1965 left the labor force by 1970, while the total employment in that sector in 1970 includes persons who were not in the labor force in 1965. For these reasons, it is net entries and the net sector shifts of employment which produce changes in the number of persons employed in an industry sector during a given time. Thus,

$$N_{i1970} - N_{i1965} = (LE_{i1970} - LEX_{i1965}) + (SE_{i1970} - SEX_{i1965})$$

where: N_i is the number of persons in the ith sector,

LE_{1970} is the number of persons in the ith sector in 1970 who who were not in the labor force in 1965,

LEX_{1965} is the number of persons in the ith sector in 1965 who left the labor force by 1970,

SE_{1970} is the number of persons in the ith sector who had been in a different sector in 1965, and

SEX_{1965} is the number of persons in the ith sector in 1965 who went to another sector by 1970.

These data were computed for all industry sectors and the net entries and net sector shifts are presented in Table III-17 for males and Table III-18 for females. Negative net entries refer to the situation in which a sector experienced more labor force exits than entries during the 1965-70 period. Negative net sector shifts occur when the number of persons leaving one sector for another is larger than the number of persons entering that sector from a different sector during 1965-70.

Male employment in the Extractive sector (Table III-17) will serve as an explanation of the nature of these tables. The Extractive sector experienced a decline in absolute numbers of employed males between 1965 and 1970, the difference

Table III-17

COMPONENTS OF EMPLOYMENT GROWTH IN INDUSTRY SECTORS,
MALE LABOR FORCE, 1965-1970

Industry Sector	1965 Labor Force (1)	1970 Labor Force (2)	Difference (3)=(2)-(1)	Net Entry (4)	Net Sector Shift (5)	Difference (6) = (3)	Net Entry (7)=(4)/(3)	Net Sector Shift (8)=(5)/(3)
Extractive	3,116	2,769	-347	-31	-316	100.0	8.9	91.1
Transformative	16,326	17,174	848	895	-47	100.0	105.5	-5.5
Distributive Services	8,561	9,877	1,316	1,332	-16	100.0	101.2	-1.2
Producer Services	2,521	3,100	579	393	186	100.0	67.9	32.1
Social Services	5,077	6,432	1,355	990	365	100.0	73.1	26.9
Personal Services	2,691	3,039	348	522	-174	100.0	150.0	-50.0

Table III-18

COMPONENTS OF EMPLOYMENT GROWTH IN INDUSTRY SECTORS,
FEMALE LABOR FORCE, 1965-1970

Industry Sector	1965 Labor Force (1)	1970 Labor Force (2)	Difference (3)=(2)-(1)	Net Entry (4)	Net Sector Shift (5)	Difference (6)=(3)	Net Entry (7)=(4)/(3)	Net Sector Shift (8)=(5)/(3)
Extractive	396	331	-65	- 7	-58	100.0	10.8	89.2
Transformative	4858	5592	734	633	101	100.0	86.2	13.8
Distributive Services	4149	5024	875	996	-121	100.0	113.8	-13.8
Producer Services	2027	2465	438	418	20	100.0	95.4	4.6
Social Services	6283	8501	2218	1931	287	100.0	87.1	12.9
Personal Services	3503	3982	479	708	-229	100.0	147.8	-47.8

NOTE: Figures based on 1/1000 Public Use Sample

being - 347 (Column 3). (Note that these numbers are drawn from the 1/1000 rather than the 1/100 Public Use Sample.) Labor force exits from the Extractive sector during 1960-70 were larger than labor force entries by 31 (Column 4) and the total amount of males leaving the Extractive sector during 1965-70 for another sector exceeded the number of males entering the Extractive sector from other industries by 316 (Column 5). Columns 7 and 8 respectively, refer to the proportion that net entries and net sector shifts account of the difference in employment between 1965 and 1970 (Column 3) for each sector.

The data in Tables III-17 and III-18 show that net sector shifts account for around 90 percent of the total decline of males and females in the Extractive sector. This sector lost more employment to other sectors than it received during 1965-70. Also, fewer workers entered Extractive industries than left in that period, contributing further to the decline of employment in that sector.

Aside from the Extractive sector, however, net entries accounted for larger proportions of the employment differences as compared to net sector shifts in all other industry sectors. The patterns are quite similar for males and females, but the magnitudes of the proportions vary somewhat. It is noteworthy that for males all industry sectors but the Producer and Social services have negative net sector shifts of employment. Thus, these two service sectors were the sole beneficiaries of the inter-sector shifts of employment. But even for these sectors, net entries account for a larger share of the increase in employment between 1965 and 1970 than net sector shifts.

For females the importance of net entries for the growth of employment in Producer and Social service is even more pronounced. As in the case of males, female labor force entries by far outnumber exits in Distributive and Personal services. These two sectors, however, increased their employment less than could have been expected from the net entries, since they lost many more females to other sectors than they received. The only sector besides Producer and Social services with a positive net sector shift were Transformative industries.

While the data presented in Tables III-17 and III-18 explain the growth of the industry sectors in absolute numbers, they do not yet permit us to evaluate the relative importance of net entries and net sector shifts as sources for the sectoral transformation of the labor force. Since the total labor force expanded between 1965 and 1970, it can be expected that each sector increased in numbers as well. As a result, net entries are more important than net sector shifts for the absolute growth of employment in industry sectors.

But the sectoral transformation of the labor force is due to the fact that in some sectors employment will increase at a faster rate than the total labor force, whereas it will increase more slowly or even may decline in other sectors. For this reason, the growth of employment in each industry sector must be related to the growth of total employment. Thus, in order to assess the importance of net entries in each sector independent of the growth of total employment, we must assume that each sector increases in numbers at the same rate as the labor force. This is done by multiplying the number of persons employed in each sector in 1965 (see

Tables III-17 and III-18) by the growth factors of the male and female labor forces, respectively. The difference between the expected number of persons employed in a given sector in 1970 and the number of persons employed in that sector in 1965 is the expected growth. We then computed the difference between the actual growth and the expected growth of employment in each sector, which we call net shift. Positive net shifts indicate that the employment in that sector increased faster than expected, while negative net shifts indicate a slower growth than expected.

Since we assume that employment in each sector shows the same rate of growth as the labor force, the expected growth in each sector is due entirely to net entries. For this reason, the expected growth is subtracted from the net entries (given in Column 4 in Tables III-17 and III-18), and this difference is called net entry shifts. Positive net entry shifts indicate that the actual net entries exceed the expected net entries, and negative net entry shifts are obtained when the number of expected net entries is larger than the number of actual net entries.

The procedure outlined above permits us to evaluate the relative importance of net entry shifts and net sector shifts for the sectoral transformation of the labor force. The results are presented in Table III-19 and III-20.

The case of males in Social services will serve as an example for the interpretation of the tables. Table III-19 shows that the actual growth of males in Social services exceeded the expected growth by 812 (Column 3). Column 4 indicates that the actual number of net entries in Social services were larger than the expected net entries by 447; the net entry shift therefore accounts for 55 percent (Column 7) of the net shift in Social services. Similarly, Social services received 365 more males from other sectors than it lost to those sectors between 1965 and 1970 (Column 5); the net sector shift thus is responsible for 45 percent of the net shift (Column 8).

The results show for males that the net entry shifts were more important for the proportionate changes of employment than the net sector shifts in all industry sectors except Producer services, but this difference was only moderate in the Extractive and Social services sectors. Of particular interest is the case of Personal services. This sector received many more net entries than expected, but due to the large negative net sector shift, the proportionate growth of employment in Personal services was only slight.

The patterns for females resemble the situation for males in the Extractive and Social services sectors. For example, the proportionate growth of the employment of females in Social services was mainly due to the fact that the net entries of females into this sector were larger than expected; net entry shifts therefore explain about two-thirds of the net shift of employment in Social services.

In the four remaining sectors, however, the relationship between net entry shifts and net sector shifts is different for females and males. The proportionate decline of female employment in the Transformative sector is due entirely to the deficit in net entry shifts. Indeed, had not more females entered Transformative industries from other sectors than left during the 1965-70 period, the proportionate decrease of the Transformative sector would have been even more severe.

Table III-19

COMPONENTS OF THE SECTORAL TRANSFORMATION OF THE MALE LABOR FORCE, 1965 - 1970

Industry Sector	Actual Growth (1)	Expected Growth (2)	Net Shift (3)=(1)-(2)	Net Entry Shift (4)	Net Sector Shift (5)	Net Shift (6)=(3)	Net Entry Shift (7)=(4)/(3)	Net Sector Shift (8)=(5)/(3)
Extractive	-347	334	-681	-365	-316	100.0	53.6	46.4
Transformative	848	1,748	-900	-853	-47	100.0	94.8	5.2
Distributive Services	1,316	916	400	416	-16	100.0	104.0	-4.0
Producer Services	579	270	309	123	186	100.0	39.8	60.2
Social Services	1,355	543	812	447	365	100.0	55.0	45.0
Personal Services	348	288	60	234	-174	100.0	390.0	-290.0

Growth Factor: $\frac{\text{1970 Male Labor Force}}{\text{1965 Male Labor Force}} = \frac{42,391}{38,292} = 1.1070458$

NOTE: These figures are based on the 1/1000 Public Use Sample, 1970.

Table III-20

COMPONENTS OF THE SECTORAL TRANSFORMATION OF THE FEMALE LABOR FORCE, 1965-1970

Industry Sector	Actual Growth (1)	Expected Growth (2)	Net Shift (3)=(1)-(2)	Net Entry Shift (4)	Net Sector Shift (5)	Net Shift (6)=(3)	Net Entry Shift (7)=(4)/(3)	Net Sector Shift (8)=(5)/(3)
Extractive	-65	87	-152	-94	-58	100.0	61.8	38.2
Transformative	734	1071	-337	-438	101	100.0	130.0	-30.0
Distributive Services	875	915	-40	81	-121	100.0	-202.5	302.5
Producer Services	438	447	-9	-29	20	100.0	322.2	-222.2
Social Services	2218	1386	832	545	287	100.0	65.5	34.5
Personal Services	479	776	-297	-68	-229	100.0	22.9	77.1

Growth Factor: $\frac{\text{1970 Female Labor Force}}{\text{1965 Female Labor Force}} = \frac{25,895}{21,216} = 1.2205411$

NOTE: The figures are based on the 1/1000 Public Use Sample, 1970.

Although both males and females had positive net entry shifts in the Distributive services sector, it was much smaller for females. On the other hand, females had larger negative net sector shifts than males; as a result, the proportionate employmont of females in Distributive services declined between 1965 and 1970, whereas it increased for males.

Finally, the data show that the net entries of females in Personal services were less than expected, while the reverse was true for males. Since the deficit of net sector shifts was even larger, the proportionate employment of females in Personal services declined.

We conclude from the results that net entry shifts are a more important source for the sectoral transformation of the labor force than net sector shifts, although the latter have a moderate impact on the proportionate changes of employment in most sectors.

Chapter IV

AGE AND SECTORAL TRANSFORMATION

Age seldom has been given the attention it deserves in social science research. All too often it is relegated to the status of a "control" variable, introduced into an analysis only so that the relationship between two other variables can be more clearly specified, as for example in the relationship between occupation and voting behavior. Lately, however, age is coming to be conceived of as worthy of consideration in its own right (see, for example, the three volume series on Aging and Society, especially Vol.3, A Sociology of Age Stratification, Riley, Johnson and Foner, 1972).

In the field of population age always has been a central variable, crucial for the very existence of the population model. As Ryder (1964: 449) aptly puts it:

> Age is the central variable in the demographic model. It identifies birth cohort membership ... It is a measure of the interval of time spent within the population, and thus of exposure to the risk of occurrence of the event of leaving the population, and more generally is a surrogate for the experience which causes changing probabilities of behavior of various kinds.

This project, and the census data on which it is based, does not permit a full elaboration of the potential of age as a variable, but it can contribute importantly to our knowledge of the structure and transformation of the labor force. The latter continually is being altered as a consequence of entries and exits of persons with different background characteristics who occupy different work positions. In addition, persons already in the labor force continually shift from one job to another. These myriad movements in the aggregate constitute the labor force transformation. As already has been seen in Chapter III, an important characreristic of this transformation is the age component.

In Table IV-1 the sectoral and industry distributions for the total labor force are presented by ten-year age intervals from 15-64. (This omits a few youngsters of 14 and a good deal more people 65 and over, but their absence does not significantly affect the discussion to follow.) The distributions are provided for 1960 and for 1970.

Let us first look at the pattern of distribution by age; since the relationships do not vary greatly from 1960 to 1970 we shall discuss only 1970. It is no surprise that the age category with the highest share of the total labor force in the Extractive sector is the oldest one, 55-64, for agriculture has been declining absolutely and relatively for several decades. The other five sectors all have their peak percentage in the younger age categories: Distributive and Personal services in the youngest category 15-24, and Transformative, Producer, and Social services in the 25-34 category.

Another way to examine the age distribution is to look at the direction of change in relative size from the youngest to the oldest age category. In

Table IV-1

PERCENTAGE DISTRIBUTION OF AGE GROUPS BY SECTOR AND INDUSTRY, TOTAL LABOR FORCE, 1960 AND 1970

Sectors and Industries	AGE GROUPS 15-24		25-34		35-44		45-54		55-64	
	1960	1970	1960	1970	1960	1970	1960	1970	1960	1970
I. EXTRACTIVE	8.1	3.7	6.3	3.5	6.7	4.1	8.2	4.6	9.7	6.1
1) Agriculture	7.4	3.2	5.1	2.6	5.6	3.1	7.0	3.6	8.7	5.2
2) Mining	.7	.5	1.2	.9	1.2	.9	1.2	1.0	1.0	.9
II. TRANSFORMATIVE	31.4	27.5	39.7	36.6	39.0	36.1	35.6	35.3	32.3	32.4
3) Construction	4.7	4.0	6.8	6.3	6.7	6.6	6.2	6.1	6.2	5.9
4) Food	2.8	1.7	3.4	2.1	3.3	2.2	3.1	2.2	2.8	2.2
5) Textile	3.2	2.7	3.3	2.9	3.7	3.1	3.8	3.3	3.2	3.4
6) Metal	2.7	2.4	4.1	3.4	4.2	3.6	3.7	3.8	3.3	3.5
7) Machinery	6.3	6.9	9.6	10.2	9.4	9.2	7.7	8.9	6.6	7.1
8) Chemical	1.2	1.2	2.3	1.9	2.2	1.9	1.9	1.8	1.6	1.5
9) Misc. manufacturing	9.4	7.6	8.6	8.2	8.0	8.1	7.8	7.6	7.0	7.4
10) Utilities	1.1	.9	1.7	1.5	1.5	1.5	1.4	1.5	1.7	1.5
III. DISTRIBUTIVE SERVICES	25.2	26.3	21.1	20.6	21.5	21.5	21.5	21.6	21.4	21.5
11) Transportation	2.7	2.6	4.5	4.2	4.8	4.3	4.8	4.4	5.5	4.3
12) Communication	1.9	2.2	1.8	1.8	1.2	1.7	.9	1.2	.9	.8
13) Wholesale	3.2	3.4	3.9	4.4	3.8	4.5	3.6	4.3	3.4	4.0
14) Retail	17.5	18.1	10.8	10.3	11.6	11.0	12.2	11.8	11.7	12.5
IV. PRODUCER SERVICES	7.6	8.7	7.3	9.2	6.1	8.0	5.9	7.3	6.5	7.1
15) Banking	2.7	3.0	1.9	2.6	1.5	2.0	1.3	1.[illegible]	1.4	1.6
16) Insurance	2.3	2.2	2.1	2.0	1.7	1.8	1.5	1.7	1.4	1.5
17) Real Estate	.4	.5	.6	.7	.8	1.0	1.1	1.3	1.6	1.5
18) Engineering	.3	.4	.5	.6	.3	.5	.2	.4	.2	.3
19) Accounting	.2	.4	.3	.5	.3	.4	.2	.3	.2	.3
20) Misc. business serv.	1.3	1.9	1.4	2.1	1.3	1.8	1.1	1.6	1.1	1.4
21) Legal services	.4	.4	.5	.7	.4	.5	.4	.5	.5	.5
V. SOCIAL SERVICES	14.3	20.5	16.4	22.5	16.4	22.2	17.3	22.1	17.4	22.2
22) Medical services	1.0	2.0	1.2	1.8	1.5	2.2	1.6	2.3	1.7	2.3
23) Hospitals	3.6	4.3	3.0	3.9	2.4	3.5	2.6	3.4	2.6	3.6
24) Education	5.6	9.3	5.5	9.5	4.9	8.4	6.0	7.6	6.0	8.3
25) Welfare	.7	.9	.8	1.1	.8	1.2	1.0	1.1	1.3	1.5
26) Nonprofit	.4	.4	.3	.4	.3	.4	.4	.4	.5	.5
27) Postal services	.4	.5	.9	.8	1.2	1.2	1.0	1.5	.9	1.1
28) Government	2.4	2.9	4.6	4.7	5.1	5.1	4.5	5.4	4.[illegible]	4.7
29) Misc. social serv.	.1	.2	.2	.3	.2	.3	.1	.2	.1	.2
VI. PERSONAL SERVICES	13.4	13.3	9.2	7.6	10.3	8.2	11.5	9.1	12.8	10.7
30) Domestic services	4.0	1.7	1.9	.8	2.3	1.1	3.1	1.6	4.2	2.7
31) Hotels	.9	.9	.6	.7	.8	.8	1.1	.9	1.5	1.3
32) Eating & drinking	3.8	6.0	2.6	2.4	2.9	2.7	3.0	2.7	2.8	2.6
33) Repair	1.4	1.3	1.5	1.3	1.4	1.3	1.3	1.2	1.2	1.2
34) Laundry	.9	.6	.9	.5	1.2	.7	1.1	.9	1.1	1.0
35) Barber & beauty shop	.8	1.1	.7	1.0	.9	.7	.8	.8	.8	.8
36) Entertainment	1.4	1.3	.7	.7	.6	.6	.7	.6	.8	.8
37) Misc. personal serv.	.3	.2	.3	.2	.3	.2	.4	.3	.5	.4
TOTAL LABOR FORCE	100.0	100.0	100.0	100.0	100.0	100.1	100.0	100.0	100.1	100.0

Extractive it moves fairly regularly upward, from 3.7 to 6.8%, but for Transformative there is a jump from 27.5% to 34.6% in the 25-34 category, after which it declines to 32.4% in the oldest interval. The pattern for the Distributive sector is quite different, falling from 26.3% in the 15-24 category to 20.6% in the next oldest one, after which there is little change. This steep drop is due almost entirely to the influence of retail trade, which drops from 18.1% (nearly one-fifth of the entire labor force) to 10.3%.

The profile for Producer services shows a slight rise to 9.2% in the 25-34 category, followed by a modest decline to 7.1% in the oldest category. Social services has the flattest of all profiles, with two percentage points encompassing the range. Personal services begins high (13.3%), then drops sharply (to 7.6%) in the 25-34 category, after which it rises steadily.

In terms of the age distribution, the Distributive sector in particular, as well as Personal and Producer services, are likely to be entry sectors, while the other sectors have their strongest representation in the next older category, save for Extractive, which reflects its declining importance within the total labor force by its age distribution.

Tables IV-2 and IV-3 provide the same distributions for male and female, and we need not go over them in the detail that was given for the total population. The sex effect mainly is sharpened, especially for the males. For the latter, the Distributive declines much more, with retail having a remarkable drop from 20.5% in the 15-24 category to 10.3% in the 25-34 category, after which it levels off. Similarly, Personal services drop from 11.3% to 5.3% for the comparable age categories. The major difference between the sexes is in Producer services where the male gain over the age range is countered by a sizeable female decline, from 12.7% in 15-24 group steadily down to 7.4% in the 55-64 group. Personal services also differs, in that females have somewhat higher percentages in the oldest age category than the youngest one.

The intercensal changes are more pronounced by sex than for the total labor force. Many of the sectors and industries show relatively little change for the 1960-1970 period, but after all a decade is not very long a time for such changes to happen. Distributive services for males is exceptionally stable, and Transformative also is quite stable. The decline for males in Extractive between 1960 and 1970 occurs for virtually all age categories and the same is true for the increase in Social services. For females the decline in Transformative is important for the first three age groups but after that the last two show little change. The pronounced decline in Personal services is present for all age categories. Social services have the widest gains for females, present in all age categories.

There is another way to present the age distribution by sex: a graphic presentation by age-sex pyramids. In Appendix C each of the sectors and industries, used till now, are given for 1960 and 1970 for the five age categories 15-64, plus the 65 and over group. The presentation is in percentage rather than absolute terms, so the volume of each pyramid in 1960 equals that in 1970.

In glancing through these 88 age-sex pyramids, it is immediately apparent how much variation there is in the sector and industry distributions. The thin band representing females in the Extractive and Transformative sectors vividly

Table IV-2

PERCENTAGE DISTRIBUTION OF AGE GROUPS BY SECTOR AND INDUSTRY

TOTAL MALE LABOR FORCE, 1960 AND 1970

Sectors and Industries	15-24		25-34		35-44		45-54		55-64	
	1960	1970	1960	1970	1960	1970	1960	1970	1960	1970
I. *EXTRACTIVE*	12.1	5.9	7.9	4.7	8.9	5.6	11.1	6.7	12.8	8.9
1) Agriculture	11.1	5.1	6.3	3.5	7.2	4.3	9.4	5.2	11.4	7.5
2) Mining	1.0	.8	1.6	1.2	1.6	1.4	1.7	1.5	1.4	1.3
II. *TRANSFORMATIVE*	38.1	35.6	44.7	43.5	44.6	43.2	41.9	42.7	38.3	39.9
3) Construction	7.3	6.8	9.1	9.0	9.4	9.7	8.9	9.2	8.6	8.8
4) Food	3.4	2.2	3.8	2.5	3.5	2.5	3.5	2.5	3.1	2.5
5) Textile	2.3	1.9	1.9	1.6	2.0	1.6	2.2	1.7	2.1	2.0
6) Metal	3.5	3.6	5.0	4.5	5.4	4.8	4.9	5.3	4.3	5.0
7) Machinery	7.4	8.7	11.0	12.4	11.0	11.2	9.4	11.0	8.3	9.0
8) Chemical	1.3	1.5	2.7	2.3	2.7	2.3	2.5	2.4	2.0	1.9
9) Misc. manufacturing	11.8	9.6	9.3	9.1	8.6	9.0	8.7	8.4	7.8	8.5
10) Utilities	1.2	1.3	2.1	2.0	2.0	2.1	1.9	2.2	2.3	2.1
III. *DISTRIBUTIVE SERVICES*	27.4	29.3	22.2	22.6	22.2	22.4	22.2	22.3	22.2	22.1
11) Transportation	3.4	3.4	5.7	5.3	6.5	5.9	6.7	6.3	7.4	6.1
12) Communication	.9	1.4	1.5	1.6	1.1	1.5	.7	1.0	.7	.6
13) Wholesale	3.6	4.1	4.5	5.4	4.5	5.4	4.3	5.3	4.0	4.9
14) Retail	19.5	20.5	10.5	10.3	10.2	9.6	10.6	9.7	10.2	10.5
IV. *PRODUCER SERVICES*	4.1	5.3	6.5	8.1	5.6	7.4	5.5	6.6	6.4	6.9
15) Banking	1.1	1.4	1.4	1.9	.9	1.4	1.1	1.1	1.4	1.4
16) Insurance	.8	.9	1.9	1.7	1.6	1.8	1.4	1.6	1.3	1.3
17) Real Estate	.4	.5	.6	.6	.8	.9	1.1	1.2	1.7	1.6
18) Engineering	.3	.5	.6	.7	.4	.7	.3	.5	.3	.4
19) Accounting	.2	.4	.3	.5	.3	.3	.2	.3	.2	.3
20) Misc. business serv.	1.1	1.7	1.4	2.0	1.2	1.8	1.0	1.5	1.1	1.4
21) Legal services	.1	.1	.4	.6	.4	.5	.4	.4	.5	.5
V. *SOCIAL SERVICES*	8.6	12.6	12.7	15.7	12.6	16.1	11.9	15.8	11.9	15.3
22) Medical services	.3	.5	.7	.7	1.0	1.2	1.0	1.2	1.1	1.2
23) Hospitals	1.2	1.6	1.3	1.5	1.0	1.1	1.0	1.2	1.1	1.3
24) Education	3.5	6.2	3.8	6.2	2.7	5.0	2.8	3.9	3.0	4.4
25) Welfare	.6	.6	.7	.8	.7	1.0	.8	.8	1.0	1.1
26) Nonprofit	.3	.3	.2	.3	.2	.3	.3	.4	.4	.5
27) Postal services	.6	.7	1.1	.9	1.6	1.5	1.3	2.0	1.0	1.4
28) Government	2.0	2.5	4.7	5.0	5.2	5.7	4.6	6.2	4.2	5.1
29) Misc. social serv.	.1	.2	.2	.3	.2	.3	.1	.3	.1	.2
VI. *PERSONAL SERVICES*	9.8	11.3	6.0	5.3	6.1	5.3	7.4	5.9	8.4	7.0
30) Domestic services	1.2	.5	.3	.1	.3	.1	.5	.2	.7	.3
31) Hotels	.8	.8	.4	.4	.5	.4	.7	.6	1.1	.8
32) Eating & drinking	2.6	5.3	1.3	1.3	1.5	1.4	2.0	1.5	2.1	1.7
33) Repair	2.1	2.2	2.0	1.8	1.9	1.7	1.9	1.7	1.6	1.6
34) Laundry	.7	.4	.6	.3	.6	.4	.7	.6	.7	.7
35) Barber & beauty shop	.4	.3	.5	.5	.4	.4	.6	.4	.7	.6
36) Entertainment	1.6	1.6	.6	.6	.6	.6	.7	.6	.9	.9
37) Misc. personal serv.	.3	.3	.3	.2	.3	.2	.3	.3	.4	.4
TOTAL LABOR FORCE	100.1	100.0	100.0	99.9	100.0	100.0	100.0	100.0	100.0	100.1

Table IV-3

PERCENTAGE DISTRIBUTION OF AGE GROUPS BY SECTOR AND BY INDUSTRY,

TOTAL FEMALE LABOR FORCE, 1960 AND 1970

Sectors and Industries	15-24		25-34		35-44		45-54		55-64	
	1960	1970	1960	1970	1960	1970	1960	1970	1960	1970
I. *EXTRACTIVE*	2.1	1.1	2.2	1.1	2.3	1.3	2.5	1.2	2.9	1.3
1) Agriculture	1.9	0.9	1.9	0.9	2.1	1.1	2.3	1.0	2.8	1.2
2) Mining	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.1	0.1
II. *TRANSFORMATIVE*	21.2	17.8	26.9	22.8	27.2	23.3	23.5	23.0	19.1	19.5
3) Construction	0.9	0.7	1.1	1.0	1.1	1.0	1.1	0.9	0.9	0.9
4) Food	1.8	1.1	2.4	1.4	2.8	1.6	2.4	1.6	2.2	1.5
5) Textile	4.6	3.7	6.8	5.4	7.1	5.7	7.0	5.8	5.7	5.7
6) Metal	1.6	1.0	1.8	1.3	1.7	1.4	1.3	1.4	1.0	1.0
7) Machinery	4.6	4.7	6.1	5.7	6.1	5.4	4.4	5.5	2.8	3.7
8) Chemical	1.2	0.9	1.3	1.1	1.1	1.0	0.9	0.9	0.7	0.8
9) Misc. manufacturing	5.7	5.1	6.7	6.4	6.6	6.6	6.0	6.2	5.2	5.4
10) Utilities	0.9	0.5	0.8	0.5	0.5	0.4	0.5	0.5	0.5	0.4
III. *DISTRIBUTIVE SERVICES*	21.9	22.6	18.4	16.8	19.9	19.7	20.3	20.4	19.5	20.3
11) Transportation	1.5	1.6	1.5	2.0	1.3	1.5	1.2	1.3	1.2	1.0
12) Communication	3.5	3.2	2.9	2.1	1.6	1.9	1.5	1.3	1.3	1.0
13) Wholesale	2.5	2.6	2.5	2.5	2.3	2.7	2.2	2.6	2.0	2.3
14) Retail	14.4	15.2	11.4	10.2	14.6	13.5	15.4	15.2	15.0	15.8
IV. *PRODUCER SERVICES*	13.0	12.7	9.3	11.2	7.3	9.1	6.6	8.3	6.5	7.4
15) Banking	5.1	4.9	3.4	3.9	2.2	3.0	1.7	2.5	1.5	1.9
16) Insurance	4.6	3.7	2.6	2.5	1.8	1.9	1.8	1.9	1.5	1.7
17) Real Estate	0.6	0.6	0.6	0.8	0.9	1.1	1.1	1.3	1.5	1.4
18) Engineering	0.2	0.2	0.2	0.3	0.1	0.2	0.1	0.1	0.1	0.1
19) Accounting	0.2	0.4	0.3	0.5	0.3	0.5	0.2	0.4	0.2	0.3
20) Misc. business serv.	1.6	2.2	1.6	2.3	1.5	1.9	1.1	1.7	1.1	1.4
21) Legal services	0.7	0.8	0.6	0.9	0.5	0.5	0.4	0.5	0.5	0.6
V. *SOCIAL SERVICES*	22.9	30.0	25.7	35.3	24.4	33.2	27.7	32.5	29.4	34.3
22) Medical services	2.2	3.8	2.6	3.9	2.5	4.0	2.7	4.0	3.0	4.3
23) Hospitals	7.2	7.5	7.2	8.7	5.4	7.7	5.7	7.0	5.8	7.5
24) Education	8.7	13.0	9.6	16.2	9.4	14.4	12.3	13.7	12.7	14.9
25) Welfare	1.0	1.3	1.1	1.7	1.1	1.5	1.3	1.8	2.2	2.1
26) Nonprofit	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.6
27) Postal services	0.1	0.4	0.3	0.6	0.4	0.6	0.5	0.6	0.6	0.6
28) Government	3.1	3.3	4.2	4.0	4.8	4.2	4.5	4.7	4.5	4.1
29) Misc. social serv.	0.1	0.2	0.2	0.4	0.2	0.2	0.1	0.2	0.2	0.2
VI. *PERSONAL SERVICES*	18.8	15.7	17.5	12.2	18.9	13.4	19.5	14.6	22.5	17.1
30) Domestic services	8.1	3.0	5.9	2.1	6.3	2.8	8.0	4.0	11.7	6.7
31) Hotels	1.0	1.1	1.2	1.4	1.4	[illegible]	1.8	1.5	2.4	2.0
32) Eating & drinking	5.4	7.0	5.8	4.5	5.7	[illegible]	4.9	4.7	4.1	4.2
33) Repair	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.4	0.3	0.4
34) Laundry	1.3	0.9	1.6	0.9	2.0	1.3	2.1	1.5	1.8	1.7
35) Barber & beauty shop	1.3	2.1	1.4	1.8	2.0	1.3	1.2	1.5	0.8	1.1
36) Entertainment	1.1	1.0	0.8	0.8	0.7	0.7	0.6	0.7	0.7	0.6
37) Misc. personal serv.	0.2	0.2	0.2	0.3	0.4	0.3	0.5	0.4	0.7	0.5
TOTAL LABOR FORCE	99.9	99.9	100.0	100.0	100.0	100.0	100.1	100.0	99.9	99.9

indicates the preponderance of males, excepting for textile, which is female dominated. Domestic service shows a reverse pattern, with males the slender band.

It is unnecessary to comment on each of the sectors and industries, for the graphic presentation is plain enough. Some general comments, however, are warranted:

1) In the youngest age category, 15-24, females often have a fairly broad base, thus resembling a general age-sex pyramid, but males frequently have a "notch" effect, due to the low representation in the youngest age group. This is understandable for industries such as engineering, legal and medical, which require a long training period, but it also is present in many Transformative industries.

2) Only a few of the pyramids display similar configurations on the male and female sides. In other words, in nearly all sectors and industries there is a clear difference in both the magnitude of sexual representation by age as well as the configurations the distributions assume. The sexual division of labor is manifest in most of the pyramids.

3) The 1960 and 1970 pyramids are, as could be expected, not strikingly different, especially since the percentage mode of presentation does not permit representation of changes in the size of the pyramids. For example, the 1970 agriculture pyramid would be only 60% the size of the 1960 one if the absolute figures were to be used. What is discernible in many of the pyramids is a tendency toward the flattening of the sides between 1960 and 1970, that is, for the proportion in the age groups to be somewhat more equal.

Let us now turn to a consideration of the growth of the population age groups between 1960 and 1970. More properly, we should speak of the change in the size of the five age groups, 15-64, during the decade, for we are not using a cohort approach; that is, taking the 15-24 age groups, for example, in 1960 and noting the "survivors" ten years later in the 25-34 age group. This approach is useful for the total population, but in the labor force, where many people, particularly females, enter, leave and re-enter a number of times, it is not warranted. Therefore, we will simply compare how many persons were in an age group in 1960 with the number in 1970 and compute the percentage change. To illustrate from Table IV-4, the sample size for the total 15-24 age group is 100,675 compared to 140,115 in 1970, a difference of 39,440 or a 39.2% increase. (These figures are from the 1% Public Use Sample and they differ from the published census reports not only because of sampling variation, but also because of other differences, i.e., the omission in our sample of persons allocated to industry and occupation in 1970. See Appendix A for a discussion of the 1960 and 1970 samples.)

There are striking differences in Table IV-4, differences that are due to a number of factors: size of the population in the initial period, changes in participation rates during the decade, etc. The range of the total population is from a 39.2% gain in the youngest age group to a decline of 4.6% in the 35-44 group. This decline is due wholly to the males, where there was a decline of nearly 10%. Outside of the 15-24 group, all the male age categories showed quite low increases or, in the one instance, of decrease. In contrast, the females, except for low growth in the 35-44 groups, have high percentage gains. They had

Table IV-4

PERCENT CHANGE IN AGE GROUPS IN LABOR FORCE, 1960-1970

Age Group	Total	Male	Female
15-24	39.2	26.5	58.4
25-34	10.6	2.8	30.1
35-44	-4.6	-9.7	6.0
45-54	11.3	5.3	23.0
55-64	16.6	8.0	35.5

twice the percentage increase of males in the youngest age group (a remarkable 58.4% increase!) and, in terms of relative gain, the difference between the sexes is even greater in three of the other four groups. Unquestionably, the major reason for these large differences is the substantial increase in female participation rates during the sixties, already mentioned in Chapter II. Since no prior decade had such a gain (8.9 percentage points, according to Table II-6) it seems unlikely that there will be any future decade that will witness as large a gain. To that extent, the 1960-1970 period is unusual.

In any event, the percent change in age groups is so different that this factor must be carefully taken into account when considering the relationship of age to sectoral transformation during the 1960-1970 period. Our attempt to do so is presented in the next section.

The Shift Approach as Applied to Age and Sectoral Transformation

The analyses of the age-sex distributions of sectors and industries for the 1960-1970 period have been useful, but admittedly they are limited in what they can tell us, particularly in addressing the question of change. At this point what is needed is a standard by which to evaluate the 1960-1970 change. The familiar practice of formulating an expected change and then comparing it with the actual change is our point of departure.

The standard proposed for the expected change is a simple one; namely, the growth rate of the total employed population for each of the five age categories (15-24, 25-34, 35-44, 45-54, 55-64). In other words, the basic assumption is that the five age categories for all sectors and all industries will grow at the same rates as the respective age categories for the total population. Against these expected changes can be placed the actual 1960-1970 growth. The difference between the two sets of figures will tell us the extent to which age categories for each sector and industry grew more or less rapidly than expected.

The statistical technique applied here is known as the "shift" technique. Huff (1967) has applied it to consumer market analysis, while Perloff, et al. (1960), Fuchs (1959) and Creamer (1943) have used it for industry location studies. The specific procedure can be explicated by reference to Table IV-5. (It is the same for Tables IV-6 and IV-7.) At the foot of the table are the values of the growth sectors (k) for the five age groups, each representing the intercensal change for the entire employed population. For example, for the 15-24 age group, the value is 1.391756, meaning that the number of persons aged 15-24 increased by 39% during the 1960-70 period. In contrast, the value for the 35-44 age group was .954030, a decrease of about 5% during the decade.

Examining the 15-24 age group for the Extractive sector, columns 1 and 2 give the numbers (the 1% sample figures) reported for 1960 and 1970. Column 3 is the actual 1960-1970 change while column 4, Expected Value 1970, is the product of the 1960 figures and the k value (8164 x 1.391756 = 11,362). Column 5 is the expected change 1960-1970 (11,362 - 8,164 = 3,198) had this age category changed exactly as did the total employed in the 15-24 age category. Column 6, the Net Shift, is simply the subtraction of the actual from the expected. In this case it totals -6,133 because of the negative sign for the actual change.

Table IV-5

NET SHIFTS OF AGE GROUPS OF THE TOTAL LABOR FORCE BY SECTOR AND INDUSTRY, 1960-1970

Sector & Industry	Labor Force 1960	Labor Force 1970	Actual Change 1960-70	Expected Value 1970	Expected Change 1960-70	Net Shift	Percentage Net Shift	Net Shift as Percentage of 1960 Size
EXTRACTIVE								
15-24	8164	5229	-2935	11,362	3198	-6133	-12.2	-75.1
25-34	8461	5253	-3208	9357	896	-4104	- 8.2	-48.5
35-44	10,477	6037	-4440	9995	-482	-3958	- 7.9	-37.8
45-54	11,148	7006	-4142	12,407	1259	-5401	-10.8	-48.4
55-64	8439	6209	-2230	9841	1402	-3632	- 7.2	-43.0
Agric., forestry, fishing								
15-24	7493	4498	-2995	10,428	2935	-5930	-11.8	-79.1
25-34	6849	3916	-2933	7574	725	-3658	- 7.3	-53.4
35-44	8658	4650	-4008	8260	-398	-3610	- 7.2	-41.7
45-54	9554	5514	-4040	10,633	1079	-5119	-10.2	-53.6
55-64	7558	5295	-2263	8814	1256	-3519	- 7.0	-46.6
Mining								
15-24	671	731	60	934	263	-203	- .4	-30.3
25-34	1612	1337	-275	1783	171	-446	- .9	-27.7
35-44	1819	1387	-432	1735	- 84	-348	- .7	-19.1
45-54	1594	1492	-102	1774	180	-282	- .6	-17.7
55-64	881	914	33	1027	146	-113	- .2	-12.8
TRANSFORMATIVE								
15-24	31,603	38,549	6946	43,984	12,381	-5435	-10.8	-17.2
25-34	53,466	54,500	1034	59,125	5659	-4625	- 9.2	- 8.7
35-44	60,499	53,423	-7076	57,718	-2781	-4295	- 8.6	- 7.1
45-54	48,559	53,522	4963	54,041	5482	-519	- 1.0	- 1.1
55-64	28,070	32,885	4815	32,735	4665	150	.3	.5
Construction								
15-24	4766	5670	904	6633	1867	-963	- 1.9	-20.2
25-34	9192	9410	218	10,165	973	-755	- 1.5	- 8.2
35-44	10,453	9737	-716	9973	-480	-236	- .5	- 2.3
45-54	8485	9269	784	9443	958	-174	- .3	- 2.0
55-64	5369	5996	627	6261	892	-265	- .5	- 4.9

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Sector & Industry	Labor Force 1960	Labor Force 1970	Actual Change 1960-70	Expected Value 1970	Expected Change 1960-70	Net Shift	Percentage Net Shift	Net Shift as Percentage of 1960 Size
Food								
15-24	2826	2401	- 425	3933	1107	-1532	- 3.0	-54.2
25-34	4550	3165	-1385	5032	482	-1867	- 3.7	-41.0
35-44	5093	3227	-1866	4859	-234	-1632	- 3.3	-32.0
45-54	4245	3266	- 979	4724	479	-1458	- 2.9	-34.3
55-64	2426	2190	- 236	2829	403	- 639	- 1.3	-26.3
Textiles								
15-24	3230	3793	563	4496	1266	- 703	- 1.4	-21.8
25-34	4383	4297	- 86	4847	464	- 550	- 1.1	-12.5
35-44	5687	4530	-1157	5426	- 261	- 896	- 1.8	-15.8
45-54	5216	4951	- 265	5805	589	- 854	- 1.7	-16.4
55-64	2819	3420	601	3287	468	133	- .3	4.7
Metal								
15-24	2722	3432	710	3788	1066	- 356	- .7	-13.1
25-34	5496	5136	- 360	6078	582	- 942	- 1.9	-17.1
35-44	6486	5304	-1182	6188	- 298	- 884	- 1.8	-13.6
45-54	4984	5830	846	5547	563	283	.6	5.7
55-64	2830	3571	741	3300	470	271	.5	9.6
Machinery								
15-24	6334	9604	3270	8816	2482	788	1.6	12.4
25-34	12,974	15,125	2151	14,347	1373	- 778	1.6	6.0
35-44	14,630	13,576	-1054	13,957	- 673	- 381	- .8	- 2.6
45-54	10,482	13,565	3083	11,665	1183	1900	3.8	18.1
55-64	5720	7183	1463	6671	951	512	1.0	9.[illegible]
Chemical								
15-24	1249	1716	467	1738	489	- 22	-	- 1.8
25-34	3070	2859	- 211	3395	325	- 536	- 1.1	-17.5
35-44	3389	2753	- 636	3233	- 156	- 480	- 1.0	-14.2
45-54	2619	2784	165	2915	296	- 131	- .3	- 5.0
55-64	1363	1534	171	1590	227	- 56	- .1	- 4.1

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Sector & Industry	Labor Force 1960	Labor Force 1970	Actual Change 1960-70	Expected Value 1970	Expected Change 1960-70	Net Shift	Percentage Net Shift	Net Shift as Percentage of 1960 Size
Misc. manufacturing								
15-24	9409	10,620	1211	13,095	3686	-2475	- 4.9	-26.3
25-34	11,522	12,269	747	12,741	1219	- 472	- .9	- 4.1
35-44	12,399	12,036	- 363	11,829	- 570	207	.4	1.7
45-54	10,610	11,541	931	11,808	1198	- 267	- .5	- 2.5
55-64	6053	7470	1417	7059	1006	411	.8	6.8
Utilities								
15-24	1067	1313	246	1485	418	- 172	- .3	-16.1
25-34	2279	2239	- 40	2520	241	- 281	- .6	-12.3
35-44	2362	2260	- 102	2253	- 109	7	-	.3
45-54		2514	398	2134	216	182	.4	9.5
55-64	1490	1521	31	1738	248	- 217	- .4	-14.6
DISTRIBUTIVE								
15-24	25,384	36,863	11,479	35,329	9945	1534	3.1	6.0
25-34	28,442	30,760	2318	31,453	3011	- 693	-1.4	- 2.4
35-44	33,325	31,776	-1549	31,793	-1532	- 17	-	- .1
45-54	29,348	32,783	3435	32,661	3313	122	.2	.4
55-64	18,610	21,771	3161	21,702	3092	69	.1	.4
Transportation								
15-24	2676	3599	923	3725	1049	- 126	- .3	- 4.7
25-34	6081	6226	145	6725	644	- 499	-1.0	- 8.2
35-44	7462	6377	-1085	7119	- 343	- 742	-1.5	- 9.9
45-54	6525	6675	150	7262	737	- 587	-1.2	- 9.0
55-64	4747	4321	- 426	5536	789	-1215	-2.4	-25.6
Communication								
15-24	1910	3134	1224	2658	748	476	.9	24.9
25-34	2586	2643	57	2860	274	- 217	- .4	- 8.4
35-44	1913	2459	546	1825	- 88	634	1.3	33.1
45-54	1271	1750	479	1414	143	336	.7	26.4
55-64	759	784	25	885	.26	-101	- .2	-13.3

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Sector & Industry	Labor Force 1960	Labor Force 1970	Actual Change 1960-70	Expected Value 1970	Expected Change 1960-70	Net Shift	Percentage Net Shift	Net Shift as Percentage of 1960 Size
Wholesale Trade								
15-24	3186	4747	1561	4434	1248	313	.6	9.8
25-34	5263	6616	1353	5820	557	796	1.6	15.1
35-44	5912	6623	711	5640	- 272	983	2.0	16.6
45-54	4859	6502	1643	5407	548	1095	2.2	22.5
55-64	2934	4034	1100	3421	487	613	1.2	20.9
Retail Trade								
15-24	17,612	25,383	7771	24,512	6900	871	1.7	4.9
25-34	14,512	15,275	763	16,048	1536	- 773	-1.5	- 5.3
35-44	18,038	16,317	-1721	17,209	- 829	- 892	-1.8	- 4.9
45-54	16,693	17,856	1163	18,578	1885	- 722	-1.4	- 4.3
55-64	10,170	12,632	2462	11,860	1690	772	1.5	7.6
PRODUCER SERVICES								
15-24	7679	12,157	4478	10,687	3008	1470	2.9	19.1
25-34	9811	13,652	3841	10,849	1038	2803	5.6	28.6
35-44	9516	11,840	2324	9079	- 437	2761	5.5	29.0
45-54	8030	11,007	2977	8937	907	2070	4.1	25.8
55-64	5613	7185	1572	6546	933	639	1.3	11.4
Banking								
15-24	2734	4192	1458	3805	1071	387	.8	14.2
25-34	2605	3850	1245	2881	276	969	1.9	37.2
35-44	2059	2950	891	1964	- 95	986	2.0	47.9
45-54	1767	2386	619	1967	200	419	.8	23.7
55-64	1230	1624	394	1434	204	190	.4	15.4
Insurance								
15-24	2336	3014	678	3251	915	- 237	- .5	-10.1
25-34	2785	2920	135	3080	295	- 160	- .3	- 5.7
35-44	2581	2711	130	2462	- 119	249	.5	9.6
45-54	2083	2634	551	2318	235	316	.6	15.2
55-64	[illegible]03	1474	271	1403	200	71	.1	5.9

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Sector & Industry	Labor Force 1960	Labor Force 1970	Actual Change 1960-70	Expected Value 1970	Expected Change 1960-70	Net Shift	Percentage Net Shift	Net Shift as Percentage of 1960 Size
Real Estate								
15-24	452	701	249	629	177	72	.1	15.9
25-34	824	1050	226	911	87	139	.3	16.9
35-44	1290	1411	121	1231	- 59	180	.4	14.0
45-54	1500	1902	402	1669	169	233	.5	15.5
55-64	1412	1549	137	1647	235	- 98	- .2	- 6.9
Engineering, Architecture								
15-24	293	499	206	408	115	91	.2	31.1
25-34	626	867	241	692	66	175	.3	28.0
35-44	527	724	197	503	- 24	221	.4	41.9
45-54	320	539	219	356	36	183	.4	57.2
55-64	201	331	130	234	33	97	.2	48.3
Accounting								
15-24	207	534	327	288	81	246	.5	118.8
25-34	426	804	378	471	45	333	.7	78.[illegible]
35-44	399	572	173	381	- 18	191	.4	47.9
45-54	289	458	169	322	33	136	.3	47.1
55-64	200	276	76	233	33	43	.1	21.5
Miscellaneous Business Services								
15-24	1304	2685	1381	1815	511	870	1.7	66.7
25-34	1916	3160	1244	2119	203	1041	2.1	54.3
35-44	1995	2703	708	1903	- 92	800	1.6	40.1
45-54	1465	2390	925	1830	165	760	1.5	51.9
55-64	943	1376	433	1100	157	276	.6	29.3
Legal								
15-24	353	532	179	491	138	41	.1	11.6
25-34	629	1001	372	695	66	306	.6	48.6
35-44	665	769	104	635	- 30	134	.3	20.2
45-54	606	698	92	675	69	23	-	3.8
55-64	424	555	131	495	71	60	.1	14.2

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Sector & Industry	Labor Force 1960	Labor Force 1970	Actual Change 1960-70	Expected Value 1970	Expected Change 1960-70	Net Shift	Percentage Net Shift	Net Shift as Percentage of 1960 Size
SOCIAL SERVICES								
15-24	14,372	28,679	14,307	20,002	5630	8677	17.3	60.4
25-34	22,126	33,489	11,363	24,468	2342	9021	18.0	40.8
35-44	25,505	32,902	7397	24,332	-1173	8570	17.1	33.6
45-54	23,587	33,575	9988	26,250	2663	7325	14.6	31.1
55-64	15,116	22,548	7432	17,628	2512	4920	9.8	32.5
Medical, Health								
15-24	1056	2771	1715	1470	414	1301	2.6	123.2
25-34	1621	2671	1050	1793	172	878	1.8	54.2
35-44	2348	3232	884	2240	- 108	992	2.0	42.2
45-54	2142	3468	1326	2384	242	1084	2.2	50.6
55-64	1479	2383	904	1725	246	658	1.3	44.5
Hospital								
15-24	3613	5964	2351	5028	1415	936	1.9	25.9
25-34	3986	5840	1854	4408	422	1432	2.9	35.9
35-44	3778	5206	1428	3604	- 174	1602	3.2	42.4
45-54	3539	5099	1560	3939	400	1160	2.3	32.8
55-64	2228	3655	1427	2598	370	1057	2.1	47.4
Education								
15-24	5634	12,989	7355	7841	2207	5148	10.3	91.4
25-34	7351	14,200	6849	8129	778	6071	12.1	82.6
35-44	7542	12,387	4845	7195	- 347	5192	10.4	68.8
45-54	8194	11,535	3341	9119	925	2416	4.8	29.5
55-64	5232	8380	3148	6102	870	2278	4.5	43.5
Welfare								
15-24	737	1274	537	1026	289	248	.5	33.6
25-34	1126	1626	500	1245	119	381	.8	33.8
35-44	1294	1731	437	1235	- 59	496	1.0	38.3
45-54	1333	1718	385	1483	150	235	.5	17.6
55-64	1168	1486	318	1362	194	124	.2	10.6

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Sector & Industry	Labor Force 1960	Labor Force 1970	Actual Change 1960-70	Expected Value 1970	Expected Change 1960-70	Net Shift	Percentage Net Shift	Net Shift as Percentage of 1960 Size
Nonprofit								
15-24	373	588	215	519	146	69	.1	18.5
25-34	440	540	100	486	46	54	.1	12.3
35-44	525	578	53	501	- 24	77	.2	14.7
45-54	577	662	85	642	65	20	-	3.5
55-64	407	516	109	475	68	41	.1	10.1
Postal								
15-24	375	743	368	522	147	221	.4	58.9
25-34	1160	1159	- 1	1283	123	- 124	- .2	-10.7
35-44	1829	1731	- 98	1745	- 84	- 14	-	- .8
45-54	1429	2216	787	1590	161	626	1.2	43.8
55-64	740	1082	342	863	123	219	.4	29.6
Government								
15-24	2465	4077	1612	3431	966	646	1.3	26.2
25-34	6168	6960	792	6821	653	139	.3	2.3
35-44	7865	7616	- 249	7503	- 362	113	.2	1.4
45-54	6182	8506	2324	6880	698	1626	3.2	26.3
55-64	3739	4816	1077	4360	621	456	.9	12.2
Miscellaneous Social & Professional								
15-24	119	273	154	165	46	108	.2	90.8
25-34	274	493	219	303	29	190	.4	69.3
35-44	324	421	97	309	- 15	112	.2	34.6
45-54	191	371	180	213	22	158	.3	82.7
55-64	123	230	107	143	20	87	.2	70.7
PERSONAL SERVICES								
15-24	13,473	18,638	5165	18,751	5278	- 113	- .2	- .8
25-34	12,430	11,344	-1086	13,746	1316	-2402	-4.8	-19.3
35-44	15,953	12,159	-3794	15,220	- 733	-3061	-6.1	-19.2
45-54	15,700	13,875	-1825	17,472	1772	-3597	-7.2	-22.9
55-64	11,149	10,856	- 293	13,002	1853	-2146	-4.3	-19.2

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Sector & Industry	Labor Force 1960	Labor Force 1970	Actual Change 1960-70	Expected Value 1970	Expected Change 1960-70	Net Shift	Percentage Net Shift	Net Shift as Percentage of 1960 Size
Domestic								
15-24	3094	2331	-1663	5559	1565	-3228	-6.4	-80.8
25-34	2579	1133	-1446	2852	273	-1719	-5.4	-66.7
35-44	3514	1611	-1903	3353	- 161	-1742	-3.5	-49.6
45-54	4206	2449	-1757	4681	475	-2232	-4.5	-53.1
55-64	3642	2693	- 949	4247	605	-1554	-3.1	-42.7
Hotel								
15-24	876	1330	454	1219	343	111	.2	12.7
25-34	862	1102	240	953	91	149	.3	17.3
35-44	1245	1164	- 81	1188	- 57	- 24	-	- 1.9
45-54	1505	1403	- 102	1675	170	- 272	- .5	-18.1
55-64	1336	1270	- 66	1558	222	- 288	- .6	-21.6
Eating, Drinking								
15-24	3779	8439	4660	5259	1480	3180	6.3	84.1
25-34	3532	3571	39	3906	374	- 335	- .7	- 9.5
35-44	4462	4070	- 392	4257	- 205	- 187	- .4	- 4.2
45-54	4057	4095	38	4515	458	- 420	- .8	-10.4
55-64	2403	2623	220	2802	399	- 179	- .4	- 7.4
Repair								
15-24	1434	1883	449	1996	562	- 113	- .2	- 7.9
25-34	2031	2008	- 23	2246	215	- 238	- .5	-11.7
35-44	2204	1870	- 334	2103	- 101	- 233	- .5	-10.6
45-54	1815	1871	56	2017	204	- 146	- .3	- 8.1
55-64	1018	1204	186	1187	169	17	-	1.7
Laundry								
15-24	936	891	- 45	1306	368	- 413	- .8	-44.0
25-34	1182	766	- 416	1307	125	- 541	-1.1	-45.8
35-44	1649	1084	- 565	1573	- 76	- 489	-1.0	-29.7
45-54	1568	1373	- 195	1745	177	- 372	- .7	-23.7
55-64	930	1056	126	1085	155	- 29	- .1	- 3.1

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Sector & Industry	Labor Force 1960	Labor Force 1970	Actual Change 1960-70	Expected Value 1970	Expected Change 1960-70	Net Shift	Percentage Net Shift	Net Shift as Percentage of 1960 Size
Barber								
15-24	761	1569	808	1059	298	510	1.0	67.0
25-34	1008	1424	416	1115	107	309	.6	30.7
35-44	1385	1123	- 262	1321	- 64	- 218	- .4	-15.7
45-54	1090	1340	150	1215	125	27	.1	2.5
55-64	669	786	117	780	111	6	-	.9
Entertainment								
15-24	1410	1861	451	1962	552	- 101	- .2	- 7.2
25-34	801	871	70	888	95	- 17	-	- 1.9
35-44	954	901	- 53	910	- 44	- 9	-	- .9
45-54	934	976	37	1045	106	- 68	- .1	- 7.3
55-64	719	820	101	839	120	- 19	-	- 2.6
Miscellaneous Personal Services								
15-24	281	332	51	391	110	- 59	- .1	-21.0
25-34	343	369	26	379	36	- 10	-	- 2.9
35-44	540	356	- 184	515	- 25	- 159	- .3	-29.4
45-54	522	468	- 54	581	59	- 113	- .2	-21.6
55-64	432	404	- 28	504	72	- 100	- .2	-23.1
TOTAL	614,055	690,472	76,417	690,472	76,417	650,151	1.0	99.9

$s_{15-24} = 1.391756$

$s_{25-34} = 1.105851$

$s_{35-44} = .954050$

$s_{45-54} = 1.112997$

$s_{55-64} = 1.166178$

Table IV-6

NET SHIFTS OF AGE GROUPS OF THE MALE LABOR FORCE BY SECTOR AND INDUSTRY, 1960-1970

Sector & Industry	Labor Force 1960	Labor Force 1970	Actual Change 1960-70	Expected Value 1970	Expected Change 1960-70	Net Shift	Percentage Net Shift	Net Shift as Percentage of 1960 Size
EXTRACTIVE								
15-24	7316	4557	-2759	9254	1938	-4697	-18.1	-64.2
25-34	7626	4701	-2925	7843	217	-3142	-12.1	-41.2
35-44	9331	5342	-3989	8428	- 903	-3086	-11.9	-33.1
45-54	9995	6325	-3670	10,520	525	-4195	-16.1	-42.0
55-64	7637	5724	-1913	8245	608	-2521	- 9.7	-33.0
Agric., forestry, fishing								
15-24	6735	3934	-2801	8519	1784	-4585	-17.6	-68.1
25-34	6128	3473	-2655	6302	174	-2829	-10.9	-46.2
35-44	7619	4047	-3572	6882	- 737	-2835	-10.9	-37.2
45-54	8473	4938	-3535	8918	445	-3980	-15.3	-47.0
55-64	6784	4856	-1928	7324	540	-2468	- 9.5	-36.4
Mining								
15-24	581	623	42	735	154	- 112	- .4	-19.3
25-34	1498	1228	- 270	1541	43	- 313	- 1.2	-20.9
35-44	1712	1295	- 417	1546	- 166	- 251	- 1.0	-14.7
45-54	1522	1387	- 135	1602	80	- 215	- .8	-14.1
55-64	853	868	15	921	68	- 53	- .2	- 6.2
TRANSFORMATIVE								
15-24	23,128	27,268	4140	29,253	6125	-1985	- 7.6	- 8.6
25-34	43,167	43,139	- 28	44,394	1227	-1255	- 4.8	- 2.9
35-44	46,845	41,009	-5836	42,313	-4532	-1304	- 5.0	- 2.8
45-54	37,643	40,383	2740	39,620	1977	763	2.9	2.0
55-64	22,856	25,666	2810	24,675	1819	991	3.8	4.3
Construction								
15-24	4402	5195	793	5568	1166	- 373	- 1.4	- 8.5
25-34	8770	8929	159	9019	249	- 90	- .3	- 1.0
35-44	9917	9182	- 735	8958	- 959	224	.9	2.3
45-54	7988	8744	756	8408	420	336	1.3	4.2
55-64	5120	5650	530	5528	408	122	.5	2.4

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Sector & Industry	Labor Force 1960	Labor Force 1970	Actual Change 1960-70	Expected Value 1970	Expected Change 1960-70	Net Shift	Percentage Net Shift	Net Shift as Percentage of 1960 Size
Food								
15-24	2083	1714	- 369	2635	552	- 921	- 8.5	-44.2
25-34	3620	2461	-1159	3723	103	-1262	- 4.9	-34.9
35-44	3669	2365	-1304	3314	- 355	- 949	- 3.7	-25.9
45-54	3132	2340	- 792	3296	164	- 956	- 3.7	-30.5
55-64	1821	1613	- 208	1966	145	- 353	- 1.4	-19.4
Textiles								
15-24	1406	1473	67	1778	372	- 305	- 1.2	-21.7
25-34	1790	1626	- 164	1841	51	- 215	- .8	-12.0
35-44	2098	1499	- 599	1895	- 203	- 396	1.5	-18.9
45-54	1975	1609	- 366	2079	104	- 470	- 1.8	-23.8
55-64	1248	1310	62	1347	99	- 37	- .1	- 3.0
Metal								
15-24	2100	2780	680	2656	556	124	.5	5.9
25-34	4819	4468	- 351	4956	137	- 488	- 1.9	-10.1
35-44	5633	4535	-1098	5088	- 545	- 553	- 2.1	- 9.8
45-54	4381	5023	642	4611	230	412	1.6	9.4
55-64	2547	3189	642	2750	203	439	1.7	17.2
Machinery								
15-24	4503	6639	2136	5696	1193	943	3.6	20.9
25-34	10,647	12,270	1623	10,950	303	1320	5.1	12.4
35-44	11,554	10,673	- 881	10,436	-1118	237	.9	2.1
45-54	8435	10,395	1960	8878	443	1517	5.8	18.0
55-64	4967	5827	860	5362	395	465	1.8	9.4
Chemical								
15-24	787	1119	332	995	208	124	.5	15.8
25-34	2561	2331	- 230	2634	73	- 303	- 1.2	-11.8
35-44	2815	2217	- 598	2543	- 272	- 326	- 1.3	-11.6
45-54	2204	2251	47	2320	116	- 69	- .3	- 3.1
55-64	1165	1250	85	1258	93	- 8	-	- .7

Sector & Industry	Labor Force 1960	Labor Force 1970	Actual Change 1960-70	Expected Value 1970	Expected Change 1960-70	Net Shift	Percentage Net Shift	Net Shift as Percentage of 1960 Size
Miscellaneous Manufacturing								
15-24	7126	7374	248	9013	1887	-1639	- 6.3	-23.0
25-34	8970	9075	105	9225	255	- 150	- .6	- 1.7
35-44	9068	8515	- 549	8187	- 877	328	1.8	3.6
45-54	7824	7982	158	8235	411	- 253	- 1.0	- 3.2
55-64	4629	5457	828	4997	368	460	1.8	9.9
Utilities								
15-24	721	974	253	912	191	62	.2	8.6
25-34	1990	1979	- 11	2046	56	- 67	- .3	- 3.4
35-44	2095	2023	- 72	1892	- 203	131	.5	6.3
45-54	1704	2039	335	1793	89	246	.9	14.4
55-64	1359	1370	11	1467	108	- 97	- .4	- 7.1
DISTRIBUTIVE SERVICES								
15-24	16,610	22,508	5898	21,009	4399	1499	5.8	9.0
25-34	21,428	22,414	986	22,037	609	377	1.5	1.8
35-44	23,351	21,280	-2071	21,092	-2259	188	.7	.8
45-54	19,928	21,096	1168	20,974	1046	122	.5	.6
55-64	13,271	14,263	992	14,327	1056	- 64	- .2	- .5
Transportation								
15-24	2078	2572	494	2628	550	- 56	- .2	- 2.7
25-34	5487	5249	- 238	5643	156	- 394	- 1.5	- 7.2
35-44	6706	5556	-1240	6139	- 657	- 583	- 2.2	- 8.6
45-54	5987	5931	- 56	6301	314	- 370	- 1.4	- 6.2
55-64	4404	3941	- 463	4754	350	- 813	- 3.1	-18.5
Communication								
15-24	517	1077	560	654	137	423	1.6	81.8
25-34	1490	1614	124	1532	42	82	.3	5.5
35-44	1126	1435	309	1017	- 109	418	1.6	37.1
45-54	589	992	403	620	31	372	1.4	63.2
55-64	398	399	1	430	32	- 31	- .1	- 7.8

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Sector & Industry	Labor Force 1960	Labor Force 1970	Actual Change 1960-70	Expected Value 1970	Expected Change 1960-70	Net Shift	Percentage Net Shift	Net Shift as Percentage of 1960 Size
Wholesale								
15-24	2163	3114	951	2736	573	378	1.5	17.5
25-34	4297	5348	1051	4419	122	929	3.6	21.6
35-44	4729	5163	434	4271	- 458	892	3.4	18.9
45-54	3828	5021	1193	4029	201	992	3.8	25.9
55-64	2387	3160	773	2577	190	583	2.2	24.4
Retail								
15-24	11,852	15,745	3893	14,991	3139	754	2.9	6.4
25-34	10,154	10,203	49	10,443	289	- 240	- .9	- 2.4
35-44	10,700	9126	-1574	9665	-1035	- 539	-2.1	- 5.0
45-54	9524	9152	- 372	10,024	500	- 872	-3.4	- 9.2
55-64	6082	6763	681	6566	484	197	.8	3.2
PRODUCER SERVICES								
15-24	2458	4073	1615	3109	651	964	3.7	39.2
25-34	6248	8090	1842	6426	178	1664	6.4	26.6
35-44	5842	7002	1160	5277	- 565	1725	6.6	29.5
45-54	4966	6271	1305	5227	261	1044	4.0	21.0
55-64	3823	4422	599	4127	304	295	1.1	7.7
Banking								
15-24	690	1086	396	873	183	213	.8	30.9
25-34	1305	1924	619	1342	37	582	2.2	44.6
35-44	965	1362	397	872	- 93	490	1.9	50.8
45-54	948	1046	98	998	50	48	.2	5.1
55-64	807	918	111	871	64	47	.2	5.8
Insurance								
15-24	513	656	143	649	136	7	-	1.4
25-34	1793	1688	- 105	1844	51	- 156	- .6	- 8.7
35-44	1678	1695	17	1516	- 162	179	.7	10.7
45-54	1243	1547	304	1308	65	239	.9	19.2
55-64	779	833	54	841	62	- 8	-	- 1.0

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Sector & Industry	Labor Force 1960	Labor Force 1970	Actual Change 1960-70	Expected Value 1970	Expected Change 1960-70	Net Shift	Percentage Net Shift	Net Shift as Percentage of 1960 Size
Real Estate								
15-24	220	351	131	278	58	73	.3	33.2
25-34	572	633	61	588	16	45	2	7.9
35-44	815	841	26	736	-79	105	.4	12.9
45-54	985	1141	156	1037	52	104	.4	10.6
55-64	999	1009	10	1079	80	-70	-.3	-7.0
Engineer, Architecture								
15-24	204	376	172	258	54	118	.5	57.8
25-34	545	737	192	561	16	176	.7	32.3
35-44	449	620	171	406	-43	214	.8	47.7
45-54	267	455	188	281	14	174	.7	65.2
55-64	178	284	106	192	14	92	.4	51.7
Accounting								
15-24	110	275	165	139	29	136	.5	123.6
25-34	323	539	216	332	9	207	.8	64.1
35-44	269	318	49	243	-26	75	.3	27.9
45-54	198	252	54	208	10	44	.2	22.2
55-64	142	165	23	153	11	12	-	8.5
Miscellaneous Business Services								
15-24	676	1280	604	855	179	425	1.6	62.9
25-34	1313	2012	699	1351	38	661	2.5	50.3
35-44	1245	1681	436	1124	-121	557	2.1	44.7
45-54	932	1417	485	981	49	436	1.7	46.8
55-64	632	873	241	682	50	191	.7	30.2
Legal								
15-24	45	49	4	57	12	-8	-	-17.8
25-34	397	557	160	408	11	149	.6	37.5
35-44	421	485	64	380	-41	105	.4	24.9
45-54	393	413	20	414	21	-1	-	-.3
55-64	286	340	54	309	23	31	.1	10.8

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Sector & Industry	Labor Force 1960	Labor Force 1970	Actual Change 1960-70	Expected Value 1970	Expected Change 1960-70	Net Shift	Percentage Net Shift	Net Shift as Percentage of 1960 Size
SOCIAL SERVICES								
15-24	5,189	9,627	4438	6,563	1374	3064	11.8	59.0
25-34	12,298	15,633	3335	12,647	349	2986	11.5	24.3
35-44	13,278	15,266	1988	11,993	-1285	3273	12.6	24.6
45-54	10,715	14,972	4257	11,278	563	3694	14.2	34.5
55-64	7,071	9,823	2752	7,634	563	2189	8.4	31.0
Medical								
15-24	171	372	201	216	45	156	.6	91.2
25-34	637	739	102	655	18	84	.3	13.2
35-44	1094	1104	10	988	-106	116	.4	10.6
45-54	905	1149	244	953	48	196	.8	21.7
55-64	662	801	139	715	53	86	.3	13.0
Hospital								
15-24	716	1213	497	906	190	307	1.2	42.9
25-34	1248	1519	271	1284	36	235	.9	18.8
35-44	1055	1090	35	953	-102	137	.5	13.0
45-54	884	1120	236	930	46	190	.7	21.5
55-64	637	864	227	688	51	176	.7	27.6
Education								
15-24	2138	4736	2598	2704	566	2032	7.8	95.0
25-34	3669	6129	2460	3773	104	2356	9.1	64.2
35-44	2832	4708	1876	2558	-274	2150	8.3	75.9
45-54	2475	3712	1237	2605	130	1107	4.3	44.7
55-64	1768	2852	1084	1909	141	943	3.6	53.3
Welfare								
15-24	351	469	118	444	93	25	.1	7.1
25-34	720	792	72	740	20	52	.2	7.2
35-44	733	940	207	662	-71	278	1.1	37.9
45-54	712	717	5	749	37	-32	-.1	-4.5
55-64	577	706	129	623	46	83	.3	14.4

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Sector & Industry	Labor Force 1960	Labor Force 1970	Actual Change 1960-70	Expected Value 1970	Expected Change 1960-70	Net Shift	Percentage Net Shift	Net Shift as Percentage of 1960 Size
Non Profit								
15-24	184	265	81	253	69	32	.1	17.4
25-34	235	290	55	242	7	48	.2	20.4
35-44	255	318	63	230	-25	88	.3	34.5
45-54	302	338	36	318	16	20	.1	6.6
55-64	250	290	40	270	20	20	.1	8.0
Postal								
15-24	336	505	169	425	89	80	.3	23.8
25-34	1058	870	-188	1048	30	-218	-.8	-20.6
35-44	1644	1431	-213	1485	-159	-54	-.2	-3.3
45-54	1206	1870	664	1269	63	601	2.3	49.8
55-64	585	871	286	631	46	240	.9	41.0
Government								
15-24	1251	1942	711	1557	326	385	1.5	31.3
25-34	4551	4980	429	4680	129	300	1.2	6.6
35-44	5444	5379	-65	4917	-527	462	1.8	8.5
45-54	4105	5823	1720	4319	216	1504	5.8	36.7
55-64	2516	3304	788	2716	200	588	2.3	23.4
Miscellaneous Professionals								
15-24	62	125	63	78	16	47	.2	75.8
25-34	180	314	134	185	5	129	.5	71.7
35-44	221	296	75	200	-21	96	.4	43.4
45-54	128	243	115	135	7	108	.4	84.4
55-64	76	135	59	82	6	53	.2	69.7
PERSONAL SERVICES								
15-24	5941	8669	2728	7514	1573	1155	4.4	19.4
25-34	5758	5292	-466	5922	164	-630	-2.4	-10.9
35-44	6464	5042	-1422	5838	-626	-796	-3.1	-12.3
45-54	6623	5543	-1080	6971	348	-1428	-5.5	-21.6
55-64	5000	4508	-492	5398	398	-890	-3.4	-17.8

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Sector & Industry	Labor Force 1960	Labor Force 1970	Actual Change 1960-70	Expected Value 1970	Expected Change 1960-70	Net Shift	Percentage Net Shift	Net Shift as Percentage of 1960 Size
Domestic								
15-24	736	398	-338	931	195	-533	-2.1	-72.4
25-34	307	76	-231	316	9	-240		-78.2
35-44	322	105	-217	291	-31	-186	-.7	-57.8
45-54	459	174	-285	483	24	-309	-1.2	-67.3
55-64	447	208	-239	483	36	-275	-1.1	-61.5
Hotel								
15-24	504	626	122	637	133	-11	-	-2.2
25-34	398	427	29	409	11	18	.1	4.5
35-44	528	402	-126	477	-51	-75	-.3	-14.2
45-54	664	533	-131	699	35	-166	-.6	-25.0
55-64	683	536	-147	737	54	-201	-.8	-29.4
Eating, Drinking								
15-24	1607	4029	2422	2033	426	1996	7.7	124.2
25-34	1301	1309	8	1338	37	-29	-.1	-2.2
35-44	1596	1348	-248	1441	-155	-93	-.4	-5.8
45-54	1775	1430	-345	1868	93	-438	-1.7	-24.7
55-64	1278	1077	-201	1380	102	-303	-1.2	-23.7
Repair								
15-24	1292	1661	369	1634	342	27	.1	2.1
25-34	1894	1815	-79	1948	54	-133	-.5	-7.0
35-44	2026	1654	-372	1830	-196	-176	-.7	-8.7
45-54	1671	1640	-31	1759	88	-119	-.5	-7.1
55-64	943	1062	119	1018	75	44	.2	4.7
Laundry								
15-24	425	342	-83	538	113	-196	-.8	-46.1
25-34	557	328	-229	573	16	-245	-.9	-44.0
35-44	663	386	-277	599	-64	-213	-.8	-32.1
45-54	608	535	-73	640	32	-105	-.4	-17.3
55-64	442	419	-23	477	35	58	-.2	-13.1

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Sector & Industry	Labor Force 1960	Labor Force 1970	Actual Change 1960-70	Expected Value 1970	Expected Change 1960-70	Net Shift	Percentage Net Shift	Net Shift as Percentage of 1960 Size
Barber								
15-24	238	212	-26	301	63	-89	-.3	-37.4
25-34	473	509	36	487	14	22	.1	4.7
35-44	391	397	6	353	-38	44	.2	11.3
45-54	511	378	-133	538	27	-160	-.6	-31.3
55-64	442	368	-74	477	35	-109	-.4	-24.7
Entertainment								
15-24	956	1208	252	1209	253	-1	-	-.1
25-34	573	598	25	589	16	9	-	1.6
35-44	582	533	-49	526	-56	7	-	1.2
45-54	653	599	-54	687	34	-88	-.3	-13.5
55-64	530	609	79	572	42	37	.1	7.0
Miscellaneous Personal Services								
15-24	183	193	10	231	48	-38	-.1	-20.8
25-34	255	230	-25	262	7	-32	-.1	-12.5
35-44	356	217	-139	321	-35	-104	-.4	-29.2
45-54	282	254	-28	297	15	-43	-.2	-15.2
55-64	235	229	-6	254	19	-25	-.1	-10.6
TOTAL	411,806	429,908	18,102	429,908	18,102	-25,993	±99.9	

$b_{15-24} = 1.264833$

$b_{25-34} = 1.028428$

$b_{35-44} = .903245$

$b_{45-54} = 1.052520$

$b_{55-64} = 1.079587$

Table IV-7

NET SHIFTS OF THE TOTAL FEMALE LABOR FORCE BY SECTOR AND INDUSTRY, 1960-1970

Sector & Industry	Labor Force 1960	Labor Force 1970	Actual Change 1960-70	Expected Value 1970	Expected Change 1960-70	Net Shift	Percentage Net Shift	Net Shift as Percentage of 1960 Size
EXTRACTIVE								
15-24	848	672	-176	1343	495	-671	-2.9	-79.1
25-34	835	552	-283	1087	252	-535	-2.3	-64.1
35-44	1146	695	-451	1215	69	-520	-2.3	-45.4
45-54	1153	681	-472	1418	265	-737	-3.2	-63.9
55-64	802	485	-317	1087	285	-602	-2.6	-75.1
Agric., forestry, fishing								
15-24	758	564	-194	1201	443	-637	-2.8	-84.0
25-34	721	443	-278	938	217	-495	-2.2	-68.7
35-44	1039	603	-436	1102	63	-499	-2.2	-48.0
45-54	1081	576	-505	1329	248	-753	-3.3	-69.7
55-64	774	439	-335	1049	275	-610	-2.7	-78.8
Mining								
15-24	90	108	18	142	52	-34	- .1	-37.8
25-34	114	109	-5	149	35	-40	- .2	-35.1
35-44	107	92	-15	113	6	-21	- .1	-19.6
45-54	72	105	33	89	17	16	.1	22.2
55-64	28	46	18	38	10	8	--	28.6
TRANSFORMATIVE								
15-24	8475	11,281	2806	13,425	4950	-2144	-9.3	-25.3
25-34	10,299	11,361	1062	13,403	3104	-2042	-8.9	-19.8
35-44	13,654	12,414	-1240	14,479	825	-2065	-9.0	-15.1
45-54	10,916	13,139	2223	13,422	2506	-283	-1.2	-2.6
55-64	5214	7219	2005	7065	1851	154	.7	3.0
Construction								
15-24	364	475	111	577	213	-102	- .4	-28.0
25-34	422	481	59	549	127	-68	- .3	-16.1
35-44	536	555	19	568	32	-13	- .1	-2.4
45-54	497	525	28	611	114	-86	- .4	-17.3
55-64	249	346	97	337	88	9	--	3.6

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Sector and Industry	Labor Force 1960	Labor Force 1970	Actual Change 1960-70	Expected Value 1970	Expected Change 1960-70	Net Shift	Percentage Net Shift	Net Shift as Percentage of 1960 Size
Food								
15-24	763	687	-56	1177	634	-490	-2.1	-65.9
25-34	930	704	-226	1210	280	-506	-2.2	-54.4
35-44	1424	862	-562	1510	86	-648	-2.8	-45.5
45-54	1113	926	-187	1369	256	-443	-1.9	-39.8
55-64	605	577	-28	820	215	-243	-1.1	-40.2
Textiles								
15-24	1824	2320	496	2889	1065	-569	-2.5	-31.2
25-34	2593	2671	78	3375	782	-704	-3.1	-27.2
35-44	3589	3031	-558	3806	217	-775	-3.4	-21.6
45-54	3241	3342	101	3985	744	-643	-2.8	-19.8
55-64	1571	2110	539	2129	558	-19	- .1	-1.2
Metal								
15-24	622	652	30	985	363	-333	-1.4	-53.5
25-34	677	668	-9	881	204	-213	- .9	-31.5
35-44	853	769	-84	904	51	-135	- .6	-15.8
45-54	603	807	204	741	138	66	.3	10.9
55-64	283	382	99	383	100	-1	--	-.4
Machinery								
15-24	1831	2965	1134	2901	1070	64	.3	3.5
25-34	2327	2855	528	3029	702	-174	-.8	-7.5
35-44	3076	2903	-173	3262	186	-359	-1.6	-11.7
45-54	2047	3170	1123	2517	470	653	2.8	31.9
55-64	753	1356	603	1020	267	336	1.5	44.6
Chemical								
15-24	462	597	135	732	270	-135	- .6	-29.2
25-34	509	528	19	662	153	-134	- .6	-26.3
35-44	574	536	-38	609	35	- 73	- .3	-12.7
45-54	415	533	118	510	95	23	.1	5.5
55-64	198	284	86	268	70	16	.1	8.0

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Sector & Industry	Labor Force 1960	Labor Force 1970	Actual Change 1960-70	Expected Value 1970	Expected Change 1960-70	Net Shift	Percentage Net Shift	Net Shift as Percentage of 1960 Size
Misc. Mfg.								
15-24	2283	3246	963	3616	1333	-370	-1.6	-16.2
25-34	2552	3194	642	3321	769	-127	- .6	-5.0
35-44	3335	3521	186	3537	202	-16	- .1	- .5
45-54	2786	3559	773	3426	640	133	.6	4.8
55-64	1424	2013	589	1930	506	83	.4	5.8
Utilities								
15-24	346	339	-7	548	202	-209	- .9	-60.4
25-34	289	260	-29	376	87	-116	- .5	-40.1
35-44	267	237	-30	283	16	-46	- .2	-17.2
45-54	214	277	63	263	49	14	.1	6.5
55-64	131	151	20	178	47	-27	- .1	-20.6
DISTRIBUTIVE								
15-24	8774	14,355	5581	13,898	5124	457	2.0	5.2
25-34	7014	8346	1332	9128	2114	-782	-3.4	-11.1
35-44	9974	10,496	522	10,577	603	-81	- .4	- .8
45-54	9420	11,687	2267	11,583	2163	104	.5	1.1
55-64	5339	7508	2169	7235	1896	273	1.2	5.1
Transportation								
15-24	598	1027	429	947	349	80	.3	13.4
25-34	594	977	383	773	179	204	.9	34.3
35-44	666	821	155	706	40	115	.5	17.3
45-54	538	744	206	662	124	82	.4	15.2
55-64	343	380	37	465	122	-85	-.4	-24.8
Communication								
15-24	1393	2057	664	2207	814	-150	- .7	-10.8
25-34	1096	1029	-67	1426	330	-397	-1.7	-36.2
35-44	787	1024	237	835	48	189	.8	24.0
45-54	682	758	76	838	156	-80	- .3	-11.7
55-64	361	385	24	489	128	-104	- .5	-28.8

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Sector and Industry	Labor Force 1960	Labor Force 1970	Actual Change 1960-70	Expected Value 1970	Expected Change 1960-70	Net Shift	Percentage Net Shift	Net Shift as Percentage of 1960 Size
Wholesale								
15-24	1023	1633	610	1620	597	13	.1	1.3
25-34	946	1268	302	1257	291	11	--	1.1
35-44	1183	1460	277	1254	71	206	.9	17.4
45-54	1031	1481	450	1268	237	213	.9	20.7
55-64	547	874	327	741	194	133	.6	24.3
Retail								
15-24	5760	9638	3878	9124	3364	514	2.2	8.9
25-34	4358	5072	714	5672	1314	-600	-2.6	-13.8
35-44	7538	7391	-147	7782	644	-591	-2.6	-8.1
45-54	7169	8704	1535	8815	1646	-111	- .5	-1.5
55-64	4008	5869	1701	5540	1452	329	1.4	8.0
PRIVATE SERVICES								
15-24	5221	8084	2863	8270	3049	-186	- .8	-3.6
25-34	3563	5562	1999	4637	1074	925	4.0	26.0
35-44	3674	4838	1164	3896	222	942	4.1	25.6
45-54	3064	4736	1672	3767	703	969	4.2	31.6
55-64	1790	2763	973	2426	636	337	1.5	18.8
Bank								
15-24	2044	3106	1062	3258	1190	-152	- .6	-6.5
25-34	1300	1926	626	1692	392	234	1.0	18.0
35-44	1094	1588	494	1160	66	428	1.9	39.1
45-54	819	1340	521	1097	188	333	1.4	40.7
55-64	423	706	283	573	150	133	.6	31.4
Insurance								
15-24	1823	2358	535	2887	1065	-530	-2.3	-29.1
25-34	992	1232	240	1291	299	-59	- .3	-5.9
35-44	903	1016	113	957	54	59	.3	6.5
45-54	840	1087	247	1033	193	54	.2	6.4
55-64	424	641	217	575	151	66	.3	15.6

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Sector & Industry	Labor Force 1960	Labor Force 1970	Actual Change 1960-70	Expected Value 1970	Expected Change 1960-70	Net Shift	Percentage Net Shift	Net Shift as a Percentage of 1960 Size
Real Estate								
15-24	232	350	118	367	135	-17	- .1	-7.9
25-34	252	417	165	328	76	89	.4	35.3
35-44	475	570	95	504	29	66	.3	13.9
45-54	515	761	246	633	118	128	.6	24.9
55-64	413	540	127	565	167	-20	- .1	-4.8
Engineer., Arch.								
15-24	89	123	34	141	52	-18	- .1	-20.2
25-34	81	130	49	105	24	25	.1	30.9
35-44	78	104	26	83	5	21	.1	26.9
45-54	53	84	31	65	12	19	.1	35.8
55-64	23	47	24	31	8	16	.1	69.6
Accounting								
15-24	97	259	162	153	56	106	.5	109.3
25-34	103	265	162	134	31	131	.6	127.2
35-44	138	254	124	130	8	116	.5	89.2
45-54	91	206	115	112	21	94	.4	103.3
55-64	58	111	53	79	21	32	.1	55.2
Misc. Business Serv.								
15-24	628	1405	777	995	367	410	1.9	65.3
25-34	603	1140	545	705	102	363	1.6	60.2
35-44	750	1022	273	795	45	227	1.0	30.3
45-54	533	975	440	655	122	318	1.4	59.7
55-64	321	503	182	431	110	82	.4	26.4
Legal								
15-24	309	483	175	488	180	-5	0.0	--
25-34	232	444	212	302	70	142	.6	61.2
35-44	244	294	49	259	15	35	.1	14.3
45-54	213	285	72	262	49	23	.1	10.8
55-64	138	215	77	187	49	28	.1	20.3

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Sector & Industry	Labor Force 1960	Labor Force 1970	Actual Change 1960-70	Expected Value 1970	Expected Change 1960-70	Net Shift	Percentage Net Shift	Net Shift as Percentage of 1960 Size
SOCIAL SERVICES								
15-24	9183	19,052	9869	14,546	5363	4506	19.6	49.1
25-34	9828	17,856	8028	12,791	2963	5065	22.0	51.5
35-44	12,227	17,636	5409	12,966	739	4670	20.3	38.2
45-54	12,872	18,603	5731	15,827	2955	2776	12.1	21.6
55-64	8045	12,725	4680	10,902	2857	1823	7.9	22.7
Medical Health								
15-24	885	2399	1514	1402	517	997	4.3	112.7
25-34	984	1932	948	1281	297	651	2.8	66.2
35-44	1254	2128	874	1330	76	798	3.5	63.6
45-54	1237	2319	1082	1521	284	798	3.5	64.5
55-64	817	1582	765	1107	290	475	2.1	58.1
Hospital								
15-24	2897	4751	1854	4589	1692	162	.7	5.6
25-341	2738	4321	1583	3563	825	758	3.3	27.7
35-44	2723	4116	1393	2888	165	1228	5.3	45.1
45-54	2655	3979	1324	3265	610	714	3.1	26.9
55-64	1591	2791	1200	2156	565	635	2.8	39.9
Education								
15-24	3496	8253	4757	5538	2042	2715	11.8	77.7
25-34	3682	8071	4389	4792	1110	3279	14.3	89.1
35-44	4710	7679	2969	4995	285	2684	11.7	57.0
45-54	5719	7823	2104	7032	1313	791	3.4	13.8
55-64	3464	5528	2064	4694	1230	834	3.6	24.1
Welfare								
15-24	386	805	419	611	225	194	.8	50.3
25-34	406	834	428	528	122	306	1.3	75.4
35-44	561	791	230	595	34	196	.9	34.9
45-54	621	1001	380	764	143	237	1.0	38.2
55-64	591	780	189	801	210	-21	- .1	-3.6

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Sector & Industry	Labor Force 1960	Labor Force 1970	Actual Change 1960-70	Expected Value 1970	Expected Change 1960-70	Net Shift	Percentage Net Shift	Net Shift as Percentage of 1960 Size
Nonprofit								
15-24	189	323	134	299	110	24	.1	12.7
25-34	205	250	45	267	62	-17	- .1	-8.3
35-44	270	260	-10	286	16	-26	- .1	-9.6
45-54	275	324	49	338	63	-14	- .1	-5.1
55-64	157	226	69	213	56	13	.1	8.3
Postal								
15-24	39	238	199	62	23	176	.8	451.3
25-34	102	289	187	133	31	156	.7	152.9
35-44	185	300	115	196	11	104	.5	56.2
45-54	223	346	123	274	51	72	.3	32.3
55-64	155	211	56	210	55	1	--	.6
Government								
15-24	1234	2135	901	1955	721	180	.8	14.6
25-34	1617	1980	363	2105	488	-125	- .5	-7.7
35-44	2421	2237	-184	2567	146	-330	-1.4	-13.6
45-54	2079	2683	604	2556	477	127	.6	6.1
55-64	1223	1512	289	1657	434	-145	- .6	-11.9
Misc. Soc. and Prof.								
15-24	57	148	91	90	33	58	.3	101.8
25-34	94	179	85	122	28	57	.2	60.6
35-44	103	125	22	109	6	16	.1	15.5
45-54	63	128	65	77	14	51	.2	81.0
55-64	47	95	48	64	17	31	.1	66.0
PERSONAL SERVICES								
15-24	7532	9969	2437	11,931	4399	-1962	-8.5	-26.0
25-34	6672	6052	-620	8683	2011	-2631	-11.4	-39.4
35-44	9489	7117	-2372	10,063	574	-2946	-12.8	-31.0
45-54	9077	8332	-745	11,161	2084	-2829	-12.3	-31.2
55-64	6149	6348	199	8333	2184	-1985	-8.6	-32.3

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Sector & Industry	Labor Force 1960	Labor Force 1970	Actual Change 1960-70	Expected Value 1970	Expected Change 1960-70	Net Shift	Percentage Net Shift	Net Shift as Percentage of 1960 Size
Domestic								
15-24	3258	1933	-1325	5161	1903	-3228	-14.0	-99.1
25-34	2272	1057	-1215	2957	685	-1900	-8.3	-83.6
35-44	3192	1506	-1686	3385	193	-1879	-8.2	-58.9
45-54	3747	2275	-1472	4607	860	-2332	-10.1	-62.2
55-64	3195	2485	-710	4330	1135	-1845	-8.0	-57.7
Hotel								
15-24	372	704	332	589	217	115	.5	30.9
25-34	464	675	211	604	140	71	.3	15.3
35-44	717	762	45	760	43	2	--	.3
45-54	841	870	29	1034	193	-164	- .7	-19.5
55-64	653	734	81	885	232	-151	- .7	-23.1
Eating, Drinking								
15-24	2172	4410	2238	3441	1269	969	4.2	44.6
25-34	2231	2262	31	2904	673	-642	-2.8	-28.8
35-44	2866	2722	-144	3039	173	-317	-1.4	-11.1
45-54	2282	2665	383	2806	524	-141	- .6	- 6.2
55-64	1125	1546	421	1524	399	22	.1	2.0
Repair								
15-24	142	222	80	225	83	-3	--	-2.1
25-34	137	193	56	178	41	15	.1	10.9
35-44	178	216	38	189	11	27	.1	15.2
45-54	142	231	89	175	33	56	.2	39.4
55-64	75	142	67	102	27	40	.2	53.3
Laundry								
15-24	513	551	38	813	300	-262	-1.1	-51.1
25-34	625	438	-187	813	188	-375	-1.6	-60.0
35-44	986	698	-288	1046	60	-348	-1.5	-35.3
45-54	960	838	-122	1180	220	-342	-1.5	-35.6
55-64	488	637	149	661	173	-24	- .1	-4.9

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Sector & Industry	Labor Force 1960	Labor Force 1970	Actual Change 1960-70	Expected Value 1970	Expected Change 1960-70	Net Shift	Percentage Net Shift	Net Shift as Percentage of 1960 Size
Barber								
15-24	523	1357	834	828	305	529	2.3	101.1
25-34	535	915	380	696	161	219	1.0	40.9
35-44	994	706	-288	1054	60	-348	-1.5	-35.0
45-54	579	862	283	712	133	150	.7	25.9
55-64	227	418	191	308	81	110	.5	48.5
Entertainment								
15-24	454	653	199	719	265	-66	-.3	-14.5
25-34	320	373	53	416	96	-43	-.2	-13.4
35-44	372	368	-4	395	23	-27	-.1	-7.3
45-54	286	377	91	352	66	25	.1	8.7
55-64	189	211	22	256	67	-45	-.2	-23.8
Misc. Personal Serv.								
15-24	98	139	41	155	57	-16	-.1	-16.3
25-34	88	139	51	115	27	24	.1	27.3
35-44	184	139	-45	195	11	-56	-.2	-30.4
45-54	240	214	-26	295	55	-81	-.4	-33.8
55-64	197	175	-22	267	70	-92	-.4	-46.7
TOTALS	202,249	260,564	58,315	260,564	58,315	23,001	±100.0	

k 15-24 = 1.584018

k 25-34 = 1.301432

k 35-44 = 1.060442

k 45-54 = 1.229582

k 55-64 = 1.355134

The last two columns of Table IV-5 are introduced as aids to interpretation. The Percentage Net Shift column indicates the relative importance of each of the age categories in each of the sectors and industries for the total population. Thus, continuing with the 15-24 Extractive sector age group, the -12.2 means that nearly one-eighth of all negative change by sectors is found in this one age category (6,133 ÷ 50,131 = 12.2). Since we are dealing with net shifts, the totals should add up to ± 100.0 (actually ±99.9 in this case because of rounding error.)

Whereas the net shift column reflects the importance of any one age category for the total employed labor force, the last column indicates the importance of the net shift for each age category in a given sector or industry. Thus, -75.1 means that the net shift (-6133) was three-quarters of the 1960 figure (8164). This is one of the largest differences in the entire table, but it is possible for the figure to be almost 0 (e.g., 0.5 for Transformative, 55-64). Columns 7 and 8 show great differences between them in magnitude because the bases of sectors and industries are so different.

Having explicated the procedures involved in the shift technique by reference to Table IV-5, let us state the case in general rather than specific terms. The shift analysis separates the actual change into two components: the expected change and the net shift. The expected change within sectors is the application of the growth rate of all persons in the age category to the actual 1960 sector and industry figures. This growth rate of the age category reflects many factors -- changes in the total population, changes in age and sex specific participation rates, changes in age of entry and of retirement. Now the assumption of the expected change is that all such factors affect the groups equally within each sector and each industry. Thus, the expected change component of the actual change may be viewed as divorced from changes caused by intersectoral movements of members continuing in the labor force, as well as the differential patterns of the incorporation of entry cohorts into specific industries and sectors. These latter types of changes are reflected in the net shift component.

There is another way of looking at this point. Since age groups are distributed unequally across sectors in 1960 and since they increased at different rates over the 1960-1970 decade, the expected sectoral distribution of the labor force could be expected to differ from the 1960 sectoral distribution. Conceivably, this expected difference would account for the movement out of the Extractive and Transformative sectors and the movement into the services. Thus, it is possible that the sectoral transformation could occur solely or predominantly as the result of expected changes, i.e, changes in the size of age groups.

This possibility is examined in Table IV-8. The actual 1960 and 1970 sectoral distributions of the five age groups are shown, along with the expected 1970 distribution based on the differential growth of age groups. It is clearly evident that the expected changes alone do not yield a "transformation" pattern. The expected sectoral redistribution is so slight as to be insignificant. And the pattern of these slight changes are not as would be anticipated. If the employed labor force would have changed as "expected" between 1960 and 1970, there would have been a movement into Extractive and out of Social services, the two sectors that actually experienced the largest loss and gain, respectively.

Table IV-8

ACTUAL VERSUS EXPECTED CHANGES IN THE SECTORAL DISTRIBUTION OF THE LABOR FORCE, AGES 15-64, FOR 1960 AND 1970

Industry Sector	Actual 1960 Distribution	Expected 1970 Distribution	Actual 1970 Distribution	% Point Difference 1970 Expected Minus 1960 Actual Dist.	% Point Difference 1970 Actual Minus 1960 Actual Dist.
Extractive	7.6	7.7	4.3	.1	-3.3
Transformative	36.2	35.9	33.7	- .3	-2.5
Distributive Svcs.	22.0	22.1	22.3	.1	.3
Producer Services	6.6	6.7	8.1	.1	1.5
Social Services	16.4	16.3	21.9	- .1	5.5
Personal Services	11.2	11.3	9.7	.1	-1.5
TOTALS	100.0	100.0	100.0		

Thus, it is evident that the much larger percentage point changes in the last column of Table IV-8 are due to sources other than changes in the size of age groups. In other words, it is due mainly to the new entry or re-entry patterns of members of the labor force and to the intersectoral shifts of existing labor force members as reflected by the net shift values.

The net shift figure reflects the portion of the actual change which was affected by "deviations" from the expected pattern of industry and sectoral participation. The deviations include the movements from one sector or industry to another by employed persons, or the entry or exit of greater or fewer number of persons than expected. Even more than the comparison of the situation in 1965 when compared to 1970 as provided in Chapter III, the shift approach is severely limited in what can be said about the origins of those entering or the destinations of those leaving particular sectors and industries. This is a familiar problem for those who must rely upon cross-sectional data. To make definitive statements about inter-industry mobility and its relation to age one needs longitudinal data such as that being accumulated in the Parnes study (1975).

What can we expect to get out of the shift share analysis? One lead is to link age structure to change of employment in a given industry. As we noted earlier in this report, the 1960's showed a slower growth of employment in the Transformative sector as compared with the total labor force. As a result, the share of total employment in this sector decreased from 35.9% in 1960 to 33.1% in 1970. The data in Table IV-5 show that four of the five age groups grew more slowly than could have been expected on the basis of the growth rates of these age groups in the total labor force. Only the oldest age group (55-64) expanded as expected.

The interesting finding of the differentiation by age is the fact that the youngest age group (15-24) showed the largest difference between actual and expected growth of employment. This suggests that with respect to the total labor force, relatively fewer new labor force entries find employment in the Transformative sector. (Whether this is by choice or not cannot be assessed with these data, but this point is not germane for our present purposes.)

The pattern demonstrated by the Transformative sector is, of course, constituted by the patterns of its eight industries. The one important exception to the sector pattern is machinery, which is also the single most important industry within the sector. This one industry accounts for 7.2 percent of the total positive net shift of the employed labor force and only the 35-44 age group expanded slightly less than expected.

The relationship for the proportionately decreasing industries to have less than expected growth in specific age categories holds in other sectors. It holds for agriculture and mining in Extractive, transportation in Distributive services, domestic service, repair, laundry and miscellaneous personal services in the Personal services sector. In each of these industries all age groups have negative net shifts. The consistency of patterns is not as strong for the proportionately increasing industries, where there are more cases of positive and negative net shifts within the same industries.

When one examines the age categories, the absolute numbers by category vary considerably. There is no regular progression, as would be the case in a

life table, where each successive age group is smaller than the previous one. Nearly always (Personal Services being an exception), the 15-24 category is smaller than the 25-34 category, because many persons of this age have not entered the labor force, as is graphically indicated by the "notch" in the age-sex pyramids. At the other end, the oldest age category (with the one exception of domestic service) is smaller than the preceding category. But no such generalities can be made for the three intermediate age categories; they are distributed in many patterns.

At the sector level, the results are as anticipated. The Extractive sector has a heavy negative percentage net shift, accounting for nearly one-half (46.3%) of the total. Transformative has a negative total of 29.6%, and together with Extractive and Personal services (22.6%) it accounts for virtually all (98.5%) of the total negative shift. In the Transformative sector the youngest age category (15-24) is 17.2% less than expected. Within the sector, construction follows the overall pattern closely, but food and textiles both have large negative magnitudes for nearly all age categories. Whatever the reason, and it is probably linked to technological factors and changes in product demand, neither industry is able to attract its "share" of workers.

In Personal services, it is domestic service that has high negative figures for all age categories. Eating and drinking has an unusual pattern, for employment in the youngest age category expanded remarkably, the net shift being nearly as large (84.1%) as the total for 1960. The other age categories are all negative, but not nearly enough to offset the 15-24 category. Whether it is true that youth will be served, it is here evident that youth will serve, especially in the fast-food chains that have grown so rapidly since 1960.

Turning to the sectors and industries with net shifts greater than expected, it can be no surprise that Social services is the dominant sector, with more than three-quarters (76.8%) of the total positive net shift. It is particularly notable that all individual Social service industries expanded faster than expected (except for two age categories in postal services). Moreover, the majority of net shifts in the various age groups throughout the Social services is at least one-third of the 1960 employment in each specific category.

Examining the absolute figures for net shifts, we find nearly little difference in the three youngest age categories, and the drop-off to age 55-64 is not a sharp one. Education is numerically the largest industry within the sector, and above average growth was particularly important in the two youngest age groups. Government, the second largest industry within the sector, not only had less impressive growth but it was concentrated quite equally in the 15-24 and the 45-54 age groups, a most unusual pattern. The explanation for this is not known, but as we shall see, it is the consequence of the male distribution, since the female pattern is quite different.

Producer services is the other sector with more than expected growth. Its total positive net shift is 19.4%, with Social services accounting for all but 3.8% of the total positive net shift. By age group the distribution is relatively even, much more so than for Social services. The industries within the sectors show more variation (insurance has negative signs for the younger ages) but basically they conform to the overall pattern.

By contrast, one remaining sector, Distributive, has quite contradictory industry patterns that make the overall sector pattern of very little change a deceiving one. Transportation has all negative signs and retail trade three out of five, but they are quite small in their effects, none being in excess of 10% of the 1960 size, with the exception of the oldest category in transportation. Wholesale trade has a rather even pattern of positive net shifts by age, but the pattern for communication is a broken one.

Before attempting to draw conclusions about the total labor force, let us refer to the male and female distributions (Tables IV-6 and IV-7) for whatever light they can shed on the matter. Since males are 62% of the labor force in 1970 they tend to dominate, but the variation in female employment by sector is such that their impact can be considerable for particular sectors or industries. Moreover, females have higher growth rates (k values) for all age groups, and this translates into an absolute intercensal growth much greater than for males (5.8 versus 1.8 million). In the absolute distribution of individuals by sex for 1970, it is common for males to have the largest representation in the 25-34 age group, but this is not true for females because child bearing and child rearing tend to keep them out of the labor force at this time. Females are much more likely than males to have their peak representation in the 15-24 age group, especially in retail trade, Producers' and Personal services.

On the sector level, females have a strong negative pattern in the Extractive and Personal service sectors, the difference being that they are much less important in Extractive, but more important in Personal services. In the latter, whereas males had a 19.4% positive figure for the 15-24 age group, it is -26.0% for females. Within Personal services, the industries have similar patterns for males and females, with the most prominent exception being barber and beauty shops. For men there is a net negative shift but for women there is a strong positive relationship, especially in the youngest age category. The different technology and scheduling in barber shops compared to beauty shops has been well described by Wilburn (1969).

In the Transformative sector the actual growth of females in relation to the expected growth was much less as compared to males, with the effect somewhat stronger in the younger ages. Internally, the patterns are similar by sex, with machinery being the exception, having a positive net shift for both sexes.

The Social services are even more important for females than for males in providing for positive net shifts; 81.9% compared to 58.5%. Both sexes have greater than expected growth in all age groups. While young women were brought into the postal service in larger than expected numbers, their pattern of government is a mixed one, with an overall negative balance.

Producer services does not have as great an impact on the percentage net shift for females as for males, with the youngest age group having a slight negative shift. Perhaps the demand in banking and insurance in particular, is being met by the substitution of office machines for personnel. Miscellaneous business services, a hodge-podge of activities, shows strong growth for both sexes.

The disparate trends in Distributive, evident in the total figures, shows up as even more complicated when considered by sex. For example,

transportation is negative in shift for males, but positive for females, save the oldest category. The reverse patterns are found in communication. Wholesaling is an important basis for shift shares for males, but it is of minor importance for females. The sign patterns for retail are similar for both sexes: positive for the youngest and oldest age groups and negative for the intermediate groups.

The shift approach allows us to consider once more the question of the relative importance of age groups in accounting for the sectoral transformation. The data of Table IV-9 was computed from the information provided in Tables IV-5, IV-6, IV-7 and is given for the total population, males and females in three panels. We examine first the upper panel on the total population.

The first column shows the actual sectoral changes in the percentage distribution of the total labor force from 1960 to 1970, and we see that the Extractive sector declined by 3.3 percentage points while Social services increased by 5.5 percentage points. Each of the other five columns by age shows the percentage point changes in the distribution that would have occurred if only one age group had changed as it actually did while the other four age groups had changed as expected, that is, had changed such that their 1970 distributions across sectors had remained the same as in 1960. Thus, the second column of Table IV-9 shows the change in the percentage distribution of the total labor force under the assumption that the actual 1960-1970 changes were experienced by only the youngest age group, the third column shows the changes that would have occurred if actual changes were experienced by only the 25-34 age group, etc.

The changes shown in each of columns 2-6 of Table IV-9 represent the differences between the actual 1960 percentage distribution and the expected 1970 distribution. The latter was computed directly from the "Number in Labor Force, 1970" and "Expected Value" columns of Table IV-5. For example, under the assumption that only the 15-24 age groups changed as expected, the 1970 distribution was calculated by: 1) summing, for each sector, the actual number in the 15-24 age group in 1970 and the expected 1970 employment values of the four older age groups, which yields an employment total for each sector; and 2) dividing each sectoral total by the total labor force in 1970, which gives the percentage of the labor force employed in each sector in 1970. This derived 1970 percentage distribution then was subtracted from the actual 1960 percentage distribution, resulting in a decline in the Extractive sector of the total labor force of .8 percentage points, a decline in the Transformative sector of 1.1 percentage points, an increase in the Distributive sector of .4 points, etc. (see panel 1 and column 2 of Table IV-9).

Columns 2 through 6 of the table enable us to compare the effects of the actual changes in each age group upon the sectoral distribution of the labor force. The results reinforce those obtained from the shift analysis. It can be seen that the youngest age group had the largest impact upon the declining Extractive and Transformative sectors, but a relatively small impact upon Producer services and the same magnitude of effect upon Social services as the 25-34 and 35-44 age groups. It is also evident that the three youngest age groups had substantially larger effects than did the two older age groups in only two sectors: Transformative and Social services. Definitely, the oldest age group had the least effect, yet even this age group contributed substantially to the decline in the Extractive sector and to the growth in Social services.

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Table IV-9

CHANGES IN THE PERCENTAGE DISTRIBUTION OF THE TOTAL EMPLOYED LABOR FORCE, MALES AND FEMALES, AMONG SECTORS, UNDER THE ASSUMPTION OF ACTUAL CHANGES IN ONLY ONE AGE GROUP

Sector	Total Actual Change	Age Group Experiencing Actual Change				
		15-24	25-34	35-44	45-54	55-64
Total Labor Force						
Extractive	-3.3	- .8	- .5	- .5	- .7	- .5
Transformative	-2.5	-1.1	-1.0	-1.0	- .4	- .3
Distributive	.3	.4	0	.1	.2	.2
Producer's Services	1.5	.3	.5	.5	.4	.2
Social Services	5.5	1.2	1.2	1.2	1.0	.6
Personal Services	-1.5	.1	- .2	- .3	- .4	- .2
Male						
Extractive	-4.0	-1.0	- .6	- .6	- .9	- .5
Transformative	- .9	- .7	- .6	- .6	- .1	.0
Distributive	.6	.5	.2	.2	.2	.1
Producer's Services	1.2	.1	.3	.3	.2	0
Social Services	3.4	.6	.6	.6	.7	.4
Personal Services	- .4	.4	0	0	- .2	0
Female						
Extractive	-1.2	- .3	- .2	- .2	- .3	- .3
Transformative	-2.7	-1.1	-1.1	-1.1	- .4	- .2
Distributive	.1	.3	- .2	.1	.2	.2
Producer's Services	1.4	.2	.6	.6	.6	.4
Social Services	7.2	1.7	1.9	1.7	1.0	.6
Personal Services	-4.7	- .7	-1.0	-1.1	-1.0	- .7

There are no remarkable differences in the effects of the five age groups upon the sectoral transformation. Moreover, a scrutiny of columns 2-6 with the first column makes it quite clear that no one age group by itself could have effected a pattern of sectoral shifts similar in magnitude to the actual shifts which occurred. These conclusions for the total employed labor force hold for male and female as well. The magnitudes, of course, differ by sex, but the patterns are similar so they need not be discussed in detail.

Conclusions

Because of the large amounts of data that have been put before the reader in this chapter, it is desirable to end with some general statements that may serve to underscore the importance we attach to the role of age in the transformative process. While here as elsewhere in this report a decade is a rather short interval to analyze in terms of structural change, age as a variable does demonstrate some rather clear patterns.

Sex differences by age are a prominent feature of this chapter, perhaps best appreciated through the medium of the age-sex pyramids. The remarkable growth of female employment during the sixties made this sex more volatile in change than the much more slowly growing males. To that extent, females are more "interesting" to analyze than males.

One of the features of the net shifts presented in Tables IV-5 through IV-7 is the fact that the signs for the five age groups within both sectors and industries go in the same direction, that is to say, they are either all positive or all negative. This holds for all sectors except Distributive. Transformative has a positive 0.3% shift for the 55-64 age group but all other groups are negative, so it is hardly an exception. On the industry level there are more exceptions, concentrated in the Transformative, Distributive and Personal services. This pattern of sign consistency could have been predicted for industries that either grew much less than expected (e.g. agriculture) or much more (e.g. education), but its general pervasiveness comes as something of a surprise.

Another feature of the net shift is the relatively narrow range that it displays as a percentage of the 1960 size. That is, the variation by age category generally is not extreme. If one age group is growing much more rapidly than expected then the others will also, and vice versa. For example, for all age groups the range in Extractive is from -37.8 to -75.1 and in Social services from 31.1 to 60.4. Again, there are exceptions to this generalization, but the pattern is undeniably present and it is not an obvious one. The variation in numbers in age groups and the differential growth of the age groups could have led us to predict a substantially different pattern, with great variation especially in the extreme age groups.

The proportion of the total positive net shift accounted for by Social services is remarkable: 76.8% for total, 58.5% for male and 81.9% for female. This last figure especially is impressive, since it must be remembered that the net shift procedure already controls for the increase in labor force participation of women during the 1960-1970 decade. The 81.9% is, therefore, in addition to the strong growth that took place as a result of the overall increase of the age groups.

What has become so apparent by now that it would hardly seem to bear repeating is the variation and diversity that the variable of age assumes by sectors and industries. What is important to emphasize is that there is nothing mechanical or indeed obvious about the ways through which age operates in the transformative process; it strikes us as a rather complex matter and by no means have the analytical possibilities inherent in the subject been exhausted. As we had reason to lament upon earlier, some of the most important questions cannot be handled adequately by recourse to census data. Only large-scale surveys -- large because they are needed to provide the necessary detail -- designed to obtain retrospective questions about labor force behavior, can be expected to provide satisfactory answers to questions about origins and destinations.

Chapter V

THE INTERRELATIONSHIP OF INDUSTRY AND OCCUPATION

If we are to understand how the process of labor force transformation takes place we need to have a theory of work allocation that can encompass the various dimensions of work position and how they are interrelated. We do not have such a theory at this time, partly because the inclination has been to consider each dimension separately and in isolation from the others.

Sociologists, for example, have long considered work almost exclusively from the perspective of occupation, which is used to develop hierarchies of social stratification and the forms of social mobility that occur within them. (See Boudon, 1973, for a recent survey of the field.) But rarely do sociologists attempt to incorporate industry position in the interpretation of social stratification and social mobility. Perhaps the most notable example of this point is the fact that Blau and Duncan (1967) in their very influential study, The American Occupational Structure, collected information on industry positions of the respondents as well as those of their fathers and fathers-in-law, but they almost completely ignored these data, using industry position only to make minor refinements in their occupational coding, but not as an analytical variable in its own right. Probably the main reason for the neglect of industry position in the study of occupational mobility is the fact that occupational positions can be ranked to form a hierarchical ladder of status (although there are evident difficulties with all such rankings). In contrast, industry positions do not lend themselves to the formation of a status hierarchy.

But industries and sectors do vary in the degree to which they have different occupational mixes; that is, in the varying proportions of high or low-status occupations they display. This means that the differential growth of industries and sectors will directly affect the total occupational distribution and consequently will affect the probabilities of social mobility for those in the labor force.

After all, industry position logically is prior to occupational position. We say logically prior because anyone in the labor force must simultaneously occupy an industry and an occupational position. But the reality of the creation of specific work positions is that specific enterprises are created within specific industries. Then, when enterprises are formed, someone within them must recruit individuals to occupy specific occupational positions. Of course, the availability of certain occupational skills constrains the kinds of industries that develop; doubtless, a number of oil-rich nations have the investment capital to start high-technology industries, but they do not necessarily have the trained manpower to operate them. Which brings us back to the initial point: industry and occupation are interrelated, and they should be analyzed as such.

Such a task in all of its ramifications is far greater than can be attempted here. It would be preferable to have data directly on the enterprises themselves, rather than to depend on our indirect approach which relies upon information on individuals occupying particular industry positions as designated

by the Bureau of the Census. Of course, the occupational titles reported for individuals in the census may not accurately reflect their actual work activities. Moreover, even accepting the population data on industry and occupation, their full potential will not be exploited. Even though the three-digit census codes for industry and occupation provide information on hundreds of titles, the analysis reported here will be restricted to the six sectors and the 37 industries and just eleven occupational classes. Eventually, research in this area should make use of the full range of the two and three digit classification, but for the largely exploratory purposes of this chapter, the more gross categories must suffice. Parenthetically, Gibbs and Poston (1975) have demonstrated that division of labor measures, created from U.S. census industry and occupation categories, produce much the same results whether gross, intermediate or detailed classifications are used.

It also should be made clear at this point that the purpose of this chapter is not to seek a comprehensive explanation of why industry-occupational configurations assume the patterns they do. The answers to the questions that arise from such an endeavor would lead us directly into the "motor" of economic growth and development and a consideration of the demand-supply factors that influence the industry-occupational patterns and their change. This cannot be attempted here, at least in more than passing fashion. Our concern is with the allocation of labor itself and how it is transformed over time. This offers many challenging problems in its own right. It is assumed that sectors and industries have differing occupational requirements such that most industries will have occupational profiles (even using the gross occupational categories) that clearly differentiate them from other sectors and industries. More than this, it is also assumed that even for so short a period as the 1960-1970 decade there can be significant differences introduced into the industry-occupational structures.

Logically, there are four combinations of industry-occupational change:

Type 1. There is growth (positive or negative) in numbers, but no proportionate change in the industry-occupational configuration; the pattern therefore remaining the same.

Type 2. There is a change in the industry-occupational configuration (possible under conditions of positive, negative or no growth), but it is accountable for solely by shifts in the industry distribution, the occupational profiles within industries remaining unchanged. For the total labor force the occupational distribution must change but <u>not</u> within industries.

Type 3. The reverse of Type 2. The industries do not change, but the occupational distributions within the industries change.

Type 4. With or without the growth of the total labor force, both the industry and occupational configurations change.

As already intimated, it is Type 4 which is overwhelmingly encountered in both developed and developing countries. Possibly, under pre-industrial conditions Type 1 was approximated, where there was little economic development and slow population growth. Of course, Types 2 and 3 are stated in stringent terms and if they were restated to mean only that the predominant change was of the occupational structure within industries or of the industry structure itself, these patterns would be empirically more likely to be encountered.

In Table V-1 the occupational distribution for the total labor force for 1960 and 1970 is given for 11 categories. The only modification of the conventional one-digit classification is the division of professional into professional and semi-professional (see Appendix D for allocation). As is well known, farmers and farmer laborers declined by about 50%, operatives and laborers over 10%. In contrast, professionals and semi-professionals increased by over 25% and clerical by nearly 20%. The remaining occupational categories are more or less holding their own.

The configuration for the entire labor force is well known, but what should we expect for sectors and industries? Will they not have their own sets of "imperatives" that serve to mold their occupational distributions? The array of factors that can impinge upon these distributions -- i.e., the demand and supply of trained manpower, the investment decisions of private firms and of governments, the infusion of technology, the kinds of discrimination practiced against minorities and females -- is so large and varied that no attempt can be made to fully "explain" the patterns that can be detected. In any event, as noted in the introductory chapter, we are interested primarily in <u>how</u> the labor force changes rather than <u>why</u> it changes.

Tables V-2, 3 and 4 present the occupational distributions within the six sectors for 1960 and 1970 and both the percentage point difference and the percentage change for the 1960-70 period. (Rather than taxing the reader's eyesight and patience with comparable distributions for each of the 37 industries we will refer to industries only when they seem to offer a distinctive point.) The distributions and their changes are complex and cannot easily be summarized.

There is a greater concentration in a few occupational categories by sector than was true for the entire employed labor force. To no one's surprise, farmers and farm laborers together account for over two-thirds of employment in the Extractive sector. What does command our attention is the appreciable decline in this total between 1960 and 1970, something over 10 percentage points. Although the professional and semi-professional categories grew by only 2 percentage points, their percentage change was over 100% during the decade. In agriculture (mining has a different pattern) the growth of these two occupational categories may be said to represent a diffusion of expertise. In agriculture this means not only professional agronomists and engineers but also increases in managers, clerical and sales, all a sign of the developing agribusiness. The 1960-70 trend may be expected to continue.

No other sector has so great a concentration as does Extractive in just two categories, but Personal services, even in 1970, had nearly 60% (58.42) in service occupations. Transformative had -2.57 percentage point decline from 1960-1970 in the proportion who were craftsmen, operatives and laborers (68.41%

Table V- 1

OCCUPATIONAL DISTRIBUTION OF THE TOTAL LABOR FORCE, 1960-1970

Occupational Category	Percent in 1960	Percent in 1970	Percent Point Change	Percentage Change
Professional	8.01	10.20	2.19	27.3
Semi-Professional	3.80	4.79	.99	26.1
Farmers	4.08	1.85	-2.23	-54.7
Managers	8.76	8.50	- .26	- 3.0
Clerical	15.16	18.02	2.86	18.90
Sales	7.57	7.28	- .29	-3.80
Craftsmen	14.21	13.75	- .46	-3.20
Operatives	19.34	17.32	-2.02	-10.40
Service	11.73	12.68	.95	8.10
Laborers	5.03	4.40	- .63	-12.50
Farm Laborers	2.37	1.26	-1.11	-46.80

Table V-2

OCCUPATIONAL DISTRIBUTIONS WITHIN INDUSTRY SECTORS, 1960 AND 1970, BOTH SEXES
(In Percent)

	Extractive	Transformative	Distributive Services	Producer Services	Social Services	Personal Services
Professional						
1960	1.18	4.19	2.15	11.63	31.18	.45
1970	2.48	5.14	2.44	11.92	30.84	1.13
Semi-Professional						
1960	.97	3.08	.72	3.83	11.58	2.72
1970	1.90	4.02	1.43	5.83	10.65	2.43
Farmers						
1960	49.81	.00	.00	.00	.00	.00
1970	40.56	.00	.00	.00	.00	.00
Managers						
1960	1.26	6.01	16.65	14.57	5.07	9.43
1970	1.85	6.08	13.82	12.87	6.19	9.14
Clerical						
1960	1.67	11.13	18.49	41.11	22.64	4.97
1970	3.36	11.80	21.14	42.11	22.97	7.71
Sales						
1960	.26	3.14	23.74	16.20	.23	1.01
1970	.47	2.64	22.18	15.02	.28	1.43
Craftsmen						
1960	3.54	26.38	11.37	3.46	4.71	9.58
1970	5.91	26.70	12.36	2.98	3.23	9.59
Operatives						
1960	9.38	36.33	18.66	2.05	2.48	9.52
1970	9.31	35.32	17.57	2.02	1.79	7.58
Service						
1960	.42	1.50	2.79	5.90	20.48	59.35
1970	.78	1.94	2.80	6.25	22.87	58.42
Laborers						
1960	2.60	8.27	5.43	1.29	1.68	3.01
1970	[illegible]	6.39	6.31	1.03	1.23	2.62
Farm Laborers						
1960	28.96	.00	.00	.00	.00	.00
1970	27.54	.00	.00	.00	.00	.00
Total Sample Size						
1960	(51,469)	(228,407)	(140,844)	(43,186)	(106,033)	(73,902)
1970	(32,571)	(238,318)	(160,373)	(58,842)	(157,394)	(71,789)

Table V-2

(Continued)

PERCENT POINT CHANGE AND PERCENTAGE CHANGE OF OCCUPATIONAL CATEGORIES WITHIN INDUSTRY SECTORS, 1960--1970, BOTH SEXES

	Extractive	Transformative	Distributive Services	Producer Services	Social Services	Personal Services
Professional						
% Point Change	1.30	.95	.29	.29	- .34	.68
Percentage Change	110.17	22.67	13.49	2.49	-1.09	151.11
Semi-Professional						
% Point Change	.93	.94	.71	2.00	- .93	- .29
Percentage Change	95.88	30.52	98.61	52.22	-8.03	-10.66
Farmers						
% Point Change	-9.25	.00	.00	.00	.00	.00
Percentage Change	-18.57	---	---	---	---	---
Managers						
% Point Change	.59	.07	-2.83	-1.70	1.12	- .29
Percentage Change	46.82	1.16	-17.00	-11.67	22.09	-3.07
Clerical						
% Point Change	1.69	.67	2.65	1.00	.33	2.74
Percentage Change	101.20	6.02	14.33	2.43	1.46	55.13
Sales						
% Point Change	.21	- .50	-1.61	-1.18	.05	.42
Percentage Change	80.77	-15.92	-6.77	-7.28	21.74	41.58
Craftsmen						
% Point Change	2.37	.32	.99	- .48	-1.48	.01
Percentage Change	66.95	1.21	8.71	-13.87	-31.42	0.10
Operatives						
% Point Change	- .07	-1.01	-1.09	- .03	- .69	1.94
Percentage Change	- .75	-2.78	-5.84	-1.46	-27.82	20.38
Service						
% Point Change	.36	.44	.01	.35	2.39	.93
Percentage Change	85.71	29.33	.36	5.93	11.67	1.57
Laborers						
% Point Change	3.31	-1.88	.88	- .26	- .45	- .39
Percentage Change	127.31	-22.73	16.21	-20.16	-26.78	-12.96
Farm Laborers						
% Point Change	-1.42	.00	.00	.00	.00	.00
Percentage Change	-4.90	---	---	---	---	---

NOTE: Computed From Table

Table V-3

OCCUPATIONAL DISTRIBUTIONS WITHIN INDUSTRY SECTORS, 1960-1970, MALES (In Percent)

	Extractive	Transformative	Distributive Services	Producer Services	Social Services	Personal Services
Professional						
1960	1.25	5.01	2.68	18.13	25.14	.63
1970	2.56	6.27	3.16	19.17	28.47	1.30
Semi-Professional						
1960	1.00	3.43	.78	5.66	13.67	4.63
1970	1.87	4.48	1.60	8.25	13.10	4.05
Farmers						
1960	52.36	.00	.00	.00	.00	.00
1970	43.11	.00	.00	.00	.00	.00
Managers						
1960	1.32	7.18	20.53	20.61	7.69	16.31
1970	1.92	7.53	17.64	18.86	10.43	15.63
Clerical						
1960	.70	5.78	8.55	14.52	15.91	2.59
1970	1.10	5.83	8.38	13.75	13.36	3.38
Sales						
1960	.24	3.59	18.32	23.75	.28	1.37
1970	.39	3.19	17.61	22.35	.31	1.69
Craftsmen						
1960	3.86	32.51	15.51	5.55	9.53	22.03
1970	6.50	33.49	17.65	4.98	6.85	21.00
Operatives						
1960	9.95	30.91	24.01	2.80	3.83	11.71
1970	9.90	29.24	23.14	2.69	2.90	9.43
Service						
1960	.33	1.54	2.20	6.95	20.67	34.06
1970	.62	2.21	2.20	8.28	22.09	38.30
Laborers						
1960	2.77	10.10	7.46	2.08	3.33	6.72
1970	6.01	7.80	8.67	1.72	2.53	5.26
Farm Laborers						
1960	26.29	.00	.00	.00	.00	.00
1970	26.09	.00	.00	.00	.00	.00
Total Sample Size						
1960	(46,312)	(178,798)	(98,830)	(25,352)	(51,495)	(32,111)
1970	(29,296)	(181,676)	(105,950)	(32,074)	(68,326)	(31,244)

Table V-3

(Continued)

PERCENT POINT CHANGE AND PERCENTAGE CHANGE OCCUPATIONAL CATEGORIES WITHIN INDUSTRY SECTORS, 1960 AND 1970, MALES (In Percent)

	Extractive	Transformative	Distributive Services	Producer Services	Social Services	Personal Services
Professional						
% Point Change	1.31	1.26	.48	1.04	3.33	.67
Percentage Change	104.80	25.15	17.91	5.74	13.24	106.35
Semi-Professional						
% Point Change	.87	1.05	.82	2.59	- .57	- .58
Percentage Change	87.00	30.61	105.13	45.76	-4.17	-12.53
Farmers						
% Point Change	- 9.25	.00	.00	.00	.00	.00
Percentage Change	-17.66	----	----	----	----	0.00
Managers						
% Point Change	.60	.35	- 2.89	- 1.75	2.74	- .68
Percentage Change	45.45	4.87	-14.08	- 8.49	35.63	- 4.17
Clerical						
% Point Change	.40	.05	- .17	- .77	- 2.55	.79
Percentage Change	57.14	.86	- 1.99	- 5.30	-16.03	30.50
Sales						
% Point Change	.15	- .40	- .71	- 1.40	.03	.32
Percentage Change	62.50	-11.14	- 3.88	- 5.89	10.71	23.36
Craftsmen						
% Point Change	2.64	.98	2.14	- .57	- 2.68	- 1.03
Percentage Change	68.39	3.01	13.80	-10.27	-28.12	- 4.68
Operatives						
% Point Change	- .05	- 1.67	- .87	- .11	- .93	- 2.28
Percentage Change	- .50	- 5.40	- 3.62	- 3.93	-24.28	-19.47
Service						
% Point Change	.29	.67	.00	1.33	1.42	4.24
Percentage Change	87.87	43.51	.00	19.14	6.87	12.45
Laborers						
% Point Change	3.24	-2.30	1.21	- .36	- .80	-1.46
Percentage Change	116.97	-22.77	16.22	-17.31	-24.02	-21.73
Farm Laborers						
% Point Change	- .20	.00	.00	.00	.00	.00
Percentage Change	- .76	---	---	---	---	---

NOTE: Computed from Table 2

Table V-4

OCCUPATIONAL DISTRIBUTIONS WITHIN INDUSTRY SECTORS,
1960-1970, FEMALES (In Percent)

	Extractive	Transformative	Distributive Services	Producer Services	Social Services	Personal Services
Professional						
1960	.53	1.13	.87	2.44	36.76	.32
1970	1.81	1.52	1.04	3.25	32.65	.99
Semi-Professional						
1960	.72	1.75	.57	1.23	9.64	1.31
1970	2.11	2.55	1.09	2.92	8.78	1.17
Farmers						
1960	24.62	.00	.00	.00	.00	.00
1970	17.82	.00	.00	.00	.00	.00
Managers						
1960	.68	1.63	7.32	6.03	2.65	4.34
1970	1.20	1.44	6.38	5.71	2.95	4.15
Clerical						
1960	11.25	31.27	42.36	78.75	28.85	6.73
1970	23.59	30.91	45.92	76.06	30.31	11.05
Sales						
1960	.53	1.47	36.93	5.52	.18	.74
1970	1.20	.89	31.04	6.26	.26	1.22
Craftsmen						
1960	.42	3.34	1.41	.50	.27	.36
1970	.65	4.98	2.09	.58	.46	.80
Operatives						
1960	3.70	56.71	5.82	1.00	1.23	7.91
1970	3.98	54.80	6.76	1.23	.95	6.16
Service						
1960	1.39	1.37	4.21	4.42	20.30	78.07
1970	2.17	1.08	3.99	3.83	23.47	73.92
Laborers						
1960	.89	1.37	.55	.16	.16	.26
1970	5.05	1.88	1.75	.21	.23	.59
Farm Laborers						
1960	55.33	.00	.00	.00	.00	.00
1970	40.49	.00	.00	.00	.00	.00
Total Sample Size						
1960	(5,157)	(49,609)	(42,014)	(17,834)	(54,538)	(41,791)
1970	(3,275)	(56,642)	(54,423)	(26,768)	(89,068)	(40,545)

Table V-4

(Continued)

PERCENTAGE POINT CHANGE AND PERCENTAGE CHANGE OF OCCUPATIONAL CATEGORIES WITHIN INDUSTRY SECTORS, 1960-1970, FEMALES

	Extractive	Transformative	Distributive Services	Producer Services	Social Services	Personal Services
Professional						
% Point Change	1.28	.39	.17	.81	-4.11	.67
Percentage Change	241.51	34.51	19.54	33.20	-11.18	209.38
Semi-Professional						
% Point Change	1.39	.80	.52	1.69	- .86	- .14
Percentage Change	193.06	45.71	91.23	137.40	-8.92	10.69
Farmers						
% Point Change	-6.80	.00	.00	.00	.00	.00
Percentage Change	-24.62	---	---	---	---	---
Managers						
% Point Change	.52	- .19	- .94	- .32	.30	- .19
Percentage Change	76.47	-11.66	-12.84	-5.31	11.32	-4.38
Clerical						
% Point Change	12.34	- .36	3.56	-2.69	1.46	4.32
Percentage Change	109.69	-1.15	8.40	-3.42	5.06	64.19
Sales						
% Point Change	.67	- .58	-5.89	.74	.08	.48
Percentage Change	126.42	-39.46	-15.95	13.40	44.44	64.86
Craftsmen						
% Point Change	.23	1.64	.68	.08	.19	.44
Percentage Change	54.76	49.10	48.23	16.00	70.37	122.22
Operatives						
% Point Change	.28	-1.91	.94	.23	- .28	-1.75
Percentage Change	7.57	-3.37	16.15	23.00	-22.76	-22.12
Service						
% Point Change	.78	- .29	- .22	- .59	3.17	-4.15
Percentage Change	56.12	-21.17	-5.22	-13.35	15.62	-5.32
Laborers						
% Point Change	4.16	.51	1.20	.05	.07	.23
Percentage Change	467.42	37.23	218.18	31.25	43.75	88.46
Farm Laborers						
% Point Change	-14.84	.00	.00	.00	.00	.00
Percentage Change	-26.82	---	---	---	---	---

NOTE: Computed from Table

in 1970). Professionals and semi-professionals picked up two percentage points during the decade and now have 9% of the total employment in the sector.

One generalization that holds for all six sectors is that the occupational category with the largest share in a sector grows either very slowly or actually declines, as is seen from the following array for both sexes:

Sector	Largest Occupational Category	Percentage Increase 1960-1970
Extractive	Farmers	-18.57
Transformative	Operatives	-2.78
Distributive	Sales	-6.67
Producer services	Clerical	+2.43
Social services	Professional	-1.09
Personal services	Service	-1.57

We have here a consistent pattern, and note that for each sector a different occupational category is the largest one, an indication of the differences that occupations present within industry sectors. One of the ways the labor force is changing, therefore, is for at least some of the other occupational categories to have more rapid growth.

But what about the sexual differences, which are often important in this study? By examining the largest occupational categories for males and females separately, will we find the pattern confirmed?

Sector	Largest Occupational Category	Percentage Increase 1960-1970
Extractive		
Male	Farmers	-17.66
Females	Farm laborers	-26.82
Transformative		
Male	Craftsmen	3.01
Female	Operatives	-3.37
Distributive		
Male	Operatives	-3.62
Female	Clerical	8.40
Producer services		
Male	Sales	-5.89
Female	Clerical	-3.42
Social services		
Male	Professional	13.24
Female	Professional	-11.18
Personal services		
Male	Service	12.45
Female	Service	-5.32

In most sectors there are different occupational categories for males and females that are the largest; only Social and Personal services are identical (and for Social services, clerical very nearly is as large as professional). What is more, only in two sectors (Extractive and Producer services) do the largest

occupational categories change in the same direction for both sexes. In Social services, for example, the figure for both sexes (-1.09%) is made up of a gain for males (13.24%) that is more than offset by the loss for females (-11.18%). The generalization we posited for both sexes holds only for females but not for males.

The meaning of the "diffusion" of occupational categories within sectors can be elaborated by developing somewhat more the example of professionals and of clerical. As earlier stated, the professional (and semi-professional) categories can be conceived of as indicators of expertise. In the 1960-1970 decade it is in those sectors with a low representation in these categories (Extractive, Distributive and Personal services) that had proportionately large gains. On the other hand Social services which had a large share (42% of total employment) in the two professional categories, actually declined during the decade. Consider specific industries within the Social services sector. Medical services had a marked decline, from 54% to 39% of the share the two professional categories represented of total employment. (This decline occurred for both males and females.) In contrast, service occupations rose for both sexes from 16% to 36%. We interpret this to mean that in these industries there is an effort to better utilize the labor of high professionals by taking on more low-paid help in the form of service workers. In contrast, hospitals, as an industry also in the field of health, showed much less of a decline in the two professional categories (40% to 37%), while services increased one percentage point to 40%. These changes in medical and hospital services during the 1960 to 1970 decade served to bring their occupational distribution closer together. Education within Social services is also an example of a prominent decline in the proportion professional and semi-professional during the decade: from 67% to 59%, with most of the decline due to females. This decline was offset by a substantial rise in managers for males (3% to 9%) and clerical for females (.4% to 23%). In this instance males doubtless had a net gain in earnings while females had a net loss.

Clerical is an interesting occupational category. For some decades it has been one of the fastest-growing categories, and by 1970 it had become the single largest category, representing 18% of total employment. It is also an instance of marked sexual differences, for it is the one broad occupational category dominated by females, representing nearly three-quarters of total clerical employment. In no sector in 1970 do males have more than 14% of their employment in clerical, whereas only in Personal services are females less than 24%, rising to as high as 76% in Producer services.

We may take the rise of the clerical occupations within industries as an indicator of bureaucratization, for it is this group that carries the burden of "structural communication" that Weber included as a component of his classic definition of bureaucracy (Frisbie, 1975). We can therefore predict that all sectors and industries should show a relative gain in clerical, even at different rates, because all are subject, to one degree or another, to the pervasive influence of bureaucratization. But as with the earlier generalization about the largest occupational category in the sector, the degree of relative increase should depend upon the proportion of the total labor force that is clerical at the beginning of the period; the higher the proportion the slower the rate of increase.

The prediction is confirmed for the total population, with all six sectors having positive growth in clerical, and Extractive and Personal services, the sectors with the lowest 1960 representation in clerical, having much the largest percentage increases. For males, however, three sectors had negative growth, while two sectors of the females had declines. On the industry level, for both sexes there are instances of negative growth, though all but three are four percent or less. As already mentioned, medical had a sharp decline (-24%), while government (-10%) and communication (-8%) dropped less so.

More could be derived from Tables V-2, 3 and 4, not to mention a detailed analysis of individual industries. One could also introduce black-white comparisons, but our intention in this chapter is not primarily a consideration of who occupies what positions, but to demonstrate the interrelations of industry and occupation. We have established that there is much variation by occupation within sectors, as witness the earlier finding that each of the six sectors had a different occupational category as its largest one. This suggests that as the industry structure of employment changes, there are related changes in the occupational structure.

The Shift Approach Applied to Industries and Occupations. Despite the fact that many occupations are closely linked to specific industries, such as farmers to agriculture and transportation equipment operatives to transportation, there have been few attempts in the literature to study the linkage between the industry structure and the occupational structure. One early effort that unfortunately never received much attention was undertaken by Palmer and Miller (1949), who decomposed the growth of occupations into three components: the growth effect, the industry effect, and the occupation mix effect. The growth effect refers to that part of employment growth which could have been predicted on the basis of the growth of the total labor force, independent of any changes in the industry or occupational structures. The industry effect is the influence of the changes in the industry structure of the total labor force on a given occupation. Finally, the occupation mix effect refers to that part of the change in an occupation that is due to changes in the occupational distribution within industries.

This approach was later picked up by Ganasekaran (1966) in his paper "Interrelations Between Industrial and Occupational Changes in Manpower, United States, 1950-1960."

Our own approach received its original inspiration from these authors, but in the present formulation it has moved away from the idea of a threefold decomposition of occupational change to one of two categories: an industry shift effect and an occupation shift effect. Actually, although the industry-occupational analysis was carried out independently of the age analysis reported in Chapter IV, we gradually became aware of the similarity of the two approaches, as was also the case of the analysis of the 1965-1970 inter-sector changes of employment reported in Chapter III.

All have in common the shift share conception of decomposing change, and all depend upon the idea of comparing actual with expected change. In this section, we want to be able to identify what share of the change in the occupational structure was due to the changing industry structure that occurred during

the 1960-1970 decade and how much of the occupational change was due to the variations in demands for occupational categories within the sectors and industries. It is not a procedure that is intuitively readily understood so our first step in examining Table V-5 will be to explicate the meaning of the various columns, using professionals in that table as our example.

Explication of Technique. Columns 1 and 2 are the actual numbers of persons in each of the eleven occupational categories. The totals of each column thus show the total labor force in 1960 and 1970, respectively. (It should be pointed out, again, that these figures were drawn from the 1/100 Public Use Sample, and they are not directly comparable to published tables.)

In Column 3 the 1970 labor force is distributed among the occupational categories in exactly the same proportions as is found in 1960. In other words, we assume that each occupational category grew at the same rate as the total labor force, thus keeping its proportionate share. Since the labor force expanded by 16.7% between 1960 and 1970, we multiplied each of the eleven categories by the same growth factor (714,839/612,494 = 1.1670955).

In Column 4, we assume that between 1960 and 1970 there were no changes in the occupational structure within industries, and therefore permitted only the industry structure to change as it did. Thus, we distributed the 1970 employment in a given industry among the eleven occupational categories in exactly the same proportions that were observed in 1960. Consider the example of medical services. In 1960, 44.8% of total employment in this industry was professional; we therefore assume that in 1970 44.8% of total employment in medical services was professional. This procedure was repeated in each of the 37 industries, and then the sum of these professionals in the 37 industries (75,629) is given in col.4. The sums for the other occupational groups reported in col.4 were obtained in similar fashion. This procedure involved 407 multiplications plus the summation of 37 figures for each of the eleven occupational categories. Consequently, rounding errors produced a grand total of 715,157, rather than the expected 714,839 of cols. 2 and 3, a .0005 percent error.

Column 5 refers to the actual change in each occupational category between 1960 and 1970. In our example, the number of professionals in the labor force increased by 23,833.

Expected change (col.6) is the difference between the number of persons in each occupational category in 1970 that could have been expected if each category had changed in the same way as the total labor force (col.3) and the actual number in each occupational category in 1960 (col.1). Since there was a 16.7% growth of the total labor force, all figures in col.6 are positive. Thus, the expected change in professionals (8,193) is arrived at by subtracting the actual number of professionals in 1960 (49,029) from the expected number in 1970 (57,222).

Although the actual change in each occupational category is important in its own right, the focus of this analysis is on the relationship between the occupational structure and the industry structure. It is not so much the absolute growth of an occupation in which we are interested, but is relative growth in comparison to the other occupations. In other words, we want to know

Table V-5

COMPONENTS OF OCCUPATIONAL NET SHIFT, 1960-1970, FOR TOTAL EMPLOYMENT

Occupational Category	Number Employed 1960 (1)	Number Employed 1970 (2)	1970 Total Weighted by 1960 Occup. Distr. (3)	1970 Total Weighted by 1960 Occup. Distr. Within 37 Indus. (4)	Actual Change 1960-1970 (2)-(1) (5)	Expected Change 1960-1970 (3)-(1) (6)	Net Shift (5)-(6) (7)	Components of Net Shift: Industry Shift Effect (4)-(3) (8)	Components of Net Shift: Occup. Shift Effect (2)-(4) (9)	% of Net Shift Due To: Industry Shift Effect (8)/(7) (10)	% of Net Shift Due To: Occup. Shift Effect (9)/(7) (11)
Professional	49,029	72,862	57,222	75,629	23,833	8,193	15,640	18,407	-2,767	117.7	-17.7
Semi-Professional	23,230	34,183	27,112	31,853	10,953	3,882	7,071	4,741	2,330	67.0	33.0
Farmer	24,957	13,201	29,127	15,195	-11,756	4,170	-15,926	-13,932	-1,994	87.5	12.5
Manager	53,596	60,751	62,551	64,857	7,155	8,955	-1,800	2,306	-4,106	-128.1	228.1
Clerical	92,821	128,796	108,331	117,833	35,975	15,510	20,465	9,502	10,963	46.4	53.6
Sales	46,340	52,006	54,083	55,562	5,666	7,743	-2,077	1,479	-3,556	-71.2	171.2
Craftsman	87,025	98,261	101,566	98,571	11,236	14,541	-3,305	-2,995	-310	90.6	9.4
Operative	118,415	123,773	138,202	128,717	5,358	19,787	-14,429	-9,445	-4,984	65.5	34.5
Service	71,785	90,605	83,780	84,730	18,820	11,995	6,825	950	5,875	13.9	86.1
Laborers	30,787	31,440	35,931	33,338	653	5,144	-4,491	-2,593	-1,898	57.7	42.3
Farm Workers	14,509	8,961	16,933	8,834	-5,548	2,424	-7,972	-8,099	127	101.6	-1.6
TOTALS	612,494	714,839	714,838	715,157	102,345	102,344	1	321	-320		

Table V-6

COMPONENTS OF OCCUPATIONAL NET SHIFT, 1960-1970, FOR EMPLOYED WHITE MALES

Occupational Category	Number Employed 1960 (1)	Number Employed 1970 (2)	1970 Total Weighted by 1960 Occup. Distr. (3)	1970 Total Weighted by 1960 Occup. Distr. Within 37 Indus. (4)	Actual Change 1960-1970 (2)-(1) (5)	Expected Change 1960-1970 (3)-(1) (6)	Net Shift (5)-(6) (7)	Components of Net Shift: Industry Shift Effect (4)-(3) (8)	Components of Net Shift: Occup. Shift Effect (2)-(4) (9)	% of Net Shift Due To: Industry Shift Effect (8)/(7) (10)	% of Net Shift Due To: Occup. Shift Effect (9)/(7) (11)
Professional	27,301	38,492	28,676	35,249	11,191	1,375	9,816	6,573	3,243	67.0	33.0
Semi-Professional	15,553	20,985	16,336	18,643	5,432	783	4,649	2,307	2,342	49.6	50.4
Farmer	21,892	12,147	22,995	13,537	-9,745	1,103	-10,848	-18,131	7,283	167.1	-67.1
Manager	44,608	48,070	46,855	49,266	3,462	2,247	1,215	2,411	-1,196	198.4	-98.4
Clerical	27,812	29,528	29,213	30,761	1,716	1,401	315	1,548	-1,233	491.4	-391.4
Sales	26,895	30,488	30,351	31,684	1,593	1,456	137	1,333	-1,196	973.0	-873.0
Craftsman	79,449	83,975	83,451	83,768	4,526	4,002	524	317	207	60.5	39.5
Operative	75,121	70,252	78,905	75,115	-4,869	3,784	-8,653	-3,790	-4,863	43.8	56.2
Service	20,205	27,855	21,223	24,361	7,650	1,018	6,632	3,138	3,494	47.3	52.7
Laborers	20,902	21,228	21,955	21,162	326	1,053	-727	-793	66	109.1	-9.1
Farm Workers	7,863	5,199	8,259	4,864	-2,664	396	-3,060	5,278	-8,338	-172.5	272.5
TOTALS	369,601	388,219	388,219	388,410	18,618	18,618		191	-191		

Table V-7

COMPONENTS OF OCCUPATIONAL NET SHIFT, 1960-1970, FOR EMPLOYED BLACK MALES

Occupational Category	Number Employed 1960 (1)	Number Employed 1970 (2)	1970 Total Weighted by 1960 Occup. Distr. (3)	1970 Total Weighted by 1960 Occup. Distr. Within 37 Indus. (4)	Actual Change 1960-1970 (2)-(1) (5)	Expected Change 1960-1970 (3)-(1) (6)	Net Shift (5)-(6) (7)	Components of Net Shift: Industry Shift Effect (4)-(3) (8)	Components of Net Shift: Occup. Shift Effect (2)-(4) (9)	% of Net Shift Due To: Industry Shift Effect (8)/(7) (10)	% of Net Shift Due To: Occup. Shift Effect (9)/(7) (11)
Professional	604	1,081	633	1,000	477	29	448	367	-81	81.9	18.1
Semi-Professional	530	1,078	556	714	548	26	522	158	364	30.3	69.7
Farmer	1,515	285	1,589	609	-1,230	74	-1,304	-980	-324	75.2	24.8
Manager	588	1,066	617	649	478	29	449	32	417	7.1	92.9
Clerical	1,827	2,871	1,916	2,378	1,044	89	955	462	493	48.4	51.6
Sales	495	757	519	564	262	24	238	45	193	18.9	81.1
Craftsmen	3,510	5,245	3,681	3,980	1,735	171	1,564	299	1,265	19.1	80.9
Operative	8,785	10,238	9,213	10,047	1,453	428	1,025	834	191	81.4	18.6
Service	5,436	5,588	5,701	6,170	152	265	-113	469	-582	-415.0	515.0
Laborers	7,332	5,365	7,690	7,692	-1,967	358	-2,325	2	-2,327	-0.1	100.1
Farm Workers	2,583	1,250	2,709	1,039	-1,333	126	-1,459	-1,670	211	114.5	-14.5
TOTALS	33,205	34,824	34,824	34,842	1,619	1,619		18	-18		

Table V-8

COMPONENTS OF OCCUPATIONAL NET SHIFT, 1960-1970, FOR EMPLOYED WHITE FEMALES

Occupational Category	Number Employed 1960 (1)	Number Employed 1970 (2)	1970 Total Weighted by 1960 Occup. Distr. (3)	1970 Total Weighted by 1960 Occup. Distr. Within 37 Indus. (4)	Actual Change 1960-1970 (2)-(1) (5)	Expected Change 1960-1970 (3)-(1) (6)	Net Shift (5)-(6) (7)	Components of Net Shift: Industry Shift Effect (4)-(3) (8)	Components of Net Shift: Occup. Shift Effect (2)-(4) (9)	% of Net Shift Due To: Industry Shift Effect (8)/(7) (10)	% of Net Shift Due To: Occup. Shift Effect (9)/(7) (11)
Professional	18,997	28,281	25,172	31,667	9,284	6,175	3,109	6,495	-3,386	208.9	-108.9
Semi-Professional	6,395	9,723	8,474	9,689	3,328	2,079	1,249	1,215	34	97.3	2.7
Farmer	955	549	1,265	658	-406	310	-716	-607	-109	84.8	15.2
Manager	7,433	9,335	9,849	10,051	1,902	2,416	-514	202	-716	-39.3	139.3
Clerical	59,808	84,971	79,248	81,719	25,163	19,440	5,723	2,471	3,252	43.2	56.8
Sales	15,907	18,336	21,077	20,566	2,429	5,170	-2,741	-511	-2,230	18.6	81.4
Craftsman	2,247	4,188	2,977	2,831	1,941	730	1,211	-146	1,357	-12.0	112.0
Operative	28,310	30,769	37,512	31,792	2,459	9,202	-6,743	-5,720	-1,023	84.8	15.2
Service	29,968	39,522	39,709	37,567	9,554	9,741	-187	-2,142	1,955	1145.4	-1045.4
Laborers	816	2,062	1,031	994	1,246	265	981	-87	1,068	-8.9	108.9
Farm Workers	1,679	853	2,225	1,157	-826	546	-1,372	-1,068	-304	77.8	22.2
TOTALS	172,515	228,589	228,589	228,691	56,074	56,074		102	-102		

Table V-9

COMPONENTS OF OCCUPATIONAL NET SHIFT, 1960-1970, FOR EMPLOYED BLACK FEMALES

Occupational Category	Number Employed 1960 (1)	Number Employed 1970 (2)	1970 Total Weighted by 1960 Occup. Distr. (3)	1970 Total Weighted by 1960 Occup. Distr. Within 37 Indus. (4)	Actual Change 1960-1970 (2)-(1) (5)	Expected Change 1960-1970 (3)-(1) (6)	Net Shift (5)-(6) (7)	Components of Net Shift: Industry Shift Effect (4)-(3) (8)	Components of Net Shift: Occup. Shift Effect (2)-(4) (9)	% of Net Shift Due To: Industry Shift Effect (8)/(7) (10)	% of Net Shift Due To: Occup. Shift Effect (9)/(7) (11)
Professional	1,423	2,390	1,818	3,107	967	395	572	1,289	-717	225.3	-125.3
Semi-Professional	335	953	428	673	618	93	525	245	280	46.7	53.3
Farmer	147	24	188	58	-123	41	-164	-130	-34	79.3	20.7
Manager	247	436	316	377	189	69	120	61	59	50.8	49.2
Clerical	1,816	6,062	2,320	4,261	4,246	504	3,742	1,941	1,801	51.9	48.1
Sales	336	728	429	615	392	93	299	186	113	62.2	37.8
Craftsmen	166	400	212	315	234	46	188	103	85	54.8	45.2
Operative	3,069	4,701	3,921	5,015	1,632	852	780	1,094	-314	140.2	-40.2
Service	14,058	12,374	17,960	13,698	-1,684	3,902	-5,586	-4,262	-1,324	76.3	23.7
Laborers	238	456	304	414	218	66	152	110	42	72.4	27.6
Farm Workers	705	273	901	276	-432	196	-628	-625	-3	99.5	0.5
TOTALS	22,540	28,797	28,797	28,809	6,257	6,257		12	-12		

whether an occupation increased or decreased its share of total employment between 1960 and 1970 and what the sources of this change are. To that end, we computed the net shift (col.7) by subtracting the expected change from the actual change. Positive net shifts indicate that these occupational categories increased more than expected, while negative net shifts are obtained when the actual is smaller than the expected change. Column 7 shows that the actual growth of professionals far exceeded their expected growth, resulting in a net shift of 15,640.

Columns 8 and 9 present the components of the net shift. Column 8 is termed the "industry shift effect," which is the effect of the changes in the industry structure on the net shift of the occupational structure. These figures are derived by subtracting the number of persons in each occupational category in 1970 had there been no change in the occupational structure in 1960 (col. 3) from the number of persons in each category in 1970 that would have been observed had only the industry structure of the labor force changed between 1960 and 1970 without any changes in the occupational distribution of employment within each of the 37 industries (col.4). To interpret col.8 we need to return to the meaning of cols. 3 and 4. Column 3 posits a 1970 occupational distribution based on the assumption that there were no changes in the occupational and industry structures of employment. Column 4, in contrast, permits the distribution of total employment among the 37 industries to change the way it actually did, holding constant only the occupational distribution within industries. Therefore, by subtracting col. 3 from col. 4, we capture in col. 8 the amount of occupational change that occurred as the result of the industry changes between 1960 and 1970. A positive industry shift indicates that changes in the industry structure of the labor force results in a larger than expected increase in employment in that occupation, whereas a negative industry shift indicates that the changing industry structure did not favor that particular occupation. Consider the case of professionals. Without any changes in the proportion of professionals in each of the 37 industries during the 1960-70 period, the changes in the industry structure would have resulted in an increase of 18,407 professionals.

In Column 9 we subtract the number of the number of persons in each occupational category in 1970 that would have been observed had only the industry structure of the labor force changed between 1960 and 1970 without changes in the occupational distribution of employment within the 37 industries (col. 4) actual number of persons in each occupational category in 1970 (col. 2). Since the figures in col. 2 are the result of changes in both the occupational distribution of employment within industries and the industry structure of the labor force, subtracting col. 4 from col.2 yields the amount of occupational change that occurred as the result of change in the occupational distribution of employment between 1960 and 1970. Positive occupational shifts note that changes in the occupational distribution of employment within industries favored an increase of employment in an occupation that was faster than that of the total labor force, while negative occupational shifts contributed to a slower growth of employment in an occupation as compared to the labor force. In the case of professionals, the changes in the occupational distribution of employment within industries would have resulted in 2,767 less professionals than expected had the industry structure of the labor force not changed.

Columns 10 and 11 express the industry shift effect and the occupational shift effect as proportions of the total net shift. It can be seen from these

figures that the proportionate increase in professionals entirely was due to the changing industry structure of the labor force. In fact, the proportionate increase of professionals would have been even more pronounced had there not been a negative occupational shift effect.

Interpretation of Occupational Net Shifts. Table V-5 shows that only the two farm occupational categories decreased in absolute numbers (col. 5). We pointed out earlier, however, that it is not so much the growth of the labor force in absolute numbers which interests us, but rather the changes in the relative standing of the various occupational categories. In other words, we are concerned with changes in the occupational structure.

The changes in the occupational structure are given in col. 7, which contains the net shift between 1960 and 1970 for each occupational category. This column is comparable to the data in Table V-1: wherever negative net shifts occur in col. 7 of Table V-5, Table V-1 shows that particular occupational category had a smaller share of total employment in 1970 than in 1960. These changes already have been discussed in an earlier part of this chapter and need not be repeated. The purpose of this analysis, instead, is to identify the relative magnitude of the industry shift effect and the occupational shift effect on the changes in the occupational structure of the labor force between 1960 and 1970.

We will begin with the farm occupations, since their changes are the easiest to interpret. It can be seen in Table V-5 that the number of farmers as well as farm laborers not only grew less rapidly than the total labor force (col. 7), but actually declined absolutely (col. 5) during the 1960's. There were 17,304 fewer farmers and farm laborers in 1970 than ten years earlier. The decline of farmers was largely due to the industry shift effect (cols. 8 and 10). As agriculture declined (which is the only industry in which farmers and farm workers are to be found), the number of farmers decreased as well. But the occupational shift effect also contributed to the decline in the numbers of farmers, although to a much smaller extent (col. 11). For farm workers, the situation is a bit different. Although they, too, had a smaller share of total employment in 1970 than in 1960, this decrease was entirely the result of the changing industry structure, i.e., the decrease of employment in agriculture. These findings are quite consistent with the general changes in agriculture during the past decades. During that time agriculture has more and more taken on the character of agribusiness; small farmers have declined to a large extent and a limited number of farms now accounts for an ever-increasing share of total cultivated land. These developments brought with them the introduction of large corporations and, as a result, an increasing share of laborers, professionals, and even clerical workers is needed.

Table V-5 identifies several other occupational categories where growth did not keep pace with the expansion of the total labor force between 1960 and 1970. All three manual occupations (craftsmen, operatives, and laborers) experienced a relative decline in their shares of total employment. In the case of craftsmen, the decline was very much the result of the shift of employment from industries which employ large proportions of craftsmen to industries that employ smaller proportions of craftsmen. Only 9.4% of the net shift was due to the fact that within industries the employment of operatives decreased during the 1960's. A similar general pattern exists for operatives and laborers,

except that in both of these cases, while the industry shift effect was the main source of the negative net shift, the occupational shift effect contributed a substantial proportion (34.5% and 42.3% respectively) to the negative net shift. These findings are consistent with the earlier discussion of the decline of the share of total employment in the Transformative sector. Since employment in Transformative industries is concentrated in these three manual categories (in 1970, two-thirds of all workers in the Transformative sector were craftsmen, operatives, or laborers), the decrease in the proportion of the labor force in these industries resulted simultaneously in a decrease in the proportion of total employment in these occupational categories.

The other two occupational categories that expanded more slowly than the total labor force are managers and sales workers. In both cases, the negative net shift was the result of occupational shifts within industries. In fact, the industry structure of employment changed in such a way as to favor the growth of employment in these two occupations. But since the industry shift effect was not as strong as the occupational shift effect,managers and sales workers expanded less than the total labor force.

Four occupational categories benefitted from the net shifts (professionals, semi-professionals, clerical, and service workers), but the findings in Table V-5 show clearly that the disproportionate growth of employment in these occupational categories was the result of different patterns. For professionals, it was wholly due to changes in the industry structure. As employment shifted towards services in general, and Social services in particular, which traditionally employ larger proportions of professionals than goods-producing industries, professionals as proportion of total employment grew as well. A similar trend is observed for semi-professionals, but here only two-thirds of the shift was due to the industry effect. Table V-5 shows, moreover, that the changes in the occupational distribution of employment within industries had the opposite effect on professionals: in 1970 proportionately fewer professionals were employed within industries than ten years earlier. This deflating impact on the growth of professionals, however, was not strong enough to neutralize the influence of the industry shift that favored the growth of professionals.

The changes in the employment of service workers, which also expanded more than the total labor force, was nearly the opposite as that for professionals. This disproportionate growth very largely was the result of changes in the occupational distribution within industries. Since professionals and service workers are found in services in larger proportions than in goods-producing industries, their opposite patterns can be interpreted in relation to each other. It appears from the trends of professionals and service workers that there is a tendency within industries to employ service workers for positions that formerly were held by professionals. The best example of this are hospitals, in which nurses' aides (who are service workers) perform more and more functions that formerly were carried out by nurses (who are professionals). This trend is quite comparable to the attempts within Transformative industries, for example, to standardize work as much as possible. The fewer case-by-case decisions there are to be made, the less skilled personnel are needed. It therefore can be expected that as service establishments become larger in size and more bureaucratized, they will employ a decreasing proportion of professionals; service workers should be one of the occupational categories benefitting from this change in the occupational distribution.

The largest proportion of the total positive net shifts (40.9%) is accounted for by clerical occupations. The disproportionate growth of clerical occupations resulted almost equally from the changes in the industry structure and the occupational distribution of employment within industries, with the occupational shift effect being slightly more important than the industry shift effect. These findings suggest that clerical occupations not only expanded as a result of the growth of industries, such as Producer services which use large proportions of clerical workers, but that their growth also resulted from the fact that within the industry sectors larger proportions of clerical workers were employed. With work being carried out more and more within formal organizations, clerical-type activities have increased remarkably and with them the number of clerical workers.

What can be said about the industry versus occupational effect for all employed persons, rather than for particular occupational categories? In Table V-10 we see that for the total employed, two-thirds of the occupational change is accounted for by the industry shift effect. This figure was arrived at by first summing in col. 7, Table V-5, all positive net shifts. (This same figure could be derived by summing total negative net shifts, since the two sums cancel each other.) We then summed the industry shift of all those occupational categories with positive net shifts (col. 8, Table V-5), and the same was done for the occupational net shift effect (col. 9, Table V-5).

We have also made the same calculations for the four sex-race groups, and we find (Table V-10) that for white males, white females and black females, changes in the industry structure were an even more important source for occupational change, ranging from three-quarters to four-fifths of the total. For those three groups, very little occupational change was due to changes in the occupational distribution within industries. The one exception is black males, for which the industry effect was only 42.2%. This comes as a surprise, for as we will demonstrate later in Chapter VII, black males experienced much greater change in their allocation to industries than white males. We therefore would have anticipated that the industry shift effect would have been the larger component. This finding suggests that for black males the industry shifts have not resulted in employment in different occupations to the extent that could have been expected. This reasoning comes up against the pattern for black females, which is quite different than for the black male pattern. We don't have the explanation for this difference, but we suspect that the large industry shift effect for black females is the result of their remarkable decline in domestic service, from 38% in 1960 to 18% in 1970.

SEX-RACE DIFFERENCES IN THE PATTERNS OF OCCUPATIONAL CHANGE

We now turn to a cursory examination of Tables V-6, 7, 8, and 9 where the same procedure as for the total employed is applied to the four sex-race groups. Our main attention will be devoted to those instances where there are significant deviations from that demonstrated by total employment.

Farmers and farm workers display much the same pattern for the four sex-race groups as for the total labor force. In each instance the relative decline of these two occupational categories mainly resulted from the industry shift effect, that is, the decline of employment in agriculture, the only industry in which these workers are to be found.

Table V-10

COMPONENTS OF OCCUPATIONAL CHANGE FOR TOTAL EMPLOYED AND RACE-SEX GROUPS, 1960-1970

		NET SHIFT DUE TO:			
	Total Positive Net Shift	Industry Shift Effect (Number)	Occupational Shift Effect (Number)	Industry Effect (Percent)	Occupational Effect (Percent)
Total Employed	50,001	33,600	16,401	67.2	32.8
White Males	23,288	17,627	5,661	75.7	24.3
Black Males	5,201	2,197	3,004	42.2	57.8
White Females	12,273	9,948	2,325	81.1	18.9
Black Females	6,378	5,029	1,349	78.8	21.2

Next, we will consider the three manual occupational categories, craftsmen, operatives and laborers. For craftsmen all sex-race groups experienced a positive net shift. Although the components of this shift differed among the groups, these differences largely can be neglected, since craftsmen are almost a negligible category for females. Moreover, the industry shift effect and the occupational shift effect, in relation to the size of this occupational category, were minute for three of the groups. Only black males experienced a substantive occupational shift effect and, consequently, a 33 percent increase in the share of employment in craft occupations. For operatives we again observe a difference by race: whites experienced a proportionate decrease whereas blacks had a proportionate increase. This finding is not unexpected, for we earlier had demonstrated that the proportion of black employment in the Transformative sector increased in the 1960-1970 decade. The figures show in fact that the positive net shifts for blacks mainly were the result of changes in the industry structure (this component was the sole source for black females).

For laborers there is a sex difference for net shifts. For males the proportion declined while it increased for females. There are differences by sex and race in the way the components produced these shifts, but the combinations are different for each group and therefore cannot be readily interpreted. It is interesting to note, however, that for black males the proportionate decrease of laborers mainly is due to the occupational shift effect. In other words, it was less the increase of black males in Transformative industries (see Chapter VII) which contributed to this shift from laborers to operatives, but rather change in the way black males were employed within industries.

As in the case of laborers, the trends of managers and sales workers are quite different for the four race-sex groups. On the one hand, similarities exist in the sense that for all groups but white females there were positive net shifts for the two occupational categories. On the other hand, however, the ways by which changes in the industry structure and changes in the occupational distribution within industries contributed to the net shifts of these two occupations differ among the four race-sex groups.

Let us first take up the case of managers. For all four race-sex groups, the industry shift effect favored an increase in the number of professionals, but the magnitude of this effect differed widely among the groups. The effects of the occupational shift differed mainly by race; for whites, changes in the occupational distribution within industries had a negative impact on the growth of managers, whereas for blacks they favored the growth of this occupational category. We should note, however, that for whites the share of employment in managerial occupations changed very little and that the industry shift effect and the occupational shift effect also are very small in comparison with the number of whites in 1960 that were managers. For that reason, the influence of the industry shift and the occupational shift for managers is relatively unimportant for whites. But this is not so for blacks. The net shift for black males represents an increase of 76.4% over the number of black males in 1960 that were managers, and a corresponding increase for blacks of 48.6%. This is the more remarkable as the net shift is independent of the growth of total employment of these two groups. For black males the industry shift effect is negligible as a source for the net shift of managers. On the one hand, the share of employment of black males in Personal services in which managers are an important occupational category declined, but this decline was neutralized by the disporportionate growth of black males in other industries, such as trade, banking and government,

in which there are also many managers. Table V-7 thus shows that the increase in the share of black males in managerial occupations predominantly is the result of occupational changes within industries. For black females, the shift of employment towards industries with high proportions of managerial occupations was more pronounced. As a result, the industry shift effect and the occupational shift effect contributed in equal proportions to the positive net shift of managers.

The shift for sales workers and their components are very similar to those of managers. But two differences merit attention. First, in the case of white females the industry shift effect and the occupational shift effect contributed to the negative net shift of sales workers, although the latter by far was the more important factor. Second, the small net shifts of sales workers for white males is somewhat misleading, since they are the result of substantial, although opposite, effects of changes in the industry structure and in the occupational distribution within industries. The figures in Table V-6 show that the change in the industry structure greatly favored an increase in the share of total white males in sales occupations, but this trend was countered, with almost the same magnitude, by decreases in the proportions of sales workers within industries. As a result, there was almost no net shift.

The proportion of employment in clerical occupations increased for all sex-race groups. For black males and white and black females, changes in the industry structure and the occupational distribution within industries contributed similarly to the positive net shift. White males only had a very small positive net shift. The small magnitude is misleading, however, for it was the result of offsetting effects: the industry shift effect favored the growth of clerical employment whereas the occupational shift effect disfavored these occupations.

Service occupations are similar to clerical to the extent that white males have a different pattern than the other three groups. For white males the share of employment in service occupations increased in contrast to the decrease for the other three groups. The situation of black females supports our earlier statement that the large industry shift effect on their occupational changes mainly was the result of the decline of black females in domestic service. Employment in this industry is exclusively service work (98.9% of all black females in domestic service were in that occupational category in 1970). As the figures in Table V-9 show, service work not only is the major occupational category for black females; it also accounted for the largest share of total net shifts.

Professionals and semi-professionals have a basically congruent pattern by sex and race. In the case of professionals, the main source of the positive net shift were the changes in the industry structure. For females the industry shift effect was the sole source of the positive net shift, since within industries there was a decreasing demand for professionals. As for semi-professionals, both industry and occupational shift effects contributed to the net positive shift. In this instance we observe a race rather than sex difference in that for whites the industry shift effect was the predominant source for the positive net shifts, while for blacks it was the occupational shift effect.

The pattern of professionals and semi-professionals for the four sex-race groups demonstrates that all groups reinforced the increase in the share of total employment in these two occupational categories. In most other categories, however, offsetting patterns were observed. For whites, the share of employment as operatives decreased, whereas it increased for blacks. In the case of laborers, males decreased while females increased. Similar sex-race differences can be found in the relative importance of the industry shift effect and the occupational shift effect for occupational changes of the four groups. In the case of professionals, for example, we observed that the occupational changes within industries did not favor the employment of females as professionals, whereas they reinforced the growth of male professionals. These offsetting patterns are the result of differences in the allocation of males and females and of whites and blacks to industries and occupations. For that reason, the next two chapters examine the position of females and minorities in the labor force.

Chapter VI

FEMALES IN THE LABOR FORCE

The growing importance of females in the service sectors is one of the more prominent and interesting aspects of the sectoral transformation of the labor force. This chapter will address itself to a variety of topics: why women are entering the labor market, what industries and occupations they fill, what degree of sex-typing is occurring, and the implications for women's status and future employment.

Female labor force participation must be analyzed differently than male labor force participation. In the prime adult years, 25-55, upwards of 95 percent of males are in the labor force and there are strong sanctions favoring work; even those who could choose to stay as members of the leisure class generally report some form of employment. But increasingly the woman has several options. She can remain unmarried or decide on a childless marriage and work full time; she can enter, leave and re-enter the labor force according to stages in her family life cycle; or she can marry and be a housewife only. Although similar options always have been available to men, it is the traditional view that women have to raise children, and it is the relation between home and work that currently makes female labor force participation such a complex and important subject.

The literature on women in the labor force is growing rapidly. Bowen and Finegan (1969) produced a major study on labor force participation, joining others like Bancroft (1958), McNally (1969), and Cohen (1969), to name only a few. Other important aspects include women in the professions (Blitz, 1974; 1973) and the relationship between marriage, fertility, and female labor force participation (Sweet, 1973; Kiser, et al., 1968). Yet another group of studies has been concerned with the societal conditions for the participation of women in the labor force (Oppenheimer, 1970; Youssef, 1974). The Human Resources Center of Ohio State University under the direction of H. Parnes published an extensive study entitled "Dual Careers: A Longitudinal Study of the Labor Market Experience of Women" for the U.S. Department of Labor (1970). All these studies agree that a woman's decision to enter the labor force is influenced by her marital status, age, race, education, presence and ages of children, husband's earnings, and even other characteristics like health and attitudes toward home.

Oppenheimer (1969) has related the historical participation of women to their family life cycles. In 1900 the highest work rate for women was for those under 25 years of age, which means that women worked until they married and then dropped out of the labor force to raise a family. This pattern changed after 1950. Single women still have the highest work rates. Married women still drop out of the labor force to raise children, but they increasingly re-enter the labor force in their late thirties. The data thus show the labor force participation of women to have two peaks: between 20-24 and 45-54 years of age.

The Parnes study found that on the whole married women have lower participation rates than single, divorced or widowed women. The rates, moreover, are lower for women with school-age children than for those with no children under 18, and the participation rate of women is inversely related to husband's earnings and positively related to the woman's level of education. The study further pointed out that for women the decision to work is made within the family context and it is much influenced by the husband's attitude and the couple's perception of family needs.

The 1973 Manpower Report of the President called attention to the remarkable increase in the number of females in the labor force during the past 35 years. Between 1947 and 1971 the female labor force almost doubled, increasing from 16.7 million to over 32 million. Yet the female population as a whole only increased 40 percent, from 52 million to 74 million. These data indicate quite clearly that today women are more likely to be in the labor force than they were 25 years ago. In 1960 somewhat more than a third (37.1 percent) of all females 16 years and older worked. This increased to 42.8 percent in 1970. Men of the same age, in contrast, decreased, falling from 82.4 to 79.2 percent between 1960 and 1970. As a consequence of these divergent trends, women comprised 32.1 percent of the total labor force in 1960 and 36.7 percent in 1970.

The question remains, however, whether the labor force will experience a continued rise in the participation of women. As Waldman and McEaddy (1974: 13) put it, "Tomorrow's working women will be affected not only by the measure of success achieved today, but also by economic conditions, changes in lifestyle (for example, smaller families) the mode of enforcement of legislation prohibiting discrimination, provision of child care services for mothers on industry payrolls, and the extent of formal education or technical training of women for traditionally male occupations." These conditions must be kept in mind when evaluating labor force projections.

Denis F. Johnston (1973), in his article "The U.S. Labor Force: Projections to 1990," predicts a modest growth for women workers, but he does not expect females to come close to males in their labor force participation rates. More and more women will enter the labor force, but never in the numbers of men, and they still will have a bi-modal lifetime participation distribution curve. Johnston notes that women were 32.3 percent of the labor force in 1960 and 37.4 percent in 1970. His projections allow only a rise to 38.5 percent in 1980 and 38.7 percent in 1990. He sees this leveling off as due to a change in age composition of the labor force, with declines in the number of young women and very small increases in the number of women 45-64 years old.

Yet only a few years after these projections were made, the actual labor force participation of women had already surpassed the figure projected by Johnston for 1990. As of April 1975, women were 39 percent of the total labor force. Of particular importance is the fact that women with school-aged children have higher participation rates than women with no children (52.3 and 43.9 percent, respectively, in March 1975). Thus, the findings of earlier

studies (e.g., U.S. Department of Labor, 1970) which suggested that the presence of children prevents women from participating in the labor force, are no longer valid in the case of school-age children. (The data for the preceding and following paragraphs were submitted to us by the U.S. Department of Labor, Women's Bureau.)

As a result of this trend, the labor force participation rate of women now has one peak in the 20-24 age group instead of the traditional bi-modal participation curve. The April, 1975 data serve as an illustration of the changing situation: 62.5 percent of all women aged 20-24 participated in the labor force. For the 25-34 age group, the rate decreased to 54 percent, and remains at that level for women aged 35-44 and 45-54 (with respective participation rates of 56.2 and 54.8 percent).

There has been much speculation in recent years regarding women's increased participation. Factors identified as responsible for this increase include the shift away from physical work in the economy, the work experience of women during World War II, the women's rights movements, the increased use of labor-saving devices in the home, and the trend towards lower fertility coupled with the increased ability to control the timing of fertility. The 1973 Manpower Report of the President, for example, emphasized how the recent sharp decline in birth rates will have a marked impact on the size and age-sex distribution of the labor force in future years. If the present two-child family persists, then labor force projections will show a 70 percent increase in the number of economically active females aged 25-34 during the 1970's. In other words, lower fertility means less family duties for the married woman and this affords more time to be in the labor force.

Victor Fuchs in his book The Service Economy (1968) contends that because most occupations in the service sector do not rely on physical strength, women are able to compete on a more equal footing with men. On this basis he foresees that the advent of a service economy should make for greater work equality between the sexes. Fuchs also notes that services are attractive to women because such jobs are more amenable to part-time work.

But Fuchs' definition and prediction of equality can be challenged. As will be shown in this chapter, a considerable amount of sex-typing on both the occupational and industrial level prevents women from attaining higher status or higher-paying jobs. Unless basic female role changes are made, the "service economy" will bring with it the same stereotyping as was brought forth by the industrial revolution. Women are still the chief child raisers in this society and until the responsibility is more fully shared, women will continue to drop out of the labor force at a crucial time in their careers. Beyond this is a world view which sees the male and female spheres in mutually exclusive terms. Fuchs is correct in postulating that the reduction of jobs requiring physical strength will open many opportunities for women; however, as the war-time experience showed, women have not been able to preserve those gains. Throughout recent decades, something else has dominated: consumer discrimination, employer discrimination, employee discrimination, and the ambivalence of women themselves, to name a few.

Fuchs recognizes this problem of roles in many of his other articles on women. He claims that role differentiation is the major explanation for the earnings differential between men and women. He believes these roles begin early in childhood with the socialization process and eventually affect labor force attachment, choice of occupation location and hours of work, post-school investment, and consumer and fellow employee attitudes.

It must be pointed out that no matter what is defined as a "woman's job," the highest paid positions in the field go usually to a man. Cooking is 'woman's work,' yet the best and highest paid cooks are men. Women care for the sick, and supposedly that's why women are nurses. If so, why are they not doctors? Women are reportedly more dextrous with their "small hands" than men, and that's why women sew, yet why are they not neurosurgeons? Role differentiation explains much of earnings differential between men and women, yet there seems always to be an element of power and control from those on top who are usually men.

Traditionally, the woman's role primarily has been that of nuturing her family, and even when women enter the formal labor force it is noteworthy how closely work roles correspond to home roles. Domestic service is the most obvious example, but nursing, teaching retailing ("waiting" on customers), and even employment in the textile and food industries are clearly related to "traditional" family roles. Clerical work may appear to be an exception, but most secretaries in their relation to their male bosses have a nurturant role and the label office wife, is well applied.

It is the purpose of this chapter to examine whether or not the concentration of women in service industries of one kind or another has brought about major changes in the way women are employed. In 1960 the four service sectors combined accounted for almost three-fourths of the total female labor force, and by 1970 this proportion had increased to 78 percent (see Table VI-1). In contrast, the respective values for males are 48 and 53 percent. It is of interest that as far back as 1920 the proportion of females occupied in service industries (58.5 percent) was greater than the 1970 proportionate share of males in these industries. Despite the early concentration of females in various services, these industries continued to absorb proportionately more females than did non-service industries during the 1960's. In addition, since females increased their proportion of the total labor force from 32.8 percent in 1960 to 37.6 percent in 1970, the share of services has become increasingly important. In the future, even if males and females maintained their 1970 employment shares in each industry and each sector, an increase in the proportion of the labor force that is female would bring about additional growth of service employment, due to the fact that females are more heavily concentrated in services than in the other industries. This presupposes that women will not enter the Extractive and Transformative sectors at a faster rate than they do now. If in 1970, for example, the labor force had been one-half male and one-half female, services would have accounted for 65.5 percent of total employment (provided no change in the labor force distribution of males and females) instead of the actual 62.4 percent. Thus, if in the future the proportion of women in the labor force increases even more, a close examination of the way women are now employed is quite important.

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Table VI-1

PERCENTAGE DISTRIBUTION OF THE U.S. LABOR FORCE BY INDUSTRY SECTORS, INTERMEDIATE INDUSTRY GROUPS BY SEX, 1960 AND 1970

Sectors and Industries	1960 Males	1960 Females	1960 Difference	1970 Males	1970 Females	1970 Difference
I. EXTRACTIVE	10.7	2.4	-8.3	6.5	1.2	-5.3
1) Agriculture	9.2	2.2	-7.0	5.3	1.0	-4.3
2) Mining	1.5	0.2	-1.3	1.2	0.2	-1.0
II. TRANSFORMATIVE	47.3	23.5	-17.8	40.5	20.9	-19.6
3) Construction	8.7	1.0	-7.7	8.7	0.9	-7.8
4) Food	3.3	2.3	-1.1	2.4	1.4	-1.0
5) Textile	2.1	6.2	4.1	1.7	5.1	3.4
6) Metal	4.6	1.5	-3.1	4.5	1.2	-3.3
7) Machinery	9.5	4.8	-4.7	10.4	5.0	-5.4
8) Chemical	2.2	1.0	-1.2	1.9	0.9	-1.0
9) Misc. manufacturing	9.0	6.0	-3.0	8.8	5.9	-2.9
10) Utilities	1.9	0.6	-1.3	1.9	0.5	-1.4
III. DISTRIBUTIVE SERVICES	22.8	19.9	-2.9	23.6	20.1	-3.5
11) Transportation	5.9	1.3	-4.6	5.3	1.5	-3.8
12) Communication	1.0	2.0	1.0	1.2	2.0	.8
13) Wholesale	4.2	2.3	-1.9	5.0	2.6	-2.4
14) Retail	11.7	14.2	2.5	12.0	14.1	2.1
IV. PRODUCER SERVICES	5.9	8.5	2.6	7.2	9.9	2.7
15) Banking	1.2	2.7	1.5	1.5	3.2	1.7
16) Insurance	1.5	2.4	.9	1.5	2.4	.9
17) Real Estate	1.0	1.0	0	1.0	1.1	.1
18) Engineering	0.4	0.2	- .2	0.6	0.2	- .4
19) Accounting	0.3	0.2	- .1	0.4	0.4	.0
20) Misc. business serv.	1.2	1.4	- .2	1.7	1.9	.2
21) Legal services	0.4	0.6	.2	0.5	0.4	- .1
V. SOCIAL SERVICES	11.9	25.9	14.0	15.2	92.9	77.7
22) Medical services	0.9	2.6	1.7	1.0	4.0	3.0
23) Hospitals	1.1	6.2	5.1	1.3	7.6	6.3
24) Education	3.1	10.4	6.3	5.1	14.3	9.2
25) Welfare	0.6	1.4	.8	0.9	1.7	.8
26) Nonprofit	0.3	0.5	.2	0.4	0.5	.1
27) Postal services	1.2	0.4	- .8	1.3	0.5	- .8
28) Government	4.3	4.2	- .1	5.0	4.0	-1.0
29) Misc. social serv.	0.2	0.2	0	0.3	0.3	0
VI. PERSONAL SERVICES	7.4	19.8	12.4	7.0	15.0	8.0
30) Domestic services	0.6	8.3	7.7	0.3	4.0	3.7
31) Hotels	0.7	1.6	.9	0.6	1.5	.9
32) Eating & drinking	1.8	5.2	3.4	2.1	5.2	3.1
33) Repair	1.9	0.3	-1.6	1.8	0.4	-1.4
34) Laundry	0.7	1.7	1.0	0.5	1.2	.7
35) Barber & beauty shop	0.5	1.4	.9	0.5	1.6	1.1
36) Entertainment	0.8	0.8	0	0.9	0.8	- .1
37) Misc. personal serv.	0.3	0.5	.2	0.3	0.3	0
TOTAL LABOR FORCE	100.0	100.0		100.0	100.0	

The distinctive characteristic of working women is their degree of part-time work. Dual Careers (1970) points out that 78 percent of women in the labor force work full-time (over 35 hours a week) while 22 percent work part-time. Black women are more likely to work part-time than white women, mostly because blacks are more likely than whites to be in domestic services. Outside of domestic service, Black women are less likely than whites to work part-time. The amount of part-time work is important for many reasons. First, if women are the main part-time workers in a society then the effects of the characteristic "female" may be confused with the effects of the characteristic "part-time." This discussion will have more relevance later when sex-typing is introduced, but the point is that if women work part-time voluntarily (see Dual Careers, 1970), then women automatically will choose and be chosen only by those industries that have a need for part-time workers. Hewes (1962) studied women part-time workers and reported that service industries are particularly suited to the employment of part-time workers because these industries have marked fluctuations in business pressure during day or week and unusually long hours of operation. Hewes showed that only 6 percent of manufacturing and 8 percent of agricultural jobs have women in part-time work. Most women employed part-time are in service and private household (29%), wholesale and retail trade (27%), and other services like finance, real estate, entertainment, education, and welfare (26%). Therefore, sex-typing by industry is, in part, a result of the need for part-time workers.

The negative effects of part-time work is that if these married women are supplementing the family budget, this may serve to depress or dampen wage or salary scales because of their willingness to accept somewhat lower pay. Salaries and wages are further lowered by the fact that part-time work is usually characterized by high productivity (Bancroft, 1958), so the employer is getting more and paying less. Another consideration is that part-time work usually lacks on-the-job training and, as will be discussed later on, job training increases the marginal product and thus raises wages. Another negative effect is that part-time workers pose a threat to the security of full-time workers because part-time workers do not or cannot unionize to the extent of full-time workers. Last, part-time work must be examined because the effects of part-time employment might be confused with the effects of role-playing. Perhaps the desire to work part-time is a better explanation than role-playing as to why women are secretaries and saleswomen. Yet full-time female workers are also concentrated in services.

For an analysis of the female labor force, the Extractive sector has become insignificant. Mining traditionally had very few females, and agriculture did not employ more than one percent of all economically active females in 1970. Although percentage distributions do not yield information about interindustry movements per se, it can be safely assumed that the vast majority of females who were in agriculture in 1970 either had been in that industry in 1960 as well, or were new labor force entrants (see Chapter III).

Among the remaining five industry sectors, the Transformative and Personal service sectors experienced declining shares of female employment during the 1960's, the Social and Producer services sectors increased their

shares, and the Distributive services sector remained virtually unchanged (see Table VI-1). Given the concentration of females in the various sectors it comes as no surprise that proportionately less women than men are employed in Transformative industries, and this difference widened further during the last decade. The textile industry, which traditionally has employed a large proportion of females continues to be the only Transformative industry to employ relatively and absolutely more females than males. With the one exception of the machinery industry, however, the share of female employment declined in all industries of the Transformative sector during the 1960-70 period, following the same trend as that for male employment.

The discussion of the heterogeneity of services in the introductory chapter should lead us to expect that not all services are equally female oriented. In both 1960 and 1970 the Distributive services sector employed a larger share of males than of females, and two industries -- transportation and wholesale trade -- account for this difference. Transportation traditionally has been heavily male-oriented, but with the increasing bureaucratization of this industry and its new forms of technology, female employment has become more important, excepting that of vehicle operators. As a result, the share of male employment in this industry declined during the 1960's, while female employment increased. Transportation is not the only industry to experience this kind of change. Probably the most influential reason why female white-collar work has increased so greatly is the increasing paper work involved at every level of society and the employment structure. Both large and small firms need clerical workers in increasing numbers, and they do not hesitate to hire an extra secretary because the additional cost is perceived as small. Most Producer services exemplify this pattern.

Not only did specific service industries increase their proportion of total female employment, shifts also occurred on the sectoral level. In 1970, proportionately fewer females were employed in the Personal services sector than ten years earlier. This relative decline, however, was due almost exclusively to the diminishing role of domestic service, whose share of total female employment dropped from 8.3 percent in 1960 to 4.0 percent in 1970. If domestic service is excluded from the Personal services sector, almost no change in the proportion employed in this sector is observed during the 1960-70 interval (11.2 and 11.0 percent, respectively). Among Personal services, repair is the main industry that employs relatively fewer females than males. But the type of work involved in repair services such as automobile mechanics is traditionally viewed as a male occupation.

The two fastest growing sectors in terms of female employment are clearly Producer and Social services, and it is here where the differences in the proportions of males and females employed are the most pronounced. While some of the Producer services (mostly professional) do employ slightly larger share of males than of females (i.e., engineering and architectural services and legal services), the two most important industries in this sector, banking and financing services and insurance, employ a much larger proportion of females than of males. Since these two Producer services are also the most dynamic ones of this sector, the female share of employment in the Producer services sector is even larger in 1970 than it was in 1960.

By far the most important sector for the employment of females is Social services, which in 1970 accounted for almost one-third of all females in the labor force. Three of its industries alone -- medical and health services, hospitals and education -- employed over one-fourth of all females in 1970, compared with less than one-fifth in 1960. Indeed, with the exception of government, which declined slightly between 1960 and 1970, all other Social services proportionately increased their share of female employment during that period. By 1970 female employment in education for the first time exceeded that in retailing and the gain of almost four percentage points during the 1960 decade is very impressive. Although it is very doubtful that the rate at which employment in these industries has been increasing can be maintained in the present decade -- education, for example, no longer is a "growth" industry -- it nevertheless can be expected that Social services will continue for some time to absorb an increasing share of all female employment.

The concentration of females in services relative to the distribution of males can be demonstrated by comparing the proportion female of the total labor force with the female proportion of employment in each of the 37 industries. The data in Table VI-2 shows that all industries in which females account for a higher employment proportion than they do in the total labor force are service industries, the only exception being textiles. Moreover, among the industries that employ females at a proportion lower than that of the total labor force, only eight were service industries as of 1960, and this dropped to seven in 1970.

While the differences in the employment distribution among industries between males and females are quite important in themselves, they raise the question as to their implications for the occupational distribution of females and the monetary rewards of their economic activities. On the basis of the relationship covered earlier in this report between industries and occupations (see Chapter V), it is expected that females are more highly concentrated in service occupations than are males, for their employment share in service industries is also higher. Moreover, since the great majority of service industries are made up of white-collar occupations, it should be expected that females more than males are concentrated in professional, technical, clerical, and sales occupations. On the other hand, it is anticipated that relatively fewer females than males are farmers, craftswomen, operatives, laborers, and farm workers.

Occupational segregation is cited by Harriet Zellner (1972) as the cause of the earnings differential between men and women. Zellner argues that in 1968 the income of women working full-time year round was 58% of that received by men. Her data reveal that as of 1960 about 50% of all employed women were concentrated in occupations where they represented 80% or more of total employment, while only 2% of men were in such occupations. On the other hand, 20 percent of employed women were in occupations where they represented less than 33% of total employment yet nearly 90% of the employed men were in such occupations. Zellner feels that the preference for males in these masculine occupations shifts the demand curve for women to the left. Demand

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Table VI-2

PROPORTION OF THE U.S. LABOR FORCE WITH 12 YEARS OR MORE OF SCHOOLING BY SECTORS AND INDUSTRY GROUPS BY SEX, 1960 AND 1970

Sectors and Industries	1960 Males	1960 Females	1970 Males	1970 Females
I. EXTRACTIVE	25.7	37.9	39.6	50.8
1) Agriculture	24.3	28.2	37.5	45.4
2) Mining	34.4	73.2	48.7	82.5
II. TRANSFORMATIVE	40.7	43.8	54.4	54.5
3) Construction	33.7	61.2	46.0	76.3
4) Food	36.6	36.2	48.5	46.9
5) Textile	28.9	26.0	39.0	35.4
6) Metal	45.6	52.0	50.6	61.2
7) Machinery	49.5	52.7	63.9	62.0
8) Chemical	56.2	66.4	70.4	71.4
9) Misc. manufacturing	37.8	45.6	53.2	56.5
10) Utilities	46.2	76.0	60.7	86.0
III. DISTRIBUTIVE SERVICES	45.8	55.0	58.2	65.8
11) Transportation	35.4	64.2	50.6	75.1
12) Communication	74.9	71.2	87.1	84.1
13) Wholesale	54.6	64.0	77.7	73.1
14) Retail	45.5	50.4	55.7	60.9
IV. PRODUCER SERVICES	72.4	76.4	81.9	84.2
15) Banking	76.0	80.0	86.0	87.0
16) Insurance	79.1	78.2	89.3	86.3
17) Real Estate	50.5	62.0	63.7	73.5
18) Engineering	86.2	84.2	92.2	91.1
19) Accounting	91.6	83.6	96.0	87.2
20) Misc. business serv.	61.8	70.6	72.0	78.6
21) Legal services	95.0	84.6	98.2	90.0
V. SOCIAL SERVICES	66.7	75.2	77.7	80.5
22) Medical services	85.1	67.7	86.0	68.0
23) Hospitals	51.1	63.3	65.7	72.3
24) Education	76.0	85.5	83.2	87.2
25) Welfare	70.4	59.3	78.9	77.1
26) Nonprofit	52.5	66.3	65.5	76.1
27) Postal services	66.2	61.8	74.3	75.5
28) Government	60.1	78.9	74.5	84.0
29) Misc. social serv.	81.4	85.2	89.3	86.5
VI. PERSONAL SERVICES	34.5	27.2	45.4	40.5
30) Domestic services	18.6	16.2	19.9	26.2
31) Hotels	37.9	34.3	50.0	44.4
32) Eating & drinking	32.4	29.2	40.8	40.0
33) Repair	33.7	54.7	45.5	65.6
34) Laundry	38.2	25.9	44.1	38.9
35) Barber & beauty shop	31.8	32.1	49.3	48.3
36) Entertainment	41.0	51.2	52.0	60.8
37) Misc. personal serv.	51.7	45.7	68.4	62.9
TOTAL LABOR FORCE	44.7	53.3	59.2	66.0

curves, which are usually sloping, show that as the price of an item (or labor) goes down, the quantity demanded rises. Therefore a shift in a demand curve to the left for female labor means that the same quantity of labor can be bought for a lower price. This lowers female employment in masculine occupations. A female dominated sector results from a reduction in demand for women in the masculine sector, which subsequently increases their supply to those occupations in which males are not preferred to females. The results are that since demand is lower in the masculine sector, wages for women are lower, and since supply is increased in the feminine sector, wages for those women are also lower.

Francine Weisskoff (1972) agrees with Zellner's findings. She asserts that occupational segregation is as pervasive now as it was at the turn of the century. Weisskoff pointed out that well over half of all working women in both 1900 and 1960 were employed in jobs in which 70 percent or more of workers were female. She showed that the increased participation of women in the labor force has not been absorbed through an across-the-board expansion of employment opportunities but rather through a growth in traditionally female jobs or through the emergence of new occupations that rapidly became sex typed.

As an explanation of this pattern, Weisskoff explained several institutional factors that favor segregation of the sexes. The family unit with its traditional relationships between men and women socialize people into their respective roles. On the supply side girls are taught to aspire to and train for what are considered to be appropriate female occupations. Frequently, the educational system further intensifies this problem by channeling women into traditional feminine pursuits. The demand side deals with the hesitation of both workers and customers in allowing women to enter "non-feminine" occupations. Many employers are not willing to experiment with female employment in traditionally male occupations, even though new labor legislation (such as the Equal Employment Opportunity Commission's guidelines) have eliminated the most blatant discriminatory hiring practices.

Weisskoff explains the pay differentials between female and male workers in terms of supply and demand in dual labor markets. Demand is greatly restricted by the sex-typing of jobs. The supply of women available for work is highly responsive to changes in the wage rate and employment opportunities in general. Overcrowding in female occupations results in lower earnings for women's jobs.

Eliminating occupational segregation by sex is essential to any kind of economic equality for women. Weisskoff concludes that if women enter the male sector in quantity this will have the additional positive effect of raising incomes of women in predominately female occupations and will in turn attract more men to those female occupations. Nursing is a profession anxious to attract men in order to ease the shortage and to raise wages and working conditions.

On the other hand, Isabel Sawhill (1973) suggested that equal pay legislation may lower the earnings of women because it might increase the crowding in female occupations. If employers in male-dominated occupations

cannot hire women for a lower price they may not hire women at all. And, if men cannot be paid a higher price in female-dominated occupations, they might not seek those jobs, all of which would lead to further segregation. Although equal pay laws may guarantee equal wages to women working side by side with men, they tend to reduce the training opportunities available to women which is a major source of sex differential.

Sawhill used Becker's theory of human capital to explain the lower status of women and the segregation in the market place. Becker differentiates between general and on-the-job training. General training (education) is paid for by the worker, and on-the-job training is paid for by the employer. With general training, the worker pays and then collects the return on his investment. Consistent with the firm's goal of optimizing profits, presumably the firm will only pay for training where it can collect on the return. Naturally, the more on-the-job training is required the more desirous a firm is in keeping turnover low. The argument runs that women are not good training investments because of their intermittent labor force participation patterns. They are less likely to receive on-the-job training and thus be able to raise their income. Investment in training of individuals steepens the age-earnings profiles over the life cycle,but since women's participation pattern is best described by a bi-modal life-time curve, their age-earnings profiles are relatively flat. In the case of on-the-job training, the shape of age-earnings profiles depends on the extent to which employers share returns with employees in order to reduce turnover. Certain types of jobs provide a mixture of general and on-the-job training and women generally are confined to those jobs of little or no training. In other words, sex-typing occurs partly because of differences in on-the-job training which is rationalized by saying women have intermittent labor force participation. The only way for women to make up for this lack is more general training which usually comes in the form of increased education.

EDUCATIONAL ATTAINMENT

Table VI-2 shows that on the whole women have a higher proportion of the labor force in each industry with 12 years of schooling or more than do men. In 1960 53.3 percent of all employed females had twelve years of schooling or more, compared with only 44.7 percent of all employed males. This difference was reduced only minimally during the 1960's, the respective 1970 values being 66.0 and 59.2 percent.

The one sector in which the male figure is higher than females is Personal services, and domestic service, laundry and hotels account for this advantage, all three employing women with a low level of education. On the industry level, the marked advantage of males in legal and medical industries is due to the male dominance as lawyers and physicians. Turning to sectors and industries in which females have an educational advantage, we find a marked difference in the Extractive sector and in the industries of mining,

construction, utilities, transportation and repair. All of these have a low female representation and they are mainly employed in "front office" jobs as secretaries and clerks, in no way competitive with the men and their generally physical tasks. Education is the only way women can increase their earnings due to their relative lack of on-the-job training which men are more likely to receive. Therefore, for a woman to be hired she must have a higher educational attainment than a man. This condition explains why a women with a B.A. may earn the same as a man with a high school diploma.

This all contributes to the different labor force behavior of men and women. In the past, the fact that women tended to stay out of the labor force for an extended time period during childbearing ages no doubt contributed to the reluctance of employers to give women expansive on-the-job training, although this alone does not explain why women are in inferior positions as compared to men. But as we noted earlier in this chapter, recent changes in the labor force participation of women during their life cycle demonstrate that they are not leaving the labor force during childbearing ages in as great numbers as in the past. In addition, the new labor legislation such as the Equal Employment Opportunity Commission's guidelines and the Affirmative Action Program, at worst, should make discriminatory hiring practices much more difficult, and can be expected to favor increasing equality in the labor market between the sexes. Thus, while there still exists a substantial amount of inequality between the sexes (which often has become more subtle and therefore harder to detect), the nature of recent trends at least have the potential for an improvement in the employment situation of women.

OCCUPATIONAL STATUS

The preceding discussion would lead us to expect substantial differences between males and females in the types of occupations they hold, and these differences are clearly visible in Table VI-3. Even on the level of gross occupational categories, which themselves confound a great deal of internal differentiation, the distribution of females is quite different from that of males. Both in 1960 and in 1970 relatively more females than males were in white-collar occupations with the exception of managerial and semi-professional occupations. The lower share of female employment in managerial occupations is expected since a large part of these positions are in Transformative industries where females are less represented. But since many of the semi-professional occupations are found in Social services (48.8 percent of all persons in this occupational category are employed in Social services), a large share of females had been expected in semi-professional occupations.

In 1960 and 1970 females had a higher concentration in professional occupations than did males, but this difference was reduced during the 1960's This finding, however, needs further explanation. Although generally speaking, professional occupations should be considered as high-status positions, it must be noted that over one-half of all female professionals can be found in education alone. In this industry most professionals are elementary and high school teachers who rank relatively low among professional occupations. Hospitals employ the second largest proportion of female professionals and although a few are doctors, the vast majority are registered nurses. Again, the occupation of nurse ranks far lower (both in status and monetary reward) than that of doctor. Finally, medical and health services, hospitals, and

Table VI-3

PERCENTAGE DISTRIBUTION OF THE U.S. LABOR FORCE
BY MAJOR OCCUPATIONAL GROUPS AND SEX, 1960 AND 1970

Occupation	1960 Males (1)	1960 Females (2)	1960 Difference (3) =(2)-(1)	1970 Males (1)	1970 Females (2)	1970 Difference (6) =(5)-(4)
Professionals	6.7	10.4	3.7	9.2	11.8	2.6
Semi-professional	4.0	3.4	-0.6	5.2	4.1	-1.1
Farmers	5.8	0.6	-5.2	2.8	0.2	-2.6
Managers	11.1	3.9	-7.2	11.4	3.8	-7.6
Clerical	7.3	31.4	24.1	7.7	35.1	27.4
Sales	7.2	8.3	1.1	7.2	7.3	0.1
Craftspersons	20.5	1.2	-19.3	21.0	1.8	-19.2
Operatives	20.8	16.2	-4.6	19.2	14.2	-5.0
Service workers	6.4	22.7	16.3	8.1	20.3	12.2
Laborers	7.2	0.6	-6.6	6.5	1.0	-5.5
Farm workers	2.9	1.3	-1.6	1.7	0.5	-1.2
Total Labor Force	95.9	100.0	0.1	100.0	100.1	0.1

education combined accounted for nine out of every ten female professionals in 1960, and in 1970 the proportion decreased only minimally to 88.5 percent. It thus is quite clear that although the proportion of females in professional occupations is higher than that of males, females are heavily concentrated in the two traditionally female occupations of teachers and nurses.

Blitz (1974) points out that there have been only modest improvements of the status of women in the professions. The male-dominated professions of law, medicine, architecture, and engineering have opened up slightly to women but remain over 90 percent male. Some occupations have improved greatly, such as editors and reporters where women were 1 percent in 1870 and are now 40 percent in 1970. He asserted that nurses, elementary school teachers and librarians remain female-dominated professions. The conclusion of his study was that women have done well in the professions numerically, but they are still confined to those professions of low status and pay. He further points out that managers and officials in today's society contain a larger proportion of high prestige jobs, and these occupations are virtually closed to women.

The U.S. Census showed little or no change for women in the male dominated professions between 1960 and 1970. John Parrish (1974) noted that the data in the 1970 census largely reflected decisions made prior to 1965-67 by women applicants to professional schools, so he feels that changes made since then need recognition. He points out, for example, that female enrollment in professional schools is much larger now, and that it is reasonable to expect that these women will obtain degrees in the fields of architecture, dentistry, engineering, law, medicine, optometry, pharmacy and veterinary medicine. He maintained that more change has occurred in the last few years than in the previous half century, but nevertheless he acknowledged that even doubling or tripling women's enrollment in male-dominated professions, still would leave their proportion far behind that of men.

Examining the data in Table VI-3 further, it can be seen that the main differences in the occupational distribution between males and females occur primarily among clerical workers, craftpersons, and service workers. Females are much more concentrated in clerical and service occupations while hardly any crafts-workers are female. During the 1960's, the concentration of females in clerical occupations continued, so that by 1970 more than one of every three females in the labor force was a clerical worker.

As much as clerical occupations are identified with females, crafts occupations are associated with males. Among the non-agricultural occupations only the proportion of females who are laborers is smaller than that of females who are engaged in crafts. Moreover, it is noteworthy that the proportions of males and females who are craftspersons changed very little during the decade.

Service occupations are the third major occupational group in which one sex prevails. These occupations account for the second largest proportion of female employment; throughout the 1960's about one of every five females in the labor force was in a service occupation.

While the analysis of the occupational structure is important in its own right, the main concern here is with occupational differences between males and females within industries. Since it has been shown that the occupational structure is not independent from the industry structure, the fact that females are more numerous in service industries certainly explains, at least in part, why proportionately more females than males are service workers. Given the focus of this study, the more important question is: To what extent does the occupational distribution differ by sex within detailed industries? The main objective here is to demonstrate which occupations are sex-typed among the industries. It must be noted, however, that the major occupational groups are not the most desirable categories for such an analysis. As the case of professionals demonstrated earlier, many differences between males and females exist within these major grouping. Whatever the shortcomings of these gross categories, they probably tend to understate rather than overstate the differences. Any observed differences, therefore, should be interpreted as conservative ones.

Each industry must be examined to see if there are any large differences between the number of men and women in a particular occupation. As noted earlier, clerical occupations generally show the largest difference between the percent female and the percent male. The second largest difference is usually found in the category "crafts-workers." Aside from these two occupational categories, there is no single occupational group which reveals sex-typing in all industries. In Personal services, females predominate in "service work." In the Transformative sector, operatives are more likely to be females than males, with the largest gap being 34.5 percentage points in textiles. However, the sex-typing of occupations is industry-specific, for in the chemical and utility industries operatives are 7 and 17 percentage points more males than females, respectively. In the transportation industry men comprise 30 percentage points more of operatives than women. The other industries in the Distributive services, wholesale and retail, both have large gaps between the number of men and women employed in sales. However, what is interesting is that in wholesale, the sales workers are mainly men, while in retail, which is lower paid, sales workers are mainly women.

In the Producer services sector, the occupational differences between males and females vary from one industry to the next. Banking is male-dominant in managers; insurance and real estate are male-dominant in sales workers. As to be expected, engineering, accounting, and legal services have a high concentration of males in professional occupations. In legal services, in 1970, for example, 94.5 percent of total male employment was professional, compared to only 5.3 percent for females. On the other hand, 92.5 percent of all females were in clerical positions, compared to 3.1 percent for males.

The opposite is true of Social services where in medical services, hospitals, and education women predominate as professionals because of their large proportion of nurses and teachers. Welfare has 42 percentage points more men as semi-professionals than women. And lastly, within Personal services females are dominant in the service occupations.

What must be pointed out is that even in many cases where no differences exist between male and females in terms of their occupational distribution the fact remains that individual job categories within occupations are often sex-typed. A restaurant either has waitresses or waiters, rarely both. A factory generally segregates the women operatives from the men operatives. Because of traditional practices, men and women rarely work side by side on an equal basis in equal numbers. The exceptions to this rule would be, for example, reporters and entertainers. Musicians and college professors would not be included because although women might be working side by side with men they are rarely equal in number.

The analysis of sex-typing of occupations among industries, however, must take into account the fact that the female proportion of employment varies greatly from one industry to the next. If 90 percent of employment in industry A is female, a domination of females in most occupational categories within that industry is likely. In this case it would make more sense to refer to a sex-typing of an industry rather than of an occupation. On the other hand, if in industry B females account for 25 percent of total employment yet 90 percent of all clerical workers in that industry is female, then a case could be made for the fact that clerical occupations in industry B are sex-typed. The extent of industry and occupational sex-typing will be examined in the following section.

Sex-typing of industries. If females were distributed among particular industries in the same manner as their distribution within the total labor force, then 37.6 percent of total employment in each industry should be female in 1970 (32.8 percent in 1960), according to our figures from the Public Use One Percent Samples (see Table VI-4). Obviously, this is not the case. While any decision as to what employment proportion constitutes sex-typing is arbitrary, an industry will be labeled female-dominated if females account for at least 15 percentage points more of the industry's employment than they do of the total labor force. Correspondingly, an industry is male-dominated if the female proportion of employment is 15 percentage points less than the female share of the total labor force. Thus, given that in 1960 32.8 percent of the total labor force was female, an industry is female-dominated if females account for more than 47.8 percent of industry employment, and male-oriented if females account for less than 17.8 percent of industry employment. The respective values for 1970 are 52.6 percent for the female-dominated industry and 22.6 for the male-dominated industry.

The data in Table VI-4 show the following industries to be female-dominated (in decreasing order):

Table VI-4

PERCENT FEMALE IN THE TOTAL LABOR FORCE, INDUSTRY SECTORS AND INTERMEDIATE INDUSTRY GROUPS: UNITED STATES, 1960-1970

Sectors and Industries	1960 Percent Female	1960 Rank	1970 Percent Female	1970 Rank
I. EXTRACTIVE	10.0		10.0	
1) Agriculture	10.6	33	10.5	35
2) Mining	6.2	36	7.9	36
II. TRANSFORMATIVE	27.7		23.8	
3) Construction	5.4	37	6.0	37
4) Food	25.0	24	26.5	25
5) Textile	59.6	4	63.8	5
6) Metal	15.4	31	14.2	32
7) Machinery	19.9	27	22.4	27
8) Chemical	18.4	28	21.3	28
9) Misc. manufacturing	24.7	25	28.7	24
10) Utilities	15.6	30	13.2	33
III. DISTRIBUTIVE SERVICES	29.8		33.9	
11) Transportation	9.9	34	14.3	31
12) Communication	51.1	11	48.9	13
13) Wholesale	21.2	26	23.3	26
14) Retail	37.1	17	41.5	17
IV. PRODUCER SERVICES	47.3		45.5	
15) Banking	53.1	9	56.6	10
16) Insurance	44.5	14	48.1	12
17) Real Estate	32.9	20	38.3	20
18) Engineering	16.0	29	16.2	30
19) Accounting	30.5	23	40.2	19
20) Misc. business serv.	36.4	18	40.4	12
21) Legal services	40.4	15	46.7	15
V. SOCIAL SERVICES	51.4		56.6	
22) Medical services	58.9	5	70.1	3
23) Hospitals	73.2	2	77.3	2
24) Education	62.1	3	62.8	6
25) Welfare	44.9	13	52.7	11
26) Nonprofit	45.6	12	46.8	14
27) Postal services	13.0	32	20.2	29
28) Government	32.0	22	32.8	23
29) Misc. social serv.	34.8	19	37.8	21
VI. PERSONAL SERVICES	56.5		58.5	
30) Domestic services	87.1	1	90.1	1
31) Hotels	51.9	10	58.9	9
32) Eating & drinking	57.8	6	58.5	8
33) Repair	6.7	35	11.4	34
34) Laundry	54.8	8	60.6	7
35) Barber & beauty shop	55.5	7	67.6	4
36) Entertainment	32.3	21	35.1	22
37) Misc. personal serv.	38.6	16	42.9	16
TOTAL LABOR FORCE	32.8		37.6	

1960		1970	
Domestic service	54.3	Domestic service	52.5
Hospital	40.4	Hospital	39.7
Education	29.3	Medical Services	32.5
Textiles	26.8	Barber and beauty shops	30.0
Medical services	26.1	Textiles	26.2
Eating and drinking places	25.0	Education	25.2
Barber and beauty shops	22.7	Laundry & dyeing services	23.0
Laundry & dyeing services	22.0	Eating & drinking places	21.7
Banking and financing	20.3	Hotel and lodging places	21.3
Hotel and lodging places	19.1	Banking and financing	19.0
Communication	18.3	Welfare & religious services	15.1

(The numbers refer to the difference between the percent female in the total labor force and the percent female in the particular industry. In 1970, for example, 37.6 percent of the total labor force was female, yet females accounted for 90.1 percent of total employment in domestic service). With the two exceptions of communication and welfare and religious services, each the lowest ranking in 1960 and 1970, the industries that were female-dominated in 1960 remained that way in 1970. Except for textiles, all female-dominated industries are services of one kind or another, but most of them belong to the Social services and Personal services sectors. Not surprisingly, domestic service is the most female-dominated industry; females make up 90 percent of total employment. Domestic service clearly is the example that first comes to mind when talking about a female-dominated industry. Next to domestic service in terms of female-domination are hospitals; although the proportion female is lower than in domestic service, hospitals are a much more rapidly growing industry which makes the difference in the sex composition of employment more significant than that in domestic service, which has been steadily declining. Females account for about three-fourths of total hospital employment. Again, females traditionally have been employed in medical positions, and the continued employment of women as nurses and other health personnel only continues an earlier trend. Although the remaining industries listed above are quite sex-typed as well, none of them reaches the degree of female domination that characterizes domestic services or hospitals. The extent to which employed females are subject to sex-typing by industries is revealed by the fact that about one-half of all females in the labor force are employed in a female-dominated industry. The trend during the 1960's showed further that this concentration is on the increase.

The industries that are male-dominated, i.e. in which the percent female of total employment is at least 15 percentage points lower than the percent female of the total labor force, are found among all industry sectors, but most of them belong to the Extractive and the Transformative sectors. The data in Table VI-4 permit us to determine which industries are male dominated and these are listed below (in decreasing order of male domination:)

1960		1970	
Construction	-27.4	Construction	-31.6
Mining	-26.6	Mining	-29.7
Repair services	-26.1	Agriculture	-27.1
Transportation	-22.9	Repair services	-26.2
Agriculture	-22.2	Utilities	-24.4
Postal service	-19.8	Metal	-23.4
Metal	-19.4	Transportation	-23.1
Utilities	-19.2	Engineering	-21.4
Engineering	-16.8	Postal service	-17.4
		Chemical	-16.3
		Machinery	-15.2

(The number, again, refer to the difference between the percent female of the total labor force and the percent female in each particular industry). Corresponding to the case of female-dominated industries, the two most pronounced male-dominated industries can be regarded as typical male industries, namely construction and mining. Most jobs in these two industries require physical strength, are often dirty, and are somewhat hazardous, all of which are characteristics that traditionally have been ascribed to male work. Most other male-dominated industries could be similarly characterized. Among them, however, are industries where the sex-typing is much less interpretable than it might have been in the remaining industries. Consider postal service, for example. Why are females excluded from this industry, even though over 80 percent of employment is classified as clerical workers, which in every other industry is female-dominated? It is true that being a postman is not the same kind of job as sitting at a desk doing strictly clerical work, but now that nearly all mail is delivered by motor vehicle or by cart, it is not a physically demanding job.

Even if it is accepted that the nature of construction work and of the other male-dominated industries does not suit females (which one might very well choose to reject since this implies assumptions about the work capacity of women that is based more on social conventions than on biological facts), the increasing use of capital equipment in construction and in many other industries and the related trend towards the creation of operative positions should provide more job opportunities for females in male-dominated industries. As the figures in Table VI-4 and on the prior page indiate, however, the exclusion of females from male-oriented industries has increased rather than decreased.

As was previously mentioned, an interdependence exists between the industry structure and the occupational structure. Although we said earlier that logically the industry comes first in determining positions within the labor force, the occupational structure nevertheless is quite important for the analysis of the female labor force participation. On the one hand, industries "mediate" between the structure of production and the occupational labor supply, i.e. an agricultural economy requires less sales workers than would any other form of economic organization. Yet on the other hand, it is up to the employer

whom to select for what positions. While it may be that in order to perform construction tasks it is desirable to have a certain proportion of total employment as craftsworkers, this still leaves the employer with a choice as to whom he considers best qualified for those positions. Moreover, in some cases such as in education, the supply of female teachers is clearly larger than that of male teachers, and the reasons for a larger proportion of females therefore must be seen within the training context itself. For various reasons, fewer males choose education as a major field in college than do females.

If employers systematically recruit women for clerical and service occupations, and not for managerial and crafts occupations, we should then expect to find relatively fewer females in industries where crafts and managerial occupations prevail. Conversely, we would expect relatively more females in industries where clerical and service occupations dominate. For purposes of analysis, we therefore assume that the percent female in each of the eleven major occupational groups is the same in every industry as it is in the total labor force (see Table VI-5). These data clearly demonstrate that females are employed in quite different occupations than males, as was pointed out in the previous section. Although in 1970 females accounted for only 37.6 percent of the total labor force, about three-fourths of all clerical workers are females. On the other hand, females are virtually excluded from crafts occupations. By assuming no differences in occupational sex-typing among industries, we can examine the extent to which some industries are more sex-typed than others.

Following this assumption, the expected percent female in each industry can be computed by taking the inter-industry differences in the occupational structure into account. The following formula is used for that computation:

$$\hat{PF}_i = \sum_{d=1}^{11} (PF_j \times N_{ji} / 100) / (N_i)$$

where $\hat{PF}_i$ is the expected percent female in the ith industry, PF_j is the percent female in the jth occupation of the total labor force, N_{ji} is the total number of persons in the jth occupation within the ith industry, and N_i is the total employment in the ith industry. Illustratively, the data in Table VI-6 show that in 1970 38.0 percent of all salesworkers were females. Since there were 28,638 salesworkers in retail trade (according to the 1/100 Public Use Sample) we would expect 28,638 x .38 = 10,882 females to be sales workers in retail trade. Summing these expected values for all eleven occupations in retail trade gives us the expected number of females in that industry. Dividing this sum by the total number of persons employed in retail trade gives us the expected percent female. A comparison of the expected with the actual percent female permits us to assess the extent to which sex-typing of females varies among industries. If the difference is greater than an absolute value of 10 percent, the industry is considered to be sex-typed. Female-dominated

Table VI-5

PERCENT FEMALE IN MAJOR OCCUPATIONAL GROUPS:
UNITED STATES, 1960-1970

Occupation	1960	1970
Professionals	42.2	43.5
Semi-professionals	29.4	32.6
Farmers	4.6	4.4
Managers	14.6	16.6
Clerical workers	67.4	73.5
Sales workers	35.7	38.0
Craftspersons	2.8	4.9
Operatives	27.3	30.9
Service workers	62.9	60.2
Laborers	3.6	8.4
Farm workers	17.6	14.8
Total Labor Force	32.8	37.6

is the term applied to those industries with a positive difference of more than 10 percentage points, and male-dominated is applied to those industries with a negative difference of more than 10 percentage points.

The 1960 data in Table VI-6 indicate the following industries to be sex-typed:

1960

female dominated		male dominated	
Domestic	33.1	Postal	-44.5
Textiles	31.2	Engineering	-20.8
Hospitals	26.9	Mining	-18.3
Laundry	26.2	Transportation	-16.9
Medical	23.7	Accounting	-15.7
Education	19.5	Utilities	-13.1
Communication	11.4	Wholesale	-10.7
Misc. personal ser.	11.4	Government	-10.1
		Chemicals	-10.1

1970

female dominated		male dominated	
Domestic	33.6	Postal	-44.7
Textiles	32.5	Engineering	-24.6
Laundry	30.3	Transportation	-22.7
Hospitals	26.1	Mining	-20.2
Medical	18.5	Utilities	-14.6
Education	15.2	Wholesale	-13.2
		Real Estate	-12.5
		Chemicals	-12.3
		Accounting	-11.8
		Government	-11.0

In 1960 there are eight female dominated and nine male dominated industries. For the most part these are the same industries that were classified in Table VI-4 as sex-typed without taking the occupational structure into account. Table VI-6 is a measurement of the industry effect on sex-typing, whereas Table VI-4 measurement of the combined effects of occupation and industry on sex-typing. The difference between the actual and expected number of females shows how much industry itself contributes to sex-typing. The smaller the difference, the less sex-typed the industry is. If the difference is positive then there are more females than would be expected, and if the difference is negative, there are fewer females than expected.

Comparing Tables VI-6 and VI-4 in terms of female-dominated industries in 1960, it can be seen that miscellaneous personal services have a higher proportion of female employment than was expected, whereas eating and drinking places, barber and beauty shops, banking and financing, and hotels and lodging places do not employ more females than should have been expected on the basis of their occupational structure. Thus, given the fact that females are

Table VI-6

EXPECTED AND ACTUAL PROPORTION FEMALE BY SECTORS, AND INDUSTRIES
1960-1970

Sectors and Industries	1960 Expected	1960 Actual	1960 Difference	1970 Expected	1970 Actual	1970 Difference
I. EXTRACTIVE	12.2	10.0	-2.2	15.4	10.0	-5.4
1) Agriculture	10.4	10.6	.2	11.6	10.5	-1.1
2) Mining	24.5	6.2	-18.3	28.1	7.9	-20.2
II. TRANSFORMATIVE	15.5	21.7	6.2	27.9	23.8	-4.1
3) Construction	10.9	5.4	-5.5	13.0	6.0	-7.0
4) Food	25.3	25.1	- .2	30.3	26.5	-3.8
5) Textile	26.5	59.6	33.1	31.3	63.8	32.5
6) Metal	23.0	13.4	-9.6	27.6	14.2	-13.4
7) Machinery	21.9	19.9	-2.0	30.2	22.4	-7.8
8) Chemical	28.5	18.4	-10.1	33.6	21.3	-12.3
9) Misc. manufacturing	24.8	24.6	- .2	30.5	28.7	-1.8
10) Utilities	26.7	13.6	-13.1	27.8	13.2	-14.6
III. DISTRIBUTIVE SERVICES	27.8	29.8	2.0	35.9	33.9	-2.0
11) Transportation	26.8	9.9	-16.9	37.2	14.5	-22.7
12) Communication	39.7	51.1	11.4	43.8	48.9	5.1
13) Wholesale	31.9	21.2	-10.7	36.5	23.3	-13.2
14) Retail	30.1	37.1	7.0	35.6	41.5	5.9
IV. PRODUCER SERVICES	43.6	47.3	-2.3	50.3	45.5	-4.8
15) Banking	48.6	53.1	4.5	55.6	56.6	1.0
16) Insurance	46.0	44.3	1.5	53.7	49.1	-4.6
17) Real Estate	33.8	32.9	-2.9	50.8	38.3	-12.5
18) Engineering	36.8	16.0	-20.8	40.8	16.2	-24.6
19) Accounting	46.2	30.5	-15.7	52.0	40.2	-11.8
20) Misc. business serv.	38.7	36.4	-2.3	45.6	40.4	-5.2
21) Legal services	49.6	40.4	-9.2	56.6	46.7	-9.9
V. SOCIAL SERVICES	45.2	51.4	6.2	49.2	56.6	7.4
22) Medical services	46.4	70.1	23.7	51.6	70.1	18.5
23) Hospitals	46.3	73.2	26.9	51.2	77.3	26.1
24) Education	42.6	62.1	19.5	47.6	62.8	15.2
25) Welfare	39.6	44.9	5.3	45.5	52.7	7.2
26) Nonprofit	44.0	45.6	1.6	45.8	46.8	1.0
27) Postal services	55.5	13.0	-42.5	64.9	20.2	-44.7
28) Government	42.8	32.0	-10.8	43.8	32.8	-11.0
29) Misc. social serv.	35.2	34.8	- .4	41.4	37.8	-3.6
VI. PERSONAL SERVICES	43.9	56.5	12.6	47.7	56.5	9.6
30) Domestic services	55.9	87.1	31.2	56.5	90.1	33.6
31) Hotels	45.3	51.9	6.6	51.8	58.9	7.1
32) Eating & drinking	50.9	57.8	6.9	54.1	59.3	5.2
33) Repair	12.0	6.7	-5.3	17.8	11.4	-6.4
34) Laundry	29.6	54.8	26.2	36.3	66.6	30.3
35) Barber & beauty shop	58.2	55.5	-2.7	60.0	67.6	7.6
36) Entertainment	37.3	32.3	-5.0	41.6	35.1	-6.5
37) Misc. personal serv.	28.2	39.6	11.4	33.5	42.9	9.4

overrepresented in service occupations, their shares of employment in the latter three Personal services was within the expected range. Similarly, as clerical work accounts for a large proportion of employment in banking and financing, and as clerical occupations are clearly female-oriented, the employment share of females in banking and financing was to be expected as well.

Concerning males, the differences between industries in Tables VI-4 and VI-6 are somewhat larger. Construction, agriculture, repair services, and metal industries are not listed as male-dominated industries in Table VI-6, but they appear in Table VI-4. Given the occupational structure of these industries, women are represented in the expected number, which is low. Industries like postal services, engineering, mining, and transportation are classified as sex-typed in both tables. Accounting, utilities, wholesale, government and chemical industries are added to Table VI-6. Given the occupational structure of these industries, women are underrepresented.

In 1970 the only changes in Table VI-6 for female dominated industries are that miscellaneous personal services and communication are not present, and real estate is added as a male-oriented industry. These changes are reflective of the fact that during the 1960-70 period the differences between the expected and the actual employment of females in female-oriented industries declined, whereas the differences generally widened for male-oriented industries. The exceptions are: accounting, which was male-dominated both in 1960 and 1970 but less so in 1970; welfare, which was female-dominated in 1960 and 1970 but more so in 1970; and various Personal services (domestic service, hotel and lodging places, laundry services, and barber and beauty shops) which became more female-oriented in 1970. Aside from these industries all other industries either became less female-oriented or more male-oriented. The reasons for this lies partially in the fact that as a result of the increasing labor force participation of women between 1960 and 1970 women gained proportionately in every occupational category except for service work and farm work (see Table VI-5). These gains raised the expected share of female employment in each industry (Table VI-6) and therefore lowered the difference between the expected and the actual employment as far as female-dominated industries are concerned. What is significant is the fact that in those industries where females already were underrepresented in 1960, the employment changes during the 1960-70 period further widened the gap between the number of women expected and the actual number of women.

While industries in which the actual percent female differed from the expected percent female by no more than ten percentage points were not considered to be sex-typed, this may have been the result of the fact that in some occupations within a particular industry, females made up a significantly larger proportion of employment than would have been expected, but that this overrepresentation was cancelled out by the effects of female underrepresentation in other occupations within that same industry. This possibility is examined in the following section.

The best example of this phenomenon is legal services. The difference between the actual and the expected in the legal industry is -9.2 in 1960,

and -9.9 in 1970. But women comprise 92 percent and 93 percent in 1960 and 1970, respectively, of clerical workers in this industry, whereas men account for 93 percent and 95 percent in 1960 and 1970, respectively, of professionals in this industry. This is the most extreme case of sex-typing which is not evident in Table VI-6 because the overrepresentation of women in clerical work and their underrepresentation in professional positions cancelled each other out. This also occurred in insurance, which has an underrepresentation of clerical workers and an overrepresentation of male sales workers.

Table VI-6 sorts out the industry sex-typing from the occupational sex-typing. Occupational sex-typing is less easy to correct because men and women still have occupational roles that they fall into and train for. Industry sex-typing should be easier to eradicate, because it only involves shifting already trained personnel to different industries.

The growing domination of services has the potential of affecting women more than any other group of the labor force. One of the prime characteristics of a "service economy" is the move away from physical work, which is illustrated by the increase of white-collar jobs. Yet women are not equally distributed in the labor force even in white collar jobs due to role differentiation and their intermittent labor force participation patterns that limits human capital investments, especially over the length of the work life cycle. If one assumes that at birth the mental capabilities of men and women are equal, then it is only role prejudice (which also accounts for the bi-model participation curve) that prevents an equal distribution of men and women in most jobs, occupations, industries, and sectors. Role prejudice occurs when there are genetic differences in the population which are visible but not necessarily significant for role performance. Kenneth E. Boulding (1973: 252) addressed this question in a beautiful analogy of the genetic differences between blood types and the genetic differences between sexes. He stated,

> In ordinary life we are quite unaware of a person's blood type. Consequently, it can be safely assumed that there are no role prejudices against blood types of different kinds unless these happen to be associated with other characteristics which are socially visible. For the major types, this association is fairly minimal. Consequently, we would be very surprised to find a distribution of blood types in any occupational group or income group of any size which is markedly different from the distribution of blood types in the population as a whole.
>
> The genetic division of the human race into men and women qualifies in most societies as the major form both of discrimination in the existing labor force and of role prejudice. This is not surprising as the genetic difference between sexes is far greater than it is among races in terms of the structure of information of the genetic

> code. There is one role indeed - that of bearing children - in which there is 100 percent genetic specialization between the sexes, in the sense that no men will be found in the childbearing population. The very social visibility of the distinction between the sexes, however, makes it a prime candidate for role prejudice which creates a huge reservoir of false knowledge, false education, and false learnings processes ...

In the past, the physical requirements of work, concommitant with the sex-role differentiation, has often been cited as contributing to the division of labor by sex. In a service society, however, work by and large has lost most of its physical characteristics. (This is not to say that work is no longer strenuous; certainly, eight hours at a typewriter does result in physical exhaustion. But this stress derives from factors other than the physical requirements of pressing down typewriter keys.) In that sense, the service society provides at least the opportunity for men and women to work in comparable positions. The remaining division of labor by sex in a service society, therefore, must largely be examined within the framework of sex-role differences.

Chapter VII

THE SECTOR AND INDUSTRY POSITION OF MINORITIES

As is the case with sexual differences, throughout this report there has been presented data on the sectoral and industry changes of blacks, but the references have been in passing, so to speak. In this chapter attention will be focused on the blacks and their position vis-à-vis the whites. To a lesser extent the Mexican-American population of the Southwest will be considered, it representing the second largest minority in the U.S.A. The contrast between the two minorities is instructive, for while they both are much below the whites on socioeconomic criteria, they demonstrate some important differences, e.g., the problem of language for the Mexican-Americans. First, however, we turn our attention to black-white differences.

BLACKS IN THE LABOR FORCE

After the early emphasis in black studies on the family structure [e.g., DuBois, 1970(1909); Frazier, 1939], Myrdal's An American Dilemma set the stage for investigations dealing with a wide range of social and economic characteristics of the black population (Pettigrew, 1964; Glenn, 1969; Price, 1969). Most of these studies noted that blacks had gained in many respects, be it income, education, or occupational status. As pointed out by Glenn (1969), however, much of this progress was rather moderate and did not serve to reduce much of the gap existing between whites and blacks in these characteristics. Furthermore, in some respects the status of blacks relative to whites even declined. The ratio of nonwhite to white infant mortality (age one month to one year), for example, increased from 2.30 in 1950 to 2.76 in 1965 (Glenn, 1969:52). It thus is the consensus of most of the literature about blacks that the post-war changes did improve the socioeconomic position of blacks, but that these improvements did not substantially narrow the difference between whites and blacks along these dimensions.

The various civil rights legislation during the 1960's raised expectations that at last the relative position of blacks would improve to the point where the differences between whites and blacks would be substantially reduced. In a recent assessment of these changes Farley and Hermalin (1972) asked the question whether or not the 1960's had been a decade of progress for blacks. They concluded that the last decade did indeed improve the position of blacks: their incidence of poverty was lower in 1970 than in 1960, they had higher educational attainment and occupied better positions in the labor force. But they also noted substantial differences between various groups of blacks. The socioeconomic improvement was better for younger than for older blacks and females did much better than males relative to whites. On the other hand, Farley and Hermalin pointed out that blacks are still behind the status of whites. Even in 1970, for example, only 13 percent of all black males were employed in professional and managerial occupations, compared to 23 percent of white males in 1960, ten years earlier. Similar though slightly smaller differences can be observed for white and black females (Farley and Hermalin, 1972: 363). Again, young blacks did much better than older ones in regard to occupational status. In sum, although the improvements of blacks, particularly of black females, are clearly visible, they have not been achieved uniformly for all blacks.

One reflection of improving social conditions is educational attainment, and this of course will affect young people more than old people. In that sense, young

minority members can be expected to fare relatively better than the older generations. As was recently pointed out by Poston et al., (forthcoming), however, there is a possibility that the relatively better position of the younger members of minorities worsens as they grow older. The reason for this is that whites are more likely to be in positions that are in career lines than minorities. In other words, while whites and minorities might start out at similar levels (although not even that situation exists as yet), the career advancement of young whites is more rapid than those of young blacks or Mexican-Americans. Thus, only through longitudinal studies can it be shown whether or not the apparent favorable positions of young blacks can be maintained over time.

It is the purpose of this chapter to shed additional light on the position of blacks in the labor force by concentrating on their distribution among industries. Consistent with the emphasis throughout this study on the relationship between the sectoral transformation of the labor force and various employment characteristics, this part of the study addresses the question of whether or not the position of blacks relative to whites has been affected by changes in the industry structure and what, if any, differences exist between industries with respect to the employment of blacks.

Before entering that analysis, a further differentiation must be made. The findings of the preceding chapter pointed to rather remarkable differences between males and females in the way they are employed in different industries. It was shown, for example, that females are much more heavily concentrated in service industries than males. In addition, females maintain quite different occupations. As black females have a much higher labor force participation rate than white females (the percent female among the black labor force was 45.1 percent in 1970 as compared to 37.0 percent for the white labor force), the different female labor force rates are likely to account for part of the differences in the employment patterns of blacks and whites. A comparison of them therefore must consider differentiation by sex. For these reasons the following analyses will be carried out for males and females separately.

Industry Position

Males. Table VII-1 indicates important differences in the sector and industry distribution of black and white males, particularly in the Producer and Personal services among sectors, and agriculture, machinery, and domestic service among industries for the 1960 period. However, what is most striking in Table VII-1 is the convergence indicated for the 1960-1970 period. Among the six sectors, only Social services showed a slight widening; the other five demonstrated convergence. The industries show more variation, but in nearly every case where there is a widening, it is the black proportion of total labor force that is greater than the white. This general convergence in the industry distribution of employment largely has been the result of changes in the industry allocation of black males, for the white distribution, except for the Extractive and Social services sector, is little changes throughout the decade.

Table VII-1

PERCENTAGE DISTRIBUTION OF THE MALE LABOR FORCE BY INDUSTRY SECTOR, INTERMEDIATE INDUSTRY GROUPS, AND ETHNIC STATUS: UNITED STATES, 1960 AND 1970

Sectors and Industries	1960		1970	
	White	Black	White	Black
I. EXTRACTIVE	10.1	13.5	6.4	5.9
1) Agriculture	8.6	13.1	5.1	5.3
2) Mining	1.5	0.4	1.3	0.6
II. TRANSFORMATIVE	47.9	37.8	40.5	42.6
3) Construction	8.6	9.3	8.7	8.9
4) Food	3.3	3.8	2.3	3.2
5) Textile	2.1	1.8	1.7	2.5
6) Metal	4.6	4.8	4.4	5.6
7) Machinery	10.0	5.5	10.6	8.9
8) Chemical	2.3	1.6	2.1	1.8
9) Misc. manufacturing	9.0	9.0	8.8	9.3
10) Utilities	1.8	2.0	1.9	2.4
III. DISTRIBUTIVE SERVICES	23.3	16.8	24.0	20.7
11) Transportation	6.0	6.3	5.2	6.3
12) Communication	1.0	0.2	1.3	0.6
13) Wholesale	4.3	3.3	5.1	4.2
14) Retail	12.0	8.8	12.3	9.0
IV. PRODUCER SERVICES	6.2	3.8	7.5	4.5
15) Banking	1.3	0.4	1.6	0.9
16) Insurance	1.6	0.4	1.6	0.5
17) Real Estate	1.0	1.2	1.0	1.2
18) Engineering	0.4	0.1	0.6	0.1
19) Accounting	0.3	0.0	0.4	0.1
20) Misc. business serv.	0.2	0.8	1.7	1.6
21) Legal services	0.4	0.1	0.5	0.1
V. SOCIAL SERVICES	11.7	15.6	15.8	17.5
22) Medical services	0.9	0.4	1.0	0.6
23) Hospitals	0.9	2.6	1.2	2.9
24) Education	3.1	3.1	3.1	5.0
25) Welfare	0.8	0.8	0.9	1.1
26) Nonprofit	0.3	0.3	0.4	0.3
27) Postal services	1.1	2.1	1.1	2.6
28) Government	4.3	4.2	4.9	4.9
29) Misc. social serv.	0.2	0.1	0.3	0.1
VI. PERSONAL SERVICES	6.6	13.2	6.6	8.8
30) Domestic services	0.3	3.1	0.2	1.1
31) Hotels	0.6	1.4	0.5	1.0
32) Eating and drinking	1.7	2.7	2.0	2.3
33) Repair	1.9	1.9	1.8	1.7
34) Laundry	0.5	1.5	0.4	0.9
35) Barber & beauty shop	0.5	0.7	0.4	0.5
36) Entertainment	0.8	1.2	0.8	0.9
37) Misc. personal serv.	0.3	0.5	0.3	0.3
TOTAL LABOR FORCE	99.8	100.0	99.8	99.3

Part of the change in the distribution of black males by industry during the 1960's is related to their increased urbanization. In 1960, 72.4 percent of the nonwhite population was urban and this increased to 81.3 percent in 1970. (Although "nonwhite" is not identical with "black", blacks account for over 85 percent of all nonwhites). As a consequence of this trend, their share of employment in agriculture declined by over 55 percent during the 1960-70 period. By 1970 agriculture, therefore, ceased to be an important industry for the employment of black males.

As is the case for the total labor force, mining in the recent past has not accounted for much employment among black males, but it is interesting to note that although the proportion of white males in this industry has steadily declined during the last 50 years, the proportion of black males in mining has slightly increased during the 1960's. It might well be that this situation results from the fact that blacks in mining were greatly underrepresented in the past. Thus the current trend could be interpreted to indicate a more similar employment pattern of white and black males in this industry.

The other industry sector in which the share of employment for black males declined during the 1960's are Personal services. This decline is the more remarkable as all Personal services shared in the proportionate decline. In contrast, white employment in this sector increased as much as the total white male labor force; as a result, their share in Personal services remained stable during the last decade.

It is primarily the decline of the proportionate employment of black males in the Extractive and the Personal services sectors which made the industry composition of black employment more similar to that of white males.

The third major change in the industry composition of black males was the expansion of employment in Transformative industries. Although proportionate employment of black males did decline in construction and food industries, the gains in the remaining industries in their sector more than offset those declines. Particularly noteworthy is the increase of blacks in machinery industries, which include transportation equipment. These industries, especially the automobile industry, have a relatively high wage scale which makes the expansion of black employment in this industry even more significant. The increases in the share of employment in Transformative industries for black males is particularly noteworthy in light of the fact that employment of white males in these industries, especially in food and textiles, declined. As a result, black males for the first time in 1970 were relatively more numerous in the Transformative sector than were white males. Given the overall trend of the labor force to move toward service industries, however, it can be expected that the proportion of black males in Transformative industries will not increase much more.

The remaining three industry sectors--Distributive, Producer, and Social services--are characterized by similar employment trends of black and white males during the 1960-70 decade.

Black males are employed in relatively smaller proportions in Distributive services than white males, and the difference between the shares of employment for black and white males has not changed much during the 1960's. Particularly noteworthy is the low proportion of black males in retailing, as compared to white males. Throughout the 1960's, the share of black males in this industry was three percentage points (or about one-fourth) lower than the corresponding share for white males. This finding seems puzzling. If we assume that due to lower educational attainment, black males are more likely to be found in industries that require relatively few skills and provide low wages, a relatively large share of blacks should have been expected in retailing, for the skill requirements in this industry are lower than in many Transformative industries. Thus, the underrepresentation of black males in retailing is unexpected. But it is possible to argue that although most jobs in retailing are relatively low-status positions, employers might not prefer blacks because of the direct face-to-face contact with the customer that is required in this industry. And in those places where both races are hired there is a division of labor. In restaurants and cafeterias, for example, blacks are much more likely to work in the kitchen and clearing tables, whereas whites are more likely to be taking orders and serving. The same pattern will be encountered for black females, lending support to the argument that discrimination is an important factor.

The industry sector from which black males are still excluded to a large extent is Producer services. Although for the entire sector the difference between white and black males in the respective shares of employment was only 2.9 percentage points in 1970 (down 0.3 percentage points from 1960), this difference is quite significant given the small size of this sector. In other words, the proportion of all black males in the Producer services sector was 38 percent smaller than the white share in 1970. This underrepresentation of black males is the more remarkable as it concerns all Producer services, except real estate. Although the data in Table VII-1 show that blacks did make relative gains in this sector during the 1960's their relative proportion in engineering and architectural services, accounting and bookkeeping, and legal services still is only one-fourth or less the proportion of whites in 1970.

The situation in the Producer services sector, however, is interesting in many respects. Although even in 1970 relatively few black males are employed in this sector, they doubled their proportion in banking and miscellaneous business services during the 1960's. It seems reasonable to assume that part of these changes are indeed due to legislation such as the Equal Opportunity Employment Act. Furthermore, and perhaps even more important, many banks and advertising agencies discovered the consumption potential of blacks during the 1960's and therefore were eager to employ blacks--if only on a token basis--in order to gain entry into this market. Engineering and legal services, on the other hand, due to their high proportion of professionals, were less likely to increase their proportion of black employment, for this is partly dependent upon a concomittant increase of blacks in professional education, such as law schools and science departments. As blacks have entered these fields in larger numbers during the recent years, they should account for a much larger share of employment in these services in 1980.

Finally, black males continued to have a larger share of employment in Social services than white males during the 1960-70 period. But this difference is somewhat misleading as it results from just two industries: hospitals and postal services. The occupational status gap is much greater for hospitals, where blacks generally have menial tasks, as compared to postal services, where there is not so great a social differentiation. With the only exception of medical services, in which blacks are less represented than whites (for similar reasons as in the case of Producer services), the other Social services show a remarkable similarity in terms of their shares of employment of black and white males.

Females. In contrast to the increasing similarity of industry composition of white and black male employment, much greater variation still exists between white females and black females (see Table VII-2). In 1960 this was largely due to the enormously high proportion of black women in Personal services. At that time this one sector accounted for over one-half of all black females in the labor force! In comparison, only 15.2 percent of white females worked in this sector. Most of the differences were accounted for by domestic service which employed over one-third (37.5 percent) of all black females, in contrast to only 4.3 percent of white females. Indeed, if this industry is excluded from the Personal services sector, the difference in the relative proportions of black and white employment is very small. Despite this large concentration of black females in domestic service, their share of employment in Social services for 1960 was not much smaller than the corresponding proportion for white females in this sector. Within Social services, black females were most underrepresented in education. Another interesting difference is that white women proportionately were more numerous than blacks in medical services, while the reverse was true in hospitals. Since medical services are mostly private whereas hospitals are usually public (or at least non-profit), it appears that black females find it easier to get employment in larger bureaucracies than in the smaller offices of private physicians or dentists. Furthermore, as in large organizations such as hospitals, a substantial part of employment involves low-status occupations such as orderlies, nurses' aides, and cleaning personnel, all of which largely have been occupied by blacks in the past. Thus, the difference between medical services and hospitals in terms of white and black female employment is not all that surprising.

With the exception of the Extractive sector where the share of employment of black females is somewhat larger than the corresponding share for white females (although this sector is so small that it does not account for much of the difference in the industry composition of black and white employment), great differences exist in the remaining sectors. In the Transformative sector in 1960, the ratio of the share of employment of white females to the share of black females was two; it was three in Distributive services and four in Producer services. In these three sectors, no individual industry showed a smaller relative proportion for white females than for black females, with the sole exception of real estate. The differences are particularly noteworthy in Producer services: proportionately the total sector employed four times as many white females as black females, but banking and financing accounted for ten times as many whites as blacks, and legal services six times as many. This discrepancy is probably the most remarkable one, as most of these services are industries whose employment expanded only relatively recently.

Table VII-2

PERCENTAGE DISTRIBUTION OF THE FEMALE LABOR FORCE
BY INDUSTRY SECTOR, INTERMEDIATE INDUSTRY GROUP, AND
ETHNIC STATUS: UNITED STATES, 1960-70

Sectors and Industries	1960		1970	
	White	Black	White	Black
I. EXTRACTIVE	2.1	4.0	1.1	1.2
1) Agriculture	1.9	4.0	0.9	1.2
2) Mining	0.2	0.0	0.2	0.0
II. TRANSFORMATIVE	25.2	17.6	27.3	16.2
3) Construction	1.0	0.7	1.0	0.4
4) Food	2.3	1.9	1.3	1.6
5) Textile	6.6	3.3	5.0	4.9
6) Metal	1.6	0.7	1.3	0.7
7) Machinery	5.3	1.6	5.1	3.5
8) Chemical	1.1	0.3	1.0	0.6
9) Misc. manufacturing	6.5	2.8	6.1	4.0
10) Utilities	0.6	0.2	0.5	0.3
III. DISTRIBUTIVE SERVICES	27.6	7.5	27.4	10.6
11) Transportation	1.4	0.7	1.6	0.9
12) Communication	2.3	0.5	2.0	1.9
13) Wholesale	2.5	0.9	2.7	1.2
14) Retail	15.4	5.1	15.2	6.7
IV. PRODUCER SERVICES	9.3	2.3	10.5	5.2
15) Banking	3.0	0.3	3.4	1.6
16) Insurance	2.7	0.4	2.5	1.3
17) Real Estate	1.0	0.7	1.1	0.7
18) Engineering	0.2	0.1	0.2	0.0
19) Accounting	0.3	0.0	0.5	0.1
20) Misc. business serv.	1.5	0.5	2.0	1.2
21) Legal services	0.6	0.1	0.7	0.1
V. SOCIAL SERVICES	26.4	22.4	32.5	37.6
22) Medical services	2.7	1.6	4.1	3.7
23) Hospitals	6.0	7.6	7.1	11.4
24) Education	10.9	7.7	14.5	13.7
25) Welfare	1.4	1.1	1.6	2.0
26) Nonprofit	0.6	0.3	0.5	0.5
27) Postal services	0.3	0.4	0.4	1.3
28) Government	4.3	3.6	3.9	4.8
29) Misc. social serv.	0.2	0.0	0.3	0.1
VI. PERSONAL SERVICES	15.2	52.4	13.0	29.1
30) Domestic services	4.3	37.5	2.2	17.7
31) Hotels	1.4	2.8	1.3	2.4
32) Eating and drinking	5.2	5.0	5.2	4.1
33) Repair	0.3	0.2	0.4	0.2
34) Laundry	1.3	4.4	1.0	2.8
35) Barber & beauty shop	1.3	1.6	1.7	1.1
36) Entertainment	0.8	0.5	0.8	0.5
37) Misc. personal serv.	0.4	0.4	0.3	0.3
TOTAL LABOR FORCE	99.8	100.0	99.8	99.9

During the 1960's, however, the distribution of the black female labor force by industries changed drastically. As a result, the differences between white and black females became much reduced, although they still are larger than the differences between white and black males. In just ten years the share of employment of black females in domestic service decreased from 37.5 percent to 17.7 percent. While this proportion is still much higher than the respective white share, a decline of such magnitude in so short a time as one decade is quite remarkable. Moreover, if domestic service is excluded from the Personal services sector, almost equal shares of black and white females work in these industries.

Of all industry sectors, Social services experienced the largest employment expansion of black females during the 1960's. In 1970 white females still had a higher share in medical and educational services than did black females, but the difference has become almost negligible. Furthermore, although domestic services accounted for the largest individual share of the black female labor force in 1970, the shares of employment in hospitals and education have come very close to it. As was already earlier observed for males, postal services increasingly seem to attract black females. Combining the employment in hospitals, education, postal, and government services, it can be seen from Table VI-2 that the public sector accounts for 31 percent of total employment of black females in contrast to 19 percent in 1960.

By 1970 the employment in the Extractive sector had reached such a small proportion of the total labor force for both black and white females that it had lost any impact on the industry distribution of the labor force. It is noteworthy, however, that during the 1960's the shares of employment of white and black females in the Transformative sector have become much more similar, due to the fact that the proportionate employment in these industries increased for black females, while it decreased for white females. In 1970 the main differences between the two labor force groups were in construction, metal, machinery, and miscellaneous manufacturing industries, in which black females were relatively underrepresented.

In contrast to the relative convergence of the employment shares in Extractive and Transformative sectors and Social and Personal services, the difference between black and white females in Distributive and Producer services were largely maintained during the 1960's. Retail trade deserves particular attention because white females are more than twice as important as blacks in proportionate terms. Again, this small proportion of black females appears difficult to explain, and the same factors seem to be at work as was the previously discussed case for males.

Despite the fact that the share of employment of white females in Producer services was twice that of black females, there are indications to suggest that the gap is decreasing. Consider banking and financing, for example. In 1960 only 0.3 percent of all black females were employed in this industry, yet by 1970 this share increased to 1.6 percent. Thus black females made even faster gains in this industry than black males. Part of this expansion is undoubtedly due to efforts of financial institutions to gain part of the consumer market of blacks.

The discussion of the labor force trends during the 1960's for blacks and whites reveals that the differences in the employment distribution by industry has greatly diminished, i.e., the proportions of the labor force of whites and blacks in the selected industries have become more similar in 1970 than they were in 1960. This finding holds for males as well as females. The pattern is clearly demonstrated by the data in Table VII-3 which refer to the index of dissimilarity between the employment distributions by sex of blacks and whites. While in 1960 15.9 percent of either the white or black male labor force would have had to be re-distributed in order to achieve equal distributions of the two labor force groups among industries, this would have required a shift of 11.6 percent in 1970. The convergence is much more striking for females where the proportion that would have to be redistributed declined from 41.9 percent to 15.6 percent between 1960 and 1970. This drastic decrease primarily is the result of the declining share of employment of black females in domestic service, but it must be noted that Personal services in general employed lower proportions of black females in 1970 than they did in 1960. These data indeed signify a very important trend for the employment of black females. While in 1960 the majority of black females was employed in the traditional position of servant (in its various manifestations), the major part of employment of black females lost this characteristic during the 1960's. Much employment in the Social services, and particularly in hospitals where it is a similar type of work as that of a nanny, still fits the traditional employment pattern of black females, except in a more bureaucratic setting. But this is not the case for many other positions. And even where the change in employment has meant less a change in the type of work, the fact that the same work is carried on in a different organizational context is an important consideration. Being a maid in a household and a janitress in a hospital implies similar work, but in the latter case it has lost its character of being a service oriented towards individual consumption. And importantly, the latter provides opportunities for organization to press for higher wages and better working conditions that are not open to the former. In that sense, the change in the employment of black females during the 1960's is very important indeed.

Education

Educational requirements differ greatly by industry. Employment in eating and drinking places, for example, requires less education than does work in medical services. This is not to deny the fact that the task of a janitor in a clinic is less skilled than that of a manager in a restaurant, but if all positions in an industry are combined, medical services require more skills than eating and drinking places. These differences in educational requirements are likely to be reflected in the educational attainment of persons in the labor force. Thus, the educational attainment of persons employed in medical services is likely to be higher than that of persons employed in eating and drinking places.

The data in Tables VII-4 and VII-5 clearly reflect these differences. Persons in Social and Producer services have more education than those employed in the remaining industry sectors; this holds for males and females, and for blacks and whites. (Twelve years of schooling or more was chosen as a measure for educational attainment since the completion of high school is a major requirement for many

Table VII-3

INDEX OF DISSIMILARITY BETWEEN THE INDUSTRY DISTRIBUTIONS OF BLACK AND WHITE MALES AND BLACK AND WHITE FEMALES BY INDUSTRY SECTORS: UNITED STATES, 1960-1970

Industry Sectors	Males		Females	
	1960	1970	1960	1970
Extractive	2.8	0.5	1.2	0.3
Transformative	3.6	3.1	6.8	2.9
Distributive Services	2.7	3.0	7.2	5.4
Producer Services	1.9	1.7	3.7	2.7
Social Services	1.8	2.1	3.8	4.0
Personal Services	3.2	1.3	19.3	10.3
Total labor force	15.9	11.6	41.9	15.6

Table VII-4

PROPORTION OF THE MALE LABOR FORCE WITH 12 YEARS OF SCHOOLING OR MORE BY INDUSTRY SECTOR, INTERMEDIATE INDUSTRY GROUPS, AND ETHNIC STATUS: UNITED STATES, 1960-70

Sectors and Industries	1960		1970	
	White	Black	White	Black
I. EXTRACTIVE	29.2	4.6	45.6	9.7
1) Agriculture	28.1	4.3	41.8	8.3
2) Mining	35.5	12.7	50.4	21.8
II. TRANSFORMATIVE	43.0	17.3	57.0	34.5
3) Construction	36.2	13.6	48.8	22.1
4) Food	39.4	16.2	52.4	31.2
5) Textile	29.3	24.3	40.6	30.4
6) Metal	42.0	19.2	53.4	35.0
7) Machinery	50.7	26.6	65.6	48.2
8) Chemical	58.8	19.0	72.5	48.3
9) Misc. manufacturing	40.3	13.9	55.8	33.3
10) Utilities	50.1	13.5	64.6	30.3
III. DISTRIBUTIVE SERVICES	48.0	27.1	60.3	36.9
11) Transportation	37.3	20.0	52.5	36.1
12) Communication	75.8	40.4	88.0	67.9
13) Wholesale	57.8	18.5	68.1	34.6
14) Retail	47.4	22.3	57.4	36.3
IV. PRODUCER SERVICES	74.3	32.6	[illegible]	51.3
15) Banking	77.4	31.8	87.2	63.6
16) Insurance	79.6	57.6	89.8	76.7
17) Real estate	53.6	25.4	68.2	32.0
18) Engineering	86.8	48.3	92.6	65.9
19) Accounting	91.9	37.5	95.3	90.0
20) Misc. business serv.	64.3	26.0	74.7	45.6
21) Legal services	95.9	64.5	98.4	81.6
V. SOCIAL SERVICES	69.0	48.6	[illegible]	60.1
22) Medical services	86.3	64.0	87.6	61.2
23) Hospitals	55.2	34.5	88.8	48.7
24) Education	78.2	56.3	88.4	63.6
25) Welfare	72.9	46.4	81.8	50.1
26) Nonprofit	55.6	30.3	67.2	52.6
27) Postal services	66.6	64.6	75.2	69.8
28) Government	61.9	43.7	76.4	58.6
29) Misc. social serv.	82.3	52.6	90.3	58.4
VI. PERSONAL SERVICES	37.1	22.4	48.2	29.0
30) Domestic services	22.7	14.1	23.4	11.9
31) Hotels	41.8	23.0	54.8	29.6
32) Eating and drinking	34.7	23.3	43.2	27.8
33) Repair	35.2	20.7	67.1	31.8
34) Laundry	39.7	29.2	49.0	28.9
35) Barber & beauty shop	31.9	31.7	50.5	42.0
36) Entertainment	43.6	25.1	54.0	34.2
37) Misc. personal serv.	54.4	32.0	71.1	44.8
TOTAL LABOR FORCE	47.4	27.7	61.8	3[illegible].3

Table VII-5

PROPORTION OF THE FEMALE LABOR FORCE WITH 12 YEARS OF SCHOOLING OR MORE BY INDUSTRY SECTOR, INTERMEDIATE INDUSTRY GROUPS, AND ETHNIC STATUS, UNITED STATES, 1960-1970

SECTORS AND INDUSTRIES	1960		1970	
	Whites	Blacks	Whites	Blacks
I. EXTRACTIVE	59.5	6.0	5[illegible].7	16.7
1) Agriculture	33.4	5.9	33.7	14.5
2) Mining	75.4	20.0	82.8	76.9
II. TRANSFORMATIVE INDUSTRIES	44.7	33.2	55.9	49.5
3) Construction	64.7	25.7	78.0	39.1
4) Food	38.5	22.1	50.6	35.9
5) Textile	25.5	34.8	35.1	45.9
6) Metal	53.5	33.4	62.9	51.2
7) Machinery	53.2	44.4	52.6	61.0
8) Chemical	67.5	38.3	72.1	66.3
9) Miscellaneous manufacturing	44.5	33.3	58.2	45.9
10) Utilities	80.0	37.3	87.4	70.0
III. DISTRIBUTIVE SERVICES	55.8	47.9	66.4	60.4
11) Transportation	66.7	31.2	76.3	59.5
12) Communication	71.3	64.6	84.5	81.9
13) Wholesale	66.5	50.9	75.2	54.0
14) Retail	50.8	43.0	61.4	55.1
IV. PRODUCER SERVICES	77.2	57.6	85.7	77.1
15) Banking	80.4	58.3	87.4	79.8
16) Insurance	78.3	72.6	86.8	82.3
17) Real Estate	66.0	41.3	75.9	44.9
18) Engineering	86.4	41.7	91.0	91.7
19) Accounting	83.8	68.7	88.1	94.6
20) Misc. business services	72.0	41.4	80.6	58.9
21) Legal services	84.8	68.7	90.6	72.6
V. SOCIAL SERVICES	77.0	60.7	82.6	66.2
22) Medical services	69.5	45.5	71.5	48.7
23) Hospitals	65.7	49.2	75.5	57.8
24) Education	86.8	72.8	89.2	73.3
25) Welfare	61.4	41.8	79.1	67.7
26) Nonprofit	68.6	58.5	77.8	60.0
27) Postal services	62.9	54.9	75.3	75.5
28) Government	79.5	74.1	85.5	76.3
29) Misc. social services	86.6	25.0	90.0	81.3
VI. PERSONAL SERVICES	32.2	17.2	44.7	27.2
30) Domestic services	19.2	14.0	29.5	19.0
31) Hotels	38.5	21.5	50.3	23.5
32) Eating and drinking	30.5	23.3	41.2	30.0
33) Repair	56.8	39.3	67.0	44.2
34) Laundry	29.2	20.6	40.6	27.3
35) Barber & beauty shop	[illegible]	42.9	66.3	53.2
36) Entertainment	32.9	32.1	62.1	47.5
37) Misc. personal services	46.7	39.0	65.4	42.1
TOTAL LABOR FORCE	56.7	38.9	68.7	49.7

positions in the labor market. To that extent, the difference between persons who have 12 years of education and those with only 11 years is much greater than the difference between 11 years and 10 years of education.) At the one extreme, persons employed in Personal services and agriculture have the lowest educational attainment. In 1960, however, black males in Personal services had more schooling than black males in either the Transformative, Distributive, or Extractive sectors, which suggests that ten years ago blacks in these industries were employed in different positions than in 1970. Particularly remarkable is the low educational attainment of blacks in agriculture, which even in 1970 is below that of domestic service. Although whites in agriculture, too, have low educational attainment, it nevertheless is much closer to that of other industries.

In addition to the fact that educational attainment differs by industry, the data in Table VII-6 reveal that these differences are not the same for whites and blacks. For example, taking males, it can be seen that in 1960 the share of all blacks who completed at least 12 years of schooling was 45.8 percent of the share of whites, while proportionately as many blacks as whites employed in barber and beauty shops completed 12 years of schooling (Table VII-6, Col. 1). In both 1960 and 1970 educational attainment of black males in relation to that of white males generally was higher in Social and Producer services than in other industries. Of the 19 industries in 1970, for example, in which the proportion of black males with 12 years of schooling or more was at least two-thirds that of white males, 12 were to be found in Producer and Social services.

A comparison of Tables VII-4 and VII-5 shows that in absolute terms black females have more schooling than black males. Inspecting the data in Table VII-6 it can be seen, in addition, that the amount of educational attainment of black females in relation to that of white females compares more favorably than in the case of white and black males. By 1970, only six industries (agriculture, real estate, domestic service, hotel and lodging places, repair services, and miscellaneous personal services) showed the proportion of black females with 12 years of schooling or more to be less than two-thirds the proportion of white females with the same education. Moreover, there were four industries (textiles, engineering and architectural services, accounting and bookkeeping services, and postal services) in which proportionately more black females than white females had completed at least 12 years of schooling. (It should be noted, however, that the number of black females in engineering, architectural, accounting and bookkeeping services was so small that these results could be due to sampling errors.)

Comparing the change in educational attainment from 1960 to 1970, the data in Table VII-6 clearly reveal that blacks had larger increases than whites. In 1960 proportionately less than one-half as many black as white males had 12 years of schooling or more, increasing to almost two-thirds in 1970. For black females, the proportion increased from slightly over one-half to more than two-thirds.

This relative increase in educational attainment of black males and females can be observed in the vast majority of industries. It is primarily in Personal services where whites have made more rapid educational gains than blacks. The

Table VII-4

RATIO OF PERCENT BLACKS WITH 12 YEARS OF EDUCATION OR MORE TO PERCENT WHITES WITH 12 YEARS OF EDUCATION OR MORE, BY SEX:
UNITED STATES, 1960-1970

SECTORS AND INDUSTRIES	Male 1960	Male 1970	Female 1960	Female 1970
I. EXTRACTIVE	15.8	22.2	15.2	2[illegible].4
1) Agriculture	15.3	19.9	16.7	27.0
2) Mining	35.8	43.3	26.5	92.9
II. TRANSFORMATIVE INDUSTRIES	40.2	60.5	38.3	8[illegible].6
3) Construction	37.6	45.3	39.7	50.1
4) Food	41.1	59.5	57.4	70.9
5) Textile	82.9	74.9	136.5	130.8
6) Metal	45.7	65.5	62.4	81.4
7) Machinery	52.5	73.5	83.4	97.4
8) Chemical	32.3	66.6	56.7	92.0
9) Misc. manufacturing	34.5	59.7	71.6	78.9
10) Utilities	26.0	46.9	46.6	80.1
III. DISTRIBUTIVE SERVICES	46.0	67.2	75.7	90.9
11) Transportation	53.4	68.8	46.8	70.0
12) Communication	53.3	77.2	90.6	95.9
13) Wholesale	32.0	50.0	46.5	71.8
14) Retail	47.0	63.2	84.6	89.8
IV. PRODUCER SERVICES	45.9	67.7	66.8	83.5
15) Banking	41.1	72.9	72.5	91.3
16) Insurance	72.4	85.4	92.5	94.8
17) Real Estate	47.4	66.9	64.8	59.2
18) Engineering	55.6	71.2	48.3	100.8
19) Accounting	40.8	93.4	79.6	107.4
20) Misc. business services	40.4	61.0	57.5	73.1
21) Legal services	67.3	82.0	78.6	80.1
V. SOCIAL SERVICES	78.4	75.7	78.8	89.2
22) Medical services	74.2	69.9	65.5	68.1
23) Hospitals	62.5	69.8	74.9	76.6
24) Education	72.0	74.5	83.9	82.2
25) Welfare	63.6	72.2	68.1	85.6
26) Nonprofit	56.5	78.3	54.1	77.1
27) Postal services	97.0	92.8	87.3	100.3
28) Government	70.6	76.7	95.2	89.4
29) Misc. social services	63.9	64.7	28.0	90.3
VI. PERSONAL SERVICES	60.4	60.2	59.4	6[illegible].2
30) Domestic services	62.1	50.8	79.9	54.2
31) Hotels	55.0	54.0	55.8	46.7
32) Eating and drinking	67.1	64.4	76.9	72.8
33) Repair	58.8	67.5	68.2	66.0
34) Laundry	73.6	58.0	70.5	67.2
35) Barber & beauty shop	59.4	83.2	79.7	83.2
36) Entertainment	57.6	63.3	60.7	76.5
37) Misc. personal services	58.8	63.0	83.5	64.4
TOTAL LABOR FORCE	45.8	62.0	54.5	72.3

reasons for this are not all that clear, but it is interesting to note that in most of these industries proportionately much less blacks were employed in 1970 than in 1960. It could well be that the age structure of blacks in these industries has changed, such that in 1970 more older people were employed there. Since new labor force cohorts usually have higher educational attainment than the previous cohorts, the absence of new black labor force entries into the Personal services sector might have reduced the amount of schooling in these industries in relation to that of whites.

In the same vein, many of the gains in educational attainment of blacks in the other industries are most likely to be due to the better schooling of the younger labor force cohorts. As was pointed out earlier in this chapter, the majority of the consequences of the various civil rights legislation passed during the 1960's will benefit the younger members of minorities the most, as they can benefit from increasing educational opportunities. While the amount of these opportunities should not be overestimated--there still exists too much inequality in the school system primarily based on racial differences--it nevertheless can be expected that new labor force entries have higher educational attainment than their predecessors.

The preceding discussion of education may leave the reader with an incomplete impression of the relationship between education and the allocation of employment to jobs. To repeat, industries certainly differ in their educational requirements. Relatively less education, for example, is needed to perform domestic work than is the case with legal services. Relating these requirements to the fact that the median educational attainment of blacks is lower than that of whites, one might wish to conclude that it is largely education that determines the allocation of blacks to industries. As the comparison between males and females in the previous chapter demonstrates, however, education plays only a minor part in the allocation of females to positions. To be sure, it can be expected that those members of the labor force whose educational attainment is low are more likely to be employed in industries with few skill requirements. The point to be made here, however, is that for the majority of positions in the labor force blacks do have the "necessary" education. As was pointed out by Fogel (1967), education often is used rather as a selection criterion in the hiring process and it bears scant relationship to the skill needs of a particular work position. Furthermore, as on-the-job training becomes more and more important for productivity, the argument that it is because of lack of educational attainment that blacks are in different industries increasingly has lost its plausibility (if it ever had any). Thus, even a narrowing of the gap between black and white educational attainment will not necessarily reduce the differences in the allocation of these labor force groups to certain positions.

Bergmann and Lyle (1971) in their analysis of occupational status differentials between blacks and whites provide further evidence for this line of reasoning. As they put it (1971:433):

> "Explanations of the differences in Negro occupational standing among metropolitan areas or among industries which run in terms of differences

in circumstances having little or nothing to do with employment discrimination are not supported by our results. Variables bearing on the quantity and quality of education do not help in predicting Negro occupational standing by area."

Instead, Bergmann and Lyle found the sentiment towards blacks in communities to be one of the most powerful variables to explain black-white differences in occupational status. This finding does not imply that educational attainment should not improve the position of blacks, but it "may change the pecking order among the Negro community more than it changes the overall status of the Negro community relative to the white community" (Bergmann and Lyle, 1971:433). One of the most distressing findings in their study was the fact that industries with a high involvement in Federal government contracts are characterized by large occupational status differentials between blacks and whites (1971:431). If this pattern prevails, it will further curb the chances of minority members to achieve equal participation in the labor market.

Given the existence of many other factors that make for an unequal competition in the labor force between blacks and whites, the fact that educational attainment of the two population groups still differs significantly should lead us to the expectation that these differences will be strongly reflected in the occupational distribution of whites and blacks. The following section addresses this aspect of the differences in white and black employment.

Occupational Status

Males. The data in Table VII-7 show that the occupational differences between black and white males was largely maintained during the last decade. The proportions of employment of black males were smaller than the corresponding white proportions in all major occupational groups, from craftsmen to professionals (the only exception occurred in 1970 when proportionately slightly more blacks than whites were clerical workers). Blacks quite clearly are concentrated in the low-status occupations: operatives, service workers, laborers, and farm workers. In 1970 these occupational groups accounted for 64.5 percent of all black males in the labor force, as compared with 32.1 percent of all white males (the respective figures for 1960 are 72.8 and 33.6 percent).

These data indicate that the proportion of blacks in low-status occupations decreased faster than did that of whites and, as a result, occupational differentiation by race also decreased slightly from 1960 to 1970 (the index of dissimilarity in 1970 was 33.5 compared with 39.1 in 1960). But it must also be noted that white males continue to hold better occupations than do blacks. In 1970, for example, proportionately three times as many blacks as whites were in low-status occupations. Whatever progress black males have made in occupational terms, the discrepancies between white and black males are still very pronounced.

It repeatedly has been noted in this study that the industry structure and the occupational structure are by no means independent of each other. Since it was pointed out earlier that blacks are in different industries than whites, some occupational differences could have been expected. While it is instructive to point out

Table VII-7

PERCENTAGE DISTRIBUTION OF THE MALE LABOR FORCE BY MAJOR OCCUPATIONAL GROUPS AND ETHNIC STATUS: UNITED STATES, 1960-1970

Occupation	1960			1970		
	White (1)	Black (2)	Difference (3)=(2)-(1)	White (4)	Black (5)	Difference (6)=(5)-(4)
Professionals	7.4	1.8	-5.6	9.9	3.1	-6.8
Sub-Professionals	4.2	1.6	-2.6	5.4	3.1	-2.3
Farmers	5.9	4.6	-1.3	3.1	0.8	-2.3
Managers	12.1	1.8	-10.3	12.4	3.1	-9.3
Clerical	7.5	5.5	-2.0	7.6	8.3	0.7
Sales	7.8	1.5	-6.3	7.9	2.2	-5.7
Craftsmen	21.5	10.6	-10.9	21.6	15.1	-6.5
Operatives	20.3	26.5	6.2	18.1	29.4	11.3
Service Workers	5.5	16.4	10.9	7.2	16.1	8.9
Laborers	5.7	22.1	16.4	5.5	15.4	9.9
Farm Workers	2.1	7.8	5.7	1.3	3.6	2.3
TOTALS	100.0	100.2		100.0	100.2	

the occupational consequences of the different industry distributions of whites and blacks in the labor force (as seen in Table VII-7), it is equally important to examine the extent to which blacks and whites maintain different occupations in the same industry.

The low-status occupations (operatives, service workers, laborers, and farm workers) account for the smallest proportions of both white and black employment in Social and Producer services, while their shares of employment in Personal services and agriculture is much higher (see Table VII-8). Thus it can be observed that the proportion of blacks and whites in low-status occupations in general depends upon the occupational requirements of the various industries. But besides these "functional" differences among industries, additional differences exist in terms of ethnic status, i.e., some industries are characterized by a large concentration of blacks in low-status occupations in relation to the percentage of whites. Thus, although for the total labor force the proportion of blacks in low-status occupations is about twice as high as that of whites, it is at least three times as high in construction, utilities, communication, banking, real estate, engineering, and medical services. These industries must therefore be considered as particularly unfavorable for the employment of blacks in higher-status occupations.

As far as the 1960-70 changes are concerned, it can be noted that the overall decline of blacks in low-status occupations was due more to their changing employment distribution among industries than to occupational improvements within industries. That is, the proportion of white and black males in low-status occupations changed quite similarly during the 1960's. For example, consider the textile industry: its total employment--whites as well as blacks--is increasingly concentrated in the lower-status occupations, primarily as operatives. Both whites and blacks thus are subject to the different employment needs arising from technological and organizational changes.

Females. The finding that blacks staff the low-status positions in the labor force is as valid for females as for males (see Table VII-9). But whereas black males are primarily operatives, black females are mostly service workers. This was very pronounced as recently as 1960 when 62.4 percent of all black females in the labor force were service workers. In contrast, only 17.4 percent of all employed white females were in service occupations at that time. On the other hand, while most white females are clerical workers, this occupation accounted for only 8.1 percent of black females in 1960. As black females strongly left Personal services during the 1960's, proportionately fewer black females were service workers (Table VII-9). But even in 1970 the most important differences in the occupational distribution between whites and blacks still involved service occupations in which blacks predominate, and clerical occupations where Anglos are concentrated. The employment proportions of blacks and whites in the other occupational groups remained fairly stable in relation to each other. In 1960, for example, the share of white females that were professional was 4.7 percentage points higher than that of blacks, while this difference was 4.1 percentage points in 1970. Besides service and clerical occupations, only the proportions in operatives showed more changes during the last decade. Apparently as a consequence of the growing share of black females in Transformative industries, proportionately more females were operatives in 1970 than in

Table VII-8

PROPORTION OF MALES THAT ARE OPERATIVES, SERVICE WORKERS, LABORERS, AND FARM WORKERS BY ETHNIC STATUS: UNITED STATES: 1960-1970

Sectors and Industries	1960 White	1960 Black	1970 White	1970 Black
I. EXTRACTIVE	53.4	66.9	56.2	81.7
1) Agriculture	29.2	66.7	50.3	87.5
2) Mining	57.5	86.2	10.6	23.1
II. TRANSFORMATIVE	39.4	77.5	35.9	69.0
3) Construction	23.3	63.2	6.4	38.5
4) Food	55.1	87.9	58.6	86.7
5) Textile	58.3	79.0	84.5	94.1
6) Metal	44.2	78.1	44.4	76.2
7) Machinery	38.6	75.6	52.7	78.6
8) Chemical	37.4	85.3	33.4	83.2
9) Misc. manufacturing	45.6	85.3	39.7	75.9
10) Utilities	30.2	86.3	22.7	71.4
III. DISTRIBUTIVE SERVICES	30.7	76.9	37.2	64.7
11) Transportation	53.0	88.9	52.9	82.0
12) Communication	3.9	41.4	2.9	20.7
13) Wholesale	23.6	80.9	24.9	68.9
14) Retail	23.3	67.7	27.6	53.8
IV. PRODUCER SERVICES	9.6	58.9	10.2	49.0
15) Banking	5.3	66.4	4.8	30.9
16) Insurance	1.5	21.2	1.1	1.6
17) Real Estate	21.6	64.8	19.4	62.8
18) Engineering	4.2	50.0	3.3	22.0
19) Accounting	.4	33.3	.6	3.3
20) Misc. business serv.	22.6	69.5	25.8	60.3
21) Legal services	1.3	29.6	1.0	7.9
V. SOCIAL SERVICES	25.7	58.7	25.2	46.2
22) Medical services	6.0	7.2	12.3	49.8
23) Hospitals	40.8	83.0	38.4	71.7
24) Education	19.5	44.9	18.6	43.1
25) Welfare	17.9	35.3	15.9	34.4
26) Nonprofit	25.9	75.3	23.4	48.7
27) Postal services	6.3	20.2	6.8	20.0
28) Government	36.7	59.6	39.0	52.0
29) Misc. social serv.	4.2	41.2	7.2	29.2
VI. PERSONAL SERVICES	46.5	83.3	49.7	74.8
30) Domestic services	80.0	99.9	86.6	96.7
31) Hotels	62.9	96.3	47.9	86.6
32) Eating & drinking	84.3	92.2	69.4	85.1
33) Repair	12.1	54.8	19.1	36.8
34) Laundry	61.9	92.3	53.7	84.7
35) Barber & beauty shop	95.8	97.5	98.6	99.5
36) Entertainment	31.8	71.4	40.6	63.2
37) Misc. personal serv.	58.3	75.6	15.8	43.3
TOTAL LABOR FORCE	34.6	72.8	32.7	64.5

Table VII-9

PERCENTAGE DISTRIBUTION OF THE FEMALE LABOR FORCE BY MAJOR OCCUPATIONAL GROUPS AND AND ETHNIC STATUS: UNITED STATES, 1960-70

OCCUPATION	1960			1970		
	White (1)	Black (2)	Difference (3)=(2)-(1)	White (4)	Black (5)	Difference (6)=(5)-(4)
Professionals	11.0	6.3	-4.7	12.4	8.3	-4.1
Sub-professionals	3.7	1.5	-2.2	4.3	3.3	-1.0
Farmers	0.6	0.7	0.1	0.2	0.1	-0.1
Managers	4.3	1.1	-3.2	4.1	1.5	-2.6
Clerical	34.7	8.1	-26.6	37.2	21.1	-16.1
Sales	9.2	1.5	-7.7	8.0	2.5	-5.5
Craftsmen	1.3	0.7	-0.6	1.8	1.4	-0.4
Operatives	16.4	13.6	-2.8	13.5	16.3	2.8
Service Workers	17.4	62.4	45.0	17.3	43.0	25.7
Laborers	0.5	1.1	0.6	0.9	1.6	0.7
Farm Workers	1.0	3.1	2.1	0.4	1.0	0.6
	100.1	100.1	0.0	100.1	100.1	0.0

1960. Correspondingly, the employment share of white females in operative occupations declined as whites moved out of the Transformative sector.

While the decline of the employment share of black females in low-status occupations from 80.2 to 61.9 percent suggests improved conditions for the employment of blacks, it must again be examined--as in the case of males--to what extent this improvement resulted from the sectoral transformation of black females, and to what extent it reflects better positions within the industries themselves.

The data in Table VII-10 reveal that the vast majority of employment in Personal services involves low-status occupations. In 1970, for example, over 90 percent of all black females employed in domestic service, hotels, and barber and beauty shops were in low-status occupations, and in two other industries--eating and drinking places and laundry and dyeing services--this proportion was over 85 percent. Thus, a good case can be made for the assertion that most of the occupational improvements of black females resulted from their shift from Personal services to other sectors where black females are less concentrated in low-status occupations. In comparison to the dramatic decrease of the proportion of black females in Personal services, the occupational improvements within the various industries were much less apparent.

It must be noted, on the other hand, that although Producer services, of all sectors, shows the smallest share of black females in low-status occupations, comparison with whites reveals that this results only from the fact that these industries in general do not make much use of low-status occupations. Indeed, black females in relation to white females show the highest concentration in low-status occupations in Producer services. All these industries have in common proportionately at least three times as many black as white females employed as operatives, service workers, or laborers, although this ratio is only two to one for the total labor force. Other industries with similarly high relative concentrations of black females in low-status occupations include utilities, miscellaneous social and professional services, and repair services.

This analysis of the occupational status of black males and females suggests that blacks in general are employed in better occupations in 1970 than they were in 1960. This improvement, however, is due more to the fact that they work in different industries than to occupational improvements within industries. Even within the rapidly growing Social services blacks are frequently employed in the traditionally black occupations of orderlies, porters, nurses' aides, and janitors. It thus appears that the occupational distribution can be considered as a zero-sum game, in which each industry is characterized by a certain functional occupational distribution which is dependent on technological improvements and organizational changes. Given this assumption, any significant occupational improvements of blacks (in relation to whites) must mean a worsening of the occupational positions of whites, given the same technology and organization. If this assumption is true, most improvements for blacks then will rest upon technological changes, unless blacks gain additional power that would enable them to make improvements at the expense of whites.

Table VII-10

PROPORTION OF FEMALES THAT ARE OPERATIVES, SERVICE WORKERS, LABORERS AND FARM WORKERS BY ETHNIC STATUS: UNITED STATES 1960-1970

Sectors and Industries	1960 White	1960 Black	1970 White	1970 Black
I. EXTRACTIVE	54.3	82.9	43.4	85.2
1) Agriculture	59.3	82.9	33.0	82.2
2) Mining	5.4	83.3	49.3	76.8
II. TRANSFORMATIVE	57.7	87.1	54.6	80.0
3) Construction	5.4	53.1	20.8	50.5
4) Food	57.5	92.0	54.6	80.1
5) Textile	87.6	94.4	49.1	80.3
6) Metal	43.2	79.6	45.4	72.4
7) Machinery	51.7	88.1	37.6	69.5
8) Chemical	24.5	76.8	31.3	63.4
9) Misc. manufacturing	52.5	80.9	55.4	72.7
10) Utilities	4.4	61.6	4.1	21.6
III. DISTRIBUTIVE SERVICES	9.1	44.8	11.3	26.0
11) Transportation	19.8	74.8	33.1	46.8
12) Communication	1.7	20.9	3.6	4.0
13) Wholesale	11.8	72.8	14.4	50.8
14) Retail	8.8	40.5	9.8	25.3
IV. PRODUCER SERVICES	4.4	46.3	4.1	27.6
15) Banking	2.7	51.3	1.8	8.4
16) Insurance	1.5	12.0	1.0	4.5
17) Real Estate	12.2	63.9	9.0	57.8
18) Engineering	2.8	25.0	2.0	25.0
19) Accounting	.9	.0	.3	8.1
20) Misc. business serv.	10.5	53.6	11.4	40.4
21) Legal services	.7	21.4	.8	12.2
V. SOCIAL SERVICES	18.8	47.3	27.7	49.5
22) Medical services	22.4	25.2	43.8	72.9
23) Hospitals	35.4	73.2	36.8	70.5
24) Education	12.9	29.7	13.6	27.7
25) Welfare	32.1	57.4	18.6	31.1
26) Nonprofit	18.3	74.0	15.7	44.4
27) Postal services	1.9	16.0	2.9	8.3
28) Government	5.7	21.2	7.5	18.3
29) Misc. social serv.	3.9	42.9	5.6	23.3
VI. PERSONAL SERVICES	80.7	97.7	76.6	94.7
30) Domestic services	98.9	96.7	96.2	99.5
31) Hotels	44.6	90.3	54.3	95.1
32) Eating & drinking	64.0	89.7	83.5	87.4
33) Repair	18.4	55.6	13.4	55.1
34) Laundry	56.5	88.2	51.1	85.2
35) Barber & beauty shop	97.4	97.1	96.0	98.5
36) Entertainment	37.3	79.0	31.9	59.7
37) Misc. personal serv.	15.2	46.9	48.3	58.7
TOTAL LABOR FORCE	35.3	80.2	32.1	67.9

Income

On the basis of the previous findings about the educational attainment and occupational status of blacks, it comes as no surprise that their median income is lower than that of whites. In 1969, the median income of black males was about two-thirds that of white males (see Table VII-11). Although this is an increase over the 1960 proportion, it is relatively small given the fact that during the 1960's the low-wage industries of the Extractive and Personal services sectors accounted for decreasing shares of employed black males. Moreover, in a substantial number of industries (17 out of 37), black males in 1969 earned less in relation to whites than they did ten years earlier. This situation is particularly noticeable in the Transformative sector. Despite the increased share of black males in this sector during the 1960's, their median income in relation to that of whites declined in five of the eight Transformative industries. Of all industry sectors, black males in 1970 compared most favorably with whites in the Social and Personal services sectors.

The data for income demonstrate again that in comparison with whites, black females do much better than black males. Noteworthy is the large increase in relative median income of black females during the 1960's; in 1969, their median income was 92 percent of that of white females.

This high proportion is mostly due to the fact that in an increasing number of industries, particularly in the Social and Personal services sectors, black females have a higher median income than white females. The previous discussion showed that this cannot be the result of occupational status, for blacks in general are in lower status occupations than are whites. The high ratios for black females in the Social and Personal services sectors are, in contrast, largely due to the fact that they work more hours. This is demonstrated in Table VII-12 in which the mean number of yearly hours per black worker is given as proportion of the mean number of yearly hours for white workers. As the data in Table VII-12 show, black females work more hours in 1969 than white females in all Social and Personal services except in repair services and barber and beauty shops. (It must be pointed out, however, that in the case of income we are dealing with medians, whereas the data for hours refer to means. Since in the case of hours, we cannot assume a normal distribution, there should be a substantial difference between the mean and median of hours worked per year. For that reason, the data here are suggestive and do not permit a conclusive interpretation.)

Throughout this section, it has been noted that in relation to whites, black females compared more favorably than black males. What are the reasons for this situation? Two explanations are offered here. For one thing, the previous chapter showed that females in general are in less favorable positions than males. Thus, once the sex differential, in terms of the labor force situation, is controlled for not much additional discrimination occurs. Second, black females have a much higher labor force participation rate than white females. In general, there is a positive association between female labor force participation and socioeconomic status. Moreover, black females are more likely than white females to be head of household. In 1970, 9.0 percent of all white households and 27.4 percent of all black households were headed by women. (At the same time, however, these data dispel the notion that the "typical" black family has a female household head.) In sum,

Table VII-11

MEDIAN INCOME OF BLACKS AS PROPORTION OF MEDIAN INCOME OF WHITES, BY SEX:
UNITED STATES, 1960-1970

Sectors and Industries	Males 1960	Males 1970	Females 1960	Females 1970
I. EXTRACTIVE	.46	.48	1.00	.94*
1) Agriculture	.42	.62	.86	.59*
2) Mining	.66	.64*	.49	.75
II. TRANSFORMATIVE	.68	.63	.90	.94
3) Construction	.68	.60*	.45	.92
4) Food	.52	.64*	.94	.80*
5) Textile	.78	.70*	1.06	.84*
6) Metal	.80	.74*	.72	.78
7) Machinery	.88	.79*	1.12	.79*
8) Chemical	.63	.71	.66	.83
9) Misc. manufacturing	.44	.60	.87	.90
10) Utilities	.71	.71	.36	1.07
III. DISTRIBUTIVE SERVICES	.53	.57	.87	.94*
11) Transportation	.78	.81	.58	1.06
12) Communication	.54	.55*	1.11	.80*
13) Wholesale	.59	.70	.78	.81
14) Retail	.56	.73	1.00	1.22
IV. PRODUCER SERVICES	.58	.58	.77	.88
15) Banking	.44	.36*	.70	1.04
16) Insurance	.55	.42*	.89	.90
17) Real Estate	.52	.63	.95	.76*
18) Engineering	.41	.49	.44	.84
19) Accounting	No data	.57	1.22	1.01*
20) Misc. business serv.	.72	.74	.44	.88
21) Legal services	.29	.26*	.60	.77
V. SOCIAL SERVICES	.75	.80	.83	1.04
22) Medical services	.25	.31	.93	1.12
23) Hospitals	.74	.83	1.10	1.03*
24) Education	.64	.60*	.88	1.07
25) Welfare	.61	.77	1.07	1.08
26) Nonprofit	.57	.70	.67	.75
27) Postal services	1.09	.84*	1.19	1.16*
28) Government	.80	.82*	.79	1.04
29) Misc. social serv.	.65	.57*	.90	.92
VI. PERSONAL SERVICES	.67	.81	.62	1.16
30) Domestic services	1.07	1.38	.96	1.66
31) Hotels	.75	.61*	1.13	.93*
32) Eating & drinking	.79	.84	1.04	1.26
33) Repair	.70	.84	1.60	.74*
34) Laundry	.68	.88	.63	.90
35) Barber & beauty shop	.69	.59*	.48	.66
36) Entertainment	.67	.93	1.03	1.26
37) Misc. personal serv.	.59	.46*	.61	.76
TOTAL LABOR FORCE	.56	.63	.78	.92

* 1970 values lower than 1960 values.

Table VII -12

MEAN NUMBER OF YEARLY HOURS PER EMPLOYED BLACK AS PROPORTION OF MEAN NUMBER OF YEARLY HOURS PER EMPLOYED WHITE BY INDUSTRY SECTOR, INTERMEDIATE INDUSTRY, AND SEX: 1969

Sectors and Industries	Males	Females
I. EXTRACTIVE	.77	.63
1) Agriculture	.75	.64
2) Mining	.92	.83
II. TRANSFORMATIVE	.94	.98
3) Construction	.90	1.04
4) Food	.92	.98
5) Textile	.95	1.00
6) Metal	.94	.96
7) Machinery	.94	.97
8) Chemical	.96	.94
9) Misc. manufacturing	.95	1.00
10) Utilities	.94	.97
III. DISTRIBUTIVE SERVICES	.92	1.05
11) Transportation	.92	1.03
12) Communication	.89	.96
13) Wholesale	.91	.98
14) Retail	.92	1.06
IV. PRODUCER SERVICES	.92	.99
15) Banking	.93	.98
16) Insurance	.91	.89
17) Real Estate	.97	1.05
18) Engineering	1.00	1.08
19) Accounting	.92	.96
20) Misc. business serv.	.93	1.04
21) Legal services	.84	.92
V. SOCIAL SERVICES	.94	1.18
22) Medical services	.88	1.07
23) Hospitals	.96	1.11
24) Education	.98	1.07
25) Welfare	.80	1.11
26) Nonprofit	.82	1.01
27) Postal services	.97	1.17
28) Government	.94	1.08
29) Misc. social serv.	.79	1.10
VI. PERSONAL SERVICES	.96	1.04
30) Domestic services	1.39	1.25
31) Hotels	.96	1.04
32) Eating & drinking	1.00	1.20
33) Repair	.94	.83
34) Laundry	.95	1.10
35) Barber & beauty shop	.81	.85
36) Entertainment	1.02	1.22
37) Misc. personal serv.	.81	1.02

these differences between black and white females indicate that blacks depend more on employment than whites. As an indication of this situation, the data in Table VII-12 show that black females worked more hours in 1969 than white females. Given this relatively stronger commitment to employment, black females should be expected to do as well, if not better, than white females.

ANGLOS, BLACKS, AND MEXICAN AMERICANS IN THE SOUTHWEST

Up to this point, this chapter has been confined to the analysis of the differences in the labor force situation between whites and blacks. As we pointed out earlier, concentration on the black-white differentials was necessitated by the fact that on the national level blacks are the only large minority for which census data are available. This is an important consideration, since the scope of this investigation is the national situation. On the other hand, however, much can be gained from a comparative analysis of different minorities. Since Mexican Americans are the second largest minority in the United States, the last section of this chapter examines the differences between Anglos, Mexican Americans, and Blacks.

The situation of Mexican Americans differs from that of the other two population groups in several ways. For example, the native language of most Mexican Americans is Spanish which brings with it a whole set of considerations that are special to this minority group. Since a substantial proportion of Mexican Americans--particularly the older generations--only has a partial knowledge of the English language, it can be expected to have many difficulties in the labor market. As a result, many of them are likely to hold relatively low-status positions.

Since much discrimination against specific population groups occurs on the basis of visible characteristics such as sex or skin color, many yet by no means all Mexican Americans, on the other hand, could be expected to fare relatively better than Blacks.

So far, little information exists about Mexican Americans and there are even fewer studies comparing the three population groups (notable exceptions include Shannon and McKim, 1974; Poston and Alvirez, 1973; Grebler et al., 1970; Fogel, 1967; Browning and McLemore, 1964). Much of this probably has to do with the inadequacy of the data that are available. Until 1960, the Census Bureau collected information about Mexican Americans only in the five Southwestern states (Arizona, California, Colorado, New Mexico, and Texas). Although the 1970 census permits a study of "Mexican Americans" on the national level, there are still many problems with the enumeration (see e.g. Hernandez, et al., 1973). As Poston and Alvirez (1973:699) note: "Mexican Americans per se were not enumerated in the 1960 census; instead they were identified on an ex post facto basis by the Bureau of the Census as white persons of Spanish surname." This approach is unsatisfying for obvious reasons; not all Mexican Americans have Spanish surnames nor is everyone with a Spanish surname Mexican American. By and large, as a consequence, this procedure has tended to underestimate the number of Mexican Americans in the United States. In this section, then, we shall refer to whites without a Spanish surname

as "Anglos" and whites with a Spanish surname will be called "Mexican Americans." No change is made for the identification of Blacks, except to use upper rather than lower case in this context.

For reasons of comparability with the 1960 census, we will restrict the analysis of the three ethnic groups to the Southwestern states. This geographical restriction unfortunately limits the investigation to the level of industry sectors, since the reduced data base does not permit an examination of more detailed industries. As was done throughout this chapter, the following discussion again differentiates between males and females.

The Industry Structure of Male Employment. The most striking difference in the industry allocation between the three ethnic groups is the large concentration of Mexican American males in the Extractive sector. Although the proportion of Mexican American males in these industries decreased substantially during the 1960's from 22.9 to 11.8 percent, thus reflecting the increasing urbanization of Mexican Americans (Grebler, et al., 1970), it still remained the highest among the three ethnic groups in 1970 (Table VII-13).

An interesting trend appears in the Transformative sector. In contrast to the declining proportion of employment for Anglo males during the last decade, Blacks and Mexican Americans have extended their shares of employment in this sector. Since the wages in this sector in general compare quite favorably with other industries, this trend might result in a relative improvement of the labor force positions of these two minorities.

We noted earlier for the national labor force that Blacks were strongly underrepresented in Producer services. The same situation prevails in the Southwest, and Mexican Americans are even less represented in this sector than Black males. On the basis of these findings, it can now be stated that Producer services in general tend to exclude minorities from employment, and this exclusion has not lessened much during the 1960's.

The overriding finding of the analysis of the industry structure of the three ethnic groups in the labor force is, apart from the relatively high share of Mexican American males in the Extractive sector, the great similarity in the way in which they are allocated to the various industry sectors.

The Industry Structure of Female Employment. In contrast to the similarity in the industry structure of employment for males, pronounced differences exist among the three ethnic groups for females. Clearly, the most outstanding feature of Table VII-13 is the high proportion of Black females in Personal services in 1960 and their subsequent move into Social services during the 1960's. This remarkable concentration of employment in Personal services is unique to Black females and it is not a general feature of minorities. The share of employment for Mexican American females in this sector never came close to that of Blacks. Black females, however, are not concentrated throughout the Personal services sector. The employment differential between Black females and the other two ethnic groups is due to one industry, domestic service. In 1960, 39.9 percent of all employed Black females worked in domestic service, compared with only 11.0 percent for Mexican American

Table VII-13

PERCENTAGE DISTRIBUTION OF THE LABOR FORCE BY INDUSTRY SECTOR, SEX, AND ETHNIC STATUS: SOUTHWEST, 1960-1970

INDUSTRY SECTOR	1960			1970			1960-1970 CHANGE		
	Anglo	Black	Mexican American	Anglo	Black	Mexican American	Anglo	Black	Mexican American
Males									
I. EXTRACTIVE	10.2	9.3	22.9	6.5	4.4	11.8	-3.7	-4.9	-10.1
II. TRANSFORMATIVE	38.6	33.9	34.3	34.0	36.7	37.4	-4.6	2.8	3.1
III. DISTRIBUTIVE SERVICES	23.5	22.4	20.6	25.5	22.3	22.7	2.0	-0.1	2.1
IV. PRODUCER SERVICES	7.1	3.3	2.6	9.1	5.6	4.6	2.0	2.3	2.0
V. SOCIAL SERVICES	13.0	15.9	9.9	16.8	20.5	14.0	3.8	4.6	4.1
VI. PERSONAL SERVICES	7.6	15.2	9.7	8.0	10.4	9.4	0.4	-4.8	-0.3
TOTAL	100.0	100.0	100.0	99.9	99.9	99.9			
Females									
I. EXTRACTIVE	2.7	1.7	5.4	1.4	0.6	3.0	-1.3	-1.9	-2.4
II. TRANSFORMATIVE	18.1	8.5	22.3	14.1	12.5	22.3	-4.0	3.8	0.0
III. DISTRIBUTIVE SERVICES	22.5	7.2	20.7	22.7	11.2	18.5	0.2	4.0	-2.2
IV. PRODUCER SERVICES	11.0	2.5	6.3	12.8	6.0	8.9	1.8	3.5	2.6
V. SOCIAL SERVICES	28.0	22.4	16.3	34.6	38.1	27.1	6.6	15.7	10.8
VI. PERSONAL SERVICES	17.6	57.6	28.9	14.4	31.8	20.1	-3.2	-25.8	-8.8
TOTAL	99.9	99.9	99.9	100.0	100.0	99.9			

females and 4.7 percent for Anglo females. If domestic service is excluded from the Personal services sector, no significant differences exist in the shares of employment in that sector between the three ethnic groups.

The large concentration of Black females in domestic service is difficult to explain in view of the fact that the other minority group, Mexican American females, is much less likely to be employed as maids. Given the fact that Blacks and Mexican Americans share a rather similar socioeconomic situation, a similar employment pattern could have been expected. On the other hand, Mexican American females have a much lower labor force participation rate than Black females (lower even than that of Anglo females). Once again, the fact that the socioeconomic status of the two groups is similar could have led to the anticipation that they would participate in the labor force at a higher rate. This situation demonstrates that the labor force status of Blacks cannot be generalized for other minority groups as well. Although socioeconomic status have been used in explaining differences between Blacks and Anglos in the labor force, it does not explain all the differences between Blacks and Mexican Americans. As more data on Mexican Americans become available, a detailed study comparing Mexican Americans with Blacks should give us a much better understanding of the process by which minorities are employed than we have at present.

Again, it must be noted that for females as much as for males, Producer services exclude Blacks and Mexican Americans from employment. Although the gap has slightly decreased during the 1960's, particularly concerning Mexican American females, in 1970 Anglo females still are relatively twice as numerous in this sector than are Black females. One might want to examine this situation in conjunction with the trend in the Transformative sector where Anglos experience a proportionate employment decline. In contrast, minorities either expand their share of employment or maintain it at a constant level. This trend raises the possibility that one of the future employment differences between Anglo females and minority females could show an increasing absorption of minorities in the lower status occupations of operatives within the Transformative sector with Anglos holding the more prestigious clerical positions in Producer services.

One additional observation is warranted. One of the main findings in regard to the different industry allocation of Blacks and Whites was the underrepresentation of Blacks, and particularly of Black females, in retail trade. A similar situation exists in the Southwest, although in 1960 the share of employment in retail trade was quite similar for Black and Anglo males (11.2 and 12.3 percent, respectively). It is only during the 1960's that the employment gap in retailing emerged between Anglo and Black males. For females, however, the situation in the Southwest is very similar to that for the total labor force. But in contrast to Producer services, the exclusion of Blacks from retail employment does not extend to Mexican Americans as well. This is particularly true for Mexican American females whose shares of employment in retailing are much closer to those of Anglo females than to Black females. Again, the reasons for this remain unclear at this point. But it seems to have nothing to do with differential rates of self-employment or unpaid family work in this industry among the three ethnic groups. In other words, Mexican American females do not have larger shares of employment in retailing because they are more likely to own their stores or work as unpaid family members. The

proportion of self-employment in this industry is higher for Black females than for Mexican American females.

Educational Attainment

Since reference has been made to the assertion that Blacks and Mexican Americans as groups, have a similar socioeconomic status, it is useful here to examine one aspect of this, educational attainment. It must be expected that educational attainment of Blacks and Mexican Americans in the labor force is substantially below that of Anglos. But it is less clear to what extent this difference might vary among industry sectors. Similarly, although both Blacks and Mexican Americans have lower educational attainment than Anglos, it might differ between minority groups themselves. These possibilities will be examined in the following section. For the same reasons that were explained in the earlier part of this chapter which dealt with educational attainment on the national level, the proportion of the labor force which completed at least twelve years of schooling is chosen here as the indicator for educational attainment of the labor force.

Males. The data in Table VII-14 clearly show that Black as well as Mexican American males are less likely to have 12 years of schooling completed than is Anglo employment. We can compute the relative proportion for minorities having completed this level of education by dividing their proportions by the corresponding ones for Anglos. Following this procedure, for every 100 Anglos in the labor force with 12 years of schooling or more in 1970, there are 69 Blacks with the same educational attainment. The corresponding relative proportion for Mexican Americans is 60. Although these figures are substantially below the Anglo values, the gap in educational attainment between Anglos and the two minorities nevertheless has become narrower during the 1960-70 decade (the 1960 figures for Blacks and Mexican Americans were 75 and 60, respectively).

The data show in addition that the relative educational attainment of the two minorities varies substantially by industry sectors. Black males do relatively best in social services, and in two other sectors, their relative educational attainment is higher than that of the total Black male labor force. The relatively low educational attainment of the Mexican American male labor force is largely the result of their extremely low educational attainment in the Extractive sector, which, because of its size for Mexican Americans, influences the total values more than for the case of the other two ethnic groups. In the remaining sectors, their educational attainment comes much closer to that of Anglos.

Turning our attention now to the Black-Mexican American differentials in educational attainment, the data in Table VII-14 demonstrate that by and large, Black males have higher educational attainment than Mexican American males. In 1970, for example, 47.6 percent of all Black males in the labor force had at least 12 years of schooling completed compared to 41.1 percent of all employed Mexican American males. This finding holds for all industry sectors except Extractive industries and Producer services, in which Mexican Americans have a higher proportion of employment with 12 years of schooling completed. Noteworthy is the large educational differential between Blacks and Mexican Americans in the Producer services sector. Although proportionately even fewer Mexican American males are employed in these services, the ones that do work there are highly educated.

Table VII-14

PERCENT OF THE LABOR FORCE WITH 12 YEARS OF SCHOOLING OR MORE, BY INDUSTRY SECTOR, SEX, AND ETHNIC STATUS: SOUTHWEST, 1960-1970

INDUSTRY SECTOR	1960			1970			1960-1970 CHANGE		
	Anglo	Black	Mexican American	Anglo	Black	Mexican American	Anglo	Black	Mexican American
Males									
I. EXTRACTIVE	34.5	9.0	5.9	52.1	15.4	17.6	17.6	6.4	11.7
II. TRANSFORMATIVE	50.6	25.8	22.0	62.2	43.9	38.1	11.6	18.1	16.1
III. DISTRIBUTIVE SERVICES	53.8	25.8	23.7	66.1	46.1	43.9	12.3	20.3	20.2
IV. PRODUCER SERVICES	77.9	39.3	54.6	86.5	57.3	73.1	8.6	18.0	18.5
V. SOCIAL SERVICES	72.4	53.4	45.5	84.0	67.0	62.4	11.6	13.6	16.9
VI. PERSONAL SERVICES	41.6	27.8	16.7	54.4	34.4	32.7	12.8	6.6	16.0
TOTAL	53.8	29.4	21.3	69.1	47.6	41.1	15.3	18.2	19.8
Females									
I. EXTRACTIVE	42.6	9.6	6.2	70.6	44.0	14.6	28.0	34.4	8.4
II. TRANSFORMATIVE	59.3	40.0	22.9	70.4	64.3	37.9	11.1	24.3	15.9
III. DISTRIBUTIVE SERVICES	60.7	45.2	38.8	71.3	67.7	54.4	10.6	22.5	15.6
IV. PRODUCER SERVICES	80.5	64.1	71.0	86.1	70.1	79.2	5.6	6.0	8.2
V. SOCIAL SERVICES	79.3	65.5	59.7	85.0	73.3	67.4	5.7	7.8	7.7
VI. PERSONAL SERVICES	37.0	24.9	11.7	50.1	29.0	29.0	13.1	4.1	17.3
TOTAL	63.2	37.5	31.6	74.8	57.1	49.7	11.6	19.6	18.1

Females. The findings of educational attainment of women in the labor force are very similar to those of employed men. Black and Mexican American females in the labor force also have smaller proportions of employment with at least 12 years of schooling completed than do Anglo females. In relative terms, in 1970 there were 76 Black females for every 100 Anglo females with 12 years of schooling or more, with the corresponding proportion for Mexican American females being 66. These figures show, however, that minority females have higher educational attainment in relation to Anglo females compared with the relative educational attainment of minority males. (Incidentally, the findings in the prior chapter that females have higher educational attainment than males holds for all three ethnic groups, as revealed in Table VII-14.)

Again, the gap in educational attainment between Anglo females and Black and Mexican American females differs substantially by sector. In the Distributive sector, for example, hardly any difference existed in 1970 between Anglo and Black females in their proportion of employment with at least 12 years of schooling. As the share of employment of Black females in the Extractive sector and particularly in the Personal services sector, both characterized by a low degree of educational attainment, decreased substantially during the 1960-70 decade, the educational differential between Anglo and Black females became smaller. A similar trend can be observed for Mexican American females whose educational attainment approached that of Anglo females much more in 1970 than in 1960.

As we noted in the comparison of Black and Mexican American males, Black females, also, have a higher proportion of employment with 12 years of schooling or more than do Mexican American females. This holds for all industry sectors except in the case of Producer services.

The fact that Mexican Americans, for males as for females, have higher educational attainment in Producer services than Blacks is indeed interesting. This situation seems to be independent of the share of employment in these services for the two ethnic groups. In the case of males, Blacks are relatively more numerous in Producer services than Mexican Americans, whereas Mexican American females proportionately outnumber Black females in that sector. This again seems to suggest that education is not all that important as a determinant for the share of employment of a particular population in a given industry.

On the other hand, it can be expected that educational attainment is more closely related to the type of work, i.e., occupation. For example, professionals in general have a college degree. In that sense, the discussion in this section should lead us to expect that because of their higher educational attainment, Blacks in general will hold higher-status occupations than Mexican Americans. Moreover, the occupational status of both minorities will substantially be below that of Anglos. These expectations are examined in Tables VII-15 and VII-16.

Occupational Status

Males. It is hardly surprising to find in Table VII-15 that Anglo males hold better positions than Black or Mexican American males, but it is impressive how this difference is maintained in all six industry sectors. For example, Anglos

Table VII - 15

OCCUPATION BY INDUSTRY SECTOR AND ETHNIC STATUS OF THE MALE LABOR FORCE: SOUTHWEST, 1960-1970

OCCUPATION	EXTRACTIVE			TRANSFORMATIVE			DISTRIBUTIVE SERVICES			PRODUCER SERVICES			SOCIAL SERVICES			PERSONAL SERVICES		
	Anglo	Black	Mexican American	Anglo	Black	Mexican American	Anglo	Black	Mexican American	Anglo	Black	Mexican American	Anglo	Black	Mexican American	Anglo	Black	Mexican American
1960																		
Professionals, Sub-professionals, Managers	7.2	0.5	1.0	21.1	2.1	6.2	27.6	3.8	10.7	46.9	8.0	29.6	50.6	21.5	29.1	26.7	6.0	10.1
Clerical	1.2	0.3	0.1	5.7	2.7	3.8	8.4	4.9	8.9	12.4	3.2	11.2	14.1	16.3	13.0	2.7	0.2	1.0
Craftsworkers	6.9	1.3	1.4	35.6	18.0	26.3	16.5	7.8	14.1	5.3	8.0	8.4	11.0	7.8	15.8	24.6	10.5	18.5
Operatives	12.6	7.1	10.1	25.7	36.8	35.7	21.8	33.8	32.2	3.0	8.0	5.6	3.3	7.3	9.3	10.9	13.1	14.4
Sales, Service, Household Workers	0.6	1.0	0.3	5.5	7.7	2.4	20.3	23.0	14.3	31.1	67.2	34.6	18.1	36.6	22.8	29.3	51.0	46.1
Farmers	47.4	23.0	12.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Laborers (inc., farm)	24.0	66.9	75.0	6.4	32.8	25.5	5.4	26.9	19.9	1.3	5.6	10.6	2.8	10.6	10.0	5.9	19.2	9.9
1970																		
Professionals, Sub-professionals, Managers	14.1	1.5	2.7	27.9	5.8	9.2	25.2	5.0	12.8	49.1	13.2	32.5	56.9	27.6	33.7	24.6	10.7	13.7
Clerical	2.2	2.4	1.0	5.8	4.6	4.6	8.6	10.6	8.7	12.1	12.0	17.5	12.0	20.0	14.4	3.6	1.6	2.4
Craftsworkers	11.1	4.8	5.6	35.1	23.7	32.7	17.7	13.5	17.6	5.0	8.9	6.6	7.5	8.6	11.8	22.2	17.3	17.4
Operatives	14.4	7.2	12.3	20.6	38.6	35.4	19.7	34.2	31.0	2.4	5.0	7.4	2.4	7.4	5.4	8.4	13.6	11.0
Sales, Service Household Workers	1.3	1.4	1.1	5.9	6.8	3.5	21.6	17.8	15.7	30.0	56.6	52.1	19.0	30.6	28.6	35.8	46.7	47.1
Farmers	30.9	9.2	7.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Laborers (inc., farm)	27.4	73.4	70.1	4.7	20.6	14.7	7.0	18.9	14.3	1.4	4.3	3.9	2.3	5.9	6.1	5.5	10.3	8.4

are much more likely to be professionals and managers than either Mexican Americans or Blacks. Anglos are also more likely to be craftsmen, whereas Blacks and Mexican Americans are holding operative positions. (It is only in Producer and Social services, in which Professional and Service occupations are the model occupational categories, that Anglos are less likely to be craftsmen than either Blacks or Mexican Americans.) Moreover, Black and Mexican American males have much higher proportions employed as laborers than do Anglo males. This differentiation is the most pronounced in the Extractive sector in which at least 70 percent of Blacks and Mexican Americans were laborers and farm laborers in 1970, compared to only 27.4 percent of Anglos.

While these findings are not surprising and are consistent with the data reported in earlier sections of this chapter as well as with many studies about Black employment, the more interesting aspect concerns the comparisons of Mexican Americans and Blacks in terms of occupational status. As we stated earlier, the higher educational attainment of Black males would lead us to expect them to hold higher status occupations than Mexican American males. The data in Table VII-15, however, do not support this expectation. Despite their higher educational attainment, Black males generally are in lower-status positions compared with Mexican American males. In all sectors, there are proportionately more Mexican American professionals and managers than Blacks with these occupations. On the other hand, Black males are more represented as laborers than are Mexican American males. Thus it is not too surprising that in the one sector, Producer services, in which Mexican American males do have higher educational attainment than Black males, their occupational status is significantly better than that of Blacks.

Females. As among males, Anglo females hold higher-status positions than Black or Mexican American females (see Table VII-16). The differences, however, vary from sector to sector. Transformative industries, for example, employ Anglo and minority females in quite distinct ways. In 1970 close to one-half of Anglo females in this sector were employed in clerical positions, whereas over 70 percent of Black and Mexican American females were operatives. The increased share of employment of minorities in this sector thus involves largely the low-status, blue-collar position of operatives, with Anglos increasing their share in the clerical positions. On the other hand, the occupational distribution of employment in the Distributive sector is very similar for the three ethnic groups.

In general, the difference between Anglo and minority females in terms of occupational status is not as large as is the case of males. In other words, Black and Mexican American females are employed in better positions in relation to Anglo females compared with Black and Mexican American males in relation to Anglo males.

Turning our attention to the occupational differences between Black and Mexican American females, the situation differs from that of males. Females of both minority groups are employed in very similar occupations, save for the Extractive and Producer services sectors. In the Extractive sector, Mexican American females clearly occupy the lowest occupational status of the three ethnic groups: over three-fourths are employed as laborers and farm laborers. On the other hand, Mexican American females do better than Blacks in Producer services.

Table VII-16

OCCUPATION BY INDUSTRY SECTOR AND ETHNIC STATUS OF THE FEMALE LABOR FORCE: SOUTHWEST, 1960-1970

OCCUPATION	EXTRACTIVE			TRANSFORMATIVE			DISTRIBUTIVE SERVICES			PRODUCER SERVICES			SOCIAL SERVICES			PERSONAL SERVICES		
	Anglo	Black	Mexican American	Anglo	Black	Mexican American	Anglo	Black	Mexican American	Anglo	Black	Mexican American	Anglo	Black	Mexican American	Anglo	Black	Mexican American
1960																		
Professionals, Sub-professionals, managers	3.8	---	---	7.3	1.0	1.8	9.4	6.7	5.6	12.0	3.0	8.1	50.3	34.2	32.7	10.9	1.4	3.4
Clerical	73.1	---	3.1	45.0	7.5	15.6	44.0	20.7	33.3	76.1	43.3	80.0	32.3	18.3	34.4	9.8	0.4	4.8
Craftsworkers	0.5	---	---	3.7	5.1	4.0	1.4	5.5	1.2	0.5	---	---	0.3	0.2	0.2	0.4	0.2	0.3
Operatives	3.2	2.4	7.0	40.0	70.7	73.5	5.7	8.5	17.1	1.0	4.5	3.1	1.0	2.8	3.8	7.8	5.5	14.6
Sales, Services, Household Workers	2.6	2.4	3.1	3.2	11.6	3.7	39.3	54.9	40.4	10.3	49.3	8.8	16.1	44.4	28.6	70.4	89.2	76.3
Farmers	20.8	21.4	2.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Laborers (including farm)	45.9	75.8	84.5	0.9	4.0	1.5	0.3	2.7	2.4	0.2	---	---	0.1	0.2	0.2	0.3	0.2	0.7
1970																		
Professionals, Sub-professionals, managers	8.5	8.0	0.6	10.5	2.9	2.5	9.4	4.6	7.4	16.0	5.1	10.0	48.0	30.1	28.7	9.3	3.6	4.7
Clerical	47.0	20.0	7.0	47.1	13.6	15.1	46.7	47.3	40.6	72.1	61.5	74.4	33.3	27.6	37.3	16.1	2.6	9.1
Craftsworkers	1.0	4.0	---	5.6	5.0	6.1	2.2	1.8	1.7	0.8	0.8	0.6	0.6	0.4	0.3	0.9	0.9	0.9
Operatives	2.9	---	9.9	33.8	73.4	72.6	5.3	6.8	15.4	1.0	2.1	2.4	0.7	1.5	1.8	4.9	7.8	11.5
Sales, Services, Household Workers	2.7	8.0	4.1	2.1	2.7	1.8	35.1	35.6	32.5	10.0	29.5	12.7	17.4	39.5	32.0	68.3	84.4	73.2
Farmers	13.7	8.0	1.2	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Laborers (including farm)	24.2	52.0	77.3	1.0	2.3	2.0	1.5	3.9	2.5	0.2	0.9	---	0.2	0.5	0.2	0.6	0.8	0.7

Although the findings for females do not show much difference between Blacks and Mexican Americans, it should be pointed out that this similarity is more characteristic of the 1970 employment pattern than that of 1960. Even in 1970, however, Black females are less likely to be in clerical positions than Mexican American females, and more likely to be operatives.

These findings support, mostly for males but to a lesser extent also for females, the belief that discrimination against a minority group which can be readily identified by physical characteristics, plays an important part in the employment of Blacks. The data presented here are too incomplete to address all the reasons that could account for the difference in occupational status between Blacks and Mexican Americans. But it cannot be discarded that Mexican Americans as a minority group are less readily identified (which is one of the reasons why we do not have more data about this population group). After all, Mexican Americans are classified as whites by the Bureau of the Census. Thus, their employment "blends in" more easily with that of Anglos than in the case of Blacks. At this point, the interpretation of the employment differentials between Blacks and Mexican Americans must remain fragmentary, but the data presented here demonstrate that much could be learned about the employment pattern of minorities by a detailed comparative study including at least the two largest minorities in the United States, Blacks and Mexican Americans.

Chapter VIII

EARNINGS DISPERSION AND THE SECTORAL PATTERN OF EMPLOYMENT

In the last three chapters we have considered how industries differ in terms of their occupational requirements and how these sectors and industries differ in the way in which they utilize females and minorities. We have also established that the scheduling of work differs substantially from one industry to another. Although the mean number of year-hours per worker was quite similar across industries, some industries had a high proportion working a standard work week, while other industries employed large proportions of part-time workers in addition to those persons working more than full time. Moreover, the continuity of employment differs among industries. In some, persons predominantly work the entire year, whereas in others there is much intermittent employment.

All of these factors ultimately are reflected in monetary terms. Professionals have higher earnings than operatives, females earn less than males, blacks less than whites, and persons working full time the entire year receive more earnings than those working intermittently. In a fundamental and very real sense, therefore, earnings -- and given our concern with the labor force we necessarily must speak of earnings rather than income -- represent an extremely important "outcome" of the sectoral and industry distribution and of the entire sectoral transformative process.

Since our orientation throughout this report has been on a macro level, we do not take the earnings of particular individuals and relate them to other personal characteristics; rather, our concern is with the distribution or dispersion of earnings. Within this context we can expect the changes in the industry structure of employment between 1960 and 1970 to have had an impact on the dispersion of earnings for both the total employed labor force as well as for the four sex-race groups we have had occasion to examine. Unlike previous chapters which emphasized the demographic and sociological features of the sectoral transformation, the approach of this chapter is very much economic in concept and methodology.

This chapter will address the significance of earnings dispersion as part of the developmental process, an evaluation of the industry sector versus human capital approaches in accounting for the change in earnings dispersion 1959-1969, and the patterns of earnings dispersion by sector and industry when disaggregated into the four race-sex groups.

EVALUATING THE SECTORAL AND HUMAN CAPITAL APPROACHES TO EARNINGS DISPERSION

One of the standards by which economies are judged is the equity with which its product is shared by its participants. Although defining an "equitable" distribution of income is a normative problem on which it may be difficult to achieve concensus, in most practical circumstances the issue facing the government and its citizenry is whether the existing distribution should be made more or less equal, and how this objective can be accomplished. Since most economics are continually changing in structure and size, a precondition for successful

policy-making in this area is an understanding of how the forces already at work in an economy affect its income distribution.

In modern economic thinking there has been a tendency to separate questions regarding the efficiency with which resources are allocated from inquiries into the criteria by which the product resulting from a particular allocation is distributed. The basis for this dichotomy has been the belief that there always exists some combination of taxes and transfers that can translate the results of the market allocation process into the desired distribution of income. Although this is true in principle, the government has done little to alter the marked-determined distribution of income.

The problems involved in using tax and transfer programs to achieve an income distribution that departs markedly from the one resulting from the market allocation process have been ably stated by Thurow (1972: 6):

> Although there are no technical difficulties in reaching any desired distribution of income from any market distribution of income with tax and transfer policies, large overt redistributions of income from one individual to another may be difficult to achieve politically. This may be especially true if those to be aided are in the minority. Taxpayers may well be willing to help low income individuals earn a larger income but unwilling to give low income individuals a higher income. From the point of view of self-respect, low income individuals may also wish to be aided indirectly rather than directly. They may wish to "earn" their own living. (emphasis added).

For many people, interest in the question of income distribution is prompted by the belief that the inequality in incomes in the United States and elsewhere differs from their judgment as to what an equitable distribution of income should be. While there are undoubtedly some who would argue for a greater range in incomes, presumably to generate greater incentives in the market place, it seems fair to characterize the sentiment of the majority as preferring greater to lesser equality.

While Thurow and others have investigated the effects that would accompany variations in the distribution of education and training opportunities available to the population, there is another, and perhaps older, tradition in the literature which focuses on the income distribution effects accompanying economic development. Here economic development is taken to mean not simply a rise in per capita income, but the entire change in the economic and social fabric of a society that usually occurs as development proceeds. This section of the report examines the relationship between the industry structure of employment and the distribution of earnings. Although the analysis relies on relatively recent data for the United States, it is believed that some of the questions investigated are of sufficient generality as to be relevant to a broader, more historical, context. We begin with a brief review of the literature.

The view of the relationship between economic development and income inequality that emerges from the data that have been surveyed is ambiguous.

International cross-sectional data tends to indicate that income inequality is less in countries at higher stages of development (Lydall, 1968); however, longitudinal studies do not present such a clear picture, for in some of the developed countries studied by Lydall in the twentieth century, earnings inequality failed to decline at all as development proceeded. In any event, these correlations are "gross" and fail to indicate whether it is development *per se* (as measured, for example, by higher levels of income per capita), or other concomitants of growth that are associated with the smaller dispersion in earnings among more developed countries. Indeed, Chiswick (1971) presents evidence that economic development exerts *no* effect on inequality independent of its influence on the distribution of schooling and the rate of economic growth. However, the relevance of this distinction is questionable. The term economic development, as opposed to economic growth, usually refers to the amalgam of change (demographic, economic, and institutional) that typically occurs in the course of raising the level of well-being of a population. Consequently, one suspects that most students of development would be rather critical of the use of per capita GNP to summarize a country's state of development. On the other hand, the question of the paths through which economic development affects the income or earnings distribution is a highly interesting one.

Kuznets (1955, 1966) had earlier researched this question. In comparing differences in income inequality between nations, Kuznets emphasized that differences in productive structure were a major explanatory factor. He suggested that the way in which countries developed had a major influence on the income distribution. The hypothesis he advanced is that earnings distribution in manufacturing industries tends to be more unequal than the earnings distribution in agriculture. Thus, as the labor force shifted toward more employment in industry, the aggregate concentration of income was expected to increase. He predicted that later stages of development would bring about greater equalization within industry and therefore, a lessening of inequality to the level characteristic of more developed countries. Since further study failed to bear out this generalization, Kuznets (1971) shifted his attention toward *inter-* rather than *intra*-sectoral differences in earnings. Many underdeveloped countries are characterized by enormous variation in output per worker between industry, agriculture, and services. Thus, Kuznets argued that only as sectoral productivity levels began to converge would incomes also converge. The United Nations Economic Commission for Latin America (1972), Langoni (1973) and Fishlow (1973), also have emphasized the sectoral pattern of employment and the distribution of earnings among sectors as important factors in understanding comparative inequality among nations.

In the spirit of the studies cited above, the analysis of U.S. census data is directed towards determining the effect of the sectoral pattern of employment on earnings inequality within the United States. It is generally believed that in an economy where most prices are market-determined, the earnings distribution, which is a major component of the income distribution, depends on the industrial pattern of final demand and the distribution of marketable skills among the population. Although there is no necessity to regard these determinants of earnings distribution as competitive, they have rarely been synthesized into a pluralistic model of earnings determination. Rather, one can identify, on the one hand, what we shall call a sectoral approach to the earnings distribution and, on the other hand, a human capital

approach to this question. In its extreme version, the sectoral position, which we associate with the work of Clark and Fisher, assumes that the distribution of earnings primarily reflects the allocation of employment among the three sectors of the economy, the primary, secondary, and tertiary. In essence the distribution of earnings within each sector is regarded as an intrinsic, unchanging, characteristic, with the pattern of final demands for goods and services determining the sectoral pattern of employment. Thus we have a theory of the earnings distribution that places great weight on the nature of aggregate demand.

In contrast, the human capital approach (Becker, 1964; Mincer, 1974) is a supply-side theory of the earnings distribution. Advocates of this viewpoint see the earnings distribution as a reflection of the skill-mix of the labor force and the rates at which these skills are rewarded. Studies which use this approach to project changes in the earnings distribution have assumed that the returns to the productivity-related characteristics of workers are constant over time and thus changes in the distribution of earnings are regarded principally of changes in the distribution of labor force skills (Chiswick and Mincer, 1972).

These approaches to analyzing the earnings distribution naturally lead to different perceptions about which policies will be most successful in effecting the desired distribution of earnings. Adherents to the sectoral approach are likely to advocate policies that alter the speed or the pattern of growth by which an agrarian economy transforms itself into an industrial or service economy. An important issue for these advocates might be the relative advantages of a program of rural versus urban industrialization. Human capital theorists, on the other hand, have focused on the role of education in economic development and have considered the consequences of altering both the distribution of educational expenditures and the average level of education for the earnings distribution. Given these diverse approaches to the analysis of the earnings distribution, we believe the data to be examined bears not only on the usefulness of each approach as a predictive device but also has implications regarding the appropriate focus of public policy.

We propose to evaluate the merits of these two approaches to analyzing the earnings distribution by comparing how well they predict the changes in the dispersion in earnings in the U.S. that occurred between 1959 and 1969. In addition, we will suggest how the sectoral and human capital approaches can be combined into a single model which we will evaluate relative to either of the two simple approaches.

The earnings distributions we consider here apply only to white and black males, although at a later point we shall introduce race and sex data. The data we employ are the same as used throughout this report (see Appendix A), but for this section, we chose a 10% sample of white males from the original sample. All blacks, however, were included. Female workers were excluded because of data considerations. These data are poorly suited for the analysis of the earnings distribution among women in the human capital framework because of the emphasis this approach places on labor force experience and post-school investment. These data are not explicitly reported by the census, but in the case of males they are usually inferred by assuming that individuals participate in the labor force continuously after leaving school. However, in the case of

women, where an intermittent pattern of labor force participation for purposes of child bearing and child rearing is well documented (Mincer and Polacheck, 1974), this assumption is clearly inappropriate. Because there is no alternative way of measuring labor force experience we find satisfactory, women have been excluded from the analysis. Our decision to consider white and black males separately is based on repeated findings that the structure of the human capital earnings functions estimated for each group differ markedly (Weiss, 1974; Harrison, 1973).

Because it is crucial that we be able to identify a worker's sector of employment, we have adopted sampling criteria that are different from those used in most previous analyses of U.S. Census data. Specifically, we have selected only those workers classified as employed and "at work" or "with a job but not at work" due to illness or vacation. Excluded from the sample are persons who are unemployed or nonparticipants in the labor force.

One implication of this selection procedure is that the difference in the rates of return to schooling between blacks and whites is far less than that reported in other studies. The reason is that the lower rates of return to schooling usually estimated for blacks occur, in part, because increased education does not insulate blacks from unemployment as effectively as it does whites. As a result, even if schooling increases the rate of pay of blacks to the same extent as it does for whites, the rate of return to schooling would not be as great for blacks, since the amount of time they work at this higher rate does not increase the same. By limiting the analysis to employed persons we have removed the employment advantage experienced by educated whites which tends to equalize rates of return.

A second property of the data must also be noted. There is a lack of congruence between the time period to which the earnings data refer and the time period reflected in the data on industry of employment. Because the earnings data describe annual earnings, they refer to the calendar years 1959 and 1969. In contrast, the data on industry of employment are reported for the reference dates of the censuses, which were conducted in April of 1960 and 1970. Thus the observations for industry and employment data do not coincide in time. Although there is an obvious potential for bias in this procedure, in that some males have different industry employment at the time of the census than they did during the prior year for which their earnings were reported, we have no way of knowing the directions or magnitudes of the biases and therefore have not attempted to "correct" the data.

The sectoral approach we are evaluating considers the industry pattern of employment as central to the distribution of earnings. That this type of analysis traditionally has been in terms of sectors rather than of industries surely reflects the paucity of good data as much as it does the judgement that sectors, rather than industries, are the appropriate units of analysis. The six-sector classification that has been used throughout the report is employed here.

The socioeconomic characteristics of the labor force that we consider are few in number and are dictated by the human capital models we employ, as developed principally by Mincer (1974). These models will be elaborated in the following section.

There is, of course, no entirely satisfactory way to summarize a complete earnings distribution by means of a single statistic. Each of the various measures that have been proposed, such as the Gini coefficient, the coefficient of variation, and the variance of the natural logarithm of earnings, have characteristic features that make them more sensitive to certain changes in the distribution than to others. (An evaluation of various measures of dispersion in terms of their implicit normative criterion and their sensitivity to specific changes in the distribution has been done by Atkinson, 1970).

The measure used here, the variance of the natural logarithm of earnings, has several desirable properties that commend it above alternative summary statistics. First, by virtue of the use of logarithms, it is a relative measure of dispersion. This means that proportional changes in earnings over time have no effect on this statistic. This is desirable, for we would not wish to confound purely inflationary effects with real changes in the distribution of earnings. This property also is relevant when making international comparisons, since it implies that this index of dispersion does not depend directly on the value of any country's currency. In addition, the implications of the human capital approach regarding the effects of changes in the distribution of the skills on the dispersion in earnings are most easily expressed in terms of the variance of the natural logarithm of earnings, hereafter referred to as log-earnings. (This derivation appears in Chiswick, 1974 and Mincer, 1974.) Let us now consider how well the approaches we have discussed explain changes in the variance of log-earnings between 1959 and 1969.

Changes in the Variances of Log Earnings: 1959-1969

The variances of the natural logarithm of earnings of males 16 years of age and above, classified by race and sector of employment appear in Table VIII-1. The statistics for the entire labor force by race are reported in the first row of the table. Note that in each racial group the dispersion in earnings declined between 1959 and 1969, the larger change occurring among black males. Our objective in this section of the paper is to consider the reasons for these changes in earnings dispersion.

We first consider how far the simple versions of the sectoral and the human capital hypotheses will take us. The sectoral position can be stated more concretely with reference to the data in Tables VIII-1 and VIII-2. We interpret the structuralists as arguing that the dispersion in earnings within a sector can be regarded as a characteristic that is intrinsic to that sector, at least over a period as brief as a decade. A less rigid version of this position is that relative to the changes in the dispersion in earnings within sectors, the movement of workers among sectors is a much more significant component of the change in earnings dispersion.

A cursory examination of Tables VIII-1 and VIII-2 lends support to this view. The rankings of the sectors between 1959 and 1969 appear rather consistent. The Extractive sector and Personal services usually have the greatest earnings dispersion and these sectors have been employing a decreasing share of the labor force. The sectors in which earnings are less dispersed are the Transformative and Social service sectors. The latter especially has increased its share of employment over the decade. These observations suggest that the sectoral view has promise, since the movement of workers from sectors

Table VIII-1

VARIANCE OF THE NATURAL LOGARITHM OF EARNINGS BY RACE AND SECTOR OF EMPLOYMENT, 1959 AND 1969

	White Males		Nonwhite Males	
	1959	1969	1959	1969
All sectors	1.308	1.202	1.318	1.042
Extractive	2.635	2.522	2.069	1.653
Transformative	.768	.750	.812	.729
Distributive services	1.235	1.211	.931	1.027
Producer services	1.207	1.365	.900	1.067
Social services	1.017	1.041	.762	.991
Personal services	1.763	1.937	1.361	1.545

Table VIII-2

THE SECTORAL DISTRIBUTION OF MALE WORKERS, 1960 AND 1970, BY RACE

Sector	White Males		Nonwhite Males	
	1959	1969	1959	1969
Extractive	.102	.062	.138	.061
Transformative	.427	.411	.385	.418
Distributive services	.228	.239	.190	.201
Producer services	.060	.073	.030	.048
Social services	.116	.149	.134	.180
Personal services	.067	.065	.122	.092
	100.0		100.0	

with a large dispersion in earnings to sectors with low dispersion is consistent with the overall decline in the variance of log-earnings.

The sectoral position can be evaluated quantitatively if we take the mean levels and variances of the natural logarithm of earnings prevailing in each sector in 1959 as typical of the relative dispersion in earnings in that sector. The data in Table VIII-2 indicate the changing weights to be attached to these means and variances in order to predict the change in earnings dispersion between 1959 and 1969.

The total variance in log-earnings within each racial group can be analyzed into within-sectors and between-sectors components as in an analysis of variance. The within-sectors variance is simply the weighted average of the variance in each sector, the weights being the proportion of persons employed in the given sector. Thus, it is easy to see how the changes in sectoral weights between 1959 and 1969, which placed increasing weight on sectors with less dispersion, could reduce the within-sector variance in log-earnings.

In contrast, it might seem inappropriate to hold the sectoral means constant over the decade in order to compute the change in the between-sectors variance, since it is obvious that mean earnings in each sector have risen as a result of economic growth and inflation. However, the fact that the variance of the natural logarithm of earnings is independent of scale implies that the between-sector variance, obtained by weighting the squared deviations of the sectoral means from the grand mean of earnings, will be insensitive to proportional changes in the arithmetic mean in each sector. Therefore, the assumption that the mean level of log-earnings in each sector is constant over the decade is weaker than it may appear, for it implies only that the average rate of increase in earnings is constant across sectors. We predict the expected change in the between-sector dispersion in earnings between 1959 and 1969 by assuming the mean of log-earnings to be constant in each sector and varying the sectoral weights. We first calculate the new grand mean and then sum the weighted squared deviations of the sectoral means from the new grand mean. These estimates of the predicted values of the between- and within-sector dispersion in earnings in 1969, along with the actual values calculated for 1959 and 1969, appear in Table VIII-3.

For each racial group the major component of earnings dispersion is the within-sector variance, accounting for around 90 percent of the total variance in earnings. Although the proportions of the variance in log-earnings occurring within and between sectors will of course depend on the fineness of the sectoral groupings, the general impression conveyed by the data in Table VIII-4 is that they are not likely to be sensitive to the particular aggregates chosen, within the range of detail provided by the census data. To illustrate, we calculated the within-group variance when workers were allocated to the 37 industries used in the report. We found that the within-industry variance was nearly as large as the within-sector variance, being no less than 80 percent of the total variance in log-earnings for each racial group.

These findings indicate that to explain the causes of earnings dispersion at a moment in time one must have a theory of the within-sector variance in earnings. However, it does not follow that the within-sector component looms so large in the explanation of the <u>change</u> in earnings dispersion. In fact, for

Table VIII-3

PREDICTED AND ACTUAL VALUES OF VARIANCES IN LOG-EARNINGS BY RACE, 1959-1969: THE SECTORAL APPROACH

Race - Sex Group	1959 Actual	1969 Predicted	1969 Actual	Predicted Change 1969 - 1959	Actual Change 1969 - 1959
White Males					
Total variance	1.308	1.221	1.202	-.087	-.106
Within sectors	1.187	1.131	1.137	-.056	-.050
Between sectors	.121	.091	.065	-.031	-.056
Nonwhite Males					
Total variance	1.318	1.096	1.042	-.223	-.277
Within sectors	1.071	.958	.975	-.114	-.097
Between sectors	.247	.138	.067	-.109	-.180

nonwhite males, the change in between-sector dispersion in earnings exceeded the change in the within-sector component by a factor of two. In other words, while the sectoral approach would do poorly as an explanation of the cross-sectional dispersion in earnings, since it regards the within-sector dispersion as exogenous, it may still be a good predictor of changes in earnings dispersion.

Let us now see how consistent these changes are with the predictions of a sectoral model that attributes the change in earnings dispersion within racial groups entirely to the weights assigned to each sector. The relevant statistics appear in columns (4) and (5) of Table VIII-3. In general, the sectoral approach underpredicts the reduction in earnings dispersion that occurred between 1959 and 1969. It accounts for 82 percent of the change among white males, and 81 percent of the change among black males.

The sectoral calculations underpredict the reductions in the between-sector component of earnings dispersion most seriously. For both white and black males the model predicts roughly 60 percent of the actual reduction in the between-sector variance. Evidently the assumption that the change in mean earnings in each sector increased at an equal rate between 1959 and 1969 is inappropriate. Since the sectoral approach, as we have formulated it, offers no explanation as to why relative changes in mean earnings may vary among sectors, it could, in principle, be dominated by one which considers how mean earnings are determined in each sector.

The human capital approach discussed above has the potential to account for the kinds of changes in the earnings distribution described in Table VIII-3. Put simply, this approach seeks to determine the market prices paid for the various productivity-related characteristics of workers and to explain the level and distribution of earnings in terms of the distribution of these characteristics among the labor force. By holding these prices constant, the effects of changes in sectoral means and variances, to the extent they reflect changes in the characteristics of the labor force, can be captured by this approach.

We maintain our stratification of the labor force by racial groups and estimate separate earnings equations for each one. The general form of the earnings equation is:

$$(1) \quad \ln Y = b_o + b_1 S + b_2 Ex + b_3 \ln (Wks) + u,$$

(See Mincer, 1974, for the derivation of this equation.)

where the dependent variable is the natural logarithm of the individual's annual earnings, S is the person's educational attainment, Ex is years of labor force experience, ln (Wks) is the natural logarithm of the number of weeks the individual worked during the year, and u is a disturbance term, assumed to have the appropriate properties.

An expression for the variance of ln (Y), our index of dispersion, can be derived straightforwardly from equation (1) and appears as follows:

$$(2)\quad \mathrm{Var}\ \ln(Y) = b_1^2\,\mathrm{Var}(S) + b_2^2\,\mathrm{Var}(Ex) + b_3^2\,\mathrm{Var}(\ln Wks) + 2b_1b_2\,\mathrm{Cov}(S, Ex) + 2b_1b_3\,\mathrm{Cov}(S, \ln Wks) + 2b_2b_3\,\mathrm{Cov}(Ex, \ln Wks) + \mathrm{Var}(u).$$

This specification departs in a minor way from Chiswick and Mincer's model (1972) by treating the rates of return to schooling and experience as parameters and not random variables. However, the results reported by Chiswick (1974) provide some justification for these modifications, for he obtains an inappropriate sign for the additional variables he includes in his equation under the assumption that rates of return are random variables.

Table VIII-4 reports the estimates from the 1959 data of equation (1) for males of each race. These equations fit the data reasonably well, the R^2 typically being around .30; all variables are significant and have the anticipated signs. We hesitate to compare the coefficients in Table VIII-4 to those reported for these groups by other writers because, as noted above, we have defined our sample somewhat differently.

Nevertheless, our results can be used to predict how the dispersion in earnings within similarly defined groups would change in response to changes in the distribution of labor force characteristics between 1959 and 1969. This calculation is performed using equation (2). The independent variables in this equation were assigned values obtained from the 1970 census; the regression coefficients and the variances of the error terms, assumed to remain constant between 1959 and 1969, were given the values reported in Table VIII-4.

Table VIII-5 compares the actual changes in earnings dispersion that occurred between 1959 and 1969 with those changes that were predicted by the method described above. In general, the human capital model does poorly. The narrowing of the distribution of earnings is underpredicted for both racial groups and the model does most poorly in the numerically important category of white males.

While these results are hardly supportive of the human capital approach, they do not constitute a complete test of the model. This is because previous work (King, 1975) has indicated that a principal reason for the model's failure is that a major source of change in the earnings distribution over the decade is attributable to changes in the residual variance. Since the way we have expressed the model assumes the residual variance to be constant between 1959 and 1969 it is unable to capture the effects of these changes. Whether this is a shortcoming of the model depends on whether one believes changes in the residual variance are exogenous or endogenous to the human capital framework. Mincer (1974), for example, has argued strongly that changes in the residual variance are explicable within the context of the human capital model and has presented considerable evidence to that effect.

Table VIII-4

ESTIMATES OF EARNINGS FUNCTIONS FOR MALES BY RACE, 1959

Race	Constant	Schooling	Experience	Log of Weeks Worked	R^2	Standard Error Of Estimate	Degrees of Freedom
Whites	-2.301	.092[a] (.002)	.011 (.0004)	1.219 (.012)	.300	.956	38,158
Nonwhites	-2.031	.097 (.002)	.013 (.0004)	1.033 (.010)	.303	.959	37,624

[a] All variables are significant at .01 level.

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Table VIII-5

COMPARISON BETWEEN ACTUAL CHANGES IN THE VARIANCE OF LOG-EARNINGS 1959-1969 AND CHANGES PREDICTED BY HUMAN CAPITAL MODEL

Race	Variance 1959 (Actual)	Variance 1969 (Actual)	Variance 1969 (Predicted)	Actual Change 1969-1959	Predicted Change 1969-1959
Whites	1.308	1.202	1.307	-.106	-.001
Nonwhites	1.318	1.042	1.263	-.276	-.055

Unfortunately, it is difficult to specify a priori how the residual variance will change in response to complex changes in the characteristics of the labor force. As a result, we are led to adopt an ad hoc procedure to investigate the relationship between the residual variance and labor force characteristics. We express the residual variance as a function of the means and variances of, and covariance among, schooling and experience, as suggested by Mincer's work. Because the changes in the residual variance that we wish to explain occur over time, we will estimate the hypothesized relationship using cross-sectional data (the 37 industries are the units of observation) in order to assure the independence of the data used to estimate the relationship and the data that provide the test for the model.

The equation we estimate has the form

$$(3) \quad \mathrm{Var}\,(u) = d_0 + d_1 \bar{S} + d_2 \,\mathrm{Var}\,(S) + d_3 \,\overline{Ex} + d_4 \,\mathrm{Var}\,(Ex) + d_5 \,\mathrm{Cov}\,(Ex, S) + e,$$

and is estimated across two groups of 37 industries. To provide the dependent variable for this equation, equation (2) was estimated for members of each racial group in each industry, using the 1960 Census data. The estimated variance of the error terms in each industry equation then serves as the dependent variable in equation (3). The estimated equations appear in Table VIII-6.

We utilize the results in Table VIII-6 to estimate the change in the residual variance in earnings between 1959 and 1969 that is likely to have occurred in response to changes in labor force characteristics between these years. This is perhaps an extreme measure of the endogeneity of the residual variance,but it should serve to place an upper bound on the explanatory potential of the human capital approach. We estimate the change in the residuals for white and black males.

Our results indicate that the predicted change in the residual variance is -.121 for white males and -.430 for black males. When these predictions are combined with those derived from the deterministic part of the human capital model, the modified predictions are a decline of -.122 compared to the actual change of -.106 for white males and -.488, compared to the actual change of -.276 for black males. We see that treating the residual variance as endogenous greatly improves the predictive ability of the labor force approach in the case of white males, and has a marginal effect on the accuracy of the model when applied to blacks. This causes us to doubt the usefulness of the procedure we have employed and leads us to question just how large is the systematic component of the residual variance.

We turn next to consider whether the human capital and the sectoral approaches can be combined to improve the accuracy with which changes in earnings dispersion are forecast. We do this by estimating earnings equations, such as equation (2), that are specific to each sector. This method should dominate the sectoral approach since it enables us to dispense with the assumption that the dispersion in earnings within sectors is constant over time and permits different rates of change in the mean level of earnings in each sector. It should also be superior to the aggregate human capital approach, since it makes a weaker assumption regarding the parameters of the model. It assumes only that the

Table VIII-6

THE DETERMINANTS OF THE RESIDUAL VARIANCE IN LOG-EARNINGS WITHIN INDUSTRIES, 1960

Racial Group	Constant	Schooling Mean	Schooling Variance	Experience Mean	Experience Variance	Covariance Schooling, Experience	R^2
Whites	-3.351	.089* (.034)	.069 (.037)	.076** (.021)	.007** (.001)	.048** (.018)	.605
Non-whites	-.161	-.032 (.032)	.029* (.014)	.010 (.016)	.004** (.001)	.016 (.009)	.470

* denotes coefficient is significant at the .05 level.

** denotes coefficient is significant at the .01 level.

model's parameters are constant within sectors, which in principle permits the parameters of the aggregate earnings equation to vary over time in response to changes in the sectoral distribution of employment.

Once again we disaggregate the change in earnings dispersion into within- and between-sector components. The predicted within-sector change in the earnings distribution is obtained by means of equation (2). The sector-specific parameter estimates for this equation were obtained from the earnings functions in Table VIII-7. The parameters are once again held constant at their 1959 levels and the distribution of labor force characteristics is permitted to vary between 1959 and 1969. The predicted change for each racial group appears in Table VIII-8.

The intersectoral change in earnings dispersion is estimated by using the equations in Table VIII-7 to predict the mean level of log-earnings in each sector in 1969, given the 1959 parameters and the observed qualitative changes in the sector's labor force over the decade. Using these new sectoral means, a grand mean is calculated using the 1969 sectoral weights, and the deviation of the sectoral means from the grand mean is squared and the weighted sum taken over all sectors. The predicted change in intersectoral inequality is also entered in Table VIII-8 and can be compared to the actual change that occurred during the decade. The table also reproduces the results for the simple sectoral and human capital approaches discussed above.

The combined sectoral-human capital model severely underpredicts the reduction in earnings dispersion between 1959 and 1969. Most serious is its failure to account for the reduction in the between-sector variance over the period for either whites or blacks. The model predicts a negligible change in between-sector earnings dispersion when in fact there were significant reductions, especially among black males. If we compare these between-sector results to those obtained for the simple structural model, we find that the structural model outperforms the combined model. Evidently, the assumption of proportional changes in sectoral means is closer to the truth than the estimates obtained through the use of the human capital model, despite the fact that the latter takes explicit account of changes in the skill mix.

Although the combined model predicts the change in the between-sector variance more accurately, the change in the between-sector variance still suffers in comparison with the simple sectoral model. Since the combined model differs from the sectoral model by predicting changes in sectoral earnings dispersion rather than assuming it to be constant, it must be the case that the human capital approach is on average underpredicting the reduction in earnings dispersion within each sector. This may occur because the estimates reported in Table VIII-8 were obtained by constraining the residual variance in each sector to be constant over the decade. We will now relax this constraint and observe if there is a significant improvement in the performance of the combined model.

Reported in Table VIII-6 are the equations we estimated to predict the residual variance in earnings within an industry, for males of both races. These equations are now employed to predict the expected change in the residual variance within each sector by the following method. The residual variance

Table VIII-7

ESTIMATES OF EARNINGS FUNCTION BY SECTOR OF EMPLOYMENT AND RACE, 1959

Sector and Race	Constant	Schooling	Experience	Log of Weeks Worked	R^2	Standard Error Of Estimate	Degrees Freedom
Extractive							
Whites	-1.451	.103[a] (.009)	.015 (.002)	.746 (.048)	.112	1.530	3,890
Nonwhites	-1.685	.090 (.007)	.018 (.001)	.663 (.033)	.122	1.348	5,191
Transformative							
Whites	-2.029	.084 (.002)	.014 (.0001)	1.205 (.014)	.392	.684	16,294
Nonwhites	-1.362	.073 (.002)	.014 (.001)	.981 (.013)	.351	.726	14,489
Distributive							
Whites	-2.355	.081 (.004)	.012 (.001)	1.263 (.022)	.354	.893	8,697
Nonwhites	-1.819	.063 (.003)	.014 (.001)	1.081 (.019)	.380	.760	7,162

[a] All variables are significant at the .01 level.

Continued .....

Table VIII-7 (Continued)

ESTIMATES OF EARNINGS FUNCTION BY SECTOR OF EMPLOYMENT AND RACE, 1959

Sector and Race	Constant	Schooling	Experience	Log of Weeks Worked	R^2	Standard Error Of Estimate	Degrees of Freedom
Producer services							
Whites	-2.641	.088	.005	1.391	.258	.946	2,296
		(.007)	(.001)	(.060)			
Nonwhites	-1.332	.068	.002	1.013	.303	.793	1,116
		(.007)	(.001)	(.053)			
Social services							
Whites	-2.728	.078	.010	1.366	.288	.851	4,417
		(.004)	(.001)	(.039)			
Nonwhites	-1.707	.069	.008	1.094	.359	.698	5,044
		(.002)	(.001)	(.024)			
Personal services							
Whites	-2.394	.068	.008	1.266	.346	1.074	2,544
		(.008)	(.001)	(.038)			
Nonwhites	-2.014	.058	.007	1.105	.352	.939	4,602
		(.005)	(.001)	(.024)			

Table VIII-8

COMPARISON OF PREDICTED CHANGES IN EARNINGS DISPERSION
1959-1969

Racial Group	Actual Change	Predicted Combined Sectoral and Human Capital Approaches	Predicted Sectoral Approach	Predicted Human Capital Approach
White males				
Total variance	-.106	-.023	-.087	-.001
Within sectors	-.050	-.015	-.056	
Between sectors	-.056	-.008	-.031	
Nonwhite males				
Total variance	-.277	-.033	-.223	-.055
Within sectors	-.097	-.021	-.114	
Between sectors	-.180	-.012	-.109	

"within-sectors" is a weighted average of the sector-specific residual variance:

$$(4) \quad \text{Resid} = \Sigma_i f_i \text{ Resid}_i$$

where f_i is the proportion of the labor force employed in a given sector. The change in the residual variance may therefore be expressed as

$$(5) \quad \text{Resid} = \Sigma_i f_i \Delta \text{ Resid}_i + \Sigma_i \text{ Resid}_i \Delta f_i .$$

The change in the residual variance in each sector for each race was predicted using the equations reported in Table VIII-6. These predicted changes were aggregated using the 1960 sectoral employment weights, forming the first term on the right-hand side of equation (3), and the second term was obtained using the 1960 sectoral residuals and the change in sectoral employment weights between 1960 and 1970.

These calculations predict a change of -.175 in the residual variance for white males and -.059 for black males. Combining these results with those reported in Table VIII-8, we find that the combined human capital-sectoral approach grossly overpredicts the reduction in within-group earnings inequality among white males, -.183 compared to the actual change of -.056, but comes rather close to the actual change in the within-sector dispersion among black males, -.081, compared to the actual change of -.097. This is virtually the opposite pattern of accuracy exhibited by the aggregate human capital model.

It should be remarked, however, that even if treating the residual variance within sectors as endogenous would enable us to perfectly predict the change in the within-sector dispersion in earnings, the poor performance of the combined model in predicting changes in the between-sector variance would severely limit its general accuracy. Indeed, the simple sectoral approach outperforms the combined approach by such a large margin that even with perfect prediction of the change in the residual variance within sectors the combined model would do just marginally better than the sectoral model, and then only for white males.

SECTOR AND INDUSTRY DIFFERENCES IN EARNINGS DISPERSION

The prior discussion suggests that the general assumption of the human capital model to consider the returns on weeks worked, experience, and education as constant across industries is not warranted when changes in the dispersion of earnings over time are to be explained. The preceding section demonstrates that the sectoral approach yields predictions about changes in the dispersion of earnings that are superior to those obtained from the human capital approach. In other words, as the allocation of employment to industries changes, it can be expected that there are also changes in the dispersion of earnings for the total labor force, since the variance of earnings within industries differs from one industry to another. In order to illustrate how the sectoral transformation of the labor force affected changes in the dispersion of earnings between 1959 and 1969, the dispersion of earnings for sectors and industries are discussed in the present section.

The differences in the variance of earnings among sectors seem fairly stable (Table VIII-9), since they persist across each of the race-sex categories

Table VIII-9

VARIANCE OF EARNINGS BY INDUSTRY SECTOR, INTERMEDIATE INDUSTRIES, ETHNIC STATUS, AND SEX, 1959-1969

Sectors and Industries	White Males		Black Males	
	1959	1969	1959	1969
I. *EXTRACTIVE*	*2.635*	*2.522*	*2.069*	*1.653*
1) Agriculture	2.740	2.814	2.036	1.661
2) Mining	1.035	.619	.851	.578
II. *TRANSFORMATIVE*	*.768*	*.750*	*.812*	*.729*
3) Construction	.985	.870	.950	.922
4) Food	.852	.717	.810	.714
5) Textile	.603	.824	.560	.623
6) Metal	.460	.483	.390	.551
7) Machinery	.470	.492	.535	.515
8) Chemical	.366	.403	.630	.639
9) Misc. manufacturing	1.108	1.150	.918	.776
10) Utilities	.318	.575	.467	.610
III. *DISTRIBUTIVE SERVICES*	*1.235*	*1.211*	*.930*	*1.027*
11) Transportation	.761	.708	.684	.778
12) Communication	.425	.514	.797	1.062
13) Wholesale	1.125	.950	.745	.839
14) Retail	1.476	1.491	1.090	1.200
IV. *PRODUCER SERVICES*	*1.207*	*1.365*	*.900*	*1.067*
15) Banking	.812	1.069	.534	.746
16) Insurance	.739	.669	.841	.852
17) Real Estate	1.868	1.738	.856	.924
18) Engineering	.911	1.100	.964	.802
19) Accounting	1.372	1.937	.571	.764
20) Misc. business serv.	1.383	1.583	1.126	1.341
21) Legal services	1.524	2.200	.896	1.247
V. *SOCIAL SERVICES*	*1.017*	*1.041*	*.762*	*.991*
22) Medical services	1.922	2.391	1.786	2.012
23) Hospitals	1.034	1.243	.617	.828
24) Education	1.085	1.016	.828	1.233
25) Welfare	2.183	1.016	1.469	.977
26) Nonprofit	1.119	1.699	.999	1.156
27) Postal services	.432	.329	.466	.494
28) Government	.403	.591	.510	.781
29) Misc. social serv.	1.329	2.605	.252	1.039
VI. *PERSONAL SERVICES*	*1.763*	*1.937*	*1.361*	*1.545*
30) Domestic services	2.552	2.804	1.552	1.567
31) Hotels	1.870	1.644	1.105	1.011
32) Eating & drinking	1.650	2.257	.995	1.501
33) Repair	1.467	1.237	.986	1.167
34) Laundry	1.110	2.107	.983	1.049
35) Barber & beauty shop	.998	1.356	1.417	.936
36) Entertainment	2.325	2.033	1.334	1.505
37) Misc. personal serv.	1.571	1.352	1.668	2.176
TOTAL LABOR FORCE	*1.308*	*1.202*	*1.318*	*1.042*

Table VIII-9
(Continued)

VARIANCE OF EARNINGS BY INDUSTRY SECTOR, INTERMEDIATE INDUSTRIES, ETHNIC STATUS, AND SEX, 1959-1969

Sectors and Industries	White Females		Black Females	
	1959	1969	1959	1969
I. *EXTRACTIVE*	*4.457*	*4.006*	*2.199*	*2.543*
1) Agriculture	3.996	4.343	2.180	2.514
2) Mining	1.970	.910	1.065	.844
II. *TRANSFORMATIVE*	*.822*	*.791*	*.856*	*.758*
3) Construction	2.012	2.225	1.519	1.148
4) Food	1.254	.840	1.065	.932
5) Textile	.523	n.a.	.638	.613
6) Metal	.599	n.a.	.689	.551
7) Machinery	.663	.602	.695	.674
8) Chemical	.372	.631	.956	1.138
9) Misc. manufacturing	.985	.898	.773	.771
10) Utilities	.303	.834	.592	.850
III. *DISTRIBUTIVE SERVICES*	*2.064*	*1.543*	*1.583*	*1.304*
11) Transportation	1.416	1.105	1.951	.946
12) Communication	n.a.	.794	.496	.817
13) Wholesale	n.a.	1.314	1.252	1.072
14) Retail	2.207	1.604	1.639	1.443
IV. *PRODUCER SERVICES*	*1.262*	*1.205*	*1.108*	*.904*
15) Banking	.641	.634	.910	.749
16) Insurance	.674	1.002	.545	.669
17) Real Estate	3.140	1.829	1.329	.970
18) Engineering	.588	1.568	1.229	1.106
19) Accounting	1.676	2.222	.233	1.691
20) Misc. business serv.	1.986	1.640	1.330	1.137
21) Legal services	1.348	1.389	1.380	1.009
V. *SOCIAL SERVICES*	*1.576*	*1.179*	*.986*	*1.022*
22) Medical services	1.415	1.282	.859	1.154
23) Hospitals	1.483	.774	.801	.766
24) Education	1.592	1.310	1.158	1.190
25) Welfare	2.480	1.340	1.048	1.182
26) Nonprofit	1.937	1.460	1.138	1.245
27) Postal services	.683	1.272	1.329	.700
28) Government	.993	1.028	.743	.894
29) Misc. social serv.	2.580	1.953	.420	.950
VI. *PERSONAL SERVICES*	*2.092*	*1.972*	*1.137*	*.716*
30) Domestic services	1.607	1.821	1.012	1.003
31) Hotels	2.449	2.085	1.074	1.189
32) Eating & drinking	1.927	1.802	1.345	1.492
33) Repair	4.341	3.238	1.502	2.138
34) Laundry	2.400	1.416	.950	1.113
35) Barber & beauty shop	1.526	1.484	1.544	1.417
36) Entertainment	2.032	1.892	1.079	1.542
37) Misc. personal serv.	1.649	1.838	2.064	2.575
TOTAL LABOR FORCE	*1.883*	*1.423*	*1.512*	*1.278*

n.a. =not available

in both 1959 and 1969, but there is a substantial range across the different industries. Although the variance of earnings for total white males, for example, decreased from 1.308 in 1959 to 1.202 in 1969, the sectors show differing patterns. The variance of earnings dropped slightly in the Transformative and Distributive services sectors, whereas it increased significantly in Producer and Personal services. As we pointed out earlier, the decrease in the variance of earnings for all white males resulted largely from the proportionate decrease of white male employment in the Extractive and Personal services sectors, where the variance of earnings is the highest. Black males experienced a similar pattern; there were large decreases in inequality in the Extractive and Transformative sectors, but the inequality rose in all of the other sectors. White females, on the other hand, experienced a large decrease in inequality from 1.883 to 1.423 which was accompanied by decreases in the variance in all six sectors with the sharpest drops in Social services, Distributive and Extractive sectors. The variance of black females decreased similarly, with the exceptions of the Extractive and Producer services.

Sectoral differences exist independently of the race-sex hierarchy. When the six sectors are rank-ordered in terms of the magnitude of variance, a clear pattern emerges (see Table VIII-10). The Extractive and Personal services sectors have the highest variance in every case, except for black females. Sectoral differences for the latter vary a great deal between 1959 and 1969. This may be the result of the dramatic decrease in the share of total black females in Personal services. Over one-half of all black females were employed in that sector in 1960, but this proportion was reduced to 27 percent in 1970.

The Transformative and Social services sectors have the least variance, with the exception of white females in 1960 and black females in 1970. The Distributive and Producer services sectors often trade positions, but they remain in the middle of the ranking.

The inequality in the Extractive sector is largely the effect of agriculture, which has a mix of very high and very low earnings (Table VIII-9). Mining, on the other hand, is fairly homogeneous. One obvious difference between these two industries is the predominance of unionized wage labor in mining and the combination of self-employment and non-unionized farm laborers in agriculture. Personal services has characteristics similar to agriculture in this respect -- the hotels, eating and drinking places, repair and laundry services, and barber and beauty shops have high percentages of self-employed workers, and little unionized wage labor. In addition, employment in these industries tends to be more transient than employment in the economy as a whole.

The Transformative sector clearly has the lowest variance. This is particularly significant for males, for they are heavily concentrated in this sector. It is also the most unionized industry sector and, of its industries, metal, machinery, and chemical industries have among the lowest variance of earnings of all industries. These three industries can be classified as modern industries, in contrast to the more traditional industries such as textiles and food. Again, the former group of industries is more unionized and uses less part-time employment than the remainder of the Transformative sector.

Differences within the Distributive, Producer, and Social services sectors are more difficult to evaluate. Transportation and communication have

Table VIII-10

INDUSTRY SECTORS RANK-ORDERED BY VARIANCE OF EARNINGS, 1959-1969

1959		1969	
White Males			
EXTRACTIVE	2.635	EXTRACTIVE	2.522
PERSONAL SERVICES	1.763	PERSONAL SERVICES	1.937
DISTRIBUTIVE SERVICES	1.235	PRODUCER SERVICES	1.365
PRODUCER SERVICES	1.207	DISTRIBUTIVE SERVICES	1.211
SOCIAL SERVICES	1.017	SOCIAL SERVICES	1.041
TRANSFORMATIVE	.768	TRANSFORMATIVE	.750
White Females			
EXTRACTIVE	4.457	EXTRACTIVE	4.006
PERSONAL SERVICES	2.092	PERSONAL SERVICES	1.972
DISTRIBUTIVE SERVICES	2.064	DISTRIBUTIVE SERVICES	1.543
SOCIAL SERVICES	1.576	PRODUCER SERVICES	1.205
PRODUCER SERVICES	1.262	SOCIAL SERVICES	1.179
TRANSFORMATIVE	.822	TRANSFORMATIVE	.791
Black Males			
EXTRACTIVE	2.069	EXTRACTIVE	1.653
PERSONAL SERVICES	1.361	PERSONAL SERVICES	1.545
DISTRIBUTIVE SERVICES	.930	PRODUCER SERVICES	1.067
PRODUCER SERVICES	.900	DISTRIBUTIVE SERVICES	1.027
TRANSFORMATIVE	.812	SOCIAL SERVICES	.991
SOCIAL SERVICES	.762	TRANSFORMATIVE	.729
Black Females			
EXTRACTIVE	2.199	EXTRACTIVE	2.500
DISTRIBUTIVE SERVICES	1.583	DISTRIBUTIVE SERVICES	1.304
PERSONAL SERVICES	1.372	SOCIAL SERVICES	1.022
PRODUCER SERVICES	1.108	PRODUCER SERVICES	.904
SOCIAL SERVICES	.986	TRANSFORMATIVE	.758
TRANSFORMATIVE	.856	PERSONAL SERVICES	.716

low values for males, but not for females (unionization again doubtless plays a role for males); retail trade is higher in variance than any of the other Distributive services. Again, the proportion of employment working part-time seems to be related to this situation, for even in transportation a large share of female employment works part-time. It can be expected that the more the labor input of workers within an industry varies, the larger will be the variance in earnings in that industry.

Banking and insurance services have the least variance of any of the Producer services. In contrast, accounting, miscellaneous business, real estate, and legal services, all having a high proportion of self-employed (see Table VIII-4), show the highest variance. Earnings variance in Social services is more difficult to evaluate, for it differs widely among the race-sex groups. However, postal services and government are uniformly low while welfare and medical services are uniformly high in variance of earnings. Although unionization is not an important influence in Social services, the contrast between postal services and government, on the one hand, and medical services, on the other hand, suggests that bureaucratization of work has an effect similar to that of unionization in reducing the dispersion of earnings. This situation seems to be due to the fact that within bureaucracies there is more of a continuum from low to high status occupations and a greater bunching of earnings, whereas in medical services the occupational structure is characterized by a high concentration of employment in professional occupations. In 1970 64.5% of all males in medical services were professionals. As these professionals have earnings that are substantially higher than those of any other occupational group in medical services, we can expect the variance of earnings to be high as well. This line of reasoning is supported by the fact that the variance of earnings in medical services is much lower for women who also are much less concentrated in professional occupations. Moreover, the dispersion of earnings for males, white and black, in hospitals is far less than that in medical services (see Table VIII-9). In the case of black males in 1970, for example, the variance of earnings in hospitals was .828 as compared with 2.012 in medical services. Again, fewer males employed in hospitals are professionals compared to those in medical services. For white males in 1970, the difference was 44.6 percentage points, and it was 23.0 for black males. Since hospitals have a much higher degree of formal organization than even those medical offices in which physicians form a pool, these findings indeed suggest that bureaucratization and formal organization tend to reduce the variance of earnings.

There was a significant decrease in the variance of earnings during the 1960-1970 decade for all four race-sex groups, but this in itself is difficult to interpret except in the most general way. Overall, we can say there was an important decrease in inequality and this is a favorable trend, but on the level of particular industries this need not always be favorable for the individuals involved. Consider the example of black males in employment. The variance of earnings here rose from .510 to .781, but the greater resulting "inequality" may in truth mean that black males, who were formerly relegated to low-status jobs in which the earnings variance was low, had an opportunity during the decade to obtain more better-paying positions, thus increasing the inequality. The dispersion of earnings, therefore, must be interpreted with care. A low variance of earnings in a given industry signifies only that its

workers had very similar earnings. But this could mean many different things: all workers could be in low-status occupations, or all could be professionals. An industry with a high variance of earnings almost certainly means the existence of low-paid and high-paid individuals. In that sense, the amount of variance of earnings in an industry can be interpreted as an indicator of the variety of different positions or the occupational mix that exists in this industry. This interpretation is quite similar to the meaning of the variance of earnings for the total labor force. As we noted in the introduction to this chapter, variance of earnings increases during the early stages of industrialization and decreases in the course of further economic development.

Since a change in the variance of earnings can be the reflection of many different situations, it is helpful to relate these changes to the actual frequency distributions of earnings. When an important criterion for comparison, such as race, is selected, the use of the variance or mean can be extremely misleading; many different odd-shaped distributions can give rise to the same average. For instance, the mean for any group can be raised substantially by introducing a small number of high-earning observations, but this says little about changes in the welfare of the overall group.

The frequency distributions for all four race-sex groups are given in Table VIII-11. Since the rise in both nominal and real income during the decade shifted the entire distribution upward for every group, we will interpret the data through the graphs in Figure VIII-1 and VIII-2 which reveal significant differences in the shapes of the curves between the race-sex groups in 1960 and 1970. The most visual difference in these graphs is that between the sexes. Females have relatively smooth curves that are steeply declining from low earnings to high earnings, with only a moderate second peak in the $2,000-5,000 categories for white females in 1959 and 1969 and black females in 1969. Figure VIII-2 thus shows that the decrease in the variance of earnings for females mainly resulted from the decrease of the peak in the lowest income category. For males, there is no one single peak that is as extreme as the lowest income category for females, although for black males the $0-999 category also is the largest. One of the most pronounced changes occurred for white males who show a high concentration in the $10,000-14,999 category for 1970.

What is striking about the distributions is the importance of the lowest income category which even for white males accounts for the second highest proportion. This group of very low income is disparate in composition and therefore somewhat difficult to interpret. It includes those who were new entrants and reentries to the labor force during some part of the year, as well as the "regular" part-time, part-year workers, since $1,000 and under is less than the poorest-paying occupation and is far below subsistence income for one year. While 23.6% of white males in 1959 were in this category, 27.1% of black males, 32.8% of white females, and 51.2% of black females earned less than $1,000 -- a striking contrast. In 1969, however, the differences were less acute: 15.2% of white males, 13.4% of black males, 20.8% of white females and 23.3% of black females were in the bottom group. The range is reduced from 27.6% in 1959 to 9.9% in 1969.

It appears from the graph that the $2,000 mark in 1959 and the $3,000 mark in 1969 are especially significant, since frequencies here are in a trough which is between the very low incomes on the one hand and the less-steep higher

Table VIII-11

PERCENTAGE DISTRIBUTION OF EARNINGS BY RACE AND SEX, 1959 - 1969

Income Category	White Males		Black Males		White Females		Black Females	
	1959	1969	1959	1969	1959	1969	1959	1969
$ 0-999	23.6	15.2	27.1	13.4	32.8	20.8	51.2	23.3
1000 -1999	5.3	4.6	13.8	6.5	15.2	11.4	21.0	14.1
2000 -2999	6.6	3.3	18.0	7.5	17.8	10.5	13.2	13.3
3000 -3999	9.9	3.9	15.7	10.8	16.7	13.3	8.5	14.6
4000 -4999	13.2	4.6	13.4	10.9	10.3	12.6	4.1	11.1
5000 -5999	14.4	6.4	7.8	11.2	4.3	10.6	1.3	8.7
6000 -6999	10.2	7.8	2.7	10.7	1.7	7.8	.5	5.8
7000 -7999	6.2	9.2	.9	9.7	.6	5.1	.2	3.7
8000 -8999	3.6	9.2	.4	7.2	.3	3.0	.0	2.2
9000 -9999	2.1	7.3	.2	4.5	.1	1.7	.0	1.3
10000-14999	3.5	20.0	.1	6.5	.2	2.8	.0	1.7
15000-19999	.8	5.1	.0	.8	.0	.3	.0	.2
20000-24999	.3	1.7	.0	.2	.0	.1	----	.0
25000 and more	.4	2.0	.0	.2	.0	.1	.0	.1
	100.1	100.3	100.1	100.1	100.0	100.1	100.0	100.1

Figure VIII-1

PERCENTAGE DISTRIBUTION OF EARNINGS FOR MALES, BY ETHNIC STATUS, 1959-1969

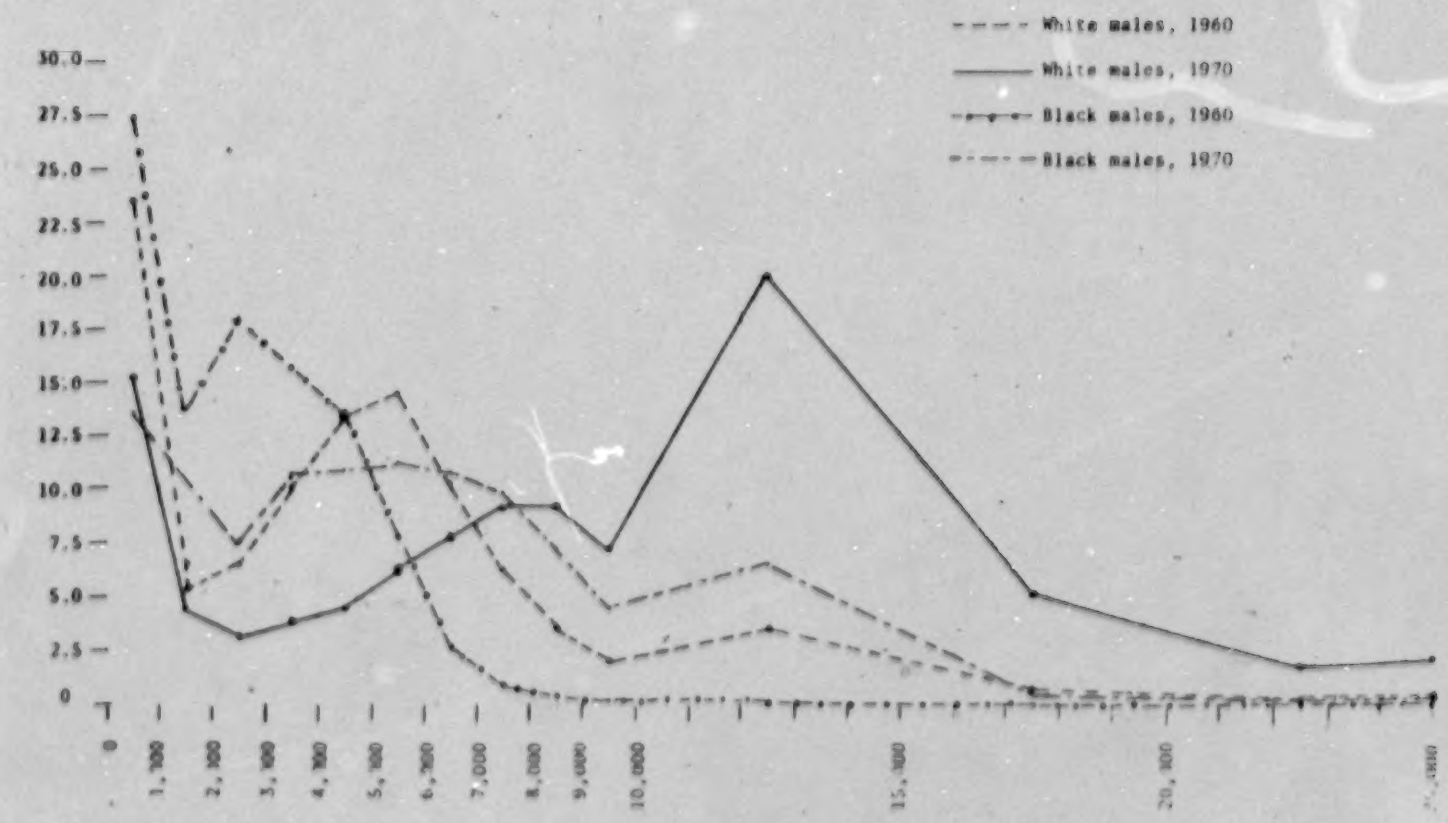

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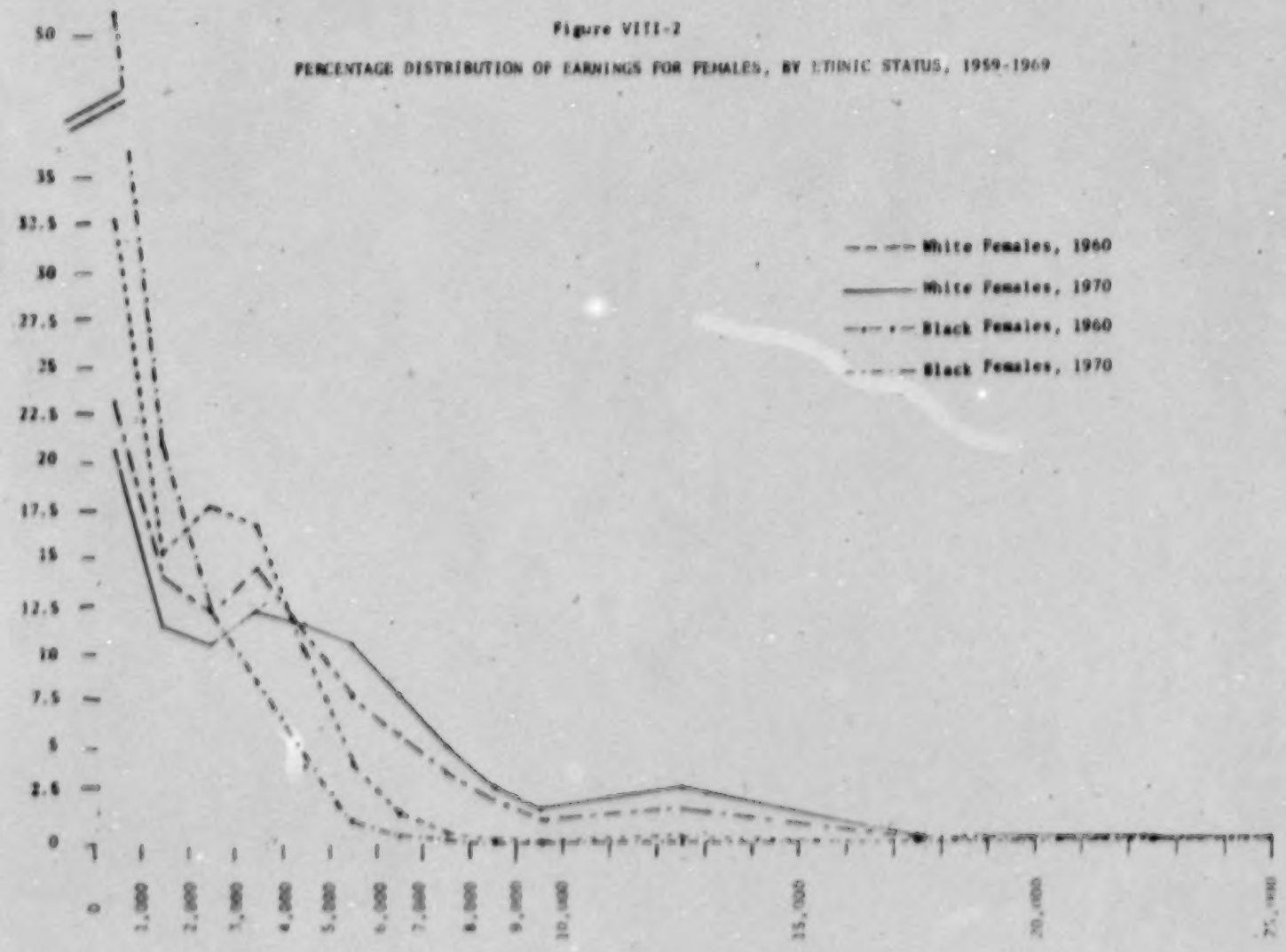
Figure VIII-2

PERCENTAGE DISTRIBUTION OF EARNINGS FOR FEMALES, BY ETHNIC STATUS, 1959-1969



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incomes on the other. This strongly implies that the bimodality is in fact a result of unemployment. But unemployment affects the distribution of earnings in diffuse ways. Persons who are unemployed at one point in time find employment later on, and others become unemployed who had jobs before. Thus, rather than removing 5% from the labor force for an entire year, as many as 15% of a group such as black females may absorb the effects of a slow-down by suffering a reduction in earnings for part of the year.

Although some "unemployment" may be a voluntary absence from the labor force for a limited time, it is likely that changes within a race-sex group between 1960 and 1970, especially among males, are largely a reflection of differences between the two years in the demand for workers. While differences between men and women largely may be explained by desire of some females for more flexibility in work commitment, it is difficult to believe that this "taste" for part-time work among females would change so radically over ten years. This shift seems to be evidence of demand factors. Unemployment rates may not reflect these differences in demand for women, particularly since married females are less likely to collect unemployment insurance or register officially as unemployed. It is also important to note that high variability in weeks worked for blacks is not a result of demand for part-time work. Low incomes and sporadic employment are related in a circular fashion. There is little incentive to stay with a job that pays poorly, and there is little reason to pay a worker well if he is likely to be transient.

CONCLUSIONS

This chapter, it will be recalled, began with a consideration of the accuracy with which three approaches to the analysis of the earnings distribution predict changes in earnings dispersion in the U.S. between 1959 and 1969. It was found that the simple assumption that the variance in earnings within each sector was constant between 1959 and 1969 and the mean levels of earnings increased proportionally enabled us (simply by considering the effects of sectoral shifts in employment) to predict the change in earnings dispersion among white and black males tolerably well. On the other hand, assuming that the rewards to the education and experience of the labor force remain fixed in relative terms over the decade leads to poor predictions of the change in the earnings distributions of both white and nonwhite males.

Although the accuracy of this approach can be improved by considering changes in the residual variance to be endogenous, as we have done, ours is an ad hoc approach which requires much further theoretical and empirical work on the nature of the residual varaince in earnings functions before its appropriateness can be judged. That the empirical relationships we have estimated between the residual varaince and the human capital variables may not be stable is indicated by the fact that the predictive equation was more accurate for white males than for black males and did poorly when applied at the sectoral level.

We conclude, therefore, that the sectoral approach offers a useful view of how the earnings distribution in the U.S. has changed over time.

The influence of the sectoral transformation of the labor force on changes in the dispersion of earnings were demonstrated by our discussion of the differences in earnings dispersion among sectors and industries. The data

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showed that agriculture and Personal services have a high dispersion of earnings for all four race-sex groups. Since these industries employed proportionately fewer persons in 1970 than ten years earlier, a decrease in the overall dispersion of earnings was to be expected.

Although the human capital approach has the attractive feature of being derived from neoclassical principles, the parameters of the model do not seem sufficiently stable for the model to serve well as a predictive tool. This observation is somewhat puzzling because cross-sectional tests of the human capital model have generally been strongly supportive of the framework. When regressions are run across individuals in various industries or states it is usually concluded that constraining the parameter estimates to be identical across these units diminishes the explanatory power of the model only marginally. Findings of this type suggest that at a given moment in time the variations in the parameters of the model are of no practical importance and the assumption that they are constant may be a good one. On the other hand, the structure of the model does vary considerably over time.

It would be useful of course to understand and predict how the parameters of the human capital model are likely to change over time, but it seems fair to say that there is no macro theory of human capital and little is known about the determinants of the model's parameters. This is a major gap in the theory of human capital and an area where further research could be fruitfully applied.

Chapter IX

THE SECTORAL TRANSFORMATION AND THE NATURE OF WORK IN A SERVICE SOCIETY

The purpose of this study has been to focus attention on the ways by which the industry structure of the U.S. has been changing. In considerable detail we have examined various facets of the sectoral transformation, emphasizing the "how" of this change as well as the "who" in terms of the social characteristics of those occupying different industry positions. Other than Chapter VIII, where we addressed the problem of the relationship between industries and the dispersion of earnings, little attention has been directed to the consequences of the sectoral transformation.

In the last chapter we depart from our approach, which has relied heavily--some readers may say excessively--upon the presentation and analysis of large masses of data from the 1960 and 1970 censuses, to make a number of general, rather speculative, comments on some of the consequences, mainly sociological, of the sectoral transformation. We emphasize the movement into service work and its implications. One of the themes throughout this report has been that work in service industries differs from that in goods-producing industries, and we shall want to explore the significance of this statement from the standpoint of the following dimensions: the conditions of work, work satisfaction, alienation and the nature of social classes. We will, therefore, take up some of the points touched upon in Chapter I when we addressed the question of whether or not there would be a Service Revolution.

A general caveat should be introduced at this point. We took special pains in the Introduction to argue that the Fisher-Clark three-sector classification scheme was increasingly inadequate because the tertiary or service sector was too heterogeneous to be useful for analytical purposes. It was for this reason that we broke down the tertiary sector into the four service sectors that are used throughout this report. Yet in the prior paragraph we were contrasting the service industries with the goods-producing industries. Aren't we failing to follow our own advice?

The answer is that for certain purposes it is warranted to speak of services as an entity, especially in instances such as the above when we were making a basic contrast between services and goods-producing industries. For most purposes, however, it is preferable to refer to the four service sectors and even at times to specific service industries. It should be stressed, for example, that in the U.S. there has not been a shift of employment towards services per se in the last several decades--but very predominantly a shift to Social and Producer services. Personal services have decreased as a proportion of total employment while Distributive services have done little more than hold their own. One of the distinguishing features of the service society is the lack of servants; it is not so much individuals who serve, but rather firms and organizations. Increased per capita income and the concept of the welfare state in industrially advanced countries has enabled most, if by no means all, of the groups of society to have use of services (i.e., education and health) that formerly had been the privilege of only a few.

The industry changes over the last 100 years, as was sketched in Chapter II, have been impressive. In 1870 more than one-half of the labor force (52%) was in the Extractive sector; it had declined to a mere 4% in 1970. In a century of fantastic increases in the production of manufactured goods, the Transformative sector gained in its proportionate share from 23% to 33%. By contrast, Social services grew from just 3% to 22% in the 1870-1970 period (see Tables II-1 and II-2).

No one can say with any authority what the industry distribution will look like in 2070, or even in the year 2000. It is clear, however, that the Extractive sector no longer can play the decisive role it did in the 1870-1970 period, simply because it has dwindled to such a low figure that it cannot decline much more. Even should Social and Producer services continue to increase their relative share in the coming decades it is unlikely that the two together will exceed 40% of the total by 2000. In other words, we don't believe that any sector will have the relative weight as in 1870 and the consequent dynamism of the Extractive sector. Therefore, the greatest changes in sectoral distribution probably have been made. This does not mean that further changes will not take place nor, more importantly, does it imply that since the major part of the sectoral transformation appears to be behind us it loses its significance and importance. We would argue that many of the effects of this change are not yet clearly perceived, and in part this may be due to the delayed effect many sectoral changes have on social institutions. An example of this point is unionization. The fact that services are much less unionized than in the Transformative sector at the present time does not necessarily mean that this relationship will continue to hold. Perhaps 50 years from now there will be little difference between the two in degree of unionization.

Returning to the present situation, Victor Fuchs, to whom we have turned repeatedly in the course of this investigation because of his path-breaking book, The Service Economy (1968), raises a number of provocative and important points, mainly of an economic nature, in a last chapter entitled, "Some Implications of the Growth of a Service Economy." They merit brief review, because they merge into the more sociological considerations to be taken up later.

Fuchs believes that the move to a service economy has made increasingly unreliable a key economic statistic, the gross national product, because current measures of real output in most of the service industries have been unsatisfactory. Because of the inherent problems in measuring output and productivity in the services even though substantial improvements can be made, it is only realistic to anticipate "that these efforts are likely to leave considerable margins of uncertainty."

One feature of the problem of productivity in services has to do with changes in demand. It is difficult to determine the productivity of a number of services without knowing differences in peak and non-peak demand and the "size of transaction," meaning how much is transacted with one customer making one purchase. Productivity may be enhanced more by increasing the size of the transaction than by increasing the number of transactions.

Another economic consideration with demographic and sociological overtones has to do with the conceptions of labor and capital and the "embodiment" of technological change. Economic discussions of embodiment until recently have stressed physical capital, assuming that capital is a fixed factor and that labor is variable. This may apply in manufacturing but it is not satisfactory in describing the situation in services. Labor-embodied technological change takes place when successive new cohorts to the labor force bring with them the advances in knowledge and new procedures that make for that change. As Fuchs notes (1968:197), "The concept of labor embodiment is likely to be most relevant when formal schooling and job security are important, as in the professional and technical occupations. Three-fourths of all professional and technical workers are employed in the Service sector."

Finally, Fuchs introduces a factor affecting productivity in the services that generally is neglected in economic analysis: "the consumer as a factor in production." Many services depend upon the knowledge, experience, motivation and even the honesty of the consumer. Providing examples that range from the school room to the supermarket and laundromat, Fuchs shows that the consumer "actually works" and if he doesn't function properly then the service "product" is likely to be inferior. Such considerations are rarely to be found in goods-producing industries.

This last consideration of productivity in the services shows how closely an economic analysis can get to a sociological one, for in considering producer-consumer relations we enter the sociological realm of interpersonal relations and norms governing behavior. And it is here where Fuchs, in his interpretation, has a tendency to go astray. To counter the well-known arguments that "industrialization has alienated the worker from his work, that the individual has no contact with the final fruit of his labor, and that the transfer from a craft society to one of mass production has resulted in the loss of personal identification with work" (1968:189), Fuchs maintains that the coming of the service economy "may imply a reversal of these trends" for it makes possible the "personalization" of work; "...the direct confrontation between consumer and worker that occurs frequently in services creates the possibility of a more completely human and satisfactory work experience." Since everyone can summon plenty of personal examples of distinctly unsatisfactory relationships with workers in service industries, be it government "bureaucrats" or auto mechanics, the question is why all too often the "possibility" of satisfactory relations does not work out that way in practice.

SOCIOLOGICAL DIMENSIONS OF WORK IN SERVICE INDUSTRIES

Let us begin with a discussion of the conditions of work. Chapter V demonstrated that the growth of services has been accompanied by an expansion of employment in professional, semi-professional, clerical, and service occupations. At the same time, changes in the industry structure have not favored the growth of manual occupations, which have been experiencing decreases in their share of

total employment. The former set of occupations have in common that they usually do not require physical strength, although there are exceptions, such as some work in hospitals. Three of these four expanding occupations are white collar and do not involve working conditions as hazardous as often exist in mining or steel production. In this sense, the growth of services and their related expansion of white collar and service occupations can be interpreted as an improvement in the physical conditions of work.

It also was mentioned earlier that work in many service industries is more flexible than in goods-producing industries. This flexibility is due to a number of reasons. Fuchs (1968) called attention to the fact that the size of establishments is much smaller in services than in manufacturing. Small firms usually require less formal organization of work than large establishments and therefore permit more flexibility. But there is another, more important, difference between services and goods-producing industries; namely, the extent to which work is segmentalized. Work in many manufacturing industries is carried out on an assembly line basis with each person performing only a segment of the total process of production. Since this type of production depends on each worker doing his task, the absence of a few workers can disrupt the entire production process. For that reason, the technology requires a continuous and reliable input of labor. Even in manufacturing industries and establishments that do not employ assembly-line techniques of production, tasks usually are very standardized and therefore can be scheduled quite rigidly.

This rigid scheduling of work cannot be done in most services, since much of service work involves close contacts with the consumer whose needs and preferences need to be taken into consideration. Services rarely can be stored so it is difficult to establish long-term production schedules that smooth out variations in demand. Production in services, therefore, is less segmentalized and a person's work depends less on the work of others. In that sense work in services is more self-contained than in Transformative industries. This situation would suggest that workers in services can identify more with their work as compared with other industries.

But it is quite obvious that this identification with work does not exist in all services. Clerks in retail trade and service personnel in eating and drinking places are good examples of these exceptions. What needs to be taken into consideration, however, is the fact that a large part of this work is part-time employment. The bulk of workers in these positions are young and consider their jobs as only temporary as, for instance, those making plans to finish school. Not much identification with work may be expected or is needed in these cases. It is important to note, however, that services, due to their greater flexibility of work scheduling, at least offer opportunities to those who voluntarily seek part-time employment. (As we stressed before, this interpretation does not imply that we consider all part-time employment to be voluntary.)

In general, it can be expected that many service establishments will attempt to introduce more capital in order to increase productivity. Many short-order food places, for example, increasingly resemble assembly lines. Inevitably this will mean that services will become more formally organized and their work more rigidly scheduled. This situation already exists in a number of services such as communication, banking, and insurance. But in the case of insurance, while the rationalization and bureaucratization of work goes on in the giant home offices, there are thousands of self-employed insurance agents who head, at most, a small office. Even though this trend towards rationalization will make work in services more similar to that in goods-producing industries, there are limits to that convergence. Many services such as education and health for a number of reasons cannot become as capital intensive as goods-producing industries.

What does all this mean for the individual worker? In a study of industrial work and workers' consciousness, Kern and Schumann (1970) found that autonomy of work was an important determinant of work satisfaction. Autonomy in this case referred to the degree to which workers were able to schedule their own work. Among the various groups, maintenance workers expressed the highest degree of work satisfaction. The main task of these workers was to repair machinery that had broken down. Despite the time pressure under which they worked, for the continuation of production depended on their promptly repairing the machines, the maintenance workers considered themselves to be experts who were able to determine how much time their work took and could therefore best organize their work schedules.

In many instances, work in services has the same qualities. Consider the example of a social worker, for whom the time spent on a particular case largely depends on the problems involved. Similarly, legal services require a certain amount of research for which the labor input not always can be precisely predicted. And even in the case of postal services, mail-delivering persons are able to schedule the pace of their work within given limitations. These examples do not imply that there are no time constraints on the work. To be sure, social workers have a certain case load, as do lawyers, and the mail has to be delivered to a certain number of households. But all three cases have in common, although the first two more than the last, that the workers are in a position to make their own decisions about how to divide their time among the clients. It therefore could be hypothesized that persons employed in services have greater work satisfaction than those in Transformative industries.

The case of Social services, in particular, is interesting for an examination of work satisfaction. These services increase with economic progress and make up, according to Mandel (1970:206), the creative part of the labor force. Their growth

> ...means that a larger and larger section of mankind are freed from the obligation of carrying on uncreative work. Here we have not a survival from a dreary past but the harbinger of a wonderful future. When automatic machines will do all the work needed to produce goods

for current use, men will all become engineers, scholars, artists, athletes, teachers, or doctors. In this sense, but in this sense only, the future is indeed with the "tertiary sector."

One need not share Mandel's optimistic vision of the future to grant that Social services are distinguished from all other industries in that their main goal is the enhancement of the quality of life of the population. Persons employed in these services therefore can think of themselves as helping other individuals, a feeling that can compensate for other possibly dissatisfying aspects of their work. Moreover, Social services, by and large, are nonprofit, although their professional and administrative personnel receive substantial salaries.

Doing creative work, on the other hand, does not necessarily provide for job satisfaction. There is also the possibility that persons in Social service are not really interested in serving the public, for as Fuchs (1968:188) reminds us: "Teachers can ignore their pupils; doctors can think more of their bank balances than of their patients." To assume that the interests of workers in these services are totally congruent with the interests of their clients would indeed be naive. But despite these possible conflicts between the purveyor of a service and its consumer, Social services at least offer a potential for work satisfaction that most other industries do not have.

Work satisfaction is closely related to the concept of alienation, as far as its social-psychological interpretation is concerned. Alienation of work recently has received a great deal of attention. In general, it has been understood as the workers' inability to identify with their work and to derive satisfaction from their economic activities. This subject has been a recurring theme in the sociological literature, as witnessed by the studies of Blauner (1964) and Seeman (1959; 1972). The major dimensions of alienation, as defined in these studies, are (1) powerlessness, (2) meaninglessness, (3) isolation, (4) normlessness, and (5) self-estrangement. Applying these dimensions to the employment situation in services, we would expect to find a lower degree of alienation in services than in goods-producing industries. But of course, one also should expect important differences among services themselves. More persons employed in communication, banking, retail trade, or eating and drinking places are likely to feel more alienated than those in other services such as education, health, government, or advertising. While here we can only speculate about the degree of alienation, the discussion does suggest that the unit of industry is a useful analytical category, especially when combined with occupation, to examine differences in work satisfaction and alienation among workers.

In contrast to the social-psychological approach to alienation that we find in the sociological literature, alienation in its original conception was a structural concept. This distinction is important for it closely relates to the concept of social class. As will be seen later on, both concepts merit re-examination with the advent of a service-dominated labor force.

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Although the concept of alienation was first developed by Hegel, it is Marx' use of the term that has most influenced sociological thinking. For Marx. alienation becomes manifest in two relationships that are closely connected: man and his labor, and man and his products.

In his Economic and Philosophic Manuscripts of 1844 Marx (1963) differentiates between unalienated and alienated labor. Unalienated labor is Marx' term for man's productive activity that is creative and which enables him to "appropriate" nature. It is through this form of labor that man develops his dominant position in the environment. In this sense, unalienated labor is the basis for man's fulfillment of his personality. Alienated labor, in contrast, prevents man from developing his full potential. The prototype of this labor for Marx would be work on an assembly line. The repetitive tasks and the narrow application of skills that man encounters in this work situation do not permit him to become master over his environment.

The second major form of alienation is the separation of man from his product. In part, this alienation results from the character of alienated labor itself but in addition, the product does not belong to the worker any more. "It is no longer the laborer that employs the means of production but the means of production that employ the laborer" (Marx, 1958:310). In that sense, the worker not only loses control over his work and his product, but also over the conditions of his work.

Both manifestations of alienation are seen by Marx as the necessary consequence of the capitalist form of production. Essential to this type of production, although not restricted to it, is the division of labor, without which capitalism could not function. It is mainly the division of labor that Marx sees as the obstacle to the full development of man's creativity. But Marx is not very precise in spelling out what exactly he means by the division of labor. Is it the division of labor into different occupations such as farmers, miners, welders, bus drivers, or nurses that creates alienation, or does this concept refer to the segmentalization of the production of a particular commodity into many different and limited tasks? Marx related both meanings of the division of labor to the occurrence of alienation, but it is primarily the segmentalization and specialization of work that he sees as the main evil of industrial capitalist society. Not only does the division of labor form the basis of alienation, together with the alienation of labor and the separation of man from his product it also leads to the emergence of the two classes in industrial society, one who controls the means of production and the other which is employed by these means

At this point, we should note that Marx largely was preoccupied with the conditions of work in manufacturing. As Kline (1967:427) nicely puts it: "Marx's paradigm of economic activity is the bringing into being of shoes and ships and sealing wax, not the polishing of shoes, the piloting of ships, or the packaging of sealing-wax." The main reason for Marx' interest in the goods-producing industries is his evaluation of "making" as a socially superior activity to only "doing" or "knowing". Only that work is productive activity which

is objectified, i.e., which leaves a permanent mark. "For Marx, a poet who kept his poem to himself, like a painter who destroyed his painting as soon as it was completed, would not count as a producer." (Kline, 1967:428).

This brief summary of Marx' concepts of alienation, the division of labor, and social classes raises many important questions. For example, can a socialist economy abandon the division of labor? The question that is important for the present discussion, however, is, "Has the shift of employment towards services changed the conditions of alienation and the formation of social classes?" Since both concepts are key elements in sociological analysis, they merit a re-examination in light of the past employment changes.

We noted earlier that one of the characteristics of services is the absence of a tangible product. In that sense, work in some services can be considered to be even more alienating, for labor and product become one. An example of this are sales workers. Their work is labor and product at the same time. It is labor in that it can be exchanged for wages, and it is a "product" for the customer in the sense of assisting him in his needs. On the other hand, however, large parts of service work are less conducive to precise scheduling. Much of the work in services, moreover, cannot easily be divided into segments. To that extent, services should be expected to have a lower division of labor and their work therefore should be less alienated.

This alone, however, does not permit the conclusion that society is no longer divided into social classes, for the separation of man from his means of production still exists. But one particular feature of services needs attention: its largest sector, Social services, largely belongs to the public sector. Therefore, the relationship between capital and labor is different in this sector than in privately owned industries. Although many employees in hospitals or universities, for example, still have not much autonomy over their work and its conditions, this situation no longer is the exclusive result of the domination of capital (which in any event is not privately owned), but it increasingly stems from the different interests of the employment groups within a certain institution and the board governing it. In that sense, the organization of these employment groups becomes rather crucial for improvements in their positions within the various establishments. It is mainly this development that makes the concept of social classes no longer as useful as it once was. As Touraine (1971:81) puts it:

> Productivity, efficiency, the rationality of educational policies, land management, the organization of communications and authority in large organizations--it is more useful to analyze these elements of economic progress than the 'traditional production factors' capital, labor, and land. No longer is it the concentration of available surpluses but the rational organization of human and technical equipment that governs economic development. Under these conditions, the idea of two basic classes that constitute separate milieux, one reduced to subsistence, the other to managing surpluses, loses its importance.

The rejection of the class concept as a practical tool for sociological analysis cannot mean, however, that post-industrialism is the advent of the classless society. We are very far from that! What it does imply, however, is the need to identify prestige, power and social conflicts in terms of interest groups as they result from a common work situation, coalitions, and alliances; similar to the approach taken by Dahrendorf (1959). Empirically oriented sociology, in any event, has never convincingly demonstrated how the more or less arbitrary divisions of occupation, income, or socioeconomic status are related to the theoretical notion of social class as linked to the process of production. It is here where we can most profit from the use of the concept of industry, for interest groups are identifiable through the concepts of occupation and industry combined (although other criteria may be introduced). This new analytical tool could contribute substantially to the connection of our theoretical concepts with their empirical measurement in mobility studies, which ultimately should lead to a better comprehension of the changing character of the service society.

The importance of interest groups can be illustrated with the example of professionals. While in the past, professionals have considered themselves to be outside the traditional form of labor conflict between employers and employees, recent strikes by teachers and nurses represent a change in that attitude. It thus can be expected that professionals in the future increasingly will form collective bargaining organizations, be they formal unions or special professional associations. In that sense, the low degree of unionization to which Fuchs (1968:185) referred, is not likely to hold in the future.

While professionals, by the very nature of their expertise, are in a position to bargain for particular benefits, this bargaining power can even be achieved by work groups with much less status. This is due to the tendency, particularly in Social services, to spread responsibility for the proper delivery of services more widely. Let us again consider the example of health services. Although in hospitals, physicians and nurses carry the primary responsibility, the functioning of a hospital organization depends to a large extent on nurses' aides and non-medical personnel. No hospital can function over an extended time period without the cooperation of these employment groups. In this context, Marx' distinction between class <u>in itself</u> and class <u>for itself</u> is essential, for an interest group defined by structural characteristics, such as occupation and industry, becomes an "interest group <u>for itself</u>," i.e., a political force, only when it comprehends its position within the network of an organization or society. This situation has been linked by Touraine (1971:7) to the concept of alienation:

> The traditional forms of social domination have been profoundly transformed (in postindustrial society)...We continue to speak of "economic exploitation" but this process is more and more difficult to isolate. The term loses its objective meaning when forced to define our consciousness of social contradictions better expressed as "alienation," that much criticized notion which is, nevertheless, more useful than ever.

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As long as employment groups are not aware of the alienated character of their work position (even though it might differ from one position to another), their "dependent participation" will continue to avoid social conflicts. Once they reach a consciousness of their employment situation, they are in a position to overcome the social contradictions by collective means.

This discussion has demonstrated that alienation in the structural sense has a meaning completely reversed from the one referred to in the social-psychological approach of Seeman (1959) and others. While the social-psychological approach views the alienation of a worker as a subjective expression of work satisfaction in its various components, the structural meaning of alienation refers to objective conditions of work situations. In the latter sense, the worker's consciousness of his alienation is to be interpreted positively, for it is a necessary condition for the elimination of alienation.

Our discussion demonstrates further, however, that much more information is needed about the nature of work in services. On the one hand, much work in Social services is creative and thereby unalienated. Other services, on the other hand, are alienated similar to that in goods-producing industries, yet the worker may find greater work satisfaction in services which would make an awareness of alienation much less likely. It is an examination of these four concepts --conditions of work, work satisfaction, alienation and dependent participation-- which offers the most promise for a sociological study of the implications of a service society.

SOME POLICY IMPLICATIONS OF THE SECTORAL TRANSFORMATION

Throughout this report a constant theme has been the utility and fruitfulness of looking at work from the vantage point of industry position. Our readers should now be prepared to decide for themselves whether they concur in this orientation. But aside from the evaluation of the success of this endeavor in providing for a better understanding of how the transformation of the labor force actually takes place, there is the related but independent question of what this implies for manpower policies. In terms of this policy, what sorts of strategies can be suggested that emerge from this report?

Banal as it appears to be, our first recommendation is for more research on the nature of services. Since few new analyses about services have appeared since Fuchs' study his statement still stands (1968: 13):

> Perhaps the most urgent need of all is for more and better-quality data concerning the service industries. Although the United States is now a service economy, the statistical reporting system largely reflects the interests and conditions of an economy dominated by agriculture and industry. We need more analysis, but we also need the factual basis that will make the analysis more fruitful. One unmistakable finding of this study is that there are significant gaps in our statistical information concerning service output, employment, prices, wages, investment, and profits. These gaps must be filled if

we are fully to understand this sector or, indeed, if we are to understand the economy of which it is the major part.

A good example of the inadequacy of statistical information about services is the U.S. Census of Commerce which reports statistics for only selected services. And even for these, the amount of information is a good deal less than can be found in the U.S. Census of Manufacturing. Thus, while we fully concur with Fuchs that employment, output, and productivity must be seen in their interrelationships to fully understand services, we will devote the following section to some implications for manpower policy as they derive from a study of employment.

One important area that needs more attention than it has received is the work life cycle. Only within this framework can we evaluate the meaning of work for individuals. Such an endeavor, of course, cannot be adequately undertaken with census data, for it requires complete work histories of individuals. But some of the findings in this report nevertheless have interesting implications. Consider the case of eating and drinking places. It was found in Chapter III that this industry has one of the lowest yearly hours per capita (it ranks 34th of 37 industries). In other words, a substantial part of employment in this industry is part time and intermittent. Other industries such as domestic service or barber and beauty shops can be similarly characterized.

Before concluding that here is a situation requiring policies that would promote stable employment and the reduction of part-time employment, we have to look more closely at who is occupying these positions. A significant proportion of total employment is made up of teenagers and college-age students who take this work on a part-time basis while they finish their schooling. Another segment is made up of women who are supplementing the family income by working on a part-time basis. Neither of these groups want full-time employment, and from the standpoint of their employers this arrangement also is best, given the great variation in demand (daily and often seasonally) for labor.

Moreover, these industries give many persons their first work experience which often is useful in securing later employment. In that sense, the peripherality of work in many industries can be, as Morse (1969) reminds us, beneficial both to the employer and the employee.

This discussion of part-time employment in terms of specific labor force groups and sets of industries leads to a more general distinction that we believe to be essential for manpower policy. This concerns the relationship between structure and population. More specifically, we need to know the requirements of the economy for labor and the characteristics and qualifications of persons of working age. After all, the general goal of any employment policy is to facilitate the match between the demand for labor and the supply of labor.

In this context we think that the interrelation of the industry structure and the occupational structure is of particular relevance. It is undeniable that manpower policies in the United States preponderantly have been very much oriented towards the occupational sphere, particularly those manpower programs designed to train individuals for occupational positions. As has been

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pointed out, some of these programs have been busily engaged in preparing individuals for jobs that did not exist. Perhaps if more attention had been given to the dynamics of the industry formation this miscalculation of the demand for labor would not have happened. Our position is that a careful analysis of sectoral and industry changes in recent decades is useful as a guide for the future.

The emphasis on the occupational dimension of work is not all that surprising, since both sociology and economics have given much attention to the characteristics of individuals and employment. It is in this tradition that Blau and Duncan (1967) studied social mobility and status attainment, and the human capital approach takes a similar perspective. But as was demonstrated in Chapter VIII, there are several limitations to the human capital approach when it is applied in the context of structural changes such as the sectoral transformation of the labor force. Undoubtedly, the characteristics of individuals, their family background, education, etc. and the influence of these variables on the employment history of these persons is valuable and necessary, but it has tended to overshadow the little work that has been done on the structural aspects.

One of the most important questions in terms of the structure of employment is the variability in the occupational "mix" within industries, i.e., the variety of positions. Some of these positions, for example, may involve very flexible work which more easily could accommodate part-time and intermittent employment than would be the case with other positions. Similarly, the educational requirements also can be expected to vary substantially.

The interconnection of industry and occupation is important in several other ways. We demonstrated in Chapter V that occupational changes result from two sources: changes in the industry structure and changes in the occupational distribution within industries. This distinction is very fruitful for it shows how much of the overall change in the occupational structure is the result of a different use of individuals within industries. This again relates to the flexibility of employment within given industries that was discussed above.

The other major implication of this procedure concerns the work situation of women and minorities. As noted before, the sectoral transformation of the labor force has been crucial for the employment of women, since over 75 percent of all employed women are to be found in services. Similarly, blacks experienced very substantial changes in their allocation to industries between 1960 and 1970; the proportion of black males decreased in the Extractive and Personal services sectors and black females showed a proportionate decrease in Personal services that was truly impressive. Since the Extractive and Personal services sectors are characterized by a large proportion of low-status occupations, the shift of blacks to other sectors has improved their employment situation in substantial ways. Even when these industry shifts do not result in a change in occupation this "horizontal" or situs mobility can result in an improved occupational standing for the individual. Consider the extreme case of domestic maids who become janitresses in a hospital. Although their task in both employment situations is cleaning up after other people, the context of this work is quite different. In domestic service, the work relationships are largely paternalistic, whereas in the hospital they are more formally organized. One advantage of work in larger organization is its greater likelihood to be covered by labor legislation such as minimum wage laws.

We conclude, therefore, that the sectoral transformation of the labor force generally has helped to better the employment situation of blacks (and Mexican Americans, as was shown for the Southwest). Moreover, the sectoral transformation also narrowed the gap between blacks and whites in terms of occupational standing and earnings, although this increased similarity was more pronounced for females than for males.

We must add to this, however, that the narrowing of that gap was somewhat less than expected. It can be seen from the 1970 data that women and minorities still were concentrated in low-status occupations compared to white males. This discussion has important implications for policies concerning the employment of women and minorities. Since the sectoral transformation of the labor force did not bring the work status of these employment groups up to that of white males, we should not have expected industry changes to be a substantial source for future improvements, the major part of the sectoral transformation of the labor force probably has already taken place. This leaves the possibility that changes in the occupational distribution within industries will result in improvements for women and minorities. But as we demonstrated in Chapter V, for instance, women were less likely to be employed as professionals in 1970 than ten years earlier. Thus, there are some doubts that changes in technology and organization of work within industries will lead to significant improvements of these employment groups in relation to white males. These findings suggest that changes in the industry structure and in the occupational distribution within industries do not automatically give women and minorities the work status of white males. This view implies that a great deal of the equality between employment groups will have to come at the expense of white males. In other words, increasing proportions of higher-status positions will have to be staffed by women and minorities and white males therefore are likely to increase their share in the lower-status occupations. Only if we assume that the number of high-status positions within industries can be increased at will, could greater equality of employment be achieved without affecting the position of white males. This, again, emphasizes how much more information we need about the flexibility of work in given industries.

Policies aimed at achieving greater equality of employment of course must take into consideration that the work life cycle of different employment groups could vary. But the past ten years have brought about so many changes in sex-roles, for example, that it no longer can be taken for granted that the employment of women is inherently less stable than that of men. In fact, there already is some evidence that when occupational status is controlled for, those industries with a high proportion of female employment have lower quit rates than industries in which there are only a few women employed. Thus, close governmental monitoring of hiring practices and assistance of the government to firms and institutions will be an important source for the achievement of greater equality among the various race-sex groups in the labor force.

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Appendix A

DISCUSSION OF THE 1/100 PUBLIC USE SAMPLE TAPES

The data used in this study were taken from the 1960 and 1970 1/100 Public Use Sample tapes made available by the U.S. Bureau of the Census. The format of these data represents a great change from the way in which census data traditionally have been made available. All information on the tapes is arranged by persons; for each person, his or her age, sex, ethnic status, industry, education, occupation, etc. is given. This format permits detailed cross-classification of persons by more than 40 social, economic, and demographic characteristics. This type of information permits the investigator to treat census data in the same manner as he would a secondary analysis of sample surveys. That is, he can manipulate all the variables included in the census as he sees fit. This potential is particularly useful for the present study, for many of the variables selected there are no cross-classifications published in the census reports. The sample used for this study is based on questions from the 15 percent sample.

How then do the data reported in this study compare with the published census reports? For this research we considered all employed persons who were either "at work" or "with a job but not at work" due to illness or vacation (see Character P31, "Employment Status Record," Codes 1 and 2, in the Description and Technical Documentation of the Public Use Samples, U.S. Bureau of the Census, 1971 and 1972). The present sample thus consists of all employed, and therefore must also be compared with the published information for the employed. This concept is narrower than that of the experienced labor force, for it excludes the unemployed and members of the armed forces.

The only adjustment that was made with the employed concerned those persons with work status not reported who in 1970 were allocated to the industry groups. These individuals had to be excluded from the present sample and therefore must be subtracted from the published figures. The following listing shows the size of the sample (multiplied by 100) and the number of the employed in 1960 and 1970 as given in the Subject Reports of the 1960 and 1970 censuses, Industrial Characteristics, Tables 2 and 32, respectively (U.S. Bureau of the Census, 1967 and 1973).

	1960	1970
Published data	64,646,563	76,805,171
-persons that were allocated	----------	-4,874,838
Subtotal	64,646,563	71,930,333
1/100 sample (x 100)	64,384,100	71,928,700
Difference	- 262,263	- 1,633
Difference as percent of 1/100 sample	-.00407	-.00002

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Although it can be seen that the difference between the sample and the published data was much larger in 1960 than in 1970, the 1960 difference is negligible as a proportion of the total sample. We therefore conclude that the site of our sample is comparable with the information from published census sources.

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Appendix B

ALLOCATION OF INDUSTRIES

The following listings show how the industries as reported in the 1960 and 1970 Public Use Samples were aggregated to yield the 37 industries used in this study. The numbers refer, respectively, to those given in the 1960 and 1970 Description and Technical Documentation of the samples (U.S. Bureau of the Census, 1971; 1972) that were used in making up the work tapes.

1960 Allocation

1. Agriculture: 016, 027-028
2. Mining: 047-049, 057
3. Construction: 066
4. Food: 268-269, 278-279, 287-289, 297-299
5. Textile: 307-309, 317-319, 327
6. Metal: 139, 147, 149, 157-158, 166, 169
7. Machinery: 176, 178, 186, 206, 219, 227-228, 236
8. Chemical: 346, 349, 357, 359, 377-378
9. Miscellaneous Manufacturing: 107-109, 118-119, 127-128, 137-138, 246, 248-249, 259, 328-329, 337-339, 379, 387-389, 397-398
10. Utilities: 467-469, 477-479
11. Transportation: 407-409, 417-419, 427-429
12. Communication: 447-449
13. Wholesale: 507-509, 527-528, 536, 539, 558, 566, 588
14. Retail: 607-608, 617, 626, 629, 636, 646, 648, 657-658, 667-668, 677-678, 687-689, 696, 698
15. Banking: 706, 709
16. Insurance: 717
17. Real Estate: 718
18. Engineering: 888
19. Accounting: 889
20. Miscellaneous Business Service: 727, 736
21. Legal Services: 849
22. Medical: 826
23. Hospitals: 838
24. Education: 856
25. Welfare: 876
26. Nonprofit: 887
27. Postal Services: 907
28. Government: 917, 927, 937
29. Miscellaneous Professional Service: 897
30. Domestic Services: 769
31. Hotels: 776
32. Eating and Drinking: 669
33. Repair Services: 756, 766
34. Laundry: 779
35. Barber and Beauty Shop: 786

Continued

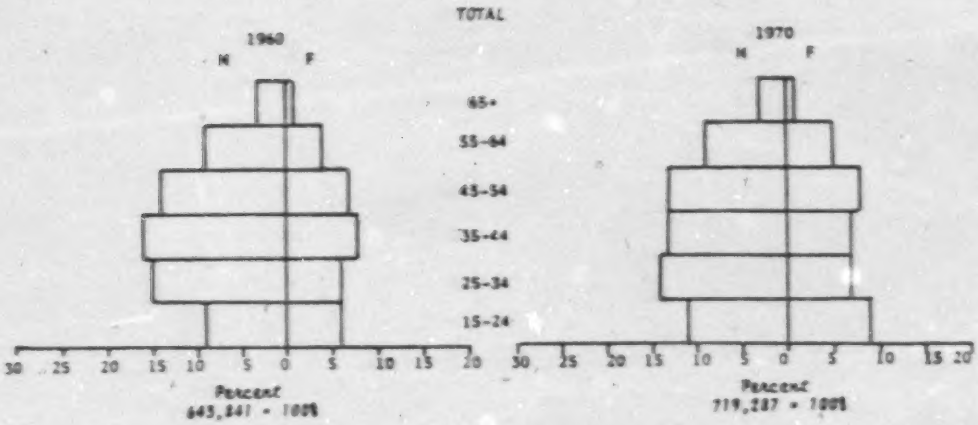
36. Entertainment: 807-809
37. Miscellaneous Personal Services: 789, 797-798

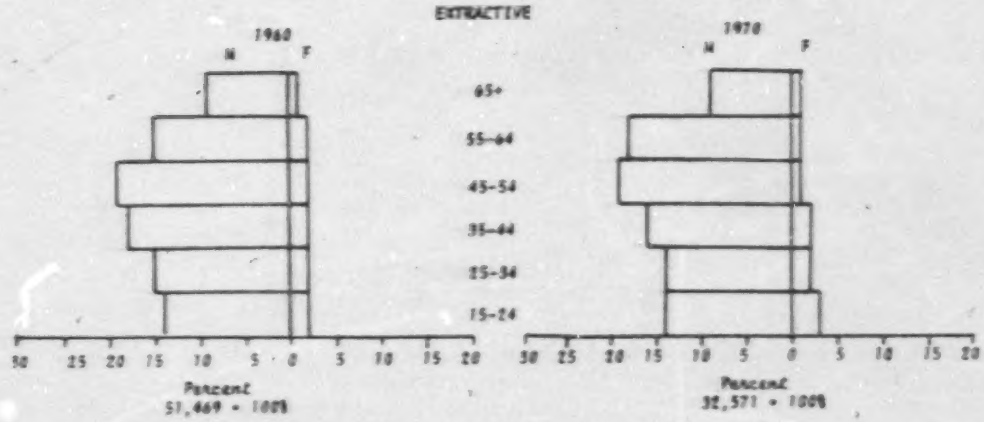
1970 Allocation

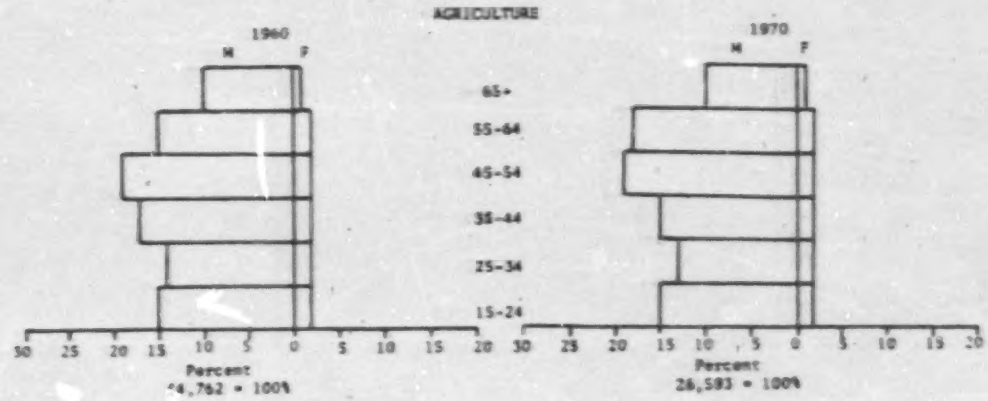
1. Agriculture: 17-19, 27-29
2. Mining: 47-49, 57-58
3. Construction: 67-69, 77-78
4. Food: 268-269, 278-279, 287-289, 297-299
5. Textiles: 307-309, 317-319, 327
6. Metal: 139, 147-149, 157-159, 167-169
7. Machinery: 177-179, 187-189, 197-199, 207-209, 219, 227-229, 237-238
8. Chemical: 347-349, 357-359, 367-369, 377-378
9. Miscellaneous Manufacturing: 107-109, 118-119, 127-128, 137-138, 239, 247-249, 257-259, 328-329, 337-339, 379, 387-389, 397-398
10. Utilities: 467-469, 477-479
11. Transportation: 407-409, 417-419, 427-429
12. Communication: 447-449
13. Wholesale: 507-509, 527-529, 537-539, 557-559, 567-569, 587-588
14. Retail: 607-609, 617-619, 627-629, 637-639, 647-649, 657-658, 667-668, 677-679, 687-689, 697-698
15. Banking: 707-709
16. Insurance: 717
17. Real Estate: 718
18. Engineering: 888
19. Accounting: 889
20. Miscellaneous Business Service: 727-729, 737-739, 747-748
21. Legal Services: 849
22. Medical Services: 828-829, 837, 839, 847-848
23. Hospitals: 838
24. Education: 857-859, 867-869
25. Welfare: 877-879
26. Nonprofit: 887
27. Postal Services: 907
28. Government: 917, 927, 937
29. Miscellaneous Social Services: 897
30. Domestic Services: 769
31. Hotels: 777-778
32. Eating and Drinking: 669
33. Repair Services: 749, 757-759
34. Laundry: 779
35. Barber and Beauty Shop: 787-788
36. Entertainment: 807-809
37. Miscellaneous Personal Services: 789, 797-798

Appendix C

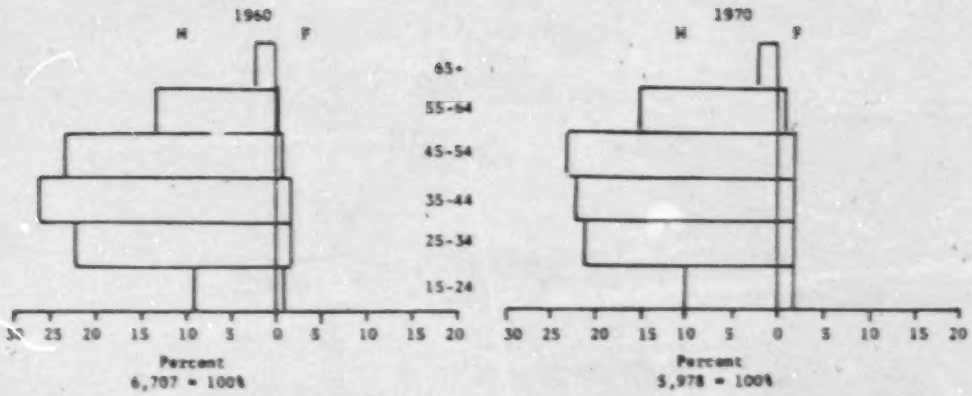
AGE-SEX PYRAMIDS OF SECTORS AND INDUSTRIES, 1960 AND 1970



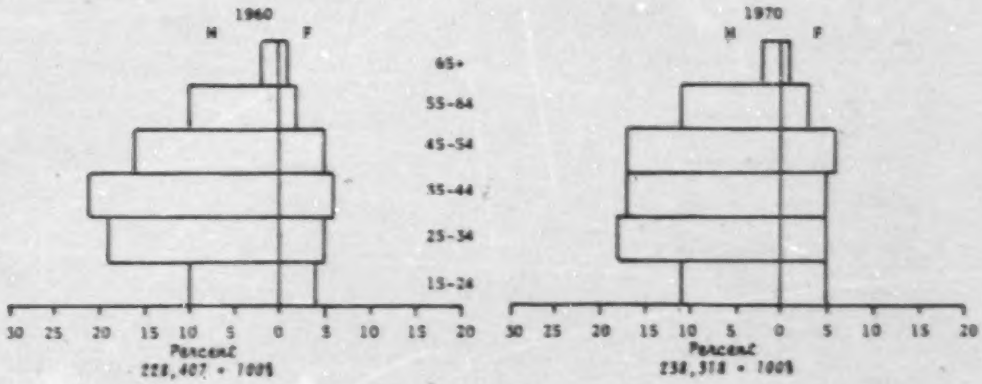




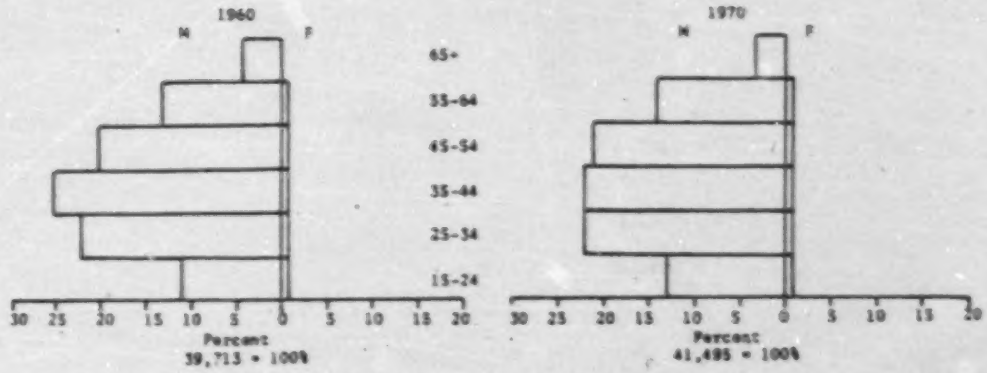
MINING



TRANSFORMATIVE



CONSTRUCTION



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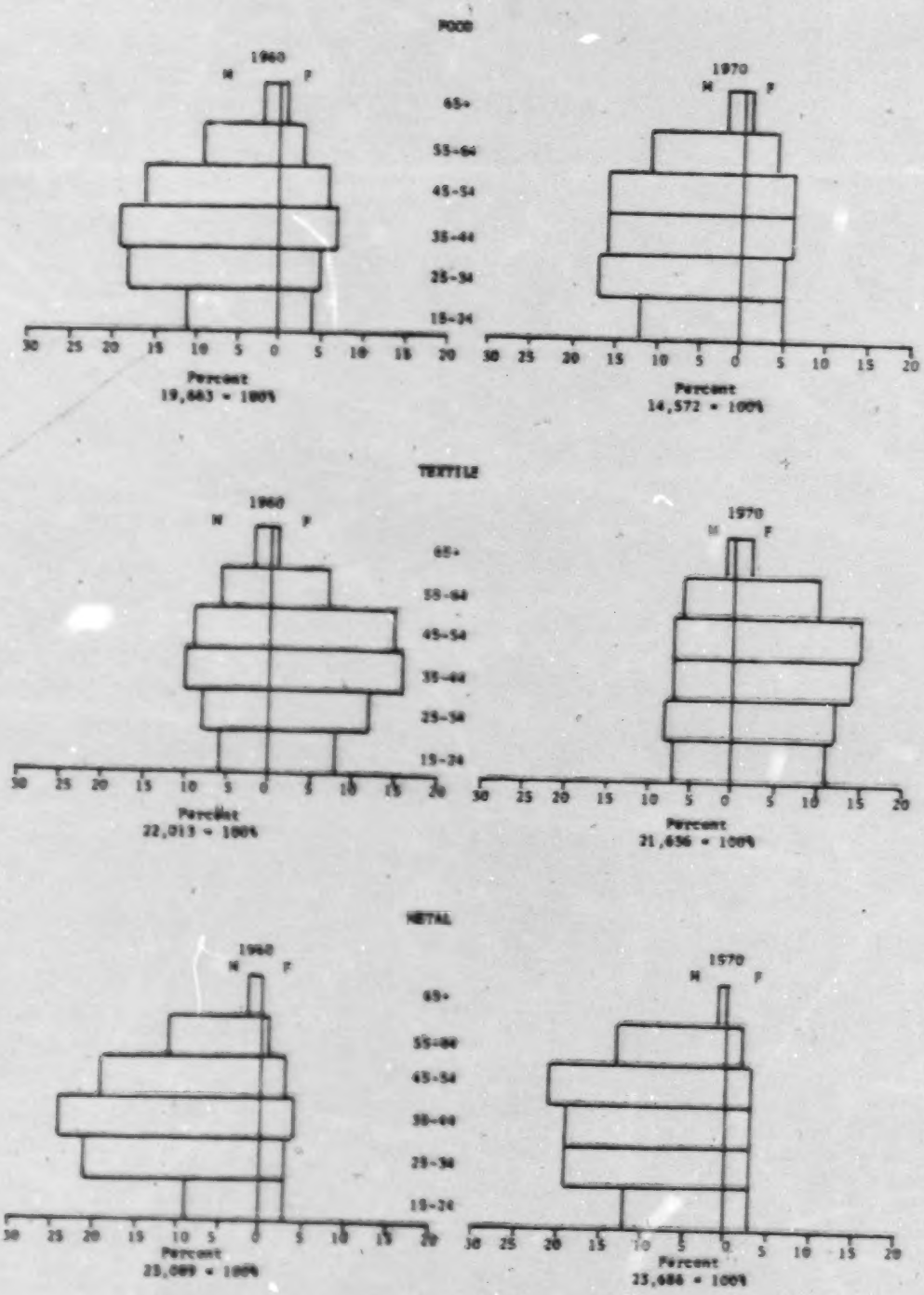
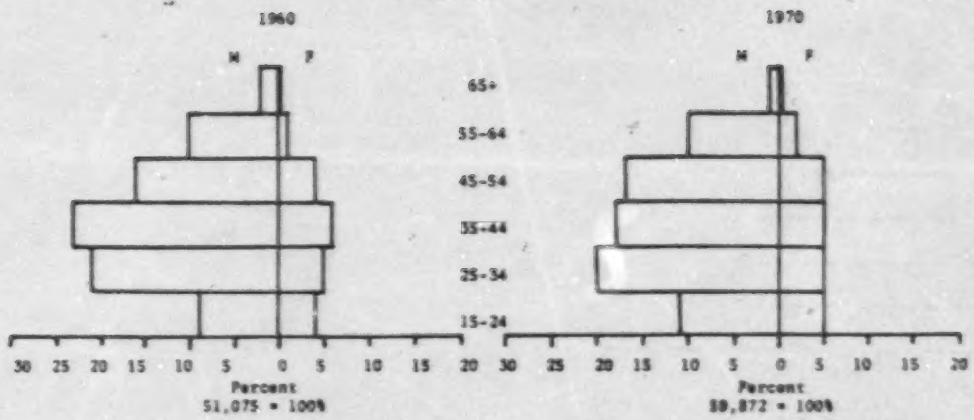
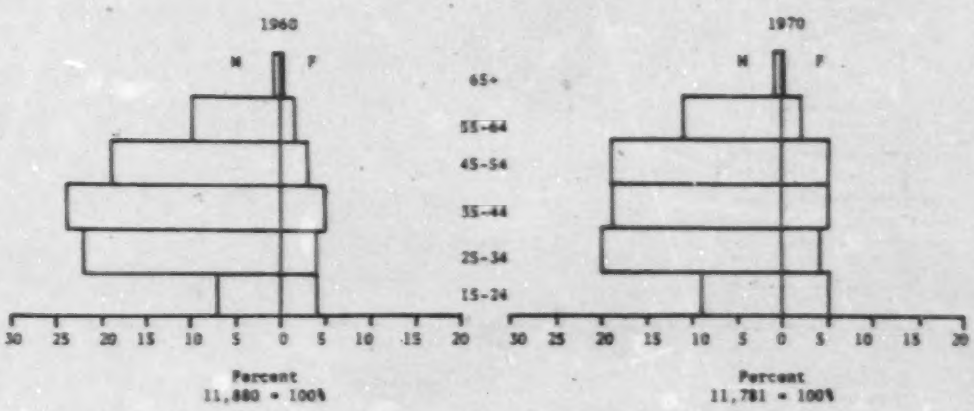


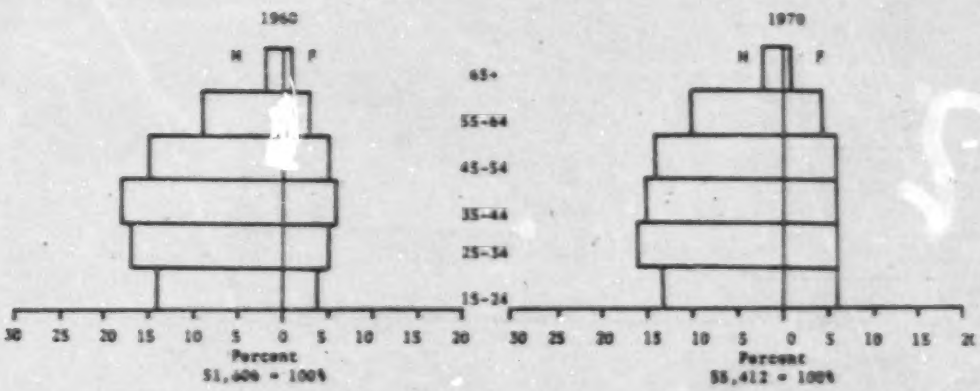
MACHINERY



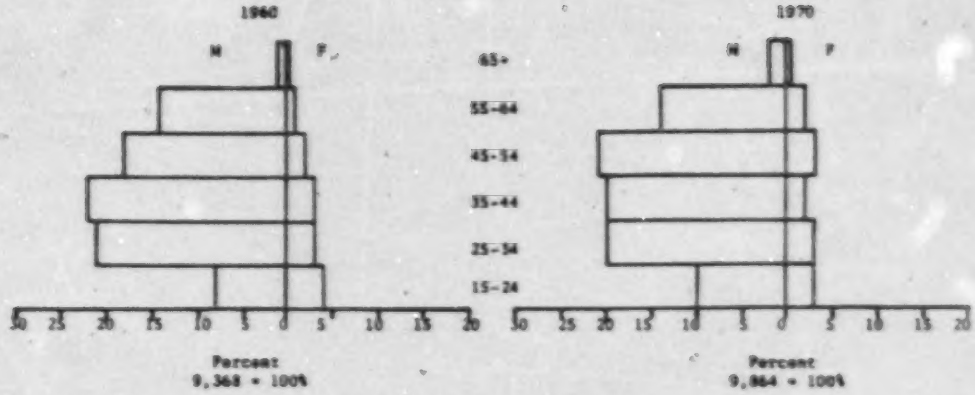
CHEMICAL



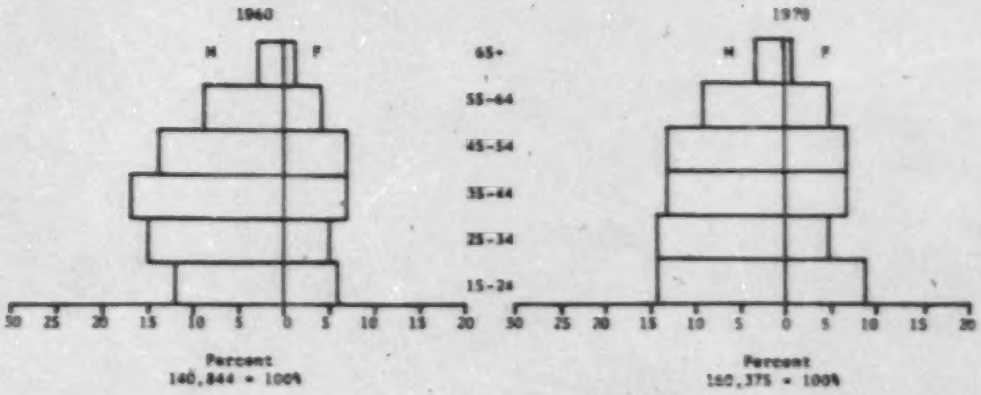
MISCELLANEOUS MANUFACTURING



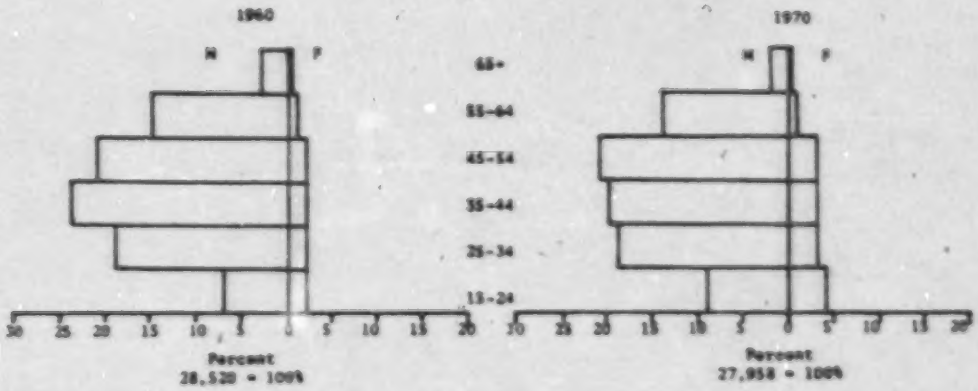
UTILITIES



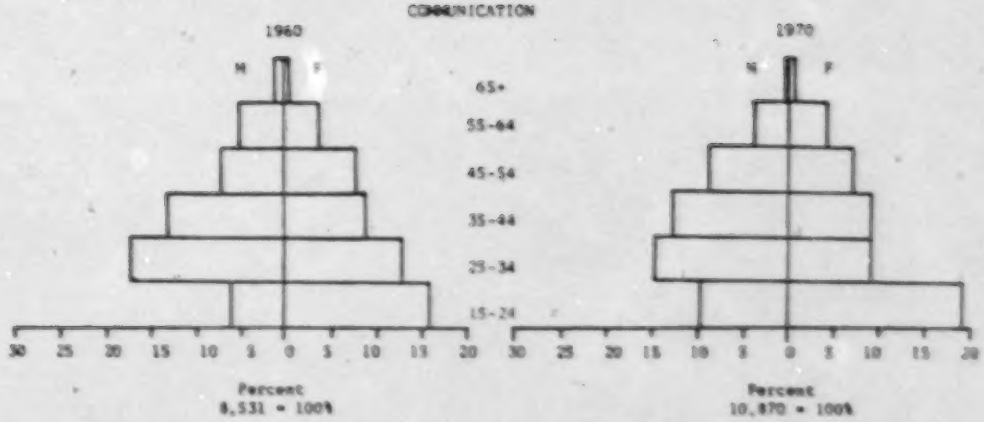
DISTRIBUTIVE



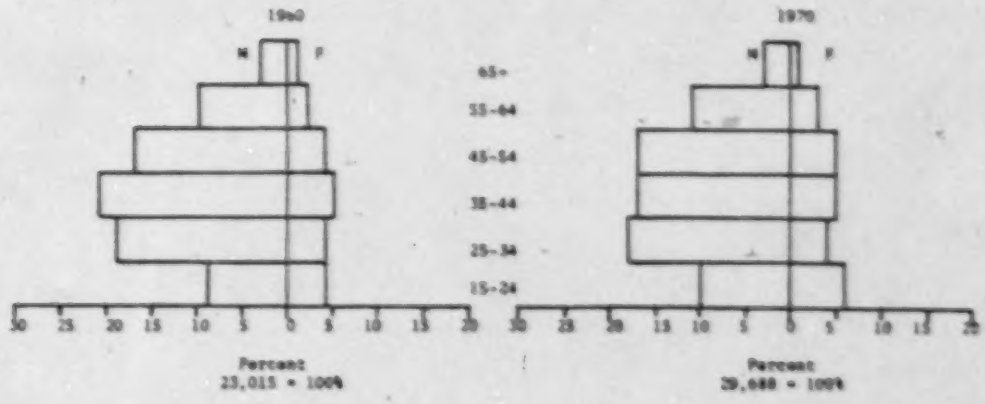
TRANSPORTATION



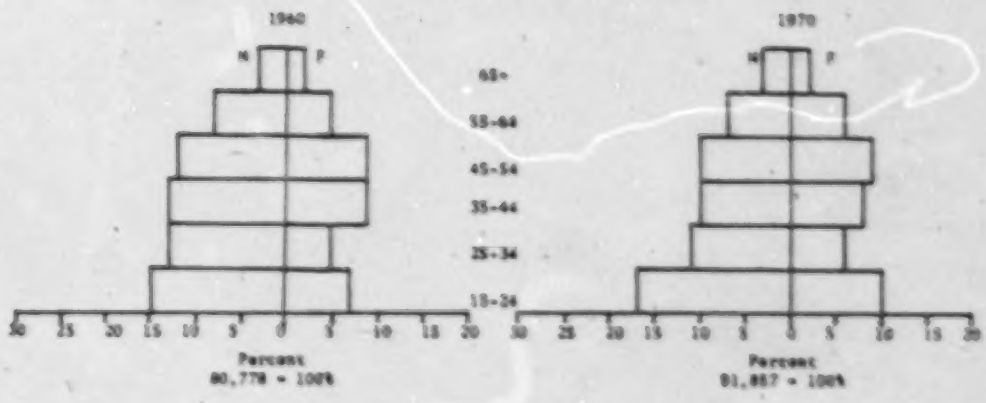
COMMUNICATION



WHOLESALE



RETAIL



Appendix C
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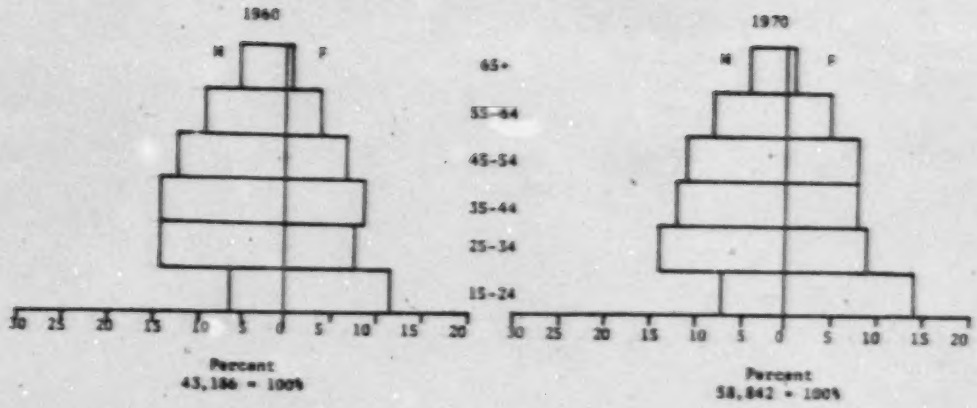
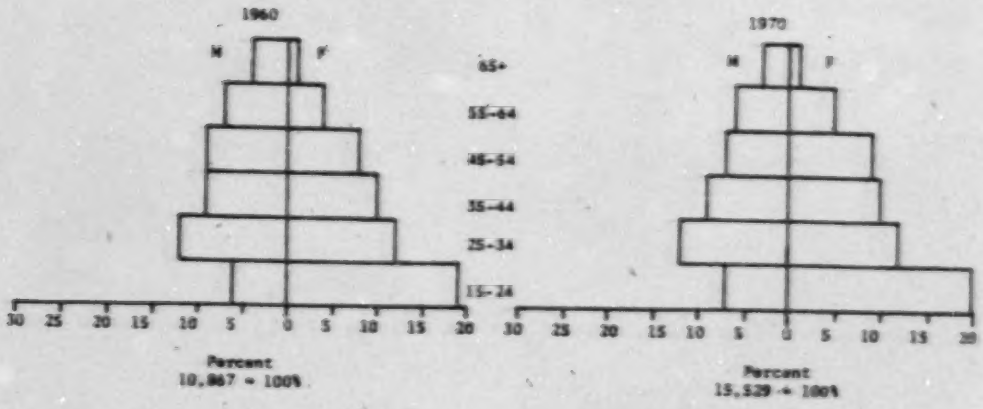
PRODUCER SERVICES



BANKING



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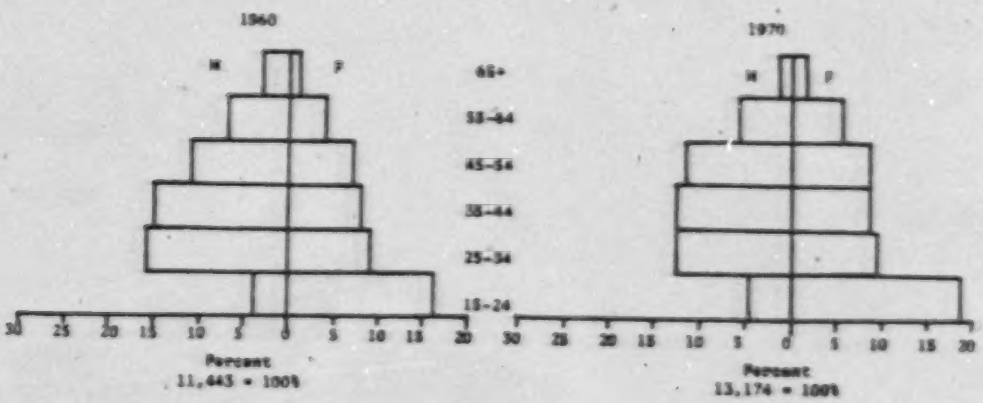

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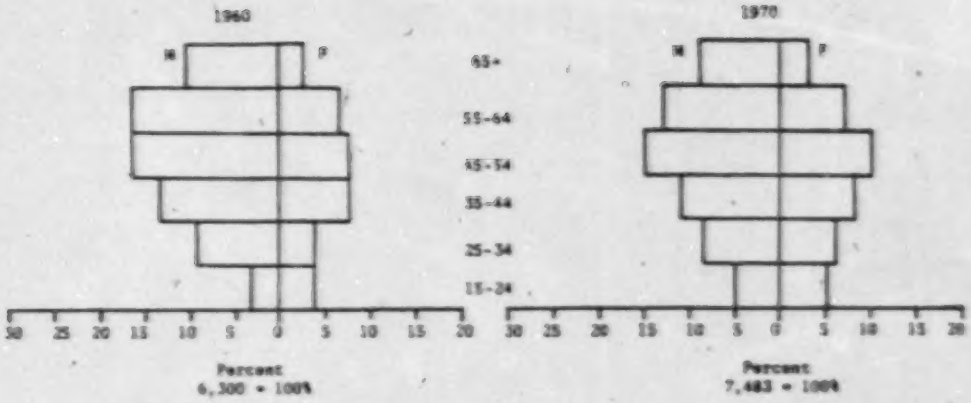

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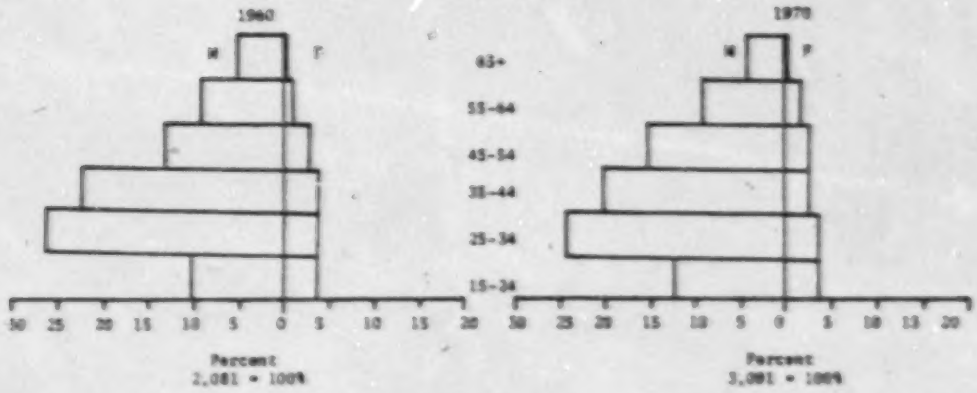

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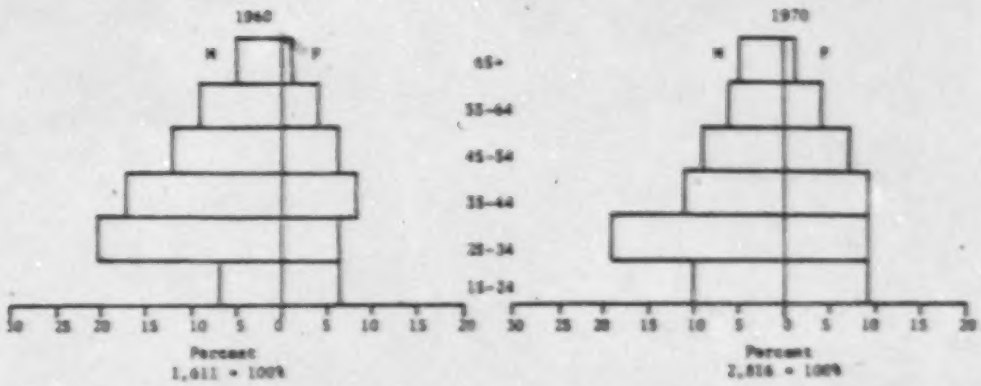
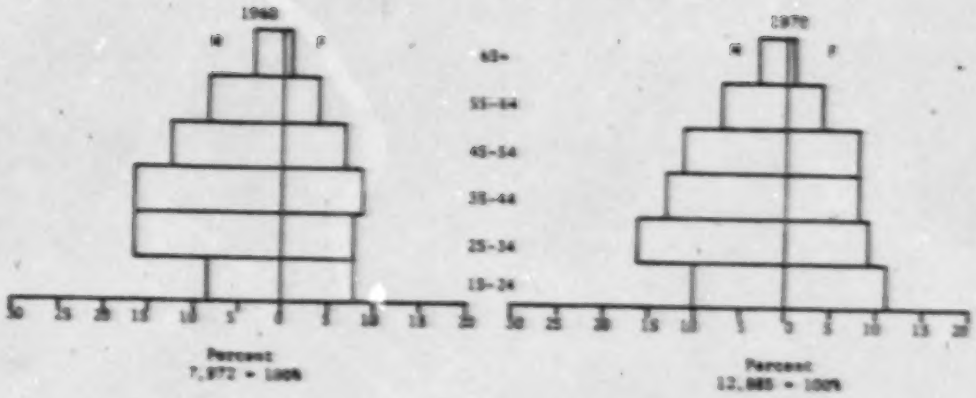


MISCELLANEOUS BUSINESS SERVICES



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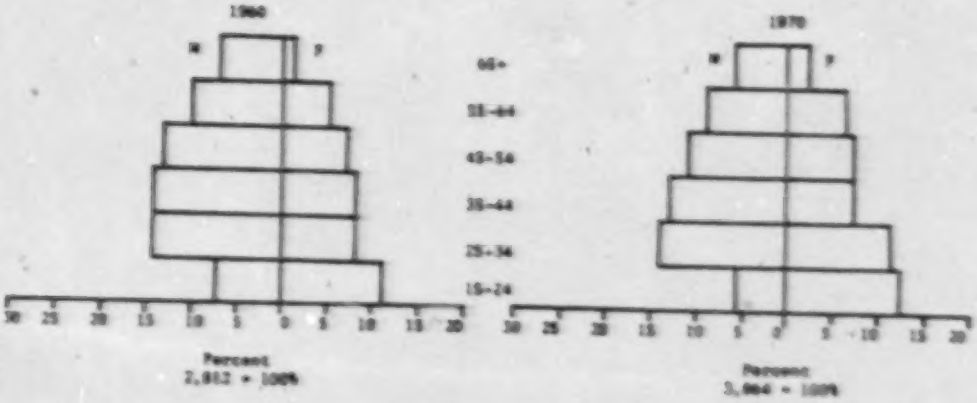
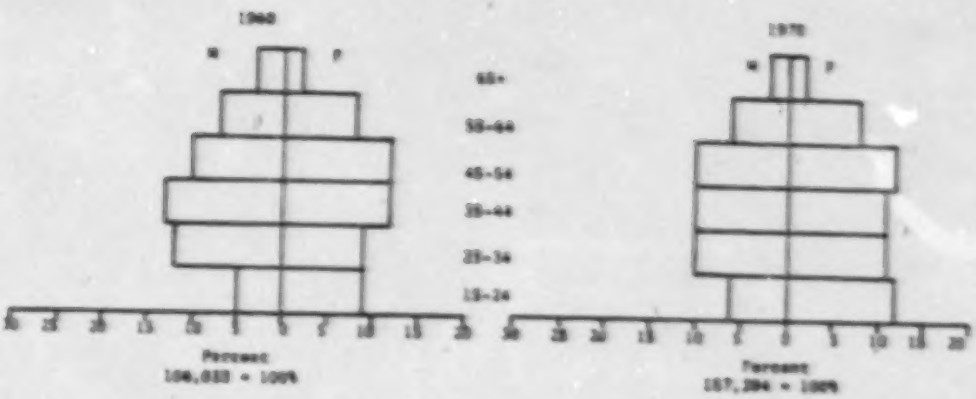
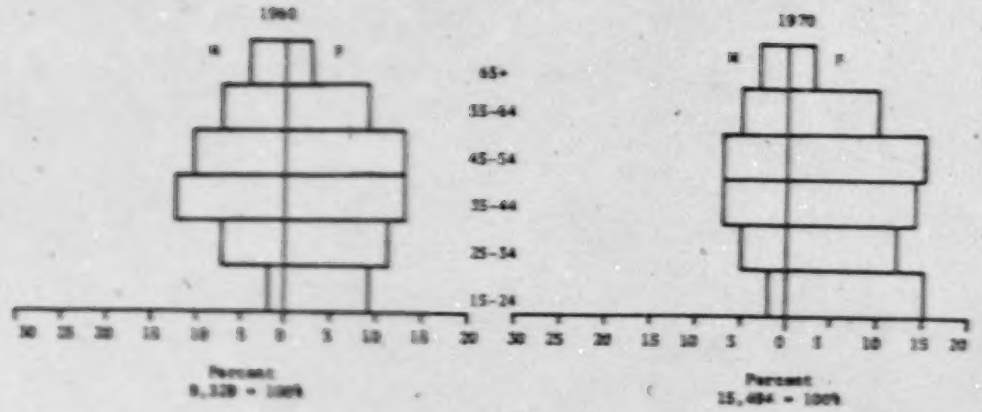


SOCIAL SERVICES

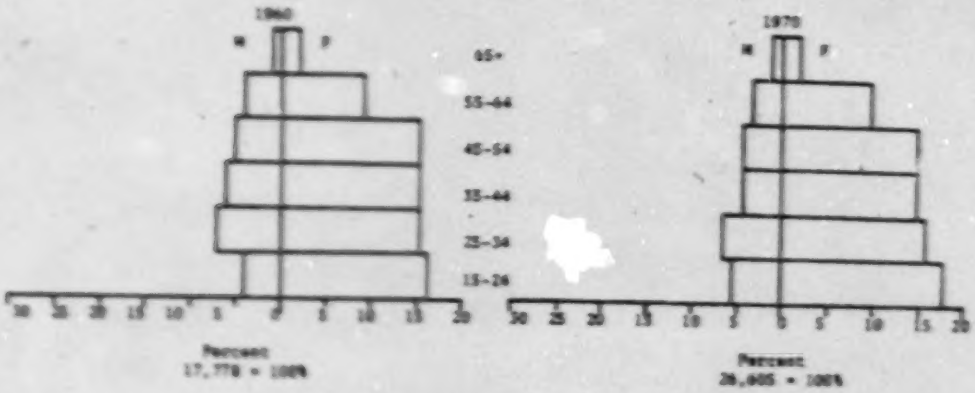


Appendix C
(continued)

MEDICAL SERVICES



HOSPITALS



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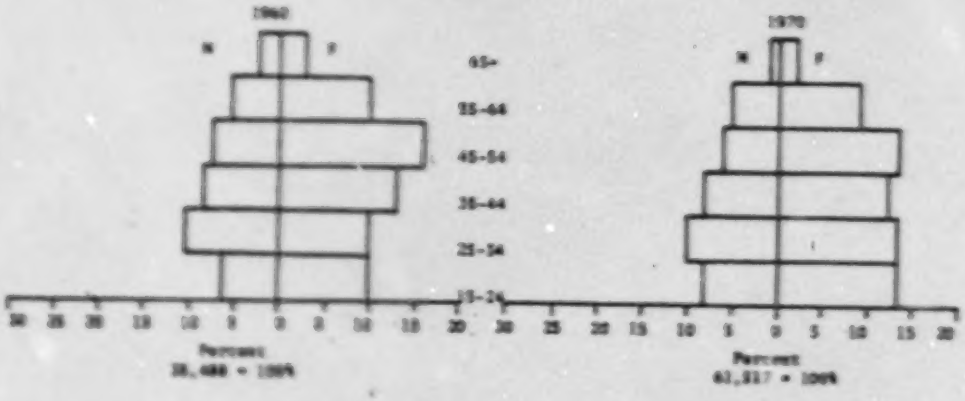

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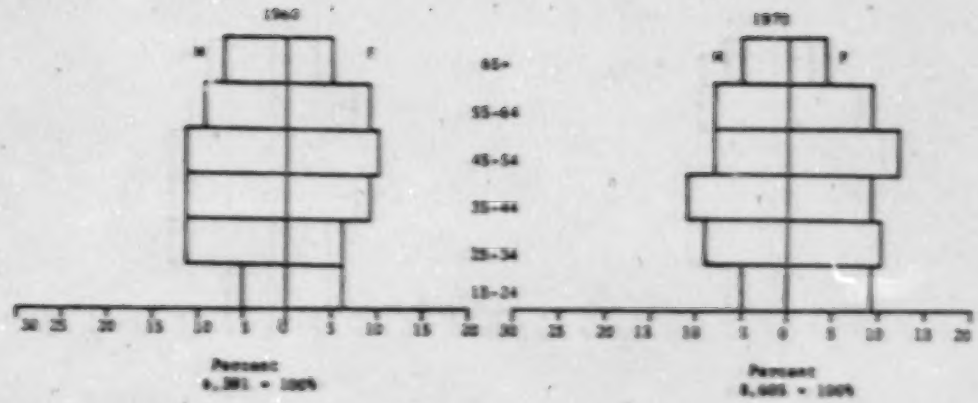
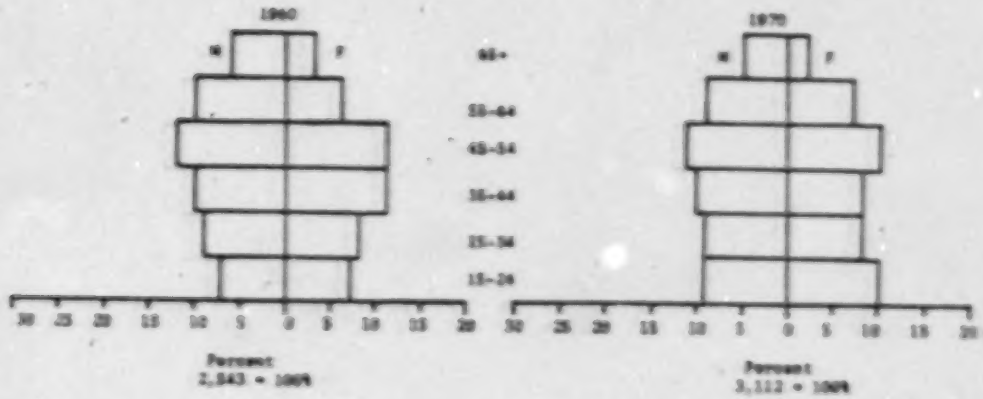


NON-PROFIT



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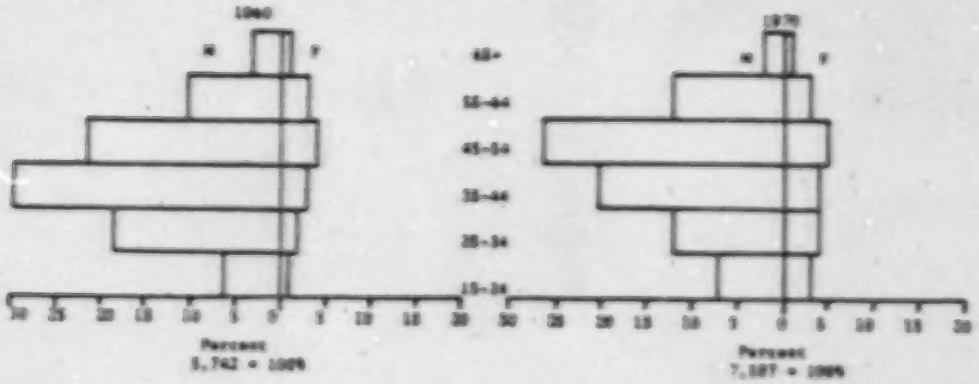
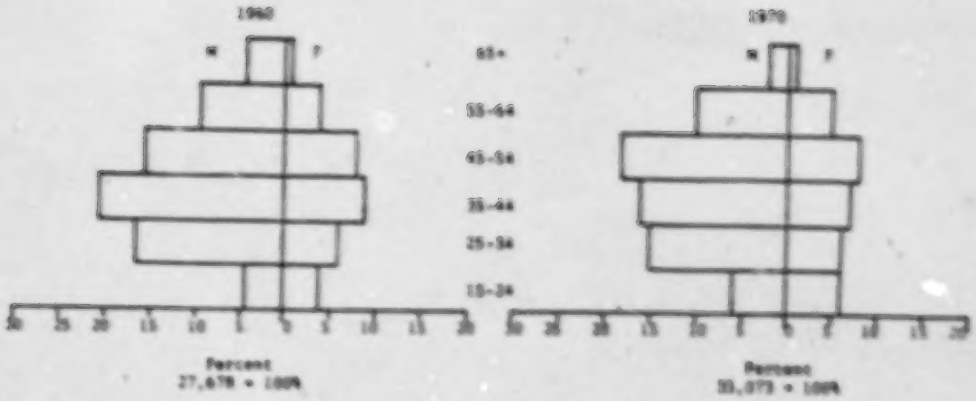
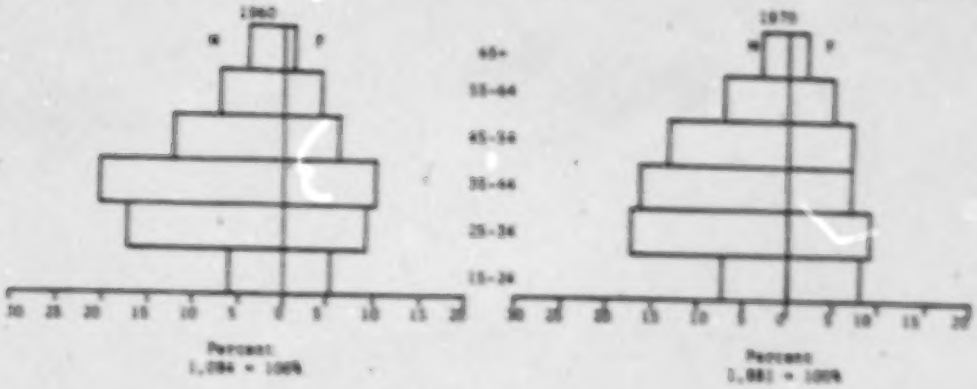


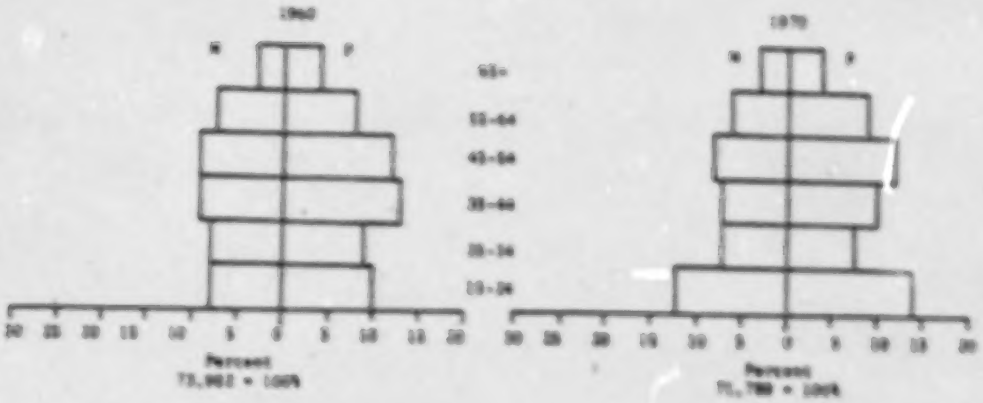
GOVERNMENT

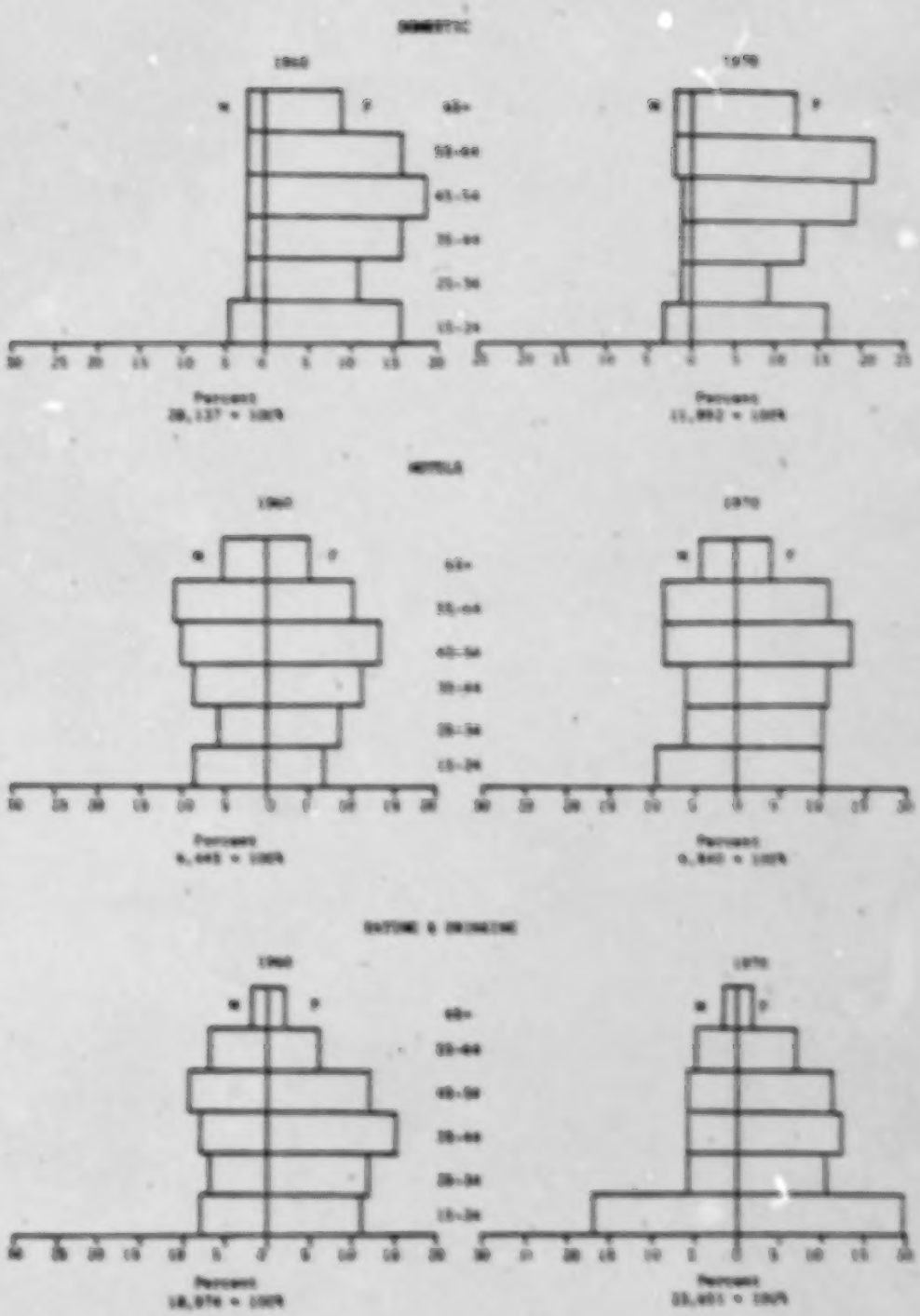


MISCELLANEOUS SOCIAL SERVICES

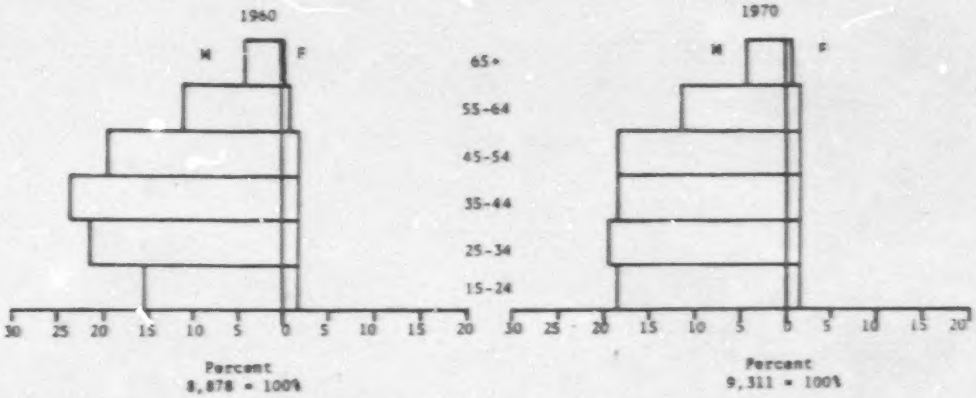


PERSONAL SERVICES

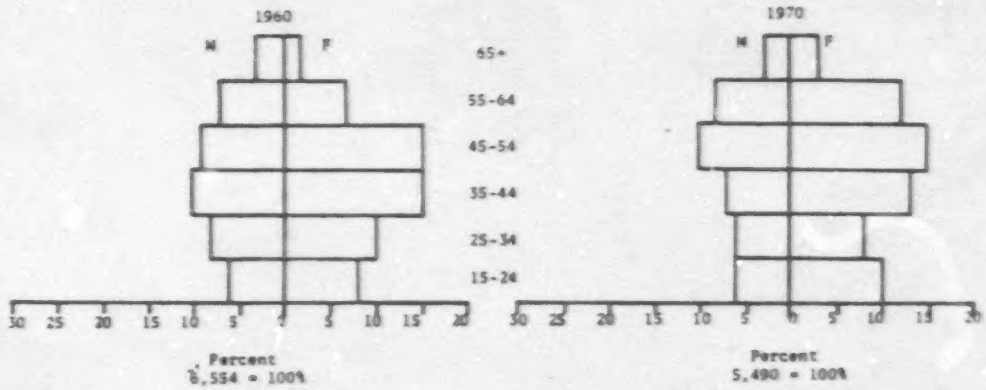



DOMESTIC
1960
1970
M
F
65+
55-64
45-54
35-44
25-34
15-24
Percent
Percent
HOTELS
1960
1970
M
F
65+
55-64
45-54
35-44
25-34
15-24
Percent
Percent
EATING & DRINKING
1960
1970
M
F
65+
55-64
45-54
35-44
25-34
15-24
Percent
Percent

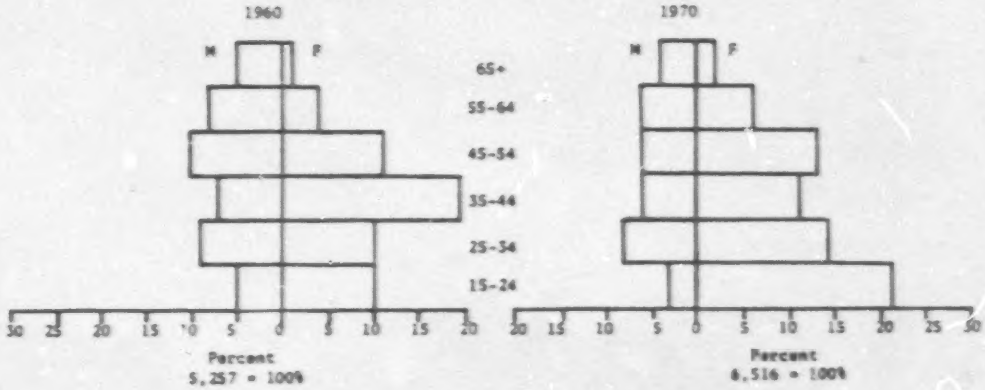
REPAIR



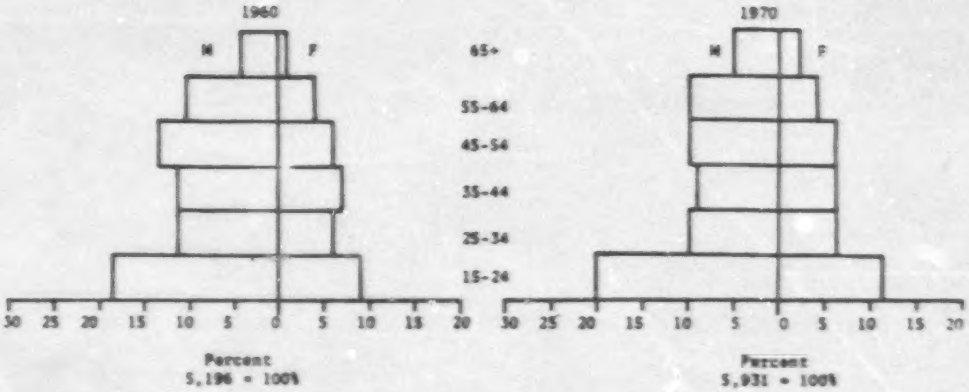
LAUNDRY



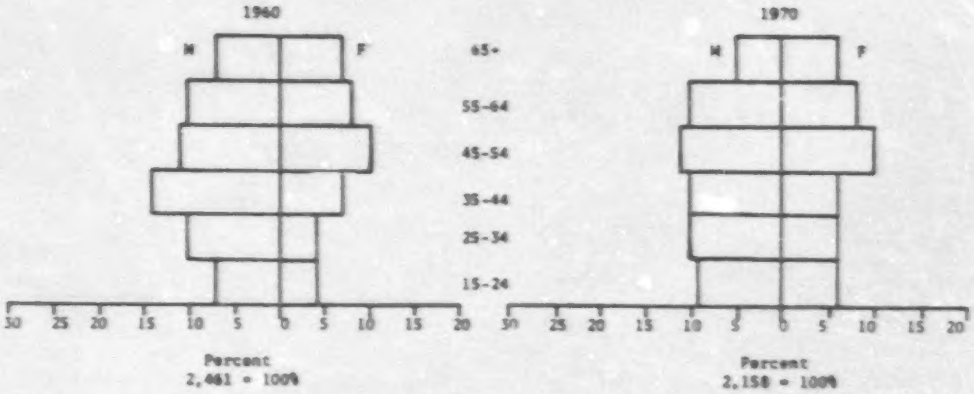
BARBER & BEAUTY SHOP



ENTERTAINMENT



MISCELLANEOUS PERSONAL SERVICES



Appendix D

ALLOCATION OF OCCUPATIONS

By and large, we have used the same one-digit occupational categories as given in the 1960 and 1970 Technical Description and Documentation of the Public Use Samples (U.S. Bureau of the Census, 1971; 1972). For both years, private household workers were included in the category service workers. In 1970, transport equipment operatives were combined with operatives to make the categories comparable with the 1960 divisions. The only major change that we made was the differentiation of professionals into: (a) professionals and (b) semi-professionals. The following listing contains the Public Use Sample codes for these two occupational categories.

1960

Professionals:	000, 012-014, 020-022, 030-032, 034-035, 040-043, 045, 050-054, 060, 071, 080-085, 090-093, 101-102, 105, 111, 130-135, 140, 145, 150, 152-154, 160, 162, 172-175, 182-184, 194
Semi-Professionals:	010, 015, 023, 070, 072-075, 103-104, 120, 151, 161, 163-165, 170-171, 180-181, 185, 190-193, 195

1970

Professionals:	001-002, 006, 010-015, 020-024, 030-036, 042-045, 051-056, 061-065, 071-073, 075, 091-096, 102-105, 110-116, 120-126, 130-135, 140, 142, 144-145, 163, 170, 181, 194
Semi-Professionals:	003-005, 025-026, 074, 076, 080-086, 090, 100-101, 141, 143, 150-156, 161-162, 164-165, 171-175, 180, 182-185, 190-193, 195

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ABSTRACT: THE PURPOSES OF THIS STUDY WERE TO IDENTIFY SPECIFIC TASKS PERFORMED AND INFORMATION NEEDED BY VOCATIONAL EDUCATION ADMINISTRATIVE PERSONNEL IN TENNESSEE AND TO EXPLORE INNOVATIVE APPROACHES FOR UTILIZING THIS INFORMATION IN STAFF DEVELOPMENT ACTIVITIES. EACH OF THE THREE ADMINISTRATOR GROUPS PARTICIPATED IN A CONFERENCE TO IDENTIFY TASKS PERFORMED AND INFORMATION NEEDED FOR VOCATIONAL ADMINISTRATORS. THE RESULTANT LIST WAS MAILED TO ALL MEMBERS OF EACH APPROPRIATE GROUP IN TENNESSEE WHO WERE TO RATE THE ITEMS IN TERMS OF IMPORTANCE AND FREQUENCY OF PERFORMANCE. THE REPORT DESCRIBES THE PROCEDURES UTILIZED IN DEVELOPING THE LISTS. PRESENTS THE LISTS AND RELATED INFORMATION IDENTIFIED FOR EACH OF THE THREE ADMINISTRATIVE GROUPS, AND SUMMARIZES THE REACTIONS OF VOCATIONAL ADMINISTRATORS THROUGHOUT TENNESSEE WITH REGARD TO THE IMPORTANCE AND FREQUENCY OF PERFORMANCE OF EACH TASK OR ITEM OF INFORMATION. THE REPORT ALSO DESCRIBES THE CONFERENCE CONDUCTED TO DEVELOP METHODS FOR TRAINING NEW VOCATIONAL ADMINISTRATORS AND EXISTING PERSONNEL, UTILIZING THE NEWLY ACQUIRED INFORMATION FROM THE PREVIOUS CONFERENCE AND SURVEY. ONE-HALF OF THE REPORT CONSISTS OF APPENDICES CONTAINING LISTS OF CONFERENCE PARTICIPANTS, CONFERENCE AND SURVEY RELATED MATERIALS, SAMPLE SURVEY FORMS, AND CONFERENCE EVALUATION FORMS. (NJ)

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FINAL REPORT:

A PROJECT TO DETERMINE TEACHING CONTENT

Middle Tennessee State University
Murfreesboro, Tennessee

Charlie M. Dunn, Project Director

James Lorenz, Director
Vocational Administrators' Conference

Sponsored by

State Division of Vocational-Technical Education
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Charlie M. Dunn

James Lorenz

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SECTION I

INTRODUCTION

Rationale

Continued expansion of vocational and technical education has resulted in the need for additional supervisory and administrative personnel. In addition to the need for new personnel, ways and means of upgrading personnel are needed. These positions include local directors of vocational education, assistant principals and principals in charge of vocational education in comprehensive high schools, administrators of vocational education centers, superintendents and assistant superintendents of area vocational-technical schools, regional and state supervisors, and administrative personnel in community colleges and technical institutes.

It is recognized that there are various related programs offered by colleges and universities including education administration, business administration, and vocational education administration and supervision. These programs, however, are offered in the traditional manner, comprehensive in nature, and there is question whether they are designed to adequately prepare vocational education administrative and supervisory personnel to perform effectively and efficiently in highly specialized positions.

Purpose of the Project

The purpose of this project was twofold: (1) to identify specific tasks performed and items of information needed by vocational education

personnel in various administrative and supervisory positions in Tennessee, (2) to explore innovative approaches in the utilization of this information to train new vocational administrators and upgrade existing personnel. The three administrative areas of concern were superintendents of area vocational-technical schools, assistant superintendents of area vocational-technical schools, and regional supervisors of vocational education. Local directors of vocational education were not included in this project because the desired data had already been obtained through a project conducted by the University of Tennessee.[1]

Methodolgy

A conference, composed of from 12 to 15 experienced administrators and led by a conference leader experienced in utilizing the conference method, was conducted for each of the three administrative groups. The purpose of each conference was to identify the tasks performed and information needed by persons employed in the administrative position represented by the members of that conference.

At the conclusion of each conference a list of the data obtained during the conference was mailed to all of the members of each appropriate administrative group in the State of Tennessee. That is, all superintendents of area vocational-technical schools were mailed the tasks and information identified as a result of the conference composed of area vocational-technical school superintendents, all assistant superintendents were mailed the tasks and information identified in the

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[1]Holt, Raymond A. and George W. Wiegers, The Role of the Director of Vocational Education at the Public School District Level in the State of Tennessee, Knoxville, Department of Vocational Education, The University of Tennessee.

assistant superintendents' conference, and all regional supervisors of vocational education were mailed the data resulting from the regional supervisors' conference. Each administrator was then asked to rate each item in terms of importance and the frequency with which it is performed. A more detailed account of the methodology as well as the results of the survey may be found in subsequent sections of this report.

Definitions

Area Vocational School ". . . . vocational school used exclusively or principally for the provision of vocational education to persons who have completed or left school and who are available for study in preparation for entering the labor market."[2]

Assistant Superintendents of Area Vocational-Technical Schools. They are directly responsible to the director and in his absence assume the responsibility of the Superintendent. They supervise the instructors, may serve as coordinator of the evening program and assist the director in planning, organizing, and directing the instructional programs. They shall perform such other duties as may be assigned by the appropriate school head."[3]

Directors (Superintendents of Area Vocational-Technical Schools). They shall direct and/or supervise all programs conducted within the school to which assigned. They shall be responsible for making surveys,

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[2]U. S. Department of Health, Education, and Welfare, Office of Education, State Vocational Education Programs, Federal Register, XXXV, (No. 91), May 9, 1970, p. 7335.

[3]Tennessee State Board for Vocational Education, Tennessee State Plan for the Administration of Vocational Education, 1975-1976, Part I, Administrative Positions, (Murfreesboro: Vocational Curriculum Laboratory, 1975), pp. 15, 15a.

evaluation and improvement. They shall also maintain close contact with business and industry in the area served by the school, in order for the instruction to be suited to the needs and in order to keep up to date on employment opportunities and manpower requirements."[4]

Regional Supervisors of Vocational Education. "(Agricultural Education, Distributive Education, Health Occupations Education, Trade and Industrial Education, Home Economics Education, Vocational Office Education, Industrial Arts Education, Office Occupations). Each Specialist I shall be responsible to the appropriate Chief, Director and/or Specialist II as indicated in the organizational chart. Their primary responsibility is to provide the necessary supervision of programs, services, and activities organized and conducted under the provisions of the State Plan. Specialist I shall also perform such other duties as may be assigned by their administrative unit or section head."[5]

Organization

The remainder of this report is organized as follows. Section II describes the procedures utilized in developing the lists of administrative tasks and items of information. This material is then analyzed in Section III. Included in this section is a list of the tasks and information for each of the three administrative groups as well as the rating of each item in relative importance and frequency of performance. Section IV describes the conference which was conducted in an effort to utilize the newly acquired information for the purpose of training new administrators

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[4]Ibid., p. 15.

[5]Ibid., pp. 6-7.

and upgrading existing personnel. The final section reviews the project and makes recommendations for future use of the material.

SECTION II

DATA COLLECTION PROCEDURES

Introduction

Three small group conferences were conducted in an effort to identify a list of the tasks performed and the related information required of superintendents of area vocational-technical schools, assistant superintendents of area vocational-technical schools, and regional supervisors of vocational education. The conference participants were selected by state staff personnel on the basis of their experience in their respective fields of work. Conference leaders were selected on the basis of their experience with the conference leading technique.

Upon the completion of each conference, the resulting lists of tasks and related information were verified through rating scales mailed to all of the appropriate administrators in Tennessee. A more detailed discussion of the procedures utilized for each administrative group follows.

Superintendents of Area Vocational-Technical Schools

Mr. Charlie M. Dunn, project director, arranged for a two-day conference conducted by Dr. S. B. Keathley on October 8 and 9, 1974, at the Ramada Inn in Murfreesboro, Tennessee. A sample letter of invitation, a copy of the agenda, and a list of the 12 superintendents of area vocational-technical schools who participated in the conference may be found in Appendix A. As a result of the conference, 19 areas

of responsibility and 66 specific activities relating to those responsibilities were identified and listed.

This data was then put in an appropriate form and mailed to all of the 26 superintendents of area vocational-technical schools in Tennessee. Each superintendent was asked to rate the relative importance of each activity by checking one of five categories. The five categories were: great importance, much importance, some importance, little importance, and no importance. In addition, they were asked to identify the frequency with which each activity was performed by checking one of four categories. The four categories were: frequently, occasionally, seldom, and never. The superintendents were also encouraged to add and rate additional activities which they felt had been omitted from the list. Finally, the superintendents were asked to place each of the 66 activities in one of the 19 general areas of responsibility. However, there was very little agreement on behalf of the administrators with regard to the category in which each task belonged; and, as a result, this information was discarded. A copy of the first page of the three rating forms as well as the accompanying memorandum may be found in Appendix B.

Twenty-four of the 26 superintendents, or 92 percent, completed and returned their surveys. One school was in the process of changing administrations, and both the incoming and outgoing superintendnets returned the survey resulting in a total of 25 respondants. Their names and addresses may be found in Appendix C. The results of their reactions are described in the next section of this report. When contacted during the follow-up, the two who did not return their survey replied that they had not received a copy of the instrument.

Assistant Superintendents of Area Vocational-Technical Schools

On April 22 and 23, 1975, Mr. Charlie M. Dunn conducted a two-day conference at the Ramada Inn in Murfreesboro, Tennessee. A sample letter of invitation, a copy of the agenda, and a list of the 11 assistant superintendents of area vocational-technical schools who participated in the conference may be found in Appendix D. As a result of the conference, 11 general areas of responsibility were identified. The specific activities relating to each of the eleven general areas of responsibility were also identified. This resulted in a total of 135 different supervisory activities.

This data was then put in an appropriate form and mailed to all of the 34 assistant superintendents of area vocational-technical schools in Tennessee. Each assistant superintendent was asked to rate the relative importance of each activity by checking one of five categories and the frequency by checking one of four categories in the same manner the superintendents had. Again, participants in the survey were encouraged to identify and rate additional activities which they felt had been omitted from the list. Because the members of the conference had already classified each activity within a broad area of responsibility, the need for this step was eliminated. A copy of the first page of the two rating forms as well as accompanying memorandum may be found in Appendix E.

One hundred percent of the 34 assistant superintendents returned their surveys. A list of their names and addresses may be found in Appendix F. The results of their reactions are presented in the next section of this report.

Regional Supervisors of Vocational Education

Dr. S. B. Keathley conducted a two-day conference on June 23 and 24, 1975, at Middle Tennessee State University. A sample letter of invitation, a copy of the agenda, and a list of the twelve regional supervisors who participated in the conference may be found in Appendix G. As a result of the conference, 52 activities of regional supervisors of vocational education were identified.

This data was then put in appropriate form and mailed to all of the 29 regional supervisors of vocational education in Tennessee. Each regional supervisor was asked to rate the relative importance of the activity by checking one of five categories and the frequency with which the activity is performed by checking one of four categories. The categories were identical to those used in the superintendent and assistant superintendent surveys. Area supervisors were also encouraged to identify and rate additional activities which they felt had been omitted from the list. No attempt was made to place the activities in general categories of responsibility. A copy of the first pages of the two rating forms as well as the accompanying memorandum may be found in Appendix H.

One hundred percent of the 29 area supervisors returned their surveys. A list of their names and addresses may be found in Appendix I. The results of their reactions are presented in the next section of this report.

Summary

Selected superintendents of area vocational-technical schools, assistant superintendents of area vocational-technical schools, and

area supervisors of vocational education participated in small group conferences in an attempt to identify the tasks and related information required of the respective positions. These lists of tasks were verified, and the relative importance of each task and the frequency of performance was determined through a mail survey of the appropriate vocational administrators in Tennessee. The results of these surveys may be found in the next section of this report.

SECTION III

TASKS AND ITEMS OF INFORMATION

The primary objective of this project was to identify the specific tasks performed and the items of related information required of superintendents of area vocational-technical schools, assistant superintendents of area vocational-technical schools, and regional supervisors of vocational education. This section lists the tasks and related information identified for each of the three administrative groups and summarizes the reactions of vocational administrators throughout Tennessee with regard to the importance and frequency of performance of each task or item of information. The reactions are the result of the mail survey described in Section II of this report.

The information is summarized in the three tables which follow. One table is provided for each of the three administrative groups. In each table, the tasks or information topics are listed in the order of their importance. The order of importance was determined by assigning a value of 5, 4, 3, 2, or 1 respectively to the possible administrative ratings of great importance, much importance, some importance, little importance, or no importance. The mean of the administrators' rating for each task was then calculated to determine their rank order. The number of no responses for each item was recorded in the tables. However, they were not utilized in the calculation of the mean ratings.

The mean ratings and rank order with respect to the frequency with which each task or item of information is performed or required is also stated in each table. The mean was calculated by assigning a value of 4, 3, 2, and 1 respectively to the possible administrative ratings

of frequently, occasionally, seldom, and never. Again, the number of no responses were indicated but were not utilized in the calculations.

Table I

VOCATIONAL SCHOOL SUPERINTENDENTS ACTIVITIES
RANKED ACCORDING TO IMPORTANCE AND FREQUENCY OF PERFORMANCE

Task or Information Topic	Relative Importance								Frequency of Performance						
	Great Importance	Much Importance	Some Importance	Little Importance	No Importance	No Response	Mean*	Rank	Frequently	Occasionally	Seldom	Never	No Response	Mean*	Rank
1. Promote and demonstrate good public relations.	19	5	0	0	0	0	4.79	1.5	22	2	0	0	0	3.92	2.5
2. Select vocational faculty members.	19	5	0	0	0	0	4.79	1.5	13	9	2	0	0	3.46	17
3. Keep the public informed of the vocational programs offered by the school.	18	6	0	0	0	0	4.75	3	23	1	0	0	0	3.96	1
4. Seek, interview, and recommend personnel for employment.	18	5	1	0	0	0	4.71	4	16	5	3	0	0	3.54	11.5
5. Determine local community needs.	15	9	0	0	0	0	4.63	5	13	9	1	1	0	3.42	21.5
6. Provide for continuous evaluation of vocational programs.	14	10	0	0	0	0	4.58	6	15	9	0	0	0	3.63	10
7. Translate community and manpower needs into meaningful vocational programs.	14	8	2	0	0	0	4.50	8	11	12	1	0	0	3.42	21.5
8. Plan and organize orientation for new vocational teachers.	13	10	1	0	0	0	4.50	8	6	14	4	0	0	3.08	43.5
9. Help establish and maintain safety programs.	13	10	1	0	0	0	4.50	8	12	12	0	0	0	3.50	14

* Mean does not include no response.

Table I
Continued

	Task or Information Topic	Relative Importance								Frequency of Performance						
		Great Importance	Much Importance	Some Importance	Little Importance	No Importance	No Response	Mean*	Rank	Frequently	Occasionally	Seldom	Never	No Response	Mean*	Rank
10.	Keep adequate records of students, teachers, equipment, and facilities to complete reports.	13	9	2	0	0	0	4.46	10.5	20	4	0	0	0	3.83	5.5
11.	Observe vocational staff in classroom.	13	9	2	0	0	0	4.46	10.5	18	6	0	0	0	3.75	7
12.	Keep teachers informed of effective teaching methods.	13	8	3	0	0	0	4.42	12.5	9	14	1	0	0	3.33	31
13.	Work cooperatively with local, state and federal agencies in developing local vocational programs.	12	10	2	0	0	0	4.42	12.5	6	16	2	0	0	3.17	37.5
14.	Formulate policies concerning the total vocational program and staff.	13	7	4	0	0	0	4.38	14	15	7	2	0	0	3.54	11.5
15.	Direct activities of others.	13	7	3	1	0	0	4.33	16	22	2	0	0	0	3.92	2.5
16.	Hold individual and group conferences to discuss instructional problems.	11	10	3	0	0	0	4.33	16	11	12	1	0	0	3.42	21.5
17.	Conduct vocational program evaluations.	9	14	1	0	0	0	4.33	16	9	15	0	0	0	3.38	26.5
18.	Establish and maintain inventory procedures.	12	7	5	0	0	0	4.29	19	18	4	2	0	0	3.67	8.5
19.	Prepare annual and long-range goals of programs.	10	12	1	1	0	0	4.29	19	9	11	2	2	0	3.13	40.5

Table I
Continued

	Task or Information Topic	Relative Importance								Frequency of Performance						
		Great Importance	Much Importance	Some Importance	Little Importance	No Importance	No Response	Mean*	Rank	Frequently	Occasionally	Seldom	Never	No Response	Mean*	Rank
20.	Establish and utilize program or craft committees.	10	1[illegible]	3	0	0	0	4.29	19	12	12	0	0	0	3.50	14
21.	Explain goals and scope of vocational education to other school administrators and other individuals and groups.	7	15	2	0	0	0	4.21	21	6	15	3	0	0	3.13	40.5
22.	Establish and utilize a general committee for the total vocational program.	10	8	6	0	0	0	4.17	22	11	12	1	0	0	3.42	21.5
23.	Plan and/or conduct in-service for vocational faculty.	10	8	5	1	0	0	4.13	24	10	13	1	0	0	3.38	26.5
24.	Work cooperatively with persons and groups in developing a total educational program.	8	13	2	0	1	0	4.13	24	7	10	6	1	0	2.96	47
25.	Assist in determining departmental objectives.	7	13	4	0	0	0	4.13	24	8	11	5	0	0	3.13	40.5
26.	Keep up to date on new occupational teaching materials and methods.	8	10	6	0	0	0	4.08	26	12	9	3	0	0	3.38	26.5
27.	Attend local governmental meetings in matters relating to vocational education.	9	7	7	1	0	0	4.00	28	9	8	6	1	0	3.04	45.5
28.	Address community groups.	7	11	5	1	0	0	4.00	28	9	14	1	0	0	3.33	31

Table I
Continued

Task or Information Topic	Relative Importance								Frequency of Performance						
	Great Importance	Much Importance	Some Importance	Little Importance	No Importance	No Response	Mean*	Rank	Frequently	Occasionally	Seldom	Never	No Response	Mean*	Rank
29. Establish and maintain relationships with all types of labor, trade, agricultural, management, and manpower agencies in the community.	6	13	4	1	0	0	4.00	28	12	9	3	0	0	3.38	26.5
30. Make recommendations in all aspects of the development and construction of facilities.	11	6	4	1	2	0	3.96	31	2	8	11	3	0	2.38	61
31. Counsel students.	8	9	5	2	0	0	3.96	31	13	10	1	0	0	3.50	14
32. Prepare reports for state office.	8	8	7	1	0	0	3.96	31	21	2	1	0	0	3.83	5.5
33. Approve budget requisitions for supplies and equipment.	8	6	10	0	0	0	3.92	33.5	22	1	1	0	0	3.88	4
34. Maintain contact with employment agencies.	7	10	6	0	1	0	3.92	33.5	14	5	4	1	0	3.33	31
35. Plan and prepare the annual budget.	8	6	7	2	0	1	3.87	35	8	7	6	3	0	2.83	51
36. Request services of state staff and consultants where and when needed.	8	7	6	3	0	0	3.83	36.5	11	12	1	0	0	3.42	21.5
37. Aid in developing instructional guides.	5	10	9	0	0	0	3.83	36.5	7	14	3	0	0	3.17	37.5
38. Assist in design and equipping of new facilities and/or programs.	6	10	6	1	1	0	3.79	39	1	14	7	2	0	2.58	59

Table I
Continued

	Task or Information Topic	Relative Importance								Frequency of Performance						
		Great Importance	Much Importance	Some Importance	Little Importance	No Importance	No Response	Mean*	Rank	Frequently	Occasionally	Seldom	Never	No Response	Mean*	Rank
39.	Prepare reports of activities for public information.	6	8	9	1	0	0	3.79	39	10	11	3	0	0	3.29	35
40.	Promote coordinated program between vocational program and related subject matter areas.	4	13	5	2	0	0	3.79	39	11	10	3	0	0	3.33	31
41.	Keep up to date by extensive reading.	4	10	10	0	0	0	3.75	41	12	11	1	0	0	3.46	17
42.	Conduct workshops or use other means to develop instructional materials.	4	10	9	1	0	0	3.71	42	3	11	9	1	0	2.67	56
43.	Work closely with teacher education institutions in developing effective programs at the pre-service and in-service levels.	5	9	8	1	1	0	3.67	44	3	11	9	1	0	2.67	56
44.	Serve as ex-officio member of all occupational advisory committees.	3	12	7	2	0	0	3.67	44	11	10	3	0	0	3.33	31
45.	Promote staff membership in professional organizations.	2	13	8	1	0	0	3.67	44	5	16	3	0	0	3.08	43.5
46.	Attend conferences and workshops.	4	8	10	2	0	0	3.58	46.5	11	12	1	0	0	3.42	21.5
47.	Attend state professional meetings.	3	13	5	1	2	0	3.58	46.5	11	9	4	0	0	3.29	35
48.	Belong to professional educational associations.	3	9	10	2	0	0	3.54	48	16	8	0	0	0	3.67	8.5

Table I
Continued

	Task or Information Topic	Relative Importance								Frequency of Performance						
		Great Importance	Much Importance	Some Importance	Little Importance	No Importance	No Response	Mean*	Rank	Frequently	Occasionally	Seldom	Never	No Response	Mean*	Rank
49.	Serve on professional committees.	4	5	12	2	0	1	3.48	49	5	13	5	1	0	2.92	48.5
50.	Coordinate programs off campus.	3	11	6	2	2	0	3.46	50.5	8	11	3	2	0	3.04	45.5
51.	Review and report relevant research to faculty.	1	12	8	3	0	0	3.46	50.5	3	12	7	2	0	2.67	56
52.	Prepare cost estimates on equipment and facilities.	3	7	10	3	0	1	3.43	52	4	14	5	1	0	2.88	50
53.	Serve on community committees.	4	7	8	5	0	0	3.42	53.5	3	14	6	1	0	2.79	52
54.	Attend local professional meetings.	2	11	7	3	1	0	3.42	53.5	5	13	5	1	0	2.92	48.5
55.	Assist in adoption of textbooks or reference books.	5	6	8	3	2	0	3.38	55.5	4	10	8	2	0	2.67	56
56.	Attend civic and other groups meetings.	2	8	11	3	0	0	3.38	55.5	12	11	1	0	0	3.46	17
57.	Inform teachers of current literature.	4	7	8	3	2	0	3.33	57	7	13	4	0	0	3.13	40.5
58.	Hold membership in civic organization(s).	4	4	12	3	1	0	3.29	59	13	6	4	1	0	3.29	35
59.	Compile and distribute lists of instructional materials (subject matter, audio visual, etc.)	3	7	9	4	1	0	3.29	59	4	9	10	1	0	2.67	56
60.	Direct research projects for improving programs.	1	9	10	4	0	0	3.29	59	1	10	9	4	0	2.33	62

Table I
Continued

Task or Information Topic	Relative Importance								Frequency of Performance						
	Great Importance	Much Importance	Some Importance	Little Importance	No Importance	No Response	Mean*	Rank	Frequently	Occasionally	Seldom	Never	No Response	Mean*	Rank
61. Explain federal and state legislation to laymen.	5	1	13	5	0	0	3.25	61	3	11	10	0	0	2.71	53
62. Explain federal and state legislation to local educators.	2	4	13	5	0	0	3.13	62	1	10	11	2	0	2.42	60
63. Attend national professional meetings.	2	5	11	5	1	0	3.08	63	1	4	11	8	0	1.92	65
64. Attend school board meetings.	2	3	8	10	1	0	2.79	64	1	6	14	3	0	2.21	63
65. Prepare proposals for grants (federal and state).	2	2	11	6	3	0	2.75	65	0	3	11	10	0	1.71	66
66. Encourage teachers to write professional articles.	0	5	7	10	2	0	2.63	66	0	4	15	5	0	1.96	64

Table II

VOCATIONAL SCHOOL ASSISTANT SUPERINTENDENTS ACTIVITIES
RANKED ACCORDING TO IMPORTANCE AND FREQUENCY OF PERFORMANCE

Task or Information Topic	Relative Importance								Frequency of Performance						
	Great Importance	Much Importance	Some Importance	Little Importance	No Importance	No Response	Mean*	Rank	Frequently	Occasionally	Seldom	Never	No Response	Mean*	Rank
1. Maintain good communications.	24	9	0	0	0	1	4.73	1	28	5	0	0	1	3.85	3.5
2. Motivate personnel	24	8	1	0	0	1	4.70	2	27	6	1	0	0	3.76	9.5
3. Keep the administrator fully informed.	24	9	1	0	0	0	4.68	3	32	2	0	0	0	3.94	1
4. Keep administration fully informed, protected and promoted.	23	10	1	0	0	0	4.65	4	31	3	0	0	0	3.91	2
5. Promote effective learning processes.	22	10	1	0	0	1	4.64	5	24	8	2	0	0	3.65	23
6. Maintain good working relationship with industrial personnel.	23	9	2	0	0	0	4.62	7.5	23	9	2	0	0	3.62	26
7. Seek ways and means to improve and maintain a good school image.	23	9	2	0	0	0	4.62	7.5	24	9	1	0	0	3.68	18.5
8. Promote good relations among staff members.	23	9	2	0	0	0	4.62	7.5	28	5	1	0	0	3.79	6.5
9. Promote good administration-staff relations.	22	11	1	0	0	0	4.62	7.5	27	6	1	0	0	3.76	9.5
10. Communicate with business and industry.	24	6	4	0	0	0	4.59	10	21	10	2	0	1	3.58	29
11. Promote and maintain good morale	20	13	1	0	0	0	4.56	12	28	5	0	0	1	3.85	3.5

* Mean does not include no response.

Table II
Continued

Task or Information Topic	Relative Importance								Frequency of Performance						
	Great Importance	Much Importance	Some Importance	Little Importance	No Importance	No Response	Mean*	Rank	Frequently	Occasionally	Seldom	Never	No Response	Mean*	Rank
12. Supervise assigned staff.	23	7	4	0	0	0	4.56	12	28	4	1	1	0	3.74	12.5
13. Provide for and promote good relations between day and evening school instructors.	21	11	2	0	0	0	4.56	12	24	10	0	0	0	3.71	15
14. Promote staff improvement.	20	11	2	0	0	1	4.55	14	20	13	1	0	0	3.56	31
15. Maintain good working relationship with state staff members.	21	10	3	0	0	0	4.53	15	22	12	0	0	0	3.65	23
16. Encourage staff and students to actively promote the school.	18	14	1	0	0	1	4.52	16	25	7	2	0	0	3.68	18.5
17. Recognize instructor needs.	20	12	1	1	0	0	4.50	18	26	8	0	0	0	3.76	9.5
18. Develop understanding of the school program.	19	13	2	0	0	0	4.50	18	26	7	0	0	1	3.79	6.5
19. Promote good working conditions.	19	13	2	0	0	0	4.50	18	26	8	0	0	0	3.76	9.5
20. Coordinate and supervise the evening school.	22	5	3	2	0	2	4.47	20.5	26	1	6	1	0	3.53	34
21. Maintain good and effective communications.	18	14	2	0	0	0	4.47	20.5	24	10	0	0	0	3.71	15
22. Supervise instructional staff.	19	10	4	0	0	1	4.45	22	22	10	2	0	0	3.59	27.5
23. Serve as administrator of the evening school.	23	6	2	3	0	0	4.44	24	27	0	4	1	2	3.66	23

Table II
Continued

Task or Information Topic	Relative Importance								Frequency of Performance						
	Great Importance	Much Importance	Some Importance	Little Importance	No Importance	No Response	Mean*	Rank	Frequently	Occasionally	Seldom	Never	No Response	Mean*	Rank
24. Seek opportunities for self-development.	19	12	2	1	0	0	4.44	24	26	6	2	0	0	3.71	15
25. Promote atmosphere for effective learning.	18	13	3	0	0	0	4.44	24	24	9	1	0	0	3.68	18.5
26. Evaluate instructional program.	16	15	2	0	0	1	4.42	26	14	16	4	0	0	3.29	58.5
27. Interview and recommend prospective instructors.	22	6	4	2	0	0	4.41	27.5	18	8	7	0	1	3.33	53
28. Develop public understanding of the school offerings.	19	11	3	1	0	0	4.41	27.5	12	20	1	1	0	3.26	65
29. Promote professional attitudes and ethics.	19	10	4	1	0	0	4.38	30	24	8	2	0	0	3.65	23
30. Promote an attitude of professionalism among fellow workers.	18	11	5	0	0	0	4.38	30	26	6	0	0	2	3.81	5
31. Seek feedback from staff.	18	11	5	0	0	0	4.38	30	23	10	1	0	0	3.65	23
32. Motivate staff and students.	17	13	3	1	0	0	4.35	32	26	7	1	0	0	3.74	12.5
33. Assist instructors in determining training needs.	13	17	2	1	0	1	4.27	33	19	12	1	0	2	3.56	31
34. Maintain up-to-date inventory of equipment and supplies.	16	14	2	1	1	0	4.26	34.5	25	5	2	2	0	3.56	31

Table II
Continued

Task or Information Topic	Relative Importance								Frequency of Performance						
	Great Importance	Much Importance	Some Importance	Little Importance	No Importance	No Response	Mean*	Rank	Frequently	Occasionally	Seldom	Never	No Response	Mean*	Rank
35. Work with individuals and groups to develop course outlines.	14	16	3	1	0	0	4.26	34.5	13	15	5	0	1	3.24	69
36. Prepare for purchase of supplies and equipment.	18	8	6	2	0	0	4.24	37.5	24	7	2	1	0	3.59	27.5
37. Promote harmonious relations among non-instructional staff.	15	14	4	0	1	0	4.24	37.5	23	11	0	0	0	3.68	18.5
38. Work with advisory committees.	15	12	7	0	0	0	4.24	37.5	16	12	6	0	0	3.29	58.5
39. Promote attitudes conducive to school safety practices.	14	13	6	0	0	1	4.24	37.5	19	13	1	0	1	3.55	33
40. Prepare proposals for new courses.	18	5	11	0	0	0	4.21	42	16	10	7	0	1	3.27	62
41. Promote effective relationship between employees, local and state administrators.	16	8	9	0	0	1	4.21	42	19	12	3	0	0	3.47	39
42. Evaluate instructors needs for supplies and instructional equipment.	13	16	4	1	0	0	4.21	42	21	9	4	0	0	3.50	36.5
43. Plan new instructional programs.	13	15	6	0	0	0	4.21	42	8	21	5	0	0	3.09	88
44. Evaluate staff.	11	18	4	0	0	1	4.21	42	19	12	3	0	0	3.47	39
45. Serve as acting administrative head in the absence of the superintendent.	16	8	8	1	0	1	4.18	47.5	15	13	2	1	3	3.35	49.5

Table II
Continued

Task or Information Topic	Relative Importance								Frequency of Performance						
	Great Importance	Much Importance	Some Importance	Little Importance	No Importance	No Response	Mean*	Rank	Frequently	Occasionally	Seldom	Never	No Response	Mean*	Rank
46. Develop an effective school safety program.	15	10	7	1	0	1	4.18	47.5	10	19	4	0	1	3.18	75.5
47. Initiate procedures for maintenance of safety practices.	14	11	8	0	0	1	4.18	47.5	16	15	2	0	1	3.42	42
48. Maintain equal documentation in personnel files for fair evaluation of performance	13	14	7	0	0	0	4.18	47.5	11	11	9	3	0	2.88	111
49. Promote personnel development.	13	13	7	0	0	1	4.18	47.5	18	11	4	1	0	3.35	49.5
50. Prepare for and conduct evaluation of instruction.	12	15	6	0	0	1	4.18	47.5	3	26	4	0	1	2.97	101
51. Initiate requests for supplies.	18	6	7	3	0	0	4.15	54	20	7	5	0	2	3.47	39
52. Work with craft advisory committees.	13	15	4	2	0	0	4.15	54	17	10	5	2	0	3.24	69
53. Inspect safety equipment and supplies.	11	17	6	0	0	0	4.15	54	16	14	3	0	1	3.39	43.5
54. Establish and maintain good working relationships with area high schools.	15	13	2	3	1	0	4.12	55.5	14	12	8	0	0	3.18	75.5
55. Maintain good working relationship with news media.	14	12	7	0	1	0	4.12	55.5	14	16	4	0	0	3.29	58.5

Table II
Continued

Task or Information Topic	Relative Importance								Frequency of Performance						
	Great Importance	Much Importance	Some Importance	Little Importance	No Importance	No Response	Mean*	Rank	Frequently	Occasionally	Seldom	Never	No Response	Mean*	Rank
56. Promote professional growth.	13	14	5	2	0	0	4.12	55.5	18	15	1	0	0	3.50	36.5
57. Develop and/or coordinate safety programs.	12	13	8	0	0	1	4.12	55.5	15	14	3	1	1	3.30	55
58. Resolve personnel problems.	13	11	8	1	0	1	4.09	58.5	12	17	4	1	0	3.18	75.5
59. Keep news media informed of school schedules and activities.	12	15	5	2	0	0	4.09	58.5	12	10	8	4	0	2.88	111
60. Evaluate curriculum.	10	17	6	1	0	0	4.06	60	10	18	3	1	2	3.16	80
61. Provide services to public agencies as needed.	11	14	7	0	1	1	4.03	62	16	14	4	0	0	3.35	49.5
62. Maintain standards of quality of purchase items for adequate instruction.	10	17	6	0	1	0	4.03	62	22	4	7	1	0	3.38	45.5
63. Evaluate data on business and industrial needs.	10	15	7	1	0	1	4.03	62	12	14	6	1	1	3.12	83.5
64. Make assignments so as to assure equal work-load where possible.	10	16	7	0	1	0	4.00	65.5	18	10	5	1	0	3.32	54
65. Plan and provide adequate storage and procedure for withdrawal of supplies.	14	10	7	2	1	0	4.00	65.5	18	9	5	2	0	3.26	65
66. Maintain active file of applicants.	14	10	7	2	1	0	4.00	65.5	13	8	6	7	0	2.79	117.5

Table II
Continued

Task or Information Topic	Relative Importance								Frequency of Performance						
	Great Importance	Much Importance	Some Importance	Little Importance	No Importance	No Response	Mean*	Rank	Frequently	Occasionally	Seldom	Never	No Response	Mean*	Rank
67. Recruit staff personnel.	11	11	11	0	0	1	4.00	65.5	9	18	7	0	0	3.06	92.5
68. Interpret procurement policies and procedures.	15	9	5	4	1	0	3.97	71.5	20	4	8	2	0	3.24	69
69. Work cooperatively with area high schools.	14	11	4	4	1	0	3.97	71.5	14	16	3	1	0	3.26	65
70. Prepare long range plans for supplies and equipment.	13	10	9	1	1	0	3.97	71.5	11	14	9	0	0	3.06	92.5
71. Work with advisory committees.	11	12	10	1	0	0	3.97	71.5	18	11	5	0	0	3.38	45.5
72. Keep informed of communications from governing agencies and boards.	12	10	7	3	0	2	3.97	71.5	15	13	3	0	3	3.39	43.5
73. Prepare for and conduct evaluation of personnel.	9	15	8	1	0	1	3.97	71.5	5	24	4	0	1	3.03	94.5
74. Schedule instructional space and time.	8	17	9	0	0	0	3.97	71.5	11	17	4	2	0	3.09	88
75. Assist with the development of instructional goals.	7	20	6	1	0	0	3.97	71.5	12	16	5	1	0	3.15	81.5
76. Write requisitions, departmental purchase orders and emergency purchase orders.	15	7	8	3	1	0	3.94	78	21	6	3	4	0	3.29	58.5
77. Recommend establishment or discontinuance of programs.	11	13	8	1	1	0	3.94	78	11	19	3	1	0	3.18	75.5

Table II
Continued

Task or Information Topic	Relative Importance								Frequency of Performance						
	Great Importance	Much Importance	Some Importance	Little Importance	No Importance	No Response	Mean*	Rank	Frequently	Occasionally	Seldom	Never	No Response	Mean*	Rank
78. Maintain contact with employers.	11	13	7	3	0	0	3.94	78	14	18	2	0	0	3.35	49.5
79. Determine condition of equipment.	12	9	10	2	0	1	3.94	78	17	14	2	0	1	3.45	41
80. Supervise development of instructional programs.	8	16	8	1	0	1	3.94	78	10	21	3	0	0	3.21	71
81. Administer appropriate budget on line item basis.	11	12	9	1	1	0	3.91	82	16	5	11	2	0	3.03	94.5
82. Develop and/or assist in developing long range plans.	10	11	13	0	0	0	3.91	82	13	14	7	0	0	3.18	75.5
83. Work with technical advisory committees.	6	18	9	0	0	1	3.91	82	9	17	7	1	0	3.00	97.5
84. Maintain file of purchasing procedures.	15	7	6	5	1	0	3.88	85.5	18	2	7	7	0	2.91	108
85. Keep abreast of services and activities of other agencies.	11	11	10	1	1	0	3.88	85.5	12	19	3	0	0	3.26	65
86. Determine need for new curricula.	9	13	11	1	0	0	3.88	85.5	8	17	9	0	0	2.97	101
87. Provide staff instruction on safety policies and practices.	8	16	8	2	0	0	3.88	85.5	10	14	8	1	1	3.00	97.5
88. Recognize and resolve problems in procurement of goods and services.	12	10	8	3	1	0	3.85	88.5	23	2	7	2	0	3.35	49.5

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Table II
Continued

Task or Information Topic	Relative Importance								Frequency of Performance						
	Great Importance	Much Importance	Some Importance	Little Importance	No Importance	No Response	Mean*	Rank	Frequently	Occasionally	Seldom	Never	No Response	Mean*	Rank
89. Supervise building and grounds maintenance.	16	15	5	2	2	0	3.85	88.5	20	8	4	2	0	3.35	49.5
90. Research, evaluate and procure educational software and hardware.	10	11	11	1	1	0	3.82	92	12	14	7	1	0	3.09	88
91. Plan and/or conduct in-service activities for personnel development.	10	8	16	0	0	0	3.82	92	11	9	14	0	0	2.91	108
92. Plan facilities in which to house programs.	9	14	7	4	0	0	3.82	92	8	9	15	2	0	2.68	126
93. Supervise and conduct in-service training.	9	11	13	1	0	0	3.82	92	8	12	14	0	0	2.82	115
94. Determine effectiveness of public relations	8	12	12	1	0	1	3.82	92	11	14	8	0	1	3.09	88
95. Inspect purchased items for compliance with specifications.	13	8	7	5	1	0	3.79	95.5	16	7	9	2	0	3.09	88
96. Collect, maintain and update catalogs and G.C.I. contracts.	11	11	7	4	1	0	3.79	95.5	17	2	11	4	0	2.94	104.5
97. Write and/or check procurement documents for compliance.	14	6	9	2	3	0	3.76	99.5	18	8	4	4	0	3.18	75.5
98. Research specification data for supplies and equipment.	12	9	7	5	1	0	3.76	99.5	19	8	5	2	0	3.29	58.5

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Table II
Continued

Task or Information Topic	Relative Importance								Frequency of Performance						
	Great Importance	Much Importance	Some Importance	Little Importance	No Importance	No Response	Mean*	Rank	Frequently	Occasionally	Seldom	Never	No Response	Mean*	Rank
99. Maintain contact and work with civic organizations.	12	7	12	1	2	0	3.76	99.5	14	10	9	1	0	3.09	88
100. Maintain contact with other local, state and federal agencies.	9	11	12	1	1	0	3.76	99.5	15	14	5	0	0	3.29	58.5
101. Prepare instruments and plan techniques for determining business and industrial needs.	8	11	14	1	0	0	3.76	99.5	6	16	12	0	0	2.82	115
102. Participate in placement activities and maintain good records.	7	16	7	4	0	0	3.76	99.5	8	16	9	1	0	2.91	108
103. Plan and coordinate off campus training activities.	12	9	6	6	1	0	3.74	104	11	11	8	4	0	2.85	113
104. Maintain and/or supervise stock levels.	12	7	10	4	1	0	3.74	104	18	6	8	2	0	3.18	75.5
105. Establish and maintain working relationship with local vendeors.	11	8	11	3	1	0	3.74	104	16	5	10	3	0	3.00	97.5
106. Review student records and evaluate progress.	7	12	12	2	0	1	3.73	106	14	11	8	0	1	3.18	75.5
107. Maintain specification file on frequently purchased items.	10	12	5	6	1	0	3.71	107.5	14	4	9	7	0	2.74	120.5
108. Develop long range program plans.	7	13	11	3	0	0	3.71	107.5	5	15	14	0	0	2.74	120.5

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Table II
Continued

	Task or Information Topic	Relative Importance								Frequency of Performance						
		Great Importance	Much Importance	Some Importance	Little Importance	No Importance	No Response	Mean*	Rank	Frequently	Occasionally	Seldom	Never	No Response	Mean*	Rank
109.	Conduct surveys of buildings and grounds.	9	9	12	2	1	1	3.70	109	18	14	1	0	1	3.52	35
110.	Check vendor invoices for compliance.	9	12	5	6	1	1	3.67	110	17	3	7	7	0	2.88	111
111.	Keep abreast of material availability and price changes.	10	10	8	4	2	0	3.65	112.5	17	7	7	3	0	3.12	83.5
112.	Prepare information for release to news media.	7	13	10	3	1	0	3.65	112.5	9	12	7	6	0	2.71	123.5
113.	Develop and maintain a recruitment plan.	6	15	9	3	1	0	3.65	112.5	5	12	16	1	0	2.62	128.5
114.	Conduct orientation and in-service training.	5	14	14	0	1	0	3.65	112.5	10	12	12	0	0	2.94	104.5
115.	Plan in-service activities for teachers.	5	16	7	5	0	1	3.64	115	8	17	9	0	0	2.97	101
116.	Assess recruitment activities.	6	12	12	2	1	1	3.61	116	6	16	10	1	1	2.82	115
117.	Attend professional meetings.	5	15	9	5	0	0	3.59	117	11	17	6	0	0	3.15	81.5
118.	Supervise counseling of students.	7	8	15	3	0	1	3.58	118	9	11	9	5	0	2.71	123.5
119.	Supervise and/or assist with placement and follow-up.	6	12	11	5	0	0	3.56	119.5	8	11	15	0	0	2.79	117.5
120.	Outline, organize and plan self-study for regional accreditation.	4	15	11	4	0	0	3.56	119.5	2	18	11	3	0	2.56	130

Table II
Continued

Task or Information Topic	Relative Importance								Frequency of Performance						
	Great Importance	Much Importance	Some Importance	Little Importance	No Importance	No Response	Mean*	Rank	Frequently	Occasionally	Seldom	Never	No Response	Mean*	Rank
121. Coordinate student activities.	4	15	11	3	1	0	3.53	121	8	13	10	3	0	2.76	119
122. Supervise development of curriculum.	4	13	13	2	1	1	3.52	122	6	22	6	0	0	3.00	97.5
123. Provide for remedial and/or pre-vocational training when needed.	6	12	9	7	0	0	3.50	124.5	3	17	12	2	0	2.62	128.5
124. Maintain membership in appropriate professional organizations.	5	13	10	6	0	0	3.50	124.5	18	9	5	2	0	3.26	65
125. Compile and distribute lists of available instructional materials.	3	17	9	4	1	0	3.50	124.5	11	16	6	1	0	3.09	88
126. Develop and/or assist with development of school catalogs and student handbooks.	1	19	12	0	2	0	3.50	124.5	5	16	11	2	0	2.71	123.5
127. Review and recommend texts, workbooks and references.	3	13	15	3	0	0	3.47	127	9	15	9	1	0	2.94	104.5
128. Participate in long range planning as it relates to recruitment.	3	14	13	3	1	0	3.44	128	3	12	16	3	0	2.44	132.5
129. Direct and/or survey research projects for improvement of curriculum.	5	8	18	2	1	0	3.41	129	4	17	12	1	0	2.71	123.5
130. Serve on committees of professional organizations.	3	14	10	6	1	0	3.35	130	7	10	14	2	1	2.67	127

Table II
Continued

Task or Information Topic	Relative Importance								Frequency of Performance						
	Great Importance	Much Importance	Some Importance	Little Importance	No Importance	No Response	Mean*	Rank	Frequently	Occasionally	Seldom	Never	No Response	Mean*	Rank
131. Prepare recruitment materials.	1	13	15	4	1	0	3.26	131	5	7	20	2	0	2.44	132.5
132. Maintain file of all news releases.	3	11	12	6	2	0	3.21	132.5	8	9	10	7	0	2.53	131
133. Promote professional organizations, membership and activities.	2	11	14	6	1	0	3.21	132.5	10	13	10	1	0	2.94	104.5
134. Control and administer petty cash disbursements.	5	11	7	6	5	0	3.15	134	6	7	10	11	0	2.24	134

Table III

VOCATIONAL REGIONAL SUPERVISORS ACTIVITIES
RANKED ACCORDING TO IMPORTANCE AND FREQUENCY OF PERFORMANCE

Task or Information Topic	Relative Importance								Frequency of Performance						
	Great Importance	Much Importance	Some Importance	Little Importance	No Importance	No Response	Mean*	Rank	Frequently	Occasionally	Seldom	Never	No Response	Mean*	Rank
1. Assist with the planning, organizing and implementing of vocational programs according to the provisions of the Tennessee State Plan for Vocational Education.	28	1	0	0	0	0	4.97	1	24	5	0	0	0	3.83	6.5
2. Provide special assistance to new teachers.	25	3	1	0	0	0	4.83	2	24	4	1	0	0	3.79	9
3. Orient local administrators, supervisors, and guidance counselors to the purpose of the program.	21	8	0	0	0	0	4.72	3.5	16	13	0	0	0	3.55	19.5
4. Provide pre-service and in-service training.	23	4	2	0	0	0	4.72	3.5	20	7	2	0	0	3.62	16.5
5. Establish rapport with all levels of administrative, supervisory and instructional personnel.	21	7	1	0	0	0	4.69	5	25	3	1	0	0	3.83	6.5
6. Work toward up-grading of self and improving professionally.	20	8	1	0	0	0	4.66	6	20	9	0	0	0	3.69	13
7. Plan, organize and direct conferences and/or workshops.	20	7	2	0	0	0	4.62	7.5	17	12	0	0	0	3.59	18

* Mean does not include no response.

Table III
Continued

Task or Information Topic	Relative Importance								Frequency of Performance						
	Great Importance	Much Importance	Some Importance	Little Importance	No Importance	No Response	Mean*	Rank	Frequently	Occasionally	Seldom	Never	No Response	Mean*	Rank
8. Attend and participate in workshops, professional meetings and staff meetings.	20	7	2	0	0	0	4.62	7.5	25	4	0	0	0	3.86	3
9. Establish and maintain supervisory professional standards.	18	9	1	0	0	1	4.61	9	24	4	0	1	0	3.76	10
10. Consult with architects and planners in planning school facilities.	18	10	1	0	0	0	4.59	10	8	17	4	0	0	3.14	36
11. Assist local administrators and instructional personnel with the interpretation of the rules, regulations, and minimum standards of the State Board for Vocational Education.	18	9	2	0	0	0	4.55	12	16	11	2	0	0	3.48	24.5
12. Recommend and review equipment needs for vocational programs.	17	11	1	0	0	0	4.55	12	20	8	1	0	0	3.66	15
13. Develop a working knowledge of the total vocational program.	18	9	2	0	0	0	4.55	12	24	5	0	0	0	3.83	6.5
14. Belong to appropriate professional organizations and encourage teacher participation.	16	12	1	0	0	0	4.52	14	25	4	0	0	0	3.86	3

Table III
Continued

Task or Information Topic	Relative Importance								Frequency of Performance						
	Great Importance	Much Importance	Some Importance	Little Importance	No Importance	No Response	Mean*	Rank	Frequently	Occasionally	Seldom	Never	No Response	Mean*	Rank
15. Observe instruction in the classrooms and laboratories.	16	11	2	0	0	0	4.48	16	24	5	0	0	0	3.83	6.5
16. Review plans and make recommendations on physical facilities.	15	13	1	0	0	0	4.48	16	16	12	1	0	0	3.52	22.5
17. Encourage cooperation between vocational programs and general education programs.	15	13	1	0	0	0	4.48	16	20	9	0	0	0	3.69	13
18. Keep up to date on technical and professional information by reading and doing research.	17	8	4	0	0	0	4.45	18.5	20	9	0	0	0	3.69	13
19. Listen to teachers' problems and concerns.	16	10	3	0	0	0	4.45	18.5	25	4	0	0	0	3.86	3
20. Work with local, state, and national personnel in organizing and developing vocational student organizations and activities.	16	9	4	0	0	0	4.41	20	22	6	1	0	0	3.72	11
21. Assist local administrators in developing local contracts, proposals, and grants.	15	10	4	0	0	0	4.38	22	16	12	1	0	0	3.52	22.5
22. Prepare, maintain, analyze, and utilize appropriate records and files in the regional office.	13	14	2	0	0	0	4.38	22	28	1	0	0	0	3.97	1

Table III
Continued

Task or Information Topic	Relative Importance								Frequency of Performance						
	Great Importance	Much Importance	Some Importance	Little Importance	No Importance	No Response	Mean*	Rank	Frequently	Occasionally	Seldom	Never	No Response	Mean*	Rank
23. Keep all teaching materials current.	14	12	3	0	0	0	4.38	22	17	10	0	1	1	3.54	21
24. Consult with teacher educators in identifying materials, methods, techniques, and procedures for successful teaching.	13	12	4	0	0	0	4.31	24.5	12	11	6	0	0	3.21	32
25. Plan and implement youth club activities such as, Camp Clement work, officer training conferences, State and National conferences.	12	14	3	0	0	0	4.31	24.5	21	5	1	2	0	3.55	19.5
26. Schedule and plan youth club conferences, competitive events and provide judges for competition events.	13	11	5	0	0	0	4.28	26	18	9	0	2	0	3.48	24.5
27. Prepare curriculum guides and other curriculum aids for various subjects and grade levels.	11	14	4	0	0	0	4.24	27	8	19	2	0	0	3.21	32
28. Interpret and clarify teacher certification requirements for vocational personnel.	10	15	4	0	0	0	4.21	28	18	11	0	0	0	3.62	16.5
29. Provide guidance services to administrators, counselors, teachers, and students as related to vocational programs.	9	15	5	0	0	0	4.14	29	9	11	8	1	0	2.97	40

Table III
Continued

Task or Information Topic	Relative Importance								Frequency of Performance						
	Great Importance	Much Importance	Some Importance	Little Importance	No Importance	No Response	Mean*	Rank	Frequently	Occasionally	Seldom	Never	No Response	Mean*	Rank
30. Study plans and programs of other states to determine trends and emphasis in education.	9	14	6	0	0	0	4.10	30.5	11	14	4	0	0	3.24	30
31. Assist in planning, developing, organizing, and evaluating of adult preparatory and supplemental programs.	7	18	4	0	0	0	4.10	30.5	11	12	5	1	0	3.14	36
32. Provide evaluation for all phases of vocational-technical education.	8	15	6	0	0	0	4.07	32.5	10	15	1	3	0	3.10	38
33. Develop and disseminate instructional materials.	7	16	5	0	0	1	4.07	32.5	13	12	4	0	0	3.31	28
34. Utilize the help of lay groups in planning programs to better reflect community needs.	8	14	7	0	0	0	4.03	34	3	16	8	2	0	2.69	47
35. Establish a functional relationship with other groups in and out of schools.	6	17	6	0	0	0	4.00	35	9	11	9	0	0	3.00	39
36. Make progress reports to acquaint the administration and co-workers with the activities of specialized areas.	8	12	8	1	0	0	3.93	36	13	13	3	0	0	3.34	27
37. Give assistance in the promotion and organization of local advisory committees.	5	16	8	0	0	0	3.90	37.5	1	21	6	1	0	2.76	46

Table III
Continued

Task or Information Topic	Relative Importance								Frequency of Performance						
	Great Importance	Much Importance	Some Importance	Little Importance	No Importance	No Response	Mean*	Rank	Frequently	Occasionally	Seldom	Never	No Response	Mean*	Rank
38. Assist local administrators and instructional personnel with the interpretation of the rules, regulations, and minimum standards of the State Board for Vocational Education.	5	16	8	0	0	0	3.90	37.5	2	16	10	1	0	2.66	48
39. Supply career information needed by school personnel.	8	10	10	1	0	0	3.86	39.5	10	17	2	0	0	3.28	29
40. Assist in evaluating and recommending of adoption of textbooks and materials.	3	19	7	0	0	0	3.86	39.5	1	21	7	0	0	2.79	45
41. Provide demonstration lessons of new techniques or teaching methods.	6	13	8	2	0	0	3.79	41	5	16	8	0	0	2.90	42
42. Assist in recruiting teachers.	4	15	9	1	0	0	3.76	42	9	16	4	0	0	3.17	34
43. Maintain equipment inventory, tag equipment purchased by state and encourage local systems to keep in repair.	5	12	8	3	0	1	3.68	43	14	13	2	0	0	3.41	26
44. Prepare and provide statistical information on request.	3	12	14	0	0	0	3.62	45	8	19	2	0	0	3.21	32
45. Provide assistance in local banquets, meetings, etc., by attending and speaking when requested.	2	15	11	1	0	0	3.62	45	9	15	5	0	0	3.14	36

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Table III
Continued

Task or Information Topic	Relative Importance								Frequency of Performance						
	Great Importance	Much Importance	Some Importance	Little Importance	No Importance	No Response	Mean*	Rank	Frequently	Occasionally	Seldom	Never	No Response	Mean*	Rank
46. Assist in schedule planning.	1	16	12	0	0	0	3.62	45	3	20	6	0	0	2.90	42
47. Work with community and civic groups.	2	13	14	0	0	0	3.59	47	3	21	4	1	0	2.90	42
48. Review, approve, and process student training agreement.	5	8	13	2	1	0	3.48	48	10	9	6	4	0	2.86	44
49. Assist in the preparation of departmental budgets for supplies and instructional aides.	0	15	12	2	0	0	3.45	49	3	17	4	5	0	2.62	49
50. Assist teachers in identification of students' handicaps--physical, mental, and/or emotional.	1	12	14	1	1	0	3.38	50	11	14	4	0	0	3.24	30
51. Assist teachers in research and development of projects.	2	11	12	3	1	0	3.34	51	0	14	15	0	0	2.48	50
52. Maintain contact with manpower and employment agencies.	0	11	16	2	0	0	3.31	52	2	10	14	3	0	2.38	52

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SECTION IV

VOCATIONAL ADMINISTRATORS CONFERENCE

Introduction

A second goal of this project was to explore innovative approaches in the utilization of the identified tasks and related information to train new vocational administrators and upgrade existing personnel. To explore all the possibilities for the utilization of this material would, of course, be beyond the scope of this project. However, a one-week conference was held from August 4-8, 1975, in an effort to explore one possibility in the utilization of this material. The purpose of the conference was to assist present vocational school administrators to improve their administrative and supervisory capabilities and to provide new administrators with the background necessary for assuming their duties in the fall. Area vocational-technical school administrators and selected administrators, directors and/or coordinators of vocational high schools or departments from throughout the State of Tennessee were invited to attend.

Pre-Conference Activities

Dr. James Lorenz, director of the conference, was employed three weeks prior to the beginning of the conference to prepare for the conference. Several meetings were held prior to and during this period with Dr. Lorenz and Mr. Charlie M. Dunn, Director of Vocational-Technical Education at MTSU, for the purpose of developing plans for the conference. At this time, meetings were also held with Mr. H. D. Jared and

Mr. Maurice Jackson of the Tennessee Division of Vocational-Technical Education for the purpose of receiving their input in the selection of conference participants and in the design and selection of conference activities.

In addition to planning for the conference, materials were developed for utilization in the conference. These included an annotated bibliography on the administration and supervision of vocational-technical education, a list of vocational material at the Middle Tennessee State University library, a series of daily conference evaluation forms, and administrative case studies. Arrangements were also made to offer university credit for those conference participants desiring it, for facilities to house the conference, and for housing for the conference participants at both on and off campus locations. During this period considerable time and care were taken in the selection and notification of individuals who were to make presentations at the conference. Finally, several mailings were prepared for the notification and confirmation of potential conference participants.

Conference Participants

As stated earlier, the conference was designed to be of interest to two broad classifications of vocational administrators: those who were currently serving vocational education in some administrative capacity and those who were to assume their duties in the fall of 1975. Therefore, a list of possible participants was developed; and invitations were mailed to the administrators of all 26 Tennessee area vocational-technical schools and 34 county superintendents of schools in Tennessee. The county superintendents of schools were asked to

forward the invitation to the appropriate administrator in their county. As a result, ten superintendents of area vocational-technical schools, an assistant superintendent of an area vocational school, a county vocational director, a county superintendent of schools, a director of a vocational high school, and a principal of an elementary school accepted the invitation to attend the conference. A list of the names and addresses of the 15 conference participants may be found in Appendix J. The relatively small turn out may have been due in part to the fact that due to a delay in the final approval of the project invitations were not mailed until July 17, just two and one-half weeks before the start of the conference. There were advantages to having a small group, however, because newly developed materials were presented and careful evaluation was essential. Prior to the start of the conference, each of the participants was mailed a letter of welcome and a conference agenda to aid in their preparation for the conference.

Facilities

The conference was held in the University Center of Middle Tennessee State University. Three rooms were utilized for both large and small group work. The facility also houses a bookstore, post office, and restaurant for the convenience of the participants. Housing was made available both on campus in university dormitories and at nearby motels.

Conference Activities

The conference was designed so as to utilize the previously developed tasks and related information in an effective and interesting

manner. The first step was to take the 66 tasks identified by superintendents of area vocational-technical schools and group them for effective presentations, small and large group work. Experienced administrators and state personnel, along with the classification of the task statements by the superintendents responding to the survey, were used for this purpose. The task lists for assistant superintendents and area supervisors had not been completed at this time and as a result were not used. This grouping resulted in the selection of the general categories of Administration and Supervision, Program Planning and Organization, Public Relations, Placement and Follow-up, Evaluation, and Professional Improvement. Appropriate topics for presentations and for large and small group work were then identified for each of these categories. Finally, individuals were chosen to make presentations for the appropriate topics. In an effort to make the conference as meaningful as possible, only individuals currently practicing as administrators who had demonstrated competence in the chosen topic were selected to make presentations. A copy of the agenda prepared for the participants as well as a list of the names and addresses of conference presenters may be found in Appendix K.

A brief description of each of the ten sessions follows:

Session 1, Monday, August 4, 8:00 a.m. - 12:00 noon. Session 1 was designed as an organizational meeting for all participants. Time was devoted to registration for the conference and registration for university credit for the four of the fifteen participants who desired it. Certificates of attendance were awarded by the Middle Tennessee State University Office of Continuing Education to those individuals not desiring university credit. Registration was followed by an overview of the

conference presented by Mr. Charlie M. Dunn. During this presentation, conference goals and objectives were clarified. Finally, time was allotted for a get-acquainted session.

Session 2, Monday, August 4, 1:00 p.m. - 4:30 p.m. The afternoon session began with a welcome by Dr. E. S. Voorhies, Dean of the School of Basic and Applied Sciences, and Dr. Jack Carlton, Vice President for Academic Affairs. Mr. Edward L. Weld, Director, Nashville State Technical Institute followed the welcoming remarks with a presentation on the effective use of advisory committees. The session closed with a presentation by Dr. S. B. Keathley on the principles of administration and supervision. Questions and reactions by the participants were encouraged during and after each presentation.

Session 3, Tuesday, August 5, 8:00 a.m. - 12:00 noon. As a follow-up of Dr. Keathley's presentation the previous day, this session began with a large group meeting in which the entire group identified some major concerns or problems involving the administration and supervision of vocational education. The large group was then divided into three smaller groups, with each group brainstorming solutions to several of the identified problems. The session concluded with a large group meeting involving presentations and discussions concerning the various problems and their solutions.

Session 4, Tuesday, August 5, 1:00 p.m. - 4:30 p.m. Highlighting the fourth session were presentations by Mr. H. D. Jared, Director of Field Services and Mr. Maurice Jackson, Director of State Area Vocational-Technical Schools of the Division of Vocational-Technical Education. Mr. Jared and Mr. Jackson discussed the various state services which are available through their respective offices. Time was allotted for questions and answers.

The remainder of the session was spent in planning for a mock advisory committee meeting to be held on Thursday afternoon. An assignment sheet with suggested guidelines was provided for this purpose. It had been decided that role playing the planning and conducting of such a meeting would be an ideal way to apply and reinforce some of the ideas presented by Mr. Weld during the second session.

Session 5, Wednesday, August 6, 8:00 a.m. - 12:00 noon. Mr. Tom Hinson, Director of Fiscal Affairs of the State Division of Vocational Education, opened the fifth session with a presentation on state budgetary policies and procedures. Mr. Dean Ward, Superintendent of Hartsville State Area Vocational-Technical School and one of the conference participants, concluded the topic of budgeting with a presentation entitled "Institutional Budgeting and Management". "Utilizing Community Resources" was the final topic of the morning session. Mr. James Pierce, Superintendent of Tri-Cities Area Vocational-Technical School discussed a variety of principles and ideas for administering this very important area.

Session 6, Wednesday, August 6, 1:00 p.m. - 4:30 p.m. McKenzie State Area Vocational-Technical School Superintendent, Mr. Guy R. Kirk, opened the afternoon session with a presentation on the supervision of instruction. The question and answer period which followed Mr. Kirk's presentation indicated a great deal of interest in this area. In an effort to sustain this interest, the participants were divided into three small groups with each group being asked to react to several different case studies involving administration and supervision. The small group reactions were then presented to the total group at the conclusion of the afternoon session.

Session 7, Thursday, August 7, 8:00 a.m. - 12:00 noon. Mrs. Dee Wilder began the seventh session with a presentation on the materials and services available through the Tennessee Research Coordinating Unit. After a short break, Ms. Martha Henegar, Director of Public Relations at Nashville State Technical Institute, presented a variety of ideas on the use of effective public relations activities.

Session 8, Thursday, August 7, 1:00 p.m. - 4:30 p.m. At this time, the participants decided there was a need to clarify and restate the problems originally discussed during the third session so that they could be brought to the attention of the appropriate personnel for action. A list of the concerns stated by the participants using the conference technique may be found in Table IV.

The participants concluded the session by role playing an advisory committee meeting. Mr. Dunn and Dr. Keathley reacted to the role playing and a discussion followed.

Session 9, Friday, August 8, 8:00 a.m. - 1:00 p.m. Mr. Paul Robertson, Specialist II in Curriculum Development for Area Vocational Technical Schools, began the final session with a discussion of the State Record System of Enrollment, Placement and Follow-up. A related topic was presented by Mr. Ralph Brown, Research Assistant for the Research Coordinating Unit, in discussion the State Record System for Secondary Schools.

Following a short break, Mr. William Harrison, Executive Director of the State Advisory Council on Vocational Education, made a presentation on instructional program evaluation. Mr. Robert Evans of the Tennessee Division of Vocational-Technical Education concluded the morning session with a presentation on institutional self-study and

TABLE IV

ADMINISTRATIVE CONCERNS

Concerns	Area of Applicability	
	AVTS	Local School Systems
1. The need for entertainment expense (meals for advisory committees).	X	X
2. Professional Improvement		
(a) Pre-Service	X	X
(b) In-Service	X	X
(c) Certification	X	X
3. Enrollment requirements of outside agencies (Health Occupations and Cosmetology)	X	X
4. Identifying and planning for projected new jobs.	X	
5. Problems of supervising instruction.	X	X
6. Instructional and program evaluation.	X	X
7. Instructional resources.	X	X
8. Funding formula for vocational programs.	X	X
9. Recruitment and retention of qualified staff.	X	X
10. Criteria for phasing out programs.	X	X
11. Legal responsibilities of administration.	X	X
12. The need for communication between the State Board and administrators.	X	X
13. Defining the responsibilities of state supervisors.	X	X

accreditation as related to state area vocational-technical schools. The final presenter was unable to attend the afternoon session so the conference participants turned their attention to a final evaluation of the conference. A discussion of the evaluation procedures and results for each session as well as the conference as a whole follows.

Evaluation

From the outset, both formative and summative evaluations were considered essential. In order to obtain information during the process of the conference which might influence subsequent sessions, a simple form (see figure 1) was devised which the participants were asked to complete at the end of each session. The form varied slightly from day to day depending on the topic or topics covered. A summary of each day's ratings and comments may be found in Appendix L.

Figure 1

SESSION NUMBER 6 SUPERVISION OF INSTRUCTION

Overall, this session was:

_____ excellent _____ very good _____ good _____fair_____ good

Comments:

In my present position, the material presented during this session will be:

_____ very useful _____ somewhat useful _____ not useful

Comments:

Up to this point, has the conference lived up to your expectations?

_____ yes _____ no _____ undecided

If no or undecided, what suggestions do you have for improving the conference?

In addition, daily informal discussions were held to ascertain the reactions of the participants to specific parts of the programs. The results of these written and oral communications were quite encouraging; and when feasible, changes in the program were made as a result of this information.

During the evaluation on the final day of the conference, the participants were divided into three small groups and asked to react to each of the following questions or statements in the absence of the conference director. Wh .eatures of the conference did you like best? What features did you like least? Briefly evaluate the conference. What suggestions do you have for improving future conferences of this nature?

The features liked most about the conference were:

* Relevant problems covered.
* Individual participation.
* The identification of the twelve concerns and a promise of a follow-up on these.
* Flexibility allowed for individual input.
* Cross-section of consultants and subject areas.
* Time provided participants to express their concern.

The features liked least about the conference were:

* Cold rooms (two groups made this comment).
* Sitting too long.
* Too many individual administrative problems brought up.
* Too much time on Research Coordinating Unit.

In briefly evaluating the conference, two groups rated it excellent; and one group rated it very good. The following suggestions were made for improving future conferences of this type:

* Bring this type of conference to different parts of the state.
* Have this type of conference for assistant superintendents and counselors.
* More time to discuss the results of group conferences.
* Six hour day.
* Wider variety of participants such as local directors, principals, comprehensive personnel.
* More pre-planning by participants in order to provide consultants with advance concerns so that their presentations could be keyed to these concerns.

Summary

A vocational administrators conference was held from August 4-8, 1975, for the purpose of assisting present vocational school administrators in improving their administrative and supervisory capabilities and to provide new administrators with the background necessary for assuming their duties this fall. The director of the conference, Dr. James Lorenz, was employed for a period of three weeks prior to the beginning of the conference. His duties during this period included planning sessions with university, local, and state personnel, developing materials to be utilized in the workshop, selecting and notifying potential participants, and securing the necessary facilities. The workshop itself was designed to utilize the previously developed tasks and related information. An informal format was chosen for the conference in which practicing administrators conducted sessions on selected topics. The results of both the formative and summative evaluations indicated that the conference had been a valuable experience for all concerned.

SECTION V

SUMMARY AND RECOMMENDATIONS

Summary

Continued expansion of vocational and technical education has resulted in the need for additional administrative and supervisory personnel, as well as ways and means of upgrading existing personnel. As a first step in meeting this demand, this project was designed to systematically identify the tasks and items of related information required of superintendents of area vocational-technical schools, assistant superintendents of area vocational-technical schools, and regional supervisors of vocational education. A second major goal of this project was to explore innovative ways to utilize the information gathered in phase one of the project.

Initially, selected administrators from each of the three administrative groups met in separate conferences for the purpose of identifying the tasks and items of related information considered to be essential to their respective positions. The information obtained from each group was then mailed to all administrators in the State of Tennessee within that particular group for the purpose of identifying the relative importance of each task or bit of information as well as the frequency with which it was performed. Phase one of this project was completed with the tabulation of the results of the three surveys.

The exploration of a large number of possibilities for the utilization of this material was beyond the scope of this project.

However, a one-week conference was held from August 4-8, 1975, for the purpose of assisting present vocational school administrators in improving their administrative skills and to provide new administrators with the background necessary for assuming their duties in the fall. Fifteen vocational administrators representing both area vocational-technical schools and local systems participated in a variety of activities organized around the topics of program planning and organization, public relations, placement and follow-up, evaluation, and professional improvement. The conference, which was rated a success by the participants, utilized experienced practicing vocational administrators to conduct each session.

The potential value of this project, however, lies in the continued and imaginative use of the identified administrative tasks and related information. A few possibilities are presented below.

Recommendations

As a result of the type of information and experiences gained from the project, the following recommendations are made for the utilization of this material.

1. To determine which tasks and information topics are peculiar to specific administrative positions.
2. To determine if personnel are performing all tasks required of them or if there are other tasks which should be introduced.
3. To develop plans for self-evaluation.
4. To provide content for up-dating existing curricula for training new personnel.

5. To provide content for up-dating personnel already employed.

6. To provide content for additional inservice and preservice conferences.

APPENDIX A

INFORMATION RELATING TO CONFERENCE FOR SELECTED SUPERINTENDENTS OF AREA VOCATIONAL-TECHNICAL SCHOOLS

MIDDLE TENNESSEE STATE UNIVERSITY

MURFREESBORO, TENNESSEE 37130

OFFICE OF VOCATIONAL-TECHNICAL EDUCATION TELEPHONE (615) 898-2613

August 27, 1974

Mr. Burton Ingram, Superintendent
Crossville State Area Vocational-Technical School
P. O. Box 725
Crossville, Tennessee 38555

Dear Mr. Ingram:

You are invited to attend and participate in a two-day conference (either in Nashville or Murfreesboro) on Tuesday and Wednesday, October 8 and 9, 1974. Your expenses will be paid by Middle Tennessee State University under a grant provided by the Division of Vocational and Technical Education.

Detailed information on location, motel reservation, and transportation to and from the airport will be sent to you later. A copy of the project proposal is enclosed for your information.

The purpose of the conference is to draw upon your knowledge and experience as a vocational school administrator to determine content for future courses, workshops and programs for administrators and supervisory personnel.

Your acceptance and participation in this conference will be of tremendous value to the continued development of the total program of Vocational-Technical Education in Tennessee. I hope you can attend and request that you let me know by returning the enclosed card by September 6, 1974.

Sincerely yours,

Charlie M. Dunn
Director

jt

Enclosure

cc: Mr. Maurice Jackson
Mr. Guy Wilmoth

CONFERENCE PARTICIPANTS

Mr. Clarence Breeding, Superintendent
Jacksboro State Area
Vocational-Technical School
Route 1
Jacksboro, TN 37757

Mr. James Crain, Superintendent
Hohenwald State Area
Vocational-Technical School
P. O. Box 168
Hohenwald, TN 38462

Mr. Jonah Fitch, Superintendent
McMinnville State Area
Vocational-Technical School
Highway 70 South
McMinnville, TN 37110

Mr. Burton Ingram, Superintendent
Crossville State Area
Vocational-Technical School
P. O. Box 725
Crossville, TN 38555

Mr. Farrell Kennedy, Superintendent
Harriman State Area
Vocational-Technical School
P. O. Box 585
Harriman, TN 37748

Mr. Guy Kirk, Superintendent
McKenzie State Area
Vocational-Technical School
Highway 22 North
McKenzie, TN 38201

Mr. W. B. Long, Superintendent
Pulaski State Area
Vocational-Technical School
P. O. Box 271
Pulaski, TN 38478

Mr. Ralph Mitchell, Superintendent
Chattanooga State Area
Vocational-Technical School
4401 Amnicola Highway
Chattanooga, TN 37406

Mr. James Pierce, Superintendent
Tri-Cities State Area
Vocational-Technical School
P. O. Box 246
Blountville, TN 37167

Mr. Eugene Smith, Superintendent
Morristown State Area
Vocational-Technical School
P. O. Box 130
Morristown, TN 37814

Mr. John Smith, Superintendent
Athens State Area
Vocational-Technical School
P. O. Box 148
Athens, TN 37303

Mr. Dean Ward, Superintendent
Hartsville State Area
Vocational-Technical School
Highway 25 East
Hartsville, TN 37074

AV-TS Superintendents' Conference

Ramada Inn

Murfreesboro, Tennessee

October 8-9, 1974

Conference Purpose: To Determine Performance Tasks of AV-TS Superintendents

Conference Director: Charlie M. Dunn

Conference Leader: Dr. S. B. Keathley

S C H E D U L E

October 7	Travel
6:00 p.m.	Dinner Meeting and Conference Briefing
October 8	
7:00 a.m.	Breakfast
8:30 - 11:30 a.m.	Conference
11:30 a.m.	Lunch
1:00 - 4:00 p.m.	Conference
October 9	Same schedule as first day to 3:00 p.m. adjournment

APPENDIX B

SAMPLE FORMAT OF SURVEY INSTRUMENTS FOR SUPERINTENDENTS OF AREA VOCATIONAL-TECHNICAL SCHOOLS

MIDDLE TENNESSEE STATE UNIVERSITY

MURFREESBORO, TENNESSEE 37130

OFFICE OF VOCATIONAL-TECHNICAL EDUCATION TELEPHONE (615) 898-2613

MEMORANDUM

TO: Area Vocational-Technical School Superintendents

FROM: Charlie M. Dunn, Director
Vocational-Technical Education
Middle Tennessee State University

SUBJECT: Project - Determining Teaching Content

DATE: March 12, 1975

Under an approved project to determine teaching content for vocational school administrators, twelve superintendents participated in a two-day workshop here at Middle Tennessee State University. This conference was held on October 8 and 9, 1974. The work of that group resulted in identification of twenty functions which are listed in Form 3a of the enclosed material.

A list of sixty-six specific activities have been identified as tasks normally performed by vocational school administrative personnel including local directors of vocational education. These activities are also included in the enclosed material.

I am soliciting your assistance and help in accomplishing the following:

1. Determine the relative importance of each of the sixty-six identified activities. Form 1, consisting of five pages, has been prepared as a check sheet so that you may read each activity and check in the appropriate place its relative importance in the work of a vocational school administrator.

2. It is also of importance to us to determine the frequency of performance of the sixty-six activities. Form 2, consisting of five pages, is to be used as a check sheet to determine the frequency of the listed activities. Simply check in the appropriate space your opinion as to the frequency each of the activities are performed by you as an administrator.

3. The third and final request is that you review the twenty functions which are listed on Form 3a with an assigned function number. Using this listing as a reference list, please enter the number of the appropriate function on Form 3b so as to classify each of the activities by function. As an example, on Form 3b, item 3 identifies the activity to promote and demonstrate good public relations. You are requested to enter the appropriate function number under which this activity should be listed.

I realize that this will take some time, but I also feel that it is of importance to the development of appropriate courses, workshops, conferences, and other activities for the further development of administrative personnel. Your fellow superintendents who participated in the two-day conference contributed in a very fine way to this project, and you have the opportunity now of helping complete it so the material may be put to use for the above stated purpose.

I would appreciate receiving your response by Tuesday, April 1, 1975. Thanking you in advance for your cooperation.

jt

VOCATIONAL SCHOOL ADMINISTRATOR SURVEY

Relative Importance of Activities

Activities	IMPORTANCE: Great Importance	Much Importance	Some Importance	Little Importance	No Importance
1. Work cooperatively with local, state and federal agencies in developing local vocational programs.					
2. Keep the public informed of the vocational programs offered by the school.					
3. Promote and demonstrate good public relations.					
4. Explain goals and scope of vocational education to other school administrators and other individuals and groups.					
5. Plan and prepare the annual budget.					
6. Determine local community needs.					
7. Translate community and manpower needs into meaningful vocational programs.					
8. Work cooperatively with persons and groups in developing a total educational program.					
9. Provide for continuous evaluation of vocational programs.					
10. Plan and organize orientation for new vocational teachers.					
11. Assist in design and equipping of new facilities and/or programs.					
12. Keep up to date on new occupational teaching materials and methods.					

VOCATIONAL SCHOOL ADMINISTRATOR SURVEY

Frequency of Performance of Activities

Activities	Activity is Performed	Frequently	Occasionally	Seldom	Never
1. Work cooperatively with local, state, and federal agencies in developing local vocational programs.					
2. Keep the public informed of the vocational programs offered by the school.					
3. Promote and demonstrate good public relations.					
4. Explain goals and scope of vocational education to other school administrators and other individuals and groups.					
5. Plan and prepare the annual budget.					
6. Determine local community needs.					
7. Translate community and manpower needs into meaningful vocational programs.					
8. Work cooperatively with persons and groups in developing a total educational program.					
9. Provide for continuous evaluation of vocational programs.					
10. Plan and organize orientation for new vocational teachers.					
11. Assist in design and equipping of new facilities and/or programs.					
12. Keep up to date on new occupational teaching materials and methods.					
13. Prepare annual and long-range goals of programs.					

VOCATIONAL SCHOOL ADMINISTRATOR SURVEY

List of Identified Functions

Function Number	Function
1	Organizational
2	Management
3	Administrative
4	Supervisory
5	Public Relations
6	Fiscal
7	Evaluation
8	Record Keeping
9	Promotional
10	Planning
11	Consultation
12	Communication
13	Recruitment
14	Placement
15	Follow-up
16	Personnel Development
17	Professional Improvement
18	Guidance and Counseling
19	Research

VOCATIONAL SCHOOL ADMINISTRATOR SURVEY

Classification of Activities by Function

Activities	Enter number of appropriate function
1. Work cooperatively with local, state, and federal agencies in developing local vocational programs.	
2. Keep the public informed of the vocational programs offered by the school.	
3. Promote and demonstrate good public relations.	
4. Explain goals and scope of vocational education to other school administrators and other individuals and groups.	
5. Plan and prepare the annual budget.	
6. Determine local community needs.	
7. Translate community and manpower needs into meaningful vocational programs.	
8. Work cooperatively with persons and groups in developing a total educational program.	
9. Provide for continuous evaluation of vocational programs.	
10. Plan and organize orientation for new vocational teachers.	
11. Assist in design and equipping of new facilities and/or programs.	
12. Keep up to date on new occupational teaching materials and methods.	

APPENDIX C

SUPERINTENDENTS OF AREA VOCATIONAL-TECHNICAL SCHOOLS PARTICIPATING IN THE SURVEY

SUPERINTENDENTS - SURVEY PARTICIPANTS

Mr. Robert Barnett
Athens State Area
Vocational-Technical School
P. O. Box 148
Athens, TN 37303

Mr. James Bibb
Covington State Area
Vocational-Technical School
P. O. Drawer B
Covington, TN 38019

Mr. Aris G. Blakley
Oneida State Area
Vocational-Technical School
P. O. Box 407
Oneida, TN 37841

Mr. Clarence Breeding
Jacksboro State Area
Vocational-Technical School
Route 1
Jacksboro, TN 37757

Mr. James C. Crain
Hohenwald State Area
Vocational-Technical School
P. O. Box 168
Hohenwald, TN 38462

Mr. H. T. Crim
Newburn State Area
Vocational-Technical School
Highway 51, North
Newburn, TN 38059

Mr. Lacy Downey
Paris State Area
Vocational-Technical School
Harding Road
Paris, TN 38242

Mr. G. G. Eichholz
Memphis State Area
Vocational-Technical School
620 Mosby Avenue
Memphis, TN 38105

Mr. Jonah Fitch
McMinnville State Area
Vocational-Technical School
Highway 70, South
McMinnville, TN 37110

Mr. Tommy G. Hall
Ripley State Area
Vocational-Technical School
South Industrial Park
Ripley, TN 38063

Mr. Burton Ingram
Crossville State Area
Vocational-Technical School
P. O. Box 725
Crossville, TN 38555

Mr. Robert Ivy
Dickson State Area
Vocational-Technical School
Highway 46
Dickson, TN 37055

Mr. James Jobe
Shelbyville State Area
Vocational-Technical School
P. O. Box 164
Shelbyville, TN 37160

Mr. Farrell Kennedy
Harriman State Area
Vocational-Technical School
P. O. Box 585
Harriman, TN 37748

Mr. Guy Kirk
McKenzie State Area
Vocational-Technical School
Highway 22, North
McKenzie, TN 38201

Mr. Delbert Kitts
Knoxville State Regional
Vocational-Technical School
1100 Liberty Street
Knoxville, TN 37919

Mr. W. B. Long
Pulaski State Area
Vocational-Technical School
P. O. Box 271
Pulaski, TN 38478

Mr. Ralph Mitchell
Chattanooga State Area
Vocational-Technical School
4401 Amnicola Highway
Chattanooga, TN 37406

Mr. John Neece
Elizabethton State Area
Vocational-Technical School
Arney Street
Elizabethton, TN 37643

Mr. James Pierce
Tri-Cities State Regional
Vocational-Technical School
P. O. Box 246
Blountville, TN 37167

Mr. Jack Sandlin
Nashville State Area
Vocational-Technical School
100 White Bridge Road
Nashville, TN 37209

Mr. Eugene Smith
Morristown State Area
Vocational-Technical School
P. O. Box 130
Morristown, TN 37814

Mr. Thomas J. Smith
Livingston State Area
Vocational-Technical School
Airport Road
Livingston, TN 38570

Mr. Dean Ward
Hartsville State Area
Vocational-Technical School
Highway 25, East
Hartsville, TN 37074

APPENDIX D

INFORMATION RELATING TO CONFERENCE FOR SELECTED ASSISTANT SUPERINTENDENTS OF AREA VOCATIONAL-TECHNICAL SCHOOLS

MIDDLE TENNESSEE STATE UNIVERSITY

MURFREESBORO, TENNESSEE 37130

OFFICE OF VOCATIONAL-TECHNICAL EDUCATION

TELEPHONE (615) 898-2611

March 24, 1975

Mr. Kenneth Warren
Assistant Superintendent
McKenzie Area Vocational-Technical School
Highway 22, North
McKenzie, Tennessee 38201

Dear Mr. Warren:

Upon the recommendation of Mr. Maurice Jackson and his staff, I am pleased to invite you to participate in a two-day conference here in Murfreesboro on Tuesday and Wednesday, April 22 and 23, 1975.

Your expenses will be paid by Middle Tennessee State University under a grant provided by the Division of Vocational and Technical Education.

Detailed information on location, motel reservations and other matters will be sent you later. A copy of the project proposal is enclosed for your information.

The purpose of the conference is to draw upon your knowledge and experience as a vocational school administrator's assistant to determine teaching content for future courses, workshops, and programs for administrative and supervisory personnel.

Your acceptance of this invitation to participate in this conference will be of tremendous value to the continued development of the total program of Vocational-Technical Education in Tennessee. I hope you can attend and request that you let me know by returning the enclosed card by April 4, 1975.

Sincerely,

Charlie M. Dunn
Director

jt

Enclosures

CONFERENCE PARTICIPANTS

Mr. Milton Dickerson
Hartsville State Area
Vocational-Technical School
Highway 25 East
Hartsville, TN 37074

Mr. Eldie Dickey
Athens State Area
Vocational-Technical School
P. O. Box 148
Athens, TN 37303

Mr. Walter T. Fletcher, Jr.
Covington State Area
Vocational-Technical School
P. O. Drawer B
Covington, TN 38019

Mr. Tommy Haws
Tri-Cities State Area
Vocational-Technical School
P. O. Box 246
Blountville, TN 37617

Mr. Edd Helton
Chattanooga State Area
Vocational-Technical School
4401 Amnicola Highway
Chattanooga, TN 37406

Mr. Lonnie Hyder
Elizabethton State Area
Vocational-Technical School
Arney Street
Elizabethton, TN 37643

Mr. Charles Nunley
McMinnville State Area
Vocational-Technical School
Highway 70 South
McMinnville, TN 37110

Mr. Jerry Sampley
Livingston State Area
Vocational-Technical School
Airport Road
Livingston, TN 38570

Mr. Wallace E. Sexton
Newbern State Area
Vocational-Technical School
Highway 51, North
Newbern, TN 38059

Mr. Henry H. Sims
Pulaski State Area
Vocational-Technical School
P. O. Box 271
Pulaski, TN 38478

Mr. Kenneth Warren
McKenzie State Area
Vocational-Technical School
Highway 22, North
McKenzie, TN 38201

MIDDLE TENNESSEE STATE UNIVERSITY

MURFREESBORO, TENNESSEE 37130

OFFICE OF VOCATIONAL-TECHNICAL EDUCATION TELEPHONE (615) 898-2613

AV-TS Assistant Superintendent's Conference

Ramada Inn
Murfreesboro, Tennessee
April 22-23, 1975

Conference Purpose: To determine performance duties and tasks of AV-TS Assistant Superintendents

Conference Director: Charlie M. Dunn

S C H E D U L E

April 21		Travel
	6:00 p.m.	Dinner
April 22		
	7:00 a.m.	Breakfast
	8:30 - 11:30 a.m.	Conference (Room 222)
	11:30 a.m.	Lunch
	1:00 - 4:00 p.m.	Conference
April 23		Same schedule as first day to 3:00 p.m. adjournment

MIDDLE TENNESSEE STATE UNIVERSITY

MURFREESBORO, TENNESSEE 37130

OFFICE OF VOCATIONAL-TECHNICAL EDUCATION TELEPHONE (615) 898-2613

AV-TS Assistant Superintendent's Conference

Ramada Inn
Murfreesboro, Tennessee
April 22-23, 1975

Conference Purpose: To determine performance duties and tasks of AV-TS Assistant Superintendents

Conference Director: Charlie M. Dunn

S C H E D U L E

April 21		Travel
	6:00 p.m.	Dinner
April 22		
	7:00 a.m.	Breakfast
	8:30 - 11:30 a.m.	Conference (Room 222)
	11:30 a.m.	Lunch
	1:00 - 4:00 p.m.	Conference
April 23		Same schedule as first day to 3:00 p.m. adjournment

APPENDIX E

SAMPLE FORMATS OF SURVEY INSTRUMENTS FOR ASSISTANT SUPERINTENDENTS OF AREA VOCATIONAL-TECHNICAL SCHOOLS

MIDDLE TENNESSEE STATE UNIVERSITY

MURFREESBORO, TENNESSEE 37130

OFFICE OF VOCATIONAL TECHNICAL EDUCATION TELEPHONE (615) 898-2611

MEMORANDUM

TO: Assistant Superintendents of Area Vocational-Technical Schools

FROM: Charlie M. Dunn, Director
Vocational-Technical Education
Middle Tennessee State University

SUBJECT: Project - Determining Teaching Content

DATE: June 25, 1975

Under an approved project to determine teaching content for assistant vocational school administrators, twelve assistant superintendents participated in a two-day workshop here in Murfreesboro. This conference was held on April 22 and 23, 1975. The work of that group resulted in identification of some eleven areas of activity and 139 specific activities. The list of 139 activities have been identified as tasks normally performed by assistant superintendents.

I am soliciting your assistance and help in accomplishing the following:

1. Determine the relative importance of each of the 139 identified activities. Form I has been prepared as a check sheet so that you may read each activity and check in the appropriate place its relative importance in the work of an assistant superintendent.

2. It is also of importance to us to determine the frequency of performance of the 139 activities. Form II is to be used as a check sheet to determine the frequency of performance of listed activities. Simply check in the appropriate space your opinion as to the frequency each of the activities are performed by you as an assistant.

I realize that this will take some time, but I also feel that it is of importance to the development of appropriate courses, workshops, conferences, and other activities for the further development of administrative personnel. Your fellow workers who participated in the two-day conference contributed in a very fine way to this project and you have the opportunity now of helping complete it so that the material may be put to use for the above stated purpose.

I would appreciate receiving your response by July 25, 1975. Thanking you in advance for your cooperation.

mh

VOCATIONAL SCHOOL ADMINISTRATOR SURVEY

(Assistant Superintendents)

Relative Importance of Activities

Activities	IMPORTANCE				
	Great Importance	Much Importance	Some Importance	Little Importance	No Importance
PLANNING DUTIES					
1. Plan new instructional programs.					
2. Develop long range program plans.					
3. Plan facilities in which to house programs.					
4. Prepare for purchase of supplies and equipment.					
5. Plan in-service activities for teachers.					
6. Prepare instruments and plan techniques for determining business and industrial needs.					
7. Outline, organize, and plan self-study for regional accreditation.					
ADMINISTRATION OF EVENING SCHOOL					
1. Serve as administrator of the evening school.					
2. Interview and recommend prospective instructors.					
3. Communicate with business and industry.					
4. Work with individuals and groups to develop course outlines.					
5. Prepare proposals for new courses.					

VOCATIONAL SCHOOL ADMINISTRATOR SURVEY

(Assistant Superintendents)

Frequency of Performance of Activities

Activities	Activity is Performed	Frequently	Occasionally	Seldom	Never
PLANNING DUTIES					
1. Plan new instructional programs.					
2. Develop long range program plans.					
3. Plan facilities in which to house programs.					
4. Prepare for purchase of supplies and equipment.					
5. Plan in-service activities for teachers.					
6. Prepare instruments and plan techniques for determining business and industrial needs.					
7. Outline, organize, and plan self-study for regional accreditation.					
ADMINISTRATION OF EVENING SCHOOL					
1. Serve as administrator of the evening school.					
2. Interview and recommend prospective instructors.					
3. Communicate with business and industry.					
4. Work with individuals and groups to develop course outlines.					
5. Prepare proposals for new courses.					
6. Initiate requests for supplies.					

APPENDIX F

ASSISTANT SUPERINTENDENTS OF AREA VOCATIONAL-TECHNICAL SCHOOLS PARTICIPATING IN THE SURVEY

ASSISTANT SUPERINTENDENTS - SURVEY PARTICIPANTS

Mr. Vernon Akins
Jackson State Area
Vocational-Technical School
McKellar Field
Jackson, TN 38301

Mr. Robert Booker
Dickson State Area
Vocational-Technical School
Highway 46
Dickson, TN 37055

Mr. James Curde
Elizabethton State Area
Vocational-Technical School
Arney Street
Elizabethton, TN 37643

Mr. Clifford E. Davis
Knoxville State Area
Vocational-Technical School
1100 Liberty Street
Knoxville, TN 37919

Mr. Eldie L. Dickey
Athens State Area
Vocational-Technical School
P. O. Box 148
Athens, TN 37303

Mr. Donald Dillon
Crossville State Area
Vocational-Technical School
P. O. Box 725
Crossville, TN 38555

Mr. David Easterly
Morristown State Area
Vocational-Technical School
P. O. Box 130
Morristown, TN 37814

Mr. Walter T. Fletcher, Jr.
Covington State Area
Vocational-Technical School
P. O. Drawer B
Covington, TN 38109

Mr. Robert L. Garner
Knoxville State Area
Vocational-Technical School
1100 Liberty Street
Knoxville, TN 37919

Mr. Coy E. Gibson
Chattanooga State Area
Vocational-Technical School
4401 Amnicola HIghway
Chattanooga, TN 37406

Mr. Tommy Haws
Tri-Cities State Area
Vocational-Technical School
P. O. Box 246
Blountville, TN 37617

Mr. Edd Helton
Chattanooga State Area
Vocational-Technical School
4401 Amnicola HIghway
Chattanooga, TN 37406

Mr. Robert Holden
Shelbyville State Area
Vocational-Technical School
P. O. Box 1[illegible]
Shelbyville, [illegible] 37160

Mr. Lonnie Hyder
Elizabethton State Area
Vocational-Technical School
Arney Street
Elizabethton, TN 37643

Mr. Charles Jerrell
Tri-Cities State Area
Vocational-Technical School
P. O. Box 246
Blountville, TN 37617

Mr. James Lane
Jacksboro State Area
Vocational-Technical School
Route 1
Jacksboro, TN 37757

Mr. Jack R. Mitchell
Knoxville State Area
Vocational-Technical School
1100 Liberty Street
Knoxville, TN 37919

Mr. Ronald Norman
Morristown State Area
Vocational-Technical School
P. O. Box 130
Morristown, TN 37814

Mr. Charles Nunley
McMinnville State Area
Vocational-Technical School
Highway 70 South
McMinnville, TN 37110

Mr. Hardy Pitts
Savannah State Area
Vocational-Technical School
Highway 64 West
Crump, TN 38327

Mr. Robert K. Roney, Jr.
Hohenwald State Area
Vocational-Technical School
P. O. Box 168
Hohenwald, TN 38462

Mr. Charlie F. Roy
McMinnville State Area
Vocational-Technical School
Highway 70 South
McMinnville, TN 37110

Mr. Jerry Sampley
Livingston State Area
Vocational-Technical School
Airport Road
Livingston, TN 38570

Mr. Clyde Saunders
Memphis State Area
Vocational-Technical School
620 Mosby Avenue
Memphis, TN 38105

Mr. Wallace E. Sexton
Newbern State Area
Vocational-Technical School
Highway 51, North
Newbern, TN 38059

Mr. Henry Sims
Pulaski State Area
Vocational-Technical School
P. O. Box 271
Pulaski, TN 38478

Mr. Clifton Smith
Nashville State Area
Vocational-Technical School
100 White Bridge Road
Nashville, TN 37209

Mr. Charles Stringer
Harriman State Area
Vocational-Technical School
P. O. Box 585
Harriman, TN 37748

Mr. Edward Sutton
Nashville State Area
Vocational-Technical School
100 White Bridge Road
Nashville, TN 37209

Mr. Guy Treece
Memphis State Area
Vocational-Technical School
620 Mosby Avenue
Memphis, TN 38105

Mr. William C. Waddell
Tri-Cities State Area
Vocational-Technical School
P. O. Box 246
Blountville, TN 37617

Mr. Kenneth Warren
McKenzie State Area
Vocational-Technical School
Highway 22, North
McKenzie, TN 38201

Mr. Larry R. West
Oneida State Area
Vocational-Technical School
P. O. Box 407
Oneida, TN 37841

Mr. Tracy Wooten
Jackson State Area
Vocational-Technical School
McKellar Field
Jackson, TN 38301

APPENDIX G

INFORMATION RELATING TO CONFERENCE FOR REGIONAL SUPERVISORS OF VOCATIONAL EDUCATION

MIDDLE TENNESSEE STATE UNIVERSITY

MURFREESBORO, TENNESSEE 37130

OFFICE OF VOCATIONAL-TECHNICAL EDUCATION TELEPHONE (615) 898-2613

May 14, 1975

Mrs. Dell Caldwell, Regional Specialist
Health Occupational Education
West Tennessee Regional Office
Vocational-Technical Education
620 Old Hickory Boulevard, Third Floor
Jackson, TN 38301

Dear Mrs. Caldwell:

Upon the recommendation of Mr. H. D. Jared, Director of Field Services, I am pleased to invite you to participate in a two-day conference here in Murfreesboro on Tuesday and Wednesday, June 24 and 25, 1975.

The purpose of the conference is to draw upon your knowledge and experience as a vocational education regional supervisor to determine teaching content for future courses, workshops, and programs for administrative and supervisory personnel.

Your expenses will be paid by Middle Tennessee State University under a grant provided by the Division of Vocational and Technical Education.

Detailed information on location, motel reservations and other matters will be sent you later. A copy of the project proposal is enclosed for your information.

Your acceptance of this invitation to particpate in this conference will be of tremendous value to the continued development of the total program of Vocational-Technical Education in Tennessee. I hope you will attend. You are requested to let me know by returning the enclosed card by Thursday, June 12, 1975.

Sincerely,

Charlie M. Dunn
Director

jt

Enclosure

cc: Mr. H. D. Jared

CONFERENCE PARTICIPANTS

Ms. Geneva Bishop
Home Economics Education
East Tennessee Regional Office
813 Broadway at Gill
Knoxville, TN 37917

Mr. Ed Black
Distributive Education
West Tennessee Regional Office
620 Old Hickory Boulevard
Jackson, TN 38301

Ms. Dell Caldwell
Health Occupations Education
West Tennessee Regional Office
620 Old Hickory Boulevard
Jackson, TN 38301

Mr. Joe Casteel
Trade and Industrial Education
West Tennessee Regional Office
620 Old Hickory Boulevard
Jackson, TN 38301

Mr. William Coley
Agricultural Education
Middle Tennessee Regional Office
Building 307, 11th Avenue
Smyrna, TN 37167

Mr. Richard Davis
Office Occupations Education
Middle Tennessee Regional Office
Building 307, 11th Avenue
Smyrna, TN 37167

Mr. Dennis Hirsch
Industrial Arts
West Tennessee Regional Office
620 Old Hickory Boulevard
Jackson, TN 38301

Mr. John Jackson
Distributive Education
East Tennessee Regional Office
813 Broadway at Gill
Knoxville, TN 37917

Mr. Ray Jones
Agricultural Education
East Tennessee Regional Office
813 Broadway at Gill
Knoxville, TN 37917

Ms. Katherine Laster
Office Occupations Education
East Tennessee Regional Office
813 Broadway at Gill
Knoxville, TN 37917

Mr. W. H. Mathis
Trade and Industrial Education
Middle Tennessee Regional Office
Building 307, 11th Avenue
Smyrna, TN 37167

Ms. Jean Sharp
Home Economics Education
Middle Tennessee Regional Office
Building 307, 11th Avenue
Smyrna, TN 37167

MIDDLE TENNESSEE STATE UNIVERSITY

MURFREESBORO, TENNESSEE 37130

OFFICE OF VOCATIONAL TECHNICAL EDUCATION TELEPHONE (615) 898 2611

REGIONAL SUPERVISORS' CONFERENCE

Middle Tennessee State University
Murfreesboro, Tennessee
June 24-25, 1975

Conference Purpose: To determine performance duties and tasks of Regional Supervisory Personnel

Conference Director: Charlie M. Dunn

Conference Leader: Dr. S. B. Keathley

S C H E D U L E

June 23	Travel
June 24	Breakfast
9:00 - 12:00 a.m.	Conference Student Union Building Dining Room B
12:00 noon	Lunch Dining Room A
1:00 - 4:00 p.m.	Conference Student Union Building Dining Room B
June 25	Same schedule as first day to 3:00 p.m. adjournment

APPENDIX H

SAMPLE FORMAT OF SURVEY INSTRUMENTS FOR REGIONAL SUPERVISORS OF VOCATIONAL EDUCATION

MIDDLE TENNESSEE STATE UNIVERSITY

MURFREESBORO, TENNESSEE 37130

OFFICE OF VOCATIONAL TECHNICAL EDUCATION TELEPHONE (615) 898 2611

MEMORANDUM

TO: Regional Supervisors of Vocational-Technical Education

FROM: Charlie M. Dunn, Director
Vocational-Technical Education
Middle Tennessee State University

SUBJECT: Project - Determining Teaching Content

DATE: July 7, 1975

Under an approved project to determine teaching content for regional supervisors of vocational education, twelve regional supervisors participated in a two-day workshop here in Murfreesboro. This conference was held on June 24 and 25, 1975. The work of that group resulted in identification of some 52 specific activities. The list of 52 activities has been identified as tasks normally performed by regional supervisors.

I am soliciting your assistance and help in accomplishing the following:

1. Determine the relative importance of each of the 52 identified activities. Form I has been prepared as a check sheet so that you may read each activity and check in the appropriate place its relative importance in the work of a regional supervisor.

2. It is also of importance to us to determine the frequency of performance of the 52 activities. Form II is to be used as a check sheet to determine the frequency of performance of listed activities. Simply check in the appropriate space your opinion as to the frequency each of the activities are performed by you as a supervisor.

I realize that this will take some time, but I also feel that it is of importance to the development of appropriate courses, workshops, conferences, and other activities for the further development of supervisory personnel. Your fellow workers who participated in the two-day conference contributed in a very fine way to this project, and you have the opportunity now of helping complete it so that the material may be put to use for the above stated purpose.

I would appreciate receiving your response by August 4, 1975. Thanking you in advance for your cooperation.

mh

VOCATIONAL REGIONAL SUPERVISOR SURVEY

Relative Importance of Activities

The regional supervisor of vocational-technical education in Tennessee is employed by the State Board for Vocational-Technical Education. The primary purpose of this person is to provide leadership and services to local education agencies that will maintain and improve instruction of vocational-technical programs.

The vocational supervisor is vitally concerned with personnel development and teacher certification; curriculum development, planning, organizing, and implementing vocational programs and facilities; vocational student organization; and evaluation.

Specific activities relating to these areas are:

Activities	Importance	Great Importance	Much Importance	Some Importance	Little Importance	No Importance
1. Assist with the planning, organizing, and implementing of vocational programs according to the provisions of the Tennessee State Plan for Vocational Education.						
2. Work with local, state, and national personnel in organizing and developing vocational student organizations and activities.						
3. Assist local administrators and instructional personnel with the interpretation of the rules, regulations, and minimum standards of the State Board for Vocational Education.						
4. Give assistance in the promotion and organization of local advisory committees.						

VOCATIONAL REGIONAL SUPERVISOR SURVEY

Frequency of Performance of Activities

Activities	Activity is Performed	Frequently	Occasionally	Seldom	Never
1. Assist with the planning, organizing, and implementing of vocational programs according to the provisions of the Tennessee State Plan for Vocational Education.					
2. Work with local, state, and national personnel in organizing and developing vocational student organizations and activities.					
3. Assist local administrators and instructional personnel with the interpretat n of the rules, regulations, and minimum standards of the State Board for Vocational Education.					
4. Give assistance in the promotion and organization of local advisory committees.					
5. Orient local administrators, supervisors, and guidance counselors to the purpose of the program.					
6. Assist local and state agencies in determining the vocational student needs and manpower training requirements.					
7. Prepare curriculum guides and other curriculum aids for various subjects and grade levels.					
8. Interpret and clarify teacher certification requirements for vocational personnel.					
9. Establish a functional relationship with other groups in and out of schools.					
10. Assist local administrators in developing local contracts, proposals, and grants.					
11. Develop and disseminate instructional materials.					
12. Consult with teacher educators in identifying materials, methods, techniques, and procedures for successful teaching.					

APPENDIX I

REGIONAL SUPERVISORS OF VOCATIONAL EDUCATION PARTICIPATING IN THE SURVEY

REGIONAL SUPERVISORS - SURVEY PARTICIPANTS

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Mr. Henry G. Williams
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APPENDIX J

VOCATIONAL SCHOOL ADMINISTRATORS CONFERENCE PARTICIPANTS

CONFERENCE PARTICIPANTS

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Selmer, TN 38375

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APPENDIX K

VOCATIONAL SCHOOL ADMINISTRATORS CONFERENCE

AGENDA AND PRESENTERS

VOCATIONAL SCHOOL ADMINISTRATORS CONFERENCE

August 4-8, 1975

A G E N D A

Monday, August 4

8:00 a.m. - 12:00 Noon FIRST SESSION Dr. James Lorenz, Chairman

Conference Overview: Mr. Charlie M. Dunn, Director, Vocational Education, Middle Tennessee State University

9:00 a.m. Organizational Meeting of All Participants

12:00 Noon - 1:00 p.m. LUNCH

1:00 p.m. - 4:30 p.m. SECOND SESSION Dr. James Lorenz, Chairman

Welcome: Dr. E. S. Voorhies, Dean of the School of Basic and Applied Sciences

Dr. Jack Carlton, Vice President for Academic Affairs

Remarks: Mr. Jonah Fitch, Assistant Commissioner for Vocational-Technical Education

Effective Use of a General Advisory Committee, Mr. Edward L. Weld, Director, Nashville State Technical Institute

Break 2:45 - 3:00 p.m.

ADMINISTRATION AND SUPERVISION

Principles of Administration and Supervision, Dr. S. B. Keathley

Questions and Answers

Group Identification of Administrative and Supervision Problems

ADJOURN

NOTES:

Tuesday, August 5

8:00 a.m. - 12:00 Noon THIRD SESSION

ADMINISTRATION AND SUPERVISION (Continued)

Problem Solving (Small Group)

Small Group Reports

Break 10:00 - 10:15 a.m.

Group Planning for an Advisory Committee Meeting, Dr. James Lorenz

12:00 Noon - 1:00 p.m. LUNCH

1:00 p.m. - 4:30 p.m. FOURTH SESSION

PLANNING AND ORGANIZATION

Program Development

Break 2:45 - 3:00 p.m.

ADMINISTRATION AND SUPERVISION (Continued)

States Services, Mr. H. D. Jared, Coordinator, Field Services.
Mr. Maurice Jackson, Director, State Area Vocational-Technical Schools

Questions and Answers

ADJOURN

NOTES:

Wednesday, August 6

8:00 a.m. - 12:00 Noon FIFTH SESSION

ADMINISTRATION AND SUPERVISION (Continued)

State Budgeting Policies and Procedures, Mr. Tom Hinson, Director, Fiscal Affairs, State Division of Vocational Education

Institutional Budgeting and Management, Mr. Dean Ward, Superintendent, Hartsville State Area Vocational-Technical School

Break 10:00 - 10:15 a.m.

PLANNING AND ORGANIZATION (Continued)

Utilizing Community Resources, Mr. James Pierce, Superintendent, Tri-Cities State Area Vocational-Technical School

Discussion

12:00 Noon - 1:00 p.m. LUNCH

1:00 p.m. - 4:30 p.m. SIXTH SESSION

ADMINISTRATION AND SUPERVISION (Continued)

Supervision of Instruction, Mr. Guy R. Kirk, Superintendent, McKenzie State Area Vocational-Technical School

Discussion

Break 2:45 - 3:00 p.m.

Case Studies, Dr. James Lorenz

ADJOURN

NOTES:

Thursday, August 7

8:00 a.m. - 12:00 Noon SEVENTH SESSION

ADMINISTRATION AND SUPERVISION (Continued)

Research Coordinating Unit--Materials and Services, Mrs. Dee Wilder, Information Specialist, RCU

Instructional Materials, Dr. James Lorenz, and Mr. Charlie M. Dunn

Reactors

Break 10:00 - 10:15 a.m.

PUBLIC RELATIONS

Effective Public Relations Activities, Ms. Martha Henegar, Director of Public Relations, Nashville State Technical Institute

Group Planning of a Timetable for a Public Relations Program

12:00 Noon - 1:00 p.m. LUNCH

1:00 p.m. - 4:30 p.m. EIGHTH SESSION

PLANNING SESSION

Group Planning for an Advisory Committee Meeting

Group Planning of Public Relations Timetable

Break 2:45 - 3:00 p.m.

Advisory Committee Meeting (Role Play)

Critique, Mr. Charlie M. Dunn and Dr. S. B. Keathley

ADJOURN

NOTES:

Friday, August 8

8:00 a.m. - 12:00 Noon NINTH SESSION

PLACEMENT AND FOLLOW-UP

State Record System--Area Vocational-Technical Schools, Mr. Paul Robertson, Specialist II, AV-TS

State Record System--Secondary Schools, Mr. Ralph Brown, Research Assistant, Research Coordinating Unit, and Mrs. Dee Wilder

Questions and Answers

Break 10:00 - 10:15 a.m.

EVALUATION

Instructional Program Evaluation, Mr. William M. Harrison, Executive Director, State Advisory Council

Institutional Self-Study and Accreditation, Mr. Robert Evans, State Area Vocational-Technical Schools

Questions and Answers

12:00 Noon - 1:00 p.m. LUNCH

1:00 p.m. - 4:30 p.m. TENTH SESSION

PROFESSIONAL IMPROVEMENT

Personal Improvement of Administrators and Staff, Dr. R. B. Daniels, Chief, Postsecondary Vocational and Technical Education

Discussion--Reactors

Report of Public Relations Timetable

Break 2:45 - 3:00 p.m.

Conference Evaluation, Dr. James Lorenz

ADJOURN

NOTES:

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APPENDIX L

DAILY CONFERENCE EVALUATION FORM SUMMARIES

CONFERENCE EVALUATION FORM

Session Number 1 Conference Overview

Overall, this session was:

Excellent	4
Very Good	5
Good	3
Fair	2
Poor	0

Comments:

Feel that today was organizational.

This session seemed a little slow, however, I don't know how to improve it unless closed scheduling.

The goals and procedures for this conference are:

Very Clear	10
Reasonably Clear	3
Unclear	0

Session Number 2 Introduction to Administration and Supervision

Overall, this session was:

Excellent	5
Very Good	7
Good	2
Fair	0
Poor	0

In my present position, the material presented during this session will be:

Very Useful	11
Somewhat Useful	2
Not Useful	1

Comments:

I will take a new look at my general advisory committee, keeping in mind the information obtained. I feel I will be able to do a better job.

Advisory Council presentation excellent.

Up to this point has the conference lived up to your expectations?

Yes	12
No	1
Undecided	1

If no or undecided what suggestions do you have for improving the conference?

More for local directors.

Session Number 3 Problem Identification and Solving

Overall, this session was:

Excellent	2
Very Good	10
Good	1
Fair	1
Poor	0

Comments:

We have identified several problems but so far no solutions.

In my present position, the material presented during this session will be:

Very Useful	6
Somewhat Useful	7
Not Useful	1

Session Number 4 Group Planning for Advisory Committee Meeting State Services

Overall, this session was:

Excellent	5
Very good	5
Good	2
Fair	1
Poor	0

Comments:

Good, short.

In my present position, the material presented during this session will be:

Very Useful	5
Somewhat Useful	6
Not Useful	1

Up to thir point has the conference lived up to your expectations?

Yes	11
No	1
Undecided	1

If no or undecided what suggestions do you have for improving the conference?

Some attention needs to be addressed toward too much time taken on a single problem

Session Number 5 Budgeting--Community Resources

Overall, this session was:

Excellent	3
Very Good	9
Good	1
Fair	0
Poor	0

Comments:

Presentations by outside speakers good.

In my present position, the material presented during this session will be:

Very Useful	6
Somewhat Useful	7
Not Useful	0

Session Number 6 Supervision of Instruction

Overall, this session was:

Excellent	9
Very Good	2
Good	2
Fair	0
Poor	0

Comments:

Excellent presentation by Mr. Kirk.

In my present position, the material presented during this session will be:

Very Useful	10
Somewhat Useful	2
Not Useful	1

Up to this point has the conference lived up to your expectations?

Yes	12
No	1
Undecided	0

If no or undecided what suggestions do you have for improving the conference?

Some activities that would not require sitting.

Session Number 7 RCU - Public Relations Activities

Overall, this session was:

Excellent	5
Very Good	6
Good	2
Fair	0
Poor	0

Comments:

Questions and answer session best.

In my present position, the material presented during this session will be:

Very Useful	7
Somewhat Useful	5
Not Useful	1

Session Number 8 Group Planning - Advisory Committee Meeting

Overall, this session was:

Excellent	4
Very Good	4
Good	3
Fair	1
Poor	0

Comments:

Needs more control or planning.

In my present position, the material presented during this session will be:

Very Useful	4
Somewhat Useful	7
Not Useful	2

Up to this point has the conference lived up to your expectations?

Yes	11
No	0
Undecided	1

If no or undecided what suggestions do you have for improving the conference?

Jim, you and Mr. Dunn have done an excellent job. I will be in contact with both of you.

Session Number 9 Placement and Follow-up - Evaluation

Overall, this session was:

Excellent	2
Very Good	9
Good	1
Fair	1
Poor	0

In my present position, the material presented during this session will be:

Very Useful	5
Somewhat Useful	7
Not Useful	1

Comments:

Would like for all non-teaching area vocational-technical school professional employees having the opportunity to attend near home a conference such as this.

Did the conference live up to your expectations?

Yes	13
No	0
Undecided	0

What suggestions do you have for improving the conference?

To get out of classroom if could be arranged, long week in one chair.

Tighten up the sessions where there was no control - use time tables or time allowed for delivery.

New administrators perhaps received more help than those who had been on the job for several years. However, I think all of us received information and help that was worth the time and expense involved.

In regard to duties, responsibilities and specific personal concerns, I feel that this conference has been very helpful to me as an AV-TS administrator.

Should be repeated for other individuals.

Comment:

Excellent opportunities existed for input throughout the conference.

Suggestion:

A brief outline of topics in advance would allow participants to bring other local school personnel concerns to the conference.

CE 008 045

ACCESSION NUMBER: VT103378

PUBLICATION DATE: JUN76

TITLE: IMPLEMENTING COMPETENCY-BASED TEACHER EDUCATION: FUTURE DIRECTIONS FOR VOCATIONAL TEACHER EDUCATORS.

PERSONAL AUTHOR: FINCH, CURTIS R., ED.; HARRIS, RUTH D., ED.

DESCRIPTOR: *PERFORMANCE BASED TEACHER EDUCATION; *VOCATIONAL EDUCATION TEACHERS; *CONFERENCE REPORTS; *PROGRAM DEVELOPMENT; RESOURCE MATERIALS

EDRS PRICE: MF AND HC AVAILABILITY WILL BE ANNOUNCED IN VOL. 10, NO. 2.

DESCRIPTIVE NOTE: 136P.; PAPERS PRESENTED AT THE INSTITUTE ON COMPETENCY-BASED TEACHER EDUCATION FOR VIRGINIA VOCATIONAL AND TECHNICAL TEACHER EDUCATORS (BLACKSBURG, VIRGINIA, NOVEMBER 23-26, 1975).

ABSTRACT: THIS PUBLICATION IS INTENDED TO PROVIDE DIRECTION FOR THOSE WHO CONTEMPLATE ESTABLISHING A COMPETENCY-BASED PROGRAM FOR VOCATIONAL TEACHERS. IT SHOULD BE OF VALUE AS A BASIC RESOURCE IN THE AREA OF COMPETENCY-BASED TEACHER EDUCATION (CBTE) AND SERVE AS A USEFUL TOOL FOR CBTE PROGRAM IMPLEMENTATION AND IMPROVEMENT. MAJOR PAPERS DEVELOPED FOR THE INSTITUTE OF COMPETENCY-BASED TEACHER EDUCATION ARE INCLUDED IN THE DOCUMENT, AS WELL AS TWO PAPERS PREPARED AFTER THE INSTITUTE WAS HELD. THE PAPERS AND THEIR AUTHORS ARE: (1) "THE CHALLENGE OF COMPETENCY-BASED TEACHER EDUCATION" BY RUTH D. HARRIS AND CURTIS R. FINCH, (2) "COMPETENCY-BASED EDUCATION: STATUS AND RESEARCH" BY W. ROBERT HOUSTON, (3) "INSTRUCTIONAL MATERIALS FOR COMPETENCY-BASED TEACHER EDUCATION" BY JAMES B. HAMILTON AND GLENN E. FARDIG, (4) "DELIVERING TEACHING/LEARNING FOR COMPETENCY-BASED EDUCATION" BY DANIEL E. VOGLER, (5) "WRITING COMPETENCY-BASED EDUCATION MODULES" BY DANIEL E. VOGLER, (6) "CONCERNS IN THE IMPLEMENTATION OF COMPETENCY-BASED TEACHER EDUCATION" BY MARTHA LEE BLANKENSHIP, AND (7) "TOWARD A FRAMEWORK FOR IMPLEMENTING COMPETENCY-BASED TEACHER EDUCATION" BY CURTIS R. FINCH AND RUTH D. HARRIS. SEVERAL PAPERS INCLUDE A LIST OF REFERENCES; THE REFERENCES FOR THE PAPER ON INSTRUCTIONAL MATERIALS CONSTITUTE 10 PAGES. (AUTHOR/RG)

INSTITUTION NAME: VIRGINIA POLYTECHNIC INST. AND STATE UNIV., BLACKSBURG. DIV. OF VOCATIONAL-TECHNICAL EDUCATION.

SPONSORING AGENCY NAME: OFFICE OF EDUCATION (DHEW), WASHINGTON, D.C.

VT 103 378

IMPLEMENTING COMPETENCY-BASED TEACHER EDUCATION: FUTURE DIRECTIONS FOR VOCATIONAL TEACHER EDUCATORS

DIVISION OF VOCATIONAL AND TECHNICAL EDUCATION
VIRGINIA POLYTECHNIC INSTITUTE AND
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BLACKSBURG, VIRGINIA 24060

1976

IMPLEMENTING COMPETENCY-BASED TEACHER EDUCATION:

FUTURE DIRECTIONS FOR VOCATIONAL TEACHER EDUCATORS

Curtis R. Finch

Ruth D. Harris

Martha L. Blankenship

Glenn E. Fardig

James B. Hamilton

W. Robert Houston

Daniel E. Vogler

The development of this monograph was partially supported through an Education Professions Development Act Grant (Project 30050 A 20)

Division of Vocational and Technical Education
Virginia Polytechnic Institute and State University
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June, 1976

CE 007 446

PREFACE

The purpose of this monograph is to provide direction for those who contemplate establishing a competency-based program for vocational teachers. This document should be of value as a basic resource in the area of competency-based teacher education (CBTE) and serve as a useful tool for CBTE program implementation and improvement.

The content for this publication evolved from the Institute on Competency-Based Teacher Education for Virginia Vocational and Technical Teacher Educators which was conducted in Blacksburg, Virginia, November 23-26, 1975. Major papers developed for this conference as well as two papers developed after the institute was held are included in the sections which follow. This document has been prepared in fulfillment of the objectives of an Educational Professions Development Act grant (EPDA project number 30050 A20) funded by the U. S. Office of Education.

Appreciation is expressed to the following advisory committee members for the guidance they provided to this project:

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Appreciation is expressed to the many persons involved with the Institute on Competency-Based Teacher Education for Virginia Vocational and Technical Teacher Educators. Special recognition is given to the following individuals for their substantial contributions to this publication:

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Research and Development Specialist
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Dr. Daniel E. Vogler
Associate Professor and Coordinator of Undergraduate Occupational Teacher Programs
University of Michigan

Dr. Martha Blankenship, Professor
Home Economics Education
Marshall University

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THE CHALLENGE OF COMPETENCY-BASED TEACHER EDUCATION

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THE CHALLENGE OF COMPETENCY-BASED TEACHER EDUCATION

If it were possible to gaze into a "crystal ball" and see teacher education in the year 2001, what would be visualized? Would Competency-Based Teacher Education (CBTE) be seen? If so, the following scenes might be viewed. Current problems involve demonstrating that you are competent as a teacher educator, obtaining your license to perform your role by fulfilling the fitness criteria and competently performing professional tasks. As you pass by the screening device hooked up to the latest model of the WXYZ computer system, you wish you could relive the Seventies, Eighties and Nineties. Accountability was an issue in those days but who believed that it would ever come about? Oh, yes, you remember all of those innovative programs: individualized instruction, behavioral objectives, open education, team teaching, relevant instruction, accountability, and competency-based teacher education. As these new terms came on the educational scene, you tossed them around in your mind for awhile but dismissed them because you figured that they would blow out as quickly as they blew in only with gale wind force.

Behavioral objectives, individualized instruction, criterion referenced measures, student accountability, and the systems approach were one thing, but competency-based teacher education was something else. Entirely! Or was it? Maybe it was a concept that developed out of the earlier education innovations and was spurred on by increasing demands for accountability, relevance, and cost-effective schooling. In those days, technological advances and readiness for competency-based teacher education programs were just emerging. Remember your boast: "The cost is too much; we will never be able to implement it...it's just another education fad."

Of course, you were kidding. After all you implemented it during the Eighties, and now you talk about costs in relation to benefits or effectiveness. Yes, you remember when competency-based education kept you on your toes.

Fantasy aside, take a serious look at competency-based teacher education and the challenge for the future. Today's student will spend more time in the 21st century than in the 20th. Simple arithmetic warns us how close we are to the new century; it is as close as 1952. It is becoming common to say that, given the current rate of knowledge growth, today's 18-year-old college student has access to only three percent of the knowledge that will be available to him/her when he is 50. Confronted with the changing school environment, taking a look at what is happening now leads to a pretty specific conclusion: we may not be taking our needed reformation of teacher education programs and its relationship to the real world of teaching seriously enough.

The movement toward competency- or performance-based teacher education has been inspired by the belief on the part of some individuals that it offers the potential of helping solve many of the problems associated with teacher education. CBTE has been described by some educators as "the most significant lever for educational reform since Sputnik" and as "one of the most influential and important developments in this progressive effort to advance the process of schooling" (Rosner and Kay, 1974). Others refer to it as an "old wine in new bottles," and "a good idea if you could figure out what it is."

Although some individuals may have doubts concerning its effectiveness, much is being discussed and written about competency-based teacher education.

Attempts to operationalize CBTE are increasing as the national movement gains momentum.

RATIONALE AND HISTORY OF COMPETENCY-BASED TEACHER EDUCATION

Competency-based teacher education is a concept that has developed over a number of years (Broudy, 1972; Rosner and Kay, 1974). The competency-based approach to teacher education grew out of dissatisfaction with programs existing in teachers, colleges and colleges of education. Broudy (1972, p. 1) states:

> The dissatisfaction is a fairly old story; the fires of criticism fanned by Bestor, Koerner, Rickover, the Council for Basic Education, and Conant in the late 50's and early 60's leaped higher than ever when fueled by the troubles of urban schools in the late 60's. The public was told that teachers oppressed and murdered children (at least in spirit) and that the public school, like God, was dead.

Efforts were made to combat the problem as it was beginning to be recognized by leaders in the field. Federal funds were invested in a variety of R & D efforts which stimulated recent advances in instructional technology. Both practicing educators and the educational research community were more willing to address themselves more closely to the problems of the classroom. Protocol and training materials were developed and field-tested. Much of the curriculum materials developed were individualized and personalized. These developments led to a focus on education that was more systematic and field-oriented. Instruction was tailored to specific student outcomes, student evaluation and program evaluation passed upon explicit goals.

Rosner and Kay (1974) indicate that competency-based teacher education seems to have been the culmination of all the recent efforts to improve

and upgrade education programs. Many characteristics which have been associated with other recent advancements in instructional technology are also associated with competency-based teacher education.

The dissatisfaction with teacher education by some individuals was attributed to the gap between theory and practice. Teacher education programs were made up largely of academic studies, courses in professional education, and a student teaching experience. This curriculum did not guarantee the output of competent teachers who could successfully teach within the public schools and solve the many problems associated with their role as a classroom teacher. The approach offered through competency-based teacher education would evaluate and more closely guarantee the product, not the input which was supposed to produce the product.

DEFINITION AND CHARACTERISTICS OF COMPETENCY-BASED EDUCATION

A number of definitions of CBTE have been discussed in recent publications (Houston and Howsam, 1972; Finch and Hamilton, 1974; and Brooks, 1974). The most widely quoted and accepted definition was developed by Elam (1971, pp. 6-11). The Elam essay indicated that a teacher education program is competency-based if the competencies to be demonstrated by the student are derived from explicit conceptions of teacher roles, stated so as to make possible assessment of a student's behavior in relation to specific competencies, and made public in advance. The assessment of the student's competency uses his performance as a primary source of evidence although it takes into consideration evidence of the student's knowledge.

Competency-based teacher education proposes to analyze teaching into a set of operations or tasks in order to accomplish the needed reforms in

eliminating the gap between theory and practice. The prospective teacher would be trained to reach competence and certified in each of the tasks necessary to become a competent teacher. Having gone through a competency-based program, the prospective teacher would be ready to cope with whatever might be encountered in the schools of the real world.

PROBLEMS AND ISSUES OF COMPETENCY-BASED EDUCATION

Advocates of CBTE point out the fact that the movement is not without its problems, criticisms and critics. Schmieder (1973, p. 24) states:

> Any movement as complex as that for competency-based education is sure to inspire a great many relevant--and even some not so relevant--questions and issues regarding developmental problems and priorities.

The critical questions and issues regarding competency-based teacher education have been discussed by several authors (Brooks, 1974; Finch and Hamilton, 1974; Broudy, 1972).

Brooks (1974, p. 7) listed six of the frequent criticisms of competency-based education:

1. The "sum of the parts" does not always equal the whole, and thus, the mere fact that students are able to demonstrate competence in isolation does not guarantee success in the classroom.
2. Because the competency-based program has as one of its foundations a systematic approach, it is mechanistic and dehumanizing.
3. A competency-based program claims individualization, and yet each student is expected to display the same competencies; this claim does not seem consistent.

4. Trivial behaviors are those most easily operationalized; the really important aspects of teacher education may be overlooked.
5. We really know so little about how children learn that it seems ridiculous to base a program on competencies that may not be the appropriate ones.
6. The really important areas of teaching are in the affective domain, and these are very difficult to categorize and measure.

These concerns have been discussed and excellent rebuttal statements have been presented in the literature supporting the competency-based education movement. Each teacher education program will have to resolve these questions concerning the value and effectiveness of competency-based teacher education for their own institution.

COMPETENCY-BASED TEACHER EDUCATION'S CHALLENGE

Rosner and Kay (1974) state that the long-range promise which CBTE challenges teacher education to accomplish is to improve the quality of instruction in the schools. This long-range promise is certainly a justification for CBTE. It is based upon two very important assumptions: (1) that effective public schools are largely dependent on the quality of teaching, and (2) that competent teachers can be prepared by teacher education programs.

As implied in the assumptions, more knowledge concerning relationships between elements of teacher education curriculum and indicators of effective schooling needs to be acquired. CBTE offers the intermediate

promise that teacher education institutions will have the demonstrable capability of preparing knowledgeable and skillful teachers in curricula whose component parts have been tested for validity against criteria of school effectiveness. This implies that teacher education programs will be willing to subject the elements of their curricula to empirical test.

Professional recognition and commitment in CBTE is expected to result in more extensive support of teacher behavior research and the generation of interdependence between teacher behavior research and teacher education program development and implementation. Another challenge that CBTE offers is to stimulate widespread professional recognition of the hypothetical, tentative nature of various teacher education curriculum elements, and professional consensus on the need to validate these elements. CBTE should stimulate a commitment to tool up for the necessary development and research to strengthen teacher education programs.

A Challenge for the Faculty

The faculty who participate in competency-based instruction must have a strong commitment to the initial preparatory program for teachers and believe that it is a critical component of the total teacher education program. In implementing any new program time is needed and changes must be made which require adjustments on the part of the faculty. Giles and Foster (1975) indicate that efforts to solicit faculty participation have pointed out the importance of modifying faculty loads to account for the additional time and effort required in establishing the program. Recognition of the efforts and accomplishments of faculty members must be

made and positive reinforcement given for faculty participating in an assignment demanding increased time for instruction and student contact.

A Challenge for the Students

Students are challenged to focus their attention upon their performance. A recognition must be made of the fact that their success will be judged on performance as opposed to strictly cognitive experiences. Grading will more than likely be on a "pass-fail" basis rather than by the conventional grading system. An adjustment must be made to the grading system. Students are challenged to participate in many more activities than are required in the traditional pattern. Since the assignments usually require continuous participation in a school setting, students are challenged to acquire and exhibit professional behaviors earlier than the student in the traditional teacher education program.

Students are challenged to develop the capacity for self-evaluation. This skill is developed early and requires the additional competency of evaluating with objectivity. Students electing the competency-based, field-oriented patterns of teacher preparation must recognize that they will forego many of the campus activities that would be available in the traditional program. Students are challenged to fulfill time commitments in the field which often preclude their participation in many campus activities.

A Challenge for Accountability

CBTE establishes a framework from which teacher education programs can demonstrate accountability. Knowledges, skills, and behaviors deemed necessary for beginning teachers, and the evidence acceptable for assuring that students possess these competencies are explicit and made public in

advance. CBTE offers the immediate promise of increased prospects for accountability.

In competency-based teacher education the student is held accountable for performance. Not only are the competencies derived from explicit conceptions of teacher roles, they are also made public in advance so that students can work toward developing these competenices. The competencies are stated so as to make possible assessment of the student's behavior in relation to each. The criteria to be employed in assessing the competencies are based upon the competencies to be developed. The expected levels of mastery under specified conditions are also made public in advance.

Competency-based programs are systematically designed with continuous feedback which makes the program more accountable for funds spent within the program. The student's performance is used as the primary source of evidence that the student has developed competence as a teacher. Objectivity within the program is strived for in CBTE. Not only is the performance of the student assessed but also evidence of knowledge relevant to planning for, analyzing, interpreting, and evaluating the classroom.

Accountability is evidenced in competency-based teacher education by measuring the student's rate of progress by demonstrated competence rather than by time or course completion. The program utilizing CBTE will design the instructional program to facilitate the development and evaluation of the student's achievement of the competencies specified rather than unidentified fuzzy concepts.

This, then, is the challenge of competency-based teacher education. Let us hope that its course will continue to be charted wisely. The papers which follow serve to assist in this charting process. Each focuses on meeting the challenge which competency-based teacher education has provided for us.

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COMPETENCY-BASED EDUCATION: STATUS AND RESEARCH

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COMPETENCY-BASED EDUCATION: STATUS AND RESEARCH

ESSENCE OF COMPETENCY-BASED EDUCATION

What is competency-based education (CBE)? This question has been asked and answered, discussed and debated all too often, typically with confusing results. Each person reflects his own value system as he puts on his unique set of blinders and defines this movement. It has been pointed out elsewhere (Houston and Howsam, 1972) that CBE is a coined term, a term found in no dictionary. One could take each word, define it, then relate it to the others. Such a process would derive a description of CBE something like: "An educational program based on competencies." Such a description, however, does not deal with the central issue—what is competence? The specific characteristics of competence are personal, both in their demonstration and in their evaluation.

Each of us has a conceptual model of the competent professional, whether a teacher, physician, engineer, architect, or administrator. Our model may be quite explicit or it may be vague; it may be synergistic and wholistic; or it may consider only a minor portion of the tasks performed. It may or may not realistically reflect professional behavior or reality; but it is our model, and it directs our actions and reactions vis-à-vis that professional role.

Think about the physician. What do doctors do? How do they act? How do patients act when in their offices? Their behavior, and the

patient's actions often are played out as a drama where the script is already written, only the precise lines of dialog need be completed. The individual's perception of the physician may be greatly in error. After all, few of them see the many facets of the physician's professional role; but what they see channels their conception of him.

Compare that role perception with that of a lawyer. Think of the client in an attorney's office. What role does he typically play? How does his role differ from expectations for the physician?

Consider other professional roles--social worker, accountant, teacher, engineer, school administrator. For each one, the individual has derived a model of expectation and a model of competence.

Competence, then, is a conceptual model of an effective professional which is based on experience. Each individual, whether in that role or not, has derived his own definition of competence. Usually he can characterize someone as competent or not, even though he has difficulty in articulating the criteria used in that judgment.

In most competency-based programs, the staff has somehow pooled these conceptions of competence and delineated a mutually acceptable list of competencies. These competencies are, in reality, indicators of competence.

Faculties have expended hundreds of hours deriving and refining these sets of competencies. Some have used only their own professional judgment; others have made extensive task analyses, formulated a theory, and deductively derived competencies from the theory. Others have relied on training programs from the past to define objectives for the future, and still others have sought to ground their set of competencies

in the social fabric of our times and in the roles society has assigned to the professional.

Whatever means and procedures are used in developing a set of competencies, that set is a poor reflection of the conceptual model of competence. First, it includes only some of the elements of competence. Not all factors are, can be, or perhaps should be noted as competencies. The competency list typically includes only the most obvious indicators of competence. Second, those competencies listed often are based on training needs. As competencies are conceptualized by program developers, a mental screen seems to eliminate or modify those less conducive to educating the professional. Third, the written specifications apparently are never so good as the conceptual model. Somehow, as the mental picture is described in words, something is lost in translation. Last, the original conception was not singular but usually from many persons. The basic model was really models. The sum of competencies in a program, then, is only an approximation of competence.

Why spend so much energy in specifying competencies? Human nature and some research to date have indicated that persons are more likely to achieve delineated goals and objectives than fuzzy ones. (Duchastel and Merrill, 1973; Meunier, 1974; Dawley and Dawley, 1974; Duchastel and Brown, 1974). Further, professional education programs are more likely to teach to relevant objectives if their best efforts have served to specify the most appropriate approximation of the model professional.

Competency lists are very similar. Perhaps this is due to an effective communication network among developers but not entirely.

Many groups have identified competencies which resulted in similar lists regardless of the data base used in formulating them.

In February 1975, the results of a survey of competencies most desired by teachers were reported to the Annual National Conference of the American Association of Colleges for Teacher Education 1975). During 1973-1974, 1512 teachers reacted to a set of thirty-three competency statements as part of a series of needs assessment studies. The competencies, derived from task analyses of teacher practice, included three general areas: (1) design and evaluate instruction, (2) interact with students, and (3) professional behavior. A test booklet included: (1) a listing of these competencies, (2) a detailed description of subcompetencies, and (3) a nine-point self-assessment scale for each competency, with descriptors of competence at three of the levels. Teachers reacted to each of the thirty-three self-assessment scales in two ways: perceived current level of competence and perceived desired level of competence.

The pattern of their responses to desired competencies was clear and consistent. Competencies which specified interaction with students were clearly perceived as more important than those involved with designing or evaluating instruction or in other non-student interaction roles. The eight most desired competencies are listed below.

The teacher:

1. Organizes resource and materials for effective instruction.
2. Gives clear, explicit directions to students.
3. Responds to "coping" behavior of students.
4. Identifies clues to student misconceptions or confusion.

5. Provides for the appropriate use of a variety of communication patterns within the classroom.

6. Utilizes a variety of instructional materials and resources.

7. Builds self-awareness and self-concepts in students.

8. Reacts with sensitivity to the needs and feelings of others.

Competencies in the highest quarter (those most desired) included all four of the communication competencies. Competencies dealing with accessibility and use of instructional resources were included as were two of three interpersonal competencies (facilitating student self-awareness and affective interaction with others).

Those competencies are compared with the ones included in the bottom quarter of desired competencies which are listed below.

The teacher:

1. Administers and interprets assessment techniques (i.e., standardized tests and sociometrics).

2. Designs and uses teacher-made diagnostic tests.

3. Gathers information on individual differences among students such as interests, values, cultural and socio-economic background.

4. Groups students on basis of data.

5. States competency-based objectives correctly.

6. Plans activities with students.

7. Evaluates teaching behavior using coded instruments and plans for change on basis of results.

8. Interacts and communicates effectively with parents and community.

9. Works effectively as a member of an educational team.

Four of these competencies were concerned with collecting data and a fifth defined how data were to be used. It is a paradox that, while many teacher

educators are concerned that teachers make decisions on the basis of data, teachers themselves rate this skill quite low.

Three other competencies teachers rated in the lowest quarter, all related to interaction, pose a second dilemma. Teachers rated planning with students, interacting with parents and community, and working as a member of an educational team among the least desired competencies. Although communication and interpersonal relations (primarily under the teacher's control) were highly rated, those involved with adults or on a less-controlled basis were rated considerably lower.

The pattern of teacher response seems to be more general than first believed. When the study was presented at AACTE, the audience was invited to discuss the findings. At that time several other studies were described. Their findings were amazingly consistent with the results of the Houston study.

The implications of these data for teacher preparation and inservice education are noteworthy. The focus of efforts should be on that phase of the job in which the professional directly interacts with his client. This does not preclude other concerns in the curriculum, but it does suggest a point of emphasis.

Research on teacher effectiveness or as Jere Brophy prefers to call it, optimal teaching, provides another perspective for identifying competencies. A national conference on research in teaching was held November 3-5, 1975 at the University of Texas at Austin. Most of the researchers in attendance were currently studying teacher effectiveness. For three days, they presented their findings from extensive observational studies, some conducted over a period of several years. Although they

couched their conclusions in the conservative and tentative language of researchers, some general impressions of those findings from a practitioner seeking the best evidence are available.

No single variable was consistently important as a measure of teacher effectiveness; the configuration of variables, the context, and the interrelationship of student-teacher interaction were more powerful. Differences were found in effective teacher behavior between primary and intermediate grades and between low and middle socioeconomic areas.

Clearly evident was the effect of direct instruction on student achievement. Rosenshine (1975) summarized studies by Stallings, Soar, and Brophy and Evertson on primary grade reading and mathematics achievement. He described direct instruction as an approach where:

> . . . the teacher is the dominant leader of the classroom activities, one who decides which activities will take place, and who directs without giving reasons. A good deal of time is spent on number and reading activities using textbooks and academic workbooks or in verbal interactions directly on reading and mathematics. Students are supervised by the teacher while they work, and there is little free time or independent-unsupervised activity. Students usually work in small or large groups. Teacher questions or workbook questions tend to be narrow and at the child's level so that pupils have a high percentage of correct answers. The questions usually have only a single answer, and the teacher immediately reinforces the answer as right or wrong. There is little discussion of the answers. Correct answers are followed by another question, incorrect answers are followed by the teacher giving the answer. The learning is approached in a direct and business like way and is organized around questions posed by the teacher or materials provided by the teacher.
>
> There are two ways to describe the opposite from direct instruction. In the Follow Through programs, which contained programs ranging from highly structured to highly inquiry oriented, the opposite to direct instruction were classrooms in which there was more game-like activities, and art work, and where play was an object in itself. The pupils had free choice, free work groups, and frequent socialization. The teacher approaches learning in an informal manner, organizes learning around a pupil's own

problem, encourages pupils to express themselves freely, asks open-ended questions on academic and non-academic topics, and joins in the pupils' activities.

Time involved in learning activities seems to be related to student learning. When classes were observed over long periods, the amount of time each student was actually engaged in instruction was amazingly short. Berliner cited cases where the teacher allowed 45 minutes for students to complete a task, but individual students worked as little as three and one-half minutes on it. McDonald reported in a California study that individual students were engaged in actual reading instruction only 40 hours a year, even though reading was identified as one of the most important subjects. Teachers should consider their own practices in terms of the actual time each student actually is engaged in meaningful learning activities. They should consider the class as a whole, and from the perspective of individuals in the class. Further, teachers may need to reconceptualize organization and management to accomodate greater teaching time. For students from lower socioeconomic homes, time becomes even more critical. Their absence rate is higher while the amount of study time out of school is lower, reducing still further the time spent on learning.

Researchers concluded that structure seemed to facilitate learning while chaos was disfunctional. They found praise to be moderately but not strongly related to student achievement. The pattern of praise was important with those who praised often, being less effective than those who reserved it for special cases. Corrective feedback to students by the teacher was an important correlate of teaching effectiveness, but it rarely occurred.

Simply having a wide variety of materials available to students was not related to effectiveness; neither was multiple instructional options. The appropriateness rather than number of instructional resources was important. When students were engaged in independent activities, the availability of the teacher to assist students elicited positive results.

Class discussions are not so prevalent as often thought. In the primary grades, higher order questions were disfunctional, but lower order questions were positively related to learning. Pupil-pupil interaction rarely occurred.

Although teacher perception and research findings may not produce conclusive results and cannot be rigidly employed in program design, they provide some directions for practitioners. Summaries of research such as those by Rosenshine and Furst (1971) and interpretations by Good and Brophy (1973) and by Dunkin and Biddle (1974) provide a wealth of clues for improved teacher education.

EXTENSIVENESS OF CBE IMPLEMENTATION[1]

Conference programs and professional chatter would indicate that many institutions are engaged in competency-based programs. Critics might add that they were lured there by federal dollars, power-hungry state education departments, and fast-talking colleagues. The actual extent to which CBE is being implemented probably cannot be known, but CBE is extensive and growing.

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[1]The author is indebted to Karl Massanari for his assistance with data in this section.

Several years ago, the AACTE (1973) conducted a survey of 1250 institutions preparing teachers, asking if they were operating, investigating and/or planning CBTE programs. Of the 783 respondents (a 63 percent return), 131 (17 percent) said they were operating CBTE programs, 228 (29 percent) said they were not, and a large number, 424 (54 percent), said they were in some stage of investigation.

In May 1973, Educational Testing Service in conjunction with AACTE (Sherwin, 1974) conducted a follow-up survey of the 131 institutions that had identified themselves as having competency-based programs in the initial survey. Seventy-five usable responses were received. A large proportion of the respondents, 71 percent (53 institutions), had operated CBTE programs less than two years. Most of the CBE activity occurred at the undergraduate level. According to the returns, a total of 24,399 students were engaged in CBE programs.

State education departments have assumed more proactive stances in the development of certification plans. Some confusion has resulted in the literature between Competency-Based Education and Competency-Based Certification. Resolutions in professional association meetings and writings and speeches by educators attacking CBE often are supported by data on certification/credentialling requirements. This has been true particularly in New York where a CBE mandate is being implemented.

During the past five years, every state has studied CBE/Competency Based Certification (Pittman, 1975). Twenty-six states have revised their teacher education and certification standards, resulting in approved Program Approaches. Of the 29 states who now utilize the approved Program Approach, 17 either have developed separate CBTE standards or the

approved Program Approach, which permits the state to encourage CBE. Twenty-three states have produced documents which specifically address either CBE or CBC.

Thirteen states have formed a national consortium to share information, materials, and training procedures, and to help member states to develop management systems for competency approaches to teacher education and certification. The Multi-State Consortium is composed of Arizona, California, Florida, Michigan, Minnesota, New Jersey, New York, Oregon, Pennsylvania, Texas, Utah, Vermont, and Washington.

Professional organizations and learned societies have reacted to the CBE movement in a variety of ways. The National Education Association condemned it as being premature in a 1974 resolution passed by NEA General Assembly.[2] The American Federation of Teachers has supported CBE while vocally condemning certification based on such processes. Social science and humanities associations typically have been opposed to the movement while more technically oriented associations have supported it or remained silent on the issue. Table 1 summarizes a study of professional organizations made by Massanari (1974). Of 91 associations polled, 67, or 74 percent, responded to the survey.

The Research and Development Center for Vocational Education at Ohio State University has specified a set of competencies and pilot tested over 100 supporting instructional modules. A national CBE center in the liberal arts has been established at Bowling Green University. The School Library Manpower Project administers six experimental CBE program models.

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[2]The motion was made and seconded by two New York representatives with much of the discussion confusing mandated certification with educational process.

Dentistry, nursing, medicine, allied health, business administration, law, social work, engineering, and nuclear radiology are but some of the fields outside teacher education in which CBE is being employed. Several liberal arts colleges are experimenting with a CBE approach.

Table 1

CBE Activities by Professional Associations

Activity	No.	Percent
Actively Involved in Some Way	40	60
Session(s) on CBTE at Regional or National Conference	33	49
Committee Studying CBTE	32	48
Published or Planning to Publish Article(s) on CBTE	33	49
Developed or Are Developing:		
List of Competencies	20	30
Position Statement	17	25
Engaged in Experimental Work in CBTE	7	10

At the federal level, Teacher Corps, Fund for the Improvement of Post Secondary Education, and Career Education are among programs highlighting CBE approaches. The Free University of Iran opens in 1977 as a completely competency-based institution. Teachers colleges in Israel, Saudi Arabia, and England are studying CBE. UNESCO sponsored a week-long training conference in 1973 for its chief technical advisors from around the world. An innovative project in technical education operates in Munich and one on basic education functions in Brazil.

The mass of published materials about CBE has grown in the past three years. Many of these materials are redundant, but a growing realization can be perceived of the power of the movement, the need for less rigid systems, the evolving creativity of approaches, and the growing number of persons who have just discovered CBE.

JUST A FAD?

In the summer of 1975, an Iranian educator asked if CBE was just another American fad. He recalled "teacher proof" curriculum materials, computer-based instruction, interfacing, and other terms and movements that seemed to perish just as they became known. His conclusion was that Americans thrive on the new and different and that they cannot stabilize long enough to test the worth of a movement or idea.

Perhaps CBE is just another fad. However, its roots are deeply embedded in basic American traits. The focus on objectives, on pragmatic results, on refinement based on feedback is part and parcel of the free enterprise process. The name may change, but the basic tenets of the movement will remain as residuals in most future educational endeavors. With rapidly developing technology and a changing society, the basic philosophy and concepts of CBE remain the most viable approach. Because of its regenerative process, CBE should lead to even more effective preparation processes and movements.

Professionals continually feel they are pressed to produce results. The doctor must cure his patient; the lawyer free his client; the teacher facilitate student learning. Dr. Ann Olmsted, sociologist on the medical faculty at Michigan State University, pointed out in a recent meeting of

a Phi Delta Kappa National Commission that general practitioners in medicine could be characterized as simply keeping the patient alive until his natural body functions made him well. The parallel with teaching is all to evident. Some teachers may be contributing to student learning by keeping them in a school while their natural curiosity and instincts stimulate learning. Research studies reported earlier tend to support this. More effective teachers are those who teach and teach directly, structure their instruction, and engage students actively over longer time periods in learning activities. They know what their goals are, and they teach to those goals.

Research on teacher effectiveness at the elementary school and high school levels may be equally applicable in universities. Direct instruction, time on tasks, corrective feedback by teacher, and structured learning may be important ingredients in the process.

The emphasis of competency-based education on objectives which are reality oriented and based on practitioner needs, which include instruction tailored to objective achievement, which employ evaluation that compares achievement with objectives, and which use corrective feedback to improve practice may provide the process for improved professional practice.

Charles Kuralt, in one of his television series "On the Road," summed up an American philosophy and spirit with these lines:

> As our country reaches for its 200th year, we realize
> It is not how old are you
> But what have you done, and
> What can you do.

These comments also reflect the spirit of the competency-based education

movement. The essence of competence is doing, not simply knowing how or what to do. The ultimate criterion of such actions is in accomplishments, in results, in the consequences of actions. The prospects for improved education the years ahead are indeed bright.

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INSTRUCTIONAL MATERIALS FOR

PERFORMANCE-BASED TEACHER EDUCATION

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INTRODUCTION

Seldom in the history of teacher education has an idea received such widespread interest and rapid acceptance as has performance-based teacher education (PBTE). Developmental work is proceeding in a number of research and development centers, traditional teacher education programs are being modified to meet some or all of the criteria of PBTE, and the installation of completely new PBTE programs is being contemplated in a great many teacher education institutions.

In spite of this, there is much that is still unknown about how best to design curricula and how to organize and manage PBTE programs. It is the purpose of this paper to bring together some salient information about the current status of PBTE as it relates to vocational education and to describe a rational approach to PBTE program development. Particular attention is given to the urgent problems involved in constructing and refining individualized instructional materials that incorporate the principles of PBTE. The work of the Performance-Based Curricula Program at The Center for Vocational Education has provided a basis of knowledge and experience for much of what follows.

Material has been drawn from the following relevant documents prepared by Center staff:

James B. Hamilton and May W. Huang, Resource Person Guide to Using Performance-Based Teacher Education Materials.

Robert E. Norton, Lois Harrington, and Janet Gill, Performance-Based Teacher Education: The State of the Art.

Glen E. Fardig, Robert E. Norton, and James B. Hamilton, Guide to the Implementation of Performance-Based Teacher Education.

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PBTE DEFINED

PBTE is an approach to teacher preparation in which the teacher is required to demonstrate essential teaching tasks in an actual teaching situation. Actual performance of the tasks insures that the teacher has not only the knowledge required but also the ability to perform competencies (knowledge and teaching skills) that are essential to successful teaching. Many traditional teacher education courses have tended to place emphasis on the theory of teaching rather than focusing upon the specific teaching skills needed. In PBTE programs, individuals must demonstrate their ability to perform as teachers in an actual classroom. Traditional teacher education programs and state certification regulations have focused on giving teachers the necessary number of courses with the proper course titles in order to meet graduation and certification requirements. In PBTE programs, the focus is upon demonstrating specified competencies essential to successful teaching.

The terms "Competency-Based Teacher Education" (CBTE) and "Performance-Based Teacher Education" (PBTE) are often used synonymously by educational leaders. Some educators, however, distinguish between the two terms. The use of the word "competency" emphasizes the fact that

learning in competency-based programs is structured around the identified and verified competencies needed by teachers. The term "Competency-Based Teacher Education" is, therefore, appropriate for any such teacher education program structured upon identified teacher competencies. In performance-based programs, the work "performance" is used to emphasize the fact that these programs require teachers to demonstrate their ability to perform the essential competencies in an actual classroom setting. The Center's Professional Vocational Teacher Education Curricular materials are structured upon identified and verified teacher competencies which the learner is required to perform in an actual teaching situation. Regardless of the terminology preferred by individual practitioners, the preparation of the individual to perform effectively in the teaching role remains of utmost importance.

CHARACTERISTICS OF PBTE PROGRAMS

The study of widely accepted concepts of PBTE and of many individual PBTE programs has resulted in the identification of several characteristics of teacher education programs which are considered essential if the program is to be considered a PBTE program. These essential characteristics are:[1]

1. Competencies to be demonstrated by the student are identified, based upon what a teacher must know and be able to do. The competencies are stated as behaviors which

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[1]Adapted from American Association of Colleges of Teacher Education, Achieving the Potential of PBTE: Recommendations, PBTE Series: No. 16 (Washington, D. C.: American Association of Colleges for Teacher Education, 1974), pp. 32-33.

can be assessed and are shared with the student at the beginning of the program.

2. Criteria to be used in assessing each specific competency are stated, including the conditions under which assessment will occur and the expected level of mastery. Criteria are also shared with the student at the start of the program.
3. The instructional program focuses upon development and evaluation of the specified competencies by the student.
4. Assessment of the student's competency uses his/her performance in the teaching role as the primary source of evidence. Objective evidence of the student's knowledge related to planning, analyzing, interpreting, or evaluating situations or behavior are also considered.
5. The student's rate of progress through the program is determined by demonstrated competency rather than by time or course completion.

In addition to the above essential characteristics there are several additional desirable characteristics of PBTE programs. These include:

1. Instruction is individualized and personalized.
2. The learning experience is guided by feedback.
3. The program as a whole is systematic.
4. Emphasis is on exit, not on entrance requirements.
5. Instruction is modularized.
6. The student is held accountable for performance.

Although many of these have long been associated with sound instructional practice, they are particularly relevant to PBTE programs.

PBTE AND TRADITIONAL PROGRAMS CONTRASTED

It is evident that a great deal of emphasis is placed upon the identification, attainment, and assessment of teaching competencies. It may be helpful in describing PBTE programs to contrast several features of PBTE programs with features often used to characterize traditional teacher education programs. In Figure 1, characteristics of seven aspects of conventional vocational teacher education programs are contrasted with the same aspects for PBTE programs. These contrasts are presented as general contrasts between the two types of programs. However, it should be noted that in examining individual conventional teacher education programs, one or more of the program features characterizing PBTE programs might be found.

CURRENT STATUS OF PBTE: VOCATIONAL TEACHER EDUCATION[2]

As one would expect, the growth of PBTE for vocational teachers has tended to parallel that of general education. However, there are several distinct differences. The U.S.O.E. funded Elementary Models Projects, which served as a catalyst for PBTE at the elementary teacher level, were perceived as having little direct relevance for vocational and technical teacher education. Thus, vocational teacher educators were somewhat slower than other groups with regard to setting up PBTE programs. In fact, much of the current effort in PBTE is, at least in part, based upon research completed at the Ohio State Center (Cotrell and others,

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[2]Adapted from Curtis R. Finch and James B. Hamilton, "Competency-Based Instruction for Vocational Teachers: Current Status and Future Prospects." Paper presented at the Southern Agricultural Education Conference, Williamsburg, Virginia, 1975.

	CONVENTIONAL	P/CBTE
OBJECTIVES	- GENERAL	SPECIFIC AND BEHAVIORAL
CONTENT	- TEXTBOOK(S), LECTURES	MODULES, MULTI-MEDIA
NATURE OF INSTRUCTION	- GROUP ORIENTED- LECTURES, RECITATIONS	INDIVIDUAL ORIENTED- SELF-PACED STUDY, TUTORING
EVALUATION	- TESTS, QUIZZES, AND WRITTEN EXAMS: NORM-REFERENCED	PERFORMANCE IN SCHOOL SITUATIONS: CRITERION-REFERENCED
FEEDBACK	- SELDOM	FREQUENT
EMPHASIS	- ACHIEVING GRADES- KNOWING	ACHIEVING COMPETENCE- DOING
COMPLETION	- TIME-BASED	PERFORMANCE-BASED

Figure 1. Program Features of Conventional and P/CBTE Programs

1972). This data base seems to have served as a starting point for a number of PBTE programs designed to meet the needs of vocational teachers. For example, Michigan, Texas, Oregon, Illinois, and Mississippi utilized the competencies identified by Cotrell and others (1972c) as a basis for their own curriculum research and development efforts. In many cases, competencies were verified at state and regional levels and then programs devised which built upon these competencies.

Current indications are that a number of vocational teacher education institutions are designing and implementing PBTE programs. In fact, several vocational teacher education departments are leading the way in this regard (e.g., Temple University, University of Nebraska, Wayne State University, University of Minnesota).

Response to a recent request by the Ohio State Center for state directors to nominate institutions to participate in The Center's advanced testing of performance-based vocational teacher education curricula resulted in responses from 37 states and nominations of some 70 institutions. Letters requesting inclusion in the testing were received from 40 of these institutions. Other indicators of the PBTE movement's strength in vocational teacher education are the results from a recent market survey which the Ohio State Center conducted relative to projected demand for use of its performance-based curricular materials. Over three-fourths of the 237 respondents indicated that they had competency-based teacher education programs in operation or in the planning stage.

For the benefit of those who are considering PBTE program implementation, it may be meaningful to provide brief descriptions of a few

successful programs. These are representative of the work that is currently going on across the country.

At the University of Minnesota, the preservice "Teaching Methods in Agriculture" is competency-based, individualized and modularized. This program consists of 29 modules, 23 of which must be satisfactorily completed prior to student teaching. One learning laboratory is provided for group discussions and simulated teaching with peers, while another is equipped with carrels for individual study, listening and viewing. Facilities are also provided for small group discussions, and viewing and critiquing of student videotapes as well as tapes of master teachers. Student performance is assessed under simulated teaching conditions prior to student teaching and also during student teaching experiences.

University of Nebraska's "Preparation by Prescription for VO-AG Teachers" focuses on the development of 74 teaching behaviors needed by first-year teachers of vocational agriculture. To provide students with the ability to perform these behaviors, 30 challenges (learning tasks with assignment sheets and audiotape discussions) were developed. During the first five weeks of the "professional semester" students work on demonstration, writing, explanation and performance tasks on an individualized basis. Each student views "Master Teacher" videotape situations and participates in at least 10-12 critiqued micro-teaching sessions prior to the six weeks of student teaching. Following student teaching, an intensive five-week class-laboratory-workshop Program Planning Course allows each student to proceed at his/her own pace through 16 challenges (53 objectives) involving audiotape programmed instruction. A learning laboratory provides students with opportunities to listen and complete

assignments and provides teacher educators with an opportunity for individual and small group instruction. Each assignment is graded, and unsatisfactory performances are redone until judged satisfactory.

A number of other PBTE activities may be mentioned to illustrate the wide-ranging and pervasive nature of the ongoing effort.

1. Faculty at Wayne State University have established an across-the-board PBTE program in a typical four-year vocational teacher education context. The Wayne State program is most comprehensive and has now been operational for several years (Cook and Richey, 1975).
2. At Temple University, a PBTE program has been implemented to meet the in-service needs of trade and industrial teachers. Perhaps the most notable aspect of Temple's program is that it is entirely field-based. That is, teachers may develop competencies in the schools rather than on the campus of the University (Adamsky and Cotrell, 1975).
3. University of Michigan's PBTE program is designed primarily for aspiring occupational teachers who transfer from community colleges. The use of competencies enables students to complete baccalaureate degree requirements in a minimum amount of time (Vogler, 1975).
4. Seventeen states have mandated the approach as a full new or alternative system for teacher education and certification; 15 others are considering similar action. Several states plan full implementation within the next several years.

5. Approximately 500 institutions of higher education have pilot programs, about 120 have large operating programs, and 15 have institution-wide programs.
6. Thirty-one states have joined the Interstate Certification Project concerned with the mobility of educational personnel and interstate reciprocity of teaching certificates. A major focus of the 74-75 program is on transferability problems relating to competency-based education.
7. Fourteen states have formed a national consortium for the purpose of sharing information, materials, and personnel and for helping member states to develop management systems for the development and use of performance-based approaches to teacher education and certification.
8. There is a National Clearinghouse on PBTE at the American Association of Colleges for Teacher Education in Washington, D. C.
9. An Institute for Research and Development of Competency-Based Teacher Education Programs has been formed in the College of Education at Wayne State University.

Due possibly to the speed with which the PBTE movement has swept the nation, the pressure of mandates, or a zeal to improve teacher education programs, many programs and projects presently under development or in operation have incorporated varying pieces of the form of PBTE, frequently without capturing the real substance of PBTE. There are a wide range of activities being conducted under the banner of PBTE: modules without programs; programs without (or with loosely defined) competencies;

competencies without programs; programs which equate field-based with competency-based; programs with competencies but without performance; programs with performance but without competencies, etc. The following section describes some of the varied research and development efforts going on relative to the identification and validation of competencies, the development of curricular materials, the development and implementation of programs, and the development of assessment procedures and instrumentation.

COMPETENCY IDENTIFICATION AND VALIDATION

Patricia Kay (1975) identified three basic procedures for deciding what competencies should be included in a PBTE program. From least to most operational they are: (1) theoretical approaches, (2) task-analytical approaches, and (3) course conversion approaches. Kay says that probably no program has used only one approach that most likely contains elements derived from all three. She further delineates the task-analytic approaches into the following five sub-categories: (1) basic task-analytic procedures, (2) analysis of the teaching performance associated with curriculum packages, (3) school learner needs assessment, (4) analysis of projected teaching roles, and (5) empirical hypothesis generating.

The task or role analysis procedure with its many variations is probably the most commonly used by vocational educators. This approach typically involves identifying the competencies involved in teaching in a given area or at a given level by: (1) conducting a search of the literature; (2) asking teachers working in that area and/or at a given level to describe what they do, what they feel they should be doing; and

what additional skills they feel they need; and (3) asking teacher educators, supervisors, and administrators to describe and verify what teachers do and/or should be doing. Criticism of this approach stems from the fact that this procedure may perpetuate the status quo, since it tends to emphasize competencies which represent what teachers do, and not necessarily what teachers do or should do that, in fact, promotes student learning.

One type of task-analytic approach, the school learner needs assessment approach, appears most desirable and is yet perhaps the most difficult and least useful at this time. While the goal among teacher educators has long been to train teachers in the skills which will result in maximizing student achievement, to date there has been no research which conclusively links particular teacher behaviors to specific student achievement. Nonetheless, efforts to identify competencies using this procedure have been attempted. For example, in Minnesota, The Task Force to Study Programs Leading to Certification for Teachers of Social Studies (1973) started with the identification of "pupil outcomes toward which a competent teacher makes progress." From there, they generated a list of "teacher behaviors which facilitates achievement of pupil outcomes." Finally, they developed a list of "competencies which facilitate those teacher behaviors."

The course conversion procedure is also very frequently employed, particularly in states where a mandate has been issued. This approach commonly results in the translation or reformulation of present courses into new statements of behavioral objectives or competencies. The knowledge and skills a teacher should possess are inferred from the current

course content. As with the task-analytic procedure, this approach tends to perpetuate the status quo and hence is not likely to result in many significant program changes. An advantage of this approach, however, is that it is expedient—changes can be made quickly and at relatively low cost.

The theoretical approach, while conceptually very promising, is undoubtedly the most costly and difficult to utilize. This approach requires extensive study and research and a high degree of both technical skill and conceptual expertise among program developers. Theories and models of learning and human behavior are complex and abstract and require a great deal of interpretation and extrapolation. There is also the limitation that theoretically derived programs can only be successful if the underlying theories used are, in fact, accurate descriptions of the realities of the teaching process.

In specifying competencies by any one of these three procedures, there has been an attempt made in most cases to identify teaching competencies in each of the three learning domains: cognitive, psychomotor, and affective. Although critics have repeatedly accused PBTE programs of being dehumanizing and mechanistic, in many programs special efforts have been made to include the affective element. One of the categories specified by Benson, et.al. (1972) is "Nurture Humaneness." Florida International University's list of competencies includes "provide positive teacher-student interaction." Weber State's competencies include "interaction skills." The University of Texas at Austin composed each competency using a synthesis of three parts: problem solving, human relations, and job task. Likewise, the affective element is evident

throughout the Cotrell elements and criteria and the University of Nebraska's NUSTEP program.

One variable involved in competency generation is the level of specificity of the competency statements. To illustrate, the following list contains examples of various persons or institutions that have identified teacher competencies and the number of competencies they identified:

Michigan State Model Elementary Program	2,700 competencies
Cotrell	384 performance elements
Wright	327 teaching tasks
Courtney	130 items
Walsh	197 competencies
Burke	80 competencies
University of Texas at Austin	27 critical competencies
Florida International University	7 generic competencies
Lehigh University	4 competencies
Hite	2 competencies

Compare the scope of one of Cotrell's 384 competencies, "Write a Lesson Plan," with the scope of Hite's two competencies: Teachers can state objectives, and Candidate's pupils demonstrate growth consistent with stated objectives.

How many original competencies are identified and what level of specificity is used is not critical, however. What is critical is that each competency is ultimately broken down to a level of specificity which is measurable. Each of Cotrell's 384 elements is further broken down

into measurable criteria. For example, the element, "Write a Lesson Plan," is broken down into eight criteria, one of which is "The lesson was based on the specific student performance objectives." Similarly, at the University of Texas at Austin, the 27 critical competencies are broken down into 143 major competencies which, in turn, are broken down to 246 specific competencies. Therefore, while competencies may vary in scope and breadth, the ultimate product of the competency identification process must be measurable criteria if the program which is developed around these competencies is to be, in fact, performance-based.

Another variable is the level of mastery for which the competencies were identified. The Cotrell study attempted to identify all the competencies important to the successful vocational teacher. On the other hand, the State University College of New York at Buffalo and the Frieder model (Okey, Brown and Levie, n.d.) sought to identify competencies for the beginning teacher only. Many institutions have started with existing competency lists and selected from those lists the competencies which specify the level of mastery for which they are training teachers at their particular institution, state, or instructional area.

The validation procedures used by program developers to authenticate the competencies which were identified are, for the most part, similar to the procedures used to identify them. Although the term "validation" is used, it is more nearly a "verification" process. Lists of competencies were (1) compared to other lists; (2) given to educators at all levels and rated as to the importance of each item; (3) subjected to Q-Sort and Delphi techniques; and (4) compared to the literature.

Using these identification and validation procedures, or some combination thereof, a large number of competencies have been generated. There are lists of competencies generic to all teachers and lists of competencies needed by teachers of specific areas: Industrial Arts, Agriculture, Distributive Education, English, Elementary, Social Studies. What is needed now, according to Warmbrod (1974), is not identification of more competencies, but an effort to make sense and order out of the ones we have; that is, determine which ones do make a difference. Research is underway at a number of institutions for the purpose of relating teaching behaviors to student learning. The National Institute of Education (NIE) is supporting projects in this area by the Far West Lab, the California Commission for Teacher Preparation and Licensing, and the Research and Development Center for Teacher Education in Austin. According to Rosenshine (1974), large scale studies about the relationship between teaching competencies and student achievement are also underway at the Center for Educational Policy Research at Harvard, the Institute for Development of Human Research at the University of Florida, the Stanford Research Institute, the Bureau of Educationally Handicapped, and at the Purdue Educational Research Center.

MODULE DEVELOPMENT

For most of the PBTE programs currently in existence, specified competencies have been formed into some type of printed package. Most packages are called modules, some are called ILPs (Individualized Learning Packages), and some LAPs (Learning Activity Packages). While modules are not an essential characteristic of PBTE, their flexibility and adapt-

ability facilitate performance-based instruction. Some PBTE materials have been given special institutional or other type names (e.g., POP KITS, WILKITS, WAYNE KITS, MINN MODS). These packages vary in length from one-page outlines to totally self-contained booklets which include all necessary information and directions for use. The outline-type modules serve primarily to make public the competencies; many are similar to course prospectuses. Since two of the most desirable characteristics of PBTE are that instruction should be self-paced and individualized, the most fully developed, self-explanatory modules seem preferable. The majority of modules developed thus far do not include options for performance of the skill in an actual teaching role; the final experience or post-assessment tends to be of the paper-pencil variety or the student's performance in a simulated situation is assessed using a performance checklist or the resource person's subjective judgment. The modules produced by The Center for Vocational Education are unusual in that <u>each</u> module includes (1) a final learning experience which always involves student performance in an actual school situation, and (2) use of a "Teacher Performance Assessment Form" which lists detailed criteria for successful performance. If there is a single point at which existing programs break down in their quest to become truly competency- or performance-based, it is probably in the area of final assessment. If student competency is measured by a paper and pencil test, or if competencies are specified only to serve as a structure for course development and not as a basis for assessment, then PBTE is little different than the traditional course-approach to teacher education.

Existing modules generally have fairly similar elements as follows:

1. A listing of prerequisites
2. Directions for using the module; often this is handled using a flow chart
3. Rationale or introduction explaining the importance of the competency being covered
4. A listing of performance objectives: terminal and enabling
5. A listing of terminology, resources and materials needed
6. Preassessment--usually a short-answer test
7. Explanation of the activities to be completed in order to reach each objective; this is often in chart form
8. Information sheets
9. Feedback devices--most often essay or objective tests
10. Post Assessment--usually a short-answer test, but in some cases performance at the planning or simulation levels is involved, and occasionally performance in an actual school situation

The activities involved in most available modules are structured to offer the learner a number of alternate routes for reaching an objective. In addition, optional, enrichment, or quest activities are frequently included for the learner who desires to pursue a particular subject further. Activities typically involve reading, role-playing, planning, reacting to case studies, video-taping performance for critiquing by peers, and discussion. A number of modules also include recycling activities so that a student who does not achieve a particular objective initially can get further information or practice without repeating the exact same activities.

Module development models are proliferating. Most of these models conscientiously practice what they preach. For example, Heath at Oregon State University and Houston, et.al. (1972) have developed modules on writing modules; Kapfer and Ovard (1971) have developed an Instructional Learning Package on preparing and using ILPs; and Hyder (1971) has developed a Learning Activity Package on constructing LAPs. Drumheller (1971), Frantz (1974), Hauenstein (1973), and Silvius and Bohn (1975) have contributed to the area by producing documents explaining systems approaches to curriculum development. Arends, Masla, and Weber (1973) have produced the second edition of their CBTE module development handbook. Others, such as Fardig (1975), have produced handbooks or guides for the development of modules for secondary and post-secondary technical subject matter instruction. Additionally, many modules which have been developed by teacher education institutions as part of their PBTE programs are available and can serve as models.

DEVELOPMENT OF THE CENTER'S PBTE CURRICULUM

The Center for Vocational Education, The Ohio State University, has developed a Performance-Based Vocational Teacher Education Curriculum especially designed for use in implementing pre-service and/or in-service PBTE programs in vocational education. These PBTE curricular materials consist of 100 Professional Vocational Teacher Education Modules, a Student Guide, and a Resource Person Guide. The development of this curriculum involved three major phases: (1) the research base, (2) development of curricular materials, and (3) testing and revision of materials.

These three developmental phases, to be followed by a dissemination phase, are shown in diagram form in Figure 2.

THE RESEARCH BASE

Center work began with two research projects to determine the essential teacher competencies of vocational teachers. Approximately 1,000 vocational teachers, supervisors, and teacher educators were involved in the identification and verification of 384 performance elements, or competencies, considered essential for vocational teachers.

In the first phase of the study, essential competencies needed by teachers of conventional programs were identified. These were the teaching competencies needed by secondary and/or post-secondary teachers in agricultural, business and office, distributive, health occupations, home economics, technical, and trade and industrial education. This study resulted in the identification of 256 common competencies (competencies needed by teachers in two or more of the seven service areas studied).

The second phase of the research study sought to determine the essential teacher competencies needed by teacher coordinators in cooperative programs, namely off-farm agricultural, wage-earning home economics, office occupations, special needs, and trade and industrial education. A total of 385 teacher competencies were identified including those identified in Phase I of the study. These competencies were clustered into ten categories representing ten areas of vocational teacher responsibility. The findings of Phases I and II were then merged into one comprehensive list of 390 competencies and later reduced to a total of 384

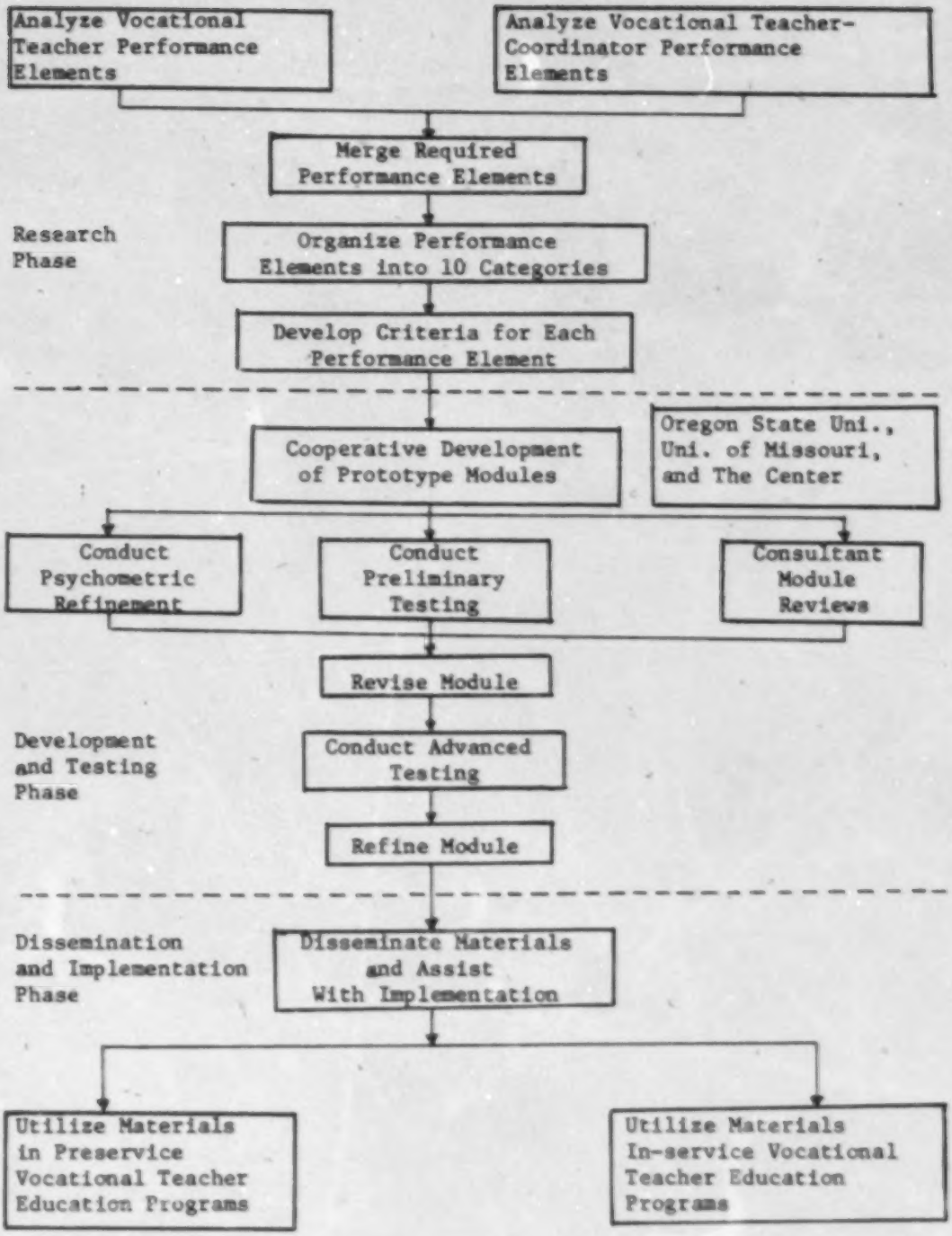

Figure 2. Phases of the PBVTE Curricula Development

through elimination of duplication. These vocational teacher competencies are organized into the following categories:

A — Program Planning, Development, and Evaluation

B — Instructional Planning

C — Instructional Execution

D — Instructional Evaluation

E — Instructional Management

F — Guidance

G — School-Community Relations

H — Student Vocational Organizations

I — Professional Role and Development

J — Coordination

Finally, a set of performance-oriented general objectives specifying the task and the general criteria for evaluating a teacher's performance of the stated activity was developed.[3]

DEVELOPMENT OF CURRICULAR MATERIALS

Following the identification of the 384 vocational teacher competencies, work was initiated to develop the necessary curricular materials for implementing PBTE programs at the preservice and in-service levels for all vocational service areas. The curricular materials are in the form of individualized learning packages, or modules, each of which has as its base one or more or the 384 competencies. By basing the modules on the verified competencies, there is solid assurance that the objectives

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[3]Calvin Cotrell, et.al., Model Curricula for Vocational and Technical Teacher Education: Report No. V—General Objectives, Set II (Columbus, Ohio: The Center for Vocational Education, The Ohio State University, 1972).

of the modules actually represent competencies needed by vocational teachers.

To further assure that the materials developed reflect the actual needs of vocational teachers and that the materials would be acceptable by all vocational areas, the module development process was structured to ensure maximum involvement of persons actively engaged in vocational teacher preparation. Each module was originally developed in cooperation with vocational teacher education faculties at Oregon State University in Corvallis, and University of Missouri in Columbia. Center staff worked with the writing teams at the institution sites.

An organized procedure of development, review, and revision was followed by the writing teams at each of these sites during the initial module development. Following the development of each module to the satisfaction of the faculty at the site, the module was then forwarded to the other site to be reviewed and critiqued by their faculty. Each module also was reviewed and critiqued by Center staff. Finally, a synthesis of all faculty and staff reviews was developed, and the module was revised by Center staff. From this process, 118 Professional Vocational Teacher Education Modules were developed and revised in preparation for initial testing.

TESTING AND REVISION OF THE MATERIALS

Initial testing of the performance-based curricular materials was carried out at Oregon State University, University of Missouri-Columbia, and Temple University. Each of the 118 modules was used by a minimum of 10 pre-service and/or in-service vocational teachers at one or more of

the test sites. Reaction forms were completed by each student for each module used and by each faculty member or resource person for each module they administered. In addition, in-depth taped interviews were conducted to clarify and gain additional feedback from students and resource persons for a sampling of the modules tested.

Concurrently, the California Testing Bureau of McGraw-Hill conducted psychometric refinement of the objectives and assessment instruments in each of the 118 modules. Several individual modules and entire categories of modules were also reviewed and critiqued by independent consultants and subject matter experts during this phase of the study.

Using the inputs from students and resource persons, the psychometric refinements, and the consultant reviews, each of the modules underwent major revision of content and format. A rigorous revision process was employed utilizing module revision teams of three persons each and standardized procedures to assure consideration of all inputs and to maintain standards of quality and uniformity in the materials. Several recombinations of performance elements were suggested by module users during the preliminary testing phase. Incorporation of these suggestions resulted in a reduction from a total of 118 modules to 100 modules.

Advanced testing of the materials is being conducted at 17 sites in diverse geographic areas and settings as well as several differing PBTE program structures. Feedback from each individual and each resource person using the modules is being gathered to further improve the materials. User feedback will also provide information as to the characteristics of the user and how well the materials serve his/her

needs. Following completion of the advanced testing and refinement of the materials, the Center's PBTE curriculum will be released for publication and dissemination.

A concerted effort has been made in the development of the modules to keep them consistent with the essential principles and concepts of performance-based teacher education. At the same time, the instructional materials have been made as attractive and convenient to the learner as possible. The following are some of the major features included in the module design:

1. Each module focuses on one or more verified vocational teacher competencies.
2. Modular design provides maximum flexibility for designing individualized programs.
3. Learning experiences allow for individual or group instruction.
4. All modules are suitable for preservice and/or in-service education.
5. Most modules are self-contained.
6. Optional resources include printed and multi-media materials.
7. The design permits use of local situation-specific materials.
8. Each module culminates with student assessment of the competency in an actual school situation.

The Center's instructional modules encompass the learning of a single identified objective or a small group of related objectives that can be learned effectively together. All of the learning activities presented in each module are directed toward achievement of the stated

objective(s). Basically linear in instructional design, there is, however, provision for individualized learning activity options and for the by-passing of learning activities by trainees who have acquired the designated competence through previous experience.

The instructional module consists of a number of components, each supporting and contributing to the strength of the whole. While the individual module is intended to be used as an instructional entity, the resource person may enrich the learning experiences and modify the instructional mode to meet the needs of individual learners. Although module structure varies somewhat depending on the subject matter content, the typical instructional sequence is given below. A graphic representation of the sequence is present in Figure 3.

1. A statement of the terminal instructional objective is provided for the student.
2. Cognitive knowledge necessary for the performance of the competence and its application is provided.
3. Opportunity for planning experiences is provided.
4. Opportunity for practice performance or simulated performance is provided.
5. Optional activities are suggested (for enrichment and for trainees with special interests).
6. Alternate activities are given for activities that may be difficult to complete (e.g., activities calling for the use of peers).
7. The trainee may select learning experiences depending on previous experience or personal need.

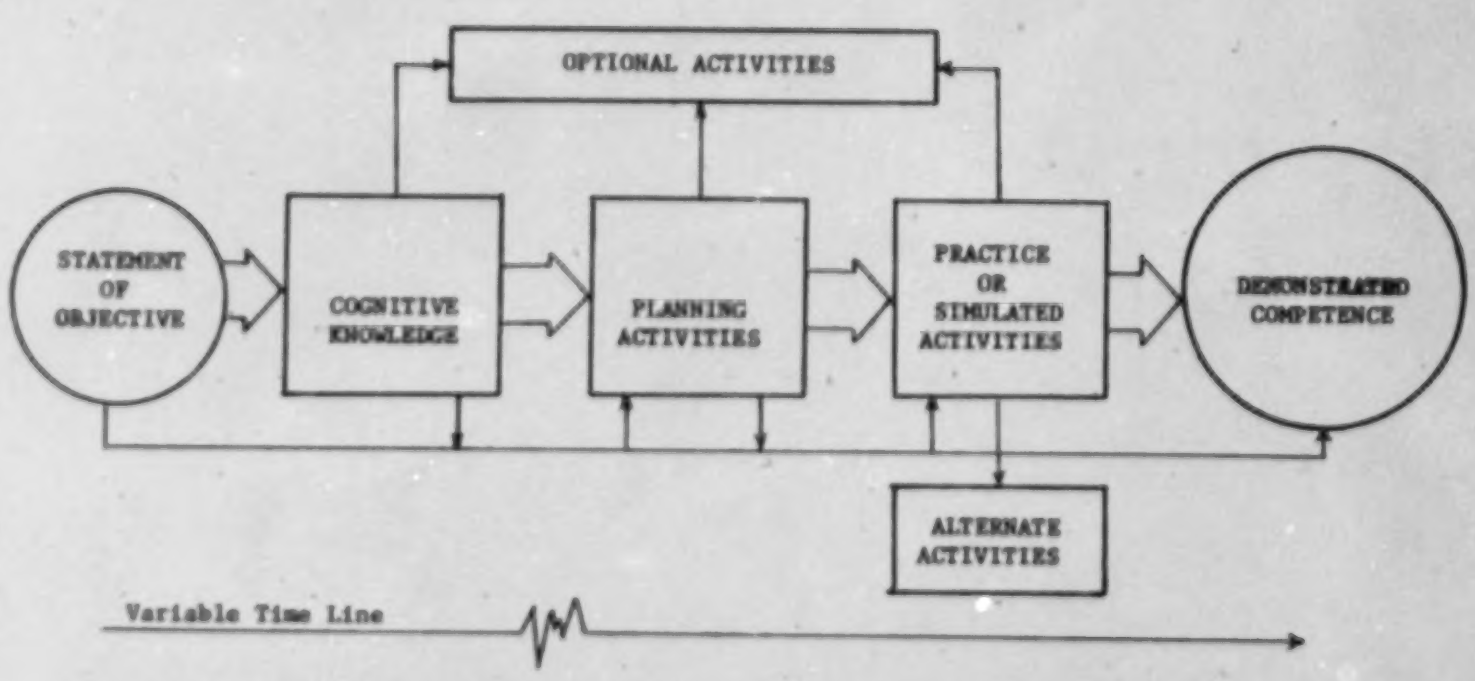

Figure 3. Typical Instructional Sequence for CVE Modules

8. Feedback and reinforcement are provided the trainee at the end of each learning experience.
9. Final demonstration of the specified competence takes place in an actual school situation.
10. The already competent trainee may "test out" of the module by going directly to the final experience.

PBTE AS AN INSTRUCTIONAL SYSTEM

Performance-based teacher education is conceived by Center staff as a system for the development and delivery of the instructional program—from identification of teacher competencies to teacher professional effectiveness. In this systematic approach, each component supports the others and each, in turn, is affected by the requirements of others. All of the components are directed toward providing an instructional gestalt in which the resource person and teacher trainee can work together cooperatively in the process of learning. Following is a brief description of the necessary components in this process, with a graphic representation given in Figure 4.

1. The system should be built on a group of verified competencies (e.g., Cotrell's list of 384 competencies needed by vocational teachers).
2. Overall structure and specific format of instructional materials must be developed.
3. Instructional modules should form the instructional core of the system.

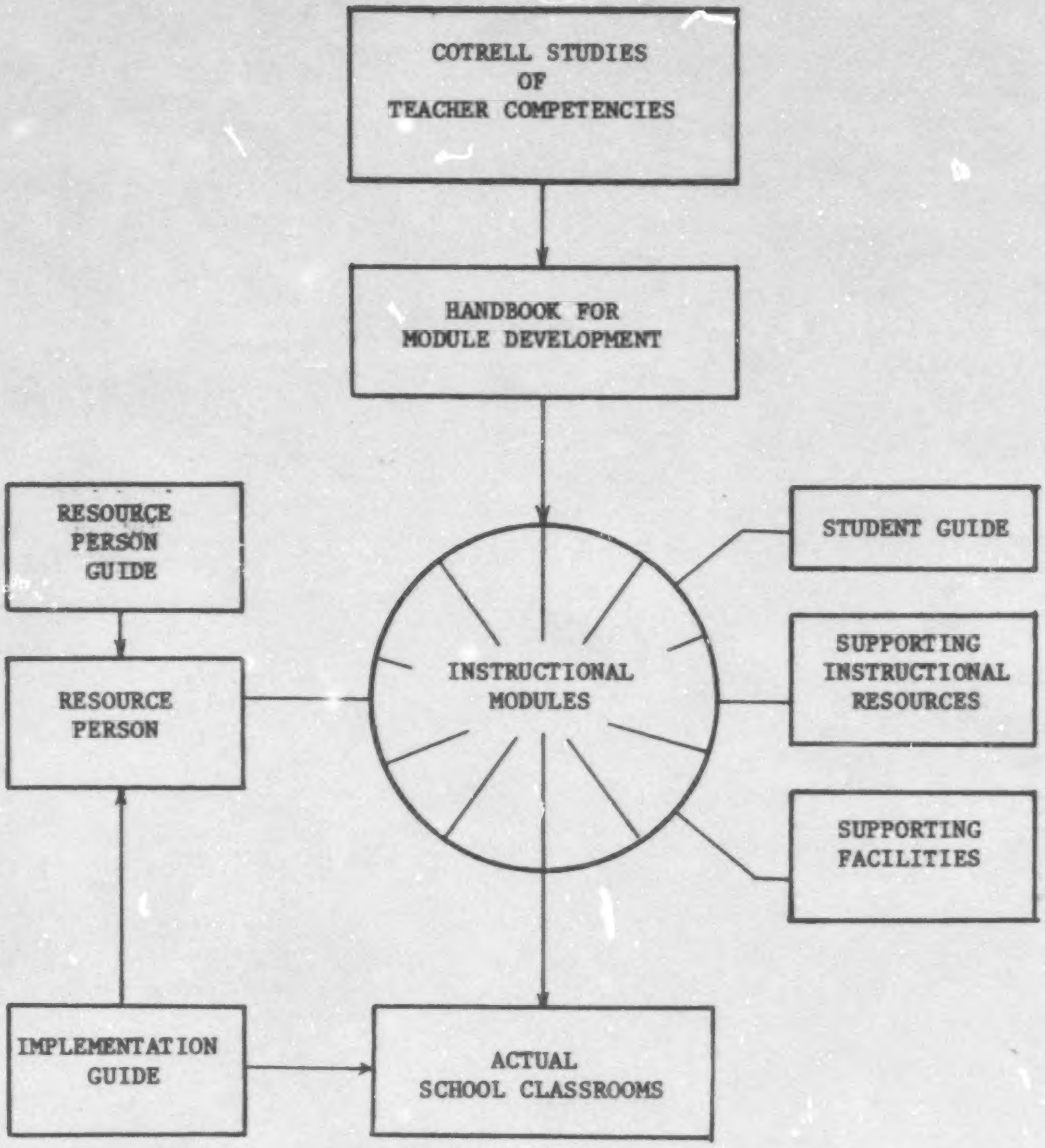

Figure 4. CVE Performance-Based Vocational Teacher Education Delivery System

4. A student guide is needed to orient trainees to the PBTE approach.
5. Supporting instructional resources, including printed materials, multi-media materials, etc., need to be developed.
6. Supporting facilities needed include a resource center, videotaping studio, viewing room, conference rooms.
7. The resource person is an integral and essential component of the system. The resource person acts as advisor, helper, coordinator, and evaluator.
8. A resource person's guide helps the teacher educator to function in a new and perhaps unfamiliar role.
9. The implementation guide assists in the processes of organizing and managing the PBTE program.
10. Actual school classrooms are essential for the final demonstrated performance of the competency.

MODULE EVALUATION

Evaluation of the Center's materials is a continuous process. It begins as the modules are conceptualized and continues as the modules are designed, developed, field tested, and implemented in a teacher education program. Input from evaluation may be informal and subjective, or formal and empirical. Ideally, evaluation is a never-ending effort.

Each curriculum designer should develop evaluative criteria based on the underlying educational philosophy and approach of the performance-based teacher education in which he or she is working. Many criteria,

however, will be common to all PBTE instructional materials. The three evaluation instruments in Appendixes A, B, and C have proven useful in materials-development projects and may be adapted by program constructors to fit their particular needs. The first (Appendix A) asks broad questions about the bases and content on which the module is constructed. The second (Appendix B) is a more specific checklist, designed to focus on each element of the module. The third (Appendix C) is a very detailed device that may be especially useful in the final refinement stages of module development.

Appendix A. Evaluation of Performance-Based Instructional Packages

1. Is it competency based?

   a. Does the terminal objective require actual performance of a task or tasks of the occupation?

   b. Is there a series of explicitly stated objectives leading to the terminal performance?

2. Does it treat the "Why" and "How" of the performance?

3. Do the learning experiences deliver on the objective?

   a. Is there a series of logically sequenced learning experiences leading to performance of the actual task or tasks?

   b. Are the learning activities reasonable expectations considering demands for physical resources, student time, and resource person time?

4. Does it culminate with assessment of actual performance with a comprehensive listing of performance criteria provided?

5. Does it contain clearly stated, easy to follow directions?

6. Is flexibility provided for the student to select learning experiences appropriate to individual needs?

7. Does it have a high degree of utility--can it realistically be implemented in the field?

8. Is it attractive?

Appendix B. Module Assessment Checklist

MODULE NO._____ MODULE TITLE:_____

ELEMENTS	YES	NO	?	COMMENTS
1. The introduction:				1.
a. describes what the student will learn.				a.
b. tells the student why the competency is needed.				b.
2. The directions are correct and explicit.				2.
3. The objectives are correctly stated.				3.
4. The learning activities:				4.
a. are consistent with the objectives.				a.
b. provide sufficient opportunity for the student to learn.				b.
c. are practicable and feasible.				c.
d. are appropriate to the student level.				d.
e. are clearly and succinctly stated.				e.
f. include a variety of learning modes.				f.
g. are limited to the necessary knowledge and skills.				g.
h. are free from harmful side effects.				h.
i. are largely self-instructional.				i.
j. provide student reinforcement.				j.
k. provide practice of skills in controlled settings.				k.
l. provide simulated or real-world tryout of competency.				l.
5. Student self-checks:				5.
a. are directly related to the objective				a.

ELEMENTS	YES	NO	?	COMMENTS
b. cover the required knowledge				b.
c. provide the student with feedback				c.
6. The <u>instruction sheets</u>:				6.
a. are clearly and correctly titled.				a.
b. are written at the student's level.				b.
c. provide the essential information.				c.
d. include appropriate instructional illustrations.				d.
e. are adequate in scope and depth.				e.
7. The <u>instructor's final checklist</u>:				7.
a. is in correct format.				a.
b. measures student acheivement of the module objectives.				b.
c. is limited to the competencies stated in the objective.				c.
d. states the desired performance in unambiguous terms.				d.
e. is based on observable student performance or the product of performance.				e.

Appendix C. Module Review Checklist

MODULE TITLE:_____ REVIEWED BY:_____

Language

1. The terminology is defined in the introduction or information sheets. YES NO

2. The terminology is consistent throughout. YES NO

3. The directions are simply and clearly stated, and complete. YES NO

4. The performance objectives are stated in measurable terms. YES NO

5. The directions clarify the performance objectives; they are not simply a restatement of the performance objectives. YES NO

6. The directions clarify what the performance is, how to do it, and why it is necessary. YES NO

7. The language is lively and interesting; it is not merely mechanical. YES NO

8. The language is geared to the level of an average reader. YES NO

Learning Experiences

1. Learning experiences are sequenced logically. YES NO

2. Learning experiences do not overlap. YES NO

3. Learning experiences lead to competency in the performance objective. YES NO

4. All required readings contribute directly to attaining the objective. YES NO

5. All required activities contribute directly to attaining the objective. YES NO

6. When an activity may be difficult to implement, alternate ways of completing the activity are provided. YES NO

7. Optional learning activities are provided to give depth and flexibility to the learning experience. YES NO

8. A range of activities is provided to accommodate students of different abilities, needs, and interests. YES NO

9. A range of activities is provided to allow for both individual and group work. YES NO

10. Role playing activities include role descriptions and situations to guide anyone playing a role outside his/her own frame of reference. YES NO

11. The learning activities are varied and interesting, with a minimum of repetition from one learning experience to another. YES NO

Information Sheets (Criteria in the "Language" section apply here)

1. The module is self-contained, if possible, and practical. YES NO

2. Information sheets contain up-to-date information. YES NO

3. Information sheets are concrete and tangible, not just vague generalities or lists of criteria; they tell "how-to." YES NO

4. Information sheets are relevant to vocational education, with examples drawn from various service areas of vocational education. YES NO

5. Outside resources require less than 30 pages of reading per learning experience. YES NO

6. Outside resources are not more than 10 years old (unless they are of exceptional value). YES NO

7. There are three or fewer outside references per learning experience. YES NO

8. Outside references are standard enough that they should be readily available to any module user. YES NO

Self-Checks, Model Answers, Checklists

1. Self-checks are not simply rote activities, and are not obvious without the information provided in the learning experience. YES NO

2. Self-checks comprehensively reflect the information provided in the learning experience. YES NO

3. Model answers (which do more than parrot the information in the readings) are provided to reinforce learning. YES NO

4. Checklists are stated in observable, performance terms. YES NO

5. Checklists include all criteria necessary for successful performance. YES NO

6. Checklists actually assess the learner's progress toward the objective. YES NO

7. Alternatives to peer evaluation are provided for those learners who cannot arrange to work with peers. YES NO

8. Each feedback device includes a stated level of performance. YES NO

9. Evaluations provide for recycling if the level of performance is not met. YES NO

Media

1. The media is applicable to all vocational service areas. YES NO

2. The media illustrates, clarifies, reinforces, or extends the concepts introduced in the module; it doesn't simply repeat them. YES NO

3. The media is realistic, i.e., the teacher, students and real school setting are believable. YES NO

4. The length of the media is reasonable (10 to 20 minutes). YES NO

5. The media is interesting visually/aurally. YES NO

6. The media is clear visually/aurally. YES NO

7. If the media includes an exemplary instructor, the instructor:

   a. relates well with students. YES NO

   b. uses student feedback. YES NO

   c. uses media or teaching aids where appropriate. YES NO

   d. presents information geared to the needs of the students. YES NO

   e. teaches on the basis of up-to-date learning theory. YES NO

8. The media is free from racial and sex bias. YES NO

9. The media is lively and action-oriented. YES NO

10. The information is presented in a logical manner. YES NO

Overall

1. The module delivers on the objectives. YES NO

2. The module meets "new format" specifications. YES NO

3. Module is internally consistent (objs., directions, feedback devices, etc. do not contradict each other, directly or indirectly). YES NO

4. No learning experience other than the final learning experience requires performance in a real school situation. YES NO

5. Opportunity is provided for practicing any performance which must be executed in the real world. YES NO

6. The final learning experience requires performance in an actual school situation. YES NO

7. The learning experiences are realistic; i.e., they do not require an unreasonable amount of prior knowledge or of time on the part of the learner. YES NO

8. The module is easy to implement; i.e., it does not require an unreasonable amount of the resource person's time. YES NO

9. Learning activities, information sheets, case studies, resources, etc. provide across-the-board representation of the various service areas in vocational education. YES NO

10. An introductory statement is provided which motivates the student by explaining why the competency is needed, not simply what the competency consists of. YES NO

11. An introductory statement is provided which places the module in a frame of reference with other modules in the category, and with the broad theory of vocational education. YES NO

12. All necessary prerequisite competencies are listed. YES NO

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DELIVERING LEARNING/TEACHING

FOR COMPETENCY-BASED EDUCATION

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DELIVERING LEARNING/TEACHING FOR COMPETENCY-BASED EDUCATION

INTRODUCTION

A cursory review of the previous papers indicated that "Competency-Based Teacher Education: A National Perspective," "Competency-Based Programs and Materials for Vocational Teacher Education," and "Service Area Focus on Competency-Based Teacher Education" have been addressed. This particular paper and the paper which follows address the knowledges, skills, and hopefully attitudes necessary for the development of competency-based teacher education materials.

This paper may best be described in terms of eight questions. The questions are: (1) What are Vogler's CBE perspectives? (2) What is CBE? (3) What are the products of CBE? (4) What are the functional components of CBE? (5) What is learning/teaching? (6) What is the delivery strategy? (7) What is the jargon? and, (8) What is the function of a module?

WHAT ARE VOGLER'S CBE PERSPECTIVES?

Most existing teacher education programs have evolved over time. The teacher educator's interests, textbooks, teacher certification requirements, college degree requirements, inherited course syllabi, and a multitude of other variables have contributed to this evolution. All too often the variables have had little to do with the knowledge, skills, and attitudes required by teachers. Thus, the teacher education curriculum has often addressed teacher competencies through happenstance rather than by design.

One alternative to a happenstance curriculum is to utilize competencies in the development of professional teacher education programs. In 1971, The University of Michigan embarked upon such a project to develop a teacher education program utilizing competencies as a foundation. The project was funded by the State of Michigan, Department of Education, Division of Vocational-Technical Education Services. This developmental project resulted in an operational, competency-based, upper-division, comprehensive occupational teacher education program. Graduates of the program exited with a Bachelor of Science degree in education; provisional, general certification; and provisional, vocational certification, with each prepared to teach his or her vocational area.

A residual outcome of this project has been the development of a personal perspective on competency-based education. The perspective can best be indicated by the following five observations related to competency-based education.

1. Teacher education curriculum developers and implementors often expect too much from competencies, goal statements, and performance objectives. These components are communication devices. To expect more from them than communication will lead to serious problems.
2. The delivery of learning experiences by modules has often been considered the singular system for providing the non-field based instruction. Although a modular option is very desirable, it should only be an option. Other delivery systems, including traditional group instruction, may be more appropriate for a given situation. Further, adoption

of a modular competency-based delivery system would be unrealistic at this time. The current materials available to deliver a modular system are limited. Although materials could be purchased, the materials would require revision for specific situations. Finally, to expect that all students learn best under a modular system would be as much in error as to believe that all students learn best with traditional systems.

3. Followers of CBTE often believe that the evaluation problems of teacher education will be solved with a competency-based approach. The performance objectives with criteria of reference provide an excellent means of communicating the evaluation intentions. However, the mechanics of evaluation for a large group of objectives and a large group of students are huge. The problem is magnified when consideration is given to other variables. Example variables include assessing students upon entry, measuring durability of competence, relating competence to teacher certification, recycling current or returning students, evaluating field-based competence, and determining psychomotor and affective competence.

4. The emphasis in a competency-based program often shifts to exit requirements. Although this is very appropriate and consistent with the competency-based model, reality suggests that attention must also be given to entrance requirements. The expertise to accurately evaluate a prospective teacher

does not exist. Thus, the student ratio of entrance to exit remains out of balance, and a tendency to permit incompetence prevails.

5. Administrative decision makers often believe that a competency-based program will reduce the number of teacher educators while increasing the number of teachers prepared. Teacher educator aides can relieve the teacher educator of certain duties. Modules can replace scheduled classes. Cooperating teachers can assume more responsibilities in teacher education. However, the nucleus of a good teacher education program is dependent upon low teacher/student ratios and student access to the expert teacher educator.

WHAT IS CBE?

Competency-based education is equal to performance-based education. Competency-based teacher education is equal to performance-based teacher education and is one example of competency-based education. Competency-based teacher education does not have sole rights on the whole competency-based education movement. Competency-based teacher education is only one example of the total movement. Hopefully, competency-based teacher education can spawn teachers who will be competency-based in their operations. To put it differently, one should not be concerned with which came first--the chicken or the egg. The important point is to have a chicken capable of producing eggs. The remarks that follow should be applicable to both CBE and CBTE.

A more direct and less circular double talk definition of competency-based education might sound something like this: the organizational

structure of learning/teaching which permits description in advance of the knowledges, skills, and attitudes that a student should possess upon exit from a program or course.

WHAT ARE THE PRODUCTS OF CBE?

Historically, teachers have assumed the authority and the responsibility for the learning/teaching environment. The result has been a teacher-centered approach to education. Competency-based education can produce four outcomes that would be more closely aligned to student-centered education. The four CBE products are: (1) a shift of responsibility from the teacher to the student, (2) a shift of emphasis from learning process to learning outcome, (3) a clarification of instructional intent, and (4) setting of the stage for evaluation. The interface and importance of these four products will emerge through responses to the remaining advance organization questions of this presentation.

WHAT ARE FUNCTIONAL COMPONENTS OF CBE?

The functional components of competency-based education may be divided into two categories. The first category is an advanced organizer or communication device. Goals, competencies, performance objectives, and syllabi comprise the category. All four devices should be developed in the planning stages of education.

The second category of functional components of competency-based education is the delivery strategy system. This category includes learning/teaching experiences and criterion-referenced testing. The category equates to the implementation phase of education. CBE learning/teaching

experiences may emanate from group, individualized, and combination strategies. The latter strategy may utilize both small groups and individualized instructional packages. The learning/teaching strategy will be elaborated in a following section of this presentation.

Criterion-referenced testing is the ultimate CBE tool for it requires that the performances of students be compared to standards specified in performance objectives. Upon completion of criterion-referenced testing, the development/implementation loop is completed.

WHAT IS LEARNING/TEACHING?

Learning/teaching may best be described using the problem-solving model. This model is comprised of five basic questions: Where am I now? Where am I going? Why am I going? How am I going to get there? How do I know when I'm there? The words "student" or "teacher" may be substituted for the word "I." Thus, the model becomes: Where is the student going now? Where is the student going? Why is the student going? How is the student going to get there? How does the student know when he is there? Likewise, the model may read: Where is the teacher now? Where is the teacher going? Why is the teacher going? How is the teacher going to get there? How does the teacher know when the teacher is there?

The substitution of the word "teacher" or "student" into the problem-solving model makes it consistent with the products and the components of CBE. To illustrate, the student problem-solving model provides for the shift of responsibility to the student. The emphasis shifts to student learning outcomes; and therefore, the instructional intent is

clarified. Finally, the notion of how does the student know when he is there sets the stage for evaluation.

The teacher problem-solving model is consistent with CBE in that the components of CBE require advance organizers. As noted earlier, the CBE advanced organizers are goals, competencies, performance objectives, and syllabi. The natural consequence is a problem-solving process which is complementary to CBE.

WHAT IS THE DELIVERY STRATEGY?

Traditionally, learning/teaching has been provided in the group setting. The teacher is the authority figure and usually is placed at the front and center of the group. An alternative for teacher-centered instruction is student-centered instruction. This can be facilitated by self-contained learning/teaching tools called modules. Both strategies have their advantages and disadvantages. Consequently, a third learning/teaching strategy can evolve which is a combination system. The combination strategy permits the use of either group techniques or individualized techniques. Further, the combination strategy retains the large group instructional option.

The tools for group, individualized, and combination strategies are units, modules, and Mo-Uns. Group instruction usually is organized by units which break into lesson plans. Individualized instruction is usually organized into modules. The format and components will be addressed in the "Writing a CBE Module" presentation. The combination instruction may be organized into a device, which for lack of a better word, is called a Mo-Un. A Mo-Un utilizes the first two letters of module

and the first two letters of unit, and in practice uses both lesson plans and modules. Figure 1 illustrates the group, individual, and combination delivery strategies. Figure 1 further identifies the learning/teaching delivery tools.

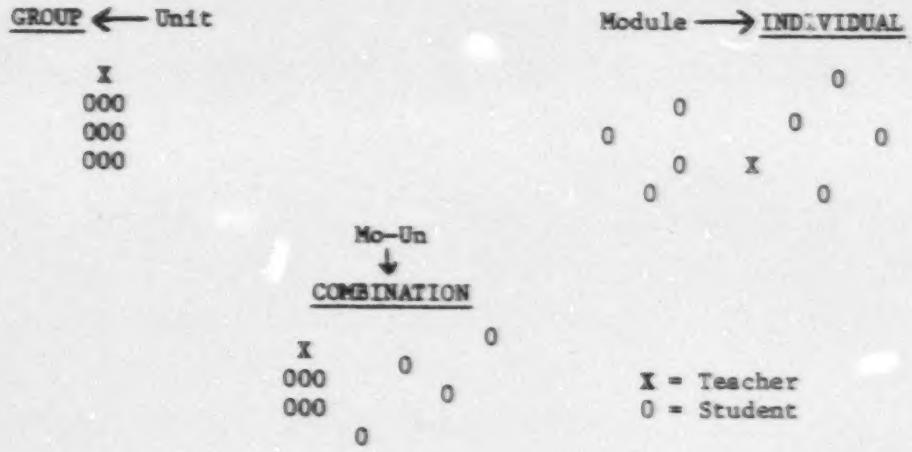

Figure 1. CBE Delivery Strategies

WHAT IS THE JARGON?

Professors keep their jobs by inventing new words for use with old definitions. Several professors have been fully employed in the development of CBE. They have brought in special definitions of modules, mo-uns, goals, performance objectives, pre-assessment, post-assessment, criterion of reference, criterion-reference testing, and many others. As one moves through CBE materials, one will have questions regarding the definitions. The safest approach is to use common sense and to accept the idea that there appears to be no one right definition for any of the terms. Therefore, you are given the license to be creative and to define and invent your own new words.

WHAT IS THE FUNCTION OF A MODULE?

Modules may be defined as self-contained learning/teaching tools. The module may be used in the individualized or in the combination strategy. The module is the crucial element for individualized or combination strategy. Therefore, the importance of modules and the ability to write them becomes paramount.

The module functions are illustrated in Figure 2. One should note that the ultimate function of modules is flexibility for the presentation of instructional content.

SUMMARY

This paper has briefly addressed eight questions related to "Delivering Learning/Teaching for CBE." Scrutiny of the information permits one to deduce that CBE is consistent with contemporary learning/teaching theory and principles. CBE mandates a planning and execution scheme which is in harmony. Finally, CBE affords an opportunity for progressive change in education.

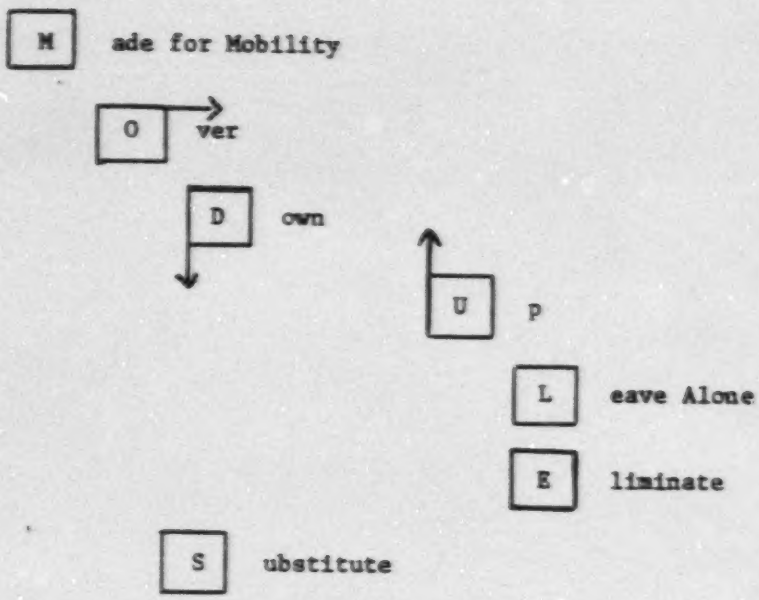

Figure 2. Module Functions

WRITING COMPETENCY-BASED EDUCATION MODULES

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WRITING COMPETENCY-BASED EDUCATION MODULES

Eight basic questions provide the background information for writing CBE modules. They are: (1) What are the functional components of a module? (2) What is the cover page function (3) What is the introduction function? (4) What is performance objective function? (5) What is pre-assessment function? (6) What is learning experience function? (7) What is post-assessment function? (8) What is the reference function?

WHAT ARE THE FUNCTIONAL COMPONENTS OF A MODULE?

There are an infinite variety of formats for modules; however, a workable format must move the learner logically and sequentially through a series of events that will enable the learner to meet specified performance objective(s). An ultimate test of a module in terms of whether or not it delivers is the problem-solving model. One may test any module against whether or not the learner knows where he is now, where he is going, why he is going, how he is going to get there, and does he know when he has arrived. To accomplish this, the following skeletal format for modules is offered:

Cover Page
Introduction
Performance Objective
Pre-Assessment
Learning Experiences
Post-Assessment
References

WHAT IS THE COVER PAGE FUNCTION?

In the final analysis, the cover page function must be able to communicate and to attract the attention of the learner. This may be accomplished if four basic components are included: title, content table, prerequisites, and directions.

The title communicates active learning by adding an "ing" to the performance element action verb. For instance, the performance element "write a lesson plan" becomes the title "Writing a Lesson Plan." The second option, to thrust the title into an action form, is to change the performance element of the performance objective into a question. The performance element "write a lesson plan" might well become "How Do You Write a Lesson Plan?"

The second component of the module cover page should be a content table. It will serve as an advance organizer for the total module. The content table should include a listing of the format pagination. Thereby, a reader could scan the content table and then turn to the specific parts. The content table is particularly important for both the novice who is picking up a module for the first time and for the experienced module user who strives for learning efficiency.

The prerequisites component should also be identified on the cover page. Prerequisites should communicate to the learner the knowledges, skills, and attitudes necessary to enter the module. Basically, the prerequisites should be kept to a minimum; and, "no prerequisites" is a very distinct possibility. Prerequisites may be previous modules, a previous course, or a variety of other previous experiences. The ultimate prerequisite statement should enable the learner to decide whether he is

ready for the module. However, the module should also test the learner for prerequisite competence.

The directions component should also be provided on the cover page. The directions are learning routes for the learner. Directions are not only needed on this page but should also be added at the end of each section within the module. Well developed module directions will weave the student efficiently toward competence.

WHAT IS THE INTRODUCTION FUNCTION?

The introduction to a module will usually follow the cover page and serves one primary purpose—to address the problem-solving model question, "Why is it important?" The "why" answer must be evident to the learner upon completion of the introduction. "Why" answers create interest, establish basic assumptions, and encourage the learner to set goals.

The introduction can accomplish interest creation if it arouses curiosity; is brief, clever, or stimulating; uses visuals, provides expectation of meaningfulness, looks like fun; or creates competition. These characteristics can also be used as a checklist for whether or not interest has been created and if "why" questions have been answered.

WHAT IS THE PERFORMANCE OBJECTIVE FUNCTION?

Performance objective must provide the pivot point for the entire module. Like all performance objectives, the module performance objectives must specify the learner outcomes, identify the conditions under which the performance should occur, and establish assessment standards.

The performance objectives used within a module may be terminal and/or enabling. It is essential that a terminal performance objective be identified. The terminal performance objective should receive a prominent place following the introduction. Enabling performance objectives may be provided as a process device and usually are clustered in groups of two or more. If the enabling objectives are accomplished, then the terminal performance objective will be accomplished. By indenting, one may locate enabling performance objectives on the same page with the terminal objectives. Enabling performance objectives are often placed as the headings for learning experience sections.

WHAT IS PRE-ASSESSMENT FUNCTION?

The pre-assessment function is provided in modules for two basic reasons. First, it provides the prerequisite test option. To illustrate, if a module has a prerequisite, then the prerequisite must be tested. The prerequisite may be tested by paper-and-pencil tests or any other means which provide evidence that one has met the module entrance requirements.

The second reason for a pre-assessment is to permit skipping part or all of the module. This pre-assessment option allows the student to move in jumps or skips throughout the module. The jump or the skip will be based upon demonstrated competence. This option is often called <u>exemption testing</u>. A convenient and efficient means of pre-assessment for the total skip option is to utilize the post-assessment as the pre-assessment.

The pre-assessment function also provides some opportunities for the learner. It helps the learner make decisions, allows the learner to self-pace, and serves as a learner diagnostic tool. The pre-assessment may also interface with the introduction by arousing curiosity. Finally, one should not be concerned about overusing pre-assessments. Pre-assessments are probably the most natural, non-threatening, learning device available.

WHAT IS THE LEARNING EXPERIENCE FUNCTION?

The learning experiences provide the meat of the module. Learning experiences permit the learner to accomplish the performance objectives. The learning experiences section divide and sequence the learning activities. Learning experiences cannot be undersold as a component of the module. All other module parts merely lead to or assess benefits of learning experiences.

The learning experience section should provide variety. It may be self-contained and should appeal to several senses, not just learning through reading. The section must include assessment, and may require supplemental information sheets. It should be domain consistent. In other words, the learning experience in a cognitive area should relate to a cognitive performance objective.

The learning experiences may include both crucial and enrichment learning experiences. However, all learning experiences should be action oriented. If these options can be provided within the learning experience section, the section will be a success.

WHAT IS THE POST-ASSESSMENT FUNCTION?

The post-assessment must test exit competence and facilitate criteria-referencing. It may deliver a comp-out option and may diagnose competency voids. Ideally, the post-assessment will close the learning/teaching loop.

The post-assessment function may be simplified if several procedural points are followed. First, sampling may be used for testing knowledges, skills, and attitudes. Secondly, post-assessment need not go beyond the levels of the performance objective; and thirdly, it is essential that one test enough performances and collect enough data to be satisfied that competence has been achieved.

WHAT IS THE REFERENCE FUNCTION?

The reference function exists as a finalizing effort within the module. It should give credit for any materials, works, or ideas utilized within the module. The reference section should identify special resources needed to satisfactorily complete the module. It provides a listing of resources that would help facilitate the module facilitator in preparing for execution of the module. Finally, the reference section should prevent copywrite suits and keep one out of jail.

SUMMARY

The functional components of a module have been presented. Writing a module can be a rather simple task when the information provided earlier is mastered. However, the parts of a module should not be written in the

same order as they are presented in the module. Figure 1 lists the final format and the developmental order for a CBE module. Basic content checks are included. One should bear in mind that this is just one format. There are infinite variations.

Figure 2 provides a critique system for modules. Note that the system incorporates the problem-solving model.

FINAL FORMAT	DEVELOPMENTAL ORDER
Cover Page	-
title	7
content table	10
prerequisites	2
directions for module	9
Introduction	4
answer "why"	-
PERFORMANCE OBJECTIVE - TERMINAL	1
optional enabling P.O.(s)	
Pre-Assessment	-
test prerequisites	3
allow learner to skip	6
Learning Experiences	5
module meat	-
develop learner	-
POST-ASSESSMENT	6
test exit	-
criterion-referenced	-
REFERENCES	8
credits	-
unusual resources	-

Figure 1. Format and Development of CBE Modules

HINT: Take at least seven sheets of paper and label each sheet with one of the above headings. Do what is required for each heading in the order listed under the DEVELOPMENTAL ORDER. When you have completed the first eight steps, shift your papers into the FINAL FORMAT and then write your directions and content table. Naturally, the number of module pages will vary. You will, no doubt, desire to revise after this point. Good luck!

	Yes=2	Maybe=1	No=0
DOES THE LEARNER KNOW WHERE HE IS?			
1. Title communicates			
2. Prerequisites clearly stated			
3. Testing options defined			
DOES THE LEARNER KNOW WHERE HE IS GOING?			
1. Development of knowledge, skill, or attitude evident in title			
2. Directions to next section evident at end of each section			
3. Development of knowledge, skill, or attitude evident in performance objective			
DOES THE LEARNER KNOW WHY HE IS GOING?			
1. Goal seeking is promoted			
2. Interest is aroused in introduction.			
3. Each module section related to other sections			
DOES THE LEARNER KNOW HOW HE IS GOING TO GET THERE?			
1. Conditions for performance evident in performance objective			
2. Sufficient number of learning activities to deliver on performance objective			
3. Learning activities are appropriate			
DOES THE LEARNER KNOW WHEN HE IS THERE?			
1. Measurement of performance facilitated . . .			
2. Pre- and post-tests available when required.			
3. Tests are criterion-referenced			
COLUMN TOTALS			

COMPOSITE CRITIQUE SCORE _____

MODULE RATING

____28-30 Ready for tryout
____23-37 Minor revision needed
____16-22 Major revision needed
____ 8-15 Parts may be useful
____0-7 Forget this one

Figure 2. CBE Module Critique

CONCERNS IN THE IMPLEMENTATION OF COMPETENCY-BASED TEACHER EDUCATION

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CONCERNS IN THE IMPLEMENTATION OF COMPETENCY-BASED TEACHER EDUCATION

When first introduced to competency-based teacher education (CBTE) one might state: "That sounds like a fine idea, but how can I ever put it into effect in my own institution." It is difficult to implement unless adequate resources are provided. Persons working with programs in brand new institutions may find the implementation process to be easier than to change a program already in existence. The time seems right for implementation of CBTE, however, as impetus for change is coming from many directions. The major concerns for implementation are: (1) program development, (2) flexibility of time, (3) standards and progress reporting, (4) materials, equipment, and facilities, and (5) staffing. These concerns will be discussed in the paragraphs which follow.

PROGRAM DEVELOPMENT

Two major routes may be taken in program development. The first route involves developing the entire CBTE program before beginning to use it, while the second route is to move gradually into using the CBTE program as it is developed. There are advantages and disadvantages associated with each route.

The major advantage of developing the entire program first is that it is a more orderly procedure. Materials are ready for students, and students know what to expect since objectives and requirements are neatly laid out. Major disadvantages are: (1) it is difficult to obtain sufficient feedback during development concerning how procedures will work,

(2) staff members are often teaching the old program while developing the new, and (3) waiting until the whole program is completely developed may mean that it is never completed.

If a decision is made to take the second route and implement the program as it is developed, it is very important that competencies be clearly defined in the beginning. Otherwise, a faculty may find it very easy to arrive at an unexpected destination.

It is possible to begin teaching a course for which competencies are defined and then develop performance objectives for each new set or cluster of competencies as one progresses; it is much easier for everyone, however, if the objectives are also written before the course begins. The second route was used in converting a methods class to CBTE. The procedures are explained below:

First Semester

A. Identify competencies
B. Develop performance objectives
C. Develop criterion tests
D. Continue group instruction
E. Continue norm-referenced grading

Second Semester

A. Refine objectives and criterion tests
B. Provide self-tests for students
C. Develop retests as needed
D. Switch to criterion-referenced grading
E. Provide as much remedial work as possible

Third Semester

A. Determine how content should be divided into modules
B. Develop some self-instructional modules
C. Fill in the gaps with group instruction

Fourth Semester

A. Provide a list of self-instructional modules and objectives at beginning of semester
B. Complete self-instructional modules as needed by students

Fifth Semester

A. Revise suggested time frame
B. Refine materials and procedures

The time required to make this transition to CBTE using the second route will obviously depend on prior experience of the program developer and the amount of time available. The procedure described is not suggested as a model to follow but simply as a possible plan. The steps are not as discrete from one semester to the next as the outline may suggest.

Advantages in using the second route include: (a) instructor receives more immediate feedback on progress, (b) added impetus to keep developing the program once materials are promised to students, (c) students can begin reaping the benefits from some of the changes sooner, and (d) students do not have to make sudden changes--there seems to be a remarkable grapevine concerning what to expect in a particular course.

Disadvantages are that (a) deficiencies at certain stages are more apparent to both students and instructors, (b) time pressures may mean that materials are sometimes quite rough, and (c) students may feel somewhat in limbo as changes are occurring.

If released time can be provided it is recommended that the entire program be developed before implementation. This route may also be feasible if there is a group effort. In the absence of the above two conditions, choose the second alternative, simultaneous development and

implementation. It is recommended that a realistic time schedule be planned for the development and implementation of the CBTE program.

FLEXIBILITY OF TIME

The second major concern is time flexibility. Although one of the major tenents of CBTE is that learners can progress at their own rate, most are locked into a fixed time frame which assumes that all learners progress at the same rate. Even when instructors manage to achieve time flexibility within a particular course, a fixed time frame within a course may still exist.

All institutions may not find the same solution to the problem. It is recommended that an individual examine the regulations in the institution within which they plan to implement CBTE for safety valves to use in order to provide flexibility.

TIME FLEXIBILITY ACROSS COURSES

In an attempt to provide time flexibility some institutions have awarded variable credit at the end of the semester depending on amount of work completed. Marshall University had such a proposal reviewed several years ago that received considerable support. The plan was not approved, but more flexibility has been accomplished.

Another method of providing flexibility may be accomplished by letting students withdraw without penalty from a course just prior to semester exams. Students may pick up where they left off when they re-enroll if they have completed a sizeable portion of the work successfully.

There has been a very low withdrawal rate from classes when using the CBTE approach at Marshall University. Time pressures toward the end of the semester have sometimes been severe for certain students, but most finish. One or two students may withdraw during the first three weeks, but these same students often withdraw from school before the semester is over.

A second safety valve may be provided by giving incompletes. At Marshall University this safety valve opens easier at the graduate level than at the undergraduate level. Another safety valve that is already available on most campuses is to advise students who work more slowly to carry a lighter course load. One student may carry 21 semester hours and another only 9 or 10. Both students could be meeting requirements.

Examine the system to see what loopholes may be found in providing for time flexibility. When it has been proven that the CBTE system works, college and university policies may be changed to permit legitimate flexibility.

TIME FLEXIBILITY WITHIN COURSES

Theoretically, students should be able to work through course objectives completely at their own rate. Practically, guidelines must be set in view of an arbitrary completion date. The suggested completion time for modules may be changed each semester depending upon time required by previous students in the program. One class may set the pace by completing the first two-thirds of the modules ahead of a suggested schedule. The severe end-of-semester pressures may be avoided by an early completion.

Criterion tests may be rescheduled if students request it. Students may ask for tests earlier, sometimes later, depending on other time demands. In the home economics program at Marshall University, students do not take the criterion test with the remainder of the class if they are completely unprepared. There is considerable latitude as to when students must complete a particular test with an acceptable score. About halfway through the course, students complete all work up to a certain point. This procedure accomplishes two things: it helps students pace their work and makes the job of teacher possible. By mid-term, the teacher may pull retests for about 15 or 20 different criterion tests. It is difficult to deal with that many retests at one time with the amount of time and help teacher educators usually have available.

CBTE permits flexible use of class time rather than requiring it once the evaluation system is dealt with. Even though a class is scheduled three hours a week, it may not always meet. Part of the time may be used for individual conferences; some days may be used for criterion tests; some for retests; and some for special help. Occasionally, filmstrips or slides could be shown during class time;but students are not penalized if they prefer to see them at another time or if they choose a reading instead. A class discussion may be scheduled on topics as students indicate the need.

STANDARDS AND PROGRESS REPORTING

The third major concern is grading and progress reporting. Teachers will find themselves in a dilemma as most are required to report letter grades. Some institutions have initiated a policy permitting students

to take a certain number of credits on a pass/fail basis for about five years and, more recently, students have been allowed to take a few courses outside of their major field on this basis. Reactions are mixed and a return may be made to giving letter grades for student teaching. Supervising teachers other than those in home economics have indicated that student teachers don't work as hard. Studies from other institutions have indicated that achievement is lower with pass/fail. A CBTE type of program stimulates more effort among students whether or not letter grades are given. No data supports this claim, but informal observation over a several year period influences the author's belief. The microteaching program was an experiment begun in the fall of 1969. It was so successful that the efforts were expanded in that direction. Until last year, students received no letter grade as the experience was simply listed as a requirement for other courses. Students came to their microteaching session even when they missed all other classes the same day. The constant feedback students received really made final letter grades unnecessary. The experience was attached to other classes. Actually, one year a microteaching experience was operated for 24 clock hours that wasn't attached to anything. Students simply had to meet the requirement. Students who were enrolled in an Educational Foundations class substituted this experience for a live observation in the public schools. When EDF dropped the laboratory requirement, our students completed the experience even though they received neither grades nor credit. Two one-hour courses were later added to our program which included microteaching.

Advocates of letter grades maintain that grades stimulate effort. This use of grades may teach students to work for the external reward. It

is preferable for students to find satisfaction in working to meet specified standards and eventually set their own standards of performance. A couple of years ago when supervising teachers sent mid-term progress reports for student teachers, one teacher responded to the question concerning weaknesses by saying that the student teacher was working too hard. That is the kind of weakness one likes to hear about.

Abolishing letter grades would make very little difference in student effort and achievement. Many of the achievement comparisons have been made in either elective or general education courses with passing meaning a D or better. If all a student has to do is pass with a D, he/she isn't likely to exert much effort. Making a D isn't good enough in a major subject or in professional education. Students must maintain a C average in general education, in professional education and in their major. This policy is better than just an overall C average, but making a B in an Educational Foundations class and a D in Methods does not guarantee success in teaching. A CBTE program permits the maintenance of standards for each course and each competency.

Grades are not necessary, but if necessary can be awarded. In evolving a system for awarding grades with CBTE, there are several changes in thinking that must be made. The first change is to forget about the normal curve. The second concerns letting superior achievement on one competency average out with marginal achievement on another competency. Another change is to stop considering the score on a particular criterion evaluation as final.

One educator has justified abolishing the concept of the normal curve on the basis that the normal curve occurs by chance. Since education is

supposed to be intentional rather than a chance occurrence, why should we expect a normal distribution of grades? The range of grades that occur are likely to reflect the standards set. Thus if 70 per cent standards for objectives are set, some D grades may be expected. If 85 per cent standards are set, only A and B grades will be made if all students meet requirements. Students will meet whatever expectations are set forth in objectives if a system is devised whereby the first effort to master a competency is not necessarily the last opportunity.

There are two basic ways to differentiate among letter grades with CBTE programs. First, vary the standard of achievement required. Second, vary the number of competencies. For undergraduate courses, the first pattern may be used. Adding additional competencies for an A does not seem feasible considering the extent of basic requirements. For graduate courses, the second pattern is frequently used with varying requirements, or a combination of varying requirements and varying standards. Contracts work quite well with graduate students. Students may contract for grades on the basis of both scores and number of modules completed. Stipulations may be built in relating to pretest scores so that students can test out of modules. If students choose to complete a module that they tested out of at a B level, they are required to improve the posttest score.

Different patterns were used for contracts last summer with two graduate level workshops. In one workshop, teachers developed learning packages for home management. In order to make a B each teacher developed a specified number of packages of an acceptable quality. For an A, teachers developed a few more packages but they also had to demonstrate competencies relating to reviewing and revising packages. Behaviors had

to demonstrate a contribution to the overall success of the project. In short, teachers earning an A were required to demonstrate certain leadership competencies. In the other workshop, Innovative Teaching Techniques, both the quantity and quality of work varied for different letter grades. For example, participants contracting for an A developed both a simulation and a game, whereas, those contracting for a B developed one or the other. Participants contracting for an A had to achieve higher test scores and also formed review teams to check all products developed. Feedback is used in revising teaching materials.

Although more time is spent with evaluation in a CBTE program, the end of semester trauma is lessened. Participants have either met the standards for an A or they haven't,and there is no mystery involved as to what the requirements are. When contracts are used, students who see that meeting standards for an A is unrealistic are likely to change their contracts voluntarily.

MATERIALS, EQUIPMENT, AND FACILITIES

The main points to consider in relation to A-V equipment for CBTE are: (a) choose equipment that is easy to use; (b) have equipment readily accessible to students; (c) single-purpose rather than dual-purpose equipment permits more students to work at one time; (d) the smaller size in A-V equipment is a space saver; and (e) earphones reduce the noise level. An additional point is that early mastery of competencies relating to use of A-V equipment is essential if participants are to be able to use the equipment for self-instruction.

Materials for CBTE present a two-pronged problem. Finding suitable resource material is difficult as traditional textbooks seldom meet the demand. The second part of the problem is making the material available to students. It may be found that existing materials either provide only a superficial coverage of topics or they assume prior knowledge the beginner does not have. Thus, it is often necessary to write self-instructional modules and then write the missing supporting material. Even when good material is available on a topic it is likely to come from a dozen different sources including books, brochures, pamphlets, journals, conference reports, and curriculum guides. Non-profit media is not available on many topics. Since many of the resources are not of the type that can be neatly cataloged and placed on a library shelf, labeled boxes will help keep material in some semblance of order and enable participants to find what they need. Color coding and other symbolic coding (usually coinciding with the code for modules) also helps. As a long range solution it may be necessary to write texts specifically designed to accompany modules in order to reduce the sheer volume of resources that are required. Students also seem to like self-contained modules which have the supporting material included.

STAFFING

We all remember the furor several years ago when educators feared that teaching machines would replace teachers. Not much is heard about that concern any more—instructors are busier than ever as they move into CBTE. For one thing, the minute the challenge is accepted that all participants will achieve a pre-specified level of mastery, the teacher is

busier than ever. In another five years the work will ease off; the system will be operating smoothly and the materials will be developed. A major aspect of the CBTE system is the feedback loop. How is the system working? Have conditions changed which require new competencies? What other improvements are needed?

Most of the individuals who decide to develop or continue a CBTE program will probably spend a major part of their time in program development. The amount of time devoted will depend largely on the amount of assistance received from other persons during implementation. It may be necessary to delegate implementation of some favorite activity to other persons if time is found for program development.

An assistant may assume the responsibility for administering criterion tests, grading, and recording scores. The responsibility for test development and for checking work that cannot be scored by an inflexible key must also be assumed by someone. Assistants can help with assembling, distributing, and filing materials. Training assistants is a never-ending process as many are temporary staff. Furthermore, the tasks to be done change from year to year during program development.

It has been said that the true success of an innovation can be judged only by the success persons other than the original developer have in implementing it. Innovative programs have been known to collapse when the developer moved on. CBTE is a rather grandiose scheme which ties together a number of educational innovations.

It often seems easier to develop a program and then find persons to help implement it. Broader involvement in the original development will help insure that the program is carried out as intended. As new personnel

join the staff, it is very important to help them understand the overall philosophy of the program as well as specified procedures. This broader understanding often influences how faithfully day-to-day procedures are carried out and the kind of adjustments that are made.

Educators have stopped talking about teacher-proof curriculum and concede there is probably no such thing. At first glance, CBTE might appear to be teacher-proof. It isn't--a million things can go wrong. For instance, an instructor may start awarding grades on the basis of the number of activities performed rather than on achievement. This misses the whole spirit of CBTE. Or consider the matter of pre- and posttesting. Several years ago, someone on our campus developed a module for all secondary education students on the teaching of reading. It seemed to be a great idea, but my students reported that assistants gave the pretest and then showed students what they missed. Since the pre- and posttest were the same, most students went ahead to the posttest with no further study and simply tried another answer for questions they had missed. Obviously, this procedure also missed the point of CBTE as criterion tests usually measure only a sample of the desired behavior. Students learned more about psyching out a test than they did about teaching reading. Our students admitted that they recognized that they missed important learning, but took the easy way out because the system allowed it and there were more pressing demands on their time.

Having another educator attempt to use the material developed does help us pinpoint weaknesses in modules. These weak spots can also be pinpointed if analyzed at points where students require further clari-

fication. As long as we are the only ones using the material, failure to recognize further clarification provided and needed may be overlooked.

Actually, students are the best evaluators of CBTE materials. One problem encountered when having students evaluate the materials is that of getting more data than can be analyzed. Unless assistance in analyzing feedback is provided, a limitation may be made on the number of students providing feedback for each module.

As instruction is individualized, greater and greater demands are made on time. There are certain procedures that can be introduced to share the load and make more efficient use of time. Consider the matter of retests. It is time consuming to permit students to take retests individually. With limited time available, set aside certain times when students can take whatever retests are needed. Students from other classes may also attend at these times. More times for retesting are needed but time pressures prohibit this expansion. One solution would be to make a weekly schedule for retests and make-up work from all classes in the department or division. Each staff member could monitor tests from any class during a specified time period.

SUMMARY

Only a brief discussion has been provided of the many problems associated with implementing CBTE programs. The particular problems faced and the solutions found will differ within each institution. No final answers are given. The program at Marshall University is still groping for answers. Some days the problems seem insurmountable. However, when

a comparison is made with the program as it was before CBTE, the effort seems very much worthwhile.

TOWARD A FRAMEWORK FOR IMPLEMENTING COMPETENCY-BASED TEACHER EDUCATION

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TOWARD A FRAMEWORK FOR IMPLEMENTING COMPETENCY-BASED TEACHER EDUCATION

OVERVIEW

The preceding papers have dealt with competency-based teacher education (CBTE) from a most positive point of view. Houston perceives CBTE as having the potential to affect major changes in the field of teacher education. Hamilton and Fairdig provide evidence that there is a great deal of support for CBTE as a relevant movement. Discussions by both Vogler and Blankenship reveal that CBTE can be implemented in a university setting and that it does actually work.

Of course, there is not complete agreement by all teacher educators as to the worth of CBTE. A number of persons have raised serious questions about the nature of CBTE and its ultimate value as a movement. Merrow (1975) points out that CBTE has serious shortcomings in the areas of administration, politics, philosophy, and cost. Nash (1973) has made a strong plea for CBTE to be more humanistic in nature. Merrow and Nash are perhaps representative of those who do not fully support the CBTE movement or who seriously question its basic precepts. These few statements, hopefully, will serve as a cautionary note to anyone who is contemplating the establishment of a CBTE program. While CBTE has garnered much support at national, state, and local levels, it is certainly not all things to all people and must be dealt with in a corresponding manner.

The discussion which follows is based upon the premise that implementing CBTE does not differ markedly from making any curricular change. While it is easy to recognize that CBTE has certain peculiarities, the

business of implementing any new curriculum raises several fundamental concerns. This paper attempts to deal directly with these concerns and incorporate them into a conceptual framework for implementing CBTE. Initially, teacher education curriculum development is discussed. This is followed by the identification of vocational teacher education program types, potential implementation constraints, and implementation options. Finally, a framework is proposed which takes into account these program types, constraints, and options.

CURRICULUM DEVELOPMENT IN TEACHER EDUCATION

Although the curriculum renewal process is quite often associated with secondary and post-secondary vocational education, it seems to become a less frequent occurrence as far as vocational teacher education is concerned. By their very nature, teacher education programs are often constrained by a number of forces such as college course structure, certification requirements, and credit hours. The result has been maintenance of rather traditional teacher education curricula which have not always focused on meeting graduates' professional needs. While vocational education curricula have undergone numerous revisions and modifications so that graduates would be better able to survive in the world of work, many teacher education curricula have not been equally responsive to the needs of their graduates. There is certainly nothing wrong with tradition per se, but it is important that teacher educators examine today's and tomorrow's needs and determine just what sort of curriculum renewal should take place. As Swanson (1974) points out,

> it may be necessary to create entirely new norms or forms of teacher preparation, including the creation of entirely new

types of institutions, to insure that vocational teacher preparation will not operate at the margins of technical competency.

The actual business of teacher education curriculum development should not be thought of as a simple task which can be accomplished in a few days. Rather, it constitutes a major undertaking and represents a strong commitment on the part of professionals and students at all levels. Teacher education curriculum development may be represented by four stages: the need stage, the design stage, the development stage and the implementation stage (Cruickshank, 1971). As Cruickshank indicates:

> During the need stage, the training agency organizes for change and establishes needs and priorities in teacher education curriculum; the design stage includes efforts to identify programmatic thrusts that hypothetically will reduce or eliminate the needs; in the development stage, the training agency seeks to build or adopt new training components and support subsystems; during the implementation stage, the new components and subsystems are tried out.

This process with its four stages has several important implications for teacher education in general and CBTE in particular. First, taken together, the four stages represent a systematic approach to curriculum development. All too often, change is made merely for the sake of change. The four stage process assists in overcoming this sort of difficulty by first identifying what needs actually exist and then proceeding to reduce or eliminate these needs.

A second implication may be drawn from the long-range commitment to change. If the developmental process is to have any lasting value, persons involved in this effort must look at programmatic change rather than merely attempting to find some immediate solution to a complex problem. If, for example, there is a need to develop a vocational teacher education curriculum which will prepare teachers of handicapped students,

plans should be made to deal with both the process of preparing teachers and the impact of newly prepared teachers on their students. While it is recognized that a long-range commitment to curriculum development and study is most difficult to make, the rewards more than offset this extra effort.

A third implication derived from this process is concern for trying out components of the new program and thus insuring that they do make a difference. While it is easy to speculate that students will learn and enjoy their learning, there is no substitute for systematic examination of program operation. The result of such an examination will be useful feedback about the program which may ultimately lead to program refinement.

VOCATIONAL TEACHER EDUCATION PROGRAMS

Within the broad context of teacher education curriculum development, there always exists the specific concern for one's own particular situation. The general and abstract must eventually become specific and concrete if change is ever to take place. Consequently, it becomes important to identify the exact kinds of vocational teacher education programs which might lend themselves to CBTE implementation. While, at first glance, it may appear that vocational teacher education is restricted to teacher education institutions, this is far from the truth. Teacher education institutions do make a substantial contribution to the preparation and upgrading of vocational teachers; however, there are others who may also perform these tasks. In recent years, many local education agencies have taken on a greater responsibility for secondary vocational

teachers' in-service education. Post-secondary institutions (community colleges and technical institutes) have also been moving in the direction of providing their own in-service teacher education. Thus, it may be seen that both teacher education institutions and employers have the responsibility for educating vocational teachers with employers placing a greater emphasis on in-service work.

The different ways that vocational teacher education may be arranged also have importance to CBTE. Some teacher education programs are set up by vocational service area while others are offered on an across-the-board or comprehensive basis. In a number of instances, some core or common offerings are provided to all students with the remainder of course work in each student's teacher education program taken through a specific area. Although the foregoing is common knowledge to many, it has been brought up to point out the range of possible ways that CBTE might be offered. The fact that pre- and in-service vocational teacher education might be offered by a number of different institutions and agencies on an across-the-board basis or by service area points up the need to account for this variation during the CBTE implementation process.

POTENTIAL IMPLEMENTATION CONSTRAINTS[1]

While the actual type of vocational teacher education program may, in itself, be a deterrent to CBTE implementation, there are other potential difficulties which can arise when CBTE is being installed. These

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[1]For a more detailed discussion about implementation constraints see Finch, Curtis R. and James B. Hamilton, "Performance-Based Teacher Education Curricula: Implications for Programs," in (Anna Gorman, ed.) The Changing Educational Scene. Columbus: The Ohio State University, Center For Vocational Education, 1974.

seem affected to a greater or lesser degree by program type but are also tied closely to the teacher education setting. Five potential constraints which may show up during the CBTE implementation process include: identification of competencies; instructional materials; roles of faculty and students; interaction with various groups, institutions, and agencies; instructional support; and costs (Finch and Hamilton, 1975).

Identification of Competencies

When a competency-based teacher education program is being developed or plans are being formulated for an existing program to move in this direction, a primary concern is with the identification of competencies. Since teacher competencies serve as a foundation for CBTE, errors at this point may result in the establishment of a program that lacks validity. One of the major criticisms leveled at some CBTE programs is that they merely "teach the same (and perhaps irrelevant) content with a new and improved framework (Sinatra, 1973)." The key issue then seems to be that of identifying competencies which actually maximize the probability of teaching success. Closely associated with this issue is the establishment of priorities for competencies. Given a comprehensive listing of valid competencies, how can teacher educators select those which are most beneficial to the student (assuming that institutional or agency constraints do not permit all to be taught)?

Instructional Materials

As an institution or agency moves forward with the business of implementing CBTE, an immediate need is felt to obtain and/or develop

instructional materials. These generally take the form of modules (learning packages) and supporting mediation (e.g., videotapes, films, reference materials). Although there is general agreement among those in CBTE as to what constitutes a module's component parts, several questions may be raised about what it should actually do. For example, does the module "deliver" on a certain important teacher competency or set of competencies? Is it functional and usable? Does it change teacher behavior? What are the effects of modularization on a grand scale? These as well as others are legitimate questions which may be raised about instructional materials that are typically used in a CBTE program.

Roles of Faculty and Students

The roles of faculty and students will most certainly change when a CBTE program is implemented. Or, put another way, if faculty and student roles are not revised the program is probably doomed to failure. One may wrongly assume that change is a relatively simple task. In fact, people (particularly faculty members) may not be receptive to the idea of being involved in "another" new approach to teacher preparation. Faculty may be threatened by the thought of losing a little personal autonomy while students might not relish interacting with instructional packages. Indeed, all who will be associated with a CBTE program can raise meaningful questions about their respective roles.

Interaction With Various Groups, Institutions, and Agencies

Closely aligned with the CBTE movement is the idea of increased interaction with various groups, institutions, and agencies. For example,

competency-based certification being implemented in many states is serving to better align teacher education programs and certification requirements. Much collaborative work will surely need to be done before programs and certification are in alignment. Interaction with local education agencies will, likewise, be increased. CBTE has placed a great deal of emphasis upon field-centered instruction where the student will apply principles learned in an actual school setting. This may include many more instances of "supervised teaching" than would normally be found in a traditional teacher education program. The implications for interaction with local education agencies are obvious, and in some cases, difficult to predict. Logistics associated with field-centered instruction are often extremely complex, especially for universities located in a more rural setting. Generally, areas in which increased interaction is necessary include teacher education institutions, local education agencies, state education agencies, and other interest groups (e.g., NEA, AFT, AVA, NCATE, AACTE).

Instructional Support

In order for any teacher education program to function properly, adequate instruction support must be provided. This may take the form of classroom space, audiovisual equipment, student records systems, resource centers, and similar items.

As with many instructional programs which break with tradition, CBTE requires that support be realigned to fit its unique needs. This realignment is, for the most part, necessitated because of a shift from traditional practices to mastery learning and individualized instruction.

Since students will be learning at their own particular rates and demonstrated competence (rather than grades) serve as records of assessment, facilities must be available to meet their particular needs. Typically, a CBTE resource center that contains relevant resources such as references and media is made available to students. A resource person is generally located at the center to assist students in the completion of various module learning experiences. Of course, the lack of such a center may pose a problem to many teacher education institutions and some persons may question its practicality. Other potential problems in the instructional support area include, but are not limited to, making provisions for in-service teacher education, recording student mastery of various modules, and resolving conflicts between the academic calendar and variations in student progress.

Costs

A final area of concern is CBTE program cost. Many persons have negative feelings about this important aspect of CBTE implementation, particularly in light of recent budgetary cuts at various colleges and universities across the country. The primary issue associated with costs seems to be one of comparisons between CBTE and traditional programs. Persons inquiring about CBTE generally ask how much more it will cost or how much more they get for their investment. At this point in time it appears many are asking about increased institution budgets *per se* rather than costs in relation to benefits or effectiveness.

IMPLEMENTATION OPTIONS

When the time actually arrives to implement CBTE, there are several options open. The choice may be made to replace a traditional program with one which is completely competency-based. This, of course, would entail an extensive amount of pre-planning and require that numerous resources be on hand for use by teacher educators and students. Each of the five potential constraints to implementation might have considerable impact on this option since it represents the greatest immediate commitment to CBTE. The choice to completely replace a traditional program also has impact on the way a vocational teacher education program is arranged. If a program deals exclusively with part-time in-service teachers from one vocational service area, the replacement approach will certainly create difficulties but would be nothing approaching the difficulties encountered with a program which includes pre- and in-service teacher education for persons in numerous service areas.

A more conservative option to CBTE implementation might be the offering of dual programs, one of which is traditional and the other competency-based. This choice has a distinct advantage in that it should enable students to choose which program best aligns with their needs and learning styles. There are, however, several potential problems with this option. Even though teacher educators may well recognize that the traditional program will eventually be replaced, the cost of operating two separate programs can sometimes be prohibitive. Other possible constraints might include the confusion over faculty roles and the range of instructional support which may be needed.

A third possible option for the teacher educator is to focus initially on implementing one CBTE component of the total program. This choice allows teacher educators and students time to "shake down" the system and identify and eliminate problems before they show up across the entire program. It also enables teacher educators to focus on a more narrow aspect of the program, and thus build high quality CBTE. Taking the component option route could, however, have a damaging affect on commitment. Obligations to make a certain number of program components competency-based each year may soon be overshadowed by other priorities such as maintaining certain enrollment levels or providing graduate level studies. Since it is often found that priorities shift dramatically from year to year, the business of slowly phasing in CBTE may end up being only partially realized.

A PROPOSED FRAMEWORK FOR IMPLEMENTING CBTE

While it is virtually impossible to speak to all the possible teacher education program types, implementation constraints, and implementation options; it is nonetheless important to be aware of what might be associated with a CBTE implementation effort. Figure 1 serves as a graphic representation of these areas. Its purpose is to assist teacher educators in "thinking through" the CBTE implementation process and recognizing that simple decisions and plans are not always possible. It may be noted that three dimensions are represented in the schema which is presented. These constitute the three foci of CBTE implementation: types of programs, potential implementation constraints, and implementation

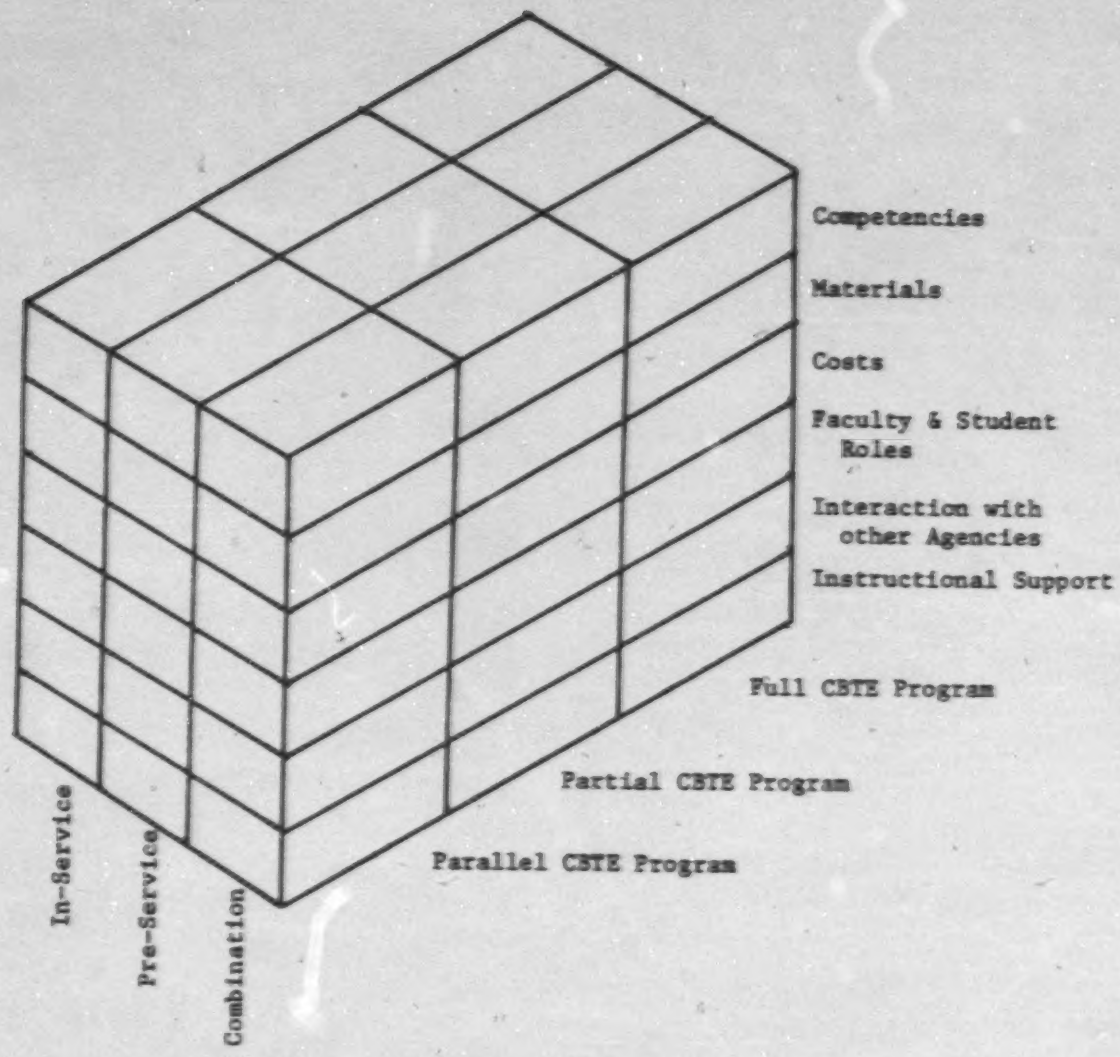

Figure 1. Factors Associated with CBTE Implementation: A Conceptual Model*

*Representative factors are provided. No attempt has been made to be all inclusive.

options. As data are gathered in support of these dimensions, the teacher educator should begin to see what the best implementation option is for a particular setting. While one may recognize that this sort of decision-making is not the most objective in the world, it is much more so than merely taking the first idea that comes along.

CONCLUSION

This paper does not provide the specific answers to CBTE implementation that many teacher educators would like to hear. Instead, it has presented a framework within which the implementation process may be examined and refined. In fact, each vocational teacher education program is unique. It is closely tied to a specific set of standards, constraints, and operational guidelines; each of which must be accounted for as CBTE is being implemented. The framework which has been presented is designed to address these unique needs. Hopefully, it will enable teacher educators to consider the many factors associated with CBTE implementation and make each new program a stronger one.

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ABSTRACT: THIS REPORT DESCRIBES A TWO-DAY SEMINAR TO ENABLE HOME ECONOMICS TEACHERS TO MORE EFFECTIVELY INTEGRATE HANDICAPPED STUDENTS INTO THE REGULAR CLASSROOM. THE 65 PARTICIPANTS INCLUDED HOME ECONOMICS TEACHERS, UNIVERSITY STUDENTS, SPECIAL NEEDS TEACHERS, AND HOME ECONOMICS SUBJECT MATTER SPECIALISTS IN HIGHER EDUCATION. SEMINAR PRESENTATIONS WERE SUPPLEMENTED WITH PACKETS OF INSTRUCTIONAL MATERIALS AND A BROWSING AREA DISPLAYING AVAILABLE CURRICULUM GUIDES AND RESOURCES. THE PARTICIPANTS COMPLETED TWO ASSESSMENT DEVICES DESIGNED TO MEASURE THEIR DEGREE OF CONTACT WITH PHYSICALLY DISABLED PERSONS AND ATTITUDES TOWARD DISABLED PERSONS. ALTHOUGH RESULTS OF A PRETEST AND POSTTEST SHOWED NO SIGNIFICANT CHANGE IN ATTITUDES TOWARDS THE HANDICAPPED, MANY PARTICIPANTS INDICATED THAT THEIR OVERALL ACCEPTANCE OF AND WILLINGNESS TO WORK WITH HANDICAPPED INDIVIDUALS HAD CHANGED AS A RESULT OF HAVING ATTENDED THE SEMINAR. APPENDED ARE THE LIST OF MATERIALS FOR THE INSTRUCTIONAL PACKET, THE SIX PRESENTATIONS TAPED FOR USE IN FUTURE WORKSHOPS, CORRESPONDENCE, A LIST OF PROJECTS COMPLETED FOR COLLEGE CREDIT, AND RESULTS OF THE SEMINAR EVALUATION. (AUTHOR/RG)

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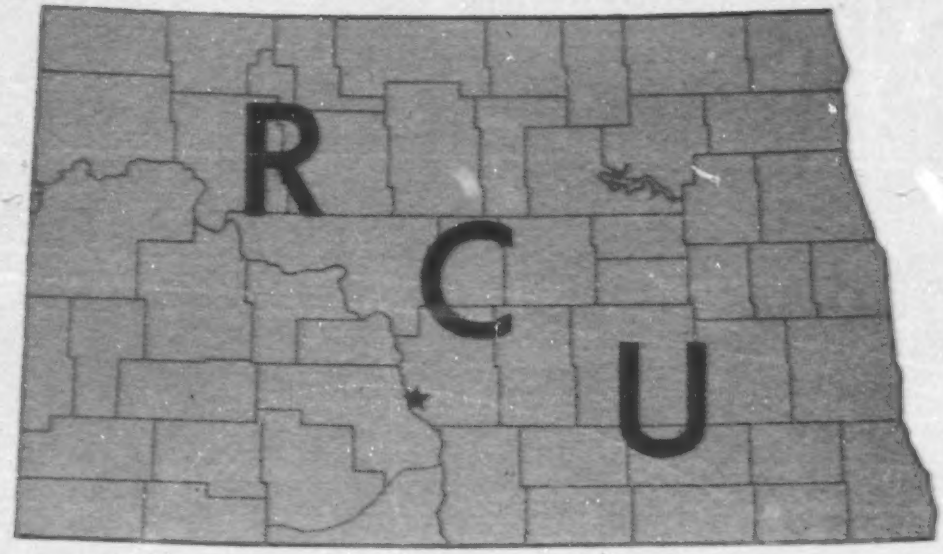

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ADAPTATION OF HOME ECONOMICS CURRICULA FOR SPECIAL NEEDS

FINAL REPORT RCU REPORT No. 34

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CE 009 050

ABSTRACT

A seminar entitled "Adaptation of Home Economics Curricula for Special Needs" was presented February 6-7, 1976 at the University of North Dakota. Sponsorship for the seminar was provided by the North Dakota State Board for Vocational Education and the Department of Home Economics and Nutrition, University of North Dakota. The objectives of the seminar were for the participants to: (1) become more sensitive to the needs of handicapped persons in all aspects of living; (2) describe the ramifications of legislation on education of handicapped children; (3) draw implications for teaching home economics based upon characteristics of the handicapped; (4) describe the interdisciplinary approach of rehabilitation with implications for the home economist's role as a member of the team; (5) become aware of adaptations in facilities and equipment. Seminar topics were selected based upon the objectives. Program faculty represented individuals who had achieved state and/or national recognition within their respective fields. A cross section of professions was represented by the 65 pre and inservice participants. They included: home economics teachers, social workers, special needs teachers, special education teachers, teacher educators, and home economics subject matter specialists in higher education.

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I. Foreword

In North Dakota as in other states, legislation has been enacted to insure the right to education by handicapped individuals. As a result, mentally and physically handicapped students are being mainstreamed into regular classrooms.

Successful integration of the handicapped student into regular classrooms is largely dependent upon the attitude and knowledge of the teacher (Abeson, 1974). Since inservice education in adapting home economics curricula for handicapped students was identified as a need by many home economics teachers, a two-day seminar entitled "Adaptation of Home Economics Curricula for Special Needs" was conducted at the University of North Dakota, February 6-7, 1976. This seminar was jointly sponsored by the State Board for Vocational Education and the Department of Home Economics and Nutrition, University of North Dakota.

The primary purpose of the seminar was to enable teachers to more effectively integrate handicapped students into the regular classroom. Specific objectives were for participants to:

(1) become more sensitive to the needs of handicapped persons in all aspects of living;

(2) describe the ramifications of legislation on education of handicapped children;

(3) draw implications for teaching home economics based upon characteristics of the handicapped;

(4) describe the interdisciplinary approach of rehabilitation with implications for the home economist's role as a member of the team;

(5) become aware of adaptations in facilities and equipment.

This paper represents the final report of the seminar.

II. Method, Findings, and Analysis

A. Seminar Program

The program for the seminar was developed in consultation with Dr. Sharon Redick (Iowa State University) who has presented seminars in several states. Further, cooperation was secured from the State Supervisor of Home Economics, State Supervisor of Special Needs, the Medical Center Rehabilitation Hospital, UND Departments of Occupational Therapy and Special Education. Arrangements for the seminar were made through the UND Division of Continuing Education.

Topics were selected based upon the objectives. The program faculty were chosen because of their expertise related to the topic, and because of their recognized positive impact upon audiences. In preliminary interviews, the presenters were encouraged to emphasize within their presentations positive impact upon the audience and practicality for real life situations. The individuals selected had achieved state and/or national recognition within their respective fields.

An outline of the program agenda with the presenting faculty was listed on pages 3 and 4. In the space to the right, the number of the objective which was incorporated into the presentation was noted.

B. Instructional Materials

Many instructional materials were made available to the participants during or as a result of the seminar. These materials were selected based upon the stated objectives. Each participant received an "Instructional Packet" which provided information sheets, articles, and bibliographies to supplement the seminar topics. A listing of articles found within the packet was included in Appendix A.

PROGRAM AGENDA
ADAPTATION OF HOME ECONOMICS CURRICULA FOR THE HANDICAPPED
February 6-7, 1976
University Center-UND

FRIDAY, FEBRUARY 6, 1976

ORIENTATION TO WORKING WITH HANDICAPPED INDIVIDUALS

7:30 - 8:15	Registration - "Getting to Know You" - Continental Breakfast	
8:30 - 9:00	"Welcome and Orientation" - Glinda Crawford, UND Department of Home Economics and Nutrition	
9:00 - 10:15	"Needs and Characteristics of the Handicapped" Dr. George Lindenfeld, Executive Director, Northeast Region Mental Health & Retardation Center	1 3
10:15 - 11:00	"Experiencing a Handicap" - Mr. Darrell Farland UND Counselor, Student Opportunity Programs	1 3
11:00 - 12:00	"How a Teacher Can Mainstream Handicapped Students" - Dr. Beverly Brekke, UND Center for Teaching and Learning	1
12:00 - 1:00	Lunch	

ADAPTIVE IDEAS AND RESOURCES IN PROGRAM PLANNING

1:00 - 1:45	"Caring and Coping Imaginatively" - Mrs. Jane Winge, Clothing and Textiles Specialist, State Extension Service	1
1:45 - 2:45	"Creating a Living Environment" - Sharon Rask, Chief, Occupational Therapy, Medical Center Rehabilitation Hospital (MCRH)	1 5
3:15 - 5:00	Tour of MCRH Facilities and Orientation to Services - Mary Ann Crawford, Volunteer Services, MCRH	1 [illegible]
7:00 - 9:00	Banquet "Welcome" - Thomas J. Clifford, UND President "Why is Home Economics Important for the Handicapped" - Dr. Sharon Redick, Home Economics Education, Iowa State University	 1 3 4

ADAPTATION OF HOME ECONOMICS CURRICULA FOR THE HANDICAPPED

SATURDAY, FEBRUARY 7, 1976

7:30 - 8:00	Coffee Available	
8:00 - 9:00	"Classroom Adaptation for the Mentally Handicapped" - Dr. Fern Horn, Professor, Home Economics Education, University of Wisconsin (Videotape and conference call)	1 3
9:00 - 10:15	"Adaptation of Home Economics Curricula for the Physically Handicapped" - Dr. Sharon Redick, Home Economics Education, Iowa State University	1 3
10:15 - 10:45	Break	
10:45 - 11:45	"Food Preparation for the Mentally Handicapped" Katherine Staples, Assistant Professor, Nutrition, NDSU	1 3
11:45 - 1:00	Lunch	
1:00 - 1:45	"Legal Rights: Implications for Program Decisions" - Bruce E. Bohlman, Director of Clinical Education, Associate Professor, Law, UND	2
1:45 - 2:30	"Adaptation of Physical Facilities" - Loren Swanson, Vice-President of Operations, UND and Darrell Farland, Counselor, Student Opportunities Program	1 5
2:30 - 4:30	"Teaching Family Life and Sex Education" - Father Lawrence W. Haas, Pastor, Newman Center, UND	1 3
4:30 - 5:00	Conclusive Remarks - Glinda Crawford	

A browsing area was established to display over 100 available curriculum guides, texts, and other resources. The majority of materials were displayed on loan from the personal collection of Dr. Sharon Redick, seminar consultant. Other materials were obtained from various sources including: State Board for Vocational Education, the UND Department of Home Economics and Nutrition, seminar speakers, and the project director.

In order to maintain seminar content for future use, videotapes were made of three sessions while audiotapes were made of three other sessions. These tapes were used (or will be used) in workshops, classes, and independent study sessions across the state after the seminar. A list of the video and audio tapes with notations concerning their use were listed in Appendix B.

At no charge, pamphlets were provided by various agencies which serve the handicapped. These agencies were cited in Appendix C.

C. Participants

1. Direct seminar participation

In total, 65 individuals attended the seminar. Copies of correspondence sent to the participants were included in Appendix D.

A cross section of professions was represented including: vocational and non-vocational home economics teachers, special needs teachers, special education teachers, social workers, teacher educators, home economics subject matter specialists in higher education, and pre-professionals. These individuals represented special settings as well as regular classrooms. Participants also traveled from various parts of North Dakota and eastern Minnesota. This diversity of backgrounds was amenable to a more dynamic and realistic seminar environment.

The seminar was especially designed for North Dakota vocational home economics teachers and related vocational personnel. As such, 25 vocationally employed individuals attended the on-campus seminar including the Assistant State Supervisor of Home Economics, the State Supervisor of Special Needs, 20 vocational home economics teachers, two special needs teachers, and one home economics teacher educator. Breakdown of participation by other groups was: 24 University of North Dakota students, and 16 non-North Dakota vocational educators.

Grant monies were expended to reduce the costs incurred by North Dakota vocational personnel. A reduced fee ($10) was assessed these individuals. This fee (combined with assistance from the grant) covered the costs of food and lodging during the seminar, tuition, and instructional materials. Mileage costs were not included. On the other hand, the fee assessed non-vocational personnel ($25) was established to cover services received (food, tuition, and instructional materials).

2. Indirect seminar participation

Participants were encouraged to share information gained from the seminar. As a result, numerous workshops for teachers and parents were implemented within the state.

The original project proposal specified that if funds were available within the grant at the conclusion of the on-campus seminar, mileage reimbursement could be made to selected North Dakota vocational teachers. These teachers were selected from schools greater than 200 miles from Grand Forks; in addition, they were required to give an off-campus presentation to vocational teachers within their areas of the state.

Money was available for this purpose. Nine teachers were contacted and four teachers expressed interest in presenting workshops. Three Williston teachers presented a workshop to eight teachers, three of whom were vocational. An Ashley teacher prepared and distributed instructional packets to two vocational home economics teachers.

An additional off-campus workshop was planned for the eleven Fargo vocational home economics teachers in August, 1976. Because Fargo was less than 200 miles from Grand Forks, no reimbursement was allotted; however, university credit was achieved by the two teachers planning the project.

In general, these workshops for teachers consisted of participants sharing information and instructional materials from the workshop. In total, 21 teachers will have been contacted through off-campus workshops by August, 1976.

Parents were the target audience for "Family Life and Sex Education" workshops at Hillsboro and Dickinson. Teachers indicated that these sessions provided a positive step toward communication within this area.

D. Credit Option

The seminar was planned to meet University of North Dakota requirements for one semester hour of credit (Home Economics 495.01). Forty-five individuals opted to participate for credit. In order to fulfill the credit obligation, these individuals were required to complete a 20 hour project in addition to the seminar and to participate in a follow-up session. Selection of the project was based upon individual need, interest, and approval of the instructor. Projects carried out by participants were listed in Appendix E.

Follow-up sessions for these individuals were held in Bismarck (April 3, 1976) and Grand Forks (April 5, 1976). For those who could not participate in either session, arrangements were made for telephone conferences or follow-up by correspondence. Sessions included: discussion and comparison of purposes of a home economics program for handicapped individuals versus a home economics program for all individuals; sharing of projects, ideas, and feelings; attitudinal assessment; dissemination of additional seminar instructional materials.

E. Evaluation

Evaluation of the seminar was based upon several factors: participant evaluation of and reaction to the seminar; change in attitude of participants before and after the seminar; and short term follow-up of the participants. Additional follow-up was scheduled for the school year 1976-77.

1. Participant evaluation of and reaction to the seminar

Participants were asked to compute a seminar evaluation form. A copy of the form with the compilation of scores received was shown in Appendix F. Unedited responses to "What Is Your Overall Reaction to the Seminar?" were also listed in Appendix F.

Response to the seminar evaluation form indicated that the majority of the participants were satisfied to very satisfied. Any ratings for a seminar are in part a reflection of the effectiveness of the overall planning process. The high ratings for the speakers may be indicative of the criteria used for selection of these individuals: expertise within the field, positive impact upon audiences and practicality of information presented.

2. Change in attitude of participants

The participants completed two assessment devices: the Degree of Contact with Physically Disabled Persons (Higgs, 1971) and the Attitude Toward Disabled Persons* (Yukor, Block, and Campbell, 1960).

The Degree of Contact scale was composed of 26 statements describing contact to no-contact situations with disabled persons. The items were weighed and scored to indicate: a) virtually no contact with physically handicapped persons (+1), b) contact with physically handicapped persons on a surface level (+2), c) contact with physically handicapped persons which involved personal interaction (+3). Thirty-seven participants responded to the scale; scores of participants ranged from 1.20 to 2.55. The mean score for these participants was 1.95 indicating surface level contact with physically handicapped individuals.

The instrument, "Attitude Toward Disabled Persons", was administered to participants as a pre and post test. This scale was composed of 30 items to which individuals responded on a six-point scale from "strongly agree" (+3) to "strongly disagree" (-3). Thirty-nine individuals completed both the pre and post test. No significant changes were found for either the total score or scores for the individual items.

Several interpretations of the data were suggested. This lack of change in attitudes could in part be attributed to the difficulty for change during a short period of time. Many participants did indicate that although their scores showed little change, their overall acceptance of and willingness to work with handicapped individuals had in fact changed.

*Copyright, Human Resources Incorporated

3. Short term follow-up

In addition to the follow-up procedures identified for the credit participants, the remaining individuals were contacted by mail. The majority of participants clearly indicated through conferences, reporting, and correspondence that the seminar had indeed met the objectives. In particular, these individuals expressed a greater sensitivity to the needs of handicapped persons and an openness to adaptation of their own programs.

This reaction was clearly expressed by a Valley City vocational home economics teacher whose principal objective for her credit project was to adapt a family life class for a blind student:

> "When it comes down to my objective, I feel the adaptation was so natural that it was no adjustment at all. The real adjustment occurred in me - specifically my attitude toward the 'handicapped' student."

F. Budget

The budget was divided into three parts: I. Direct Costs to the Project, II. Income, and III. Indirect Costs to the University. (See budget summary below).

Part I reflected consultant fees, accommodations, audiovisual supplies and services, publicity, educational materials, final project report, and supportive services. Expenditures for accommodations and educational materials represented costs of vocational and non-vocational personnel. It must be noted that specific expenditures of the non-vocational personnel were covered in the conference fee which were listed as project income. (See Part II).

Actual costs for the project ran less than budgeted because the original proposal allocated fee reductions with accommodations for 40 vocational individuals whereas 25 such individuals attended.

Total contribution of the State Board for Vocational Education was $2,890.45, while indirect costs of the University were $1,615.00. Therefore, the total cost of the seminar was $4,505.45.

Part I: Direct Costs to the Project

	Actual Expenditures
1. PERSONNEL	
a. Salaries Only	$ 872.50
b. Employee Benefits	17.25
2. TRAVEL AND SUBSISTENCE:	
a. Subsistence	1,399.26
b. Travel	286.58
3. SUPPLIES AND MATERIALS	
a. Tapes, brochures, labels, three-ring binders	305.79
4. COMMUNICATIONS	
a. Postage	7.31
b. Telephone	1.96

	5. SERVICES		
	a. Duplication, Reproduction, Printing	397.55	
	b. Videotaping	40.00	
	c. Clerical assistance	200.00	
	d. Administrative assistance	400.00	
	e. Supportive service	125.00	
	TOTAL SEMINAR COSTS	$4,053.20	$4,053.20
Part II:	Income		
	1. Conference fees	650.00	
	2. Booklet and student fees	323.75	
	3. Meals	81.00	
	4. Housing	108.00	
	TOTAL INCOME		$1,162.75
	TOTAL EXPENDITURES		$2,890.45
Part III:	Indirect Costs to University		
	Facilities - Lecture Bowl, River Valley Rm, Governors, Nakota, Alumni, Memorial Rms.	200.00	
	Parking Permits @ 2 each	40.00	
	Publicity - Channel 10, KFJM, Univ. News Bureau Releases, Alumni Review Div. of Cont. Ed. Newsletter-Windmill	200.00	
	Mailing Lists - Compiled and Updated	50.00	
	Telephone Usage	100.00	
	Salaries of HEc personnel	1,000.00	
	Univ. Mail Distribution	25.00	
	TOTAL INDIRECT COSTS TO THE UNIVERSITY		$1,615.00

III. Conclusions and Recommendations

The teacher is a key figure in the successful integration of the handicapped student into the regular classroom. Yet many teachers have had little, if any, background for working with the handicapped. Inservice and preservice education within these areas represents an essential step toward facilitating the mainstreaming process.

From responses received from participants, seminars such as this are a step in the right direction toward successful integration.

As a result of this seminar, several specific recommendations were made:

1. Where development of positive attitudes is critical, selection of speakers is inherent in the success of the seminar. These individuals would best be selected based upon their expertise, positive impact upon audiences, and sense of practicality for real life situations.

2. Offering the University credit option has merit for inservice offerings. It encourages greater participation and greater involvement by individuals.

3. Off-campus workshops provide a valuable means for disseminating information within the state. Several procedures could be initiated in order to encourage off-campus workshops. Money could be designated within the project for this purpose in order that a more tangible reward could be offered prior to the seminar. Selection of key teachers is critical for the success of these workshops, this should be done based upon recommendations of the state supervisor as was done in this project.

4. Secretarial time soars for such a project because of the seemingly limitless amount of correspondence, reportings, instructional materials, etc. It is recommended ample secretarial time be allowed.

IV. Acknowledgments

People make a project! Many individuals contributed to the success of the seminar. Dr. Sharon Redick, seminar consultant and Assistant Professor of Home Economics Education at Iowa State University, provided her expertise, her energy, her encouragement and her enthusiasm for the development through the conclusion of this project.

Lois Schneider, former home economics teacher educator at the University of North Dakota, participated in the growth of the project. Lois helped the seminar grow from a spark of an idea to a full glow.

Special assistance was provided from the State Department of Vocational Education, UND Division of Continuing Education, UND Departments of Occupational Therapy and Special Education, and Medical Center Rehabilitation Hospital.

Other individuals who contributed included: the presenters, the participants (from those who traveled many steps to many miles to attend), secretaries, (Karen and Gracie were terrific!), workstudy students, and the Department of Home Economics and Nutrition at UND.

I thank you each and everyone!!

Literature Cited

Abeson, Alan. "Law Review: Movement and Momentum: Government and the Education of Handicapped Children", Exceptional Children. October, 1974. 109 - 115.

Higgs, Reginald. Attitudes toward persons with physical disabilities as a function of information level and degree of contact. (Doctoral dissertation, University of Minnesota) Ann Arbor, Michigan: University Microfilms, 1971, No. 72-5537.

Yuker, Harold E., Block, J. R. and Campbell, W. J. A scale to measure attitudes toward disabled persons: Human Resources Study No. 5. Albertson, New York: Human Resources, 1960.

APPENDIX A: ARTICLES IN INSTRUCTIONAL PACKET

Instructional Packet for Seminar:

Table of Contents

Section	Topic
1.	When you meet a handicapped person . . . . "When You Meet a Handicapped Person"
2.	Needs and characteristics of the handicapped: a. Mentally handicapped "Characteristics of the Mentally Handicapped" - (Sackmary) Mentally Handicapped" A Selected Bibliography "Katherine Wants To Go To School Saturday, Sunday, and All Through Summer" - (Berg) "Suggestions for Home Economics Curriculum to Meet the Needs of the Educable Mentally Retarded" - (Ebert) "Guides for Handling Individual Differences of Students" - (Benis) "Educable Mentally Retarded" b. Physically handicapped "Partially Sighted Children" "The Blind" "Suggested Techniques for the Teacher of the Blind" "Impaired Hearing" "Deaf" Physically Handicapped: Footnotes "Crippled and Health-Impaired Children" - (Connor) Age Group Charts "Conditions Requiring Limitation of Energy Expenditure" "Commonly Found Diseases or Injuries and their Disabling Conditions" - (Manzel) "The Adolescent with a Physical Disability" "First Aid for Epileptic Seizures" "A Survey of Medicine and Medical Practice for the Rehabilitation Counselor" - (Felton)
3.	Government and the education of the handicapped "Suggested Criteria for the Identification of Disadvantaged and Handicapped Population as Related to the Vocational Education Amendments of 1968" "Law Review" - (Abeson)
4.	Mainstreaming "The Handicapped Child in the Everyday Classroom" -(Molloy) "The Case for Integrated Schooling" - (Blumberg) "How Can Teachers Begin to Meet the Special Needs of Mainstreamed Students in the Regular Classroom?" - (Brudke) "A Special Program for Special Students" - (Tinney) "Home Economics Texts with Varying Reading Levels" - (Redick)

Section	Topic
5.	Home economics for the handicapped "Rehabilitation for Independent Living" "Clothing in the Rehabilitation Process" - (Yep) "Sources of Ready-to-Wear Clothing for the Physically Handicapped" - (Yep) Selected References on Child Care for the Disabled Bibliography: HOmemaker Rehabilitation Selected References: Nutrition & Food Preparation Films on Rehabilitation in Homemaking Activities In Preparation for Home Economics Curricula Checklist for Accessibility and Usability of Buildings and Facilities Laboratory Report - Major Appliances Bibliography: "Architectural Accessibility" - (Redick) Selected References: Energy Management - Energy Cost Studies
6.	Adaptations in equipment and facilities Selected References Planning Kitchens for the Disabled Bibliography: Self-Help Devices "Teachers' Questions Which Help to Develop Comprehension" (Sanders) "A Readability Formula" "Spache Readability Formula" - (Spache) Worksheet for application of the Spache readability formula for Grades I-III "The Close Procedure" "The Yoakam Readability Formula" "Language Development of the Exceptional Child" - (Kucera-Francis Corpus) "Task Analysis" "Unit Objective: to spoon feed self" "Fine Motor Coordination" "Adjusting to Teaching Patterns" - (Hunter)

APPENDIX B: VIDEO AND AUDIO TAPES OF THE SEMINAR

VIDEO AND AUDIO TAPES OF THE SEMINAR

Topic and Presenter	Audio or Videotape	Use
Needs and Characteristics of the Handicapped (Lindenfeld)	Videotape	(1) Williston: off campus workshop for area teachers
Mainstreaming (Brekke)	Audiotape	_____
Adaptation of Home Economics Curricula for the Physically Handicapped (Redick)*	Videotape	(1) Williston: off campus workshop for area teachers (2) Fargo: off campus workshop for area teachers (Fall, 1976) (3) Grand Forks: independent study for students
Adaptation of Home Economics Curricula for the Mentally Handicapped (Horn)	Videotape	(1) Grand Forks: requested review session by UND students
Legal Rights: Implications for Program Decisions (Bohlman)	Audiotape	_____
Teaching Family Life and Sex Education (Haas)	Audiotape	(1) Dickinson: workshop for parents of Association of Retarded Citizens (2) Hillsboro: workshop for parents of non-handicapped. (3) Ashley: independent study

*This tape is copyrighted by Sharon Redick (1976)

APPENDIX C: AGENCIES PROVIDING LITERATURE FOR THE SEMINAR

FREE MATERIALS FOR THE SEMINAR WERE PROVIDED BY THE FOLLOWING ASSOCIATIONS:

Arthritis Foundation
1721 S. University
Fargo, ND 58102

Cooperative Extension Service
North Dakota State University
Box 5016 University Station
Fargo, ND 58102

The President's Committee
on Employment of
Washington, D.C. 20210

Talon/Velcro Consumer Education
41 East 51 Street
New York, NY 10022

National Federation of the Blind
218 Randolph Hotel Building
Des Moines, Iowa 50309

Public Relations Department
United Cerebral Palsy Associations, Inc.
66 East 34th Street
New York, NY 10016

American Mutual Insurance Alliance
20 North Wacker Drive
Chicago, IL 60606

National FHA/HERO Headquarters
2010 Massachusetts Avenue NW
Washington, D.C. 20036

North Dakota Heart Association, Inc.
Box 1287
Jamestown, ND 58401

Muscular Dystrophy Associations of
America, Inc.
Jerry Lewis, National Chairman
810 Seventh Avenue
New York, NY 10019

National Institutes of Health
Bethesda, MD 20014

National Epilepsy League, Inc.
6 North Michigan Avenue
Chicago, IL 60602

American Foundation for the Blind
15 West Sixteenth Street
New York, NY 10011

Counselor, Physically Disabled Component
Student Opportunity Programs
Box 282
University of North Dakota
Grand Forks, ND 58202

Varsity Mart
North Dakota State University
Fargo, ND 58102

American Cancer Society, Inc.

APPENDIX D: CORRESPONDENCE TO PARTICIPANTS

Page 30 containing correspondence to conference participants was not reproducible and was removed from this document prior to its being submitted to the ERIC Document Reproduction Service.

The University of North Dakota

GRAND FORKS 58201

DEPARTMENT OF HOME ECONOMICS AND NUTRITION

TELEPHONE: (701) [redacted]
777-2539

To: Participants in Seminar: "Adaptation of Home Economics Curricula for Special Needs"

From: Glinda Crawford, Teacher Educator, Department of Home Economics and Nutrition, University of North Dakota

I am pleased that you will be participating in the seminar! An excellent program has been designed featuring guest faculty with state and/or national recognition in their respective fields.

This memo will enumerate several items of importance before you arrive:

1. As requested on your registration form, room reservations have/have not been made for the evening(s) of February 5-6.

2. I am enclosing a schedule to let you know what's happening while you are here. We will start and end promptly at the times indicated!

3. I would like to know where you are in relationship to working with the handicapped. Please complete the two instruments attached and leave them at the registration desk when you come to the seminar.

4. If you are taking the seminar for one credit hour, you will need to be aware of guidelines established by the University. I have enclosed a special sheet to explain these to you.

5. In event of inclement weather, call the Department of Home Economics and Nutrition (777-2539), or Division of Continuing Education (777-2661).

6. Lady Bird Johnson will appear with the Winnipeg Symphony Orchestra on the evening of February 5 at 8:15 in the Chester Fritz Auditorium. If you desire tickets, please contact the Chester Fritz Box Office at 777-4211.

7. Free parking is available in the lot indicated on the Directions brochure. Parking permits will be issued at registration.

8. If you have any further questions at any time, please feel free to contact me at 777-2539 or 777-4196. I hope the seminar provides a beneficial experience for you!!!

Encs.

TAKING THE SEMINAR FOR CREDIT

Seminar: Adaptation of Home Economics Curricula for the Handicapped
Course No: HEc. 495.01
Credit: 1 credit hour

Since you are taking the seminar for one credit hour under HEc. 495.01, you need to be aware of two guidelines established by the University:

1. In order to fulfill the mandatory hour requirement, you will need to complete 20 hours in addition to the seminar on related activities. Do something you can get excited about and use! I suggest the following:

   a. 5 hours (approximately) - browse through the packet of materials you will receive at the seminar.
   b. 15 hours - select and complete an activity related to the seminar which is reflective of your own interests and needs, such as:

      1. adapting a lesson (or lessons) for special learners in your classroom,
      2. researching an area of interest,
      3. working with a handicapped person or group in your school or community in a concept area of home economics,
      4. calling a meeting for other home economics teachers in your area to share information you have gained from the seminar.

   At the close of the seminar, you will need to identify your activity and objective. At the completion of the activity, you will submit a one to two page report of the activity you pursued by April 1. Include in your report a summary of what you did, what results were found, and how you felt about it.

2. UND also requires a follow-up group or individual conference with the instructor. Group conferences will be scheduled in early April in Bismarck and Grand Forks. If you cannot attend, a telephone conference with Glinda will suffice.

The University of North Dakota

GRAND FORKS 58201

DEPARTMENT OF HOME ECONOMICS AND NUTRITION

TELEPHONE: (701) 777-2539

To: Participants in Seminar:
"Adaptation of Home Economics Curricula for the Handicapped"

From: Glinda Crawford Glinda
Teacher Educator

"Tempis fugit!"

"Spring has sprung" in the north country since we were last together.

As you remember, you completed two evaluation devices prior to the seminar. In order to determine "gain", I'd like to have you complete the "ATDP" once again.

Please complete the attached questionnaire and return the answer sheet to me by May 3. I will return your score by mid-May. (For those who took the seminar for credit, please note this is not being used for grading purposes!)

I have also enclosed a listing of individuals who participated in the seminar. Many of you had indicated you would like to "keep in touch" with a new friend.

Have a good spring!

Thanks!

SPRING IS A TIME FOR PLANTING.

SPRING IS A TIME FOR PLANNING. . . . . .

. . . . . FALL CURRICULUM, EVALUATION, AND INSTRUCTIONAL IMPROVEMENT.

SPRING IS THE TIME TO. . . . .

. . . . . REVIEW IDEAS GLEANED FROM THE UND HANDICAPPED SEMINAR.

. . . . . PLAN FOR ADAPTING YOUR HOME ECONOMICS PROGRAM FOR SPECIAL STUDENTS.

HAVE A PRODUCTIVE SPRING!!!!!!!

Glinda

GLINDA CRAWFORD

APPENDIX E: PROJECTS CONDUCTED BY CREDIT PARTICIPANTS

Planned fall workshop for "Fargo home economics teachers"

Provided learning activities within nutrition for Special Education students

Prepared an illustrated recipe for an educable mentally handicapped person

Prepared materials to aid handicapped persons construct garments

Developed instructional aids for mentally handicapped students in 7th grade classes

Helped girls at Hostel House set up an apartment

Developed and implemented lesson to prepare students for handicapped students entering their classes

Conducted a training workshop for teachers

Shared seminar material with other vocational teachers

Gave demonstration on clothing for physically handicapped persons

Set up food preparation activity for mentally handicapped

Worked with mentally retarded person to help give her ideas on how to prepare food

Introduced 7th grade class to "having a handicap"

Shared information with faculty

Planned fall workshop for home economics teachers

Developed illustrated task sheets to enable an educable mentally retarded student to perform a household task, serving technique, and recipe

Provided learning activities for slow learners in regular class

Instructed a hearing impaired individual on Food Preparation, embroidery, dance step

Prepared food activities for trainable mentally retarded children

Adapted family living curriculum for blind student

Taught lesson on sex education to residents of Grafton State School

Developed independent study packet for slow learners (will field test next year)

Identified characteristics of the EMH student

Adapted a lesson on "Your Paycheck"

Developed picture recipes for slow learner

Presented program on "Sex Educatio.." to parents of Association of Retarded Citizens

Examined materials and adapted for slow learners in 7th and 8th grade classes

Provided learning experiences for physically handicapped student in Foods I

Developed visual aids for slow learners on basic clothing skills

Acquainted regular students with handicapped students

Brailled out textiles instructional package

Developed a learning center on the Basic Four to mainstream mentally handicapped

Taught unit on kitchen appliances and equipment to residents at Grafton State School

Wrote information for handicapped person - visual, and individualized instruction

Prepared bibliography on family life and sex education

Conducted a training session workshop

Investigated parental role in family of handicapped child

Prepared lesson plans for handicapped for clothing, housing and family relations

Developed and tested picture recipes

Prepared lessons for slow learners in student teaching class

Designed recipes for trainable or educable mentally retarded

Taught basic skills of home economics to blind students

Worked with mentally retarded on sex education

Conducted a training session for teachers workshop

APPENDIX F: SEMINAR EVALUATION FORM AND RESPONSES

Seminar Evaluation: Adaptation of Home Economics Curricula for the Handicapped
February 6-7, 1976

Name _____

Did you register for credit? _____

Occupation (check): ___North Dakota Vocational Home Economics Teacher
___Other (indicate): _____

Please give your reaction to the following items by (1) rating each according to the scale indicated and by (2) commenting briefly about why you felt as you did.

Item	Reaction (check) Disappointed	Satisfied	Very Satisfied	Comments
1. Choice of Topics		12	47	
2. Pre-workshop publicity received	1	30	25	
3. Scheduling at this time of year	1	27	29	
4. Availability of credit	2	19	34	
5. Program faculty		13	46	
6. Overall schedule of activities		33	35	
7. Amount of time available to cover material	3	30	25	
8. Method(s) of presentation	5	22	31	
9. Seminar Topics: a. Needs and Characteristics of Handicapped	4	15	37	

Seminar Evaluation - page 2

Item	Reaction (check) Disappointed	Satisfied	Very Satisfied	Comments
9. b. Experiencing a Handicap		11	48	
c. Mainstreaming	25	27	7	
d. Caring and Coping Imaginatively ...	14	26	19	
e. Creating a Living Environment		23	33	
f. Tour and Orientation of MCRH	4	5	30	
g. Why Home Economics for the Handicapped?		8	48	
h. Adaptation of Home Economics Curricula for the Physically Handicapped		15	42	
i. Classroom Adaptation for the Mentally Handicapped	1	31	27	
j. Food Preparation for the Mentally Handicapped	2	19	38	
k. Legal Rights - Implications for Program Decisions	5	29	23	
l. Adaptation of Physical Facilities		16	38	
m. Teaching Family Life and Sex Education	2	5	43	

Item	Reaction (check) Disappointed	Satisfied	Very Satisfied	Comments
10. Seminar Instructional Packet		13	44	
11. Accommodations: a. Eating and Coffee	2	17	28	
b. Living Arrangements	1	6	20	
c. Facilities for Presentations		18	37	
d. Geographic Location	1	23	34	

What is your overall reaction to the seminar?

For vocational home economics teachers:

Would you be interested in future inservice seminars from UND?

Yes No (Circle) If yes, in what areas?

Which time of year do you prefer? (Circle)

Summer Fall Winter Spring No preference

Seminar Evaluation - page 4

For those who take the seminar for credit:

Which follow-up session do you anticipate that you would be able to attend?

(Circle)

Friday, April 2
(Bismarck)
State FHA Meeting

Monday, April 5
(Grand Forks)
7:30-8:30 pm

Neither
Telephone Conference
is Preferred

WHAT IS YOUR OVERALL REACTION TO THE SEMINAR?

- I felt it presented valuable ideas, instructional experiences, and materials. It fulfilled a great need for home economics teachers.

- Great - good information to take back to the classroom. Well-planned. (V)

- Excellent. Thank you for the opportunity. Glad you didn't limit it to Home Ec teachers.

- Very good! Some people - most people cannot comprehend any more after 50-60 minutes of straight factual lecture - shorten the lecture time. (V)

- I enjoyed it very much and feel I gained alot of useable future knowledge.

- Excellent - would have enjoyed more emphasis on working with mentally handicapped. (V)

- Very informative and much needed with mainstreaming in my school

- Inspiring, motivating, stimulating. Learned a lot!! More than that, I'm ready to put some things to work. You are to be commended for the hard work that goes into planning a seminar of this nature. You have a beautiful campus here at UND. Would it be possible for UND and NDSU to work together in the future on such seminars?

- pretty good reaction overall.

- I learned a few things. I wish we could have done more sharing under the direction of the various speakers, like we did right after the first one, picking out important points and discussing and commenting as groups. (V)

- I thought it was a worthwhile experience and it answered alot of my questions. It gave me information I could use if I need to find any information for something I may encounter later.

- Was of a definite interest to me in my field of work. I think more special ed students should have heard about it.

- Very pleased. Glad I came.

- The more I learn - the more I find there is to learn. Overall, I felt that the seminar was extremely well-organized and very professional.

- Excellent for stimulating interest. Very full two days, but everyone seems to feel the time has been well-spent. (V)

- Was worthwhile (V)

- An excellent seminar. I am so glad to see UND get actively involved. I'm a graduate of UND Home Economics program and am very proud to be, particularly when they show such competency and involvement. (V)

- Excellent - best seminar I have attended. (V)

- When I began this seminar, I had no background with the handicapped. Now I realize just how much I don't know but at least I am getting some ideas on how to work with them. I can also apply this to slow students! I am really fired up and can't wait to apply some of this! (V)

OVERALL REACTION - page 2

- Personally, I feel a great need for this education. - (V)

- I have never been more pleased with an activity of this type. We could get into the subject without the pressure of feelings of a regular class. Most important for me was to see, hear and visit with home economics professionals who have done fantastic things and are successful. They have made it much clearer what needs to be done and that we are the people who can do it. It is clear that an awful lot of work was done to make this seminar just super worthwhile!!

- Very good. (V)

- Very good for me - both in teaching and as a person.

- Excellent - very beneficial

- I found it to be very worthwhile - most of the speakers were interesting and I can use many of the ideas and materials that were presented. (V)

- very beneficial to my teaching. I wish I had this help before I taught blind students and mentally handicapped students. (V)

- Excellent - covered many phases in a concentrated period which I like. Really brought across the point of teacher importance and rather frustrated me with the amount of time it will take. I was interested in "buddy" system etc. as helps.

- I thought it was a very productive and needed workshop. I, being a male, can't identify with all of the topics covered but I found it interesting and informative.

- Very, very good. It brought up many new ideas and made me reexamine my own personal ideas, views and prejudices.

- I was very impressed with all the planning that was necessary to make this seminar a success. It has been very informative and I am looking forward to another seminar of this kind.

- I want to get out and actively try it. But I'm unsure of planning, which I'm sure will come with experience.

- Excellent, great opportunity, enthusiastic people 'sold' their enthusiasm on disabled. Would love to come to another such seminar. We had very long days but I realize we needed hours for credit. We're not used to sitting all day. (V)

- I feelI really learned a lot from this seminar. I can use some of it in my classroom and this will help to write our grant for our school. Very interesting and good speakers.

- I felt the students were belittled to a point. I also feel that it should have been left up to the individual if he or she wanted to go to the Rehab (some students may have wanted to go and a student's time is just as valuable as others). (V)

- positive - worthwhile experience (V) - Educator

- Excellent. But would like to have had time to discuss with other teachers after each session. It may have been too time structured.

- Very good

OVERALL REACTION - page 3

- The seminar was very interesting, but much more concerned with the physically handicapped (which I don't have any) than the mentally handicapped. It was a real education for me. (V)

- Very intensive. Good. Would have liked copies of some of the speakers' speeches.

- My overall opinion of the seminar was excellent. The speakers were more than anyone could have hoped for. The material is also very handy and should be used often. I am very disappointed that I, as a "student", was treated so differently from the other participants of the seminar. (ex: name tags, field trips, etc.) I felt that I was handicapped. But again, this did not take away from the sharing, and caring people who care to give at this seminar!

- Goosebumps! Very informative plus lovely people caring about others - handicapped or not! Another step towards education that has not had much previous coverage.

- This was my first workshop and I can honestly say I really grew from it and enjoyed it very much. I learned about so many different aspects of the handicapped. I felt overall it was well-presented and interesting. I now look forward very much to other workshops of any kind pertaining to home ec. and education - really a worthwhile two days - hope there will soon be more offered on various topics for us to learn more! I also feel a seminar like this one at this time of year is good because it is not too busy and it is nice to break up the long winter with something stimulating!

- Very interesting - very applicable but more distinction between physical handicaps and mental retardation in suggestions - then discuss the combination. Dr. Redick's presentation on Sat. was very helpful in separating, making distinctions, yet tying together. "Handicapped" is too broad.

- Despite far too little sleep, (we talk too much shop with 4 in a room!) I can't resist telling you this was the most informative workshop I have attended in 10 years. Many thanks for your great efforts in putting all of this together. (V)

- Timely topic as a whole. I am glad I could come. I felt the order of topics gave great continuity. Very worthwhile - time well spent. Such interesting variety of techniques used in presentations! Even though my special interest was not covered too much, there were so many ideas I can use in my classroom. One always needs some stimulation.

- I feel benefited from it.

- I have learned so much and it is so exciting to be caught up in a "professional" meeting. This seminar was a worthwhile experience for me and has left me with a lot of new learnings and ideas.

- The seminar topics and lectures gave me a positive reaction. It created a feeling of wanting to find out more about working with handicapped because home ec. has so much to offer. However, since time was set aside 2 days from student's schedules, I think some arrangements should have been made for students to also tour the MCRH.

- Overall seminar was great.

- When I registered for the seminar, being a practical person, I was worried that I wouldn't be getting my money's worth, but I was very pleased with the speakers and the material presented and have received more than my money's worth.

OVERALL REACTION - page 4

- Overall it was great.

- Wonderful organization - good keynote speaker topped off by an excellent final speaker. This was one of the best seminars I have ever attended and hope that in the future there will be more - the number attending was about right to make it interesting but not overwhelming. (V)

- Well-planned - I like things to run on time. Presentations for the most part were very interesting. (V)

- Very good and necessary, I feel it was worthwhile.

- I enjoyed it very much and feel I have learned much about the characteristics of the handicapped and how to better aid them in the classroom. (V)

- I expected more examples of what exactly can be done - it was satisfactory overall. Some speakers were excellent.

- I feel the seminar has been very worthwhile and very educational. I feel the information we have been given will be very useable in my future teaching and interaction with handicapped. (V)

- I was somewhat disappointed with the first day's presentations. The presentations on Saturday were very good. This seminar has really made me aware of the problems faced by the handicapped and has made me better prepared to deal with them.

ACCESSION NUMBER: VT103383

TITLE: HOME ECONOMICS RELATED OCCUPATIONS PROMOTION IN NEBRASKA THROUGH MEDIA, VISITATIONS, AND PROFESSIONAL DEVELOPMENT. FINAL REPORT.

DESCRIPTOR: *HOME ECONOMICS TEACHERS; METHODS COURSES; INSERVICE TEACHER EDUCATION; *WORK EXPERIENCE PROGRAMS; PUBLIC RELATIONS; PROGRAM DEVELOPMENT; STATE PROGRAMS; *OCCUPATIONAL HOME ECONOMICS; SECONDARY EDUCATION; POSTSECONDARY EDUCATION; *PUBLICIZE; *INFORMATION DISSEMINATION; RESOURCE MATERIALS

IDENTIFIER: NEBRASKA

EDRS PRICE: MF AND HC AVAILABILITY WILL BE ANNOUNCED IN VOL. 10, NO. 2.

DESCRIPTIVE NOTE: 49P.; APPENDIX E CONTAINING CORRESPONDENCE TO WORKSHOP PARTICIPANTS WAS NOT REPRODUCIBLE AND WAS REMOVED. IT IS NOT INCLUDED IN THE PAGINATION.

ABSTRACT: THE ONE-YEAR STUDY WAS PRIMARILY A PUBLIC RELATIONS THRUST TO FAMILIARIZE NEBRASKA HOME ECONOMICS TEACHERS AND THEIR ADMINISTRATORS WITH THE BENEFITS OF IMPLEMENTING HOME ECONOMICS RELATED OCCUPATIONS (HERO) PROGRAMS INTO THEIR CURRICULUM. PROCEDURES WERE TO: (1) DEVELOP PROGRAM EVALUATION REVIEW TECHNIQUES (PERT); (2) USE MASS MEDIA, SUCH AS BROCHURES, NEWSPAPER ARTICLES, AND SLIDES; (3) PROVIDE INSERVICE EDUCATION THROUGH VISITS TO INTERESTED TEACHERS AND ADMINISTRATORS; (4) PREPARE A BIBLIOGRAPHY OF CURRENT MATERIALS AND RESOURCES; (5) TEACH THREE HERO WORKSHOPS; (6) DEVELOP GUIDELINES TO AID IN INITIATING AND ADMINISTERING HERO PROGRAMS; AND (7) EVALUATE RESULTS AND CONDUCT FOLLOWUP ACTIVITIES. THE ANTICIPATED 100 PERCENT INCREASE IN THE NUMBER OF HERO PROGRAMS WAS ACHIEVED AS A RESULT OF THE PROJECT. IT WAS RECOMMENDED THAT CONTINUED ASSISTANCE BE PROVIDED IN IMPLEMENTING PROGRAMS THROUGH METHODS COURSES, WORKSHOPS, DISSEMINATION OF RESOURCE MATERIALS, AND SERVICES OF A FULLTIME CONSULTANT. APPENDED ARE PROJECT CORRESPONDENCE, THE COURSE SCHEDULE, AND SCRIPT FOR THE SLIDE PRESENTATION. (AUTHOR/RG)

INSTITUTION NAME: KEARNEY STATE COLL., NEBR.

SPONSORING AGENCY NAME: NEBRASKA STATE DEPT. OF EDUCATION, LINCOLN. DIV. OF VOCATIONAL EDUCATION.; OFFICE OF EDUCATION (DHEW/OE), WASHINGTON, D.C.

VT 103 383

FINAL REPORT

HOME ECONOMICS RELATED OCCUPATIONS PROMOTION IN NEBRASKA THROUGH MEDIA, VISITATIONS, AND PROFESSIONAL DEVELOPMENT

Project Director
Sue Harvey

KEARNEY STATE COLLEGE

1 July 1975 to 30 June 1976

NEBRASKA STATE DEPARTMENT OF EDUCATION
DIVISION OF VOCATIONAL EDUCATION
EXEMPLARY PROGRAMS

VT 103 383

FINAL REPORT

Vocational Education Exemplary Project
Vocational Education Amendments of 1968
(Public Law 90-576)

HOME ECONOMICS RELATED OCCUPATIONS PROMOTION IN NEBRASKA THROUGH MEDIA, VISITATIONS, AND PROFESSIONAL DEVELOPMENT

Project Director
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KEARNEY STATE COLLEGE

1 July 1975 to 30 June 1976

NEBRASKA STATE DEPARTMENT OF EDUCATION
DIVISION OF VOCATIONAL EDUCATION
EXEMPLARY PROGRAMS

CE 007 051

SECTION I

HOME ECONOMICS RELATED OCCUPATIONS PROMOTION IN NEBRASKA THROUGH MEDIA, VISITATIONS, AND PROFESSIONAL DEVELOPMENT

FINAL REPORT

ABSTRACT

Title of Project:	Home Economics Related Occupations Promotion in Nebraska through Media, Visitations, and Professional Development
Project Director:	Dorothy Sue Harvey
Applicant Organization:	Kearney State College
Duration of Project:	1 July 1975 - 30 June 1976
Total Federal Funds Requested:	$15,999.91

STATEMENT OF PROBLEM:

The Vocational Act of 1963, and the Amendment of 1968 were to assist, maintain, extend and improve existing programs and to develop new programs so people could have access to train and retrain for opportunities for gainful employment. Gainful employment programs in vocational homemaking education are those which prepare students for employment in occupations requiring knowledge and skills in one or more of the home economics subject areas. Despite this legislation, Home Economics Related Occupations Programs (HERO) are not fluent in Nebraska. At present a study is being done in Nebraska with Home Economics Related Occupations which consist of public relations thrust to familiarize Nebraska home economics teachers and their administrators with the benefits of implementing HERO programs into their home economics curriculum.

Due to lack of time many of the interested home economics instructors and administrators were not contacted to be informed of the HERO program. Therefore, the problem is:

(a) To visit Nebraska secondary home economics teachers and administrators who have indicated an interest in developing Home Economics Related Occupations programs.

(b) To develop and utilize exisiting materials for dissemination to Nebraska secondary home economics teachers to aid them in initiating and administering HERO programs.

(c) To conduct a public relations thrust in order to familiarize or acquaint Nebraska home economics teachers and their adminstrators with the benefits of implementing HERO programs into the home economics curriculum.

(d) To enhance the development of such programs by providing opportunities for in-depth HERO preparation.

Purposes or Objectives:

(a) To visit Nebraska secondary home economics teachers and administrator who have indicated an interest in developing HERO programs.

(b) To develop and utilize existing materials for dissemination to home economics teachers in order to aid them in initiating and administering HERO programs.

(c) To facilitate a public relations thrust which would include publications, use of mass media and personal visitations to target populations.

(d) To provide in-service instruction in curriculum development and course organization for secondary home economics instructors.

Procedures:

(a) To visit selected home economics teachers and their administrators throughout the state of Nebraska.

(b) To conduct a public relations thrust which consists of informative brochures, newsletters of HERO happenings, radio and newspaper articles, use of a slide series.

(c) To teach three HERO workshops during the 75-76 fiscal year.

Contribution to Vocational Education: The results of this study will be to:

Familiarize Nebraska secondary and community college home economics teachers and their administrators with HERO programs and FHA-HERO as an integral part of the HERO program.

Evaluation Procedure:

(a) Quarterly progress reports to the State Department of Education, Vocational Division.

(b) A PERT will be developed and utilized to insure that the objective of this project will be accomplished.

SECTION II A

Objectives:

1. To conduct a public relations thrust which would include publications and use of mass media to all concerned individuals.

2. To provide in-service education through personal visits to selected home economics teachers and their administrators throughout the state of Nebraska in order to acquaint them with the benefits of implementing a HERO program in home conomics.

3. To provide in-service instruction in curriculum development and course organization for secondary home economics instructors.

The home economics teachers and administrators will:

(a) establish local needs for a HERO course in their particular community and relate these findings to the employment opportunities statistics from the Research Coordinating Unit.

(b) develop plans for coordinating on-the-job community work experience.

(c) identify teaching aids and resources for various HERO programs.

(d) develop methods and techniques for evaluating HERO programs.

(e) develop plans for organizing advisory committees.

(f) identify HERO programs that could be adopted to individuals with special needs.

(g) revise or develop curriculum for a unique or specific HERO program.

(h) develop plans for organizing HERO youth organizations.

4. To develop and utilize existing materials for dissemination to home economics teachers to aid them in initiating and administering HERO programs.

Procedures:

A. General Design

1. Initiate a public relations thrust which would consist of informative brochures, newsletters of HERO happenings, radio and newspaper articles and use of a slide series on HERO in Nebraska.
2. Provide in-service education through visits to selected home economics teachers and their administrators throughout the state of Nebraska to acquaint them with the benefits of implementing HERO programs in the home economics curriculum.
3. Review current materials and resources relating to HERO and update a bibliography of available materials which will be made accessible to secondary home economics instructors with an interest in HERO.
4. Develop a HERO program outline for workshops for the 1975-76 fiscal year.
5. Teach three HERO workshops during the 1975-76 fiscal year.
6. Development of guidelines to aid secondary home economics teachers in initiating and administering HERO programs.
7. Evaluate by determining the increase of HERO programs within the state of Nebraska as a result of the project.
8. Follow-up study of participants to determine (a) strengths and weaknesses of HERO workshops (b) problem areas not covered in HERO workshops and (c) number of HERO programs being developed and/or implemented at secondary and post-secondary level.

B. Location

Kearney State College is centrally located in the state and has the needed space and facilities for this project. Moreover, the Nebraska curriculum laboratory is located on the KSC campus and will be utilized extensively because of its collection of HERO curriculum guides and resources.

C. Population

The target population will be the secondary and community college home economics teachers in the state and their immediate program administrators who have indicated an interest in the HERO program.

D. Methodology

In order to familiarize or acquaint Nebraska home economics teachers and administrators with the benefits of implementing HERO programs into their home economics curriculum, visitations will be made to those teachers and administrators who have indicated an interest in the HERO program.

A public relations thrust will be conducted through the use of informative brochures, newsletters of HERO happenings, radio and newspaper articles, and use of a HERO slide series.

Guidelines to aid secondary home economics teachers in initiating and administering HERO programs, will be developed and disseminated to home economics teachers who have indicated an interest during their visitation.

The results of HERO visitations made to home economics teachers and administrators in the state of Nebraska will be sent to the State Director of Home Economics for further follow-up.

Current materials and resources relating to HERO will be constantly reviewed and a bibliography of available materials will be updated and made available for dissemination.

Workshops will be developed to meet the needs of interested home economics teachers to aid them in the development of a HERO program. The workshop course content will be printed and distributed to all concerned educational institutions in the state.

These workshops would lend themselves to off-campus instruction and it is expected that it could be offered in various parts of the state, depending on demand and request.

E. Time Schedule

First Quarter	Develop PERT Gather Materials Develop workshop course content Initiate a public relations thrust Personal visitations to target population
Second Quarter	Personal visitations Implement HERO workshops Continue public relations thrust throughout the remaining quarters
Third Quarter	Personal visitations Implement HERO workshops
Fourth Quarter	Personal visitations HERO workshops Evaluate results of program follow-up Disseminate results of project

F. Evaluation

Evaluation will be determined by the number of HERO programs that are developed as a result of the project. It is expected that a 100% increase in HERO programs in the state of Nebraska will occur.

A PERT will be developed and utilized to insure that the objectives of this project will be accomplished. The PERT will be based on these principal activities:

Determine administrative setup.

Develop and utilize publications for public relations thrust.

Mail to target population.

Develop monthly plan for visitations.

Develop guidelines for secondary home economics teachers use in initiating HERO programs.

Mail to interested teachers previously contacted through HERO visitations.

Review current curriculum materials and resources relating to HERO and update the bibliography.

Develop HERO workshop course content.

Teach three HERO workshops during the 1975-76 fiscal year.

Evaluate results and make necessary changes in HERO workshops.

Evaluate project by determining the increase of HERO programs within the state of Nebraska.

Disseminate results of project follow-up study.

G. Coordination

The results of this study will be made available to the State Department of Education and all appropriate state educational institutions including secondary schools, community college and four-year colleges and universities.

STAFF PARTICIPANTS

The Project staff is listed below:

Dorothy Sue Harvey, Director
25% time on project

Marcene Blue Gillham, Assistant Project Director
60% time on project

Murleen Felzien, Secretarial
15% (20 hours per week for school year)

SECTION II B

IMPLEMENTATION OF STUDY

The Project began with an orientation of the project staff to the objectives and procedures indicated in the exemplary proposal. A project PERT (Program Evaluation Review Techniques) was developed to insure that the objectives of the project were met and the PERT was also developed and instituted in order to present an overview of sequential events, establish priorities, and designate responsibilities.

PROGRAM EVALUATION REVIEW TECHNIQUES

September

Determine administrative staff

Obtain needed facilities, supplies and equipment

Orient staff

Develop PERT

Determine date of course offering

Review current curriculum materials and resources

Re-establish communication with interested teachers and administrators

Begin public relations thrust

October

Develop schedule of visitations to teachers and administrators interested in HERO

Develop HERO course content

Visitations to home economics teachers and administrators that have indicated an interest in initiating a HERO program.

November

Correspond with individuals visited to keep them informed of up-to-date materials and new developments in HERO

Continue school visitations

Develop materials for use in workshop

Develop tentative schedule for HERO course

December

Disseminate information regarding HERO course to all home economics teachers in area

Order resources and contact resource persons for HERO course

Continue school visitations and correspondence

Review new curriculum materials and resources

Contact consultant to further develop public relations thrust

January

Begin teaching three semester hours credit HERO course

Continue public relations thrust

Continue school visitations and correspondence

Develop and revise materials for use in workshop

Advice consultant regarding content and format of public relations thrust

February, March, April

Teach three semester hours credit HERO course

Continue school visitations and correspondence

Revise bibliography of HERO resources for use by teachers and administrators

May, June

Teach three semester hours credit HERO course

Evaluation of course -- the staff will develop and have ready for use an evaluation device that will be designed to get at attitudes, confidences, and knowledge scale.

The major activities and accomplishments that were achieved according to the PERT (Program Evaluation Review Techniques) are listed and discussed according to reporting periods in the following paragraphs.

MAJOR ACTIVITIES AND ACCOMPLISHMENTS

FOR SEPTEMBER, OCTOBER, NOVEMBER, DECEMBER

Orientation

(a) The project staff gained knowledge of HERO programs and how they function in Nebraska through study of articles, books, curriculum materials, and resources relating to occupational home economics.

Communication Re-established

(b) Communication was re-established with interested teachers and administrators who were visited concerning HERO during 1974-75.

Visitations

(c) Visitations were made to home economics teachers and administrators that have indicated an interest in initiating a HERO program (Appendix A). The project staff continually corresponded with the individuals visited. This reinforced the personal contact and informed them of new HERO curriculum materials and resources.

Student Recruitment

(d) Information was disseminated to all home economics teachers in the area regarding the HERO course that was scheduled to be taught spring semester. (Appendix B)

Spring Course Schedule

(e) A tentative schedule was made for the HERO course scheduled to be taught spring semester. (Appendix C)

MAJOR ACTIVITIES AND ACCOMPLISHMENTS

FOR JANUARY, FEBRUARY, MARCH AND APRIL

HERO Course Taught

(a) The project staff taught the HERO course in the team teaching method according to the schedule planned.

HERO Workshop

(b) Content and materials were developed for the HERO course and workshop. A HERO course was taught on campus during the spring semester 1976.

Slide Series Development

(c) The project staff worked with a consultant to develop a slide series with script narration on tape entitled "Occupational Home Economics in Nebraska."

Student Recruitment

(d) Activities included recruitment of students through visitations, letters and telephone calls.

Resource Materials Reviewed

(e) Resource materials for occupational home economics were reviewed for use and purchase.

HERO Presentation at NHEA Meeting

(f) To continue the public relations thrust to the college population a presentation of the slide series developed of Occupational Home Economics in Nebraska was given to the Vocational Student Member Section of NHEA in the Kearney State College Home Economics Department.

School Visitations

(g) Visitations to schools were continued. (Appendix A)

MAJOR ACTIVITIES AND ACCOMPLISHMENTS

FOR MAY AND JUNE

HERO Course

(a) The project staff completed teaching the HERO course on campus as scheduled for the spring semester.

HERO Workshop

(b) Content and materials were developed for the summer off campus workshop. (Appendix D) The off campus workshop was taught at the Mid-Plains Community College which was a central location for the students attending the workshop June 14-25, 1976.

Slide Series Completed

(c) The project staff worked with a consultant to complete a slide series with script narration on tape entitled "Occupational Home Economics in Nebraska."

Student Recruitment

(d) Activities that involved recruitment of students for HERO workshop included: (Appendix E)

1. Slide presentation and visitation of teachers at North Platte.
2. Visit was followed by a personal letter of information about the workshop to the teachers at North Platte.
3. Another letter of information and invitation concerning the HERO workshop at North Platte was sent to Home Economics teachers that indicated interest on a survey taken previously through the HERO project and from visitations.

Resource Materials Selected

(e) Resource materials for Occupational Home Economics were reviewed for use and purchase. (Appendix F)

HERO Presentation at State FHA Meeting

(f) A presentation of the slide series developed of Occupational Home Economics courses taught in Nebraska was given along with a display of information to those attending the State FHA Conference in Lincoln, April 5, 1976.

Bibliography Revised

(g) Revision of the bibliography of Occupational Home Economics resources was completed. Copies were made available for teachers who plan to develop Occupational Home Economics into their curriculum.

Off Campus HERO Workshop

(h) A three semester hours credit Occupational Home Economics workshop was conducted at North Platte, June 14-25, 1976.

Publicity on Slide Series

(i) Letters were written to Home Economists across the state to inform them about the slide presentation being available for their use. (Appendix G)

HERO Slide Series Duplicated and Distributed

(j) Duplicates of the slide series were placed in the State Home Economics Director's office in Lincoln, and one in the Home Economics Department at Chadron State College. The original of the presentation is available through the Nebraska Vocational Curriculum Resource Center in Kearney. The slide series was placed in the eastern, central and western areas of the state for accessibility by those who would want to use it. It was evident to the staff that the slide series would be used to promote Occupational Home Economics more frequently through location and availability. Pamphlets developed during the

BEST COPY AVAILABLE

project to inform the public about Occupational Home Economics are placed with each of the slide series. (Appendix H)

Display for August Teachers Conference

(k) A display of Occupational Home Economics resource materials was designed to be used at the State Vocational Teachers Conference in Kearney, August 16-18, 1976. The resource materials are those purchased with HERO Project funds. The materials are available on free loan to teachers through the Nebraska Vocational Curriculum Resource Center where they have been catalogued. The display will include lists of prices and addresses for ordering materials, some examples of the materials in the curriculum center and the slide series and pamphlets explaining the Occupational Home Economics Program.

Resource List Completed

(a) A resource list was completed and made available through duplication for persons interested in developing an occupational program. The resource list includes names, addresses, and cost of those materials placed in the Nebraska Vocational Curriculum Resource Center. Careful review was made by the HERO Project staff of the resource materials selected. By reviewing the resources mentioned, it is believed that the teacher would be prepared to select and purchase materials for an Occupational Program. Another use would be to supplement resources available in the Home Economics Department. Copies of the list will be placed in the State Home Economics Director's office and will be available to those who indicate an interest in the occupational materials.

CONSULTANTS

The following people worked with the HERO staff in consultative capacities:

Linda Redmon	Free Lance Home Economist
Dorothy Farr	Occupational Home Economics Instructor Grand Island, Nebraska

RESOURCE PERSONS

The following people work with the HERO staff as resource persons during the class experience:

Jay Lees	Job Service of Nebraska Grand Island, Nebraska
Dave Bodle	McKnight Publishing Company Bloomington, Illinois
Marilyn Kappler	Restaurant Manager Holiday Inn Kearney, Nebraska
Tom Gay	Day Care Supervisor Kearney, Nebraska
Artie Hobbs	Head Start Director Kearney, Nebraska
Elsie Cafferty	Special Vocational Needs Kearney State College Kearney, Nebraska
Bob Schrimpf	Job Service of Nebraska North Platte, Nebraska
Sister Joan	Day Care Center North Platte, Nebraska
Mr. D. Burnett	Burger Chef Manager North Platte, Nebraska
Mr. Hirschfeld	Hirschfeld Clothing Store Manager North Platte, Nebraska

SECTION II D

MAJOR MEETINGS ATTENDED

October 16-18, 1975	State Home Economics Teacher Educator's Retreat Waverly, Nebraska
October 28-31, 1975	National Vocational Educator's Conference Omaha, Nebraska
December 4-11, 1975	American Vocational Association Anaheim, California
March 15, 1976	State Home Economics Teacher Educator's Meeting Lincoln, Nebraska
April 5, 1976	State Future Homemakers of America Meeting Lincoln, Nebraska
August 16-18, 1976	State Vocational Teachers Conference Kearney, Nebraska

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SECTION III

RESULTS AND CONCLUSIONS

Evaluation Data Collected:

The project staff regularly appraised the progress of the project in terms of planned objectives and the sequence of activities depicted on the PERT chart.

An evaluation device designed by the HERO staff previously was used to inform the HERO teaching staff the scale of attitudes, confidences and knowledge of students in the HERO course.

Quarterly Evaluation Reports:

Sue Harvey, HERO Project Director, submitted a written evaluation report each quarter to Mr. Merle Rudebusch, Division of Vocational Education, State Department of Nebraska. The quarterly reports include staff utilization, major activities, and accomplishments, activities and events planned for the next reporting period, dissemination activities and budget request forms.

External Evaluation:

It was expected that a 100% increase in HERO programs in the state of Nebraska occur. This evaluation will be done as schools send applications to the State Department to initiate HERO programs into their school system. An unofficial estimation indicates a 100% increase in the number of HERO programs in the state of Nebraska as a result of the project. Those programs established through assistance of the project staff are successful ones. Further indication of results will be observed as schools who are in the preliminary stages of establishing programs are successfully established. Many of the school administrators and Home Economics Teachers contacted support the philosophy of the occupational programs and are

examining their own school for an occupational program and want to learn more about the program.

Impact Upon Vocational Education:

The results of this study made a contribution to Vocational Education in that it began the process of familiarizing Nebraska secondary and community college home economics teachers and administrators with the importance of Occupational Home Economics. Through the exemplary project the staff was able to assist teachers with newly established programs, make materials and resources available for teachers to use as other Occupational Home Economics programs are established, develop additional public relations information to encourage program development and Occupational Home Economics in Nebraska, and teach a course that would train teachers in methods of establishing and teaching an Occupational Home Economics class in a public secondary school.

SECTION IV

RECOMMENDATIONS AND SUGGESTIONS

The HERO staff makes the following recommendations to further develop Occupational Home Economics in Nebraska:

(1) The HERO course should continue to be taught as a methods course to the Vocational Home Economics Education students at Kearney State College.

(2) The HERO course should be taught off campus as a workshop for small groups of Home Economics teachers.

(3) Resource materials for Occupational Home Economics should continue to be reviewed and updated, and continue disseminating curriculum lists to Nebraska Home Economics teachers.

(4) Consultant person on a full-time basis be made available to travel to the site of a future Occupational Home Economics program on the secondary level to assist the implementation procedure. The consultant should also be available to existing programs for assistance.

APPENDIX A

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SCHOOLS VISITED

Sargent	Wood River
Syracuse	Red Cloud
Humboldt	Clay Center
Auburn	Farnam
Silver Creek	Eustis
Norfolk	Elkhorn Valley
Malcolm	Grand Island Northwest
Platteview	Cozad
Fremont (twice)	Lexington
Grand Island Senior High	Beaver City
York	Arapahoe
Arnold	North Platte Senior High
Callaway	Ord
Elwood	Gothenburg

APPENDIX B

ARNEY
STATE
LLEGE
EARNEY
BRASKA
68847

center for vocational and technical education

Phone (308) 236-4351

December 2, 1975

To: Area Home Economics Teachers

From: Marcene Gillham; Sue Harvey, HERO Project, Kearney State College

Re: 3-credit HERO course, Spring 1976

A three credit course, Vocational Education 441/541, "Teaching Home Economics Related Occupations," will be held each Tuesday at 6:30 P.M. during second semester at Kearney State College, West Campus, Room 229.

This course is designed to help the secondary home economics instructor organize and implement a successful occupational home economics program.

During the course you will begin to develop Occupational Home Economics for your local school. Resources will be available for your review. The sessions will be highlighted by a number of resource persons. In addition, you will have the opportunity to observe actual work situations to help you determine skills needed for entry level jobs.

The course is available for undergraduate or graduate credit. Registration will take place at the first session, Tuesday, January 6, 1976. The course will be completed by May 4, 1976.

The course will be conducted by Sue Harvey, HERO Project Director and Instructor in Home Economics Education, and Marcene Gillham, HERO Project, Kearney State College.

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If you wish to participate in the course, please complete the form below and mail to:

Marcene Gillham
HERO Project
Center For Vocational-Technical Education
Kearney State College
Kearney, NE 68847

Upon receiving your reply we will send you further information concerning tentative plans and schedules for the teaching Occupational Home Economics course.

Name _____

School _____

I plan to enroll in V.E. 441/541 "Teaching Home Economics Related Occupations" during second semester, 1976.

APPENDIX C

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TENTATIVE HERO COURSE SCHEDULE

Second Semester 1976

January 6	Registration Course procedures and evaluation, Overview of Occupational Home Economics
January 13	Advisory Committee
January 20	Establishing a Need for HERO Resource person: Jay Lees, Job Service of Nebraska
January 27	Community and Student Surveys Task Analysis
February 3	Field trip/Task Analysis
February 10	Implementing a HERO program at the secondary level Resource Person: Marge Ostransky, Home Economics Instructor/HERO
February 17	Conducting Simulated Experiences
February 24	Cooperative Education
[illegible]rch 2	Exploring Resources
[illegible]	Curriculum
March 23	Public Relations
March 30	Presentations
April 6	HERO at the Post Secondary Level Resource Person: Sharon Waldo, Southeast Community College
April 13	Resource Person: Ms. Judy Berg and Marge Harouff State Department of Education
April 20	Resource Person: Dr. Dale Zikmund
April 27	Presentation of mini-lessons/Resource units Sharing of Public Relations ideas
May 4	Summary and evaluation

APPENDIX D

HERO Course Schedule

Summer 1976

V.E. 441/541

June 14	Registration Course Procedures Overview of Occupational Home Economics
	Establishing A Need for HERO Resource Person: Bob Schrimpf Job Service of Nebraska
June 15	Steps in Developing an Occupational Home Economics Program Steering Committee Advisory Committee
June 16	Community Surveys Student Surveys
	Application and Interviewing of students
June 17	Conducting Simulated Experiences
	Field Trip Resource Person: Sister Joan Day Care Center
June 18	Taking A Look At the World of Work
	Anatomy of a Job
June 21	Training Plans Training Agreements
	Field Trip Alteration Dept. Hirschfelds Clothing Store
June 22	Coordination of the Cooperative Home Economics Program
June 23	Special Presentation
	Exploring Resources Dave Bodle McKnight Representative

June 24	Integrating Career and Occupational Education Into Secondary Home Economics Programs
	Field Trip Burger Chef
June 25	Whistle the Students into Home Economics

Appendix E containing correspondence to workshop participants was not reproducible and was removed from this document prior to its being submitted to the ERIC Document Reproduction Service.

APPENDIX F

RESOURCE MATERIALS

Incorporating Career/Occupational Components Into Home Economics Courses -- Handbook; Slide/Tape

HECE Training Plan Card Kit Guidebook for HECE Occupational Areas

Clothing Services

Food Services

Home Furnishing Services

Food Preparation Unit

Public Relations Guide

Exploring Careers In Hospitality and Food Service -- Text; Activity Book; Teacher's Guide

Exploring Professional Cooking -- Teacher's Guide; Student Activity Guide; Visual Aids Packet

Career Opportunities

Children: Behavior and Guidance

Fashion Fundamentals -- Student Manual; Answer Book

Furniture for the Home -- Student Manual; Answer Book

Cost Control In Food Service

Middle School -- Curriculum Guide; Transparencies

Mini Courses in Home Economics

Children: A Study in Individual Behavior -- Teacher's Guide

The Scrap Book: A Collection of Activities for Preschoolers

Working with Children in Day Care Centers

Modern Display Techniques

Fashion Fabrics Part I

Fashion Fabrics Part II

Guidelines for Clothing Education

Fibers and Fabrics -- Answer Book

Teaching the Mentally Retarded

RESOURCE MATERIALS - Continued

Mental Retardation: A Programmed Manual for Volunteer Workers

Teaching the Mentally Retarded Child

Menu Planning - A Blueprint for Better Profits

Psychology and Human Relations in Marketing -- Teacher's Manual

Elementary Baking -- Teacher's Guide

Promotion in Food Service -- Instructor's Manual

Understanding and Guiding Young Children -- Teacher's Guide

Kitchen Sanitation

Foodservice Vocabulary

Foodservice Safety

Cleaning and Sanitation

Bussing Attendant

Host/Hostess

Grill Cooking

Fry Cooking

Food Care and Food Storage

Dishwashing Prcedures

Customer/Employee Relationships

Counter Service

Breakfast Preparation

Career Foodservice: Luncheon Cooking

Salad Preparation

Go Higher Yourself an Employer

Practical Manual for Job Hunters

Crossroads: Home Economics and the Working World

Unit I: Foods and Nutrition

Unit 2. Child Development and Family Relations

RESOURCE MATERIALS - Continued

Unit 3: Fashion and Textiles

Unit 4: Housing and Interior Design

Unit 5: Home Management and Hospitality

Unit 6: Personal Management and Grooming

Each of six units contains: 3 filmstrips, 3 cassettes, 1 teacher's guide, student career activities.

APPENDIX G

ARNEY
STATE
LLEGE
EARNEY
EBRASKA
68847

center for vocational and technical education

Phone (308) 236-4351

May 19, 1976

I would like to inform you about a slide presentation entitled "Occupational Home Economics in Nebraska" being made available for your use.

The past two years a federally funded project has had as its goal to inform the public in our state about the Occupational Home Economics program. A slide and tape presentation has been produced that describes Occupational Home Economics in action as seen at several schools in Nebraska. The presentation is telling the story of successful programs and outlining what composes an Occupational Home Economics Program.

Because we are interested in the further development of Home Economics in Nebraska the slide series will be available in the geographical area closest to you. I sincerely hope that you will plan to use the presentation during the coming year as an educationally informing and updating experience in Home Economics.

After June 30 the presentation will be available on free loan from the following resources:

Nebraska Vocational Curriculum Resource Center
West Campus
Kearney State College
Kearney, NE 68847

Home Economics Department
Chadron State College
Chadron, NE

Marge Harouff
State Department of Education
Division of Vocational Education
233 South 10th Street
Lincoln, NE 68509

If I can be of any further assistance to you, please write or call and I will be glad to help you get further acquainted with Occupational Home Economics.

Sincerely,

Sue Harvey

Sue Harvey
Project Director
Home Economics Related Occupations
Kearney State College

mf

APPENDIX H

SCRIPT - OCCUPATIONAL HOME ECONOMICS IN NEBRASKA

1. WHAT SHALL I DO? AM I WORTH ANYTHING TO MYSELF OR ANYONE ELSE? WHERE IS MY LIFE GOING?

2. OCCUPATIONAL TRAINING PROGRAMS, ESPECIALLY AT THE SECONDARY LEVEL, MAY HELP TO ANSWER SOME OF THOSE QUESTIONS FOR THE MORE THAN 80% OF HIGH SCHOOL STUDENTS WHO WILL NOT GO ON TO GET A COLLEGE DEGREE.

3. SPECIFICALLY, HOME ECONOMICS CAN OPEN THE DOOR TO JOB OPPORTUNITIES, DEVELOPMENT OF SALABLE SKILLS AND SOUND ATTITUDES FOR EMPLOYABILITY THROUGH

4. COOPERATIVE EDUCATION IN THE CLASSROOM COUPLED WITH ON-THE-JOB OR SIMULATED WORK EXPERIENCE MAY MAKE A POSITIVE DIFFERENCE FOR THE CITIZENS OF TOMORROW.

5. OCCUPATIONAL HOME ECONOMICS IS THE NAME GIVEN THESE PROGRAMS OF INSTRUCTION DESIGNED TO PREPARE STUDENTS TO ENTER A CAREER IN A HOME ECONOMICS RELATED OCCUPATION OR

6. HERO. IN MANY STATES, COURSE INSTRUCTION IS REFERRED TO AS OCCUPATIONAL HOME ECONOMICS, WHILE THE TERM HERO REFERS ONLY TO THE EXTRA-CURRICULAR FHA-RELATED STUDENT ORGANIZATION. IN NEBRASKA, HERO REFERS TO BOTH CURRICULAR AND EXTRA-CURRICULAR FUNCTIONS.

7. FIVE AREAS OF STUDY CAN BE INTEGRATED INTO THE HERO PROGRAM DEPENDING ON THE SIZE AND SITUATION FOUND IN EACH COMMUNITY. THESE ARE A NORMAL OUTGROWTH OF ... AND IN COOPERATION WITH, LEARNING EXPERIENCED IN CONSUMER HOMEMAKING COURSES.

8. CAREERS ARE IDENTIFIED IN THE DICTIONARY OF OCCUPATIONAL TITLES BY CLUSTERS, OCCUPATIONS REQUIRING SIMILAR TRAINING, THE PROFESSIONAL AND NON-PROFESSIONAL DIFFERING IN TIME AND DEPTH REQUIRED.

9. FROM SLIDES TAKEN OF ACTUAL HERO STUDENTS IN THE CLASSROOM, ON THE JOB, AND THROUGH VARIOUS ACTIVITIES, THE PROGRAM AND HOW IT WORKS WILL COME TO LIFE--AS IN CHILD CARE WHERE STUDENTS LEARN AND USE TECHNIQUES IN WORKING FOR GROWTH OF CHILDREN IN PHYSICAL AND SOCIAL DEVELOPMENT

10. WHILE SIMULATING INTELECTUAL PROGRESS,

11. CREATIVITY,

12. AND A SPIRIT OF COOPERATIVE INDEPENDENCE, A DEVELOPMENT OF SELF-CONFIDENCE AND SELF-WORTH

13. ALONG WITH A MUTUAL FEELING OF RESPECT FOR LIKE DEVELOPMENT IN THEIR PEERS.

14. HERE, HERO STUDENTS WORK WITH GRADE SCHOOL CHILDREN ON A NUTRITION PROJECT.

15. THE HERO STUDENT ACTUALLY BECOMES A HERO OR HEROINE IN GUIDING COOPERATIVELY THE YOUNGER SET IN THE SCHOOL KITCHENS, STUDYING, PREPARING, SAMPLING, AND CLEANING UP.

16. ONE OF THE MOST READILY AVAILABLE FOR ON-THE-JOB EXPERIENCE OF THE FIVE AREAS IS THAT OF FOOD SERVICE. FEW COMMUNITIES DO NOT HAVE A POSSIBLE TRAINING CENTER IN WHICH STUDENTS CAN GAIN SOME BENEFIT.

17. STUDENTS ARE EXPOSED FIRST-HAND TO THE RIGORS OF DEVELOPING THE NECESSARY SKILLS,

18. SAFE WORKING HABITS.

19. SANITARY PROCEDURES AS REQUIRED BY LAW AND DEMANDED BY CONSUMER SATISFACTION,

20. EFFICIENCY IN WORK HABITS.

21. COOPERATIVE EMPLOYER-EMPLOYEE RELATIONSHIPS,

22. AND THE REALIZATIONS OF WORKING UNDER REAL CONDITIONS.

23. IN THE ABSENCE OF READILY AVAILABLE REAL SITUATIONS, SIMULATED WORK EXPERIENCE CAN ALSO BE BENEFICIAL.

24. GUIDELINES FOR MAINTAINING GOOD CUSTOMER RELATIONS COULD CERTAINLY EVOLVE FROM SOME ROLE-PLAYING BY THIS CHALLENGING THREESOME.

25. PART OF ANY AREA OF INSTRUCTION IN AN OCCUPATIONAL PROGRAM IS THE EMPHASIS ON COMBINING HOMEMAKING AND A CAREER OR A PART-TIME OR AT-HOME ENDEAVOR.

26. SUCH CAN BE THE CASE IN WORKING AS A SEAMSTRESS OR IN AREAS OF TAILORING AND ALTERATIONS.

27. ALMOST ENDLESS POSSIBILITIES OPEN UP FOR RELATED WORK IN CLOTHING AREAS IN FABRIC SHOPS, LAUNDRIES. . .

28. DRYCLEANERS, RETAIL APPAREL SHOPS-----

29. AND IN AREAS OVERLAPPING AND COMBINED WITH HOUSING AND HOME FURNISHINGS

30. WHERE WORK WITH FABRICS CAN MEAN DRAPERY AND CURTAIN CONSTRUCTION,

31. CREATIVITY IN INTERIOR DECORATING.

32. AND RE-CREATION THROUGH UPHOLSTERY.

33. EMPLOYERS AGREE, THIS KIND OF A TRAINING PROGRAM ANSWERS A LOT OF NEEDS.

34. LAST, BUT CERTAINLY NOT LEAST, ENTERS THE REALM OF COMMUNITY SERVICES OPENING DOORS TO THOSE INTERESTED ESPECIALLY IN PEOPLE-TO-PEOPLE CONCERNS AND THE ON-GOING PROCESSES INVOLVED,

35. AS IN CARE OR COMPANIONSHIP TO THE ELDERLY

36. OR PROMOTING PUBLIC RELATIONS THROUGH TOURISM.

37. THE FHA-HERO ORGANIZATION MEANS REINFORCEMENT. HERE THE INSTRUCTOR PREPARES TO BEGIN AN INSTALLATION SERVICE FOR OFFICERS IN A NEWLY-FORMED HERO CHAPTER.

38. THE SERVICE AND RESULTING ORGANIZATION CAN BECOME A BOND OF KINSHIP IN WHICH STUDENTS HELP EACH OTHER IN BECOMING RESPONSIBLE, SELF-SUPPORTING CITIZENS.

39. MONEY-MAKING PROJECTS RELATING TO ANY OF THE FIVE AREAS OF INSTRUCTION CAN SERVE AS A TIME OF FELLOWSHIP, A TIME FOR LEARNING, AND A TIME FOR LEADERSHIP DEVELOPMENT

40. AS WELL AS A PUBLIC RELATIONS THRUST IN WHICH THE COMMUNITY BECOMES AWARE OF THE GOALS AND NEEDS BEING MET;

41. AND IT CAN SERVE AS A FUNDING PROJECT FOR ATTENDANCE AT SPECIAL EVENTS, AS AT THIS RESTAURANT ASSOCIATION CONVENTION

42. WHERE THE STUDENTS MINGLE WITH PEOPLE WHO WORK DAILY IN FOOD SERVICE OCCUPATIONS

43. AND WHO SHOW PRIDE IN THEIR ACCOMPLISHMENTS,

44. AND EVEN OFFER FREE SAMPLES TO TANTALIZE THE PALATE.

45. THIS YOUNG MAN, HEADED IN THE DIRECTION OF FIRST-RATE PASTRY CHEF, FINDS THE CONVENTION INSPIRING AND FILLING - FUL FILLING.

46. CLASSROOM INSTRUCTION AS A SOUND BASIS FOR ANY OCCUPATIONAL PROGRAM, INVOLVES ANSWERING THOSE QUESTIONS NECESSARY FOR EACH INDIVIDUAL STUDENT'S GROWTH IN BECOMING A PART OF THE REAL WORLD OF WORK.

47. THROUGH AUDIO AND CLASS DISCUSSION

48. RELATED TOPICS IN OTHER CLASSES AS WELL AS CONSUMER HOMEMAKING EDUCATION,

49. AND VIDEO PRESENTATIONS, PANELS, AND GUEST SPEAKERS; QUESTIONS OF INSURANCE, TAXES, BENEFITS, UNIONS, APPLICATIONS, INTERVIEWS, AND OTHERS CAN BE AIRED AND CLARIFIED.

50. FIELD TRIPS FOR ON-THE-SPOT QUESTION AND ANSWER SESSIONS;

51. THESE CAN PROVIDE ADDED REINFORCEMENT AND BRING TO LIFE THAT DISCUSSION IN THE CLASSROOM.

52. ADVISORY GROUPS CAN HELP THE OCCUPATIONAL PROGRAM BECOME AT ITS FULLEST, WHAT IT IS MEANT TO BE, AND AT THE SAME TIME BECOME A MAINSTAY OF THE PUBLIC RELATIONS THRUST NECESSARY TO SUSTAIN SUCH A PROGRAM.

53. HELP IS DIRECTLY AVAILABLE TO THE INSTRUCTOR, TOO, THROUGH INITIAL AND CONTINUAL TRAINING IN

54. ESTABLISHING A SOUND HERO PROGRAM.

55. IDEAS, COUNSEL, AND ADVICE CAN BE GAINED THROUGH

56. INDIVIDUAL LEADERSHIP

57. KNOWLEDGEABLE PANELS

58. AND "LETS-TRY-IT-ON-OUR-OWN" JAM SESSIONS.

PEOPLE JUST LIKE YOU AND ME TELL ABOUT A SUCCESSFUL OCCUPATIONAL PROGRAM IN THE FOLLOWING PERSONAL INTERVIEWS.

A STUDENT TELLS ABOUT THE TRAINING BENEFITS FROM BEING EMPLOYED THROUGH THE OCCUPATIONAL CLASS.

STUDENT: The Home Economics Related Occupations class has helped me to get along with my employer and to work with him. When I was first at my training station, I was not capable of accepting criticism and the rap sessions in my class have helped me to accept criticism from my manager and other employees that I work with. I have also learned to work without supervision and accomplish the work that I am supposed to, but one thing that I have learned that to me is very important is promptness and dependability. My manager knows that he can rely on me when he is in a bind and can call on me to work. The class has been very beneficial and has helped me to realize how important my job is.

A HOME ECONOMICS TEACHER DEPICTS THE TEACHING METHODS SHE USES TO MEET INDIVIDUAL NEEDS OF STUDENTS IN OCCUPATIONAL HOME ECONOMICS CLASSES.

TEACHER: Teaching students enrolled in Home Economics Related Occupations has provided me with an opportunity to apply many of the individualized instruction techniques and truly meet the needs of each student. Each student gets out of the class exactly what effort he or she puts into it. He or she is encouraged to select projects which relate to specific concerns and weaknesses that are discovered on the job while working at his or her own pace. Now two years of prerequisite courses have been offered, and I feel these are the key to a quality program, along with personal interviews and applications to determine a true interest in home economics related careers. Community support has been outstanding. All students were able to find positions which interested them. Our advisory council was a great help in implementing up-to-date criteria for curriculum development. It was through these means that the class was so relevant to each and every student.

THE EMPLOYER DESCRIBES HOW THE OCCUPATIONAL PROGRAM PROVIDES ADVANTAGES FOR HIS BUSINESS, THE COMMUNITY AND THE STUDENT'S FUTURE.

EMPLOYER: HERO is more than just a work program. It's a chance for students with career goals in mind to receive training aimed at getting them into supervisory positions. In the HERO program a student receives personalized training from both the teacher and the employer. Each student learns correct procedures in the classroom and then is able to go right to the job and put their knowledge to work. In this way a serious-minded student can be well ahead of the college graduate four years later. From the employer's point of view, one of the real advantages to the

CE 009 051

program is that it provides a trained work force which tends to stay in the community. I have noticed that HERO students are more dependable and more serious about their job than other student employees. They are always willing to learn something new. By the end of the school year they have become versatile and valuable employees.

59. IS THERE A NEED FOR A HERO PROGRAM IN YOUR SCHOOL? JUST LOOK AROUND AND YOU'LL FIND THERE IS. AND WHAT BETTER TIME THAN NOW TO DO SOMETHING ABOUT IT.

Music - Montavoni "When You Wish Upon a Star"
"The Show Must Go On"

CE 009 005

ACCESSION NUMBER: VT103384

PUBLICATION DATE: 30JUN76

TITLE: A NEEDS ASSESSMENT AND TASK ANALYSIS IN ANIMAL SCIENCE IN YUMA COUNTY. FINAL REPORT.

DESCRIPTOR: *NEEDS ASSESSMENT; *TASK ANALYSIS; *ANIMAL SCIENCE; OCCUPATIONAL SURVEYS; EMPLOYMENT PROJECTIONS

IDENTIFIER: YUMA COUNTY; ARIZONA

EDRS PRICE: MF AND HC AVAILABILITY WILL BE ANNOUNCED IN VOL. 10, NO. 2.

DESCRIPTIVE NOTE: 25P.

ABSTRACT: A NEEDS ASSESSMENT AND TASK ANALYSIS IN ANIMAL SCIENCE FOR AGRICULTURAL EMPLOYMENT WAS CONDUCTED IN SOUTHERN YUMA COUNTY. LIVESTOCK PRODUCERS WERE IDENTIFIED AND INTERVIEWED TO DETERMINE: (1) THE NUMBER OF EMPLOYEES NEEDING KNOWLEDGE IN ANIMAL SCIENCE CURRENTLY EMPLOYED; (2) THE ANTICIPATED NUMBER OF EMPLOYEES NEEDING KNOWLEDGE IN ANIMAL SCIENCE; AND (3) THE TASKS PERFORMED BY THE EMPLOYEE. AS A RESULT, 14 EMPLOYERS IDENTIFIED 15 JOB TITLES REQUIRING KNOWLEDGE AND SKILLS IN ANIMAL SCIENCE. OF THE TOTAL 123 EMPLOYEES IDENTIFIED, THE LARGEST NUMBER HAD THE TITLE OF GENERAL FARM LABORER. RESPONDENTS IDENTIFIED 22 ESSENTIAL COMPETENCIES, WITH MAINTENANCE OF EQUIPMENT, CORRALS, AND FENCES AS MOST IMPORTANT. RESULTS OF THE SURVEY PERTAINING TO COMPETENCIES, TASKS, AND EMPLOYMENT APPEAR IN NARRATIVE AND TABULAR FORM. APPENDIXES INCLUDE THE SURVEY INSTRUMENT AND OTHER PROJECT-RELATED MATERIAL. (AUTHOR/NJ)

INSTITUTION NAME: ARIZONA WESTERN COLL., YUMA.

SPONSORING AGENCY NAME: ARIZONA STATE DEPT. OF EDUCATION, PHOENIX. OCCUPATIONAL RESEARCH COORDINATING UNIT.

VT 103 384

A NEEDS ASSESSMENT AND TASK ANALYSIS IN ANIMAL SCIENCE IN YUMA COUNTY

FINAL REPORT

Project No. 76-RMG-1300

Conducted Under
Section 131 (b) Part C
Public Law 90-576

JUN 3 1976

The project reported herein was performed pursuant to a grant from the Research Coordinating Unit, Division of Career/Vocational Education, Arizona Department of Education. Grantees undertaking such projects are encouraged to express freely their professional judgement in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent official Arizona Department of Education position or policy.

DAVID E. COX
ARIZONA WESTERN COLLEGE
P. O. BOX 929
YUMA, ARIZONA 85364

June 30, 1976

CE 009 052
VT 103 384

MINI-GRANT PROJECT RESUME

PROJECT TITLE: A Needs Assessment and Task Analysis in Animal Science in Yuma County.

AGENCY: Arizona Western College

PROJECT DIRECTOR: David E. Cox

DURATION: July 1, 1975 thru June 30, 1976

COSTS:

RCU: $4,845.00 LOCAL: $300.00 TOTAL: $5,145.00

PURPOSE OF PROJECT:

The purpose of the mini-grant project was to identify the number of people employed in animal science and livestock production in Yuma County, Arizona, and determine what job entry level skills were required by the employers of those persons.

DESCRIPTION OF PROJECT:

The project undertaken was to conduct a needs assessment and task analysis in animal science for agricultural employment in Southern Yuma County. Livestock producers were identified and interviewed to determine the following:

a. The number of employees needing knowledge and skill in animal science currently employed.

b. The anticipated number of employees needing knowledge and skill in animal science.

c. The tasks the employee performs.

OUTCOME:

As a result of this project, a total of 14 employers were interviewed acorss Southern Yuma County. These employers identified 15 job titles requiring knowledge and skills in animal science. Of the 123 employees working for livestock producers, the largest number worked under the title of

general farm laborer. Respondents identified 22 essential competencies. Of these, maintenance of equipment, corrals, and fences were the most important. After further study, it was projected by the employers that there would be 127 employees 5 years hence.

GOAL STATEMENT

To conduct a needs assessment and task analysis in the area of animal science needed for agricultural employment in Southern Yuma County.

NEEDS STATEMENT

In 1971 a study was conducted to identify the occupational opportunities and training needs for agricultural employment in selected areas of Arizona. As a result of the above study, Arizona Western College implemented a two-year technician program in Agricultural Equipment Technology.

The same study showed that there were 471 full-time employees needing knowledge and skills in animal science. During the past two years we have seen meat boycotts, tremendous rises in the live cattle market, and sudden falls in the live cattle market. It is the basic purpose of this proposal to develop a model for conducting a needs assessment and task analysis in this area for the agricultural program planning at Arizona Western College.

The current animal science curriculum is based primarily upon university transfer requirements and apparently does not reflect the manpower needs of this county. The results of this project could be used by the agricultural educators in all community colleges to assess local needs and perform task analysis activities in any occupation's subject matter area. The data gathered as a result of this project will be used to plan and develop a competency based on animal science curriculum in the Division of Agriculture, Arizona Western College.

OBJECTIVES

1.1 By June 30, 1976, a needs assessment and task analysis in the area of animal science for agricultural employment in Yuma County will be conducted.

ACTIVITIES

1.1.1. Identify the potential employers of animal science graduates in Yuma County.

1.1.2. Determine the number of people needed to fill immediate needs in animal science related occupations in Yuma County.

1.1.3. Determine the number of people now employed full-time in animal science related occupations in Yuma County.

1.1.4. Determine the knowledge and skills needed as expected by employers in the animal science area.

1.1.5. Determine the tasks conducted by employees in the animal science area.

1.1.6. Develop a basis for evaluation, and improving the animal science program at Arizona Western College.

1.1.7. Disseminate the data gathered to all Arizona community colleges, and the University of Arizona.

METHODOLOGY

The project director advertised and secured two (2) agriculture majors from Arizona Western College to serve as interviewers for the project (see appendix A). The project director, along with the interviewers, identified livestock producers in Southern Yuma County (see appendix B). The criteria used were that the producer must be a commercial producer, and employ at least one employee.

The data collection instrument was a revised form of the instrument used in the 1971 study conducted by the Department of Agricultural Education, the University of Arizona (see appendix C-D).

A preliminary letter was mailed (see appendix E) to each producer to solicit his cooperation in the project and to inform him that one of the student interviewers would contact him to arrange for the personal interview. Each producer who consented was contacted by the student interviewer. A personal interview was conducted and the data collection instrument was compiled by the interviewer.

Upon completion of all interviews the data gathered were summarized and are presented in the Summary of Findings.

SUMMARY OF FINDINGS

A total of 123 persons requiring knowledge and skills in animal science were employed by the 14 livestock producers surveyed. Of this number, 112 were employed on a full-time basis.

A total of 15 different job titles were identified among the 112 full-time employees identified.

The task that received the most emphasis from the employers was maintenance of equipment, corrals, and fences; followed closely by construction of equipment and housing.

The remaining job entry level knowledge and skills are listed below in order of most to least important:

3. Feeding systems
4. Environmental conditions conducive to good health
5. Design and construction
6. Body process of nutrition
7. Characteristics of healthy animals
8. Food nutrients and their sources
9. Ration formulation
10. Symptoms of common diseases and parasites
11. Treatment of common diseases and parasites
12. Livestock handling
13. Diseases
14. Management of livestock operation
15. Marketing of livestock products (meat, milk, wool, eggs)
16. Processing of livestock products (meat, milk, wool, eggs)
17. Breeding problems
18. Genetics
19. Reproductive morphology
20. Selection of breeding stock
21. Artificial insemination
22. Breeding skills
23. Breeding farm animals

Table I presents the employment in animal science by job title in Southern Yuma County.

TABLE I

EMPLOYMENT IN ANIMAL SCIENCE BY JOB TITLE
IN SOUTHERN YUMA COUNTY

JOB TITLE	Number of employees needing knowledge and skill in animal science FULL-TIME	PART-TIME	TOTAL
1. Cattle feeder	8	2	10
2. Cattle Foreman	4	-	4
3. Cowboy	11	-	11
4. Feed mill operator	5	1	6
5. General farm laborer	37	4	41
6. General maintenance	2	-	2
7. Manager (owner)	14	-	14
8. Manager (asst.)	5	-	5
9. Mechanic	2	-	2
10. Milker	1	1	2
11. Mill foreman	6	-	6
12. Production manager	1	-	1
13. Swine feeder	1	1	2
14. Trainee	-	1	1
15. Farrow house manager	1	-	1

Table I shows that the largest number of employees are clustered into the job title general farm hand. The fewest number of employees in animal science in Southern Yuma County are required under the job title farrow house manager.

Table 2 shows the competencies needed by animal science employees in Southern Yuma County.

TABLE 2

ANIMAL SCIENCE COMPETENCIES NEEDED BY EMPLOYEES IN SOUTHERN YUMA COUNTY

Animal Science Competencies	Total Number of Employees Needing Each Competency
1. Breeding Farm Animals	
A. Genetics	5
B. Reproductive morphology	9
C. Diseases	9
D. Breeding problems	2
E. Artificial insemination	10
F. Breeding skills	7
G. Selection of breeding stock	6
2. Livestock Feeding and Nutrition	
A. Body processes of nutrition	36
B. Food nutrients and their sources	33
C. Ration formulation	33
D. Feeding systems	38
3. Animal Sanitation, Disease, and Parasite Control	
A. Characteristics of healthy animals	35
B. Symptoms of common diseases and parasites	33
C. Treatment of common disease and parasites	33
D. Environmental conditions conducive to good health	38
4. Housing and Equipment	
A. Maintenance of equipment, canals, and fences	43
B. Construction of equipment and housing	34
C. Design and construction	37
5. Management of Livestock Operation	32
6. Processing of Livestock Products (Meat, milk, wool, etc.)	21

TABLE 2 (cont)

Animal Science Competencies	Total Number of Employees Needing Each Competency
7. Marketing of Livestock Products (Meat, milk, wool, eggs)	22
8. Livestock Handling	33

Table 2 shows that the knowledge and skills required by the most number of employees is maintenance of equipment. The least number of employees required knowledge and skills in genetics.

Table 3 reveals a comparison of the number of employees by job title and the anticipated number five years hence.

TABLE 3

THE NUMBER OF EMPLOYEES BY JOB TITLE AND ANTICIPATED NUMBER FIVE YEARS HENCE

	Number of Employees			
	Currently		Five Years Hence	
	Full-Time	Part-Time	Full-Time	Part-Time
Cowboy	11	0	18	0
General Farm Hand	37	4	-	-
Owner-Manager	14	0	24	0
Feed Mill Operator	5	1	7	0
Cattle Feeder	8	2	10	0
Swine Feeder	1	1	-	-
Mill Foreman	6	0	-	-
Production Manager	1	0	-	-
General Maintenance	2	0	-	-
Cattle Foreman	4	0	-	-
Asst. Manager	5	0	6	0
Trainee	0	1	-	-
Milker	1	1	-	-
Mechanic	2	0	-	-

RECOMMENDATIONS

Based upon the findings of this research mini-grant, and given the inherent limitations, the following recommendations are offered:

1. The Animal Science curriculum at Arizona Western College be restructured to emphasize those competencies (knowledge and skills) identified by this project.

2. A project of this type be conducted in the area of Plant Science.

3. A further study be completed so that the identified knowledge and skills may be articulated between the secondary vocational agriculture programs and the agriculture department at Arizona Western College.

APPENDIX A

ARIZONA WESTERN COLLEGE

P. O. BOX 929
YUMA, ARIZONA

POSITION NOTICE

DATE: October 8, 1975

SUBJECT: Temporary Position Opening (80 hours maximum)

POSITION TITLE: Research Interviewers (2)

SALARY: $5.00 per hour

QUALIFICATIONS: Must be a sophomore level student planning to major in Agricultural Education at a university. Course work completed or in progress in Animal Science preferred.

DUTIES AND RESPONSIBILITIES:

This is a research oriented position requiring a basic knowledge of Animal Science and the ability to meet and interview livestock producers. The employee must attend a training session designed to prepare the employee with basic skills in data collection and descriptive research. The interviewer will collect raw data utilizing the interview/questionnaire method and report to the Project Director.

APPLICATION DEADLINE:

October 22, 1975

STARTING DATE: November 1, 1975

ADDRESS INQUIRIES OR APPLICATIONS TO:

Mr. David E. Cox, Chairperson
Division of Human and Agricultural Sciences
Arizona Western College
P. O. Box 929
Yuma, Arizona 85364

APPENDIX B

Employers and livestock producers interviewed during this project:

EMPLOYERS	BUSINESSES
Louis Daily	Lazy T-7 Cattle Company
Frank Clayton	Clayton Livestock
Tom Pritchard	Pritchard Farms
Louis Daily	Lou-Don Mill and Livestock
Joe Daily	Joe Daily Hog Farms
Bud Palmer	B. C. Systems
Toby Sloan	P. K. Cattle Feedyard Co.
Bruce Gwynn	Mill Iron Cattle Company
Tom Edwards	C & E Cattle Co., Inc.
Keith Lenard	Lenard and Son Cattle Co.
Bill Britain	Britain and Sons Cattle
Dick Combs	Combs Dairy

APPENDIX C

ARIZONA WESTERN COLLEGE
UNIVERSITY OF ARIZONA

Department of Agricultural Education

CONFIDENTIAL

Types of employment of persons engaged in agricultural occupations in selected areas of Arizona.

Interviewer_____ Date of Interview_____

FORM I-A

I. Business or service_____
   A. Name of business or service_____
   B. Person interviewed_____
   C. Position_____
   D. Estimated per cent gross income that is agriculturally oriented. Per cent_____
   E. Major agricultural products and/or functions of business or service. _____

II. Number of employees in this business or service - (total number)_____

For employees needing competencies in agriculture, complete the following:

A. Existing job titles:	Full-Time	Part-Time	5 years ago	5 years from now
1. _____	____	____	_____	_____
2. _____	____	____	_____	_____
3. _____	____	____	_____	_____
4. _____	____	____	_____	_____
5. _____	____	____	_____	_____
6. _____	____	____	_____	_____
7. _____	____	____	_____	_____
8. _____	____	____	_____	_____

B. Anticipated new job titles:	Full-time	Part-time	5 yrs. from now
1. _____	_____	_____	_____
2. _____	_____	_____	_____

Fill out a separate Form II for each job title listed above which is not on the job title list.

Complete the back of this form for all job titles listed above which are on the job title list.

III. Company willingness to participate in school-employer educational program. (Check all that apply)

_____ 1. Permit students to visit and observe operations.
_____ 2. Employ students on part-time basis during school year and during vacation periods.

_____ 3. Participate in a student's work experience a few hours a day.

_____ 4. Work with school personnel in outlining an educational program which would help prepare students for an agricultural occupation.

_____ 5. Release key employees to assist the teacher in providing instruction.

_____ 6. Not willing.

Job Titles	Number of Employees Full-time	Number of Employees Part-time	Average Age	Minimum Age For Entry	Educational Level Required* (Use item Nos. Below)	Monthly Wage or Salary Beginning	Monthly Wage or Salary Present	Monthly Wage or Salary Maximum
1.								
2.								
3.								
4.								
5.								
6.								
7.								
8.								

*Educational Level Required for Job Title

1. No requirement
2. Less than high school graduate
3. High school graduate
4. Post high school technical
5. Some college
6. Baccalaureate
7. Master's
8. Doctorate

APPENDIX D

ARIZONA WESTERN COLLEGE

THE UNIVERSITY OF ARIZONA

Department of Agricultural Education

CONFIDENTIAL

Pre-Employment and Continuing Education Needs of Persons Engaged in Agricultural Occupations in Selected Areas of Arizona.

Interviewer_____ Date of Interview_____

FORM II - A

I. Name and address of firm_____

_____

II. Job Title_____

III. Number of workers in this job title: Full-time____ Part-time_____ Total_____

IV. Average age ____. Is there an age requirement for this job?

No___Yes___ Minimum for entry_____, Maximum for entry_____

V. Activities and duties of persons with this job title_____

_____

_____

VI. Agricultural areas with which worker must possess knowledge and skills to do the job:

Animal Science:	Check Abilities Needed To Perform This Job:
1. Breeding Farm Animals	_____
A. Genetics	_____
B. Reproductive morphology	_____
C. Diseases	_____
D. Breeding problems	_____
E. Artificial insemination	_____
F. Breeding skills	_____
G. Selection of breeding stock	_____

2. Livestock Feeding and Nutrition
   A. Body process of nutrition _____
   B. Food nutrients and their sources _____
   C. Ration formulation _____
   D. Feeding systems _____

3. Animal Sanitation, Disease and Parasite Control
   A. Characteristics of healthy animals _____
   B. Symptoms of common diseases and parasites _____
   C. Treatment of common diseases and parasites _____
   D. Environmental conditions conducive to good health _____

4. Housing and Equipment
   A. Maintenance of equipment, corrals, and fences _____
   B. Construction of equipment and housing _____
   C. Design and construction _____

5. Management of livestock operation _____

6. Processing of livestock products (Meat, milk, wool, etc.) _____

7. Marketing of livestock products (Meat, milk, wool, etc.) _____

8. Livestock handling _____

VII. Education level required for job title (Check one only)
   _____ 1. No requirement
   _____ 2. Less than high school graduate
   _____ 3. High school graduate
   _____ 4. Post high school technical education
   _____ 5. Some college
   _____ 6. College degree: Baccalaureate___. Master's___, Doctorate___

VIII. Residential background preferred: Farm____, No preference___.

IX. Farm Experience: Needed_____ Not Needed_____

X. Experience desired to enter this job title:_____

_____

XI. Wage or salary per month:

Beginning_____Maximum_____Present_____

APPENDIX E

AWC

ARIZONA WESTERN COLLEGE

POST OFFICE BOX 929 PHONE: 726-1000 YUMA, ARIZONA 85364

DIVISION OF HUMAN AND AGRICULTURAL SCIENCES

December 18, 1975

Dear Livestock Producer:

The Agriculture Department of Arizona Western College and the University of Arizona are involved in a research project funded by the Arizona Department of Education. The purpose of the project is twofold:

1. To identify the number of persons in the AWC service area that are employed in positions requiring knowledge and skills in the field of Animal Science.

2. To identify the competencies that are required for job entry into those occupations in livestock production or Animal Science.

I would like to solicit your support in this project. We feel that once this data is gathered, we at Arizona Western College can alter our on-going Animal Science Program, and provide the livestock producers in Yuma County with a supply of well-trained personnel.

The data will be gathered by two agriculture students from Arizona Western College. They will contact you by telephone in the near future, to arrange a convenient time for the interview. The interview will be centered around a developed questionnaire. It will only take about twenty minutes of your time, and all data collected will be in statistical form and strictly confidential.

The second step will occur in January or February of 1976, and at that time we will attempt to identify the skills that you feel are necessary for an employee to possess to be hired by your firm.

Again, I hope that you will support our efforts in this project, and if you have any questions, please contact me at 726-1000, Ext. 218. Thank you for your assistance in our program improvement.

Sincerely,

David E. Cox
Chairman

sd

CX 009 052

ACCESSION NUMBER: VT103385

PUBLICATION DATE: 76

TITLE: A SURVEY AND JOB DESCRIPTION OF EMPLOYMENT OPPORTUNITIES FOR THE TRAINABLE MENTALLY HANDICAPPED IN MESA, ARIZONA. FINAL REPORT.

DESCRIPTOR: *OCCUPATIONAL SURVEYS; *EMPLOYMENT OPPORTUNITIES; *TRAINABLE MENTALLY HANDICAPPED; *TASK ANALYSIS; EMPLOYMENT QUALIFICATIONS; INDIVIDUAL CHARACTERISTICS; UNSKILLED OCCUPATIONS

EDRS PRICE: MF AND HC AVAILABILITY WILL BE ANNOUNCED IN VOL. 10, NO. 2.

DESCRIPTIVE NOTE: 50P.; PAGES 30, 45, AND 51 CONTAINING DATA IN TABULAR FORM WERE NOT REPRODUCIBLE AND WERE REMOVED. THEY ARE NOT INCLUDED IN THE PAGINATION. PAGE 20 WAS NOT REPRODUCIBLE AS IT APPEARED IN THE ORIGINAL DOCUMENT AND WAS RETYPED AT THE CENTER FOR VOCATIONAL EDUCATION.

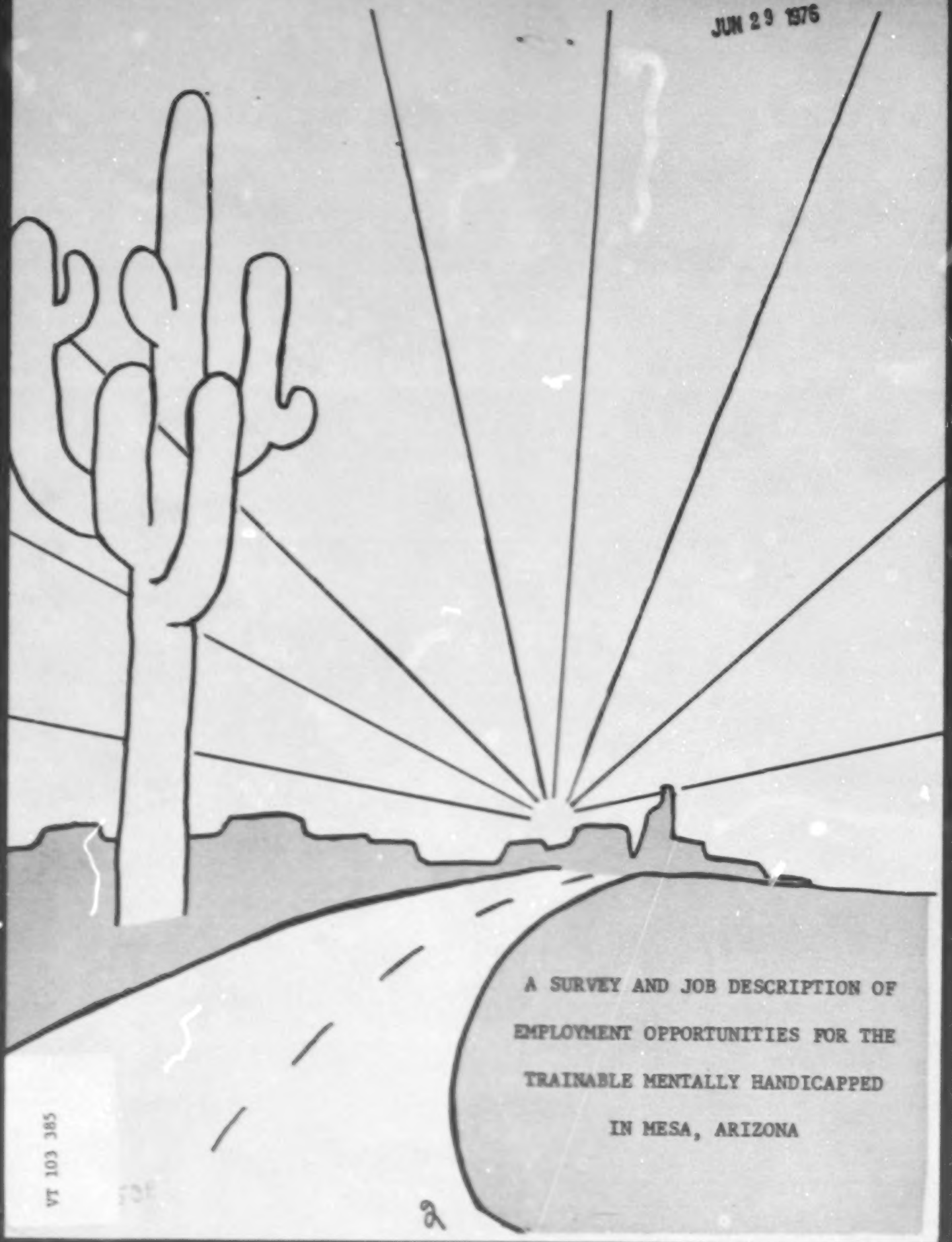
ABSTRACT: THE OBJECTIVES OF THIS PROJECT WERE TWOFOLD: (1) TO IDENTIFY THE SPECIFIC CHARACTERISTICS WHICH THE TRAINABLE MENTALLY HANDICAPPED INDIVIDUAL NEEDS TO OBTAIN EMPLOYMENT, AND (2) TO IDENTIFY THOSE AREAS IN WHICH THE TRAINABLE MENTALLY HANDICAPPED COULD FIND EMPLOYMENT. A QUESTIONNAIRE WAS ADMINISTERED TO A RANDOM SAMPLE OF 20 PERCENT OF THE AREA BUSINESSES KNOWN TO EMPLOY BUS BOYS, DISHWASHERS AND KITCHEN HELPERS, MAIDS, CARPENTER'S HELPERS, ASSEMBLY LINE WORKERS, GROUNDSKEEPERS, CAR WASH ATTENDANTS, AND JANITORS. THIS REPORT CONTAINS TABULATED DATA SHOWING THE NUMBER AND TYPE OF HANDICAPPED INDIVIDUALS HIRED PRESENTLY AND IN THE PAST BY LOCAL BUSINESSES AND THE NUMBER OF EMPLOYERS WHO SAID THEY WOULD HIRE TRAINABLE MENTALLY HANDICAPPED INDIVIDUALS. NARRATIVE REPORTS ARE INCLUDED FOR EACH OF THE EIGHT OCCUPATIONAL AREAS. OUTCOMES INDICATED THAT OF THE EIGHT OCCUPATIONAL AREAS INVESTIGATED, ONLY THE AREA OF CARPENTER'S HELPER WOULD NOT BE CONTUCIVE FOR EMPLOYMENT. THE APPENDIX CONSISTS OF THE INTERVIEW SCHEDULE AND TABLES WHICH INDICATE EMPLOYERS' RATINGS OF THE AFFECTIVE, COGNITIVE, AND PSYCHOMOTOR CHARACTERISTICS NEEDED FOR EMPLOYMENT IN EACH OF THE EIGHT AREAS. (NJ)

INSTITUTION NAME: MESA HIGH SCHOOL DISTRICT, ARIZ.

SPONSORING AGENCY NAME: ARIZONA STATE DEPT. OF EDUCATION, PHOENIX. OCCUPATIONAL RESEARCH COORDINATING UNIT.

VT 103 385

JUN 29 1976



A SURVEY AND JOB DESCRIPTION OF EMPLOYMENT OPPORTUNITIES FOR THE TRAINABLE MENTALLY HANDICAPPED IN MESA, ARIZONA

VT 103 385

A SURVEY AND JOB DESCRIPTION OF EMPLOYMENT OPPORTUNITIES FOR THE TRAINABLE MENTALLY HANDICAPPED IN MESA, ARIZONA

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ADULT EDUCATION
REGION IX

FINAL REPORT

Project No. 76-RMG-1306

Conducted Under
Section 131(b) Part C
Public Law 90-576

The project reported herein was performed pursuant to a grant from the Research Coordinating Unit, Division of Career/Vocational Education, Arizona Department of Education. Grantees undertaking such projects are encouraged to express freely their professional judgement in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent official Arizona Department of Education position or policy.

Project Director: Ronald R. Reimann
Instructor, Parkway School
Mesa, Arizona

Project Assistant: Miss Nancy Headley
Instructor, Parkway School
Mesa, Arizona

Mesa High School District #207
549 North Stapley Drive
Mesa, Arizona

Dr. George N. Smith
Superintendent

Mesa Public Schools
Mesa, Arizona

CE 009 853

FOREWORD

This survey was conducted for the many handicapped students in the Mesa Public Schools. Like any project, its success is dependent upon the tremendous efforts of many concerned individuals. For this reason, I would like to thank the employers who participated in the study, and especially thank the following individuals without whose assistance this project would have never been as successful.

Dr. Alvord H. France
Director of Vocational Education
Mesa Public Schools

Dr. William Raymond
Director of Planning & Special Projects
Mesa, Arizona

Dr. Harold J. McGrady
Director of Special Education
Mesa Public Schools

Mr. Robert Vaughan
Principal of Parkway School
Mesa, Arizona

Dr. Beverly Wheeler
Director of Dissemination & Testing
Arizona Department of Education

Ron Reimann
Project Director

PROJECT TITLE: A Survey and Job Description of Employment Opportunities for the Trainable Mentally Handicapped in Mesa, Arizona

AGENCY: Mesa High School District #207
549 North Stapley Drive
Mesa, Arizona 85203

PROJECT DIRECTOR: Ronald R. Reinarn

DURATION: July 1, 1975 - June 30, 1976

COSTS:

RCU $791.47 LOCAL $1180.59 TOTAL $1972.06

PURPOSE OF PROJECT: To determine types of vocational placement available in the Mesa Public School area for trainable mentally handicapped individuals.

DESCRIPTION OF PROJECT: Employer's in eight of the thirty-six training areas being taught at Parkway School, Mesa, Arizona will be interviewed to determine if they would hire the trainable mentally handicapped individual.

OUTCOMES: The business clusters which the trainable mentally handicapped individual has the greatest opportunity for obtaining employment are: assembly-line, bus boy, car wash, dishwasher, grounds keeper, janitorial, and maid. The carpenter's helper area did not prove to be conducive for employment.

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Total Characteristics of Janitor 41

Total Characteristics of Maid. 44

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A SURVEY AND JOB DESCRIPTION OF

EMPLOYMENT OPPORTUNITIES FOR THE

TRAINABLE MENTALLY HANDICAPPED

IN MESA, ARIZONA

INTRODUCTION

Every student, upon entering the school system, is seeking educational training which will prepare him for employment. For many, the emphasis of vocational training does not begin until their latter years, but for the trainable mentally handicapped this training begins their first day of school and continues throughout the rest of their lives. Because the time required for teaching vocational skills to the trainable mentally handicapped is much greater in duration, it is imperative that they receive the necessary skills to obtain employment and a position be available upon completion of their training.

Available research is extremely limited regarding the employability of the trainable mentally handicapped student in the Mesa area. The one study[1] which has been conducted for this geographic area projects there will be an increase in the semi-skilled, clerical, and sales area but deals only with the normal population. Moreover, it does not specify exactly what positions will most likely be available or what type of training is required to obtain employment for the trainable mentally handicapped.

PROJECT DESIGN

This project was developed to accomplish two objectives: (1) to identify the specific characteristics which the trainable mentally handicapped individual needs to obtain employment, and (2) to identify those areas which the trainable mentally handicapped could find employment.

Thirty-six different training areas are being taught at Parkway School, Mesa, Arizona. Of these, eight were selected for this study: bus boy (311.878),

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dishwasher-kitchen helper (318.887), maid (323.887), carpenter's helper (860.887), assembly-line worker (706.887), grounds keeper (407.884), car wash attendant (915.137), and janitor (382.884).[2] Numerous agencies were contacted both at the state and local levels to identify specific employers who were hiring individuals in these areas. All agencies suggested using the yellow pages of the telephone directory to determine the employers of each business cluster. A random sample of at least 20% of the known businesses was then drawn. The randomly selected employers were contacted by phone to explain the purpose of the study. Also, during this time it was explained that the necessary information would be obtained by means of a questionnaire. An appointment was made with the employer for either filling out the questionnaire then or leaving it and picking it up at another predetermined time. If the questionnaire was delivered and picked up later, a full explanation was given to ensure the employer understood in total the purpose of the study and the precise method in filling it out.

The questionnaire was designed to obtain the following information:

1. Willingness of the employer to hire a trainable mentally handicapped individual.

2. Projected figure of new employees needed during the next year and the number of trainable mentally handicapped they would consider hiring.

3. Personal characteristics expected for hiring (affective).

4. Educational skills needed for employment (cognitive).

5. Specific vocational skills needed for employment (psychomotor).

An example of one of the questionnaires used in the study can be found in the Appendix on page 20. The first page asked general information about

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the business and became more specific about the hiring of the trainable mentally handicapped either on a full or part time basis. The second, third, and fourth pages listed suggested affective, cognitive, and psychomotor characteristics, respectively, for each business. The employer was asked to select the degree of frequency for each characteristic, the degree of importance, etc., and to write its corresponding number in each column.[3] The first three pages were the same for each of the eight different business clusters with the fourth page listing the psychomotor characteristics specific to each business.

In order to facilitate curriculum planning, all data was compiled and disseminated to the Principal of Parkway School, the Director of Vocational Education, and the Director of Special Education for the Mesa Public Schools, the Director of Mesa Association for Retarded Citizens, and the Director of Dissemination and Testing, Arizona Department of Education.

RESULTS

Figure I on page 5 shows the trainable mentally handicapped individuals who have been hired in all business areas except in the grounds keeper and carpenter's helper areas. The other six areas have employed between two and four mentally handicapped individuals in each area, but the employers did not know if they were educable or trainable. Also, no information was available as to how long ago these individuals were employed.

A comparison of Figure I and Figure II on page 6 shows that approximately one-half of the handicapped who were hired are no longer working for the same employer. Of the six business areas which had hired mentally handicapped individuals, only the maid and assembly-line areas still retained them.

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FIGURE I

NUMBER & TYPE OF HANDICAPPED INDIVIDUALS
HIRED IN PAST YEARS BY LOCAL BUSINESS AREAS

	Mesa		Tempe		Chandler		Apache Junction		
	No.	Type	No	Type	No.	Type	No	Type	Total
BUS BOY	0	0	1	Mentally	1	Mentally	0	0	2 Mentally
DISHWASHER	2 1 1	Speech Physically Mentally	2	Mentally	4 1	Unknown Hearing	1	Speech	1 Physically 3 Speech 1 Hearing 3 Mentally 4 Unknown
MAID	3	Mentally	9 3	Unknown Visually	0	0	0	0	3 Visually 3 Mentally 9 Unknown
ASSEMBLY LINE	6 1	Physically Mentally	12 3 1	Physically Deaf Mute Mentally	0	0		---	18 Physically 3 Deaf Mutes 2 Mentally
CAR WASH	3	Mentally	0	0	1	Mentally		---	4 Mentally
JANITORIAL	3	Mentally	0	0	0	0		---	3 Mentally
GROUNDS KEEPER	1	Physically		---		---		---	1 Physically
CARPENTERS HELPER		---		---	2	Physically		---	2 Physically
TOTAL	8 2 11	Physically Speech Mentally	12 3 3 4 9	Physically Deaf Mutes Visually Mentally Unknown	2 1 2 4	Physically Hearing Mentally Unknown	1	Speech	62

FIGURE II

NUMBER & TYPE OF HANDICAPPED INDIVIDUALS
PRESENTLY EMPLOYED BY LOCAL BUSINESS AREAS

	Mesa		Tempe		Chandler		Apache Junction		Total
	No.	Type	No.	Type	No.	Type	No.	Type	
BUS BOY	0	0	0	0	0	0	0	0	0
DISHWASHER	0	0	0	0	1	Hearing	0	0	1 Hearing
MAID	2	Mentally	0 0	0 0	0	0	0	0	2 Mentally
ASSEMBLY LINE	3	Physically	11 3 1	Physically Deaf-Mutes Mentally	0	0		--	14 Physically 3 Deaf Mutes 1 Mentally
CAR WASH	0	0	0	0	0	0		—	0
JANITORIAL	0	0	0	0	0	0		—	0
GROUNDSKEEPER	1	Physically		—		—		—	1 Physically
CARPENTERS HELPER		—		—	1	Physically		—	1 Physically
TOTAL	4 2	Physically Mentally	11 3 1	Physically Deaf Mutes Mentally	1 1 6.	Physically Hearing	0	0	23

Numerous reasons were given as to why they were no longer employed. Generally they had either moved, were unable to associate with fellow workers, or were unable to perform the job adequately.

Figure III on page 8 indicates the best possibility of employment is in the dishwashing area. The employer's of carpenter's helpers stated that the competition was extremely difficult in entering the carpenter's union and they questioned whether or not the trainable mentally handicapped could ever develop the necessary skills needed for entrance. Except for the assembly-line and car wash areas, many employers stated they would like to hire the trainable mentally handicapped individual on a part-time basis and then gradually move him to full-time work.

Figure IV on page 9 shows there is a strong interest in hiring the trainable mentally handicapped individual as was shown in Figure III, but not as many employers were willing to hire if another person was present to assist in their training. The main reason given by employers was that they wanted their employees to be trained the way they thought best. The best area of employment was again in the dishwashing area. The one employer who said he would hire an individual as a carpenter's helper was non-union. The other union businesses felt they would not be able to establish the necessary skills to enter the carpenter's union.

Results section will continue with more detailed information on each business area and the specific characteristics employers are especially interested in.

FIGURE III

NUMBER OF EMPLOYERS WHO SAID THEY WOULD HIRE
A TRAINABLE MENTALLY HANDICAPPED INDIVIDUAL

F - Full time
P - Part time

	MESA		TEMPE		CHANDLER		APACHE JUNCTION		TOTAL	
	F	P	F	P	F	P	F	P	F	P
BUS BOY	2	2	1	2	0	0	0	0	3	4
DISHWASHER	7	9	3	4	3	3	2	3	15	19
MAID	1	2	3	5	1	1	0	0	5	8
ASSEMBLY LINE	2	0	3	1	1	0	-	-	6	1
CAR WASH	3	2	2	1	1	0	-	-	6	3
JANITORIAL	0	2	0	0	1	0	-	-	1	2
GROUNDSKEEPER	2	2	-	-	-	-	-	-	2	2
CARPENTERS HELPER	-	-	-	-	0	0	-	-	0	0
TOTAL	17	19	12	13	7	4	2	3	38	39

FIGURE IV

NUMBER OF EMPLOYERS WHO SAID THEY WOULD HIRE
A TRAINABLE MENTALLY HANDICAPPED INDIVIDUAL
IF ANOTHER PERSON WAS PRESENT TO ASSIST IN THEIR TRAINING

F - Full time
P - Part time

	MESA		TEMPE		CHANDLER		APACHE JUNCTION		TOTAL	
	F	P	F	P	F	P	F	P	F	P
BUS BOY	2	2	0	1	0	0	0	0	2	3
DISHWASHER	7	8	2	3	3	3	3	2	15	16
MAID	0	2	3	5	1	1	0	0	4	8
ASSEMBLY LINE	1	0	2	0	1	0	-	-	4	0
CAR WASH	3	1	2	1	1	0	-	-	6	2
JANITORIAL	0	3	0	0	1	0	-	-	1	3
GROUNDSKEEPER	2	2	-	-	-	-	-	-	2	2
CARPENTERS HELPER	-	-	-	-	1	1	-	-	1	1
TOTAL	15	18	9	10	8	5	3	2	35	35

Assembly Line

The researcher identified 19 businesses in the assembly-line area. It was decided to randomly sample at least 75% of the businesses which meant all 19 businesses had to be contacted before 15 could be found who were willing to participate in the study. A high percentage was chosen in this area for it was thought to be an excellent source of employment. The affective characteristics most employers rated important were:

- cooperate with supervisor
- follows directions
- completes assignments
- asks if does not understand
- observes safety precautions
- returns from breaks promptly
- cleans up work area
- arrives and leaves work on time

Of all business clusters studied, the assembly-line area required the most skill in cognitive development. Many of the mobile home industries required reading of blueprints, adding and subtracting materials, and writing accounts of work performed. More detailed information can be found on page of the Appendix.

The psychomotor characteristics are not listed, for each business was unique in itself. Fine motor coordination and the use of microscopes was essential for businesses which manufacture micro-circuits. Many food industries required only the use of gross motor skills and physical stamina for many jobs required packaging and lifting of items to fifty pounds.

Bus Boy

The researcher identified 242 businesses in the bus boy area. It was decided to randomly sample 12.5% of the total population which meant 86 businesses were contacted before 30 employers were willing to participate in the study. After contacting 10-15 businesses in the quick service foods, it was decided not to contact any others for they had no bus boys. The affective characteristics employers rated most important were:

- cooperate with fellow workers
- cooperate with supervisor
- follows directions
- asks if does not understand
- accepts orders agreeably
- efficient in use of time
- completes assignments
- observes safety precautions
- clears up work area
- arrives and leaves work on time

Employers rated "reads signs," "reads short notes or paragraphs," and "tells time" as the most important skills in the cognitive area. Of these three, "tells time" was rated the highest in frequency. Additional information can be found on page 27 of the Appendix.

The most important psychomotor skills were "collects dirty dishes" and "replenishes clean linens, glasses, silverware, etc." Also of importance were cleanliness and neat in appearance.

Carpenter's Helper

There were nine businesses identified in the carpenter's helper area but only one was willing to participate in the study. After contacting all employers, most stated the trainable mentally handicapped individual would never develop the

proficiency to enter the carpenter's union and consequently refrained from participating in the study. Specific information can be obtained by referring to page 29 of the Appendix.

Car Wash

The research identified 11 businesses in the car wash area. All of the 11 businesses had to be contacted before 7 employers were willing to participate in the study. The affective characteristics employers rated most important were:

- cooperate with fellow workers
- cooperate with supervisor
- follows directions
- asks if does not understand
- accepts orders agreeably
- accurate in work
- efficient in use of time
- completes assignments
- observes safety precautions
- has own transportation
- cleans up work area
- arrives and leaves work on time

Employers rated "reads signs" and "measuring items in quarts or gallons" as being important in the cognitive area. Of these "reads signs" was rated as being used more frequently for stopping and starting machinery.

The following psychomotor skills were rated the most important and frequently performed:

- empties trash from car
- wipes interior of car
- washes windows
- dries car

These skills also had to be performed very quickly for they encompassed most of the job area and were crucial for work quality.

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Dishwasher

The researcher identified 242 businesses which may have dishwashers. It was decided to randomly sample 12.5% which meant 86 businesses were contacted before 30 were willing to participate in the study. The quick service food businesses were not among the 86 initially contacted. The affective characteristics which most employers rated very important and frequently used were:

- cooperate with fellow workers
- cooperate with supervisor
- follows directions
- asks if does not understand
- accepts orders agreeably
- efficient in use of time
- completes assignments
- observes safety precautions
- cleans up work area
- arrives and leaves work on time

The most important cognitive areas were "reads signs (stop, go)" and "tells time." Almost one-half of the employers did not even consider the cognitive areas as being applicable to the job.

Except for "replenishes linen supply" and "washes or peels vegetables" most employers rated the listed psychomotor characteristics as very important with "stacks and sorts dishes" requiring the most speed. See page 37 of the Appendix for more detailed information.

Grounds Keeper

The researcher wanted to interview at least 50% of the employers in this area but only two questionnaires were returned. This constituted 25% of the total population. It is difficult to draw any definite conclusions from such a small sample, thus referrals should be made to page 38 of the Appendix for more information.

Janitor

The researcher identified 32 businesses in the janitorial area. It was necessary to contact 20 employers before six were willing to participate in the study. The affective characteristics which most employers rated very important were:

- cooperate with fellow workers
- cooperate with supervisor
- follows directions
- asks if does not understand
- accepts orders agreeably
- accurate in work
- efficient in use of time
- completes assignments
- arrives and leaves work on time

Most cognitive characteristics were either not applicable, slight in importance, or seldom used in the janitorial businesses. Except for "doing minor maintenance" and "ordering supplies" most psychomotor characteristics which were listed were rated very important and performed frequently. The speed with which they were performed varied with employers.

Page 20 was retyped at The Center for Vocational Education.

Maid

The researcher identified 75 businesses which employed maids. It was decided to randomly sample 20% of the businesses which meant 47 businesses had to be contacted before 16 employers would participate in the study. Another reason for contacting so many businesses was because many of the motels are not large enough to employ maids. Thus, the husband and wife who are the owners or operators of the motel perform all maid duties. It should also be noted that the motels who hire maids may only do so in the winter months and then discharge their employees during the summer months.

The affective characteristics employers rated very important were:

- cooperate with fellow workers
- cooperate with supervisor
- follows directions
- asks if does not understand
- accepts orders agreeably
- efficient in use of time
- completes assignments
- observes safety precautions
- seeks another task
- cleans up work area
- direct contact with public

The cognitive characteristics rated most important were "reads short notes or paragraphs" and "uses the telephone." About one-half of the employers rated the other characteristics as not applicable or of a lesser degree of importance and frequency.

Except for "washes walls and woodwork" and "hangs drapes" most employers

of the maid area rated the listed psychomotor characteristics as very important and frequently performed.

CONCLUSION

This researcher believes that many trainable mentally handicapped individuals are not currently employed in our local businesses because past training was not adequate to prepare them for employment. With the increasing number of highly skilled teachers entering this educational field, and with the assistance of the vocational training programs, I believe this trend will quickly reverse itself. For as can be seen from Figure II and IV, there is a definite willingness of employers to hire the trainable mentally handicapped individual once he has been provided adequate training.

Of the eight business areas investigated, only one, carpenter's helper, would provide limited employment, if any. The other seven areas, assembly-line work, bus boy, car wash, dishwasher, grounds keeper, janitorial, and maid service has shown to be excellent areas of employment once the students have received adequate training.

An integral part of this training, which all students must receive, is in the affective area. The characteristics which were rated very important and having a high degree of frequency on the job for all eight business clusters were:

- cooperate with fellow workers
- cooperate with supervisor
- follows directions
- asks if does not understand
- accepts orders agreeably

- efficient in use of time
- completes assignments
- observes safety precautions
- cleans up work area
- arrives and leaves work on time

Except for a few select assembly line businesses, the cognitive skills were not as important as either the affective or psychomotor skills for employment. Those mentioned most often by the eight business clusters were "reads signs (stop, go)" and "tells time." Other cognitive skills were mentioned as being important but were for only select businesses in the community or were used infrequently on the job.

Most employers stated that the lists of psychomotor characteristics which they rated for this study, was an excellent representation of the duties their employers would perform. Therefore, it is suggested that these lists could be used as an initial guide in either developing any of the seven business clusters for training areas or in comparing them with existing curriculums to ascertain if programming is concurrent with employer's expectations.

The one area of the study which most employers found confusing was rating the skills to their level of difficulty. Most employers said this would depend on the individuals capabilities in learning a task and thus used the rating of "2." Because they did not totally understand this portion and clarification on the researchers part did not seem to help, they decided on the middle of the road response. Because of this fact, this data was not included in the results discussion.

Also, the project was designed for the employer to fill out the questionnaire while the researcher waited. This was to ensure a much greater return

and to clarify any questions which may arise. This was amended to where the questionnaire was dropped off and picked up at a later predetermined time, whence any questions needed to be answered were done then. This change was very important for many employers initially said they would not participate in the study but would gladly complete the questionnaire when time was available. Because the questionnaire was picked up after completion, this alteration did not affect the return.

Based upon the information from this study, it is the researchers opinion that trainable mentally handicapped individuals upon receiving adequate training in any of these areas, assembly-line, bus boy, car wash, dishwashing, grounds keeper, janitorial, or maid service, could be employed by businesses within the Mesa area.

APPENDIX

Name of Business _____

Address of Business _____

Phone Number of Business _____

Nature of Business _____

Name of Individual Interviewed _____

Title of Individual Interviewed _____

Number of Full-Time Employees _____

Number of Part-Time Employees _____

Number of New Full-Time Employees Hired this Year _____

Number of Full-Time Employees Expected to Hire Next Year _____

Number of New Part-Time Employees Hired This Year _____

Number of Part-Time Employees Expected to Hire This Year _____

Number of Handicapped Employees Hired in Past Years _____

List Number _____ and Type _____

Number of Handicapped Employees Still Employeed _____

List Number _____ and Type _____

Physical Handicapps Allowable:

Speech Impediment _____
Hearing Impaired _____
Visually Impaired _____

Limited Use of One Hand or Arm _____
Limited Use of One Foot or Leg _____
Restricted to Wheelchair _____
Has No Physical Handicapps _____

Have you ever had any association with the Trainable Mentally Handicapped?
Yes _____ No _____

Would you hire a Trainable Mentally Handicapped person?
Full-Time - Yes _____ No _____
Part-Time - Yes _____ No _____

Would you hire a Trainable Mentally Handicapped person if another person was present to assist in their training?
Full-Time - Yes _____ No _____
Part-Time - Yes _____ No _____

Would you hire a Trainable Mentally Handicapped person and train him for his position?
Full-Time - Yes _____ No _____
Part-Time - Yes _____ No _____

AFFECTIVE CHARACTERISTICS

Please rate the following characteristics pertinent to your employees using the following scale. If an item does not apply, please indicate N/A (not applicable).

FREQ (Frequency)	IMP (Importance)	DIFF (Difficulty)
(1) Often	(1) Very	(1) Very
(2) Occasionally	(2) Moderate	(2) Average
(3) Seldom	(3) Slight	(3) Easy

	FREQ	IMP	DIFF
a) Cooperate with fellow workers			
b) Cooperate with Supervisors			
c) Communicates effectively			
d) Follows Directions			
e) Asks questions if doesn't understand			
f) Accepts orders agreeably			
g) Demonstrates initiative			
h) Accurate in work			
i) Efficient in use of time			
j) Learns quickly			
k) Instructions do not need to be repeated			
l) Completes assignments			
m) Observes safety precautions			
n) Seeks another task once original task is completed			
o) Returns from breaks promptly			
p) Has a driver's license			
q) Has own transportation			
r) Cleans up work area			
s) Direct contact with public			
t) Arrives and leaves work on time			
u) Other			

COGNITIVE CHARACTERISTICS

Please rate the following characteristics pertinent to your employees using the following scale. If an item does not apply, please indicate N/A (not applicable).

FREQ (Frequency)	IMP (Importance)	DIFF (Difficulty)
(1) Often	(1) Very	(1) Very
(2) Occasionally	(2) Moderate	(2) Average
(3) Seldom	(3) Slight	(3) Easy

	FREQ	IMP	DIFF
a) Reads signs (stop, go, off)			
b) Reads short notes or paragraphs			
c) Adds numerals			
d) Subtracts numerals			
e) Makes change with money			
f) Tells time			
g) Writes name and address			
h) Writes more than name and address			
i) Measures items in inches, feet or metric			
j) Measures quantities in quarts, gallon or metric			
k) Uses telephone for sending or receiving messages			
l) Other			

PSYCHOMOTOR CHARACTERISTICS

MAID

Please rate the following characteristics pertinent to your employees using the following scale. If an item does not apply, please indicate N/A (not applicable).

FREQ (Frequency)	IMP (Importance)	DIFF (Difficulty)	SPED (Speed)
(1) Often	(1) Very	(1) Very	(1) Quickly
(2) Ocassionally	(2) Moderate	(2) Average	(2) Moderately
(3) Seldom	(3) Slight	(3) Easy	(3) Leisurely

	FREQ	IMP	DIFF	SPED
a) Vacuum Carpets				
b) Shampoo Carpets				
c) Dust furniture, curtains				
d) Change and make beds				
e) Replace clean classes				
f) Straighten room				
g) Mop bathroom floors				
h) Clean and sanitize sink and stool				
i) Replensihes towels and soap				
j) Washes walls and woodwork				
k) Clean mirror				
l) Empties waste baskets				
m) Sorts, counts, folds and carries linen				
n) Moves furniture				
o) Replaces light bulbs				
p) Hangs drapes				
q) Other				

PAGE 30 CONTAINING TABLE 1A "NUMBER OF EMPLOYERS' RATING AFFECTIVE CHARACTERISTICS OF ASSEMBLY LINE" WAS NOT REPRODUCIBLE AND WAS REMOVED FROM THIS DOCUMENT PRIOR TO ITS BEING SUBMITTED TO THE ERIC DOCUMENT REPRODUCTION SERVICE.

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TABLE 1B

NUMBER OF EMPLOYERS' RATING COGNITIVE

CHARACTERISTICS OF ASSEMBLY LINE

	Frequency				Importance				Difficulty			
	Often	Occasionally	Seldom	N.A.	Very	Moderate	Slight	N.A.	Very	Average	Easy	N.A.
Reads signs (stop, go, off)	5	3	5	2	5	4	4	2	4	2	6	3
Reads short notes or paragraphs	6	5	3	1	6	6	2	1	2	8	3	2
Adds numerals	4	4	5	2	5	4	4	2	2	6	4	3
Subtracts numerals	5	5	4	1	6	3	5	1	3	6	4	2
Makes change with money		1	3	11	2	1	3	10	1	1	1	12
Tells time	6	1	5	3	5	2	5	3	3	5	4	4
Writes name and address	6	1	6	2	6	1	6	2	4	5	4	3
Writes more than name & address	2	4	8	1	3	4	8	1	2	5	6	2
Measures items in inches, feet, metric	6	1		8	5	2		8	4	2	1	8
Measures quantities in quarts, gallon	4	1	1	9	3	2		10	2	3		10
Uses telephone for sending or receiving messages	2	1	5	7	2		6	7		2	6	7
Other: Reads blue prints	1				1				1			
Writes S.S. & phone numbers			1				1				1	

TABLE 2A

NUMBER OF EMPLOYERS' RATING AFFECTIVE

CHARACTERISTICS OF BUS BOY

	Frequency				Importance				Difficulty			
	Often	Occasionally	Seldom	N.A.	Very	Moderate	Slight	N.A.	Very	Average	Easy	N.A.
Cooperate with fellow workers	26	3			25	3	1		3	10	16	
Cooperate with supervisors	27	2			25	4			4	10	15	
Communicates effectively	19	9	1		20	8	1		3	14	13	
Follows directions	29				29				2	16	11	
Asks questions if doesn't understand	19	7	1	2	26	2		1	2	13	13	1
Accepts orders agreeably	25	4			26	3			3	14	12	
Demonstrates initiative	19	9	1		21	6	2		8	10	11	
Accurate in work	25	3	1		23	5	1		4	17	8	
Efficient in use of time	25	3	1		28	1			6	13	10	
Learns quickly	17	12			19	10			6	14	18	
Instructions need not be repeated	10	16	2	1	14	14	1		5	18	6	
Completes assignments	27	2			26	3			4	14	11	
Observes safety precautions	29				29				4	12	12	
Seeks another task once finished	16	11	2		19	8	1		4	16	9	
Returns from breaks promptly	15	10	2	2	22	6		1	1	8	17	1
Has a driver's license	7	4	3	15	3	6	6	14	1	8	3	16
Has own transportation	12	6		11	13	4	2	10	3	8	3	12
Cleans up work area	26	2	1		26	3			3	15	11	
Direct contact with public	21	6	1	1	20	6	2	1	3	14	11	1
Arrives & leaves work on time	27	1			29				2	10	16	
Other: Cleanliness & neatness and good attitude	1				1				1			
Personal hygiene; body, hair and clothes proper			1		1					1		

TABLE 2B

NUMBER OF EMPLOYERS' RATING COGNITIVE

CHARACTERISTICS OF BUS BOY

	Frequency				Importance				Difficulty			
	Often	Occasionally	Seldom	N.A.	Very	Moderate	Slight	N.A.	Very	Average	Easy	N.A.
Reads signs (stop, go, off)	11	6	4	8	13	6	2	8	1	9	12	7
Reads short notes or paragraphs	10	5	7	7	13	5	5	7	1	9	12	7
Adds numerals	8	4	3	14	11	1	3	14	1	7	8	13
Subtracts numerals	5	6	4	14	9	2	3	14	1	8	7	12
Makes change with money	5	4	4	16	7	3	3	16	1	10	3	15
Tells time	16	3	6	4	12	6	7	4	3	7	14	4
Writes name and address	6	4	10	9	8	6	6	9	2	4	14	8
Writes more than name & address	6	3	8	12	7	5	5	12	2	4	12	11
Measures items in inches, feet, metric			5	23		1	5	23	2	2	4	21
Measures quantities in quarts, gallon	7	4	7	12	7	3	7	12	3	6	9	11
Uses telephone for sending or receiving messages	6	3	7	13	7	5	4	13	1	5	10	12
Other												

TABLE 2C

NUMBER OF EMPLOYERS' RATING PSYCHOMOTOR

CHARACTERISTICS OF BUS BOY

	Frequency				Importance				Difficulty				Speed			
	Often	Occasionally	Seldom	N.A.	Very	Moderate	Slight	N.A.	Very	Average	Easy	N.A.	Quickly	Moderately	Leisurely	N.A.
Collects dirty dishes from tables	19	3		1	18	4		1	2	6	14	1	19	3		1
Replaces soiled table linens	9	1	1	12	10		1	12	2	2	7	12	9	1	1	12
Sets tables with silverware & glassware	10	5	1	7	11	3	1	9	1	2	12	8	12	3	1	8
Replenishes clean linens, silverware, glasses, etc.	17	3		2	19	1	1	2	1	7	12	2	18	3		2
Supplies service bar with food	7	2	3	11	8	1	3	11	1	5	6	11	8	2	1	12
Serves water and butter	7	6	2	8	7	7	1	8	1	4	10	8	10	4	1	8
Cleans coffee urns, cream & milk dispensers	9	4	1	9	9	5		9	1	6	7	9	6	8		9
Makes coffee	5	4	1	13	8	2	1	13	3	4	4	12	7	3		13
Fills juice dispensers	4	2	1	16	6		2	15	1	4	1	17	4	4		15
Delivers food orders	4	2	5	12	5	1	4	13	3	4	4	12	7	[illegible]		12
Runs errands	4	8	7	4	7	7	5	4	2	5	13	3	7	10	2	4
Transfers food between floors for orders	1	1	2	19	1	1	2	19	1	2		20	2	2		19
Fills condiments	9	2	2	10	7	3	3	10	1		12	10	7	5	1	10

TABLE 3A

NUMBER OF EMPLOYERS' RATING AFFECTIVE

CHARACTERISTICS OF CARPENTER'S HELPER

	Frequency				Importance				Difficulty			
	Often	Occasionally	Seldom	N.A.	Very	Moderate	Slight	N.A.	Very	Average	Easy	N.A.
Cooperate with fellow workers	1					1				1		
Cooperate with supervisors		1			1					1		
Communicates effectively		1				1				1		
Follows directions	1				1					1		
Asks questions if doesn't understand		1			1					1		
Accepts orders agreeably	1				1					1		
Demonstrates initiative		1				1				1		
Accurate in work	1				1					1		
Efficient in use of time	1				1					1		
Learns quickly		1				1				1		
Instructions need not be repeated			1			1				1		
Completes assignments	1				1					1		
Observes safety precautions	1				1					1		
Seeks another task once finished		1			1					1		
Returns from breaks promptly	1				1						1	
Has a driver's license		1				1				1		
Has own transportation			1				1				1	
Cleans up work area		1				1					1	
Direct contact with public				1				1				1
Arrives & leaves work on time	1				1						1	
Other												

TABLE 3B

NUMBER OF EMPLOYERS' RATING COGNITIVE

CHARACTERISTICS OF CARPENTER'S HELPER

	Frequency				Importance				Difficulty			
	Often	Occasionally	Seldom	N.A.	Very	Moderate	Slight	N.A.	Very	Average	Easy	N.A.
Reads signs (stop, go, off)		1			1					1		
Reads short notes or paragraphs			1			1					1	
Adds numerals			1				1				1	
Subtracts numerals			1				1				1	
Makes change with money				1				1				1
Tells time			1				1				1	
Writes name and address			1				1				1	
Writes more than name & address			1				1				1	
Measures items in inches, feet or metric	1				1					1		
Measures quantities in quarts, gallon				1				1				1
Uses telephone for sending or receiving messages				1				1				1
Other												

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TABLE 3C

NUMBER OF EMPLOYERS' RATING PSYCHOMOTOR

CHARACTERISTICS OF CARPENTER'S HELPER

	Frequency				Importance				Difficulty				Speed			
	Often	Occasionally	Seldom	N.A.	Very	Moderate	Slight	N.A.	Very	Average	Easy	N.A.	Quickly	Moderately	Leisurely	N.A.
Selects lumber for specified size		1			1					1			1			
Saws lumber to specified size		1			1					1				1		
Holds lumber for carpenter		1				1				1				1		
Nails sheeting to studs		1				1				1			1			
Cleans used lumber				1				1				1				1
Cleans wooden/metal frames				1				1				1				1
Removes shoring/bracing from forms				1				1				1				1
Oils metal forms				1				1				1				1
Carries tools and materials about job		1			1					1			1			
Digs holes/trenches for supports			1				1			1				1		
Places guy wires in position				1				1				1				1
Strings-cables				1				1				1				1
Operates power tools	1				1					1			1			
Uses hand tools	1				1					1			1			
Cleans work area	1				1					1			1			
Other																

TABLE 4A

NUMBER OF EMPLOYERS' RATING AFFECTIVE

CHARACTERISTICS OF CAR WASH ATTENDANT

	Frequency				Importance				Difficulty			
	Often	Occasionally	Seldom	N.A.	Very	Moderate	Slight	N.A.	Very	Average	Easy	N.A.
Cooperate with fellow workers	7				7				2	2	3	
Cooperate with supervisors	7				7				2	1	4	
Communicates effectively	4	3			4	3			1	4	2	
Follows directions	6	1			7				2	2	3	
Asks questions if doesn't understand	5	1	1		6	1			2	1	4	
Accepts orders agreeably	6	1			6				2	2	3	
Demonstrates initiative	3	3	1		5	5	1		1	4	1	
Accurate in work	6	1			7				2	3	2	
Efficient in use of time	5	2			6	1			2	4	1	
Learns quickly	3	4			3	4			2	4	1	
Instructions need not be repeated	1	4	2		2	4	1		1	4	1	
Completes assignments	6	1			7				2	1	4	
Observes safety precautions	6	1			7				2	2	3	
Seeks another task once finished	2	5			5	2			1	4	2	
Returns from breaks promptly	3	2		2	5			2	1	2	2	1
Has a driver's license	3	3	1		4	2	1		2	3		1
Has own transportation	5	1		1	6	1			4	1		2
Cleans up work area	5	2			7				2	2	3	
Direct contact with public	4	3			4	2	1		2	2	2	1
Arrives & leaves work on time	4	1	1	1	6	1			2	1	3	1
Other: Looks neat & clean	1				1						1	

TABLE 4B

NUMBER OF EMPLOYERS' RATING COGNITIVE

CHARACTERISTICS OF CAR WASH ATTENDANT

	Frequency				Importance				Difficulty			
	Often	Occasionally	Seldom	N.A.	Very	Moderate	Slight	N.A.	Very	Average	Easy	N.A.
Reads signs (stop, go, off)	3	1	1	2	3	1	1	2	1	1	3	2
Reads short notes or paragraphs	1	1	4	1	2		4	1	1	2	3	1
Adds numerals	1	1	4	2	1	2	3	2		2	3	2
Subtracts numerals	1	1	3	2	1	2	3	2		2	3	2
Makes change with money	2		2	3	2		2	3	1	1	2	3
Tells time	1	1	3	2	1	1	4	1		3	2	2
Writes name and address	1	1	3	2	1		4	2		1	4	2
Writes more than name & address	1		3	3	1	1	2	3		2	2	3
Measures items in inches, feet, metric	2	1	1	3	2	1	1	3		3	1	3
Measures quantities in quarts, gallon	2	3	1	1	3	1	2	1	1	3	2	1
Uses telephone for sending or receiving messages	1	1	1	3	1	1	1	3		2	1	3
Other												

TABLE 4C

NUMBER OF EMPLOYERS' RATING PSYCHOMOTOR

CHARACTERISTICS OF CAR WASH ATTENDANT

	Frequency				Importance				Difficulty				Speed			
	Often	Occasionally	Seldom	N.A.	Very	Moderate	Slight	N.A.	Very	Average	Easy	N.A.	Quickly	Moderately	Leisurely	N.A.
Services cars with gas	4	1		2	5			2	3		2	2	4	1		2
Collects money	1		2	4	1		2	4	1		2	4	1		2	4
Drives cars to washer	3	2		2	4	1		2	1	3	1	2	1	4		2
Prepares car for washing	2	2		3	2	2		3		3	1	3	2	2		3
Attaches car to conveyer belt		3		4	1	2		4		3		4		3		4
Hand washes car	1	2	2	2	1	2	2	2		4	1	2	2	2	1	2
Hand polishes car	2	1	1	3	2	1	1	3	2	1	1	3	3		1	3
Operates car washing machine	4	2		1	4	2		1	2	2	2	1	4	2		1
Vacuums car	4	3			4	3			2	5			4	3		
Empties trash from car	6	1			6	1	1		1	3	2		6	1		
Wipes interior of car	6				7		1		2	2	2		6			
Washes windows	6	1			6	1			2	3	2		6	1		
Dries car	6	1			6	1			2	3	2		6	1		
Replenishes rag supply	5	3			4	2	1		2	2	3		4	2		1
Washes rags	3	3			3	4			2	3	2		3	3		1
Dries rags	3	3		1	3	3		1	2	2	2	1	3	3		5
Orders supplies	1	2		3		1	2	5		1	2	3		2		1
Other																

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TABLE 5A

NUMBER OF EMPLOYERS' RATING AFFECTIVE

CHARACTERISTICS OF DISHWASHER

	Frequency				Importance				Difficulty			
	Often	Occasionally	Seldom	N.A.	Very	Moderate	Slight	N.A.	Very	Average	Easy	N.A.
Cooperate with fellow workers	25	4			25	3	1		3	11	15	
Cooperate with supervisors	27	2			25	5			5	10	14	
Communicates effectively	17	9	3		18	10	1		3	13	13	
Follows directions	26	1			29				2	15	12	
Asks questions if doesn't understand	19	7	1	2	26	2		1	2	14	12	1
Accepts orders agreeably	25	4			27	3			2	15	12	
Demonstrates initiative	18	9	2		20	6	3		7	10	12	
Accurate in work	26	3			24	5			3	15	10	
Efficient in use of time	24	4	1		28	1			8	12	9	
Learns quickly	17	11	1		19	9	1		6	13	10	
Instructions do not need to be repeated	8	18	2	1	14	13	2		4	17	8	
Completes assignments	26	3			25	4			4	14	11	
Observes safety precautions	29				29				5	13	11	
Seeks another task once when finished	15	10	2	1	20	7	2	1	4	14	9	1
Returns from breaks promptly	16	10	1	2	22	5		1	2	12	14	1
Has a driver's license	6	4	5	14	3	6	7	9	1	7	4	12
Has own transportation	12	6	2		13	4	3		4	7	4	
Cleans up work area	27	2			26	3			2	17	10	
Direct contact with public	18	5	5	1	17	6	5	1	3	10	14	1
Arrives & leaves work on time	28	1			29				2	11	15	
Other: Cleanliness, Neatness & a good attitude	1				1				1			
Personal hygiene (body, hair & clothes) proper			1		1					1		

TABLE 5B

NUMBER OF EMPLOYERS' RATING COGNITIVE

CHARACTERISTICS OF DISHWASHER

	Frequency				Importance				Difficulty			
	Often	Occasionally	Seldom	N.A.	Very	Moderate	Slight	N.A.	Very	Average	Easy	N.A.
Reads signs (stop, go, off)	11	7	3	8	13	6	2	8	1	9	12	7
Reads short notes or paragraphs	9	5	8	7	12	5	5	7	1	10	11	7
Adds numerals	7	4	4	14	10	1	4	14	1	7	7	14
Subtracts numerals	5	5	5	14	8	2	5	14	1	7	7	14
Makes change with money	4	4	4	17	6	3	3	17	1	9	3	16
Tells time	16	3	6	4	12	6	7	4	3	7	14	4
Writes name and address	6	3	11	9	8	5	6	10	2	4	13	9
Writes more than name and address	6	2	8	13	7	4	6	12	2	4	11	12
Measures items in inches, feet, metric			6	23		1	5	23	2	2	4	21
Measures quantities in quarts, gallon	7	4	6	12	7	3	7	12	3	6	9	11
Uses telephone for sending or receiving messages	6	3	7	13	7	5	4	13	1	5	11	12
Other												

TABLE 5C

NUMBER OF EMPLOYERS' RATING PSYCHOMOTOR

CHARACTERISTICS OF DISHWASHER

	Frequency				Importance				Difficulty				Speed			
	Often	Occasionally	Seldom	N.A.	Very	Moderate	Slight	N.A.	Very	Average	Easy	N.A.	Quickly	Moderately	Leisurely	N.A.
Keeps dishwashing area clean	27			1	27			1	4	18	5	1	12	15		1
Sweeps floor of dishwashing area	20	9		1	20	7		1	3	13	11	1	10	17		1
Mops floor of dishwashing area	19	5		4	20	4		4	2	13	9	4	13	11		4
Washes dishes by hand	12	5	3	8	17	2		8	1	12	7	8	11	9		8
Washes dishes by machine	21			7	21		1	7	4	12	6	6	19	3		6
Separates trash	13	3	1	11	14	2	1	11	2	7	8	11	10	7	1	11
Scrapes dishes	24	1		3	24	1		3	2	10	13	3	17	9		3
Stacks and sorts dishes	25	2		1	23	3		2	2	12	13	1	21	5		2
Sorts silverware	22	3	1	2	22	3		2	2	10	14	2	17	10		1
Empties garbage cans	19	6		3	20	5		3	3	12	10	3	11	14		3
Wipes down work area, walls, etc.	15	11	1	1	20	7		1	2	12	13	1	11	12	1	3
Replenishes silverware supply	20	3		5	21	1	1	5	3	6	14	5	19	5		4
Replenishes dish and glassware supply	21	2		5	21	1		6	2	7	13	6	17	4		7
Replenishes linen supply	3	2	4	17	5	5	1	17	2	2	7	17	5	5	2	16
Cleans garbage cans	13	6	4	4	16	5	1	6	1	9	13	5	8	13	1	6
Polishes utensils	6	10	2	10	10	7	1	10	2	11	5	10	8	9	1	10
Washes or peels vegetables	5	7	3	13	9	6	1	12	1	8	8	11	6	8	2	12
Other: Grounds Clean Up		1			1					1						
Prepare Salads	1				1					1						
Correct handling of knives	1				1						1					
Use fire extinguisher			1		1					1						
Cleans other kitchen area	1				1					1						
Maintains restrooms	1				1					1						

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TABLE 6A

NUMBER OF EMPLOYERS' RATING AFFECTIVE

CHARACTERISTICS OF GROUNDS KEEPER

	Frequency				Importance				Difficulty			
	Often	Occasionally	Seldom	N.A.	Very	Moderate	Slight	N.A.	Very	Average	Easy	N.A.
Cooperate with fellow workers	2				1	1				1	1	
Cooperate with supervisors	2				2					2		
Communicates effectively	2				1	1			1		1	
Follows directions	2				2					2		
Asks if doesn't understand	2				2					1	1	
Accepts orders agreeably	2				2					1	1	
Demonstrates initiative	2				2					2		
Accurate in work	2				2					1	1	
Efficient in use of time	2				2					2		
Learns quickly	1	1			1	1				2		
Need not repeat instructions	1	1			2				2	1		
Completes assignments	2				2					2		
Observes safety precautions	2				2						2	
Seeks another task	2				2					2		
Returns from breaks promptly	2					2				1	1	
Has a driver's license		1		1		1		1		1		1
Has own transportation	1		1		1	1				2		
Cleans up work area	1		1		1	1			1	1		
Direct contact with public	2				2					2		
Arrives & leaves work on time	2				2					2		
Other												

PAGE 45 CONTAINING TABLE 6B "NUMBER OF EMPLOYERS' RATING COGNITIVE CHARACTERISTICS OF GROUNDS KEEPER" WAS NOT REPRODUCIBLE AND WAS REMOVED FROM THIS DOCUMENT PRIOR TO ITS BEING SUBMITTED TO THE ERIC DOCUMENT REPRODUCTION SERVICE.

TABLE 6C

NUMBER OF EMPLOYERS' RATING PSYCHOMOTOR

CHARACTERISTICS OF GROUNDS KEEPER

	Frequency				Importance				Difficulty				Speed			
	Often	Occasionally	Seldom	N.A.	Very	Moderate	Slight	N.A.	Very	Average	Easy	N.A.	Quickly	Moderately	Leisurely	N.A.
Mows grass with hand mower		1		1		1		1		1		1	1			1
Mows grass with power mower	2				2					2			1	1		
Mows grass with riding mower		1	1			2			1	1				2		
Rakes grass or leaves with hand rake	2				2					1	1		1	1		
Rakes grass or leaves with tractor rake			1	1			1	1		1		1		1		1
Picks up grass or leaves	2				2					1	1		1	1		
Operates edger	1	1			1	1			1	1				2		
Operates hedge trimmers		1	1		1	1			1	1				2		
Prunes branches	2				2				1	1			1	1		
Weeds flower and hedge areas	2				2					1	1		1	1		
Maintains existing flowers		2			1	1			1	1				2		
Uses hand tools	2				2					1	1		1	1		
Plants flowers or shrubs		2			1	1			1	1				2		
Fertilizes plants, lawn, trees	1	1			2				1	1				2		
Seeds or reseeds lawn	1	1			2					2				2		
Discards weeds, branches, grass, leaves	2				2					1	1		1	1		
Operates sprinkler systems		1	1		1	1			1	1				2		
Waters lawns with hose or sprinklers	1	1			1	1				1	1			2		
Cleans equipment	1	1			2				1		1			2		
Maintains storage area	1	1			1	1				2				2		
Sprays pesticides		1	1		1	1			1	1				2		
Sprays herbicides		1	1		1	1			1	1				2		
Picks up trash on grounds	2				2					1	1		1	1		
Cleans drainage areas		1		1		1		1		1		1		1		1
Paints/repairs fences/buildings			1	1		1		1	1			1		1		1
Other: Sharpens Blades, Tools, etc.	1				1					1				1		

TABLE 7A

NUMBER OF EMPLOYERS' RATING AFFECTIVE

CHARACTERISTICS OF JANITORIAL

	Frequency				Importance				Difficulty			
	Often	Occasionally	Seldom	N.A.	Very	Moderate	Slight	N.A.	Very	Average	Easy	N.A.
Cooperate with fellow workers	5	1		1	7					4	2	1
Cooperate with supervisors	5	1		1	7					4	2	1
Communicates effectively	4	2		1	4	3				4	2	1
Follows directions	6	1			7					4	2	1
Asks questions if doesn't understand	3	3		1	6	1				4	1	1
Accepts orders agreeably	4	2		1	7					4	1	1
Demonstrates initiative	4	2	1		4	2	1			4	2	1
Accurate in work	6			1	6	1				5	1	1
Efficient in use of time	6			1	6	1				4	1	1
Learns quickly	4	2		1	4	3				5	1	1
Instructions need not be repeated	1	5		1	4	3				5	1	1
Completes assignments	5	1		1	7					4	2	1
Observes safety precautions	4		1	2	5	1		1		4	1	2
Seeks another task once finished	4	2		1	5	2				5	1	1
Returns from breaks promptly	4		1	2	5	1		1		2	3	2
Has a driver's license	2	4		1	3	4				4	2	1
Has own transportation	4	2		1	5	2				5	1	1
Cleans up work area	2	3		2	3	3		1		3	2	2
Direct contact with public	3	1	2	1	3	2		2		4	1	2
Arrives & leaves work on time	6			1	7					5	1	1
Other: Pleasing personality with customers	1				1					1		

TABLE 7B

NUMBER OF EMPLOYERS' RATING COGNITIVE

CHARACTERISTICS OF JANITORIAL

	Frequency				Importance				Difficulty			
	Often	Occasionally	Seldom	N.A.	Very	Moderate	Slight	N.A.	Very	Average	Easy	N.A.
Reads signs (stop, go, off)	1		4	2	1	2	3	2		2	2	3
Reads short notes or paragraphs	1		4	2	1	1	4	2		2	2	3
Adds numerals			4	3		1	2	3		1	2	4
Subtracts numerals			4	3		1	2	3		1	2	4
Makes change with money			3	4			2	4		1	2	4
Tells time	2	2	1	2	2	3	1	2	1	2	1	3
Writes name and address	1	1	2	3	1	2	1	3		2	1	4
Writes more than name and address	1	1	2	4	1		2	4		1	1	5
Measures items in inches, feet, metric			3	4			3	4		1	1	5
Measures quantities in quarts, gallon	1	1	2	4	1		2	4		1	1	5
Uses telephone for sending or receiving Messages	1	2	3	1	1	2	2	1		2	2	3
Other												

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TABLE 7C

NUMBER OF EMPLOYERS' RATING PSYCHOMOTOR

CHARACTERISTICS OF JANITORIAL

	Frequency				Importance				Difficulty				Speed			
	Often	Occasionally	Seldom	N.A.	Very	Moderate	Slight	N.A.	Very	Average	Easy	N.A.	Quickly	Moderately	Leisurely	N.A.
Sweeps walks	4	1	2		3	2	1			2	5		3	4		
Sweeps floors	7				6	1				6	1		2	5		
Sweeps floors (oil mop)	5	2			4	3				6	1		2	5		
Mops floors	7				6	1				6	1		3	4		
Strips wax from floors	4	4			6	1			2	5			3	4		
Waxes floors, buffs floors	6		1		6	1			1	6			3	4		
Vacuums carpets	7				6	1				6	1		4	3		
Shampoos carpets	2	2	3		5	1	1		4	3			1	6		
Dusts counters and furniture	7				6		1		1	3	3		4	3		
Washes windows	5	2			6	1			1	6			2	5		
Washes walls	2	3	2		4	3			1	5	1		2	3	2	
Cleans bathrooms	7				6	1				7			4	3		
Sanitizes wash basins and urinals	6			1	5		1	1	1	3	2	1	3	3		1
Replenishes soap & towel dispensers	5	1		1	4	2		1		3	3	1	4	3		1
Empties trash reseptacles	6		1		4	1	2			2	5		4	4		
Replaces light bulbs	1	2	4		1	2	4			3	4		3	4	1	
Cleans drinking fountains	4	1	2		3	2	2			3	4		4	4		
Orders supplies	1	1	2	3	2	1	1	3	1	2	1	3	2	2		3
Cares for lawn & shrubs	1		2	4	1		2	4	1	1	1	4	1	2		4
Does minor maintenance, i.e. painting, plumbing, etc.			4	3		1	3	3	1	2	1	3	1	3		3
Other																

TABLE 8A

NUMBER OF EMPLOYERS' RATING AFFECTIVE

CHARACTERISTICS OF MAIDS

	Frequency				Importance				Difficulty			
	Often	Occasionally	Seldom	N.A.	Very	Moderate	Slight	N.A.	Very	Average	Easy	N.A.
Cooperate with fellow workers	12	3	1		12	3	1		1	6	7	1
Cooperate with supervisors	14	2			15	1			2	8	5	
Communicates effectively	8	8			7	9			2	11	2	1
Follows directions	15	1			15	1			1	8	6	
Asks questions if doesn't understand	9	5	2		12	4			3	9	3	1
Accepts orders agreeably	11	1	2	2	12	2		2	3	9	2	3
Demonstrates initiative	9	3	3	1	9	6	1		3	6	6	1
Accurate in work	12	2	2		9	6	1		2	5	8	1
Efficient in use of time	12	3	1		12	4			3	7	5	1
Learns quickly	7	4	1	4	6	7	1	2	2	8	4	2
Instructions need not be repeated	6	6	4		6	8	2		1	9	5	1
Completes assignments	12	2	2		13	1	2		3	5	7	1
Observes safety precautions	14	1	1		14	1	1		4	4	8	1
Seeks another task once finished	11	4	1		12	2	1		2	6	7	1
Returns from breaks promptly	11	1	1	2	10	3	1	2	3	6	5	2
Has a driver's license	2	1	3	10	3		4	9	1	1	3	11
Has own transportation	8	2	1	5	8	1	3	4	2	3	3	8
Cleans up work area	12	2		1	12	1	1	2	3	2	9	2
Direct contact with public	11	3		2	12	3		1	2	7	4	3
Arrives & leaves work on time	13	1			10	2			2	3	7	3
Other: Clean personal habits	1				1					1		
Neatness & personal appearance	1				1						1	

PAGE 51 CONTAINING TABLE 8B "NUMBER OF EMPLOYERS' RATING COGNITIVE CHARACTERISTICS OF MAIDS" WAS NOT REPRODUCIBLE AND WAS REMOVED FROM THIS DOCUMENT PRIOR TO ITS BEING SUBMITTED TO THE ERIC DOCUMENT REPRODUCTION SERVICE.

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TABLE 8C

NUMBER OF EMPLOYERS' RATING PSYCHOMOTOR

CHARACTERISTICS OF MAIDS

	Frequency				Importance				Difficulty				Speed			
	Often	Occasionally	Seldom	N.A.	Very	Moderate	Slight	N.A.	Very	Average	Easy	N.A.	Quickly	Moderately	Leisurely	N.A.
Vacuum carpets	15	1		2	16			2	1	10	5	3	8	8		1
Shampoo carpets	3	5	5		9	2	3		6	5	2		5	7	1	2
Dust furniture, curtains	16				16				1	9	6		5	10	1	1
Change and make beds	16			1	16			1	2	9	5	1	7	8		1
Replace clean glasses	14				13	1			1	5	8		6	8		
Straighten room	13	2	1		14	2			1	7	4		5	10		
Mop bathroom floors	16				16				2	8	6		8	8		
Clean & sanitize sink & stool	16				16				3	6	7		6	10		
Replenishes towels & soap	16				16				1	6	9		9	6	1	
Washes walls & woodwork	4	9	2		7	3	1		5	7	4		5	11		
Clean mirror	15	1			15	1			2	7	7		7	9		
Empties waste baskets	16				15		1		1	5	9	1	9	7		
Sorts, counts, folds & carries linen	9	3	3		11	3	1	1	2	7	6	1	7	8		1
Moves furniture	5	5	6		9	3	4		2	9	5		4	9	2	
Replaces light bulbs	7	6	3		10	2	4		1	8	6	1	6	6	2	2
Hangs drapes	2	2	10	1	6	2	5	2	4	7	3	2	4	6	3	3
Other: Wipe finger marks & smudges	1				1						1					
Bath tub & shower	1				1					1						
Maids carts keep clean & in order	1				1						1					

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ABSTRACT: THE PROJECT REVIEWED AND ASSESSED THE 72 VOCATIONAL RESEARCH AND EXEMPLARY PROJECTS CONDUCTED IN OREGON DURING FISCAL YEARS 1970-75 IN ORDER TO DISSEMINATE INFORMATION ABOUT SUCCESSFUL PROJECTS. EVALUATIVE CRITERIA, INSTRUMENTATION, AND PROCEDURES WERE DEVELOPED BY THE PROJECT STAFF AND REVIEWED BY EXTERNAL EVALUATORS. THESE WERE THEN TESTED AND REVISED. THE TWO PRODUCTS RESULTING FROM PROJECT ACTIVITY ARE: (1) A HANDBOOK OF INFORMATION ON TRANSPORTABLE VOCATIONAL PRODUCTS THAT RESULTED FROM SELECTED RESEARCH AND EXEMPLARY PROJECTS, AND (2) A TECHNICAL REPORT OF AN EVALUATION OF THESE SELECTED PROJECTS AND THEIR PRODUCTS AND PROCESSES. MAJOR ACCOMPLISHMENTS ARE SUMMARIZED FOR EACH OF FOUR REVIEW PERIODS DURING THE YEAR'S DURATION OF THE PROJECT. FINDINGS OF THE STUDY ARE PRESENTED IN 13 TABLES ACCORDING TO SUCH VARIABLES AS CAREER DEVELOPMENT LEVEL, FISCAL CHARACTERISTICS, CONTRACTING AGENCIES, AND INSTRUCTIONAL LEVEL. CONCLUSIONS AND RECOMMENDATIONS FOR FUTURE VOCATIONAL RESEARCH AND EXEMPLARY PROJECTS ARE INCLUDED IN THE REPORT. (AUTHOR/RG)

INSTITUTION NAME: OREGON STATE UNIV., CORVALLIS. VOCATIONAL-TECHNICAL EDUCATION UNIT.

SPONSORING AGENCY NAME: OREGON STATE DEPT. OF EDUCATION, SALEM. CAREER AND VOCATIONAL EDUCATION SECTION.; OFFICE OF EDUCATION (DHEW), WASHINGTON, D.C.

VT 103 389

FINAL REPORT

A REVIEW OF VOCATIONAL RESEARCH AND EXEMPLARY PROJECTS

ODE PROJECT NUMBER 004-141-2-3-4

PROJECT DIRECTOR

LARRY J. KENNEKE

Associate Professor
Vocational-Technical Education

VOCATIONAL-TECHNICAL EDUCATION UNIT
OREGON STATE UNIVERSITY
CORVALLIS, OREGON

June 30, 1976

DEPARTMENT OF EDUCATION
CAREER AND VOCATIONAL EDUCATION SECTION

RESEARCH AND EXEMPLARY

2

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ABSTRACT

TITLE: A Review of Vocational Research and Exemplary Projects

INSTITUTION: Oregon State University

PROJECT DIRECTOR: Larry J. Kenneke

Address: Industrial Education
Batcheller Hall 301
Corvallis, Oregon 97331

Telephone: 754-2733

PROJECT DURATION: August 15, 1975 through June 30, 1976

COSTS:

Federal	Local	Other	Total
$20,773.00	$7,737.80	-----	$28,510.80

NUMBER OF STUDENTS AFFECTED: None

NUMBER OF STAFF INVOLVED: 14

PROJECT DESCRIPTION:

Under the auspices of the Oregon State Department of Education, seventy-two vocational research and exemplary projects have been conducted during fiscal years 1970 through 1975. However, information about successful projects or products has not been readily accessible for transportability to other environments. It was the intention of this project to resolve these problems.

PURPOSE:

The primary purpose of this project was to produce two documents: (1) a handbook of information on transportable vocational products and processes that resulted from selected research and exemplary projects and (2) a technical report of an evaluation of these selected exemplary and research projects and their products and processes. The former document was designed for widespread general distribution and the latter for limited, controlled distribution.

PROCEDURES AND OUTCOMES:

Evaluative criteria, instrumentation, and procedures were developed by the project's staff and reviewed by external evaluators. These were then pilot tested, revised, then field tested and revised. Selected projects (up to 72) were reviewed and documented in three phases: (1) extraction of data from existing proposals and reports on each project; (2) collection of additional data and verification of a sample of data at institutions that conducted the vocational research and exemplary projects; and (3) preparation of the evaluative information for the handbook and technical report. The external evaluators reviewed the evaluative data and the data collection by teaming with members of the project staff on the evaluations of selected projects. Two documents resulted from project activity: (1) a handbook titled, Promising Practices in Oregon Career and Vocational Education and (2) a technical report.

A. BACKGROUND

A. STATEMENT OF THE PROBLEM

Vocational research and exemplary projects facilitate improvement of career/vocational education in Oregon. Nearly all such projects have been of significant benefit to the schools, colleges, or agencies conducting them. Unfortunately, however, information about successful projects or project products has not been readily accessible for transportability to other environments.

There has not been concerted and systematic effort to review and assess such funded projects so that promising practices could be disseminated to other settings. Furthermore, exemplary practices which have resulted in improved programs and/or program elements have not been satisfactorily identified. Finally little has been done to identify and catalog processes and products which are currently making an impact on student needs. It was the intention of this study proposal to resolve these problems.

B. GOALS AND OBJECTIVES

In order to ameliorate the deficiency described above, two primary, or product, goals were achieved. These product goals were concerned with documents that will be outputs of this project. The goals were:

1. Technical Report of the Evaluation of Research and Exemplary Projects on Career Education in Oregon: Fiscal Year 1971-1975. The general contents of this documents are:
   a. Problem and objectives of project,
   b. Methodology (population, sample, criteria, instrumentation, procedures, and analysis),
   c. Findings
   d. Conclusions and recommendations (including alternative dissemination

strategies), and

e. Appendix (evaluative data on each of the research and development projects that are evaluated).

2. Handbook of Career Education Practices and Materials: Research and Exemplary Efforts in Oregon during Fiscal Years 1971-1975. The general contents of this document are:

   a. Overview and

   b. Description of promising materials and practices, including:

      1. Student outcomes,

      2. Other outcomes, such as changes in behaviors of teachers, counselors, etc,.

      3. Procedures,

      4. Materials (including availability),

      5. Adoption strategy,

      6. Resource requirements (quantity, i.e., number and amount of time, quality of people, space, equipment, materials necessary for implementation of the innovation—costs vary by location and when the innovation is installed).

      7. Environment and population,

      8. Assessment of effectiveness, effficiency, transportability, and innovativeness, and

      9. Resource person(s).

The first document the Technical Report is a comprehensive description of this project and its findings, i.e., the effectiveness, efficiency, transportability, and innovativeness of the products and/or practices in each of the research and exemplary projects that are evaluated and alternate dissemination strategies. Because of the nature of the information, distribution of this document is limited

and controlled. The second document, the Handbook, contains pertinent information needed by teachers and administrators to decide whether or not a promising practice and/or product may be appropriate for adoption (and adaptation, if necessary or desirable).

Promising Practices in Oregon Career and Vocational Education, referred to as the Handbook, describes 40 Practices selected according to the following criteria: (1) The Practices address a significant problem in career education. (2) The Practice is effective in its environment, and (3) the Practice is transportable (i.e., it can be adapted and communicated). The Handbook is organized under the following section headings: Career Awareness, Career Exploration, Career Preparation, and Career Specialization. A Promising Practice is described in the first section appropriate for it. It is then cross-referenced at the end of each subsequent section that is relevant to it. For example, a Practice that concerns both career awareness and career exploration in the middle school appears in the career awareness section. At the end of the career exploration section, reference is made to the location of the Practice in the awareness section. In the dated index, the Practice is identified under career awareness, exploration, and the middle school. The original Handbook index is dated, so any revisions or additions to the Handbook would show the date and be accompanied by a revised (dated) index.

B. MAJOR ACCOMPLISHMENTS

This section is organized according to milestones and activities accomplished. They are reported according to the following review periods:

August 15, 1975 to November 30, 1975
December 1, 1975 to January 30, 1976
February 1, 1976 to March 30, 1976
April 1, 1976 to June 30, 1976

1. AUGUST 15, 1975 to NOVEMBER 30, 1975

a. Milestone(s) and Events

(1) Milestone A, notification of contract award, was scheduled in the approved proposal for August 15. The actual notification of grant award was issued by the Oregon Department of Education on November 6. However, on August 19, 1976, a letter was forwarded by ODE assuring funding and suggesting that project activities commence but business practices are Oregon State University did not permit the hiring of staff until receipt of the grant award. This action delayed the accomplishment of certain project activities and Milestone 1 as scheduled.

(2) Milestone 1 (Process objective 1.0), completion of the instrumentation for data collection, was scheduled for attainment on November 1. This milestone was not met during the reporting period.

b. Major activities accomplished during the reporting period:

(1) Activity 1.1, hired staff.

(a) Ms. Jeane Dille was hired as a Graduate Research Assistant for the project.

(b) Mr. John Pence, an EPDA Fellow at Oregon State University, served an internship on the project during the Fall Term.

(c) Ms. Virginia Arnold, an EPDA Fellow at Oregon State University served as the liaison between the EPDA Program and the project. She voluntarily participated in the project.

(d) Ms. Wanda Cox, Administrative Assistant for the Vocational-Technical Education Unit, was assigned to the project at 0.42 FTE.

(2) Activity 1.2, form steering committee

(a) The steering committee was formed and convened on October 31.

(b) Special note should be made of the membership of Mr. Rod Juranek on the Steering Committee. Mr. Juranek was participating in the Oregon Career Education Leadership Development (Career Education Leadership Extern) Program during the year and agreed to serve as the liaison between the Extern Program and the project.

(3) Activities 1.3 and 1.4, develop and review evaluative criteria.

(a) An initial set of information elements (Attachment C) was identified from a search of the literature (Attachment D). The elements, which served as the basis for developing the evaluative criteria, were reviewed by the Steering Committee on October 31.

(b) Based on the critique by the Steering Committee, the information elements were revised and sent to the members of the Steering Committee. Steering Committee members were contacted by telephone to determine the adequacy of the revisions.

(4) Activity 1.5, develop instrumentation. Questions based on the information elements were developed. The questions were formatted into a recording instrument and interviewer's guide.

(5) Activities 2.7 and 2.8, prepare for and accomplish pilot test of instrumentation and procedures. This activity was completed.

c. Major problems encountered during the reporting period: The major problems encountered during this period were attributed to the delay in acquiring

notification of grant award (see paragraph 1a(1), above). Financial accounts for the project could not be established without the official grant award. The initial impact of the delay was felt in the organization of the project staff, including the accomplishment of necessary personnel actions. This, in turn, affected the project's potential to accomplish other tasks in the prescribed sequence in a timely manner. In order to ameliorate these problems, activities were accomplished concurrently rather than sequentially as specified in the approved proposal. Major activities affected by this change in strategy were concerned with the development and validation of instrumentation and procedures for data collection and with the preparation and accomplishment of the pilot test.

d. Fiscal:

(1) Actual expenditures during the reporting period. Because of the accounting practices at Oregon State University and the lateness in establishing an official account, the estimated expenditures based on records kept by the project's staff were $2,840.

(2) Predicted expenditures for the entire project. The budgeted amount of funds for the reporting period was $2,892. Therefore, there was an under-run of $52.00 for the reporting period. The difference did not affect the total expenditure for the project.

(3) Given below is the time commitment expected of staff members as on January 31, 1976. Also given is the actual time spent by staff members during that period. This information is divided

into staff time supported by funds from the Oregon Department of Education and staff time contributed by Oregon State University to the project.

Source of Funding for Positions	Type of Commitment (in hours)		
	Expected	Actual	Difference
ODE	303	288	-15
OSU	66	150	+84
Total	369	438	+69

2. DECEMBER 1, 1975 to JANUARY 30, 1976

a. Milestone(s) and Events:

(1) Milestone 1 (Process objective 1.0), completion of the instrumentation for data collection, was scheduled in the approved proposal for attainment on November 1; but it was achieved on December 12.

(2) Milestone 2 (Process objective 2.0), completion of data collection instrumentation and procedures for field testing, was scheduled for attainment on January 1, 1976. This milestone was met on January 16, 1976.

(3) Milestone 3 (Process objective 3.0), external review of instruments, procedures, and formats for the Handbook and Technical Report, was partially met, as scheduled, on January 23, 1976. Because of the number of man-hours needed to develop the entire methodology for deciding whether or not a practice would be appropriate for dissemination, only a third of the decision logic was developed for review and approval by the Steering Committee.

b. Major activities accomplished.

(1) Activities 1.5, 2.1, 2.2, 2.7, 2.8, 2.9, 3.1, and 3.2.

(a) Based on the information requirements specified in the Innovations Information List, information items were generated and formatted into an instrument. This initial instrument was subjected to simulated trials and revised based on the resulting evaluative information. A major finding of the simulated trials was the difficulty in recording information because of the number of pages in the instrument. The items were, therefore divided into questions that would elicit the necessary information. The questions that would elicit required information were

removed from the instrument and replaced by words or short phrases indicative of the necessary information.

(b) Questions removed from the instrument were recorded on note cards. Using the note cards, staff members were then trained to record on the Innovative Information List appropriate information contained in existing documents (such as a proposal, progress report, or final project report) and through interviews at field sites.

(c) With the assistance of the Oregon Department of Education's project officer, staff members identified ten of the seventy-two research and exemplary projects that would be used to pilot and field-test the instruments and procedures. Although these projects represented a variety of outcomes and outputs, they were conducted on field sites located in the Willamette Valley to facilitate the pilot and field tests. In a minor deviation from the procedures described in the approved proposal, three staff members independently reviewed the existing documentations on the first eight projects that would be reviewed. After comparing the information that they had recorded in the instrument, the three staff members then visited the field site to collect the remainder of the appropriate and available information by interviewing the person identified as the most appropriate contact for information about the site. One staff member asked the appropriate questions using the note cards, and the other two members recorded the elicited information. The instrument and procedures were then reviewed after each data collection sequence and revised as necessary prior

to the next sequence. The combined pilot and field tests were completed on January 16, 1976.

(d) With the assistance of the Oregon Department of Education's project officer, a letter was developed by the project staff to inform the chief executive officers of local educational agencies and community colleges, that conducted the seventy-two research and exemplary projects, of this review project and to ask for their assistance. The letter was printed by the Department of Education and sent by Oregon State University.

(2) Activity 2.6. The Oregon Department of Education's project officer, Mr. Eugene Vinarskai, and his secretary, Ms Dayna Hayhurst, cooperated fully with the project's staff to identify and acquire existing documentation on the seventy-two research and exemplary projects. Their prompt and generous assistance facilitated the progress of this review project. Existing documentation on all seventy-two research and exemplary projects was identified and made available to the project staff.

(3) Activities 3.3, 4.1, 4.2 and 4.3. By January 31, 1976, information contained in available documentation and through on-site interviews had been collected on a total of 28 projects. After the field test of the data-collection instruments and procedures, on-site interviews were conducted individually rather than by a team. The average amount of time needed for an interview was approximately 50 minutes. The preparation of the information for the Handbook and Technical Report was held in abeyance pending the completion of the decision-making procedures.

(4) Activities 2.3 and 2.4.

(a) Tentative formats for the Handbook and Technical Report were developed by the project staff and reviewed and approved by the Steering Committee. Two versions of the description of a promising practice that could appear in the Handbook were reviewed by the Steering Committee. Based on directions provided by the Steering Committee, the format was revised by the project staff and sent to the Steering Committee members for their review and approval. The Steering Committee also approved a tentative title for the Handbook. The tentative Promising Practices in Oregon Career and Vocational Education: Created in Oregon under the Auspices of Parts C and D of the Vocational Education Admendments of 1968 was approved.

(b) To facilitate the identification of promising practices, the "Innovation Selection Criteria" was developed and subjected to simulated trials by the project staff. A part of the decision-making procedures was developed to increase the reliability of deciding whether or not materials and processess produced during research and exemplary projects should be included in the Handbook as Promising Practices. The Steering Committee approved the "Innovation Selection Criteria" and directed that the entire decision logic be developed and tested.

(5) Activity 3.4. A meeting of the project's Steering Committe was held on January 23, 1976, at the Valley River Inn in Eugene.

c. Major problem(s) encountered during the reporting period: None.

d. Fiscal:

(1) Because of accounting practices at Oregon State University, the estimated expenditures based on record kept by the project staff was $7,875.00 as of January 31, 1976. The amount of funds budgeted for the period was $8,130.00. Therefore, there was an underrun of $255.00 (3.0%) as of January 31. The difference did not affect the total expenditure for the project.

(2) Given below is the time commitment expected of staff members as of January 31, 1976. Also given is the actual time spent by staff members during that period. This information is divided into staff time supported by funds from the Oregon Department of Education and staff time contributed by Oregon State University to the project.

Source of Funding for Position	Type of Commitment (in hours)		
	Expected	Actual	Difference
ODE	752.2	881	+128.8
OSU	137.6	235	+ 97.4
Total	889.8	1116	+226.2

3. FEBRUARY 1, 1976 to MARCH 31, 1976

a. Major activities accomplished.

(1) Activities 4.1 and 4.2. Project staff members completed the review of appropriate documentation on seventy-two research and exemplary projects available at Oregon State Department of Education. A project staff member then met with a representative of the local educational agency or community college or university that contracted for each of the projects. In many cases, additional documentation was acquired during these visits. With the exception of one project, data collection was completed on March 30, 1976.

(2) Activities 3.3 and 4.3

(a) The entire decision-making process was developed to increase the reliability of deciding whether or not materials and processes produced during research and exemplary projects were "promising practices." All practices identified during the data collection phase of this project were compared with the selection criteria in this manner.

(b) From the seventy-two research and exemplary projects, sixty-six practices were identified (it shoud be noted that a "project" was funded for one fiscal year, and one or more continuation projects were sometimes needed to produce the desired materials and/or procedures). Based on the decision-making process, 20 products and/or processes were identified as "promising practices", an additional 23 were recommended as promising practices but with reservation because of one or more deficiencies. The deficiencies were primarily a lack of valid

evidence on the practice's effect on students and/or the instrumental population (teachers, counselors, etc.) or the absence of a means, comprehensive and comprehendible documentation to transport the practice from the developing site to other sites. Twenty-three (23) processes and/or procedures were judged as inadequate for designation as promising practices because they did not meet two or more of the selection criteria.

(c) A description of each of the products and/or processes designated as "promising practice" or a "promising practice with reservation" was prepared for the handbook: Promising Practices in Oregon Career and Vocational Education. The descriptions of those designated "with reservation" were sent to members of the Steering Committee for review. A copy of the description of each promising practice with a publications release form was sent to the appropriate person at the field site for review, suggested revisions, and approval by an appropriate official of the agency.

(d) The handbook's cover, preface, introduction, section dividers, and glossary were developed and reviewed by the Steering Committee at its meeting on April 2th.

b. Major problem(s) encountered during the reporting period: None

c. Fiscal

(1) Because of the accounting practices at Oregon State University, the estimated expenditures based on records kept by the project's staff were $15,601.00 as of March 31, 1976. The amount of funds budgeted for the period was $15,600.00.

(2) Given below is the time commitment expected of staff members as of January 31, 1976. Also given is the actual time spent by staff members during that period. This information is divided into staff time supported by funds from the Oregon State Department of Education and staff time contributed by Oregon State University to the project.

Source of Funding for Positions	Amount of Commitment (in hours)		
	Expected	Actual	Difference
ODE	1515.9	1694.5	+178.6
OSU	240.8	298.0	+ 57.2
Total	1756.7	1992.5	+235.8

4. APRIL 1, 1976 to JUNE 30, 1976

a. Milestone(s) and Events:

(1) Process objective 4.2, completion of the Handbook and Technical Report, were completed during this reporting period. Two-hundred and fifty (250) copies of the Handbook were produced prior to the Spring Conference of the Oregon Council of Career and Vocational Administrators on April 29-30. A draft of the Technical Report was completed by June 3, 1976.

(2) The last Steering Committee meeting was held on April 2. The major item on the agenda was the review of the 23 practices designated " with reservation". It was decided that 20 of these practices would be included in the Handbook. Therefore, a total of 40 practices were reported in the Handbook. It was also decided that the deficiency for each of the practices included with reservation in the Handbook will be identified in the summary box of its description. Examples of descriptors are: "No evidence on student performance" and "User's handbook in process".

b. Major activities accomplished by the end of the project:

(1) The publication releases on all Promising Practices were acquired by the project's staff. On April 15, the camera-ready copy of the Handbook was forwarded to Oregon State University's duplication facilities for printing, collation, drilling, and wrapping in transparent covering. A copy of the Handbook was sent to the contact point for each practice with an appropriate transmittal letter. A copy was also sent to each member of the Steering Committee, and copies sent to the State Department of Education's project officer.

(2) The Handbook and the project's activities were presented during the Spring Conference of the Oregon Council of Career and Vocational Administrators at the Inn at Otter Crest on April 29. One-hundred copies of the Handbook were available for distribution at this time. A brief survey was administered at the end of the presentation.

(3) A draft of the Technical Report and an executive summary were prepared by the project's staff and sent to the Oregon Department of Education's project officer for review and comments. Because the Technical Report was significantly more comprehensive than initially conceived, it was not completed by April 30. It was completed on June 3, 1976. Only a limited number of copies of the Report were prepared because of the sensitive nature of the information contained in it and an early decision by all parties involved in the project that it would be made available only to ODE project staff.

(c) Major problem(s) encountered: None.

(d) Fiscal, See Section D, Budget Recapitulation.

C. SUMMARY AND CONCLUSIONS

SUMMARY

Seventy-two vocational research and exemplary projects, conducted during fiscal years 1970-75, were reviewed during this project. From these 72 projects, sixty-six potential practices were identified. For the purposes of this project, practices were defined as: products and/or processes that addressed a significant career development problem. A project was a funded enterprise that could require one or more years to produce a practice. In some cases, a practice could be produced through a research (Part C of P.L. 90-576) or exemplary (Part D) effort or a combination of research and exemplary projects or a combination of exemplary projects.

Of the sixty-six practices examined, forty were judged to meet a significant educational problem, to perform effectively, and to be transportable (see Table 1). Those forty practices were included in the Handbook. However, twenty of these were deficient in evidence on the effectiveness of the practice or means for facilitating transportability and were included in the Handbook with reservation. Therefore, twenty-six practices were judged insufficiently documented or lacking in evidence and were not included in the Handbook.

Figure 1 shows the locations of the institutions in which Promising Practices, i.e., those practices included in the Handbook, were developed and implemented.

As can be seen in Table 2, the largest number (12) of Practices included in the Handbook addressed two or more career development levels, e.g., career awareness, career exploration, etc. It should be noted that the largest number (19) of Practices was intended for the career exploration level. Although more Practices intended for career awareness, career preparation, career

Table 1 NUMBER AND PERCENTAGE OF PRACTICES IN EACH SELECTION CATEGORY

SELECTION CATEGORY	Practices	
	Number	Percentage
Included in Handbook	20	30.3%
Included with Reservation	20	30.3
Not Included	26	39.4
Total	66	100.0%

Table 2 NUMBER AND PERCENTAGE OF PRACTICES BY CAREER DEVELOPMENT LEVEL AND BY WHETHER OR NOT THE PRACTICE IS INCLUDED IN THE HANDBOOK.

Career Development Level		Inclusion in Handbook					
		Yes		No		Total	
		No.	%	No.	%	No.	%
Career Awareness	No.	9	22.5%	6	23.1%	15	22.7%
	%	60.0%		40.0		100.0%	
Career Exploration	No.	8	20.0	11	42.3	19	28.8
	%	42.1%		57.9		100.0%	
Career Preparation	No.	8	20.0	5	19.2	13	19.7
	%	61.5%		38.5%		100.0%	
Career Specialization	No.	3	7.5	2	7.7	5	7.6
	%	60.0%		40.0%		100.0%	
More than One	No.	12	30.0	2	7.7	14	21.2
	%	85.7%		14.3%		100.0%	
Total	No.	40	100.0%	26	100.0%	66	100.0%
	%	60.6%		39.4%		100.0%	

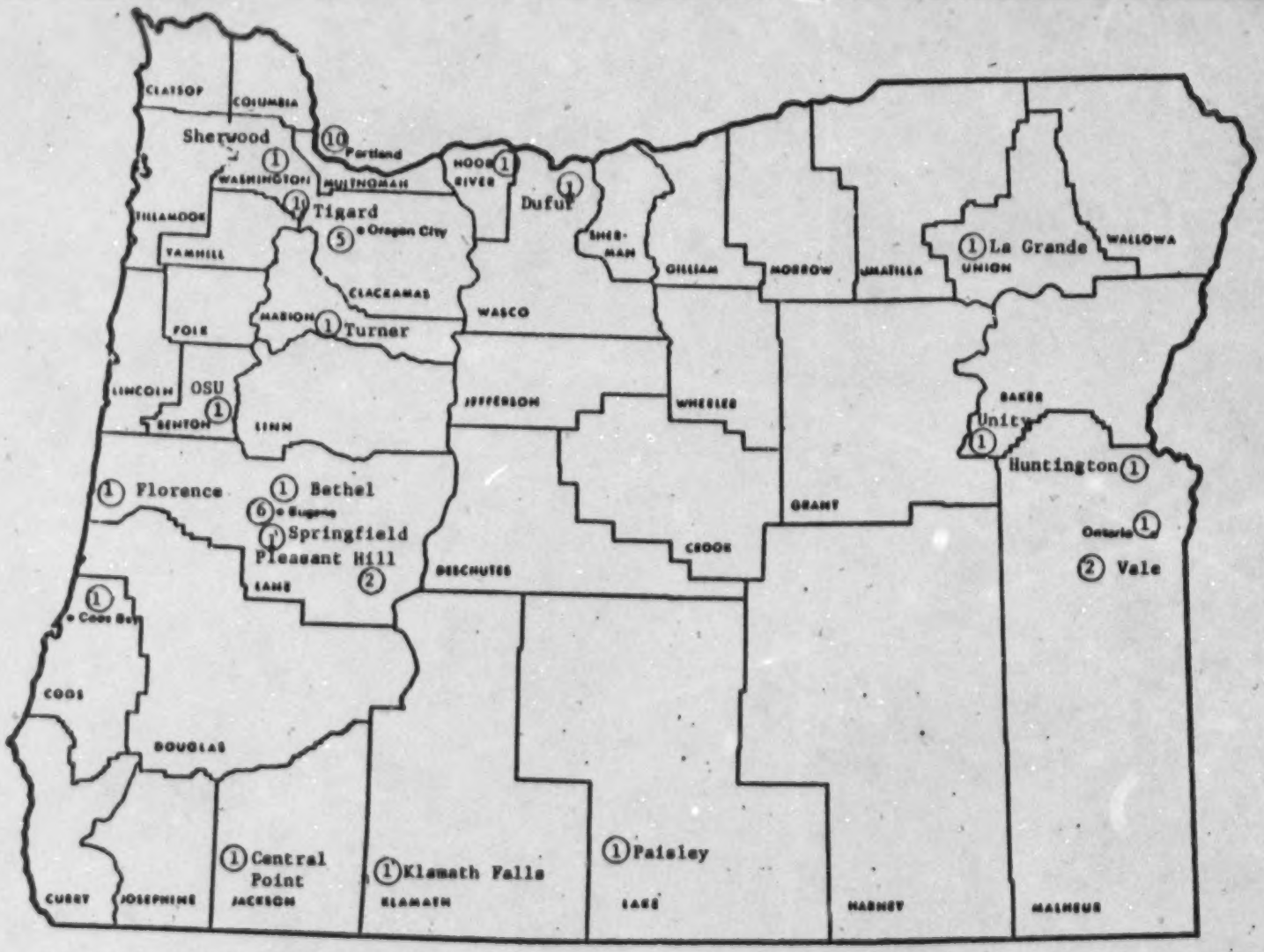


Figure 1. PROMISING PRACTICE SITES VOCATIONAL RESEARCH AND EXEMPLARY PROJECT SITES *

* The number within the circle represents the number of Practices developed.

specilization, and more than one career development level were included than were excluded from the Handbook, a greater proportion (57.0 percent) of practices intended for career exploration level were excluded from rather than included in the Handbook.

Table 3 shows the educational level at which each of the Promising Practices intended to impact on. As can be expected, the largest number (13) Practices impacted or were intended to impact on students in more than one educational level. Three career exploration practices impacted on educational levels other than the junior high/middle school (Table 4). A variety of key words or descriptors was used by personnel of the vocational research and exemplary projects to describe their Promising Practices (see Table 5). The descriptors used most often were "staff development" (16), "articulation" (12), and "interdisciplinary" (16).

Fiscal Characteristics

An approximately equal number of practices was produced using research and training funds (Part C of P. L. 90-576) and exemplary (Part D) funds (see Table 6). However, a greater proportion of practices produced with exemplary funds was included in the Handbook than with research funds (73.1 percent vs. 30.8 percent, respectively.) It should be further noted that a relatively large number (14) of practices developed with exemplary funds was included in the Handbook with reservation, i.e., they were deficient in evidence of effectiveness or had limitations in their transportability.

The median level of funding for exemplary projects was $13,333 and for

Table 3 NUMBER AND PERCENTAGE OF PRACTICES INCLUDED IN THE HANDBOOK BY EACH IMPACT LEVEL.

Impact Level	Practices	
	No.	Percentage
Elementary	9	22.5%
Middle/Junior High	5	12.5
High School	10	25.0
Community College	3	7.5
More than One	13	32.5
Total	40	100.0%

Table 4 NUMBER OF PRACTICES INCLUDED IN THE HANDBOOK BY CAREER DEVELOPMENT LEVEL AND BY IMPACT LEVEL

Career Development Level	Impact Level					
	Elementary	Middle/ Junior High	High School	Community College	More than One	Total
Career Awareness	9					9
Career Exploration		5	2		1	8
Career Preparation			8			8
Career Specialization				3		3
More than One Level					12	12
Total	9	5	10	3	13	40

Table 5 NUMBER OF PRACTICES INCLUDED IN THE HANDBOOK BY EACH KEYWORD* AND BY EACH CAREER DEVELOPMENT LEVEL

Keyword	Career Development Level				
	Awareness	Exploration	Preparation	Specialization	More than One Level
Administration	1	1	0	1	3
Agriculture Education	0	11	0	0	0
Applied Research	0	0	1	0	0
Articulation	6	4	1	1	12
Assessment	1	0	0	0	0
Basic Education	0	1	1	0	2
Basic Skills	0	1	1	0	2
Business Education	0	1	2	1	4
Cluster Orientation	0	3	0	0	0
Community Resources	1	0	11	1	4
Competency-Based	0	0	1	0	0
Computerized Record-keeping	0	0	1	0	0
Consumer Education	1	0	0	0	0
Coordination	1	0	0	0	0
Counseling	1	0	0	0	0
Cruise	0	1	0	0	0
Cirricula Change	3	0	2	[illegible]	7
Differentiated Staffing	2	10	1	0	13
Disadvantage/Handicapped	1	2	2	0	5
Demonstration Center	1	0	0	0	0
Economic Education	0	1	0	0	0
Educational Services, Contracting of,	1	11	0	0	3
English Education	0	1	1	0	2
Guidance	6	2	1	0	0
Health Education	0	1	0	0	0
Home Economics	0	2	0	0	0
Industrial Arts	0	2	0	0	0
Individualized Instruction	0	0	1	1	0
Interdisciplinary	8	4	4	0	0
Life Roles	1	0	0	0	0
Management, Program	1	0	0	1	0
Mathematics	0	1	0	0	0
Media	0	2	1	2	0
Mobile Laboratories	2	1	0	0	0
Music Education	0	1	0	0	0

*All practices described by two or more key words

Table 5 (Continued)

Keyword	Career Development Level				
	Awareness	Exploration	Preparation	Specialization	More than One Level
Open Entry-Open Exit	0	0	1	1	0
Planning, Program	0	0	1	1	0
Publicity	0	0	1	0	0
Reading Programs	1	0	2	0	0
Second Language	0	1	0	0	0
Science Education	0	1	1	0	0
Social Studies	0	2	0	0	0
Staff Development	9	3	2	2	0
SUTOE	0	1	2	0	0
Work Experience	0	1	2	0	0
World of Work	0	1	0	0	0

Table 6 NUMBER AND PERCENTAGE OF PRACTICES INCLUDED IN THE HANDBOOK BY FUNDING SOURCE

Selection Category	Source of Funding: Research No.	Research %	Exemplary No.	Exemplary %	Both No.	Both %
Practice Included in Handbook	9	27.3%	9	30.0%	2	66.7%
Practice Included with Reservation	6	18.2	14	46.7	0	00.0
Practice Not Included in Handbook	18	54.5	7	23.3	1	33.3
Total	33	100.0%	30	100.0%	3	100.0%

Table 7 MEDIAN FUNDING LEVELS FOR PRACTICES INCLUDED IN HANDBOOK BY FUNDING SOURCE

Selection Category	Median Funding Level: Research	Exemplary
Practice Included in Handbook	$11,250	$11,250
Practice Included with Reservation	$10,000	$16,250
Practice Not Included in Handbook	$3,750	$12,500
Total	$5,357	$13,333

research projects was $5,357 (Table 7).* The median level of funding for exemplary practices included in the Handbook approximated the median level for exemplary practices excluded from the Handbook. However, the median funding level for research practices included in the Handbook was considerably higher than funding level of research practices exluded from the Handbook. Table 8 shows that a greater proportion of research-generated practices excluded from the Handbook was funded at $5,000 or less. Overall, practices developed with $5,000 or less were less likely to be included in the Handbook than were practices developed with more than that amount (Figure 2). It should be noted that the rate at which practices were included in the Handbook increased less rapidly above a funding level of $15,000 than between $5,001 and $15,000.

As expected, the more recently completed practices were more likely to be included in the Handbook than those funded during earlier fiscal years (Figure 3). During, fiscal year 1975, however, the proportion of practices included in the Handbook with reservation (42.9 percent) was relatively high as compared to prior fiscal years.

Thirty-five percent of the practices included in the Handbook were developed over two or more fiscal years (Table 9). Practices developed over two or more fiscal years were also more likely to be included in the Handbook than those funded for only one fiscal year (77.8 percent and 54.2 percent, respectively).

---

*The amount of funds expended by each project during each funding year was corrected for inflation. The correction factors used for each fiscal year were as follows: 1970 - 1.449; 1971 - 1.399; 1972 - 1.359; 1973 - 1.281; 1974 - 1.135; and 1975 - 1.000. These correction factors were based on the consumer price indices reported in the Handbook of Basic Economic Statistics (Washington, D.C.: Bureau of Economic Statistics, Inc., January 1976).

Table 8 NUMBER OF PRACTICES AT EACH FUNDING LEVEL BY FUNDING SOURCE AND BY WHETHER OR NOT THE PRACTICES WERE INCLUDED IN THE HANDBOOK

Funding Level (in $)	Funding Source: Research Yes	Research No	Exemplary Yes	Exemplary No	Total* Yes	Total* No
0-5,000	4	12	5	1	9	13
5,000-10,000	3	4	5	2	8	6
10,000-15,000	3	1	2	1	5	2
15,000-20,000	1	1	6	1	7	2
20,000-25,000	0	0	2	0	2	0
25,000-30,000	1	0	2	1	3	1
30,000+	3	0	1	1	4	1
Total	15	18	23	7	38	25

Table 9 PERCENTAGE OF PRACTICES FUNDED FOR ONE OR TWO OR MORE YEARS BY SELECTION CATEGORY

Selection Category for Practice	Number of Years Funded: One No.	One %	Two or More No.	Two or More %
Included in Handbook	12	25.0%	8	44.4%
Included with Reservation	14	29.2	6	33.3
Not Included	22	45.8	4	22.2
Total	48	100.0%	18	100.0%

* Does not include 3 Practices funded as both research and exemplary projects.

Figure 2

Percentage of Practices
Included in the Handbook by Level of Funding

(Corrected for Inflation)

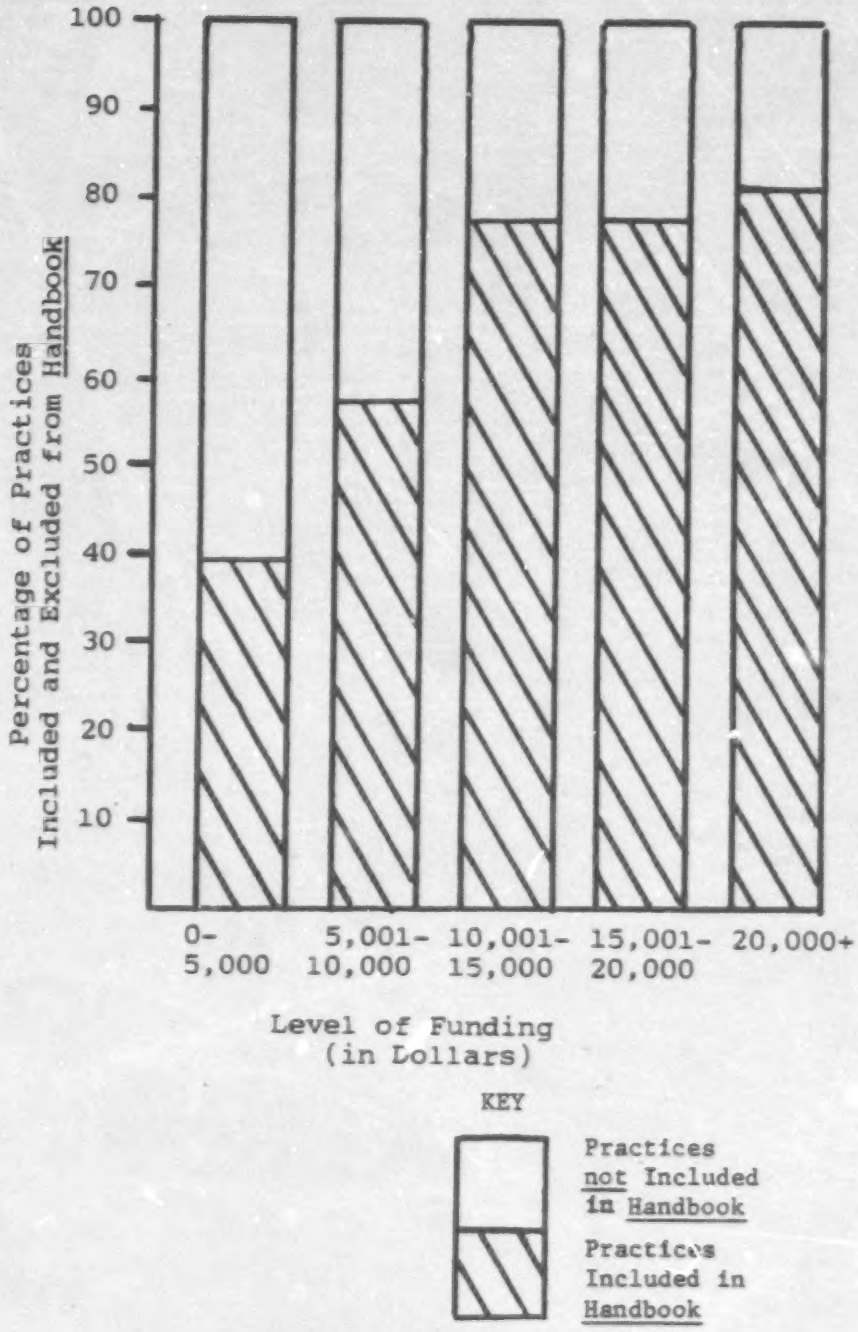
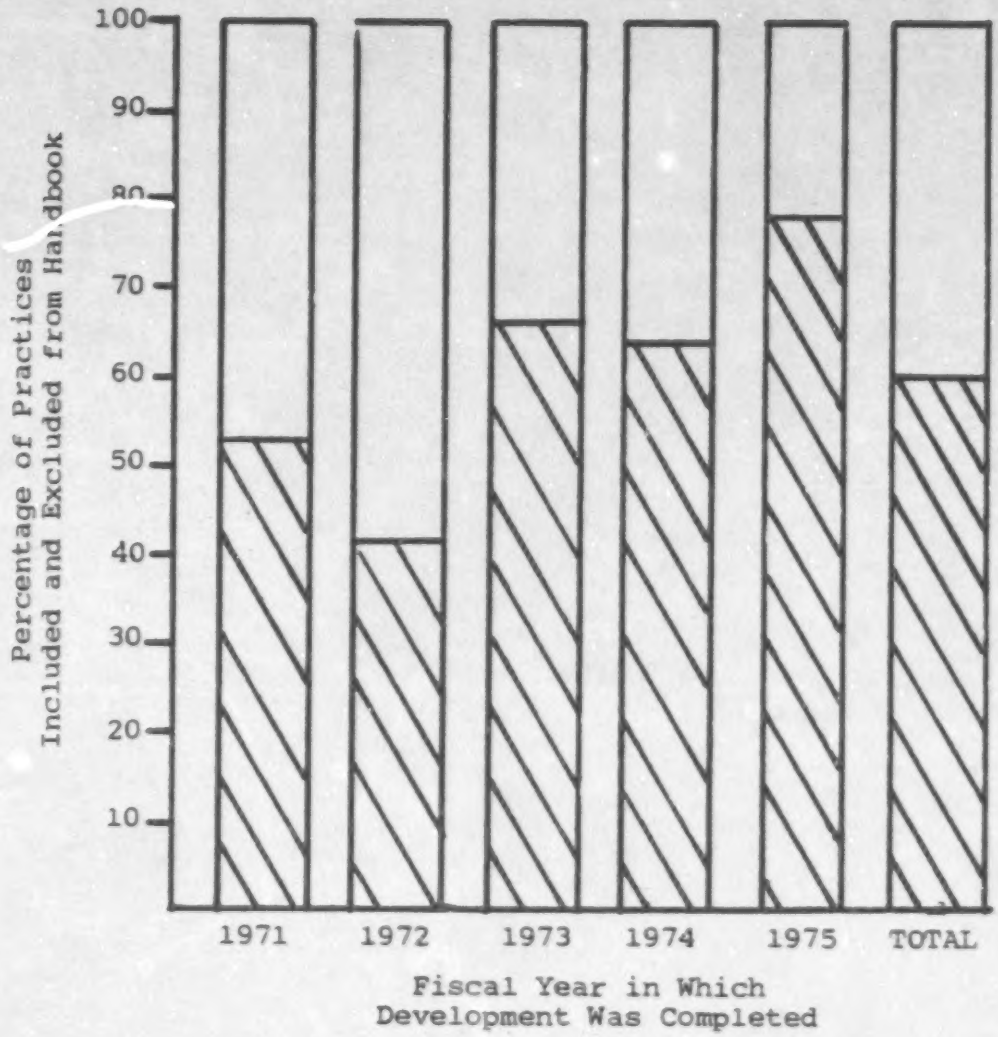


Figure 3

Percentage of Practices
Included in Handbook
by Fiscal Year in Which Development Was Completed



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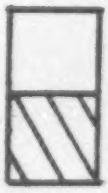


Practices not Included in Handbook

Practices Included in Handbook

Further, it appears that practices developed over two or more years were more likely to be included in the Handbook without reservation than those funded during only one fiscal year.

The largest proportion (70 percent) of practices included in the Handbook was developed under contracts with public school districts (Table 10). Only fifteen percent of the practices included in the Handbook were developed under contracts with community colleges in Oregon. However, practices developed under contracts with public school and intermediate education districts were more likely to be included in the Handbook than practices developed by other agencies (Table 11).

Table 10 NUMBER AND PERCENTAGE OF PRACTICES IN THE HANDBOOK BY CONTRACTING AGENCY

Contracting Agency	Practices	
	Number	Percentage
Public School	28	70.0%
Community College	6	15.0
University	1	2.5
IED	5	12.5
Total	40	100.0%

Table 11 NUMBER AND PERCENTAGE OF PRACTICES BY CONTRACTING AGENCY AND BY SELECTION CATEGORIES

Selection Categories	Contracting Agency									
	Public School		Community College		University		IED		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
Practice Included in Handbook	17	38.6%	0	0.0%	0	0.0%	3	37.5%	20	30.3%
Included with Reservation	11	25.0	6	50.0	1	50.0	2	25.0	20	30.3
Not Included	16	36.4	6	50.0	1	50.0	3	37.5	26	39.4
Total	44	100.0%	12	100.0%	2	100.0%	8	100.0%	66	100.0%

Development, Evaluation, and Documentation of Practices

The adequacy of the methodologies used to develop and evaluate practices varied widely among projects. However, the methodologies tended to be generally less than adequate. Table 12 shows the levels at which acceptable evidence was present to determine whether or not practices were effective, that is, accomplished what they intended to do. Nearly all projects implicitly or explicitly intended to affect student behaviors; but only a relatively few could provide evidence that students ultimately benefitted from the practices that were developed. Of the seventeen practices included in the Handbook that had evaluative data on student achievement, nearly all had only partial evidence of desired outcomes. Furthermore, for 23.1 percent of the practices, the only evidence on effectiveness was the degree to which the developmental methodology used appeared to be adequate. The actual effectiveness of these practices is speculative because a sound developmental methodology only enhances the extent to which a resulting practice will be effective. Although sound developmental methodology does not guarantee the effectiveness of a resulting practice.

It was assumed that a practice was more transportable to another environment if its documentation was complete. That is, there appeared to be a relationship between the availability of a practice or its description in hard copy and the degree to which another institution or agency could adopt it, most likely after adapting the practice to its own environment. However, the degree to which practices were communicable through means other than word of mouth varied among projects. By definition, all practices included in the Handbook are communicable (Table 13). Most of these were adequately documented in addition to having individuals willing and able to discuss the practices with interested persons. However, a standardized means to disseminate practices is not available.

Table 12 NUMBER AND PERCENTAGE OF PRACTICES BY LEVEL OF ACCEPTABLE EVIDENCE ON EFFECTIVENESS FOR INCLUSION IN THE HANDBOOK

Level of Acceptable Evidence	Practice Included in Handbook: Yes No.	Yes %	With Reservation No.	With Reservation %	No No.	No %	Total No.	Total %
Student Achievement	10	50.0%	7	35.0%	0	00.0%	17	25.8%
Staff Achievement	7	35.0	5	25.0	9	34.6	21	31.8
Developmental Methodology	3	15.0	8	40.0	6	23.1	17	25.8
No Evidence	0	00.0	0	00.0	11	42.3	11	16.7
Total	20	100.0%	20	100.0%	26	100.0%	66	100.0%

Table 13 NUMBER AND PERCENTAGE OF PRACTICES BY LEVEL OF COMMUNICABILITY OF THE PRACTICE

Communicability of Practice	Practice Included in Handbook: Yes No.	Yes %	With Reservation No.	With Reservation %	No No.	No %	Total No.	Total %
Yes	18	90.0%	16	80.0%	2	7.7%	36	54.6%
Partial	2	10.0	4	20.0	2	7.7	8	12.1
No	0	00.0	0	00.0	22	84.6	22	33.3
Total	20	100.0%	20	100.0%	26	100.0%	66	100.0%

Documentation on the development of practices included proposals, quarterly or interim reports, and final reports. However, the existence of documentation and the adequacy of available documentation varied markedly among practices. Although staff members of the Oregon Department of Education were more than willing to assist this project's staff to acquire needed documentation, a large amount of information had to be collected during field visitations.

Although not conclusive, it appears that the sixty-six practices could be characterized in other ways. A majority of the staff members interviewed indicated that staff commitment, whether it involved the availability of staff time, teachers' attitudes and/or administrators' attitudes, was a key condition to the success or failure of a developmental effort. From another perspective, practices that had some degree of staff involvement as a part of the developmental effort and/or in the form of staff development tended to be designated "promising" more often than those that did not.

The first distribution of the Handbook was made to sixty-nine participants who attended the symposium on the review project at the Spring conference of the Oregon Council of Career and Vocational Administrators. Approximately thirty Externs and Interns in the Oregon Career and Vocational Education Leadership Development Program and Oregon State University's Education Professions Development Act Program also attended the symposium but received copies of the Handbook after the conference. All participants were asked to critique the Handbook, although they had only a minimum amount of time to study the Handbook. Seventy-two persons returned a copy of the critique form (Appendix P). Almost all respondents indicated a positive attitude toward the Handbook. Nearly all respondents felt that the Handbook was adequate.

CONCLUSIONS

The following are conclusions pertinent to the funding of vocational research and exemplary projects. They are based on the findings previously described and on the reflections by project staff members as a result of experiences during the conduct of this project.

1. Projects were generally conducted with a high degree of professionalism. However, greater attention needed to be paid to the planning, implementation, and management of projects and the designing and implementation of project and program evaluations.

2. Most practices addressed career development behaviors at the educational level initially concerned with them, e.g., career awareness during elementary grades, exploration at middle or junior high school grades. Only a few practices addressed career development behaviors at a level higher than the initial one.

3. Projects funded at $5,000 through $15,000 appeared to provide the optimum results. Projects funded at less than $5,000 tended to be less that successful. Funding at more than $15,000 did not markedly improve the potential of a project to produce a Promising Practice. Furthermore, projects conducted by public school districts and intermediate educational districts tended to be more successful than those conducted by other types of agencies.

4. More practices would have been designated as "Promising" if means were available for communicating them to others. Inadequate documentation and unavailability of material were primary deterrents to the communication of practices.

5. The Handbook is being viewed positively by practitioners. However, its effectiveness should be further studied.

D. BUDGET RECAPITUALATION AS OF JUNE 30, 1976

	FEDERAL COSTS	LOCAL COSTS	TOTAL COSTS
A. Personnel—Including Employe Benefits			
1) Staff - List Names			
Brown, Brian	$ 994.00		
Dille, Jeane	4833.00		
Pence, John	1370.00		
Sedgwick, Lorry	2800.00		
Kenneke, Larry		$1650.00	
Suzuki, Warren		2262.00	
Cox, Wanda	1600.00		
Hamilton, Jacque	904.75		
Shore, Gwendolyn	299.70		
2) Consultants - List Names			
Nat Etzel	300.00		
Rod Juranek	300.00		
Earl McCollum	300.00		
Marvin Rasmussen	300.00		
Judy O'Haver Small	300.00		
Wayne Courtney		252.00	
Joel Galloway		252.00	
Anne Keast		252.00	
Bill Perry		252.00	
Sharon Wallace		252.00	
Employe Benefits	1920.21	775.80	$22169.46
B. Travel	2478.28		2478.28
C. Tuition for GRAs		1410.00	1410.00
D. Supplies			
Duplicating		200.00	
Printing	432.00		
Communications	20.63	80.00	
Paper, Misc. Supplies	81.70	100.00	914.33
E.			
F. Indirect Costs @ 8% of all direct costs.	1538.73		1538.73
Column Totals	$20,773.00	$7737.80	$28,510.80

E. RECOMMENDATIONS

Based upon the findings of the review project, discussed at length in the Technical Report, the following recommendations are offered:

1. Encourage active participation of potential users in the planning and/or development of projects' processes and materials.
2. Incorporate third-party evaluation as early as possible and as an integral part of the project's planning stage as well as the developmental stage.
3. Provide technical assistance for practitioners wishing to submit proposals to include all aspects of writing, implementing, documenting and evaluating funded proposals.
4. Provide technical assistance to potential grantees on product and process evaluations and on the importance of securing valid evidence on student and/or staff performance.
5. Establish clearly defined criteria for the selection and awarding of funds.
6. Maximize the use of steering and/or advisory committees to provide guidance for and accomplish validations of project efforts.
7. Provide technical assistance to grantees in the following areas: using third-party evaluators, conducting self assessments, and planning and managing programmatci efforts.
8. Develop means by which materials produced by completed projects can be distributed to potential adopters.
9. Develop means by which revisions to Promising Practices can be included in the descriptions in the Handbook.
10. Conduct an annual review of career and vocational research and exemplary projects; update the Handbook descriptions as well as the "see also" or cross-references, glossary, and index.

E. RECOMMENDATIONS (continued)

11. Develop means by which outdated Promising Practices can be identified and removed from the Handbook.

ACCESSION NUMBER: VT103396

PUBLICATION DATE: AUG75

TITLE: CAREER NEEDS ASSESSMENT FOR MERGED AREA IX.

PERSONAL AUTHOR: SCHULTZ, RICHARD

DESCRIPTOR: *CAREER EDUCATION; *NEEDS ASSESSMENT; SCHOOL SURVEYS; COMMUNITY SURVEYS; *EDUCATIONAL NEEDS; SCHOOL DISTRICTS; TABLES (DATA); QUESTIONNAIRES; FACILITY INVENTORY; *EDUCATIONAL RESOURCES

EDRS PRICE: MF AND HC AVAILABILITY WILL BE ANNOUNCED IN VOL. 10, NO. 2.

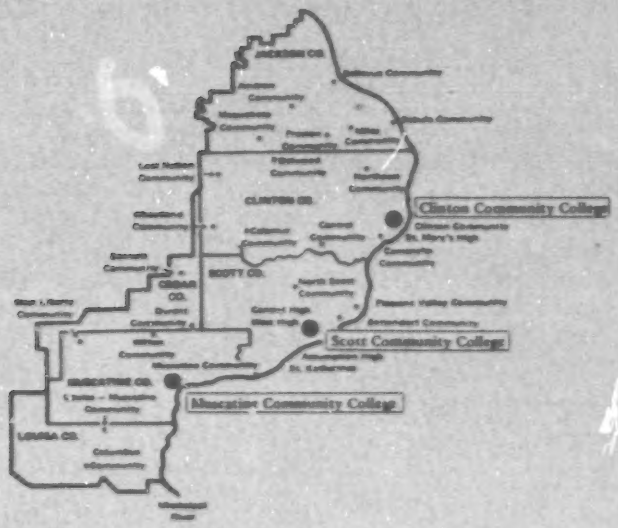
DESCRIPTIVE NOTE: 148P.

ABSTRACT: THIS STUDY SOUGHT TO DETERMINE STUDENT CAREER EDUCATION NEEDS IN IOWA MERGED AREA IX AND TO IDENTIFY EXISTING RESOURCES FOR RECOMMENDING ALTERNATE METHODS OF CREATING AND FINANCING A COORDINATED CAREER EDUCATION PROGRAM. DATA WERE COLLECTED FROM THE SCHOOL DISTRICTS BY VISITATIONS, CAREER CLUSTER CHECKLISTS, MAILED INTERVIEW FORMS, AND INTERVIEWS WITH EDUCATIONAL PERSONNEL AND STUDENTS. OTHER SOURCES OF INFORMATION WERE SOCIAL SERVICES AGENCIES, BUSINESS, INDUSTRY, LABOR, POSTSECONDARY INSTITUTIONS, AND MANPOWER PROJECTIONS. BRIEF INDIVIDUAL DISTRICT PROFILES BASED ON THE COLLECTED DATA APPEAR IN THE REPORT. DATA COMPILED FROM EACH DISTRICT ARE REPORTED IN THE FOLLOWING FOUR CATEGORIES: (1) CAREER EDUCATION ATTITUDE SURVEY--TEACHERS, NON-TEACHERS, STUDENTS, AND CITIZENS; (2) SURVEY OF HELPING RELATIONSHIPS; (3) INTERVIEW FORMAT; AND (4) CAREER CLUSTER CHECKLIST. THE DATA ARE PRESENTED ON THE BASIS OF FOUR PROPOSED CAREER CENTERS. APPENDIXES CONTAIN MERGED AREA IX'S CAREER EDUCATION DEFINITIONS; MODEL FOR CAREER DEVELOPMENT; POPULATION TRENDS; ENROLLMENT PROJECTIONS; SCHOOL DISTRICT DATA FORMS; SOCIAL SERVICE AGENCIES DATA; BUSINESS, INDUSTRY, AND LABOR DATA; AND COMMITTEE MEMBERSHIP LISTS. (NJ)

INSTITUTION NAME: EASTERN IOWA COMMUNITY COLL. DISTRICT, DAVENPORT.

VT 103 396

CAREER NEEDS ASSESSMENT FOR MERGED AREA IX



EASTERN IOWA COMMUNITY COLLEGE DISTRICT

CLINTON COMMUNITY COLLEGE
SCOTT COMMUNITY COLLEGE
MUSCATINE COMMUNITY COLLEGE

August, 1975

2

VT 103 396

CAREER NEEDS ASSESSMENT

FOR

MERGED AREA IX

EASTERN IOWA COMMUNITY COLLEGE DISTRICT

Davenport, Iowa

August, 1975

Richard Schultz, Initiator/Supervisor

Timothy E. Paul, Director

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PROLOGUE

The infra materials represent the work product of a local-state-federal project. Whenever data is missing or not listed, it is due to either an insufficient or no response to the item. Two documents were published because they serve two totally different purposes: how-to and examples as opposed to research and analysis.

The many educators, professionals and support staff who contributed to this project's completion are sincerely thanked. More importantly, I thank my wife, Linda, for enduring the long hours and piles of paper that are indigenous to a research project of this sort.

INTRODUCTION

Career Education was initially used as an educational concept by Dr. Sidney Marland in 1970. At that time, Dr. Marland established a "paper priority" for public education in the United States. From that initial statement a total transition was begun in the area of public education.

Each of the fourteen merged area school districts has now either begun or completed a Career Needs Assessment Project. Utilizing federal-state-local funds, the EASTERN IOWA COMMUNITY COLLEGE DISTRICT (EICCD or Merged Area IX) has functioned as the contracting agent to conduct the project in this district. By obtaining the cooperation of the local public school districts, social agencies and local business-industry-labor a comprehensive scope of the career education needs for Merged Area IX was obtained. The resultant Master Plan reflects the Career Education Needs for the entire district.

Merged Area IX contains all of Scott, Clinton, and Muscatine Counties plus part of Louisa, Johnson, Jackson, and Dubuque Counties. Its total area is 2,466 square miles with a population of 265,333 people. Twenty-two of the local public school districts were involved in the project. Social Service Agencies which actively function in the district were selected for inclusion. EICCD has three colleges under its dominion. Each of these was included; a total of 15,132 students enrolled at the three colleges: 12,046 in Adult Education classes, 1,849 in Career Programs, and 1,237 in College Parallel programs.

The primary intent of this project was to determine constituent needs, identify existing resources, and recommend alternate methods

of both creating and financing Merged Area IX's progress towards a coordinated and integrated career education program.

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WHY?

Theories abound concerning the present emphasis on career education. One source argues the concept was a reaction to over-emphasis upon technology since the sputnik era with the new emphasis upon individual students and their interests. The final report of Merged Area XII appears to argue that the entire concept evolved naturally from legislative enactments. Hoyt details a public mandate to reform American education so it will be more relevant-accountable to society's expectations.

For this project, three separate, yet convergent areas were identified as partial origins of the concept of career education as it exists today.

1) Previous legislative mandates for changes in education have dealt with isolated segments of that field. With the recent U. S. Office of Education Position Paper dealing with Career Education, the intent to totally revamp public school education becomes evident. The Department of Public Instruction's underwriting of career needs assessments for all fourteen Merged Areas in Iowa evidences the state's commitment to this concept (65th General Assembly, SF 126; 1974 amendments to the Iowa Code, 257.25 Sec. 11).

2) In the existing economy, it becomes even more imperative for education to be able to justify and account for its expenditures. Career Education, by assisting the development of the students' interests and attitudes and by preparing the student for the world of work, would serve as a more objective means of accountability (A national policy on Career Education; National Advisory Council on Vocational Education; September, 1974).

3) P. A. R. C. verus Pennsylvania, Rodriguez verus San Antonio, and related judicial decisions reemphasized the individual's federal right to a public school education. Career Education serves as a vehicle for helping each individual

CAREER EDUCATION: OPERATIONAL DEFINITIONS AND MODEL

Merged Area IX attempted to synthesize a definition of career education that was as broad as possible. Three organizational definitions were identified as offering an initial framework within which more specific portions of the career education concept could be isolated (November, 1974, An Introduction to Career Education United States Office of Education Policy Paper, September, 1974; A National Policy on Career Education, National Advisory Council on Vocational Education; and 1973, Models for Career Public Instruction in Iowa: Career Development Model and Explanation, Department of Public Instruction, Des Moines, Iowa).

During the assessment process six points were identified as being critical to the development of a comprehensive definition of career education. It was not presumed that these points were the only ones of importance. Rather, it was determined that without recognizing each of them, and including each of them in any planning, a program would be woefully deficient. They represented an irreducable minimum in regard to identifying the essential component elements of a comprehensive definition of career education.

The third part of Merged Area IX's operational definition of career education involved the process of adapting each of the five stages of career education as established by the "Iowa Project" (Models for Career Education in Iowa, "Career Development Model and Explanation", Iowa State University - Career Education Division, Department of Public Instruction, 1973). Rather than adopt the lengthy definitions used by the "Iowa Project", Merged Area IX attempted to summarize them. An additional modification was to insert

the neutral word "per" rather than the sexist use of the words "his" or "her".

In an effort to remain current, Merged Area IX did adopt the more recent "Model for Career Development". Rather than using the original dual-spiral model, Merged Area IX used the dual-trapezoid model (Models for Career Education in Iowa, "Career Development Model and Explanation", Iowa State University - Career Education Division, Department of Public Instruction, 1973).

Both Merged Area IX's Career Education Definitions and Model for Career Development are in the appendix. The former is on page C-1; the latter, on page C-2.

POPULATION TRENDS

Merged Area IX - Communities

From 1960 to 1972 Iowa has experienced a greater percentage decrease in its birth rate than the United States as a whole (Update, Figures 2 and 3). The actual population in Iowa decreased from 1950 to 1970 primarily due to death and migration (Update, Table 2). From 1960 to 1973 the percentage of natural increase in Iowa declined due to a decrease in births (Update, Table 3). The apparent out migration of Iowa's young adults from 1960 to 1970 resulted in a decrease in the population age nine and below (Update, Table 2). During that same decade, Merged Area IX had a percentage decrease in the population five years old or less (Update, Table 5).

Merged Area IX is one of the major industrial complexes in Iowa. As a result, the population trends in the state are less applicable to this merged area. During the 1960 to 1970 period, each county in Merged Area IX increased its population (Update, Figure 1). Through 1972, each county had additional percentage increases; Jackson the highest, Louisa the most consistent, and Scott the largest decline in its percentage increase (Update, Table 1).

Caution must be exercised in generalizing this atypical growth. Each of the five major counties in the merged area had a decrease in its birthrate from 1955 to 1971 (Update, Table 4). In 1972, each year of children below age five was smaller than the year just above it (Update, Table 6). The number increase, since it is not due to birth, is coming from in-migration of families with preschool age children. The major in-migration is of adults seeking employment in the local

industry. This movement is reflected in Merged Area IX's population increase. The adults represent an apparently accessible group for educational purposes.

Additional evidence of Merged Area IX's growth, and a comparison with Iowa's growth, is provided by Appendix 3. That appendix has the merged area divided into counties and subdivided into civil divisions and the balance of the county. With the exceptions of the Cedar, Louisa and Dubuque portions of Merged Area IX, the counties reveal a pattern of growth. The Eldridge and Bettendorf areas of Scott county and Camanche in Clinton county all represent a percentage increase greater than fifty percent (50%) in 1960 and 1970. Each of these communities is a bedroom district to the existing labor complex. Since 1940, Merged Area IX has at least doubled the state's percentage increase in population.

Merged Area IX - Local Educational Agencies

The mean survival ratio technique was used to project enrollments for each district in Merged Area IX (A Master Plan for Implementation of Career Education in Area XII, page IV-F.1 and Planning Study to Determine the Career Education Needs for Merged Area V, page 8). All enrollment and dropout data was obtained from the Secretary's Annual Report 1969-70 through 1973-74. These projections are included in Appendix 4. They are arranged according to the proposed career centers recommended by the project's steering committee. The locations were selected on the basis of three criteria:

1) within thirty miles of each participating school district

2) participating districts, collectively, have an available population of at least 500 prospective students (seniors)

3) the availability of work experience-release stations within the immediate vicinity of the proposed career center

The enrollment projections should be interpreted and utilized with the following parameters:

1) they are only projections, not prophecies; their best use is for planning with annual revisions

2) the "years-MGD" (pre school) is excessively skewed due to the reporting of that data on a two year cycle; thus, the decimal actually represents change over a two year period

3) school district data is reported on a descending year basis to provide data for each grade level

4) the drop that occurs between kindergarten and first grade is probably due to a shift from public kindergarten to parochial primary school

5) the Center data is omitted on alternate years to try to compensate for the skewness caused by the reporting on an alternate year basis

6) multiple errors are likely due to the MGD, being based on enrollment gain in prior years, being applied as a constant to predict future changes in enrollment

7) review of past enrollment yields increases almost annually, but, this tendency is very unlikely to continue, especially at the rates projected

As mentioned, preschool appears to be increasing; yet, primarily due to in migration. The general trend in grades K-5 is towards a decrease in population. This may be partially due to the larger percentage of students attending parochial primary school (K-3) when compared to the percentage enrolled in public school grades K-6

(Update, Table 7). Grades 6-8 generally show an increase, the last of the present natural population increase. In Iowa the apparent separation point was at seventh grade, while Merged Area IX did show some larger classes into fifth grade (Update, Tables 7 and 8). Following these classes through secondary school, 1980 looms as a new era representing nongrowth. The decrease of students in grades 9-12 is disheartening. The most chronic attrition on a state level is in grades 11, 10 and 12 respectively (Update, Table 9). Iowa lost students during 1972 and 1973 for three reasons: out-migration, birth decline, and drop-outs (Update, Figure 10). While the Delmar Community School District retains ninty-nine percent (99%) of its senior class and graduates ninty-nine percent (99%) of those eligible; Davenport, Muscatine and Louisa-Muscatine lose an average of fourteen percent (14%) of the senior class; and Pleasant Valley, Muscatine and Columbus do not graduate an average of nine percent (9%) of the eligible students.

Merged Area IX - Post-Secondary Education

Both Merged Area IX and Iowa have experienced a smaller percentage and a smaller number of high school graduates entering post secondary institutions since 1969 (Update, Table 10). The attendance patterns of Merged Area IX's graduates has had a more severe decrease at two year institutions than either the same decrease on a statewide level or their decrease at four year institutions (Update, Table 10). Approximately forty-two percent (42%) of Merged Area IX's high school graduates were enrolled in institutions of higher education one year after graduation, with twelve percent (12%) of that group attending two year institutions (Update, Figure 12).

Iowa's 1965 to 1973 enrollment patterns reveal changes. Attendance

has decreased by thirteen and nine tenths percent (13.9%) at private colleges and universities while increasing one and seven tenths percent (1.7%) at state universities. Area school Arts and Sciences and Vocational-Technical programs have increased six tenths percent (.6%) and eleven and six tenths percent (11.6%) respectively (Update, Table 14). Private college administrators identify the following as some of the factors contributing to a decline in their student enrollment:

> the teacher "surplus" which has decreased enrollment in those programs which were typically entered by a large percentage of private college graduates
>
> spiraling tuition costs at private institutions
>
> the impact of low-cost two year college programs provided by area community colleges
>
> disenchantment with liberal arts education based upon the perception that it has very little relevance to society
>
> the increasing emphasis on vocational-technical training as an alternate to a college education (Des Moines Register, April 1, 1973).

During the same time period, programs which students entered have also changed. Vocational-Technical increased, particularly the full time enrollment. Full time Arts and Sciences decreased. Female increased in all areas, particularly in Vocational-Technical. Although male Vocational-Technical increased, they have declined since 1970 in Arts and Sciences (Update, Table 15). Appendix 5 shows Merged Area IX has had a large decrease in full time enrollment, but even more significant increases in part time enrollment as of October, 1974.

From 1970 to 1973 particular characteristics of the student population in Iowa's area colleges changed. These changes are revised for Merged Area IX as of September, 1974 in Appendix 6.

1) The percentage of students returning to programs or transferring back increased while students new to higher education decreased (39.6% increased to 50.4% while 60.4% decreased to 49.6% (Update, Figure 26).

2) Both the percentage of students transferring from other colleges and the percentage returning to new programs at the same college increased (3.9% transfers increased to 7.7% and 3.2% new programs increased to 5.4%) (Update, Figure 26).

3) More students were over 22 years of age and, partially due to this phenomena, fewer were single (81.4% typical age range students decreased to 68.1% and 80.6% single decreased to 68.1%) (Update, Figures 27 and 28).

4) While the percentage of veterans increased, the percentage of noncaucasians decreased (14.7% veterans increased to 22.2% while 6.3% noncaucasians decreased to 4.3%) (Update, Figures 29 and 25).

5) Less influence on the student's decision to enroll was provided by parents and high school counselors while admissions counselors and other students exerted more influence (9.1% parental and 42.4% high school counselor influence decreased to 6.7% and 23.7% respectively while 26.4% other student and 7.6% admissions counselor influence increased to 30.4% and 20.2% respectively) (Update, Figure 30).

6) The percentage of students' parents that had not completed high school and grade school decreased while mothers generally completed more education than fathers (fathers 19.8% nonhigh school graduation and 18.7% grade school or less decreased to 17.1% and 18.3% respectively while mothers 15% nonhigh school and 10.1% grade school or less decreased to 12.4% and 9.7% respectively) (Update, Figures 32 and 33).

Partially due to the older age of the students, their part time attendance, and their increased tendency to be employed, fewer students receive financial assistance from their parents. In 1973 there were forty-seven and seven tenths percent (47.7%) of Iowa's area school

students paying their own expenses while in 1974 fifty-eight and eight tenths percent (58.8%) of Merged Area IX's students declared themselves independent of their parents support and seventy-seven and one tenth percent (77.1%) received less than twenty-five percent (25%) of their income from parents (Student Information Questionnaire, 1974).

In Iowa the head count enrollment for credit courses in area schools has increased since their inception in 1966 (Update, Table 12). Merged Area IX is more likely to decrease its credit enrollment in the Fall/Winter quarters and increase in the Spring/Summer quarters (Update, Table 11). Adult education programs typically have the opposite fluctuation. By 1970 fifty-six and seven tenths percent (56.7%) of the population over twenty-five years of age had completed high school (Update, Table 20). Combining this fact with the Iowa Employment Security Commission's 1975 projected increase for all areas of white collar labor and decreases in farming and general labor, it is evident that the community colleges can continue to develop and offer post-secondary training and preparatory programs to a receptive population of potential students.

CONSTRAINTS

Two patterns of movement by people in Merged Area IX exist as limitations on the development of any program. First, since 1960 a literal flight from rural areas has occurred in both the United States and Iowa. The number of farms has decreased, the average size has increased, and the total amount of land being farmed has remained constant. More than seventy percent (70%) of America now lives in urban areas (Update, Table 22). Secondly, each county in Merged Area IX has a net loss of employees when out migration of residents is compared to in-migration of nonresidents (Commuting Patterns in Iowa, "Net Commutation of Iowa Counties", pp. 71-72). As these two phenomena occur, some flight from large urban areas to smaller towns or suburbs (while retaining the same employment within the city), increased specialization requiring further travel to obtain suitable employment, and the tendency of some unemployed farm laborers to remain in rural areas while working in the city all serve to further complicate efforts to implement programs (Commuting Patterns in Iowa, "Introduction"). With such extensive temporal movement, it is quite difficult to identify a stable population which programs could be developed to assist. Over seventeen percent (17%) of Davenport's work force alone is employed in Illinois while ninety-five percent (95%) of Rock Island's 5,130 commuters to Iowa are employed in Scott County (Commuting Patterns in Iowa, "Analysis of Commuting Patterns in Iowa", p. 2). Appendix 7 represents inter-county commuting patterns as of the 1970 census.

Although three community colleges do serve Merged Area IX, they are literally divided in half by the Mississippi River. At this point,

some cooperative ventures are occurring between Scott Community College and Black Hawk College that do traverse the state border. These mutually beneficial exchanges should be encouraged.

In 1971, unemployment rates varied in each county. While these rates have certainly changed due to the present economic situation, it is plausible that their ratio in each county has remained relatively stable. If this is true, Jackson and Louisa would have a higher unemployment rate than Scott or Muscatine. Clinton would be placed between Louisa and Scott (Update, Figure 39). This same hierarchy was validated by 1971 work force unemployment rates (Update, Table 23). The variance in rates of unemployed should suggest alternate programming for the population of that county. Lower unemployment areas would probably be more receptive to leisure time or general interest programs while higher unemployment areas should be more interested in retraining skill programs.

Merged Area IX has a relatively split low income population. As of 1973, Scott County had between six and nine percent (6% and 9%) while Jackson County had eighteen to twenty-one percent (18% to 21%). Clinton, Louisa and Muscatine Counties had nine to twelve percent (9% to 12%) (Update, Figure 40). These differences, although not as dramatic as the unemployment rates, would also very likely suggest alternate programming to meet needs of the different populations. From 1970 to 1973, only Scott and Muscatine counties had a decrease in the number of families designated as impovershed (Update, Table 25). These are the same two counties that had the lowest unemployment rate in 1971.

Perhaps the most discouraging constraint was identified by the project's Social Agencies Committee. Their major client need was for

an acceptance of handicapped or disadvantaged people by the communities. Since 1964's Civil Rights Act, blatant racial discrimination has declined; but, this more sophisticated bigotry still exists. Without accepting each person as an entity capable of contributing to society, career education will remain only educational jargon.

PROCEDURE

School District Data

Merged Area IX was finally authorized to begin its Career Needs Assessment Project in November, 1975. The decision to promptly visit the school districts was based upon two factors:

1) The project director would obtain an overview of the entire merged area and derive information about the structure-organization of each school district.

2) Visibility for the project, and some evidence of the state department of education's willingness to fund career related projects, would be readily achieved.

One apparent disadvantage was the insufficient amount of preparatory time for the director prior to making the initial visit. What became readily evident was the school districts' interest in having a career education specialist-consultant to assist each district with its program. Although the project was not originally directed toward this concern, it has evolved into an attempt to provide the assistance originally requested.

During the initial visit, three sets of data were either obtained or solicited. The Facility Assessment Inventory was completed by the director after inquiries of the personnel. This document was designed solely to yield an overview of the districts offerings, resources utilized, and comments in regard to career education. The request for both an equipment and resources list and an identification of faculty and profile of space utilization was attempted. Although these items were requested, few of the districts provided all of the data. The rationale underlying the requests was the need to identify what

resources were available and the extent of their use. If these requests serve as an approach for the school districts to initiate their needs assessment by analyzing their present functioning, then, although unavailable for the project, the original rationale for obtaining the data will be realized.

Approximately one week after the initial two hour visitation, a follow up letter was mailed. A career cluster checklist was sent with the letter. This form provided two types of information:

1) the district's perceptions of its curricular offerings when placed in a career education framework

2) some insight into the district's comprehension of career education

In addition, it presented multiple occupations within the clusters which could be readily incorporated into a career awareness or accomodation program.

Upon receipt of the completed checklist, the interview format was mailed. This instrument was designed to provide the information that would be helpful in obtaining a more detailed view of the district's career education efforts. Frequently, responses in the Interview Format served as a stimulus for questions during the evaluation visitation.

After all data was accounted for, the one day evaluation visitation was arranged and verified. During this visit, the career education questionnaires were distributed, teaching and nonteaching personnel were visited, and students were interviewed. This was the final personal contact with each school district, so the major emphasis was upon responding to concerns of the district's personnel and completing the data gathering process.

Each of the instruments used for data gathering are listed in Appendix B.

Social Service Agencies Data

A detailed list of social service personnel was developed for the acquisition of this data. After verifying the participants willingness to contribute, a checklist of client needs was mailed with the request for identification of any additional omitted needs. After receipt of the completed forms, a committee meeting was held to establish priorities for the needs.

Once the social service agency committee had established their priority needs and articulated their concerns, these items were incorporated into the masterplan. The principal value of coordinated efforts between educational and social service agencies would be the latter's opportunity to identify areas needing greater emphasis by the former. If the school districts can refine their programs through a proactive approach, then the social service agencies should have less remedial-reactive work to do. In addition, improved communication would serve to create an atmosphere of cooperative exchange.

The Client Needs Checklist and Composite Priorities are listed in Appendix 9.

Business-Industry-Labor Data

The original intent was to obtain data on openings in training programs, projections of areas to be developed and to generally orient this population to the concept of career education. The decision to operate through an intermediary was made; yet the coordination required to develop a committee was never achieved. The inability to further develop this dimension of the project can be attributed to three principal areas:

1) the instrument used was inapporpriate for use

2) the value to be derived from participation is, at this time, not readily evident to this population

3) reluctance to predict for all of Merged Area IX based upon a random sampling was a primary concern of the potential committee members

As a result, the majority of the project's data was derived both from local district assessments and from CENIS. It is recommended that local districts undertake an assessment of their particular environment using the instrument presented on page A-361. This provides local industry data and develops an additional base of support for career education in curriculum. Appendix 10 is the introduction and rationale prepared for business-industry-labor.

Post Secondary Data

The major thrust in this area was to improve the existing opportunity for individuals to enter the three community colleges of Merged Area IX. Less importance was assigned to working with two year transfer schools because local school districts frequently mentioned the recruiting visits made by liberal arts institutions and these institutions do not normally contact the sixty-five to forty percent of the graduating class that will leave high school without employable skills and without seeking further training or education.

A list of openings in career programs was developed for the February 1975 quarter. The most evident area of need was for the inclusion of career education as part of the preparation of educators on either a training or an in-service basis.

As institutions elect to develop additional programs, they should make reference to the priority occupations listed in Appendix 11.

MANPOWER PROJECTIONS

CENIS

At the outset of this project, it was anticipated that CENIS-1975 would be available for inclusion. It was not. Any projections, conclusions, or recommendations contained in this section of the project must be tempered by changes from CENIS-1973, which was used, and CENIS-1975.

Two sets of data were derived from the CENIS responses. In January, 1975 the Department of Public Instruction released an updated document entitled "Iowa Priority Training Area Rankings". It is enclosed in Appendix 11.1. Considering manpower needs, student availability and program effectiveness the department exercised some prestidigitation that resulted in a hierarchical organization. In effect, they have established a list identifying which career programs will be favorably considered and which will not. These programs' priorities were based upon state projections, and do NOT exclude a district requesting funding for a program that is needed in that locality, but is low on the state's list.

The second set of data is a reorganization of the original CENIS data. It is entitled "Priority Employment Needs by Cluster". Each of the fifteen clusters is identified with appropriate occupations listed under the cluster. No occupation would fit under the Marine Science cluster and several other clusters had only one or two occupations to be listed. This appears to be a weakness in the CENIS-1973 list of occupations. Five horizontal headings were used:

a. Current employment - shows the number of positions presently being occupied in a particular occupation

b. labor demand - shows the anticipated number of positions to be filled by 1975

c. total labor supply - shows the number of individuals presently prepared or preparing to enter the occupation

d. primary student interest - shows the number of students who are interested in preparing to enter an identified occupation

The vertical categories were:

I. EXCESS NEEDS - any positive net demand that exceeds the student interest (Note: in a few instances, an occupation was listed in this category rather than Excess Interest because of a positive net demand in Merged Area IX)

II. EXCESS INTEREST - occupations that have student interest exceeding the net demand

III. EXCESS SUPPLY - occupations with a negative net demand (Note: in some instances, an occupation was listed in this category because of a negative net demand in Merged Area IX although a positive demand existed in the state)

IV. NO RESPONSE - occupations having received no response under the primary student interest heading in Merged Area IX

Each heading is separated into both Merged Area IX and Iowa listings of data. The completed document is in Appendix II.2.

The department's priority rankings are useful for advisement of students, concerning employment prospects in Iowa, or as a basis of comparing local district program priorities to the state's priorities. The cluster organization should more directly identify priorities of Merged Area IX and can be used as a list of cluster-occupations for inclusion in a local district's curriculum.

It would be extremely inappropriate, perhaps even unethical, to track students into these programs based solely on the apparent future availability of a position. At the same time, it is a serious act of

nonfeasance to omit providing students with these employment projections or to fail to implement programs designed to prepare students for these anticipated employment needs. The crux is to provide relevant programs and encourage students to explore and prepare based upon their discretion and interest.

IOWA EMPLOYMENT SECURITY COMMISSION (IESC)

In the present economic situation, most of the employment predictions must be interpreted with a realistic skepticism. The conditions placed upon the accuracy of projections by either the United States Department of Labor or the Iowa Employment Security Commission has been transgressed (Manpower Needs in Iowa by Occupation 1971-1975, "Forward"). However, once economic recovery is initiated, and with some decreased accuracy even now, the projections may be useful in identifying trends. In Iowa, during the period ending in 1975, the most rapid increase is anticipated in professional, technical and related occupations. Service occupations will be next. Clerical and related occupations will also increase; but laborers, farmers, and farm workers are expected to decline (Manpower Needs in Iowa by Occupation 1971-1975, p. 4).

Contrasted to the growth rates, the number of anticipated new positions yields a slightly different order. Clerical and related is expected to have the greatest number of new positions. Service occupations are second. Professional, technical, and related will also have a number of new positions (Manpower Needs in Iowa by Occupation 1971-1975, p. 5). These trends probably have some validity at this time.

In addition to labor demand, labor supply projections have been made. Clerical and sales occupations have the largest supply of avail-

able workers. These positions frequently represent entry or re-entry positions. Service occupations are next. While they are also typically entry level positions, an excessive turnover rate tends to produce more qualified potential employees than positions available. If practicums could be introduced to permit reality testing by the individual of per perceptions about the work, then the high turnover rate might be reduced. The third largest available supply of workers is classified miscellaneous occupations: tractor, trailer, industrial, heavy and light truck drivers; service station attendants; and packagers. Structural workers, processing, benchwork, agriculture, machine trades, managerial, technical, and professional are the least available supply of workers according to the IESC.

VISITATIONS

Ignorance breeds frustration which creates hostility. This is the cycle occurring in Merged Area IX. The districts are inundated with materials from the Iowa Project; yet they have not been able to identify the connecting thread between the various documents. Some personnel verbalized that even the State Department of Public Instruction could not agree on what career education is since they keep sending out "new" and different documents.

At this point, elementary school personnel appear more willing to incorporate career education into their curriculum. The junior and senior high staff members are antagonistic towards the idea of changing a course they were taught to teach. Even the counselors and administrators were frequently without consistent and appropriate ideas for implementing career education. Frequently, personnel visited were quite chagrin that the director was performing an assessment and would not be functioning as a permanent consultant.

The consensus opinion was that it would cost more money, require outside assistance, and be relatively difficult to develop career education within the districts. The first two items speak primarily to the impotent feeling that prevails within the districts when assigned an "additional" obligation. The difficulty could come from the afore mentioned ignorance, the antagonism of secondary staff, or the incorrect belief that career education must be totally integrated into the district immediately.

Following are brief Individual District Profiles. These were written based upon both the Director's contact with and visitations to the district and the responses and comments that were elicited.

CAMANCHE COMMUNITY SCHOOLS

CLINTON CENTER

This is a textbook example of a bedroom district. The town has very little support industry or business; yet, the proximity to major industrial corporations and Clinton has helped develop a flourishing support base for the district. The availability of work sites permits an active work study program for high school students. This program is the best career preparation process. The office education and trade and industry are considered the best career preparation programs.

Camanche provided all of the data requested for this project. Their willingness to cooperate is also evident in the expressed interest in providing release time for cooperative district programs. The elementary and middle schools actively particpated in DeWitt's career education development program during the 1973-74 school term. This assistance was regarded as helpful and worthwhile by the participating personnel. A principal reason for the continuance of the effort initiated last year is the enthusiasm and continual support provided by the counselor who works in the two schools.

While many good aspects of the district are evident, there are three major problems. In the grades K-8, there is no knowledge of the efforts or objectives in each grade level. Particularly in the primary grades, the program is well organized for each grade level; but not sequentialized from one grade to the next. This is probably due to the lack of a written or documented packet for the program. There was some segregation by sex reported in career laboratories, but once the new high school is completed additional space should provide more work stations. In the high school, there is very little evidence

of career education outside the work-study program. Several instructors were discouraged by the students' efforts to manipulate their employment into a higher priority than their education.

The district has initiated its career education program. By utilizing scheduled in-service, the program could be expanded and sequentialized. The primary task appears to be the need to develop programs to fill in existing voids while also encouraging the further development of career education.

CENTRAL COMMUNITY SCHOOLS

CLINTON CENTER

This is the most dynamic district in Merged Area IX in its independent development of career education. A previous grant to the district resulted in a three year project which was offered to districts within Clinton County during the third year (1973-74). Presently another model program is being utilized in the career exploration stage. The initiative of the district and the administration's support of career education is absolutely phenomenal.

There are some policy decisions that could be questioned. Career education in the elementary schools was developed in every other grade. The junior high program is primarily operated by the counselors outside of the regular classroom. The teachers in the secondary schools expressed some disagreement about the appropriateness of career education within their classes. The ministerial decisions could be argued against; but the pervasive development of career education in grades 2-9 is excellent.

All career laboratories were reported to be coeducational. Relatively extensive in-service has occurred in some grade levels; but not throughout all grades. The counselors are reported to take an active role in assisting students, staff, and curriculum development. The resources available in the local community actively participate in providing an improved career education program.

There are two dangers in Central's program. They may proceed without assisting other districts, or they may stop the development and be content with their present program. Both are remotely possible; but based upon existing cooperative efforts and continued improvement

they are unlikely. If assistance was available to the district, then the coordination of its programs and sequential development would occur more readily. If this aid is not offered, Central may very well proceed without it. It is a truly amazing district.

CLINTON COMMUNITY SCHOOLS

CLINTON CENTER

This is one of the proposed career center districts. The implementation of career education is beginning locally. It is relatively well developed in some elementary areas and the high school vocational classes. However, a void tends to exist in the arts and sciences areas of the high school. This may be due to a lack of information or lack of direction.

Clinton reports all of its career laboratories as being co-educational. It also has a formal written policy statement from the Board of Directors concerning career education. Its approach to in-service has been to utilize a diverse program involving media, personnel, simulations and consultants. Overall the district, although experiencing a change in administration for the 1975-76 term, appears to be responsive to the mandate for implementing career education.

The major concern reported was the need for a K-12 director. At this time the lack of such a position has resulted in a more deliberate and disconnected approach than would be occurring with such a director. Some concern must be noted in regard to the relationship between the community college and district personnel. The majority of the interaction is cooperative and helpful; but, some dissention or antagonism was expressed. By building upon the positive relationships and cooperating, the two institutions will be better able to serve their clients and Merged Area IX.

Some cooperative programming or efforts with other districts already occurs. The district offers its own adult education program. The conscious intent to work towards becoming a locus of assistance

to other districts will be of benefit to the community and the participating students.

ANDREW COMMUNITY SCHOOLS

MAQUOKETA CENTER

This is a district of relatively few community resources. Some business does exist locally, but much of the community contact is with Maquoketa. Andrew is also one of the single site facilities that exist in Merged Area IX.

With a small faculty, all located on a single site, it should be less difficult to arrange and conduct in-service. The district reported eight days of in-service for the entire staff. These two factors provide an excellent opportunity to develop and continually support the implementation of career education.

All of the career laboratories were identified as coeducational. The district expressed interest about participating in co perative programs with other districts. An early release policy was tenatively approved by the Board of Directors for students to engage in work experience.

There are some concerns evident in the district. Frequent reminder of the legislative mandate occurs, yet the staff expressed little awareness of available sources of assistance. Very few of the staff members could verbalize the concept of career education or their respective stage. As a result, they were not sequential in their approach to career education.

The future is not all despair for Andrew. They will be hiring a new counselor and hope to obtain a person with a background in implementing career education. Once all the parameters and elements of career education were presented to the staff, they could relate activities to the intent of career education. At least one

individual was working from an objectives-activities framework in implementing career education into the classroom.

Like similarly situated districts, Andrew needs a great deal of assistance in initiating its program. If a reorientation occurs within the district, and if direction and continued support emerge to help the personnel, then career education will probably be successfully developed.

BELLEVUE COMMUNITY SCHOOLS

MAQUOKETA CENTER

The district is unusual. It does have a local business community. It has a contingent of residents who migrate to employment in Dubuque. It also has an agrarian society. With elements of each class of districts, it was difficult to classify Bellevue. It was finally placed in the rural class primarily due to its size and organization.

This was one of the more classic examples of the difference between what is reported-intended and what actually occurs. Purportedly the career education curriculum is coordinated K-12 and the counselor is a dynamic force in the entire program. Upon investigation the same confusion of most districts concerning both the concept-stages of career education and also the objectives of other grade levels was expressed by staff members. The counselor was involved in the high school program, but commented that he did not even have time to visit the elementary school

The district does provide four days of in-service. Interest was reported in cooperatively participating with other districts. All career laboratories were reported as being coeducational. With the multiple types of employment sites originally identified, an exceptional opportunity for a very effective early release-work study program exists.

The district needs appropriate information to be able to correctly present and initiate career education. Once the information is gathered, a critical need for effective leadership will emerge. Without this combination of knowledge and direction, the district will not be able to avail itself of the potential that exists.

CALAMUS COMMUNITY SCHOOLS

MAQUOKETA CENTER

A very pragmatic approach to complying with the legislative mandate is evidenced in this district. Particular staff have been designated as teaching or having periods to practice career education. One staff member persistently questioned how any additional subject could be added to a full schedule of activities and courses. Apparently this labeling or designation is one approach.

Calamus is fortunate in having an identifiable, although small, business district. This provides some advantage over the rural districts without any resources available for explortation. Some isolated instances of appropriate career education activity are evident. This is probably due to the assignment approach of the district rather than the rejection of the concept by the remaining staff.

The district has some reported segregation in its career laboratories. A willingness to provide release time for cooperative programs was expressed. No in-service has been provided to date, and this is identified as the major need of the district. Office education is considered the best career prepatory program.

The major concern about the present program is its very nature. If career education is envisioned as another subject and merely tacked-on to the existing curriculum, then it will have little effect. This may be a very efficient approach; but, the outcome would be questionable. If a district elects to encourage advocates to develop and implement career education with the intent that success will stimulate additional staff to participate, then the approach is valuable. If the intent is to give the appearance of compliance, then the approach

could be a more token effort at compliance.

With some initial assistance, and with continued support, Calamus will be able to implement a successful career education program. It will take a much longer period of time to develop the same program if no assistance is provided.

DELWOOD COMMUNITY SCHOOLS

MAQUOKETA CENTER

This is a rather typical rural district. Resources available are limited without venturing out to a nearby city. The attitude expressed by staff members was "we do the best we can with what we have". This is admirable.

Delwood is a previously reorganized district. One counselor is located at the secondary facility. The personnel visited were interested in career education to the extent that it would improve their skill or subject matter. If it would help students, it was useful. At both the secondary and elementary facilities particular interest in available materials or suggestions was expressed.

Some career laboratories are segregated. This was explained as primarily a space-available problem. The career education efforts in the elementary school are monitored by the principal since the counselor is obligated to the secondary school. With these limitations, the district is still quite receptive to career education. Release time was reported as being possible for all grades in the secondary school. DeWitt's project was viewed as helpful by the staff who had an opportunity to participate.

The most pressing need in the district is for a coordinating force to emerge. Funds are not readily available locally, and some question as to expertise in regard to career education is appropriate. The situation is like every other district in Merged Area IX; it is just a matter of degree. The district will work as diligently as possible given the resources available and local proficiency. A major issue is how these efforts could be increased and improved via a consultant or in-service.

EAST CENTRAL COMMUNITY SCHOOLS

MAQUOKETA CENTER

This is the newest district due to a merger of Sabula and Miles school districts. The major thrust during the 1974-75 school year was to begin coordination and cooperation between the two locations. This type of voluntary merger must be commended. As enrollments and budgets cease their growth, an increasing number of sharing ventures or similar mergers will likely occur. By discussing the difficulties, procedures, and successful activities with districts that have instituted sharing or mergers, proposed arrangements should be less difficult.

With East Central problems do exist with regard to the development of career education. No in-service has been conducted yet, and the general understanding of career education is totally lacking. Each person interviewed believes it is either the task of someone else, or that they must have the other person's assistance before anything can be done. Career laboratories are available to males and females, but as separate classes. It is indeed surprising that a recently merged district would not have the schedule capacity for release time and would see transportation as a major problem.

Undoubtedly the major concern with East Central's potential for developing career education is its existing ignorance. At one point the director was told that a staff member was unaware of any career education meetings in the state of Iowa during the 1973-74 term. Each of the Iowa Project's documents published by the State Department of Public Instruction has been viewed as a new career education manual. With this confusion prevalent, it is practically impossible

to envision any successful documentation or improvement of existing career education efforts. Some type of in-service assistance must be provided if East Central is to develop and implement career education.

LOST NATION COMMUNITY SCHOOLS

MAQUOKETA CENTER

Like several other districts in Merged Area IX, Lost Nation has its educational facilities on one central site. The adjacent community is quite small with limited opportunity for use as a career education resource. Throughout the project's duration the plea for philosophy and in-service has been most frequent from this district. A tremendous need exists to assist districts, in these particular circumstances, to maximize their use of the resources available.

The major asset of the district is the receptiveness of its staff. During discussions about alternatives for, or additional means of, further developing programs, the faculty maintained a high level of interest. They seemed aware of the district's constraints, but were willing to consider suggestions. The best career preparatory program is office education.

Some segregation was reported in the career laboratories. A general need to improve each laboratory was also reported. Recognizing these problems, the district experessed a willingness to provide release time for cooperative programs. The most pressing concern is the very nature of the district. Due to its size and location the administration and staff are very thin. No provision exists for in-service. Sharing of staff with other districts is utilized. The counselor doubles as a teacher. The issue is not whether this is correct or incorrect; rather what can be done within this set of circumstances.

With some assistance and support, the impressive concern for

student needs and the expansion of existing efforts will yield a better utilization of the available resources. Without the philosophy and in-service, the district will have difficulty.

MAQUOKETA

MAQUOKETA CENTER

Maquoketa was selected as one of the five proposed career center sites. It has a metropolitan center for work experience cooperatives and is within thirty miles of the participating districts. It has had some remarkable applications of career education concepts including a summer raft trip on the Mississippi River for science and a documentation approach to coordinate the elementary school program.

The administration is keenly aware of the legislative mandate for both career education and community needs assessment. A Metropolitan Alternative Classroom exists for students outside of the regular secondary school. It is located in the downtown area and requires each student to obtain employment as a course requirement. With the exception of agriculture, all of the existing career labs are coeducational. The district is not only willing to provide release time for student cooperatives, but also actively pushes this concept. If a program would be beneficial to students, the administration would support it.

Two principle problems are evident. Being a metropolitan district, some isolated pockets are quite successfully utilizing career education concepts. The difficulty is in articulating and communicating these successful experiences. Thus far only eight K-12 teachers have been involved in career education in-service. The second concern is the activism that is so encouraging. In becoming a center for consumption by nine other school districts, Maquoketa could adopt a personally progressive role. This would preclude documentation of and developmental aid to programs in the other districts as they begin to develop.

Overall, Maquoketa appears readily willing to become a more dominant figure in the development of career education in Merged Area IX. The major task for the district and its proposed career center will be the orderly development of cooperative programs between participating districts. The best career preparation is in the district's seveu work experience programs.

NORTHEAST COMMUNITY SCHOOLS

MAQUOKETA CENTER

This is a difficult district. Like many in Merged Area IX, previous reorganization has left outlying elementary facilities on sites other than the present administration complex. The present secondary facility is located in a town of approximately 190 residents. Within these circumstances, the effective development and organized implementation of career education will be difficult. Staff from various elementary sites tend to have little idea of what other locations within their district are going, even in the same grade.

Yet, there is promise. The administration is energetic and their position on the mandate for implementation is to support and encourage cooperative exchange between districts. Northeast is one of the few districts that supplied all of the data requested by the project. In-service is available as a means of integrating career education. The elementary staff all spoke highly of the DeWitt project which assisted them during the 1973-74 term.

All of the career laboratories are coeducational. A new industrial arts facility was opened in 1975. The secondary complex does have a counselor in both the junior and senior high school. Although some staff were resistent to "adding a new program", several, especially in the elementary schools visited, were receptive to the concept of career education as a means of motivating students and improving education.

The most severe lack in the district is an organized approach to implementation. The district's capacity to develop and limitations of its programs are evident to personnel. Yet, little has been done

to maximize what opportunities do exist. Assistance in documenting and sequentializing the existing program would serve as a prelude to improving the development of career education. Without this assistance, the district has the ability to identify and improve its efforts; but may not have the time and opportunity.

PRESTON COMMUNITY SCHOOLS

MAQUOKETA CENTER

This is a small, but growing school district. An addition to their existing high school building will provide more space. There are two staff factions that were apparent: the career education is bad, and the I'm willing, but how do I start. The former will require a great deal of assistance, evidence, and perhaps direction to integrate career education into their program. The latter will very likely lose their receptiveness if they are not provided with meaningful assistance in a timely manner.

Perhaps the most discouraging point was the lack of awareness of existing information. Preston has not yet had any career education in-service and according to the data received, the staff is not using any career education materials. Their counselor is in a halftime faculty position and attempts to assist students in either individual contacts or a junior-senior occupations class. A similar class is taught in the eighth grade.

The previsitation data was without notation of any career labs. Apparently this was due to a lack of communication, because they do offer courses in the designated areas. The best career preparation program was identified as woodworking-cabinetry. One of the concerns expressed was how coeducational classes would be developed rather than having separate classes for males and females.

It is not evident how Preston will emerge. They have not yet made any effort to implement career education and some of the staff appear determined to resist any assistance short of a new provision in their contracts. Some of the media and activities presently used

do represent career education concepts. In this particular situation, with these circumstances, it seems even more imperative to both dispel the ignorant- incorrect perceptions and to also document-abet the improvement of existing practices.

COLUMBUS COMMUNITY SCHOOLS

MUSCATINE CENTER

The Columbus district is relatively small in size; but quite metropolitan in aspiration and effort. It is one of the two districts located in Wapello County and part of Merged Area IX. It is one of the few districts to have conducted career education in-service during the school year and during the summer. Further, its administration has one of the very few formal written policy statements. All of its career laboratories are reported as being coeducational.

While Columbus must be recognized for its prompt and significant efforts in developing career education, the district has some problems. Although it is identified as a rural district, much of the planning is similar to a metropolitan district. Work experience cooperative programs are used and supervised by the instructor during a designated daily period. This is remarkable, but could be unfortunate for two reasons: local employment is limited and having the well developed system in existence could result in a lack of interest in utilizing the proposed career centers. At some point, an effort should be made to document existing practices. Like several other districts, Columbus has branch schools in nearby towns. These staff members expressed the lack of involvement and alienation of being a second-class priority. Loyalty was relatively restricted to the building with the general attitude that the school district was detached from the branch school.

The further development of career education in Columbus will likely focus on refining and expanding opportunities. With the reservations identified supra, the administration recognizes the need to improve existing career laboratories and work stations and

the possibility of providing release time for high school students. The best career preparation program identified was the work experience cooperatives. The district did request consultants and additional career education in-service as a means of further implementing career education.

DURANT COMMUNITY SCHOOLS

MUSCATINE CENTER

This is one of the two school districts that is in Cedar County, yet is part of Merged Area IX. Although Durant is in the process of constructing a new secondary facility, the proposed industrial arts section had to be excluded due to budgetary restraints. The administrative staff is aware of the career education mandate, and they have some personnel and activities doing successful work. Their principal failing is the lack of an identified coordinator and the subsequent confusion that occurs without a sequential coordinated program.

Transfer of functioning to Mississippi Bend on July 1, 1975 should help the district. They will have contact with only one agency then and they will also have access to the career education consultant. The district's major problem is obtaining the time to document and improve the program they presently have. This will be difficult within their existing functioning since they only have two in-service programs and question the fairness of retaining staff after 4:00 P.M. to work as committees.

An effort is being initiated to function cooperatively with the Wilton Community Schools. Although this was not for career education purposes, such cooperative efforts must be encouraged. Many of the vocational offerings are presently segregated; but once the new secondary facility is developed there will be additional space for conducting coed classes.

Major priority was placed upon in-service and curriculum development. The district does appear to be aware of the need and a method of integrating career education into their program. They are currently lacking the means to achieve this integration.

LOUISA-MUSCATINE COMMUNITY SCHOOLS

MUSCATINE CENTER

This is the other district located in Louisa County yet part of Merged Area IX. The district reported having a formal written policy statement on career education. This would make it one of the few districts that has a written expression of its committment to career education. Provision is made for in-service of the entire staff on career education.

All of these things would be likely to produce a very effective program. To this point they have not. Louisa-Muscatine does have some staff that are attempting to implement career education, yet others are either tired of trying or are reluctant to even attempt. None of the instructional staff disagreed with the concept; but, several in the high school questioned whether it would be successful in their district.

The district does attempt to comply with the legislative mandate. It has conducted a community needs assessment. The most disturbing fact is the lack of any evidence of an effect from these overtures. While effort is evident, effect is not. Chronic segregation was reported in career laboratories; but, the facilities are intended to become coeducational during the 1975-76 term.

The district is receptive towards release time for cooperative ventures. Some staff are attempting to simulate or implement career education in their classrooms. The high school will be hiring a new guidance counselor for the new term. The elementary and junior high school intend to begin the new year with the intent to develop career education. Through each of these opportunities, Louisa-Muscatine has

the possibility of improving its present program. Many of the prerequisites are in existence. It is a matter of coordinating them towards a common objective.

By providing support and direction to the district, this improvement process would be more efficient. Without the assistance, the district will be left by itself.

MUSCATINE COMMUNITY SCHOOLS

MUSCATINE CENTER

This is the only district in Merged Area IX to have a full-time Career Education director. Based upon this district commitment and the increasing development of Muscatine as an industrial center, the implementation of career education is occurring. Some of the surrounding districts have been able to utilize materials or information in cooperative development efforts.

Muscatine's problems are primarily time and improvement of existing efforts. Career education is being treated as a continuing process and considerable effort is expended to involve the entire community in the implementation. Communication and direction is evident, although some reluctance, by individual educators, to become actively involved is occurring. As the local community continues to grow and prosper, the district will be able to benefit by arranging more realistic work release stations and developing a more diversified and specific prepatory program in conjunction with the emerging industry.

A few career laboratories were segregated, but the anticipated growth and new facilities will permit more students to participate. The district and the community college will cooperatively engage in an exploratory program concerning both welding and construction clusters during the 1975-76 term. This type of effort is beneficial to the students and the community.

The district is past the stage of initiating a career education program. A real need exists for assistance in both improving their program and communicating it to other districts. By serving as one of the proposed career centers, Muscatine would be able to assist the implementation of career education in Merged Area IX.

WEST LIBERTY COMMUNITY SCHOOLS

MUSCATINE CENTER

There are some real disadvantages being located near a state university and West Liberty can enumerate them. This district does have the opportunity to participate in a newly created career skill center being built in Iowa City. Merged Area X will offer four vocational programs in the fall of 1975. Tuition will be paid by the school district, but transportation remains a slight problem.

One of the administration's major concerns was how to proceed in identifying community needs for the development of new programs. Some concern was expressed about the method of documenting objectives and existing practices for the State Department of Public Instruction. Two other problems are evident. Nichols is a satellite school for West Liberty. Some staff members were not aware if subject matter content was coordinated in the grade levels between the two locations. Secondly, a signifficant Spanish-American population lives within the district. This represents a different culture than that of the staff.

Presently a new industrial arts complex is planned to open in 1975. This should provide increased space for existing and, perhaps, new programs. Only the home economics program is segregated. All other career labs are coeducational. Although West Liberty has not conducted any career education in-service, some of the staff are integrating concepts individually.

Depending upon the resources and priority given to career education, West Liberty could develop a good program. Staff members are not conversant in career education jargon; but appear to be receptive to assistance. In-service education was recognized as a readily available means of updating the staff's educational perspective, documenting

existing practices, and developing an improved integration of concepts into all curriculum.

WILTON COMMUNITY SCHOOLS

MUSCATINE CENTER

This district's development of career education is totally informal. Through a combination of events and circumstances, very little empirical data was obtained. The reported position of the district regarding career education is derived via interviews.

Awareness of the mandate exists, yet encouragement to develop programs and implement the concept, is lacking. The obvious confusion about the concept, objectives and stages, does exist. In all of the contacts with district personnel, not one career education program or activity was identified.

Wilton does have potential. Its administrative staff is thin, but the recent increases in industry may provide the population increase necessary to justify a new position. Its local industry and its proximity to Muscatine offers a tremendous opportunity for a work release program. Initial academic exchange will occur between Durant and Wilton during 1975-76. The construction of a new vocational agriculture center and this tenative cooperative venture indicate the district's willingness to develop a career education program.

What is most lacking is expertise and assistance. The elementary junior high school programs are within the same facility. This closeness and the existence of several effective programs and techniques for these grades in Merged Area IX could readily develop the program in those grades. The senior high school lacks coordination and direction. If assistance is made available, the district could develop and integrate career education effectively. Without this aid, the resources are available, some staff are ready; but, the priority does not exist so the program will not flourish.

BENNETT COMMUNITY SCHOOLS

SCOTT CENTER

The two most evident constraints of the Bennett School District are its small size and its location. It is located in Cedar County, but a member of Merged Area IX. The principal difficulty with its location is the existence of only one connecting highway with the rest of the merged area. Thus, although Bennett is closer to Muscatine, it is part of the Scott Career Center.

Bennett experienced an administrative change during the 1974-75 school year. As a result, the new administrative group has actively initiated the implementation of career education. The district is conducting its community needs assessment and believes its welding program provides the best career preparation.

All of the district's career laboratories are coeducational. They presently have staff on split assignments between the elementary, junior and senior high school. Consequently, cooperative release time, although a district priority, would not be easy. The district has not conducted career education in-service yet, but some staff are using their self prepared materials. Largely via committees, the staff has produced an elementary school career education handbook.

The future for Bennett's career education development is promising. Their initial efforts serve as a challenge to similar small districts that disclaim the ability to develop career education because of their size. The district will make some mistakes; but the prevailing staff attitude, the existing administrative leadership, and the evident intent to implement career education will collectively produce a better program. If provided additional assistance (in-service,

consultant, or evaluative recommendations), the district will be able to both avoid some mistakes and share its successful efforts with other rural districts.

BETTENDORF COMMUNITY SCHOOLS

SCOTT CENTER

Bettendorf is an aggressive modern district. The willingness of its personnel to assist the project was remarkable and must be commended. Literally more data was received than could be used.

The career education implementation is in a rather embryonic stage. Some expression of a lack of administrative recognition and support was made, but there was also evidence of an intent to initiate a successful program. The middle school was just beginning a full evaluation of both its and the district's career needs. Nominal effort was existing at the elementary school visited, but the intent to initiate efforts during the summer of 1975 was mentioned. At the high school, vocational staff members were receptive to developing cooperative programs with adjoining districts. Although the arts and sciences faculty were not as advanced in, or even knowledgeable of, career education, the members visited were willing to learn.

This is one of the proposed career centers. The present work release programs and the receptiveness of the personnel directing these programs towards working with other districts will definitely benefit participating students. The apparent need is for assistance in establishing a consensus approach and then documenting and improving existing programs. If the district avails itself of existing objectives, activities, and recommendations, it will readily develop a more integrated career education program.

NORTH SCOTT COMMUNITY SCHOOLS

SCOTT CENTER

North Scott is the most rapidly growing district in Merged Area IX. It is a bedroom district to the Davenport-Bettendorf business industrial area. The district has the potential to become one of the major career education programs in Merged Area IX: increasing population, available resources, and expanding facilities.

Seven days of in-service are presently scheduled providing a pregnant vehicle for delivery of a concept or approach. Administration and additional non teaching staff are sufficient to assure the operation of the district. With some effort, an existing position could be reidentified as career education specialist. The new role would be primarily a coordinating resource position.

One very impressive program was being used in the elementary school by its developer. Yet, the instructor was unaware if the other elementary buildings had the opportunity to utilize the program per had developed. The urgent need is to begin sharing and cooperating within and between the respective buildings and personnel. Such a great emphasis is placed upon coping with the future growth that the present need to implement and coordinate career education assumes a secondary position. The district is willing to enter into cooperative programs and provide students with release time to participate.

The career laboratories were either coeducational or separate facilities for males and females according to the report. The counselor was not identified as an active agent in developing or coordinating career education. The Board of Directors was not identified as having issued policy statements on various aspects of career education.

Collectively the outlook for career education is promising. Several prerequisities are lacking; but, sufficient opportunity and means does exist to develop a dynamic program. What is presently lacking is a district commitment. This is partially due to a dearth of knowledge and also the lack of direction because of the emphasis upon coping with the rapid growth.

Effective in-service would serve as an initial action to stimulate additional efforts by the staff. After some organizational aid, the district would be better prepared to continue to develop its own program.

PLEASANT VALLEY COMMUNITY SCHOOLS

SCOTT CENTER

This is a very interesting district. By working with the chairperson of the district's career education program, most of the requested data was obtained. The extent of development of career education ranged from nominal effort to a directed documentation of program and objectives in the junior high. The latter technique is remarkably simple, yet serves as the foundation for revising or improving any existing programs.

In-service with consultants had been conducted. The district has a committee working on the coordination of a K-12 curriculum. All career laboratories were reported as being coeducational. Release time for cooperative experiences was reported as a realistic opportunity. The attitude of several staff members was quite laudable. The secondary facility literally adjoins the Scott Community College site. New vocational space will open in the 1975-76 term.

All of these factors should yield a dynamic and progressive career education program within the district. But, they do not. Efforts are relatively confused. Previous contact with career education by some secondary staff was identified as a disaster. The recovery from that experience has been gradual. One of the secondary counselors had a prolonged illness which decreased the effectiveness of the other counselor. Some leadership exists and in those areas, programs have been identified and developed.

The district has all of the essentials for a successful program. Yet, some thing or combination of events has estopped this metamorphosis. By offering assistance and expertise concerning career education to the district, the development of an effective career education program and the process of that transition would be both more evident and less difficult.

COMPOSITE PROPOSED CAREER CENTER DATA

The data compiled from responses elicited in each district are recorded in the following four categories:

CAREER EDUCATION ATTITUDE SURVEY

Non-Teachers
Teachers
Students
Citizens

SURVEY OF HELPING RELATIONSHIPS

INTERVIEW FORMAT

CAREER CLUSTER CHECKLIST

Data is presented on the basis of the four proposed career centers. Davenport elected not to participate, so their proposed career center has no data. Other districts did not return their materials by the May 31, 1975 deadline, so some of their responses are not included in the totals.

CAREER EDUCATION ATTITUDE SURVEY (%)

(PROPOSED CLINTON CENTER)

FORM

Question #	Non-Teacher N=3				Teacher N=19				Citizen N=19				Student N=18			
	SA	A	D	SD	SA	A	D	SD	SA	A	D	SD	SA	A	D	SD
1	66	33			63	32	05			15	05		11	39	50	06
2	66	33			68	26	05		05	68	16		11	39	39	11
3	66	33			42	53	11		26	74			22	61	11	06
4	100				16	63	11		32	47	21		06	53	33	06
5	33	66			16	42	26	05		63	32		11	61	17	11
6	33	66			32	42	26		16	74	11		06	17	61	17
7	33	66			26	6[illegible]	16			89	11		06	56	28	11
8	33	66			16	63	16		16	63	21		11	56	28	06
9	100				32	53	16		26	68	05		33	50	17	
10	66	33			16	58	21	05	05	89	05		44	50	06	
11	33	66			16	47	37		11	84	05		06	67	17	06
12	33	66			32	53	16		05	84	11		17	56	22	
13	100				42	32	21	05	11	84	05		11	67	17	06
14	100				42	37	16	05								
15	100				47	47										
16	66	33			26	58	11									
17	66		33		32	58	05									
18			100		11	47	16	05								
19	33		66			21	63	05								
20	33	66			26	47	11									

ADDITIONAL DATA

NON-TEACHER SURVEY FORM (%)

26	21	21	14
	14	7	21
27	R = 1 to 11		
28	R = 0 to .5		
29	No response		
35	No response		

TEACHER SURVEY FORM (%)

22	13	50	13
	13	13	
23	41	06	06
	35	12	
24	35	35	09
	11	11	

CAREER EDUCATION ATTITUDE SURVEY (%)

(PROPOSED MAQUOKETA CENTER)

FORM

Question #	Non-Teacher N=3				Teacher N=19				Citizen N=19				Student N=18			
	SA	A	D	SD	SA	A	D	SD	SA	A	D	SD	SA	A	D	SD
1	32	63	05		41	59			10	70	20		19	59	15	04
2	32	68			56	41			13	70	10		11	69	22	02
3	37	58	05		28	41	15		27	67	03		24	56	13	02
4	21	63	16		15	49	15	05	17	50	30		13	69	17	06
5	21	32	42		18	51	15	05	13	63	20		13	56	24	04
6	32	68			26	46	15		17	80	17		15	37	41	04
7	32	47	26		33	49	08		07	77	13		09	65	19	06
8	16	63	21		28	56	03		10	63	23		15	43	33	09
9	11	53	37		10	46	26	05	10	73	13		15	56	22	06
10	26	74			10	41	23	05	10	70	17		15	65	28	02
11	37	58			18	41	18	05	10	73	13		07	59	26	02
12	37	42	26		26	59		03	10	73	17		13	69	15	04
13	16	79	05		49	28	05	05	10	67	20		17	56	19	07
14	42	21	32		23	41	21	03								
15	37	63			28	54										
16	32	47	05		18	56	08									
17		21	42	16	21	51	10									
18	05	26	42	05	08	33	28	05								
19		16	84	05		10	56	08								
20	16	53	21		13	41	21	03								

ADDITIONAL DATA

NON-TEACHER SURVEY FORM (%)

26	22	15	25
	13	10	14
27	R = 2 to 10		
28	R = 0 to 4		
29	R = $400		
35	Insufficient data		

TEACHER SURVEY FORM (%)

22	39	16	03
	35	06	
23	39	19	00
	44	14	
24	31	24	16
	19	10	

CAREER EDUCATION ATTITUDE SURVEY (%)

(PROPOSED MUSCATINE CENTER)

FORM

Question #	Non-Teacher N=3				Teacher N=19				Citizen N=19				Student N=18			
	SA	A	D	SD	SA	A	D	SD	SA	A	D	SD	SA	A	D	SD
1	32	53	16		31	64	04		31	69			10	74	31	03
2	21	68	11		31	64	04		21	72	07		14	53	26	09
3	26	68		05	13	49	18	04	24	69	10		14	50	28	09
4	16	63	11	05	09	42	18	24	31	48	14	07	17	38	34	10
5	21	68	11		22	38	27	04	28	55	17		12	50	24	14
6	05	79	05	05	20	69	09	02	24	59	17		19	48	26	05
7	05	79	05	11	24	69	04	02	31	55	10	03	24	40	29	05
8	11	74	11	05	22	58	04	02	21	62	10	03	10	43	40	07
9	21	68	05	05	07	56	04	02	31	62	07		21	45	24	05
10	16	63	21		04	33	36	20	24	48	24	03	17	29	41	10
11	11	84	05		09	29	31	27	21	48	31		14	28	45	14
12	11	79	11		13	67	09	02	21	62	14		05	66	21	09
13	16	74	11		29	47	11	13	28	62	10		17	41	33	07
14	16	63	16		16	58	22	04								
15	26	63	05													
16	32	63														
17		26	66	11												
18		32	53	11												
19	11	37	47													
20	16	47	26	05												

ADDITIONAL DATA

NON-TEACHER SURVEY FORM (%)

26	19	12	16
	14	07	18
27	R = 0 to 5		
28	R = 0 to 1		
29	R = $30 to $500		
35	Insufficient data		

TEACHER SURVEY FORM (%)

22	35	28	05
	26	07	
23	37	27	02
	22	12	
24	34	18	24
	17	06	

CAREER EDUCATION ATTITUDE SURVEY (%)

(PROPOSED SCOTT CENTER)

FORM

Question #	Non-Teacher N=3				Teacher N=19				Citizen N=19				Student N=18			
	SA	A	D	SD	SA	A	D	SD	SA	A	D	SD	SA	A	D	SD
1	20	65	10	05	31	69			17	76	05		09	68	09	15
2	30	55	10	05	38	62			24	68	12		16	57	23	04
3	10	60	30		23	51	21	03	12	63	24		19	53	25	03
4	25	40	30	05	18	33	46	03	15	51	34		32	36	39	05
5	25	65	10		15	56	26		07	59	34		11	49	36	05
6	20	55	25		23	64	13	03	12	39	49		12	57	23	08
7	15	60	20	05	18	74	08		05	66	32		13	55	21	05
8	15	65	15	05	21	64	08	03	07	59	37		17	60	21	
9	10	60	30		13	49	23	13	05	68	24	02	05	47	27	05
10	15	45	35	05	10	38	44	03	07	60	29		13	35	45	11
11	15	40	45		05	49	38	08	07	66	27		09	40	37	15
12	25	50	20	05	15	72	13		10	63	22	02	23	61	17	
13	20	45	35		28	54	15	03	15	61	22	02	28	43	25	07
14	20	50	25	05	21	62	15									
15	30	65	05		31	56	05									
16	35	65			26	64	05									
17	05	15	50	20	28	59	05									
18	05	15	50	20	08	41	36	10								
19	10	10	70	05	08	23	62	03								
20	10	55	15	05	05	27	63	03								

ADDITIONAL DATA

NON-TEACHER SURVEY FORM (%)

26	23	16	21
	9	14	17
27	R = 3 to 13		
28	R = 0 to 7		
29	R = 0 to $100		
35	Insufficiend data		

TEACHER SURVEY FORM (%)

22	29	45	0
	24	3	
23	53	8	5
	32	3	
24	31	25	15
	19	10	

HELPING RELATIONSHIPS SURVEY
N=9
(PROPOSED CLINTON CENTER)

	Situation #1	Situation #2	Situation #3	Situation #4
NUMBER OF RESPONSES (PERCENTAGE)	5 (56%)	3 (33%)	2 (22%)	2 (22%)
HELPED (%)			No Response	
Brother/Sister	40	33		
Counselor	0			50
Friends at school	20	67		
Parents	60	67		
Principals				
Teachers	20			
Friends out of school	60	33		
Other	20	33		
HOW HELPED (%)			No Response	
Confronted				
Encouraged me to act	40	33		
Made me aware				
Helped recognize faults	20			
Pointed out strengths	20	66		
Similar to or understand me	40			
Understand myself better	20			
Give information	40			50
Emitted warmth				50
Idea how to handle problem				50
Other				

HELPING RELATIONSHIPS SURVEY
N=49
(PROPOSED MAQUOKETA CENTER)

	Situation #1	Situation #2	Situation #3	Situation #4
NUMBER OF RESPONSES (PERCENTAGE)	31 (63%)	20 (41%)	10 (20%)	24 (49%)
HELPED (%)				
Brother/Sister	32	5	30	25
Counselor	28	5	30	17
Friends at school	41	20	20	38
Parents	56	35	60	29
Principals	6		10	4
Teachers	44	50		
Friends out of school	28	25	30	29
Other	13	20	20	13
HOW HELPED (%)				
Confronted	9	25	30	17
Encouraged me to act	28	30	30	42
Made me aware	22	30	10	25
Helped recognize faults	3	40	40	8
Pointed out strengths	44	55	10	33
Similar to or understand me	34	10	10	49
Understand myself better	22	35	10	29
Give information	34	30	30	17
Emitted warmth	25	15	40	50
Idea how to handle problem	34	25	40	29
Other	16	5	20	8

HELPING RELATIONSHIPS SURVEY
N=61
(PROPOSED MUSCATINE CENTER)

	Situation #1	Situation #2	Situation #3	Situation #4
NUMBER OF RESPONSES (PERCENTAGE)	26 (43%)	18 (30%)	14 (23%)	18 (30%)
HELPED (%)				
Brother/Sister	35	22		6
Counselor	35	11	7	
Friends at school	23	50	21	22
Parents	57	33	21	28
Principals	8		7	
Teachers	31	44		
Friends out of school	23	11		28
Other	15	17	7	11
HOW HELPED (%)				
Confronted	8	11	14	11
Encouraged me to act	29	44	14	22
Made me aware	35	44	21	17
Helped recognize faults	21	17	14	17
Pointed out strengths	54	61	7	33
Similar to or understand me	35	28	21	39
Understand myself better	23	28		17
Give information	54	56	14	22
Emitted warmth	13	33	21	39
Idea how to handle problem	46	17	7	17
Other	8	17	14	17

HELPING RELATIONSHIPS SURVEY
N=55
(PROPOSED SCOTT CENTER)

	Situation #1	Situation #2	Situation #3	Situation #4
NUMBER OF RESPONSES (PERCENTAGE)	29 (53%)	13 (24%)	7 (13%)	27 (49%)
HELPED (%)				
Brother/Sister	28	15		22
Counselor	17			11
Friends at school	45	46	14	19
Parents	66	46	29	15
Principals	3		14	8
Teachers	21	31		8
Friends out of school	38	15	29	19
Other	10	15	14	11
HOW HELPED (%)				
Confronted	17	15	14	8
Encouraged me to act	24	15	57	15
Made me aware	14	8	43	19
Helped recognize faults	10	38	29	11
Pointed out strengths	41	46		26
Similar to or understand me	31	54	29	22
Understand myself better	24	15		19
Give information	55	54	14	15
Emitted warmth	10	8		30
Idea how to handle problem	24	23	29	30
Other	7	15	14	

INTERVIEW FORMAT - COMPOSITE

(PROPOSED CLINTON CENTER)

Question #	Response
I. A.	Two districts have formal written career education policy statements.
II. A.1	Three districts use two days for pre-school workshop in-service training. The range in participant number is six to seventy.
II. A.2	Two districts use in-service training during the academic year. The range in participant number is thirty to three hundred.
II. A.3	One district uses in-service training during the summer. The participant number is sixty.
II. D.1	Two districts use speakers.
II. D.2	Two districts use consultant teams.
II. D.3	One district uses role playing or simulation.
II. D.4	One district uses staff career visits into the community.
II. D.5	Three districts use multi-media presentations.
II. E.	Two districts evaluated their in-service as good and one evaluated it as poor.
III. A.1	Two districts use commercially prepared material.
III. A.2	Two districts use staff prepared material.
III. A.3	Two districts reported curriculum coordinated on grades K-12.
III. A.4	One district uses resource people in curriculum development.
III. B.	Students career education needs were identified by the following evaluation method:
III. B.1	One district by student interviews.
III. B.2	Two districts by student surveys.
III. B.3	Two districts by a study of employment opportunities.
III. B.4	One district by review of the student's cumulative records.
III. C.	One district integrated job seeking skills into the curriculum while two districts did this and taught it as a separate entity.
IV. A.	Two districts have a board policy on career visits.
IV. B.	One district has reviewed the policy.
IV. C.	Two districts coordinate career visits by grade level and content.

V. A. One district has a board policy on the use of community resource people.

V. B. Two districts have reviewed the policy.

V. C. Three districts' administration encourage teachers to use community resource people.

V. D. Two districts' counselors use community resource people.

VI. District counselors are involved in career education in the following ways:

VI. A. Three assist planning career visits.

VI. B. Three assist coordinating community resource people.

VI. C. Three assist career curriculum development.

VI. D. Three assist student self-awareness as it relates to career education.

VI. E. Two assist student understanding educational alternatives.

VI. F. Three assist student awareness of the world of work.

VI. G. Two assist knowledge of skills and beginning competencies.

VI. H. Two assist directing student exposure to employability skills.

VII. A. The following number of districts identified programs within their Junior High-Middle School:

	Male	Female	Coed	Special Ed.
Home Economics		1	2	1
Woodworking	1		2	2
Metals			2	2
Mechanics			2	2
Plastics			1	
Agriculture			1	1
Leather & Crafts			1	

VII. B. The following number of districts identified programs within their High School:

Drafting			3	1
Metal Shop	1			1
Wood Shop			3	
Automotive Mechanics	1		2	1
Building Trades			1	
Electricity			1	
General Shop			2	
General Mechanics			1	
Nursing		1		
Photography			1	
Trades and Industry			2	
Bookkeeping			3	
Journalism			1	
Office Machines			2	
Office Practice			2	
Publications			1	
Salesmanship			1	
Shorthand			2	
Typing			3	
Child Development			2	
Clothing		1	2	

	Male	Female	Coed	Special Ed.
Foods		1	2	
Home Economics		1	2	
Tailoring			1	
Family Living			2	
On-Job-Training:				
Distributive Ed.				1
Office Education			2	
Trades & Industries			2	
Work Release Program			2	1

VIII. A. The proposed centers ranked the composite priorities as follows:
In-service
Effective use of community resource people
Curriculum development
Coordinated use of career visits
Coordinated use of career laboratories

VIII. C. Districts were willing to allow release time for cooperative inter-school programs in the following grades:
One in Junior High
One in Ninth grade
Two in Tenth, Eleventh, and Twelfth grades

VIII. D. None of the districts reported that transportation would be a major problem for participation in inter-school programs.

INTERVIEW FORMAT - COMPOSITE

(PROPOSED MAQUOKETA CENTER)

Question #	Response
I. A.	No districts have formal written career education policy statements.
II. A.1	Three districts use three days for pre-school workshop in-service training.
II. A.2	Five districts use in-service training during the academic year. The range in participant number is six to fifty-two.
II. D.1	Two districts use speakers.
II. D.2	Two districts use consultant teams.
II. D.3	One district uses role playing or simulation.
II. D.4	One district uses staff career visits into the community.
II. D.5	Two districts use multi-media presentations.
II. E.	Two districts evaluated their in-service as good and one evaluated it as poor.
III. A.1	Five districts use commercially prepared materials.
III. A.2	Six districts use staff prepared material.
III. A.3	Three districts reported curriculum coordinated on grades K-12.
III. A.4	Four districts use resource people in curriculum development.
III. B.	Students' career education needs were identified by the following evaluation method:
III. B.1	Six districts by student interviews.
III. B.2	Four districts by student surveys.
III. B.3	Three districts by a study of employment opportunities.
III. B.4	Five districts by review of the students' cummulative records.
III. C.	Two districts integrated job seeking skills into the curriculum.
IV. A.	Two districts have a board policy on career visits.
IV. B.	One district has reviewed the policy.
IV. C.	Four districts coordinate career visits by grade level and content.
V. A.	Two districts have a board policy on the use of community resource people.
V. B.	No district has reviewed the policy.

V. C. Six districts' administration encourage teachers to use community resource people.

V. D. Five districts' counselors use community resource people.

VI. District's counselors are involved in career education in the following ways:

VI. A. Four assist planning career visits.

VI. B. Four assist coordinating community resource people.

VI. C. Five assist career curriculum development.

VI. D. Five assist student self-awareness as it relates to career education.

VI. E. Five assist student understanding educational alternatives.

VI. F. Five assist student awareness of the world of work.

VI. G. Five assist knowledge of skills and beginning competencies.

VI. H. Five assist directing student exposure to employability skills.

VII. A. The following number of districts identified programs within their Junior High-Middle School:

	Male	Female	Coed	Special Ed.
Home Economics			2	1
Woodworking			4	
Metals	1		3	
Mechanics	1		1	
Plastics		2	1	
Typing		2	1	
Agriculture	1	1		

VII. B. The following number of districts identified programs within their High School:

Drafting	3	1	4
Metal Shop	4	1	3
Wood Shop	3	1	4
Agriculture Mechanics			3
Automotive Mechanics	4	1	2
Building Trades	2	1	2
Electricity	1	1	3
Electronics	1	1	3
General Shop	1	1	2
Horticulture			1
General Mechanics	1	1	1
Nursing			1
Photography			3
Bookkeeping	1	1	5
Journalism			4
Office Machines	1	1	4
Office Practice	1	1	5
Publications	1	1	4
Salesmanship			3
Shorthand			4
Typing			2
Child Development		2	3
Clothing	1	2	3

	Male	Female	Coed	Special ed.
Clothing	1	2	3	
Foods	1	3	3	
Home Economics	1	2	4	
Tailoring	1	1	2	
Family Living	1	1	4	
On-Job-Training:				
Distributive Ed.			2	
Office Education			2	
Agricultural Ed.			2	
Work Release			2	

VIII. A. The proposed center ranked the composite priorities as follows:
In-service
Curriculum development
Coordinated use of career laboratories
Coordinated use of career visits
Effective use of community resource people

VIII. C. Districts were willing to allow release time for cooperative inter-school programs in the following grades:
Two in Junior High
Two in Ninth and Tenth grades
Five in Eleventh and Twelfth grades

VIII. D. Five of the districts reported that transportation would not be a major problem for participation in inter-school programs.

INTERVIEW FORMAT - COMPOSITE

(PROPOSED MUSCATINE CENTER)

Question #	Response
I. A.	Three districts have formal written career education policy statements.
II. A.1	Four districts use two days for pre-school workshop in-service training. The range in participant number is zero to sixty.
II. A.2	Three districts use in-service training during the academic year. The range in participant number is one to sixty.
II. A.3	One district uses in-service training during the summer. The participant number is one.
II. D.1	Two districts use speakers.
II. D.2	Three districts use consultant teams.
II. D.3	One district uses role playing or simulation.
II. D.4	No district uses staff career visits into the community.
II. D.5	Three districts use multi-media presentations.
II. E.	One district evaluated its in-service as excellent and one as fair.
III. A.1	Two districts use commercially prepared material.
III. A.2	Four districts use staff prepared material.
III. A.3	One district reported curriculum coodinated on grades K-12.
III. A.4	Three districts use resource people in curriculum development.
III. B.	Students' career education needs were identified by the following evaluation method:
III. B.1	Three districts by student interviews.
III. B.2	Four districts by student surveys.
III. B.3	Two districts by a study of employment opportunities.
III. B.4	Three districts by review of the student's cummulative records.
III. C.	Two districts integrated job seeking skills into the curriculum while two districts did this and taught it as a separate entity.
IV. A.	Two districts have a board policy on career visits.
IV. B.	One district has reviewed the policy.
IV. C.	Two districts coordinate career visits by grade level and content.

V. A. Two districts have board policy on the use of community resource people.

V. B. One district has reviewed the policy.

V. C. Four districts' administration encourage teachers to use community resource people.

V. D. Four districts' counselors use community resource people.

VI. District's counselors are involved in career education in the following ways:

VI. A. Three assist planning career visits.

VI. B. Four assist coordinating community resource people.

VI. C. Three assist career curriculum development.

VI. D. Four assist student self-awareness as it relates to career education.

VI. E. Four assist student understanding educational alternatives.

VI. F. Four assist student awareness of the world of work.

VI. G. Four assist knowledge of skills and beginning competencies.

VI. H. Three assist directing student exposure to employability skills.

VII. A. The following number of districts identified programs within their Junior High-Middle School:

	Male	Female	Coed	Special Ed.
Home Economics		2	1	1
Woodworking	1		1	
Metals	2			
Mechanics	1			
Typing			1	
Agriculture			1	

VII. B. The following number of districts identified programs within their High School:

Drafting	2	2
Metal Shop	3	1
Wood Shop	2	2
Agriculture Mechanics		2
Automotive Mechanics	1	1
Computer programming		1
Building Trades	3	1
Electricity	2	2
Electronics	1	
General Shop	1	1
Horticulture		2
General Mechanics	1	
Nursing		2
Bookkeeping		4
Journalism		4
Office Machines		3
Office Practice		1
Salesmanship		3
Shorthand		4
Typing		3

	Male	Female	Coed	Special Ed.
Child Development		3	1	
Clothing		3	1	
Foods		3	1	
Home Economics		3	1	
Tailoring		3		
Family Living		3	1	
On-Job-Training:				
Distributive Ed.			1	
Office Education			1	
Work Release Program			2	

VIII. A. The proposed center ranked the composite priorities as follows:
In-service
Curriculum development
Coordinated use of career visits
Effective use of community resource people
Coordinated use of career laboratories

VIII. C. Districts were willing to allow release time for cooperative inter-school programs in the following grades:
One in Junior High
One in Ninth and Tenth grades
Three in Eleventh and Twelfth grades

VIII. D. Three of the districts reported that transportation would not be a major problem for participation in inter-school programs.

INTERVIEW FORMAT - COMPOSITE

(PROPOSED SCOTT CENTER)

Question #	Response
I. A.	No district has formal written career education policy statements.
II. A.1	One district uses three days for pre-school workshop in-service training.
II. A.2	One district uses in-service training during the academic year.
II. D.1	One district used speakers.
II. D.5	One district used multi-media presentations.
II. E.	One district evaluated its in-service as good and one evaluated it as poor.
III. A.1	Three districts use commercially prepared material.
III. A.2	Three districts use staff prepared material.
III. A.3	No district reported curriculum coordinated on grade K-12.
III. A.4	Three districts use resource people in curriculum development.
III. B.	Students' career education needs were identified by the following evaluation method:
III. B.1	Three districts by student interviews.
III. B.2	Two districts by student surveys.
III. B.3	One district by a study of employment opportunities.
III. B.4	Two districts by review of the students' cumulative records.
III. C.	Two districts integrated job seeking skills into the curriculum while two districts did this and taught it as a separate entity.
IV. A.	No district has a board policy on career visits.
IV. C.	Two districts coordinate career visits by grade and content.
V. A.	Two districts have a board policy on the use of community resource people.
V. C.	Four districts' administration encourage teachers to use community resource people.
V. D.	Two districts' counselors use community resource people.

VI. District's counselors are involved in career education in the following ways:

VI. A. One assists planning career visits.

VI. B. One assists coordinating community resource people.

VI. C. One assists career curriculum development.

VI. D. One assists student self-awareness as it relates to career education.

VI. E. One assists student understanding educational alternatives.

VI. F. One assists student awareness of the world of work.

VI. G. One assists knowledge of skills and beginning competencies.

VI. H. One assists directing student exposure to employability skills.

VII. A. The following number of districts identified programs within their Junior High-Middle School:

	Male	Female	Coed	Special Ed.
Home Economics		1	1	1
Woodworking	1		2	1
Metals	1		1	1
Mechanics	1		1	1
Plastics			1	
Typing			1	1

VII. A. The following number of districts identified programs within their High School:

Drafting	1	1	1	1
Metal Shop	1	1	1	1
Wood Shop	1	1	1	1
Agriculture Mechan.	1	1	2	
Automotive Mechanics			1	
Building Trades	1	1		
Electricity	1		1	1
General Shop	1	1	1	
Horticulture			2	
General Mechanics			1	
Photography			1	
Bookkeeping	1	1	1	
Journalism	1	1	1	
Office Machines	1	1		
Office Practice	1	1	1	
Publications			1	
Shorthand	1	1	1	
Typing	1	1	1	1
Child Development		1	1	1
Clothing		1	1	
Foods		1	1	1
Home Economics		1	1	
Tailoring		1	1	
Family Living		1	1	

	Male	Female	Coed	Special Ed.
On-Job-Training:				
Distributive Ed.			2	2
Office Education			2	2
Trades & Industries			2	2
Health Occupations			1	2
Work Release Program			1	1

VIII. A. The proposed center ranked the composite priorities as follows:
In-service
Curriculum development
Coordinated use of career visits
Effective use of community resource people
Coordinated use of career laboratories

VIII. C. Districts were willing to allow release time for cooperative inter-school programs in the following grades:
Three in Eleventh and Twelfth grades.

VIII. D. Two districts reported that transportation would not be a major problem for participation in inter-school programs.

CAREER CLUSTER CHECKLIST

(PROPOSED CLINTON CENTER)

The number of districts reported a career education program in the stage (horizontal) and occupation (vertical) identified.

	Career Awareness	Career Exploration	Career Preparation
AGRI-BUSINESS/NATURAL RESOURCES			
Farmer	1	1	1
Dairy Farmer	1		
Livestock Farmer	1		
Farm Equipment Mechanic	1		
Veterinarian	1		
Lumberman	1		
Logger	1		
Forester	1	1	
Miner	1		
Geologist	1		
BUSINESS AND OFFICE			
Adding Machine Operator	1	1	2
Calculating Machine Operator	1		2
Duplicating Machine Operator	1		2
Keypunch Operator			1
Computer Programmer		1	1
Actuary			1
Accountant		1	1
Tabulating Machine Operator			1
Billing Machine Operator			1
Bookkeeping Machine Operator			1
Executive			1
Switchboard Operator			1
Typist			2
Dictaphone Typist			1
Data Typist			1
File Clerk		1	2
Stenographer			1
Secretary	1		2
Legal Secretary			1
COMMUNICATIONS & MEDIA			
Delivery Man			1
Cartoonist	1		
Photographer	1		
Commercial Artist	1	2	1
Layout Artist	1	1	1

Printing Press Operator			1
Telephone Operator			1
Telegrapher	1		
Reporter	1		
Newspaper Editor	1	1	
Proofreader		1	1
CONSTRUCTION			
Steel Worker	1	1	1
Building Trade Craftsman	1	1	1
Contractor	2	1	2
Plumber	2	3	1
Pipefitter	1	1	
Bricklayer	2	3	1
Plasterer	1	1	
Draftsman	2	2	3
Surveyor	1	2	
Heavy Equipment Operator	2	1	
Laborer	1		
Architect		1	1
Engineer	1	2	
Civil Engineer		1	
Electrical Engineer			2
Electrician	1	2	2
Carpenter	1	2	3
Ironworker	1	1	1
CONSUMER & HOMEMAKING			
Upholsterer		1	
Kitchen Helper	2	2	2
Cook	2	3	3
Housekeeper	1	1	1
Nursemaid	2	1	
Dietitian	1	1	
Administrative Dietitian	1		
Food Technologist		1	
Chemist Biochemist		1	
Home Economist		1	2
Fashion Model			2
Sewing Machine Operator	1	2	2
Designer			1
Apparel Pattern Maker			1
Handyman	1	1	
Custodian Janitor	2	1	1
Routeman			1
Interior Decorator			1
Hotel Manager	1		
Radio and Television	2	1	1
Repairman		1	1

ENVIRONMENTAL

Physical Scientist	2	2	2
Chemist	1	2	2
Laboratory Attendant		1	1
Meteorologist	2	2	
Engineer			1
Physicist			1
Forester	1	1	1
Range Manager	1		
Forestry Aide	1		
Life Scientist	1	1	
Botanist		1	1
Ecologist	1	1	
Civil Engineer			1

FINE ARTS & HUMANITIES

Artist	2	3	3
Art Teacher	1	2	1
Ceramic Artist	1		1
Commercial Artist	2	3	2
Comic Illustrator	1	1	
Editor			1
Newspaper Reporter	1		2
Actor	1	2	1
Actress	1	2	1
Professional Musician	2	2	1
Music Teacher	1	1	
Camerman		1	
Clergy	1	1	

HEALTH

Ophthalmologist	1		
Dentist	1	1	
Dental Technician	1	1	1
Dental Hygientist			1
Physician	1		
Anesthesiologist	1		
General Practitioner	1		
Surgeon	1		
Nurse's Aide			1
Licensed Practical Nurse		1	1
Registered Nurse			1
Medical Technologist		1	1
Pharmacist	1		
Head Nurse	1		
Candy Striper		1	1
Hospital Housekeeper			1
Hospital Cook	1		
Hospital Plumber		1	
Hospital Electrician		1	

HOSPITALITY AND RECREATION

Lifeguard	1		
Park Ranger	1	1	
Coach	2	1	
Ticket Taker	1		
Professional Athlete	1	1	1
Motion Picture Projectionist	1		1
Tennis Instructor			1
Golf Instructor			1
Hotel Manager	1		
Taxi Driver			1
Hotel Waiter & Waitress	1		
Hotel Chef	1	1	

MANUFACTURING

Arc Welder	1		3
Gas Welder	1		1
Resistance Welder			1
Arc Cutter			1
Physicist		1	1
Mathematician		1	2
Chemist	1	2	2
Engineer		1	1
Floor Assembler		1	
Bench Assembler		1	1
Foreman	1	2	1
Machinist	1	2	2
Tool Maker	1	2	2
Die Maker	1	1	2
Millwright	1	1	2
Pattern Maker		1	

MARINE SCIENCE

Fisherman	2
Fishing Boat Captain	1
Geological Oceanographer	1
Chemical Oceanographer	1
Oceanographic Engineer	1
Meteorologist	1
Geographer	1
Deep Sea Diver	1
Scuba Diver	2

MARKETING AND DISTRIBUTION

Billing Machine Operator			1
Bookkeeper			2
Insurance Agent	1	1	1
Routeman	1		1
Store Executive			1

Salesman	1	1	2
Manufacturers Salesman			1
Industrial Salesman			1
Cashier	1		1
Credit Manager		1	
Shipping Clerk			1
Receiving Clerk			1
Stock Clerk			1
PERSONAL SERVICE			
Barber			1
Cosmetologist		1	1
Chauffeur	1		
Child Care Attendant	1	1	1
School Bus Driver	1		
Social Worker		1	
Veterinarian	1		
PUBLIC SERVICE			
Elected Official	1	1	2
Policeman	2	1	
Fireman	2		
Dept. of Sanitation Worker	1		
Forestry and Soil Conservationist	1	1	
Public Health Nurse	2		1
Postal Service Employee	1	1	
City Carrier	1		
Mail Clerk	1		1
Lawyer	1		
Clergyman	1	1	
Armed Forces	1		
Air Forces	1		
Post Office Workers	1		
Public Utilities Workers	1		
Meter Reader	1		
Electrician	1	2	1
Repairman			2
Welder			2
Teacher	1		1
Librarian	1		1
TRANSPORTATION			
Truck Driver	1	1	2
Bus Driver	1		
Mechanic	1	1	2
Taxi Driver	1		2
Locomotive Engineer	1		
Ticket Agent	1		
Airline Reservation Clerk	1		1
Airline Stewardess	1		

Pilot	1
Copilot	1
Ground Service Man	1
Ship Captain	1
Ship Radio Operator	1
Seaman	1
Ships Cook	1

CAREER CLUSTER CHECKLIST

(PROPOSED MAQUOKETA CENTER)

The number of districts reported a career education program in the stage (horizontal) and occupation (vertical) identified.

	Career Awareness	Career Exploration	Career Preparation
AGRI-BUSINESS/NATURAL RESOURCES			
Farmer	1	2	
Dairy Farmer		1	
Livestock Farmer		1	
Farm Equipment Mechanic		2	
Coop Extension Service Worker		1	
Horticulturist		1	
Agronomist		1	
Agricultural Engineer		1	
Veterinarian		2	
Lumberman	1	1	
Logger	2		
Forester			1
Forestry Aide			1
Miner	1		
BUSINESS AND OFFICE			
Adding Machine Operator			2
Calculating Machine Operator			1
Duplicating Machine Operator			1
Keypunch Operator			1
Computer Programmer			1
Accountant		1	3
Receptionist			1
Switchboard Operator			1
Typist			3
Dictaphone Typist	1	1	4
File Clerk			2
Stenographer	1	1	3
Secretary	1	1	4
Legal Secretary			1
COMMUNICATIONS AND MEDIA			
Delivery Man	1		
Commercial Artist			1
Radio & Television Announcer		1	1
Broadcast Technician			1
Radio Operator		1	
Teletypist			1
Camera Technician			1

Sound Technician			1
Light Technician			1
Programmer			1
Reporter		1	1
Rewrite Man			1
Newspaper Editor			1
CONSTRUCTION			
Steel Worker			1
Building Trade Craftsman	1	2	2
Plasterer			1
Draftsman	1	2	4
Surveyor	1		1
Heavy Equipment Operator		1	
Laborer		1	1
Architect			1
Engineer	1	1	1
Civil Engineer	1	1	1
Electrical Engineer	1		1
Electrician		1	2
Carpenter	2	2	4
Ironworker			1
CONSUMER & HOMEMAKING			
Pattern Grader		1	
Textile Chemist			
Fabric Designer	1	2	
Upholsterer		1	
Kitchen Helper	2	1	1
Cook	2	4	4
Housekeeper	3	2	3
Maintenance	2	2	
Nursemaid		2	
Dietitian	2	3	
Administrative Dietitian	2	1	
Food Technologist		1	
Home Economist	2	2	1
Fashion Model	2	2	4
Sewing Machine Operator	2	3	2
Designer	1	2	2
Apparel Pattern Maker		1	2
Personal Maid		1	
Handyman		1	
Valet		2	1
Interior Decorator	3	3	2
ENVIRONMENTAL			
Physical Scientist	2	2	3
Chemist	2	2	3
Laboratory Attendant		1	1

Meteorologist	2	2	
Engineer			1
Physicist		1	1
Forester	1	1	2
Range Manager	1	1	1
Forestry Aide	1	2	1
Sewage Disposal Plant Operator	1	2	2
Life Scientist	1	2	2
Botanist		1	2
Ecologist	1	2	2
Zoologist	1	1	2
Landscape Architect	1		2
Civil Engineer			1

FINE ARTS AND HUMANITIES

Artist	3	2	2
Art Teacher	1	3	1
Ceramic Artist	2	2	2
Commercial Artist	2	2	1
Comic Illustrator		1	2
Editor			2
Newspaper Reporter	1		1
Anthropologist	1		
Actor/Actress	1		1
Director			1
Technical Writer			1
Professional Musician	1		1
Music Teacher			1
Composer			1
Film Editor			1
Camerman			1
Comic Script Writer			1
Makeup Technician			1
Wardrobe Man			1
Clergy	1		
Archeologist	1		

HEALTH

Ophthalmologist		1	1
Dentist		1	1
Dental Technician		1	1
Dental Hygientist		1	1
Physician		2	1
Internist		1	1
Obstetrician		1	1
Anesthesiologist		1	1
Pathologist		1	1
Psychiatrist		1	1
General Practitioner		1	1

Surgeon		1	1
Pediatrician		1	1
Foot Doctor		1	1
Nurse's Aide	2	3	
Licensed Practical Nurse	1	3	2
Registered Nurse	1	2	1
Operating Room Nurse		1	1
Laboratory Technician		2	1
Medical Technologist		2	1
Pharmacist		2	1
Head Nurse		2	1
Physical Therapist		2	1
Radiologic Technologist		1	1
Surgical Technician			1
Hospital Housekeeper	1	1	1
Hospital Laundry Worker	1	1	1
Hospital Cook	1	2	1
HOSPITALITY AND RECREATION			
Lifeguard	1		
Park Ranger		1	
Coach	2	1	2
Professional Athlete	1	1	1
Theater Manager		1	
Tennis Instructor			1
Golf Instructor			1
MANUFACTURING			
Arc Welder		1	3
Gas Welder		1	3
Resistance Welder			2
Arc Cutter			2
Oxygen Cutter			1
Safety Engineer			1
Physicist		1	
Mathematician	1		1
Engineer	1		1
Inspector			1
Machinist	1	1	1
Tool Maker			1
Die Maker			1
Millwright			1
Pattern Maker			1
MARINE SCIENCE			
Fisherman	1		
Oceanographer	1	1	
Biological Oceanographer	1	1	
Physical Oceanographer		1	
Geological Oceanographer		1	
Chemical Oceanographer		1	

Oceanographic Engineer		1	
Meteorologist	1	1	
Geographer		1	
Oceanic Geographer		1	
Life Scientist	1	2	
Ecologist	2	2	
Deep Sea Diver	1	1	
Scuba Diver		1	
Aquanaut		1	
Kelp Cutterman		1	
MARKETING & DISTRIBUTION			
Store Buyer	1	2	
Billing Machine Operator		1	
Bookkeeper		3	
Insurance Agent		1	
House-to-house Salesman		1	
Store Executive		1	
Salesman		1	
Cashier	1	1	
Stock Clerk	1	1	
PERSONAL SERVICE			
Barber			
Cosmetologist	2	1	
Psychologist		1	1
Child Care Attendant	1	1	1
School Bus Driver	2		
Social Worker	1	2	1
Veterinarian	2	2	1
PUBLIC SERVICE			
Elected Official	2	2	
Policeman	3	2	
Fireman	3	2	
Dept. of Sanitation Worker	1		
Biological & Agri. Scientist		1	1
Forestry & Soil Conservationist		1	1
Public Health Nurse	1	1	1
Sanitarian	1	1	1
Postal Service Employee	2		
Mail Clerk	1		1
Lawyer	2	1	
Clergyman	1		
Post Office Workers	1		
Teacher	1	3	2
Librarian	1	2	1
TRANSPORTATION			
Truck Driver	2	1	1
Bus Driver	2	1	

Mechanic	2	2	3
Taxi Driver	1		1
Locomotive Engineer	1		
Trackman	1		
Dispatcher	1		
Telegrapher	1		
Fireman, Railroad	1		
Conductor	1		
Pilot	1		
Ship Radio Operator		1	

CAREER CLUSTER CHECKLIST

(PROPOSED MUSCATINE CENTER)

The number of districts reported a career education program in the stage (horizontal) and occupation (vertical) identified.

	Career Awareness	Career Exploration	Career Preparation
AGRI-BUSINESS/NATURAL RESOURCES			
Farmer	4	2	3
Dairy Farmer	3	1	3
Livestock Farmer	4	1	3
Farm Equipment Mechanic	2	2	3
Coop. Extension Service Worker		1	3
Horticulturist	3	1	3
Agronomist	1	1	3
Agricultural Engineer		1	3
Veterinarian	3	2	2
Lumberman	3	1	3
Logger	2	1	
Forester	4	2	1
Forestry Technician	1	1	
Forestry Aide	2	1	
Miner	2	1	
Mining Engineer	2	1	
Geologist	3	2	1
BUSINESS AND OFFICE			
Adding Machine Operator	1	3	5
Calculating Machine Operator	1	3	5
Duplicating Machine Operator	1	2	4
Keypunch Operator		1	1
Computer Programmer		1	2
Actuary		1	
Accountant	2	2	3
Bookkeeping Machine Operator	1	1	1
Executive	1	1	
Receptionist	2	2	1
Switchboard Operator	1	2	1
Typist	2	4	4
Dictaphone Typist		1	1
Data Typist		1	1
File Clerk	2	2	3
Stenographer	2	3	3
Secretary	3	4	4
Legal Secretary	1		
COMMUNICATION AND MEDIA			
Delivery Man	2	1	
Cartoonist	2	1	1

Photographer	3	2	2
Photoengraver	1		
Commercial Artist	2	2	1
Layout Artist	1	1	
Printing Press Operator	2	1	
Telephone Operator	3	1	
Airport Flight Controller	2	1	
Radio and Television Announcer	3	1	1
Broadcast Technician	1	1	
Ground Controller	1	1	
Lineman	3	1	
Cable Splicer	1		
Radio Operator	2	1	
Teletypist	1	1	1
Telegrapher	2	1	
Dispatcher	2	1	
Camera Technician	1		
Sound Technician	1		
Light Technician	1		
Reporter	3	2	1
Rewrite Man	2		
Newspaper Editor	3	1	
Linotype Operator	1		
Proofreader	3	1	
CONSTRUCTION			
Steel Worker	2	1	
Building Trade Craftsman	2	2	1
Contractor	1	1	
Plumber	3	2	1
Pipefitter	1		
Bricklayer	2	1	1
Plasterer	2	1	1
Draftsman	2	3	2
Surveyor	2	1	
Heavy Equipment Operator	4	1	
Laborer	3	1	1
Architect	2	2	3
Engineer	2	3	3
Civil Engineer	2	2	2
Electrical Engineer	2	2	3
Technical Engineer	2	1	1
Electrician	2	3	3
Carpenter	3	4	3
Ironworker	3	1	
CONSUMER AND HOMEMAKING			
Kitcher Helper	1	3	3
Cook	3	4	5
Housekeeper	1	3	3
Nursemaid	1	2	1

Dietitian	1	2	2
Food Technologist	1		
Chemist Biochemist	1		1
Home Economist	1	4	3
Fashion Model	1	3	2
Sewing Machine Operator		4	3
Designer	1	1	1
Apparel Pattern Maker		1	1
Personal Maid	1	2	1
Handyman	2	1	3
Custodian Janitor	3	1	2
Interior Decorator	1	3	2
Hotel Manager		1	1

ENVIRONMENTAL

Physical Scientist	2	1	1
Chemist	2	3	2
Laboratory Attendant	3	2	2
Meteorologist	2	2	
Engineer	1	2	1
Physicist	1	2	2
Incinerator Plant Attendant	1		
Range Manager	1	1	1
Sewage Disposal Plant Operator	1	1	
Life Scientist	2	2	1
Botanist	3	2	1
Ecologist	1	3	3
Zoologist	1	3	2
Landscape Architect	1	2	2
Civil Engineer	2	1	2

FINE ARTS AND HUMANITIES

Artist	3	3	2
Art Teacher	3	4	2
Ceramic Artist	3	2	1
Jewelry Artist	1	1	
Commercial Artist	1	4	1
Editor	3	1	1
Newspaper Reporter	3	3	1
Anthropologist	2	1	1
Marine Geologist	1	1	
Dancing Teacher	3		
Actor/Actress	3	3	2
Director	2	1	
Technical Writer	1	1	2
Professional Musician	2	2	2
Music Teacher	3	2	1
Composer	2	2	1
Professional Dancer	1		
Camerman	2	1	1
Comic Script Writer		2	

Makeup Technician	1	1	1
Interpreter		2	1
Wardrobe Man	2		
Clergy	2	1	
Archeologist	2	1	1
Historian	2	1	1
HEALTH			
Ophthalmologist	1	1	
Dentist	3	1	
Dental Technician	1	1	
Dental Hygienist	2	1	
Physician	3	1	
Internist	3	1	
Obstetrician	2		
Anesthesiologist	2	1	
Pathologist			
Psychiatrist	1	1	
General Practitioner	2	1	
Surgeon	4	1	
Pediatrician	2	1	
Foot Doctor	2	1	
Nurse's Aide	2	2	1
Licensed Practical Nurse	4	1	
Registered Nurse	3	1	
Operating Room Nurse	3	1	
Laboratory Technician	2	1	
Medical Technologist	1	1	
Pharmacist	2	1	
Head Nurse	2	1	
Physical Therapist	1		
Radiologic Technologist	1		
Surgical Technician	1		
Chemist	1	2	1
Ward Clerk	1		
Candy Striper	1		
Hospital Housekeeper	1	1	2
Hospital Laundry Worker	1		1
Hospital Cook	1	1	2
HOSPITALITY AND RECREATION			
Lifeguard	2	1	2
Sightseeing Guide	1	1	
Travel Agent	2	1	
Park Administrator	1	1	1
Park Ranger	3	2	1
Camp Counselor	1	1	
Coach	3	3	2
Ticket Taker	3	1	1
Usher	3	1	
Professional Athlete	2	4	3

Motion Picture Projectionist	3	1	3
Theater Manager	1	1	
Smoke Jumper	1		
Tennis Instructor	1	2	
Golf Instructor	1	2	
Greens Keeper	1	1	2
Hotel Manager	1	1	1
Doorman	1	1	
Taxi Driver	2	1	
Bellman	2	1	
Desk Clerk	2	1	
Hotel Maintenance	1		
Hotel Waiter & Waitress	2	1	1
Hotel Chef	1	2	1
MANUFACTURING			
Arc Welder	2	3	4
Gas Welder	2	3	4
Resistance Welder	2	2	2
Arc Cutter	1		1
Oxygen Cutter	1	1	2
Safety Engineer	1	1	
Physicist	1	2	1
Mathematician	2	3	3
Chemist	3	2	3
Engineer	3	2	3
Floor Assembler	1		
Bench Assembler	1		
Inspector	1		
Foreman	3		
Machinist	3	3	3
Tool Maker	1		
Die Maker	1		
Millwright	1		
Pattern Maker	1		
MARINE SCIENCE			
Fisherman	3	1	
Fishing Boat Captain	2	1	
Deck Hand	1		
Fish Wholesalers	1		
Fish Retailers	2	1	
Oceanographer	1	1	1
Biological Oceanographer	1	1	1
Physical Oceanographer	1	1	1
Geological Oceanographer	1		
Chemical Oceanographer	1	1	1
Oceanographic Engineer	1		
Meterologist	2	1	
Geographer	2	1	
Oceanic Geographer	1		
Marine Geographer	1		

Life Scientist	1	1	1
Ecologist	2	2	2
Deep Sea Diver	1		
Scuba Diver	2	1	
Aquanaut	1		
Kelp Cutterman	1		
MARKETING AND DISTRIBUTION			
Advertising Copywriter	1		
Advertising Manager	1	1	
Store Buyer	2	1	
Bookkeeper	2	3	4
Office Machine Serviceman	1	1	
Insurance Agent	2	2	2
House-to-house Salesman	3	1	1
Routeman	2		
Store Executive	1	1	
Salesman	3		1
Sales Engineer	2	1	
Manufacturers Salesman	2		
Industrial Salesman	1		
Cashier	3	1	
Credit Manager	1		
Credit Analyst	1		
Display Workers	1	1	1
Shipping Clerk	2	1	
Receiving Clerk	2	1	
Stock Clerk	2	1	
PERSONAL SERVICE			
Barber	1	1	1
Cosmetologist	2	2	1
Manicurist	1	1	
Health Salon Operator	1	1	
Masseur	1		
Karate Expert	1	1	1
Exercise Attendant	1		
Weight Reducing Counselor	1		
Chauffeur	2	1	1
Marriage Counselor		1	1
Psychologist	2	2	1
Child Care Attendant	1	2	1
School Bus Driver	4	1	2
Social Worker	1	2	1
Veterinarian	2	2	1
PUBLIC SERVICE			
Elected Official	3	1	
Policeman	4	1	
Fireman	5	1	

Dept. of Sanitation Worker	3	1	1
Dept. of Defense Worker	1	1	
Biological & Agricultural Scientist	1	1	
Soil Conservationist	3	1	
Public Health Nurse	2	1	
Sanitarian	2		1
Government Doctor	1		
Postal Service Employee	3	1	
City Carrier	3	1	
Mail Clerk	3	1	
Lawyer	3	1	
Clergyman	3	1	
Armed Forces	2	1	1
Post Office Worker	4	1	
Internal Revenue Worker	2	1	
Public Utilities Worker	3	1	
Government Scientist	1		
Meter Reader	2	1	
Dehydration Plant Operator	1		
Teacher	4	2	2
Librarian	4	2	1

TRANSPORTATION

Truck Driver	5	1	1
Bus Driver	5	1	1
Mechanic	3	1	1
Taxi Driver	2	1	1
Operating Engineer	1		
Locomotive Engineer	2	1	
Trackman	2	1	
Dispatcher	1	1	
Telegrapher	2	1	
Switchman	2	1	
Railroad Fireman	4	1	
Ticket Agent	1	1	
Conductor	1	1	
Airline Reservation Clerk	1	1	
Airline Stewardess/Steward	2	1	
Airline Captain	3	1	
Pilot	3	1	
Copilot	2	1	
Flight Engineer	2	1	
Aeronautical Engineer	1	1	
Crew Chief	1	1	
Air Traffic Controller	2	1	
Ship Captain	2	1	
Deck Officer	1		
Ship Radio Operator	2	1	1
Oiler	1		
Ships Cook	1	1	
Ships Steward	1	1	
Seaman	2	1	

CAREER CLUSTER CHECKLIST

(PROPOSED SCOTT CENTER)

The number of districts reported a career education program in the stage (horizontal) and occupation (vertical) identified.

	Career Awareness	Career Exploration	Career Preparation
AGRI-BUSINESS/NATURAL RESOURCES			
Farmer	3	2	2
Dairy Farmer	3	1	2
Livestock Farmer	3	1	2
Farm Equipment Mechanic	2	2	2
Coop Extension Service Worker	2		
Horticulturist	1		1
Agronomist	1		
Veterinarian	3		
Lumberman	3	1	
Logger	3	1	
Forester	3	1	
Forestry Technician		1	
Forestry Aide		1	
Miner	3	1	
Mining Engineer		1	
Geologist	2	1	
BUSINESS AND OFFICE			
Adding Machine Operator			3
Calculating Machine Operator	1		3
Duplicating Machine Operator	1		3
Keypunch Operator	1		1
Computer Programmer			1
Actuary			1
Accountant	1		1
Executive	1		
Receptionist	1		1
Switchboard Operator	1		1
Typist	2	1	2
Dictaphone Typist	1		2
Data Typist			1
File Clerk	1		2
Stenographer	2		3
Secretary	2		3
COMMUNICATIONS AND MEDIA			
Delivery Man	2		
Cartoonist	1	2	
Photographer	1	1	1

Commercial Artist	1	2	1
Layout Artist		2	1
Printing Press Operator	3		1
Telephone Operator	3		
Airport Flight Controller	2		
Radio and Television Announcer	3		1
Cable Splicer	1		
Radio Operator	1		
Camera Technician	1		1
Programmer	1		
Reporter	3		
Newspaper Editor	3	1	
Linotype Operator	1		
Proofreader	3	1	
CONSTRUCTION			
Steel Worker	1		1
Building Trade Craftsman			2
Contractor	1		2
Plumber	1		1
Pipefitter			1
Bricklayer	1		
Draftsman		1	2
Surveyor	2		2
Heavy Equipment Operator	1		
Laborer	1		2
Architect	2	1	2
Engineer	1		1
Civil Engineer			1
Electrical Engineer			1
Electrician	1	1	2
Carpenter	1	1	1
Ironworker			1
CONSUMER AND HOMEMAKING			
Arc Welder			2
Gas Welder			2
Resistance Welder			1
Arc Cutter			2
Oxygen Cutter			2
Mathematician	2		
Chemist	2	1	
Machinist			1
Tool Maker			1
Die Maker			2
Millwright			1
Pattern Maker			1
ENVIRONMENTAL			
Physical Scientist	1	1	

Chemist	2	1	
Laboratory Attendant		1	2
Meteorologist	1	1	
Engineer	1		
Physicist			1
Sewage Disposal Plant Operator	1		
Botanist	1	1	1
Ecologist	1	1	1
Zoologist		1	1
Landscape Architect	2		
Civil Engineer	1	1	2
FINE ARTS AND HUMANITIES			
Artist	3	3	2
Art Teacher	3	3	1
Ceramic Artist	2	3	
Jewelry Artist		2	
Commercial Artist	2	2	
Comic Illustrator	2	2	
Editor	3	2	
Newspaper Reporter	3	2	2
Anthropologist		1	
Marine Geologist		1	
Dancing Teacher	2		
Actor/Actress	3	1	
Director	1	1	
Professional Musician	2	1	1
Music Teacher	3	2	
Composer	2	1	
Professional Dancer	2		
Film Editor	2		1
Cameraman	2	1	1
Interpreter	1		
Clergy	2	1	
Archeologist	2	1	
Historian	1	1	
HEALTH			
Ophthalmologist	1		
Dentist	3		
Dental Technician	2		1
Dental Hygienist	2		1
Physician	2		
Internist	1		
Anesthesiologist	1		
Pathologist	1		
Psychiatrist	1	1	
General Practitioner	3		
Surgeon	2		
Pediatrician	2		
Foot Doctor	1	1	

Appendix 11.2

MERGED AREA IX
STATE OF IOWA

PRIORITY EMPLOYMENT NEEDS BY CLUSTER

AGRI-BUSINESS/NATURAL RESOURCES
CLUSTER

Taxonomy #		CURRENT EMPLOYMENT		LABOR DEMAND		TOTAL LABOR SUPPLY		NET DEMAND		PRIMARY STUDENT INT.	
		MA IX	IOWA	MA IX	IOWA	MA IX	IOWA	MAIX	IA.	MA IX	IOWA
I.	EXCESS NEEDS:										
01.0299	Agriculture Supplies/Service	49	183	67	93	0	0	67	93	59	407
01.0504	Landscaping	6	39	6	83	0	0	6	83	8	134
II.	EXCESS INTEREST:										
01.0201	Agriculture Chemicals	0	101	0	41	0	0	0	41	6	39
01.0202	Feeds	0	1801	0	514	0	0	0	514	16	171
01.0301	Agriculture Power & Machinery	0	773	0	225	0	197	0	58	21	323
01.0101	Animal Science	0	42	0	3	0	120	0	-117	38	236
01.0506	Turf Management	0	202	0	68	0	16	0	52	40	576
III.	EXCESS SUPPLY:										
01.0100	Agriculture Production	9	1270	9	177	85	1212	-76	-1035	243	3384
01.0104	Farm Business Management	0	190	0	4	76	1402	-76	-1398	31	612
01.0200	Agriculture Supplies	0	54	0	7	31	471	-31	464	0	0
IV.	NO RESPONSE:										
01.0401	Food Products	0	442	0	46	0	0	0	46	0	0
01.0505	Nursery Operation	0	56	0	13	0	0	0	13	0	0
01.0203	Seeds	0	5	0	6	0	0	0	6	0	9
01.0603	Soil	0	12	0	0	0	0	0	0	0	18
16.0200	Agri-Related Tech.	4	7	0	0	0	0	0	0	0	0

MERGED AREA IX
STATE OF IOWA

PRIORITY EMPLOYMENT NEEDS BY CLUSTER

BUSINESS AND OFFICE

CLUSTER

Taxonomy #		CURRENT EMPLOYMENT		LABOR DEMAND		TOTAL LABOR SUPPLY		NET DEMAND		PRIMARY STUDENT INT.	
		MA IX	IOWA	MA IX	IOWA	MA IX	IOWA	MAIX	IA.	MA IX	IOWA
I.	EXCESS NEED:										
14.0101	Accountants	129	1792	24	405	1	174	23	231	20	337
14.0102	Bookkeepers	502	5415	99	816	2	271	97	545	143	1058
14.0103	Cashiers	135	1470	20	289	0	0	20	289	47	372
14.0104	Machine Operator: Billing	74	1164	6	325	0	0	6	325	6	129
14.0201	Computer & Console	126	1358	26	257	0	12	26	245	0	0
14.0202	Peripheral Equipment	226	1689	24	336	0	46	24	290	54	363
14.0301	Duplicating Machines	53	343	17	69	0	0	17	69	0	0
14.0303	General Office	759	9917	177	1973	1	534	176	1439	13	398
14.0399	Filing, Office Machines	7	452	6	112	0	0	6	112	0	0
14.0406	Receptionists	104	1134	30	254	0	0	30	254	87	1234
14.0703	Stenographers	166	1655	55	362	0	0	55	362	36	258
14.0901	Clerk-Typist	328	3806	194	1093	37	58	157	1035	69	661
II.	EXCESS INTEREST:										
	None										
III.	EXCESS SUPPLY:										
14.0203	Programmers	76	917	3	143	28	182	-25	-39	68	768
14.0204	Systems Analysts	23	393	3	57	5	23	-2	34	9	131
14.0702	Secretaries	619	6897	50	1039	65	804	-15	235	479	5086
14.0805	Office Manager & Chief	147	2703	-3	186	0	0	-3	186	6	62
IV.	NO RESPONSE:										
17.0600	Business Machines	18	109	0	18	0	31	0	-13	0	7

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MERGED AREA IX
STATE OF IOWA

PRIORITY EMPLOYMENT NEEDS BY CLUSTER

COMMUNICATION AND MEDIA

CLUSTER

Taxonomy #		CURRENT EMPLOYMENT		LABOR DEMAND		TOTAL LABOR SUPPLY		NET DEMAND		PRIMARY STUDENT INT.	
		MA IX	IOWA	MA IX	IOWA	MA IX	IOWA	MAIX	IA.	MA IX	IOWA
I.	EXCESS NEED:										
17.1501	Communications	18	238	10	60	0	94	10	-34	0	0
17.1900	Graphic Arts Occup.	53	228	9	35	0	139	9	-104	4	47
17.1901	Composition Makeup	32	389	19	14	0	0	19	14	0	20
17.1902	Printing Press	128	1007	3	231	0	10	3	221	10	99
17.1903	Lithography, Photo	31	149	16	24	0	0	16	24	0	0
II.	EXCESS INTEREST:										
14.0403	Mail & Postal Clerks	52	1080	0	122	0	0	0	122	14	94
17.0900	Comm'l. Photo Occup.	0	78	0	9	0	32	0	-23	24	537
17.0901	Photo Lab & Darkroom	1	51	0	7	0	0	0	7	2	92
17.1503	Radio/TV	0	150	0	42	0	148	0	-160	28	249
17.1599	Electronics Occup.	21	306	0	53	0	9	0	44	78	645
17.2101	Instruments	0	3	0	0	0	85	0	-85	13	33
III.	EXCESS SUPPLY:										
14.0401	Communications Systems	71	914	-7	83	0	0	-7	83	13	246
14.0499	Information Communications	284	600	0	70	3	3	-3	67	12	103
IV.	NO RESPONSE:										
17.1906	Bookbinding	1	468	0	220	0	3	0	217	0	10

MERGED AREA IX
STATE OF IOWA

PRIORITY EMPLOYMENT NEEDS BY CLUSTER

CONSTRUCTION CLUSTER

Taxonomy #		CURRENT EMPLOYMENT		LABOR DEMAND		TOTAL LABOR SUPPLY		NET DEMAND		PRIMARY STUDENT INT.	
		MA IX	IOWA	MA IX	IOWA	MA IX	IOWA	MAIX	IA.	MA IX	IOWA
I.	EXCESS NEED:										
17.0201	Electrical	20	119	9	26	0	0	9	26	0	28
17.1000	Construction & Maint.	52	1421	6	237	0	120	6	117	92	1453
17.1001	Carpentry	64	3113	35	1036	16	295	19	741	109	997
17.1002	Electricity	346	1061	84	297	0	296	84	1	26	396
17.1005	Painting	39	599	6	110	0	13	6	97	8	104
17.1007	Plumbing	570	1347	202	416	0	70	202	346	13	247
17.1009	Glazing	10	93	4	22	0	0	4	22	0	0
17.1010	Roofing	234	537	93	225	0	0	93	225	0	0
17.1099	Construction & Maint.	402	1563	140	643	0	0	140	643	25	119
17.1300	Drafting	91	1335	16	347	0	82	16	265	55	607
17.1400	Electrical	172	838	47	149	0	192	47	-43	4	103
II.	EXCESS INTEREST:										
17.1003	Heavy Equipment	0	7393	0	1063	0	168	0	895	59	482
17.1004	Masonry	70	769	0	285	0	35	0	250	8	218
III.	EXCESS SUPPLY:										
17.0100	Air Conditioning	7	178	0	42	4	147	-4	-105	22	190
IV.	NO RESPONSE:										
17.0101	Cooling	46	126	0	17	0	44	0	44	0	-27
17.0102	Heating	0	306	0	65	0	0	0	65	0	0
17.1008	Dry-Wall	0	109	0	117	0	0	0	117	0	0

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MERGED AREA IX
STATE OF IOWA

PRIORITY EMPLOYMENT NEEDS BY CLUSTER

CONSUMER AND HOMEMAKING CAREERS
CLUSTER

Taxonomy #		CURRENT EMPLOYMENT		LABOR DEMAND		TOTAL LABOR SUPPLY		NET DEMAND		PRIMARY STUDENT INT.	
		MA IX	IOWA	MA IX	IOWA	MA IX	IOWA	MAIX	IA.	MA IX	IOWA
I.	EXCESS NEED:										
04.0600	Food Distribution	850	392[illegible]	317	963	14	70	303	893	59	593
09.0203	Food Management Production	52	978	9	178	0	579	9	-401	47	266
17.0701	Interior Decorating	18	102	10	25	0	7	10	18	62	878
17.0703	Product Design	109	512	11	114	0	1	11	113	0	70
17.2901	Baker	87	1516	21	298	0	56	21	242	0	0
17.2902	Cook/Chef	339	4983	64	1431	0	56	64	1375	32	310
17.2903	Meat Cutter	130	969	63	249	3	45	60	204	21	165
17.3399	Textile Production	266	3030	156	1252	0	3	156	1249	0	14
II.	EXCESS INTEREST:										
04.1100	Hotel & Lodging	21	239	0	39	0	0	0	39	13	145
09.0201	Care & Guidance	0	574	0	314	0	133	0	181	73	910
09.0202	Clothing, Management Prod.	0	133	0	29	0	27	0	2	5	19
09.0205	Inst. and Home Management	3	1170	0	196	0	0	0	196	17	401
17.0702	Window Display	0	82	0	9	0	0	0	9	4	32
17.1100	Custodial Services	46	3616	0	882	0	311	0	571	7	131
17.3400	Leather Working	0	57	0	22	0	0	0	22	2	14
17.3500	Upholstering	0	345	0	28	0	0	0	28	6	51
III.	EXCESS SUPPLY:										
04.0700	Food Services	24	425	-10	132	0	9	-10	123	13	102
04.1000	Home Furnishing	75	470	0	68	0	0	0	68	19	106
09.0204	Home Furnishing	0	22	0	-2	3	61	-3	-63	0	14
IV.	NO RESPONSE:										
16.0599	Home Econ. - Related	0	163	0	40	0	0	0	40	0	0

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MERGED AREA IX
STATE OF IOWA

PRIORITY EMPLOYMENT NEEDS BY CLUSTER

ENVIRONMENTAL
CLUSTER

Taxonomy #	CURRENT EMPLOYMENT		LABOR DEMAND		TOTAL LABOR SUPPLY		NET DEMAND		PRIMARY STUDENT INT.	
	MA IX	IOWA	MA IX	IOWA	MA IX	IOWA	MAIX	IA.	MA IX	IOWA
I. EXCESS NEED:										
None										
II. EXCESS INTEREST:										
None										
III. EXCESS SUPPLY:										
None										
IV. NO RESPONSE:										
16.0110 Environmental	0	158	0	43	0	0	0	43	0	30

MERGED AREA IX
STATE OF IOWA

PRIORITY EMPLOYMENT NEEDS BY CLUSTER

FINE ARTS AND HUMANITIES

CLUSTER

Taxonomy #	CURRENT EMPLOYMENT		LABOR DEMAND		TOTAL LABOR SUPPLY		NET DEMAND		PRIMARY STUDENT INT.	
	MA IX	IOWA	MA IX	IOWA	MA IX	IOWA	MAIX	IA.	MA IX	IOWA
I. EXCESS NEED:										
04.0500 Floristry	83	206	18	50	0	13	18	37	27	210
II. EXCESS INTEREST:										
17.0700 Commercial Art	0	28	0	2	0	46	0	-44	33	417
III. EXCESS SUPPLY:										
None										
IV. NO RESPONSE:										
None										

MERGED AREA IX
STATE OF IOWA

PRIORITY EMPLOYMENT NEEDS BY CLUSTER

HEALTH
CLUSTER

Taxonomy #		CURRENT EMPLOYMENT		LABOR DEMAND		TOTAL LABOR SUPPLY		NET DEMAND		PRIMARY STUDENT INT.	
		MA IX	IOWA	MA IX	IOWA	MA IX	IOWA	MAIX	IA.	MA IX	IOWA
I.	EXCESS NEED:										
07.0201	Cytology	3	48	7	30	0	2	7	28	11	46
07.0301	Nursing	74	3340	7	1016	0	595	7	421	48	315
07.0303	Nursing Assistant	533	8781	147	2404	38	700	109	1704	22	565
07.0501	Radiologic Technologist	58	448	10	77	3	233	7	-158	85	635
07.0901	Electroencephalo	3	22	3	5	0	0	3	5	0	40
07.0903	Inhalation Therapy	17	204	7	71	0	0	7	71	17	76
07.0908	Food Service	3	196	3	29	0	0	3	29	2	46
II.	EXCESS INTEREST:										
07.0101	Dental Assisting	9	109	0	54	0	284	0	-230	45	705
07.0102	Dental Hygiene	0	29	0	5	0	0	0	5	13	203
07.0402	Physical Therapy	13	153	0	34	0	0	0	34	13	210
07.0503	Nuclear Medical Tech.	0	7	0	3	0	0	0	3	8	40
07.0601	Opthalmic	0	20	0	35	0	0	0	35	7	26
07.0801	Mental Health Tech.	0	311	0	64	0	0	0	64	13	149
07.0902	Electrocardiograph	0	45	0	9	0	0	0	9	6	18
07.0907	Medical Emergency Tech.	25	159	6	26	0	0	0	26	420	22
07.9900	Health Occup., Others	16	103	0	17	0	0	0	17	0	161
III.	EXCESS SUPPLY:										
07.0203	Medical Lab.	21	441	8	115	15	98	-7	17	73	854
07.0302	Practical Nursing	60	2715	14	780	54	1410	-40	-630	68	1191
07.0305	Surgical Technician	32	302	3	82	5	47	-2	35	61	135
IV.	NO RESPONSE:										
07.0103	Dental Lab Technician	9	144	0	24	0	47	0	-23	0	0
07.0307	Home Health Aid	0	36	0	19	0	0	0	19	0	20
07.0404	Orothotics	0	10	0	3	0	268	0	-265	0	0
07.0502	Radiation Therapy	0	14	0	5	0	0	0	5	0	0
07.0701	Environmental Health	0	53	0	5	0	0	0	5	0	0
07.0904	Medical Assistant	0	103	0	37	0	170	0	-133	0	0
16.0399	Health - Related Tech.	0	3	0	0	0	0	0	0	0	0

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MERGED AREA IX
STATE OF IOWA

PRIORITY EMPLOYMENT NEEDS BY CLUSTER

HOSPITALITY AND RECREATON
CLUSTER

Taxonomy #	CURRENT EMPLOYMENT		LABOR DEMAND		TOTAL LABOR SUPPLY		NET DEMAND		PRIMARY STUDENT INT.	
	MA IX	IOWA	MA IX	IOWA	MA IX	IOWA	MAIX	IA.	MA IX	IOWA
I. EXCESS NEED:										
17.2904 Waiter/Waitress	699	5567	654	3028	0	1	654	3027	20	475
II. EXCESS INTEREST:										
04.1800 Recreation & Tourism	0	129	0	30	0	0	0	30	56	649
III. EXCESS SUPPLY:										
None										
IV. NO RESPONSE:										
None										

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MERGED AREA IX
STATE OF IOWA

PRIORITY EMPLOYMENT NEEDS BY CLUSTER

MANUFACTURING
CLUSTER

Taxonomy #		CURRENT EMPLOYMENT		LABOR DEMAND		TOTAL LABOR SUPPLY		NET DEMAND		PRIMARY STUDENT INT.	
		MA IX	IOWA	MA IX	IOWA	MA IX	IOWA	MAIX	IA.	MA IX	IOWA
I.	EXCESS NEED:										
16.0105	Chemical Technician	21	183	3	33	0	0	3	33	0	0
16.0111	Industrial Technician	470	2595	181	505	0	0	181	504	13	57
16.0113	Mechanical Technician	358	1237	75	215	6	167	69	48	13	73
16.0699	Misc. Technicians, Other	19	289	7	49	0	0	7	49	7	49
17.2302	Machine Shop	307	3526	74	735	37	479	37	256	20	249
17.2303	Machine Tool	1680	16142	571	2484	109	0	571	2375	0	0
17.2304	Metal Trades	154	9942	24	2099	0	35	24	2065	2	28
17.2305	Sheet Metal	140	433	18	115	0	60	18	55	9	99
17.2307	Tool & Die Making	332	1402	98	386	0	29	98	357	38	211
17.9900	Trade & Industrial	292	2554	83	310	28	129	55	181	6	63
II.	EXCESS INTEREST:										
16.0109	Electromechanical	3	59	0	23	0	0	0	23	1	14
17.2301	Foundry	116	1203	0	379	0	0	0	379	7	28
17.2700	Plastics Occupations	7	544	0	78	0	9	0	69	2	6
17.3601	Millwork & Cabinet	0	1005	0	445	0	53	0	392	10	107
III.	EXCESS SUPPLY:										
16.0108	Electronic Technician	98	1661	10	84	17	383	-7	-299	81	890
17.2306	Welding & Cutting	169	4418	23	1675	169	1536	-146	139	145	847
IV.	NO RESPONSE:										
16.0106	Civil Technician	0	998	0	289	0	29	0	260	0	72
16.0107	Electrical Technician	9	97	0	24	0	0	0	24	0	0
16.0112	Instrumentation	0	140	0	34	0	0	0	34	0	0
16.0114	Metallurigcal Technician	6	23	0	3	0	0	0	3	0	9
17.0202	Gas Appliances	0	118	0	4	0	0	0	4	0	0

MERGED AREA IX
STATE OF IOWA

PRIORITY EMPLOYMENT NEEDS BY CLUSTER

MARINE SCIENCE
CLUSTER

	CURRENT EMPLOYMENT		LABOR DEMAND		TOTAL LABOR SUPPLY		NET DEMAND		PRIMARY STUDENT INT.	
	MA IX	IOWA	MA IX	IOWA	MA IX	IOWA	MAIX	IA.	MA IX	IOWA
I. EXCESS NEED: None										
II. EXCESS INTEREST: None										
III. EXCESS SUPPLY: None										
IV. NO RESPONSE: None			None							

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PLANNING AREA IX
STATE OF IOWA

PRIORITY EMPLOYMENT NEEDS BY CLUSTER

MARKETING AND DISTRIBUTION
CLUSTER

Taxonomy #	CURRENT EMPLOYMENT		LABOR DEMAND		TOTAL LABOR SUPPLY		NET DEMAND		PRIMARY STUDENT INT.	
	MA IX	IOWA	MA IX	IOWA	MA IX	IOWA	MAIX	IA.	MA IX	IOWA
I. EXCESS NEED:										
04.0400 Finance & Credit	321	3198	94	742	14	182	80	560	19	190
04.0800 General Merchandise	816	5622	178	1119	0	190	178	929	118	1670
04.0900 Hardware, Bldg. Material	39	1096	18	242	0	302	18	-60	2	110
04.1200 Industrial Marketing	96	2864	13	542	0	30	13	512	73	653
04.1600 Petroleum	82	1273	27	301	0	28	27	273	24	224
14.0503 Shipping and Receiving	110	1994	49	306	0	0	49	306	0	17
II. EXCESS INTEREST:										
04.0100 Advertising Services	3	456	0	74	0	6	0	68	30	647
04.1300 Insurance	0	973	0	332	0	2	0	330	20	[illegible]
04.1700 Real Estate	0	171	0	141	0	97	0	17	2	33
II. EXCESS SUPPLY:										
4.0200 Apparel & Assess.	0	1163	0	374	8	16	-8	358	82	962
V. NO RESPONSE:										
None										

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MERGED AREA IX
STATE OF IOWA

PRIORITY EMPLOYMENT NEEDS BY CLUSTER

PERSONAL SERVICE
CLUSTER

Taxonomy #	CURRENT EMPLOYMENT		LABOR DEMAND		TOTAL LABOR SUPPLY		NET DEMAND		PRIMARY STUDENT INT.	
	MA IX	IOWA	MA IX	IOWA	MA IX	IOWA	MAIX	IA.	MA IX	IOWA
I. EXCESS NEED:										
None										
II. EXCESS INTEREST:										
None										
III. EXCESS SUPPLY:										
17.2601 Barbering	3	34	3	5	6	75	-3	-70	2	110
17.2602 Cosmetology	46	595	56	229	75	882	-19	-653	136	1603
IV. NO RESPONSE:										
17.1601 Dry Cleaning	0	118	0	38	0	0	0	38	0	13
17.1602 Laundering	14	1256	0	435	0	0	0	435	0	0
17.2102 Watchmaking & Repair	0	40	0	5	0	0	0	5	0	0
17.2699 Personal Service	0	22	0	18	0	0	0	18	0	12

MERGED AREA IX
STATE OF IOWA

PRIORITY EMPLOYMENT NEEDS BY CLUSTER

PUBLIC SERVICE
CLUSTER

Taxonomy #	CURRENT EMPLOYMENT		LABOR DEMAND		TOTAL LABOR SUPPLY		NET DEMAND		PRIMARY STUDENT INT.	
	MA IX	IOWA	MA IX	IOWA	MA IX	IOWA	MAIX	IA.	MA IX	IOWA
I. EXCESS NEED:										
None										
II. EXCESS INTEREST:										
17.2801 Fireman Training	0	849	0	93	0	0	0	93	2	64
17.2802 Law Enforcement	0	939	0	140	0	0	0	140	74	1073
III. EXCESS SUPPLY:										
None										
IV. NO RESPONSE:										
16.0602 Fire & Fire Safety	0	67	0	7	0	0	0	7	0	15
17.2800 Public Service Occup.	0	80	0	11	0	136	0	-125	0	5

MERGED AREA IX
STATE OF IOWA

PRIORITY EMPLOYMENT NEEDS BY CLUSTER

TRANSPORTATION

CLUSTER

Taxonomy #	CURRENT EMPLOYMENT		LABOR DEMAND		TOTAL LABOR SUPPLY		NET DEMAND		PRIMARY STUDENT INT.	
	MA IX	IOWA	MA IX	IOWA	MA IX	IOWA	MAIX	IA.	MA IX	IOWA
I. EXCESS NEED:										
04.0300 Automotive	368	1685	89	314	0	64	89	250	23	191
04.1900 Transportation	722	11019	241	3186	0	80	241	3106	182	3189
17.0303 Specialization	57	408	74	184	0	59	74	125	175	1926
17.0401 Aircraft Maint.	1	85	6	33	0	72	6	-39	14	-39
17.1403 Motor Repairman	6	73	2	20	0	0	2	20	13	32
17.3100 Small Engine Repair	46	143	19	44	13	133	6	-89	62	422
II. EXCESS INTEREST:										
17.1200 Diesel Mechanic	0	323	0	131	0	386	0	-255	30	393
III. EXCESS SUPPLY:										
17.0301 Body & Fender	73	601	0	166	9	262	-9	-96	72	870
17.0302 Mechanics	415	2910	39	803	45	1299	-6	-496	73	848
17.0402 Aircraft Operations	0	1	0	4	33	129	-33	-125	16	188
IV. NO RESPONSE:										
17.1402 Lineman	0	604	0	26	0	49	0	-23	0	0

CAREER EDUCATION NEEDS ASSESSMENT STEERING COMMITTEE

EASTERN IOWA COMMUNITY COLLEGE DISTRICT
MERGED AREA IX

Population Represented	Member
Project Director	Tim Paul
EICC District	Richard H. Schultz Administrative Assistant
	Beverly Hoover Project Secretary
Mississippi Bend Area Educational Agency	Jerry Stout Superintendent
Community School District Superintendents	Edwin M. Schreiber Wilton Community Schools
	Joseph E. Bohr Northeast Community Schools
	John F. Lawrence Delwood Community Schools
	Melvin E. Heiler North Scott Community Schools
Community School District Principals	Bob L. Steele Bennett Community Schools High School
	Dellmer Sly, Asst. Principal Davenport Community Schools Frank L. Smart Junior High
	Keith Osburn Pleasant Valley Community Schools Riverdale Elementary School
Community School District Counselors	John Soderlund Calamus and Lost Nation Schools
	Dick Elliott Bettendorf Community Schools Middle School
	Roger Welty Camanche Community Schools
Community School District Teachers	Iola McCutcheon East Central Community Schools 9th through 12th grades

	John Manson Maquoketa Community Schools 6th through 8th grades
	Erna Neumann Durant Community Schools 4th and 5th grades
	Dorthy McDonald Central Community Schools Primary/K through 3rd grades
Community School District Career Education Coordinators	Dave Maxwell Muscatine Community Schools
	Jim Law Clinton Community Schools
Parochial School Representative	Greg Stevens Diocese of Davenport
Rural Community Representative	Wanda Cornelius Bellevue, Iowa
Department of Social Services	Susan Weiler Davenport, Iowa
Vocational Rehabilitation Division	Burt Brandt Davenport, Iowa
Iowa Employment Security Commission	Ed McGee Davenport, Iowa
Migrant Council	Juan Cadena Muscatine, Iowa
Business and Industry	Jack Romine Clinton Chamber of Commerce

ADMINISTRATION

EASTERN IOWA COMMUNITY COLLEGE DISTRICT

3546 BRADY STREET
DAVENPORT, IOWA 52806
PHONE: 319-386-1827

This is just a brief note to verify your acceptance of the position as a member of the steering committee. I wish to thank you for volunteering your services. Our first meeting is scheduled for January 14, 1975 at 1:30 P.M. It will be held in the Board Room of Eastern Iowa Community College District Central Office at 3546 Brady Street, Davenport, Iowa.

It is extremely important to this Assessment Project that you attend as regularly as possible. We will try to give you advance notice of all meetings and include an agenda of what is to be discussed. If at any time you have additional information or thoughts concerning the Project, please feel free to contact us at our Davenport office.

Thank you very much.

Sincerely,

EASTERN IOWA COMMUNITY COLLEGE DISTRICT

Tim Paul

Tim E. Paul
Project Director
Career Assessment Needs

TEP/bh

ADMINISTRATION

EASTERN IOWA COMMUNITY COLLEGE DISTRICT

3546 BRADY STREET
DAVENPORT, IOWA 52806
PHONE: 319-386-1827

CAREER EDUCATION NEEDS ASSESSMENT
STEERING COMMITTEE

Meeting to be held at 1:30 P.M. in the Administrative Offices of EASTERN IOWA COMMUNITY COLLEGE DISTRICT at 3546 Brady Street, Davenport, Iowa. January 14, 1975.

A G E N D A

I. The committee's role - Orientation

II. Career Education

A. A fad; or a permanent concept

B. Area IX's operational definitions

III. Career Education Needs Assessment Project

A. Objectives

B. Initial Visitation Data

C. "Forms"

D. Material available for use

IV. Questions

ADMINISTRATION

EASTERN IOWA COMMUNITY COLLEGE DISTRICT

3546 BRADY STREET
DAVENPORT, IOWA 52806
PHONE: 319-386-1827

January 15, 1975

Enclosed are the minutes of the Career Education Needs Assessment Steering Committee meeting of January 14, 1975.

This first session was not designed to be extremely productive, rather an overview of both the Project and also the committee members' roles was intended.

The next meeting is tenatively scheduled for February 17, 1975 at 3:00 P.M. It will be held at Clinton Community College in Room 140. A verification of the date and time, the room assigned for the meeting, and an agenda for that meeting will be mailed in early February.

Sincerely,

EASTERN IOWA COMMUNITY COLLEGE DISTRICT
(MERGED AREA IX)

Tim Paul

Tim Paul
Project Director
Career Needs Assessment

TP/bh
Enclosure

SUMMARY

CAREER EDUCATION NEEDS ASSESSMENT
STEERING COMMITTEE

January 14, 1975

Present: N. Boyle (for B. Steele), W. Cornelius, M. Heiler, B. Hoover, J. Lawrence, I. McCutcheon, D. McDonald, J. Manson, D. Maxwell, K. Osburn, T. Paul, E. Schreiber, R. Schultz, D. Sly, J. Soderlund, J. Stout, S. Weiler, R. Welty.

Tim Paul, the Project Director, opened the meeting at 1:30 P.M. and provided each member with a copy of the Project Abstract and a copy of the Interview Format.

In explaining the committee's role, the members were informed that they came representing a distinct background and would utilize that personal background to help solve problems brought before the committee.

In explaining to the committee why the concept of Career Education is not a mere fad, three points were mentioned:

1. Previous legislative mandates for changes in education have dealt with isolated segments of that field. With the recent U. S. Office of Education Position Paper dealing with Career Education, the intent to totally revamp public school education becomes evident. The Department of Public Instruction's underwriting of career needs assessments for all fifteen Merged Areas in Iowa evidences the state's commitment to this concept (65th General Assembly, SF 126; 1974 amendments to the Iowa Code, 257.25 Sec. 11).

2. In the existing economy, it becomes even more imperative for education to be able to justify and account for its expenditures. Career Education, by assisting the development of the students' interests and attitudes and by preparing the student for the world of work, would serve as a more objective means of accountability (A national policy on Career Education; National Advisory Council on Vocational Education; September, 1974).

3. P.A.R.C. verus Pennsylvania, Rodriguez verus San Antonio, and related judicial decisions reemphasized the individual's federal right to a public school education. Career Education serves as a vehicle for helping each individual student to identify both personal occupational preferences and a life style-career that will be fulfilling (334 F. Supp. 1253-1971; 337 F. Supp. 280-1971).

For the purposes of the Project, Eastern Iowa Community College District (EICCD or MERGED AREA IX) has adopted the operational definitions of the Iowa Project concerning the five stages of Career Education (Awareness, Accomodation, Exploration, Preparation, Supplementary) as contained in the Interview Format (Models for Career Education in Iowa, 1973).

To acquaint committee members with the Project, its objectives were presented as listed in the Abstract.

The Director mentioned the need to establish priorities (Objective #3), stating that Merged Area X had as their first priority the need to develop extension centers operated by the Community College. Superintendent Schreiber questioned when EICCD would be developing extension centers. The Director stated EICCD intends to pilot a program permiting high school students in close proximity to the three colleges in EICCD to enter vocational classes. Rich Schultz clarified that this program would be primarily for second semester seniors who could be simultaneously earning extra high school credit and community college credit by spending the entire day on the college campus.

Discussion continued over the possibility of establishing extension centers. The conclusion was that this Project would gather the data essential to make informed decisions, bring it before the committee for discussion, and finally generate recommendations to implement Career Education in Merged Area IX.

Several committee members reacted to the opportunity to make recommendations by presenting personal concerns. The need for a comprehensive philosophical definition of Career Education that could be implemented in all grades; which students would be eligible for the pilot project, how they would be transported and who would pay the tuition were mentioned as major concerns.

From the initial visitation data, a major priority was established because every district identified the need for a district coordinator or resource person. The Committee was also told that a preliminary format-procedure for implementing Career Education in every district was beginning to be developed through the initial visitation.

Each of the forms which have been developed for the Project were available for perusal and explanation. The only other material which is currently available for individual school districts' use, but will not be used for the Project, is a Community Needs Assessment instrument recommended by Phi Delta Kappa to identify Career Education needs within individual communities. The Director was emphatic that these forms are neither intended as busy work nor as a burden on the district personnel; rather they are intended to derive the empirical data necessary for making informed recommendations.

The last item on the agenda was a request for questions. Superintendent Lawrence wanted to know the tenure of the Project. He was informed that while the Project will be funded through August, 1975, the Director firmly believes that there will be subsequent development of the recommendations. Dr. Stout concurred on the probability that the implementation of the Career Education concept in Merged Area IX will extend beyond the Project's termination. He added that if the first priority remains a need for a resource person, then Mississippi-Bend should be able to present this as a Merged Area IX need and request funds from the DPI.

The next meeting will be held in February, 1975 at Clinton Community College. The topic will be establishing priorities for the needs in the district.

The meeting adjourned at 2:40 P.M.

Sincerely,

Tim Paul

Tim Paul, Project Director

ADMINISTRATION

EASTERN IOWA COMMUNITY COLLEGE DISTRICT

3546 BRADY STREET
DAVENPORT, IOWA 52806
PHONE: 319-386-1827

February 5, 1975

TO: Career Needs Assessment Project Steering Committee

FROM: Tim Paul, Project Director

SUBJECT: Committee Meeting - February 17, 1975

The second meeting of the Merged Area IX Steering Committee for Career Needs Assessment will be held on February 17, 1975 at 3:00 P.M. in Room 140 - Clinton Community College - 1000 Lincoln Blvd. - Clinton, Iowa.

The problem for presentation is establishing PRIORITIES FOR CAREER EDUCATION NEEDS in Merged Area IX. I anticipate the meeting lasting ninety minutes to two hours, depending upon the identification of omitted needs and the extent of discussion.

If you have additional questions, please contact me at the Administrative Office in Davenport (386-1827).

Thank you.

ADMINISTRATION

EASTERN IOWA COMMUNITY COLLEGE DISTRICT

1546 BRADY STREET
DAVENPORT, IOWA 52806
PHONE: 319-386-1827

STEERING COMMITTEE

CAREER NEEDS ASSESSMENT PROJECT

The second meeting of the Steering Committee will be held February 17, 1975 at 3:00 P.M. in Room 140 - CLINTON COMMUNITY COLLEGE - 1000 Lincoln Blvd.- Clinton, Iowa.

A G E N D A

I. Mandated Career Education

II. Prerequisites for successful development and integration

III. Identified NEEDS

- A. Career Awareness
- B. Career Accomodation
- C. Career Exploration
- D. Career Preparation
- E. Career Supplementary
- F. For the Project as a whole

IV. Tenative "solutions"

V. Questions

ADMINISTRATION

EASTERN IOWA COMMUNITY COLLEGE DISTRICT

3546 BRADY STREET
DAVENPORT, IOWA 52806
PHONE: 319-386-1827

February 19, 1975

RE: CAREER NEEDS ASSESSMENT PROJECT

The project celebrates its third anniversary February 25, 1975. After three months we are beginning to generate some work product.

In addition to the summary of the February 17, 1975 Priority Needs Determination meeting, the following products of our efforts are enclosed:

1. Merged Area IX Career Education Definition - the three source general scope, the six points inherent in a functional program, and the five areas of career education.

2. Community School Classifications - organizational grouping of the twenty-four districts in Merged Area IX according to the "Iowa Project's" criteria of classification for the purpose of future planning.

3. Both the 1973 CENIS Interface Tentative Occupational Priorities and the DPI's Priority Program Rankings - these represent occupations that need either less emphasis, due to "excess supply" or prompt development, due to "excess need". (CENIS is presently being replicated and may result in a subsequent shift of priority programs once completed).

4. February, 1975 Quarter Vocational Openings at Scott Community College - for the May, 1975 quarter both the number of offerings and openings should be greater. This is strictly a PILOT-FEASIBILITY project.

Comments? Dialogue will help the project's Master Plan be more relevant to your concerns and interests. I will be visiting the districts for the final evaluation during March. Feel free to press your concerns and interests at that time or at any convenient opportunity.

The third Steering Committee meeting is tentatively set for 3:00 P.M. on March 20, 1975 at Muscatine Community College in Muscatine.

Sincerely,

EASTERN IOWA COMMUNITY COLLEGE DISTRICT
(MERGED AREA IX)

Tim Paul

Tim Paul, Project Director
Career Needs Assessment

TP/bh
Enclosures

SUMMARY

CAREER EDUCATION NEEDS ASSESSMENT
STEERING COMMITTEE

February 17, 1975

Present: N. Boyle (for B. Steele), B. Hoover, I. McCutcheon, D. McDonald, D. Maxwell, T. Paul, J. Romine, R. Schultz, J. Soderlund, G. Stevens, D. Travis, R. Welty.

Tim Paul, the Project Director, opened the meeting at 3:00 P.M. in Room 140 of Clinton Community College in Clinton, Iowa.

Each member was presented a packet containing Career Education Definition of MA IX, Tentative Occupational Priorities (CENIS-1973 Interface Summaries and DPI Priority Program Ranking), Scott Community College February Quarter Enrollment Openings, and Community School Classifications.

The question was asked "Who would be eligible to enroll in the Scott Community College openings?" regarding the Enrollment Opening list in the packet. At this time public school student enrollment would be restricted to students who 1) have completed their high school requirements, 2) have the capacity to pay Scott Community College tuition of $135.00 per quarter, 3) have the means of transportation to get to the campus, and 4) would be able to spend six hours a day, 5 days a week in a regular vocational program receiving community college credit. It is anticipated that both the number of program offerings and the number of openings within programs will be expanded. Hopefully, the other two community colleges in our district will participate in the May, 1975 quarter.

The topic for the February meeting was the identification of NEEDS and establishing priorities for them.

Multiple sources were recognized as having mandated the need for developing and implementing career education in the public schools. Several prerequisites for successful development and implementation were also presented.

Each committee member was provided with a list showing fourteen identified needs. This was not intended to be a comprehensive list, but one that contained major needs derived from the initial visit and materials presently completed by the school districts.

The result was the establishment of the following priorities ranked by importance:

1. Staff in-service training as a delivery system to disseminate the career education philosophy and develop practical applications to the classroom teachers' instruction. Other parts of the in-service training would focus on curriculum development (Iowa Project equivalent district); teacher incentive - release time, compensation, credit, etc.; local district needs and resources.

2. The retention of a Resource person or Career Education Coordinator for Merged Area IX.

3. A commitment by the local school district to reorient its educational philosophy, program, and purchasing to emphasize the need for developing and implementing career education; i.e. essentially to make maximum use of the existing capacity.

4. To identify and obtain current student interest, labor demand and occupational information.

5. Development of a more flexible curriculum by application of existing curriculum innovations (mini-courses, work release, district co-oping, competency based programs, and other alternative educational programs).

6. To institute co-oping of resources; staff, facilities, and programs. This would provide the best education for each individual student at minimal cost. It would require recognition and resolution of the school district identify/provincialism dilemma, worker migration/money problems, and tuition/transportation concerns.

7. WHO will direct the transition to and development of career education? Private enterprise? Government (state or federal)? Mississippi-Bend? EICCD? Local Districts co-oping?

8. The following identified needs were left unranked and are listed without priority importance:

   a. Flexible entry-exit; Management by objectives/Behavioral Objectives; open entry enrollment, etc.
   b. Job seeking and holding skills
   c. Identification of and delivery to dropouts, stopouts, pushouts, leftouts
   d. Population trends; K-12 student, and non-student.

Jack Romine added that once business-industry-labor could be shown the prospect of obtaining "somebody employable", then they would join in the cost of developing career education in Merged Area IX.

The next meeting will be held during March, 1975 at Muscatine Community College in Muscatine, Iowa. The tentative date is March 20, 1975 at 3:00 P.M.

The meeting adjourned at 5:00 P.M.

Sincerely,

Tim Paul

Tim Paul, Project Director

CAREER NEEDS ASSESSMENT PROJECT
EASTERN IOWA COMMUNITY COLLEGE DISTRICT
(MERGED AREA IX)

COMMUNITY SCHOOL CLASSIFICATIONS

RURAL:

Andrew
Bennett
Calamus
Columbus
Delwood @ Delmar
Durant
East Central @ Miles
Lost Nation
Louisa-Muscatine @ Letts
Preston
Wheatland
Wilton

BEDROOM:

Bellevue
Camanche
Central @ DeWitt
Maquoketa
Northeast @ Goose Lake
North Scott @ Eldridge
Pleasant Valley
West Liberty

METROPOLITAN:

Bettendorf
Clinton
Davenport
Muscatine

TENTATIVE OCCUPATIONAL PRIORITIES

CENIS - 1973 INTERFACE SUMMARIES

R E D U C E

TAXOMOMY #	CLUSTER: Title	EXCESS SUPPLY Greater than -100 MERGED AREA IX	EXCESS SUPPLY Greater than -200 STATE OF IOWA
	AGRI-BUSINESS/ NATURAL RESOURCES:		
01.0100	Agriculture Production		-1,035
01.0200	Agriculture Supplies		-464
01.0104	Farm Business Management		-1,398
	CONSTRUCTION:		
16.0108	Electronic Technician		-299
	CONSUMER & HOMEMAKING:		
09.0203	Food Management, Production		-401
	HEALTH:		
07.0101	Dental Assisting		-230
07.0302	Practical Nursing		-630
07.0404	Orothotics		-265
	MANUFACTURING:		
17.2306	Welding & Cutting	-146	
	PERSONAL SERVICE:		
17.2602	Cosmetology		-653
	TRANSPORTATION:		
17.1200	Diesel Mechanics		-255
17.0302	Mechanics		-496

D E V E L O P

TAXOMOMY #	CLUSTER: Title	EXCESS NEEDS Greater than +100 MERGED AREA IX	EXCESS NEEDS Greater than +500 STATE OF IOWA
	AGRI-BUSINESS/ NATURAL RESOURCES:		
01.0202	Feeds		+514
	BUSINESS AND OFFICE:		
14.0901	Clerk-Typist	+157	+1,035
14.0303	General Office	+176	+1,439
	CONSTRUCTION:		
17.1001	Carpentry		+741
17.1009	Glazing	+140	+643
17.1003	Heavy Equipment		+895
16.0111	Industrial Technician	+181	+504
17.1007	Plumbing	+202	
	CONSUMER AND HOMEMAKING:		
17.2902	Cook/Chef		+1,375
04.0600	Food Distribution	+303	+893
17.3399	Textile	+156	+1,249
	HEALTH:		
07.0307	Home Health Aid	+109	+1,704
	HOSPITALITY AND RECREATION:		
17.2904	Waiter/Waitess	+654	+3,027
	MANUFACTURING:		
17.2303	Machine Tool	+571	+2,375
17.2304	Metal Trades		+2,065
	MARKETING AND DISTRIBUTION:		
14.0103	Cashiers		+545
04.0400	Finance and Credit		+560
04.0800	General Merchandise	+178	+929
04.1200	Industrial Marketing		+512
	TRANSPORTATION:		
04.1900	Transportation	+241	+3,106

(Page One only - showing top 35)

IOWA DEPARTMENT OF PUBLIC INSTRUCTION

PRIORITY PROGRAM RANKINGS, page 1 of 5 pages

Rank Order	Taxonomy	Program Area Name	Points Allocated: Manpower Needs	Student Availability: Interest	Student Availability: Need	Program Effectiveness: Attrition	Program Effectiveness: Placement	Program Effectiveness: Cost/Benefit	Total Pts.
1	04.1900	Transportation (Truck Driver)	17	20	15	10	10	10	82
2	17.0311	Photographic Lab. and Darkroom	30	8	14	10	10	0	72
3	17.2804	Waiter/Waitress	22	20	13	10	5	0	70
4	17.0303	Automotive Repair Specialization	16	20	14	10	5	0	65
5	17.1003	Dry-Wall Installation	30	0	14	10	10	0	64
6	14.0103	Cashier	8	20	14	10	10	0	62
7-8	01.0504	Landscaping	30	13	13	0	0	4	60
	04.1500	Recreation and Tourism (Recreation Director; Sales)	15	20	5	10	10	0	60
9-11	04.0100	Advertising Services (Mkt. Research Analyst; Acct. Exec.)	8	20	10	10	10	0	58
	17.1004	Masonry	22	5	11	5	5	10	58
	17.2802	Law Enforcement	9	20	13	0	10	6	58
12	17.0701	Interior Decorating	13	20	9	10	5	0	57
13	04.0200	Apparel and Accessories Sales and Svcs.	17	20	14	0	0	4	55
14-15	04.0500	Food Distribution (Cashier/Checker; Salesman Driver)	11	7	12	10	10	4	54
	17.1010	Roofing	22	0	12	10	10	0	54
16-17	04.1300	Insurance (Sales; Management Trainee)	23	9	11	10	0	0	53
	17.3501	Millwork and Cabinetmaking	25	2	11	10	5	0	53
18-22	01.0259	Ag. Supplies/Svcs. (Veterinarian Asst.)	22	20	10	0	0	0	52
	01.0506	Turf Management	13	20	11	0	0	8	52
	07.0502	Physical Therapy	11	20	11	10	0	0	52
	14.0105	Receptionist	8	20	14	10	0	0	52
	17.2301	Foundry	19	2	11	10	10	0	52
23-24	04.0700	Food Services (Restaurant Hostess)	14	5	17	10	5	0	51
	17.2307	Tool and Die Maker	16	5	10	0	10	10	51
25-29	01.0100	Agricultural Production	15	3	9	10	10	2	49
	17.1006	Glazing	17	0	12	10	10	0	49
	17.2013	Personal Services (Reducing Salon Attendant)	30	1	10	0	0	0	49
	17.2503	Mastication	11	3	15	10	10	0	49
29	07.0203	Medical Lab. Assistant	8	11	11	5	5	8	48
30-35	01.0203	Agric. Chemicals (Sprayer; Exterminator)	29	4	14	0	0	0	47
	01.0202	Feeds (Feed Mixer; Sales; Elevator Mgmt.)	18	14	15	0	0	0	47
	04.1200	Industrial Marketing (Indus. Sales; Sales Mgmt.)	10	16	6	5	10	0	47
	07.0107	Home Health Aide	30	2	15	0	0	0	47
	17.1001	Carpentry	15	3	8	10	5	6	47
	17.1300	Drafting	10	6	10	10	5	6	47

C-112

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CAREER NEEDS ASSESSMENT PROJECT
EASTERN IOWA COMMUNITY COLLEGE DISTRICT

PRIORITIES RANKED BY IMPORTANCE

1. Staff in-service training as a delivery system to disseminate the career education philosophy and develop practical applications to the classroom teachers' instruction. Other parts of the in-service training would focus on curriculum development (Iowa Project equivalent district); teacher incentive-release time, compensation, credit, etc.; local district needs and resources.

2. The retention of a Resource person or Career Education Coordinator for Merged Area IX.

3. A commitment by the local school district to reorient its educational philosophy, program, and purchasing to emphasize the need for developing and implementing career education; i.e. essentially to make maximum use of the existing capacity.

4. To identify and obtain current student interest, labor demand and occupational information.

5. Development of a more flexible curriculum by application of existing curriculum innovations (mini-courses, work release, district co-oping, competency based programs, and other alternative educational programs).

6. To institute co-oping of resources; staff, facilities, and programs. This would provide the best education for each individual student at minimal cost. It would require recognition and resolution of the school district, identify/provincialism dilemma, worker migration/money problems, and tuition/transportation concerns.

7. WHO will direct the transition to and development of career education? Private enterprise? Government (state or federal)? Mississippi-Bend AEA? EICCD? Local Districts co-oping?

8. The following identified needs were left unranked and are listed without priority importance:

   a. Flexible entry-exit; Management by objectives/Behavioral Objectives; open entry enrollment, etc.

   b. Job seeking and holding skills

   c. Identification of and delivery to dropouts, stopouts, pushouts, leftouts

   d. Population trends; K-12 student, and non-student

CAREER NEEDS ASSESSMENT PROJECT
EASTERN IOWA COMMUNITY COLLEGE DISTRICT

NEEDS TO BE CONSIDERED

1. Resource person or Career Education Coordinator for Merged Area IX

2. Staff in-service training
   a. Career Education philosophy and applications
   b. Curriculum development (Iowa Project equivalent)
   c. Release time, compensation, credit, etc.
   d. Local district needs/resources

3. Flexible entry-exit
   a. Management by objectives/Behavior Objectives
   b. Competency based education

4. Co-oping staff, facilities, programs
   a. Recognize and deal with provincialism/identify of separate districts
   b. NO increased cost
   c. BEST education for EACH individual

5. Curriculum innovations
   a. Mini-course
   b. Work release (and other alternative education programs)
   c. EICC District co-oping
   d. Competency based-programmed course(s)

6. Transportation, tuition

7. Job seeking skills

8. Current occupational information
   a. Who coordinates with school
   b. Needle-sort/CAI---CISI

9. Reorientation
   a. 257.25 Section 11
   b. "Maximum use of existing"

10. Dropouts, stopouts, pushouts, leftouts
    a. Identification of
    b. Delivery to

11. Student interests (CENIS), Labor Demand (CENIS), Merged Area IX High School programs (curriculum), EICCD programs (curriculum)

12. Population
    a. Public school student (K-12)
    b. Non-student

13. Migration and Money

14. Who?
    a. Private enterprise
    b. Government
    c. Mississippi-Bend AEA
    d. EICCD
    e. Local district co-op's

ENROLLMENT OPENINGS
February 1975 Quarter

SCOTT COMMUNITY COLLEGE
of the
EASTERN IOWA COMMUNITY COLLEGE DISTRICT

		Openings
HEALTH	Associate Degree Nursing	0
	Practical Nurse Education	0
	Operating Room Technician	5
	Medical Laboratory Assistant	0
	Histology Technician	0
BUSINESS	Accounting Technician	5
	Bookkeeping	3
	Business Computer Programming	5
	Office Education/Clerical Education	5
	Office Education/Secretarial Education	0
	Home Furnishing and Design	5
TRADE	Auto Body Repair	5
	Auto Mechanics	5
	Motorcycle Mechanics	2
	Truck Mechanics	5
INDUSTRIAL	Drafting	10
	Engineering Technologies	0
	Welding	2
	Air Conditioning and Refrigeration	3
	LAW ENFORCEMENT	5

ADMINISTRATION

EASTERN IOWA COMMUNITY COLLEGE DISTRICT

3546 BRADY STREET
DAVENPORT, IOWA 52806
PHONE: 319-386-1827

March 10, 1975

TO: Career Needs Assessment Project Steering Committee

FROM: Tim Paul, Project Director

SUBJECT: Committee Meeting - March 20, 1975

The third meeting of the Merged Area IX Steering Committee for Career Needs Assessment will be held on March 20, 1975 at 3:00 P.M. in Room 27 of Strahn Hall (Lecture Hall) at MUSCATINE COMMUNITY COLLEGE - 152 Colorado Street - Muscatine.

The issue to be discussed is IN-SERVICE EDUCATION in Merged Area IX. I anticipate the meeting will last approximately ninty minutes.

If you have additional questions, please contact me at the Administration Office of Eastern Iowa Community College District in Davenport (386-1827).

Thank you.

TP/bh
Enclosures

ADMINISTRATION

EASTERN IOWA COMMUNITY COLLEGE DISTRICT

3546 BRADY STREET
DAVENPORT, IOWA 52806
PHONE: 319-386-1827

STEERING COMMITTEE
CAREER NEEDS ASSESSMENT PROJECT

The third meeting of the Steering Committee will be held March 20, 1975 at 3:00 P.M. in Room 27 of Strahn Hall (the Lecture Hall) at MUSCATINE COMMUNITY COLLEGE - 152 Colorado Street - Muscatine, Iowa.

AGENDA

I. Status of the Project
   A. Career Centers - Enrollment Projections (Four centers, to be developed over an extended period of time, within 30 miles of any school district. Enrollment projections to maintain an adequate population of potential students - 500 minimum)
   B. Response to February Meeting work product
   C. Evaluation visit information
   D. Business-Industry-Labor and Social Service
   E. "What's happening in your district?"

II. In-Service
   A. Options
      1. On availability
         a. Location (At each of the twenty-three districts? At the four career centers? At Mississippi Bend?)
         b. Time (School year or summer? Weekday or weekend? A.M. or P.M.?)
         c. Duration (Two hour block? All at once or over an interval of time?)
      2. On incentive (Personal motivation, paid, academic credit-undergraduate or graduate; TUITION? Volunteers or required?)
      3. On organization (Component selection or a package program?)

   B. Content (See enclosed Proposed Farm-Out In-Service Course)
      1. Orientation to Career Education in Merged Area IX (What is career education? Why conduct a Career Education Needs Assessment Project? What are appropriate career education objectives?)
      2. Career Education Needs Determination (What are Merged Area IX Needs - educational, social agencies, business-industry-labor? What needs were identified by other Merged Areas? What are the needs of my school district? building? discipline or grade level? classroom? individual student?)
      3. Resources available (in existence to meet identified needs? Needed to meet identified existing needs? Identified future needs?)
      4. Management by Objectives/Behavioral Objectives (a student development technique)
      5. Career Education units (presentation of career education units from equivalent schools. Each participant observes and assists in the development of a group career education unit. Each participant personally develops two units)
      6. Values (Am I honest? Sincere? Professional? An educator? A student? a listener?, etc.)
      7. Local school career education units (package locally developed units, testimonials, criticism, etc. so the school district has a compilation of its work product)

III. Questions

ADMINISTRATION

EASTERN IOWA COMMUNITY COLLEGE DISTRICT

3546 BRADY STREET
DAVENPORT, IOWA 52806
PHONE: 319-386-1827

March 26, 1975

RE: CAREER NEEDS ASSESSMENT PROJECT

This month our committee wrestled with the means of developing a delivery system for the Project's recommendations. Our primary conclusion was to offer a dual in-service; to administrative personnel at the proposed four career center sites, and to faculty personnel at the local school districts.

It is essential to understand that the Project is limited to an analysis-recommendation. The in-service program has been neither authorized nor funded yet.

The fourth steering committee meeting is tentatively set for 3:00 p.m. on April 16, 1975 at Scott Community College on Belmont Road in Bettendorf, Iowa.

Sincerely,

EASTERN IOWA COMMUNITY COLLEGE DISTRICT
(MERGED AREA IX)

Tim Paul, Project Director
Career Needs Assessment

TP/bh
Enclosures

SUMMARY

CAREER EDUCATION NEEDS ASSESSMENT
STEERING COMMITTEE

March 20, 1975

Present: B. Brandt, M. Heiler, B. Hoover, J. Manson, D. Maxwell, T. Paul, R. Schultz, D. Sly, S. Weiler.

Tim Paul, the Project Director, opened the meeting at 3:00 p.m. in Room 27 of Strahn Hall at Muscatine Community College in Muscatine, Iowa.

One of the options being considered by the Project is the development of career centers. This concept was presented to the committee and is detailed in the enclosed materials. The two primary criteria were for the centers to be within thirty miles of any school district and to have a minimum population of 500 seniors. This concept has been implemented in other districts with the result that both their costs have been low and the usage of their facilities has been high.

The primary subject of the March meeting was to arrive at some resolutions of how to approach career education in-service training of school personnel. It is important to remember that the Career Needs Assessment Project is limited to determining what should be done and recommending how to achieve those objectives. At this point the only means of funding the in-service program is through a yet-to-be authorized grant.

The committee members had nominal input as far as the content of the in-service. They were primarily concerned with the manner in which the in-service would be conducted. Supt. Heiler stated that all personnel should participate. The committee recommended a dual in-service with the administrative personnel attending a program at each of the four centers and a subsequent program at each of the school districts with the respective faculty personnel.

Supt. Heiler identified the following concerns of administrators:

1. Orientation to the concept of career education
2. How it can be implemented
    a. cost
    b. procedures necessary

For the faculty in-service, Dave Maxwell suggested that demonstrations be conducted and that teachers of each grade level work together to synchronize their efforts.

Dellmer Sly commented that from Davenport's experience it is essential to have a person identified in each building and a district steering committee to effectively implement career education. John Manson identified the need to in-service each district based upon its own individual characterists. In response, Rich Schultz suggested and the committee agreed that the administrators of each respective school district could determine the best way to in-service their faculty regarding:

1. Time of the:
    a. year
    b. week
    c. day

2. Duration of in-service:
    a. two hour blocks
    b. all at once or over an interval
3. Incentive:
    a. personal motivation
    b. paid
    c. credit (undergraduate or graduate)
4. Voluntary or mandatory participation

The committee believed that the content of the in-service should be determined by the personnel offering it to the district.

The next meeting will be held during April, 1975 at Scott Community College - Belmont Road - Bettendorf, Iowa. The tentative date is April 16, 1975 at 3:00 p.m.

The meeting adjourned at 4:40 p.m.

Sincerely,

Tim Paul

Tim Paul
Project Director

CAREER EDUCATION DEVELOPMENT

EASTERN IOWA COMMUNITY COLLEGE DISTRICT
(MERGED AREA IX)

PROPOSED
FARM OUT IN-SERVICE COURSE

For one academic credit hour, the student will attend both sessions of the workshop and function as critic/evaluator for the completed discipline projects.

For two academic credit hours, the student will also develop at least two Career Education units within per respective discipline.

COURSE FORMAT

SESSION I

1st day - A.M.: ORIENTATION TO CAREER EDUCATION
- .1 Operational Definitions
- .2 Objectives
  - .21 "Iowa Project's", general
  - .22 "Iowa Project's", respective district's
- .3 Questions

1st day - P.M.: CAREER EDUCATION NEEDS DETERMINATION
- .4 Merged Area IX Project
- .5 Other Merged Areas' projects
- .6 Particular school district

2nd day - A.M.: RESOURCES
- .1 Existing
- .2 Needed to be effective

2nd day - P.M.: MANAGEMENT BY OBJECTIVES/BEHAVIORAL OBJECTIVES
- .3 Vargas, Mayer, Shepard, Drucker Theory
- .4 Examples
  - .41 Filmstrip
  - .42 Handouts
  - .43 Self-developed

GROUP CAREER EDUCATION UNIT
- .5 Cooperative Development

SESSION II

1st day: OUTCOME PROCESSING - VALUES
- .1 Presentation of Career Education units by discipline
- .2 Criticism/evaluation

2nd day: FINALIZING CAREER EDUCATION UNITS
Preparing final district-wide document
IN-SERVICE CRITIQUE

PROPOSED MERGED AREA IX CAREER CENTERS

TIM E. PAUL, DIRECTOR
CAREER NEEDS ASSESSMENT PROJECT
March 20, 1975

OPTION #2 for the development of
Career Education within Merged Area IX

MERGED AREA IX

CAREER CENTERS

(Fall, 1974 Enrollment)

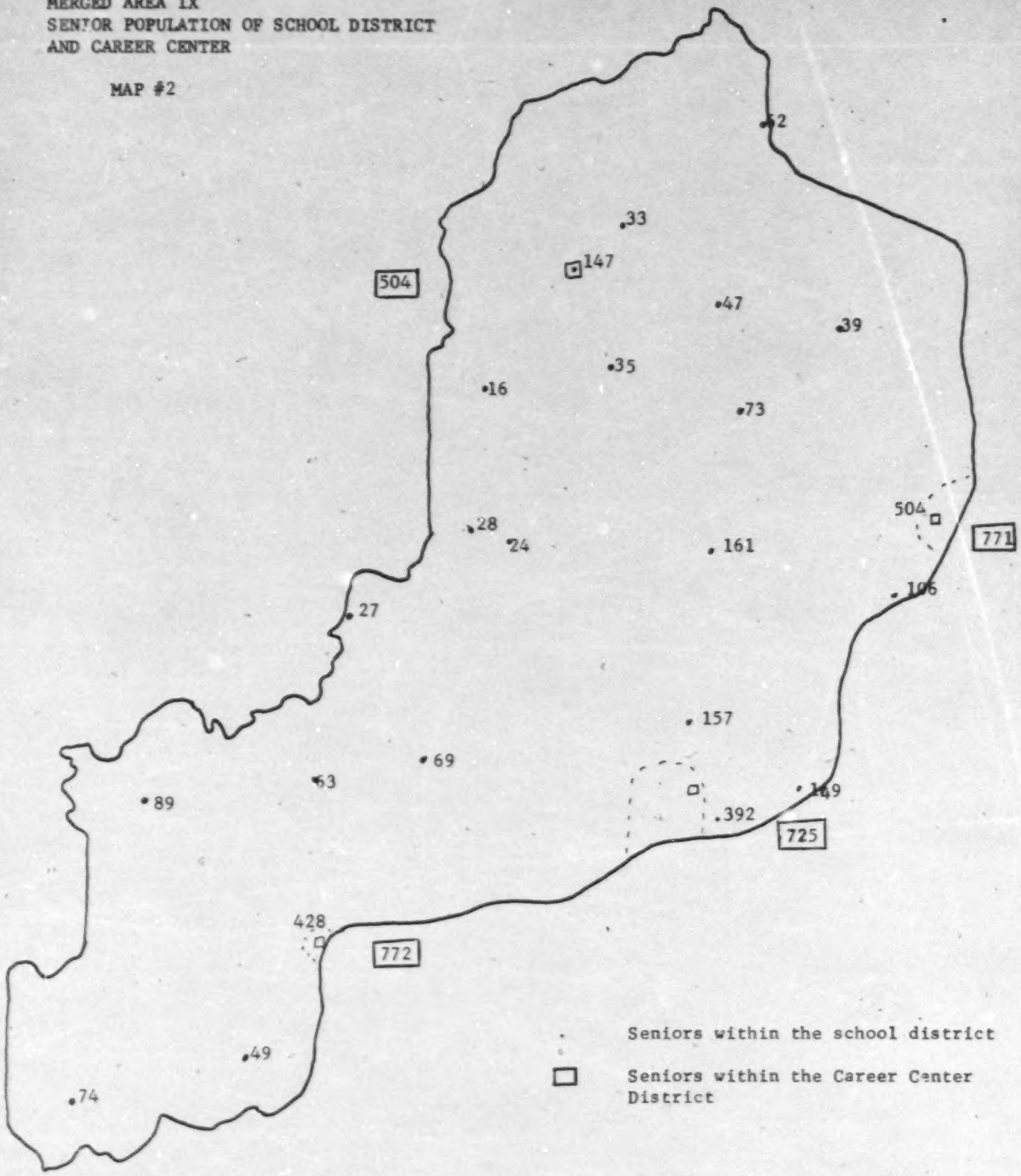
School District	Number of Students
MUSCATINE CENTER	
(Total Number of Students Eligible - 772)	
Columbus Community Schools	74
Durant Community Schools	69
Louisa-Muscatine Community Schools	49
Muscatine Community Schools	428
West Liberty Community Schools	89
Wilton Community Schools	63
SCOTT CENTER	
(Total Number of Students Eligible - 725)	
Bennett Community Schools	27
Bettendorf Community Schools	392
North Scott Community Schools	157
Pleasant Valley Community Schools	149
CLINTON CENTER	
(Total Number of Students Eligible - 771)	
Camanche Community Schools	106
Clinton Community Schools	504
Central Community Schools	161
MAQUOKETA CENTER	
(Total Number of Students Eligible - 504)	
Andrew Community Schools	33
Bellevue Community Schools	62
Calamus Community Schools	24
Delwood Community Schools	35
East Central Community Schools	39
Lost Nation Community Schools	16
Maquoketa Community Schools	147
Northeast Community Schools	73
Preston Community Schools	47
Wheatland Community Schools	28
DAVENPORT COMMUNITY SCHOOL CENTER	
(Total Number of Students Eligible - 1,058)	

MERGED AREA IX
CAREER CENTERS AND SUPPORT SCHOOL DISTRICTS

MAP #1

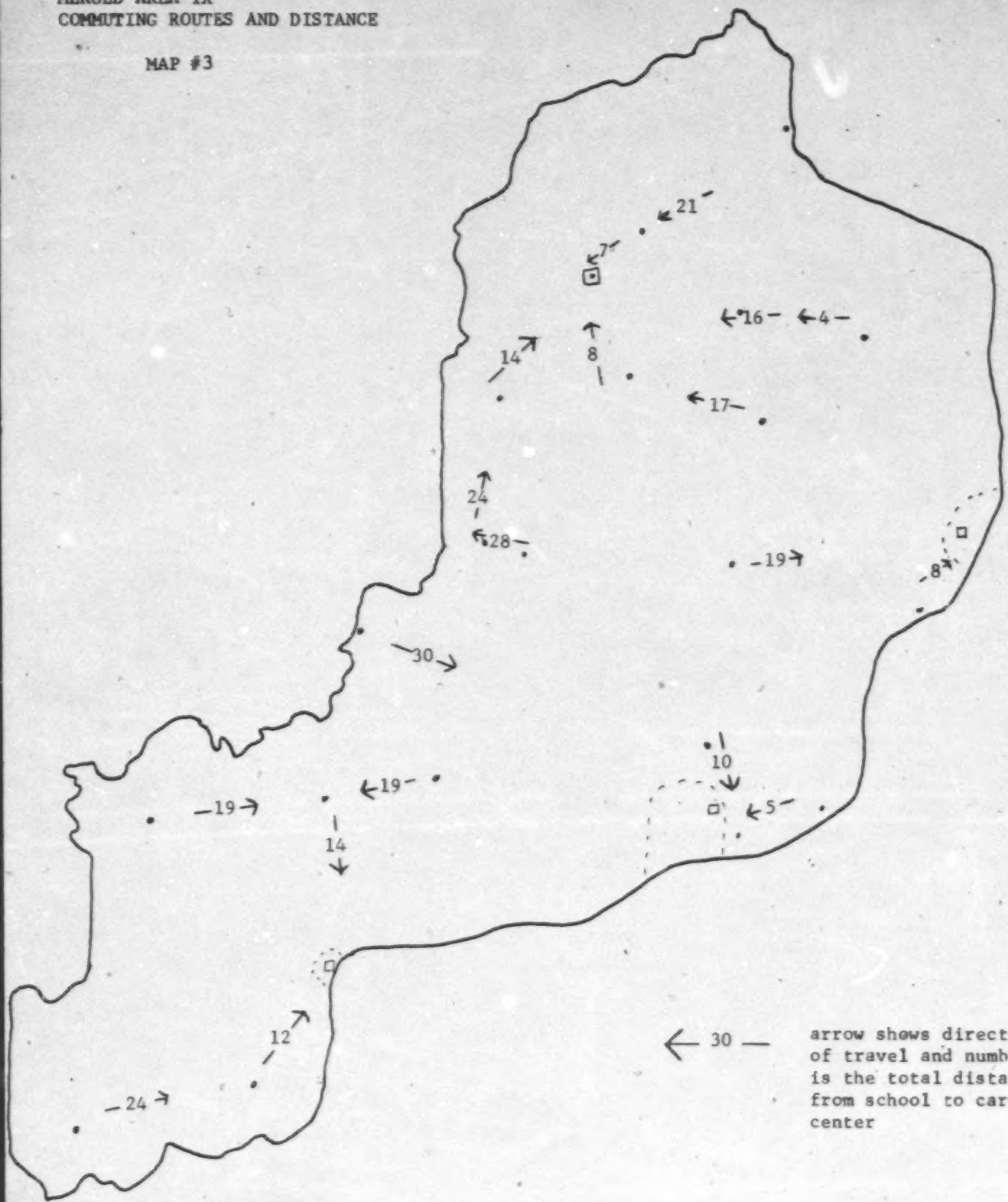
MERGED AREA IX
SENIOR POPULATION OF SCHOOL DISTRICT
AND CAREER CENTER

MAP #2



MERGED AREA IX
COMMUTING ROUTES AND DISTANCE

MAP #3



MERGED AREA IX CAREER CENTERS
Fall, 1974 and Projections

Seniors and (Lost Students)

	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79
MUSCATINE CENTER	772 (62)	695 (49)	712 (50)	635 (45)	743 (52)	926 (65)
Columbus Community Schools	74 (5)	77 (6)	73 (6)	50 (4)	70 (5)	71 (6)
*Durant Community Schools	69 (3)	78 (2)	82 (2)	77 (2)	75 (2)	73 (2)
Louisa-Muscatine Comm. Schools	49 (3)	43 (2)	53 (2)	68 (2)	83 (2)	84 (3)
Muscatine Community Schools	428 (52)	347 (29)	335 (30)	414 (38)	444 (40)	481 (44)
West Liberty Community Schools	89 (7)	91 (4)	83 (4)	93 (4)	97 (4)	95 (4)
Wilton Community Schools	63 (2)	68 (3)	67 (3)	73 (4)	81 (4)	96 (5)
SCOTT CENTER	689 (38)	846 (59)	834 (59)	964 (60)	924 (65)	1005 (70)
*Bennett Community Schools	27 (0)	25 (1)	34 (1)	44 (1)	27 (0)	36 (1)
Bettendorf Community Schools	392 (36)	454 (27)	419 (25)	434 (26)	463 (28)	504 (30)
North Scott Community Schools	157 (17)	196 (14)	216 (15)	219 (15)	242 (17)	258 (18)
Pleasant Valley Comm. Schools	149 (21)	183 (18)	184 (18)	184 (18)	207 (20)	234 (23)
CLINTON CENTER	771 (19)	702 (21)	731 (22)	732 (22)	773 (23)	803 (24)
Camanche Community Schools	106 (12)	102 (8)	92 (9)	118 (10)	108 (9)	118 (9)
Central (DeWitt) Comm. Schools	161 (+3)	155 (2)	154 (2)	146 (2)	170 (2)	183 (2)
Clinton Community Schools	504 (10)	469 (14)	498 (15)	480 (14)	506 (15)	514 (16)
MAQUOKETA CENTER	502 (3)	480 (10)	489 (9)	553 (11)	459 (10)	629 (13)
Andrew Community Schools	33 (+1)	35 (1)	35 (1)	36 (1)	52 (1)	51 (1)
Bellevue Community Schools	62 (2)	60 (2)	44 (2)	52 (2)	70 (3)	67 (3)
Calamus Community Schools	24 (2)	23 (1)	28 (1)	24 (1)	23 (1)	29 (1)
Delwood Community Schools	35 (0)	35 (1)	32 (1)	27 (0)	39 (0)	38 (0)
East Central Comm. Schools	39 (1)	53 (1)	60 (2)	57 (2)	54 (2)	63 (2)
Lost Nation Comm. Schools	16 (0)	15 (0)	15 (0)	19 (0)	18 (0)	27 (1)
Maquoketa Community Schools	147 (+7)	160 (3)	154 (3)	182 (3)	165 (3)	205 (4)
Northeast Community Schools	73 (3)	67 (4)	80 (4)	109 (6)	96 (5)	108 (5)
Preston Community Schools	47 (2)	27 (1)	46 (2)	39 (1)	41 (1)	48 (1)
Wheatland Community Schools	28 (1)	27 (2)	26 (2)	26 (2)	22 (1)	37 (3)
DAVENPORT COMMUNITY SCHOOLS CENTER	1058 (244)	899 (36)	1213 (49)	1854 (74)	1547 (62)	1513 (60)

*Missing 1971-72 data

C-127 253

ADMINISTRATION

EASTERN IOWA COMMUNITY COLLEGE DISTRICT

3546 BRADY STREET
DAVENPORT, IOWA 52806
PHONE: 319-386-1827

April 8, 1975

TO: CAREER NEEDS ASSESSMENT PROJECT STEERING COMMITTEE

FROM: TIM PAUL, PROJECT DIRECTOR

SUBJECT: COMMITTEE MEETING - APRIL 16, 1975

The fourth meeting of the Merged Area IX Steering Committee for Career Education Needs Assessment will be held April 16, 1975 at 3:00 p.m. in Conference Room #278 at Scott Community College - Belmont Road - Bettendorf, Iowa.

The issue to be discussed is PREQUISITES FOR IMPLEMENTATION.

I anticipate the meeting will last approximately ninety minutes. If you have additional questions, please contact me.

Thank you.

TP/bh
Enclosures

ADMINISTRATION

EASTERN IOWA COMMUNITY COLLEGE DISTRICT

3546 BRADY STREET
DAVENPORT, IOWA 52803
PHONE: 319-386-1827

STEERING COMMITTEE
CAREER NEEDS ASSESSMENT PROJECT

The fourth meeting of the Steering Committee will be held on April 16, 1975 at 3:00 p.m. in Conference Room #278 of SCOTT COMMUNITY COLLEGE - Belmont Road - Bettendorf, Iowa.

AGENDA

I. What about in-service? (follow up of March, 1975 meeting)

   A. Grants written
   B. Alternate funding

II. Prerequisites for Implementation

   A. Policy statement recognizing obligations of district's board of directors stated in Iowa Code Annotated 257.25 New Section 11 and 14.

   B. Policy statement supporting obligations of district stated in 20 United States Code Annotated 1865 sections 406(a), (d), and (f)

   C. Identification of incentives for personnel to develop and implement career education

      1. Academic or barrier credit
      2. Monetary reward
      3. Release time
      4. Other

   D. Development of school district steering committee composed of all grade levels and subject matter

   E. In-service on the scope and outline of career education

   F. Document existing programs and practices

      1. Eliminate duplication
      2. Integrate omitted areas

   G. Conduct Needs Assessment of local district (Phi Delta Kappa)

   H. In-service on the development and use of career education units in the existing curriculum

I. Designate a career education specialist-coordinator

1. THOU SHALT NOT tack-on
2. Release time or reassignment
3. Hiring

J. Review existing materials

1. State needs (CENIS)
2. National projections (occupational Outlook Quarterly)
3. Comparable district's programs (Iowa Project)
4. Bread and Butterflys; Project Discovery; Career Information System for Iowa, 80-60-40

K. Project priorities and calender for completion by the local district

L. Development of continual evaluation procedure

III. Questions

SUMMARY

CAREER EDUCATION NEEDS ASSESSMENT
STEERING COMMITTEE

April 16, 1975

Present: B. Brandt, W. Cornelius, M. Heiler, B. Hoover, J. Law, D. McDonald, J. Manson, D. Maxwell, D. Miller, T. Paul, D. Sly, J. Soderlund, S. Weiler.

Tim Paul, the Project Director, opened the meeting at 3:00 p.m. in Room 278 of Scott Community College in Bettendorf, Iowa.

Presentation was made to the steering committee of the proposed in-service program. It was written in the form of a grant and submitted to the State Department of Public Instruction. At this point, however, there is no authorization to proceed and no funds are available. Alternate sources of funding are being explored, including: per pupil costs by the local district, CETA funds, and Federal seed program monies. The options available and the sources of funding will be the subject of the May meeting.

Subsequent discussion of the prerequisites for implementation focused on the items identified. Two additions to the identified prerequisites were made: to reorient; and to develop a district handbook. After the initial in-service on scope and outline on career education (item E on the agenda) the next step would be to reorient existing acquisitions to purchase career education materials. Another example of reorienting would be to use scheduled revisions in curriculum to integrate career education concepts into the revised curriculum. Developing a district handbook would take place after the establishment of the local district's priorities and calendar for completion (item K on the agenda).

In implementing career education concepts, the steering committee recognized that the larger districts would probably be able to use more funds and a larger period of time more readily than the smaller districts. However, the smaller districts would have less difficulty in bringing together all of their faculty than the larger districts would.

The committee's principal recommendation to individual districts was to recognize that career education would not be implemented in one year; rather, it becomes a continual process. Progress towards local priorities is the criteria of successful implementation.

The next meeting will be held during May, 1975 at the Central Administrative offices of Eastern Iowa Community College District - 3546 Brady Street - Davenport.

The meeting adjourned at 4:30 p.m.

Sincerely,

Tim Paul

Tim Paul
Project Director

ADMINISTRATION

EASTERN IOWA COMMUNITY COLLEGE DISTRICT

3546 BRADY STREET
DAVENPORT, IOWA 52806
PHONE: 319-386-1827

May 8, 1975

TO: CAREER NEEDS ASSESSMENT PROJECT STEERING COMMITTEE

FROM: TIM PAUL, PROJECT DIRECTOR

SUBJECT: COMMITTEE MEETING - May 15, 1975

The fifth meeting of the Merged Area IX Steering Committee for Career Education Needs Assessment will be held May 15, 1975 at 3:00 p.m. in the Board Room at the Central Administration Office - 3546 Brady Street - Davenport, Iowa.

The issue to be discussed is OPTIONS FOR MERGED AREA IX DEVELOPMENT.

I anticipate the meeting will last approximately ninety minutes. If you have additional questions, please contact me.

Thank you.

TP/bh
Enclosures

ADMINISTRATION

EASTERN IOWA COMMUNITY COLLEGE DISTRICT

3546 BRADY STREET
DAVENPORT, IOWA 52806
PHONE: 319-386-1827

STEERING COMMITTEE
CAREER NEEDS ASSESSMENT PROJECT

The fifth meeting of the Steering Committee will be held on May 15, 1975 at 3:00 p.m. in the Board Room of the Central Administration Office of the EASTERN IOWA COMMUNITY COLLEGE DISTRICT - 3546 Brady Street - Davenport, Iowa.

AGENDA

I. Old business

II. Options for Merged Area IX Development

A. What fixed positions are evident
(see enclosed descriptions of fixed positions)

1. Nothing Doing
2. Individual District Development
3. Give Up and Share
4. Utilize the Community Colleges
5. Develop Virgin Career Centers
6. External Salvation

B. Shades of gray between the fixed positions

III. Costs

IV. New business

V. Questions

ADMINISTRATION

EASTERN IOWA COMMUNITY COLLEGE DISTRICT

3546 BRADY STREET
DAVENPORT, IOWA 52806
PHONE: 319-386-1827

May 21, 1975

RE: CAREER NEEDS ASSESSMENT PROJECT

Four resources will become available to Merged Area IX in the 1975-76 academic year. First, Mississippi-Bend Area Educational Agency will begin to serve all twenty-four school districts with its career education consultant, Roger Mangan. Second, the Iowa Department of Public Instruction plans on offering in-service, as well as their consultants, to the community school districts. Third, the community colleges are beginning to investigate exploratory programs that could be offered to the community school districts. Finally, each local school district will have had a full year to study the Models for Career Education in Iowa, an opportunity to review this project's recommendations, and the time to determine which objectives and activities, designed for career education, are related to its educational program.

These resources will be utilized to a different extent by each district. The options recommended by the committee are supported by these resources. In planning for next year, please consider the options and resources which would be most helpful to your district.

The final steering committee meeting will be held in September, 1975. Distribution of the project's final report will occur at that meeting.

Sincerely,

EASTERN IOWA COMMUNITY COLLEGE DISTRICT
(MERGED AREA IX)

Tim Paul

Tim Paul, Project Director
Career Needs Assessment

TP/bh
Enclosures

SUMMARY

CAREER EDUCATION NEEDS ASSESSMENT
STEERING COMMITTEE

May 15, 1975

Present: B. Hoover, J. Manson, T. Paul, E. Schreiber, D. Sly, S. Weiler

The meeting began at 3:00 p.m. in the board room of Eastern Iowa Community College District's Administrative Office at 3546 Brady Street - Davenport, Iowa.

Each of the fixed positions, that were identified in the agenda, was discussed. It was recognized that "Individual District Development" has been mandated by legislation in both the United States and the state of Iowa. Options 1 and 6 were viewed as being approximately the same since their effect would be to omit any development of career education. Indeed, the six options were presented as a circular process rather than linear. Numbers 1 and 6 represent failure to act while 2, 3, 4, and 5 require varying degrees of developmental participation.

The committees final resolve was to recommend options 3, 4, and 5. Presently some cooperative efforts between community school districts are being scheduled for the 1975-76 school year (#3-"Give Up and Share"). For several years, districts in close proximity to the community college have permitted students to attend (#4-"Utilize the Community Colleges"). Neither of these is specifically directed at career education. They are constructive indications that cooperative efforts can be devised.

Career education dictates a different approach. Each individual district has the capacity to review its curriculum and document existing career education efforts (self-concept or world of work). This is more likely to be easier in grades K-6; but, even secondary school has the opportunity to present additional occupations within a particular cluster. It may be difficult to arrange work release or work study in rural districts; but the district could document its present efforts to provide a record for future revision or improvement.

This procedure for implementing career education will require some learning (i.e., a change in behavior) for personnel and districts. The community colleges should be able to provide assistance by offering programs which local districts do not offer. But, the local districts must initiate their own programs in grades K-10. Option 5 ("Develop Virgin Career Centers") is tenuous at this point. Funding is either not available or quite limited. A continued effort will be made to procure sufficient funds for the realization of this option.

What emerged from the committee was a compromise gray option. It involves mixing three identified options (#3, 4, and 5) and the recognition that #2 is essential to any successful implementation.

The final meeting will be held in September, 1975. The project's completed document will be distributed at that time.

The meeting adjourned at 4:30 p.m.

Sincerely,

Tim Paul
Project Director

OPTIONS FOR MERGED AREA IX DEVELOPMENT

Descriptions of Fixed Positions

1. NOTHING DOING

Career education is the present bandwagon and it will soon disappear. Why waste time and money on a worthless program. Kids find jobs without our help anyway.

Advantages:

1. Wait and see if it works before trying.
2. "Tremendous" dollar savings by not developing a program.
3. Permits a continuation of status quo while discounting, discrediting and disagreeing with career education until the "last" moment.

Disadvantages:

1. A defeatist attitude; a self-fufilling prophecy.
2. If career education is not a fad, if it helps people, then a mistake was made in the original presumption.
3. Quite likely local districts will be expected to show progress towards developing and implementing career education. If they can not, they should anticipate difficulty.

2. INDIVIDUAL DISTRICT DEVELOPMENT

Each local school district would autonomously develop its own career education program. All in-service, curriculum development, and new facilities would be locally developed.

Advantages:

1. Limited external input, so limited external control.
2. Consultants, that are available, could be used on a temporary basis.
3. Increase local pride by developing our own program.

Disadvantages:

1. Few local districts have the funds or time necessary to function individually.
2. No arrangement for sharing emerges.
3. This strengthens the existing provincialism and will make it more difficult to either develop cooperative programs or accept mergers in the future.

3. GIVE UP AND SHARE

Chapter 257.25 new section 17 of the Iowa Code provides for public schools to share personnel. One option that is available for the development of career education is for groups of schools to determine which area of a career

preparatory program should be done by each member school (college prepatory, vocational agriculture, vocational homemaking, trade and industry, etc.). Each member school would voluntarily give up all of the career prepatory programs being developed by another school and put the dollar savings into the one program they are to develop. The development of a single program would permit a more detailed and specific career preparation program. Member districts would then bus their students to other schools with the program desired.

Advantages:

1. A more realistic skill acquisition-job experience preparatory program in each area developed.
2. Increased cooperation between districts (future merger).
3. Possible dollar savings and retention of a coordinator for member schools to consult.

Disadvantages:

1. Loss of several broad career prepatory programs.
2. Possibility of having to dismiss some faculty in programs being taught by another district.
3. Schedule-transportation coordination.

4. UTILIZE THE COMMUNITY COLLEGES

Solicit, support and sell a joint venture permitting students to enter the community college programs and earn dual credit. High school credit would be awarded for graduation. College credit would be awarded in the event the student elects to enter a post-secondary institution.

Advantages:

1. Programs are already functioning with some schools participating.
2. Primary cost of participating is the student's payment of tuition for college credit.
3. Increase cooperation between community college and schools (improved acccuntability).

Disadvantages:

1. Some loss of control over subject matter or method of teaching.
2. Probable slight decline in senior class attending school programs.
3. Schedule-transportation coordination.

5. DEVELOP VIRGIN CAREER CENTERS

Starting de novo, plan and construct centrally located career centers. Districts could fund such a project from three sources: per pupil levy in each district, an additional tuition for students utilizing the center, and state vocational aid to partially offset instructional costs.

Advantages:

1. Within the realm of consensus by member schools, total control over the center's functioning.
2. Less cost than each district preparing its own separate facility.
3. Opportunity to utilize all positive experiences and recommendations from previously developed comparable facilities.

Disadvantages:

1. An additional facility to share.
2. Increased committment of limited available funds.
3. Likely an unnecessary duplication of existing resources, facilities and staff.

6. EXTERNAL SALVATION

If career education is so innovative, crucial to student development, and a permanent redirection of education then someone or something, somehow or someway will help us. Such an effective development will not be ignored and neglected. We can take a "wait and see" attitude. Let some external source develop a program for us.

Advantages:

1. Continued support of bureaucracy and external direction for local programs development.
2. "Massive" dollar savings by not spending on career education.
3. Since someone else will develop a program for me, I can think about other things and forget about career education.

Disadvantages:

1. Increased loss of autonomy.
2. Possible sanction for nondevelopment.
3. MONEY will be spent; why not on career education as a means of improving a new math, science or reading series.

MERGED AREA IX COMMUNITY SCHOOL DISTRICTS
CONTACT REPRESENTATIVE

Andrew Community Schools
Ernest L. Sarver
Superintendent

Bellevue Community Schools
C. C. Hammann
Superintendent

Bennett Community Schools
Bob L. Steele
High School Principal

Bettendorf Community Schools
Ray Oles
Director of Curriculum

Calamus Community Schools
John Soderlund
Guidance Counselor

Camanche Community Schools
Larry R. Dennis
Superintendent

Central Community Schools
Ronald Ehresman
Guidance Counselor

Clinton Community Schools
R. T. Grau
Superintendent

Columbus Community Schools
Robert Fred Hedemann
Superintendent

Davenport Community Schools
Keith Mattke
Director of Vocational Education

Delwood Community Schools
John F. Lawrence
Superintendent

Durant Community Schools
Roger K. Lauger
Superintendent

East Central Community Schools
William Tyne
High School Principal

Lost Nation Community Schools
John Soderlund
Guidance Counselor

Louisa-Muscatine (L & M) Comm. Schools
Richard F. Paine
Superintendent

Maquoketa Community Schools
Leonard Roberts
Superintendent

Muscatine Community Schools
Dave Maxwell
Director of Career Education

North Scott Community Schools
Melvin E. Heiler
Superintendent

Northeast Community Schools
Robert M. Paul
Jr.-Sr. High School Principal

Pleasant Valley Comm. Schools
Keith Osburn
Elementary School Principal

Preston Community Schools
Robert R. Manley
Superintendent

West Liberty Comm. Schools
Delmar T. Jeneary
Superintendent

Wheatland Community Schools
Robert R. Sendek
Superintendent

Wilton Community Schools
Edwin M. Schreiber
Superintendent

SOCIAL SERVICE AGENCIES STEERING COMMITTEE

JoAnn Azure
InterTribal Council of American Indians

Burt Brandt
Vocational Rehabilitation Division

Juan Cadena
Migrant Council

Goldie Coblentz
Community Action

Jan Crooks
Muscatine County Community Sheltered Workshop

Wesley Etheridge
Jackson County Probation Office

Mike Fitzsimmons
Quint Cities Drug Abuse Council

Larry Froschheuser
Muscatine Chamber of Commerce

Pauline Fuller
Louisa County Department of Social Services

Ida Johnson
Central Western Neighborhood Development

Laura Lehmann
Davenport Youth Commission

Ferne Lutherlehmkuhl
Maquoketa Community Service

Ed McGee
Iowa Employment Security Commission

Margie Seik la
Iowa East Centr TRAIN

Jerry Smith
Davenport Civil Rights Commission

Fred Uphoff
SCARF

John Watson
Handicapped Development Center

Susan Weiler
Scott County Department of Social Services

ADMINISTRATION

EASTERN IOWA COMMUNITY COLLEGE DISTRICT

3546 BRADY STREET
DAVENPORT, IOWA 52806
PHONE: 319-386-1827

May 30, 1975

TO: Social Service Agencies Steering Committee

FROM: Tim Paul, Director
Career Needs Assessment Project

Enclosed is a summary of the Social Service Agencies Steering Committee held on May 27, 1975.

This terminates the input for purposes of the needs assessment project. However, please contact the administrative office of Eastern Iowa Community College District if you identify any mutually beneficial ideas or programs.

Thank you for your participation.

Sincerely,

EASTERN IOWA COMMUNITY COLLEGE DISTRICT

Tim Paul

Tim Paul, Project Director
Career Needs Assessment

TP/bh
Enclosure

SUMMARY

SOCIAL SERVICE AGENCIES STEERING COMMITTEE
CAREER EDUCATION NEEDS ASSESSMENT

May 27, 1975

Present: J. Cadena, B. Hoover, T. Paul, M. Seikola, J. Watson, S. Weiler

The meeting began at 3:00 p.m. in the board room of Eastern Iowa Community College District's Administrative Office at 3546 Brady Street - Davenport, Iowa.

This meeting consisted of an initial effort to both apprise social service agencies of the career education concept and identify needs of the agencies and their clients. The results of the questionnaire were presented to the committee in hierarchical arrangement.

Explanation of career education's five stages and two dimensions was given with specific reference to the career prepatory-supplementary stages and the self-concept dimensions. Most of the agencies deal with individuals needing either initial skill training or retraining and having negative self concepts. The general conclusion was the recognition that clients live in quiet desperation and require an increase in their options or choices to modify this static situation. Once exposed to alternatives, the client can exercise control over his/her life. Basic skill training and awareness of options enhances self concept. By increasing the clients' choices the two common characteristics afflicting them can be diminished. As a specific suggestion, cooperative offering of short duration, (perhaps four weeks) certificate granting, health oriented courses could be initiated.

Apart from this overall recommendation, the committee did tend to agree with the priority of the needs based upon the returned questionnaires. Interest was expressed in participating with local educational agencies when career education in-service is offerred. Strategies and methods of participating in career education include:

1) joining the in-service that the State Department of Public Instruction intends to offer local school districts during October, 1975

2) requesting Roger Mangan, the career education consultant for Mississippi Bend Area Educational Agency in Davenport, speak to the agency

3) request assistance/cooperation from the State Department of Social Service and the State Department of Public Instruction

4) request local school districts or the local community college to offer specific programs for clients

The meeting adjourned at 4:30 p.m.